ERDC/CERL SR-06-26

Construction Engineering
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The Environmental Assessment and Management (TEAM) Guide: West Virginia Supplement

Carolyn O'Rourke and Patricia A. Kemme

May 2006
Revised January 2010

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The Environmental Assessment and Management (TEAM) Guide: West Virginia Supplement

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Final report

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Prepared for U.S. Army Corps of Engineers
Washington, DC 20314-1000

Abstract: Environmental assessments help determine compliance with current environmental regulations. The U.S. Air Force, U.S. Army, Defense Logistics Agency (DLA), and Corps of Engineers (Civil Works) have adopted environmental compliance programs that identify compliance problems before they are cited as violations by the U.S. Environmental Protection Agency.

Since 1984, the U.S. Army Construction Engineering Research Laboratory, in cooperation with numerous Department of Defense (DOD) components, has developed environmental compliance assessment checklist manuals. The Environmental Assessment and Management (TEAM) Guide was developed for use by all DOD components. Currently there are five participating DOD components: the Air Force, Air National Guard, Army, Civil Works, and DLA. These agencies have agreed to share the development and maintenance of this Guide.

The Guide combines Code of Federal Regulations and management practices into a series of checklists that show legal requirements and the specific operations or items to review. TEAM Guide is supplemented by DOD component-specific manuals detailing DOD component regulations and policies. The West Virginia Supplement was developed to be used in conjunction with the TEAM Guide, using existing West Virginia state environmental legislation and regulations as well as suggested management practices.

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FOREWORD

This is ERDC/CERL SR-06-26. The report is based on the information available on Enflex Federal and State Regulations of January 2010.

The research was performed for the U.S. Forest Service, Fish and Wildlife Service (FWS) MIPR W59XQG52014886, technical monitor is Miranda Brannon; DHS IAG HSHQDC-08-X-00456, technical monitor is Peter Wixted; DLA MIPRSP10010800630, technical monitor is Pam Hillis; DOE MIPR W81D4A42683832, technical monitor is Connie Lorenz; USPS MOA-05-CERL-01, technical monitor is Sharon Marsh; State Department IAG IA1091740014, technical monitor is Janice Smith; NASA MIPR NNH09AK571, technical monitor is Paul Robert; Navy N002509MP5023M, technical monitor is Cynthia Davis;; technical monitor is Miranda Brannon; and, VHA IAG VA-255-M-IAG-0116B, technical monitor is Jack Studt.

The research was performed by the Business Processes Branch (CN-B), Installations Division (CN), of the U.S. Army Construction Engineering Research Laboratory (CERL). The CERL Principal Investigators are Carolyn O'Rourke and Peter Heinricher. The CERL Researcher is Patricia Kemme. Ms. Michelle Hanson is Branch Chief, CN-B, and Mr. John Bandy is Division Chief, CN. Dr. Ilker Adiguzel is Director of CERL.

CERL is an element of the U.S. Army Engineer Research and Development Center (ERDC), U.S. Army Corps of Engineers. The Director of ERDC is Dr. James R. Houston, and the Commander is COL Gary Johnson.

NOTICE

This manual is intended as general guidance for personnel at Federal facilities. It is not, nor is it intended to be, a complete treatise on environmental laws and regulations. Neither the U.S. Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information contained herein. For any specific questions about, or interpretations of, the legal references herein, consult appropriate legal counsel.

ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
AQMA	air quality management area
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
BACT	best available control technology
BOD	biochemical oxygen demand
BTEX	benzene, toluene, elthylbenzene, xylene
CAR	control area responsible party
CAS	Chemical Abstract Service
CEM	continuous emission monitoring
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act*
CFC	chlorofluorocarbons
CWA	*Clean Water Act*
dB	decibel
dBA	decibels using A-weighting network
dBC	decibels using C-weighting network
DEQ	Department of Environmental Quality
ESA	*Endangered Species Act*
FIFRA	*Federal Insecticide, Fungicide, and Rodenticide Act*
GVWR	gross vehicle weight rating
HEPA Filter	high efficiency particulate air filter
HWM	hazardous waste management
IARC	International Agency for Research on Cancer
ICRU	International Commission on Radiological Units and Measurements
IUPAC	International Union of Pure and Applied Chemistry
LAER	lowest achievable emission rate
Ldn	day-night airport noise level
Leq	equivalent noise level
LPG	Liquefied Petroleum Gas
MC	medium curing
MCL	maximum contaminant level
MFL	million fibers per liter
MSDS	material safety data sheet
MSW	municipal-type solid waste
MSWLF	municipal solid waste landfill
MWC	municipal waste combustor
NBS	National Bureau of Standards
NEPA	*National Environmental Policy Act*
NFPA	National Fire Protection Association
NHPA	*National Historic Preservation Act*
NPDES	National Pollutant Discharge Elimination System
NTNCWS	nontransient noncommunity water system
OSHA	Occupational Safety and Health Administration
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PEL	permissible exposure limit
POTW	publicly owned treatment works
PUC	Public Utility Commission of Oregon
RACT	reasonably available control technology
RC	rapid curing
RCRA	*Resource Conservation and Recovery Act*
RDF	refuse-derived fuel

ACRONYMS

REL	recommended exposure level
RGF	recirculating gravel filter
RVP	Reid vapor pressure
SAE	Society of Automotive Engineers
SARA	*Superfund Amendments and Reauthorization Act*
SC	slow curing
SDWA	*Safe Drinking Water Act*
SIC	Standard Industrial Classification
SMCL	secondary maximum contaminant level
SPCC	spill prevention countermeasure and control
SPL	sound pressure level
SWDA	*Solid Waste Disposal Act*
TLV	threshold limit value
TNTC	too numerous to count
TPH	total petroleum hydrocarbons
TRI	toxic release inventory
TSCA	*Toxic Substance Control Act*
TSD	treatment, storage, and disposal
TSDF	treatment, storage, and disposal facility
TSP	total suspended particulate
TSS	total suspended solids
TTHM	total trihalomethane
UL	Underwriters Laboratory
UFC	Uniform Fire Code
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound
VOL	volatile organic liquid
WPCF	Water Pollution Control Facilities

COMMONLY USED ABBREVIATIONS

bbl	barrel	mg	milligram
Btu	British thermal unit	mi	mile
C	Celsius	min	minute
cfs	cubic feet per second	MJ	megajoule
cm	centimeter	mL	milliliter
cm^2	square centimeter	mm	millimeter
dscf	dry standard cubic foot	mo	month
dscm	dry standard cubic meter	mrem	millirem
F	Fahrenheit	MW	megawatt
ft	foot	ng	nanogram
ft^2	square feet	NTU	nephelometric turbidity unit
ft^3	cubic feet	oz	ounce
g	gram	pCi	picoCurie
gal	gallon	ppm	part per million
gJ	gigajoule	ppmv	part per million by volume
gr	grain	ppmw	part per million by weight
h	hour	psi	pound per square inch
ha	hectare	psia	pounds per square inch absolute
hp	horsepower	psig	pounds per square inch gauge
in.	inch	qt	quart
J	Joule	s	second
kg	kilogram	scf	standard cubic foot
km	kilometer	scm	standard cubic meter
kPa	kilopascals	sdcf	standard dry cubic foot
L	liter	sdcm	standard dry cubic meter
lb	pound	TU	turbidity unit
m	meter	V	volt
m^3	cubic meter	yd	yard
MBtu	million British thermal units	yd^2	square yard
meq	milligram equivalent	yr	year
CO	carbon monoxide	NO_2	nitrogen dioxide
CO_2	carbon dioxide	NO_x	nitrogen oxides
Hg	mercury	SO_2	sulfur dioxide

METRIC CONVERSION TABLE

The following conversion table may be used throughout this manual to make approximate conversions between U.S. units and metric units.

1 in.	=	2.54 cm or 25.4 mm
1 ft	=	0.3048 m
1 ft^2	=	0.093 m^2
1 ft^3	=	0.028 m^3
1 psi	=	6.895 kPa
1 lb	=	0.454 kg
1 mi	=	1.61 km
1 gal	=	3.78 L
°F	=	(°C + 17.78) x 1.8
°C	=	0.55 (°F - 32)
1 yd	=	0.9144 m
1 Btu	=	4.184 kJ
1 acre	=	4046.9 m^2
1 acre	=	0.405 hectare

Comment Form

Comments and questions regarding the West Virginia State Supplement can be addressed to:

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Please include the following information with your comment:

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Page #	Checklist item #	Line #	Comments

SECTION 1

AIR EMISSIONS MANAGEMENT

West Virginia Supplement, January 2010

This section covers the state requirements for Air Emissions Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Incorporation of Federal Regulations by Reference

- West Virginia incorporates by reference the provisions of 40 CFR Parts 60 and 65, to the extent referenced in 40 CFR Part 60, including any reference methods, performance specifications and other test methods which are appended to these standards and contained in 40 CFR Parts 60 and 65, effective July 1, 2008, for the purposes of implementing a program for standards of performance for new stationary sources, except as follows (WVCSR 45-16-4) [Revised January 2004; Revised January 2005; Revised January 2007; Revised January 2009; Revised January 2010]:
  - 40 CFR §60.9 is amended to provide that information shall be available to the public in accordance with W. Va. Code §§22-5-1 et seq., 29B-1-1 et seq., and 45CSR31
  - Subparts B, C, Ca, Cb, Cc, Cd, Ce, Ea, Eb, WWW, AAAA, BBBB, CCCC, DDDD, EEEE, FFFF, and HHHH of 40 CFR Part 60 will be excluded.

- West Virginia adopts and incorporates by reference the provisions of 40 CFR Part 60, Subparts Eb, Ec, AAAA, CCCC, EEEE, the specific portions of 40 CFR Part 60 Subpart Ce identified in subsection 6.3, and the specific portions of 40 CFR Part 60 Subpart DDDD, including any applicable reference methods, performance specifications and other test methods which are appended to these standards and contained in these subparts, effective June 1, 2007 (WVCSR 45-18-3) [Added January 2009].

- West Virginia adopts and incorporates by reference the provisions of 40 CFR Parts 61, 63 and 65, to the extent referenced in 40 CFR Parts 61 and 63, including any reference methods, performance specifications and other test methods which are appended to these standards and contained in 40 CFR Parts 61, 63 and 65, effective July 1, 2008, for the purposes of implementing a program for emission standards for hazardous air pollutants, except as follows: (WVCSR 45-34-4) [Added January 2004; Revised January 2007; Revised January 2009; Revised January 2010]:
  - .1.a. 40 CFR §§ 61.16 and 63.15 are amended to provide that information shall be available to the public in accordance with W.Va. Code §§ 22-5-1 et seq., 29B-1-1 et seq., and 45CSR31
  - 4.1.b. Subpart E of 40 CFR Part 63 and any provision related to section 112(r) of the CAA, notwithstanding any requirements of 45CSR30 shall be excluded
  - 4.1.c. Provisions under Subpart HH of 40 CFR Part 63 which apply to non-major area sources of hazardous air pollutants described in 40 CFR § 63.760(b)(2) shall be excluded
  - 4.1.d. Provisions under Subpart ZZZZ of 40 CFR Part 63 which apply to non-major area sources of hazardous air pollutants described in 40 CFR § 63.6585(c) and (d) shall be excluded;
  - 4.1.e. Subparts DDDDDD, EEEEEE, FFFFFF, GGGGGG, LLLLLL, MMMMMM, NNNNNN, OOOOOO, PPPPPP, QQQQQQ, RRRRRR, SSSSSS, TTTTTT, YYYYY, WWWW, ZZZZ, HHHHH H, BBBBBB, CCCCCC and WWWWWW of 40 CFR Part 63 shall be excluded; and
  - 4.1.e. Subparts B, H, I, K, Q, R, T, and W; Methods 111, 114, 115 and Appendix D and E of 40 CFR Part 61 shall be excluded.

- West Virginia incorporates by reference the following provisions: 40 CFR Part 72, "Permits Regulation"; 40 CFR Part 74, "Sulfur Dioxide Opt-Ins"; 40 CFR Part 75, "Continuous Emissions Monitoring"; 40 CFR Part 76, "Nitrogen Oxides Reduction Program"; 40 CFR Part 77, "Excess Emissions"; effective 1 June 2005 (WVCSR 45-33-1.5) [Revised January 2009].

Definitions

- *Actual Emissions* - the quantity of volatile organic compounds (VOC) or oxides of nitrogen (NO_x) emitted from a source during a particular time period (WVCSR 45-29-2.2.1) or the actual rate of emissions of a pollutant from an emissions unit, as described below (WVCSR 45-13-2) [Revised January 2001; Revised January 2004]:
  1. in general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a 2-yr period which precedes the particular date and which is representative of normal source operation. The Director may allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period
  2. the Secretary may presume that source-specific allowable or permitted emissions for the unit are equivalent to the actual emissions of the unit
  3. for any emissions unit which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date or the actual emissions of an existing source with similar operations and production levels (at the Secretary's discretion).

- *Actual Emissions* - the actual rate of emissions of a pollutant from an emissions unit, as described below, except that this definition shall not apply for calculating whether a significant emissions increase has occurred, or for establishing a PAL under section 25. Instead, subsections 2.63 and 2.8 shall apply for those purposes (WVCSR 45-14-2) [Added January 2006]
  1. In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The Secretary may allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.
  2. The Secretary may presume that source-specific allowable emissions for the unit are equivalent to the actual emissions of the unit.
  3. For any emissions unit which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.
  4. For an electric utility steam generating unit (other than a new unit or the replacement of an existing unit) actual emissions of the unit following the physical or operational change shall equal the representative actual annual emissions of the unit following the physical or operational change, provided the source owner or operator maintains and submits to the Director, on an annual basis for a period of five (5) years from the date the unit resumes regular operation, information demonstrating that the physical or operational change did not result in an emissions increase. A longer period, not to exceed ten (10) years, may be required by the Director if the Director determines such a period to be more representative of normal source operations following the physical or operational change.

- *Administrator* - the Administrator of the EPA (WVCSR 45-14-2) [Citation Revised January 2010].

- *Affected Source* - a source that includes one or more affected units under Title IV of the Clean Air Act (Acid Deposition Control) (WVCSR 45-30-2).

- *Affected States* - all states whose air quality may be affected and that are contiguous to the state in which a Title V operating permit, permit modification or permit renewal is being proposed and that are within 50 mi of the permitted source (WVCSR 45-30-2).

- *Affected Unit* - a fossil fuel-fired combustion device that is subject to emission reduction requirements or limitations under Title IV of the Clean Air Act (Acid Deposition Control) (WVCSR 45-30-2).

- *AFS* - AIRS Facility Subsystem (WVCSR 45-29-2).

- *Air-Dried Coating* - a coating that is dried by the use of air or forced warm air at temperatures up to 90 °C (194 °F) (WVCSR 45-21-19.2.a).

- *Air Pollutants* - solids, liquids, or gases which, if discharged into the air, may result in statutory air pollution (WVCSR 45-14-2) [Added January 2006].

- *Air Pollution Control Equipment* - any equipment used for collecting or converting gasborne particulate or gaseous materials for the purpose of preventing or reducing emission of these materials into the open air (WVCSR 45-6-2).

- *Air Pollution or Statutory Air Pollution* - and is limited to the discharge into the air by the act of man substances (liquid, solid, gaseous, organic or inorganic) in a locality, manner and amount as to be injurious to human health or welfare, animal or plant life, or property, or which would interfere with the enjoyment of life or property (WVCSR 45-14-2) [Added January 2006].

- *Allowable Emissions* - the emission rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to federally enforceable limits or limits enforceable by the Director which restrict the operating rate, or hours of operation, or both) and the most stringent of the following (WVCSR 45-14-2) [Citation Revised January 2010]:
  1. the applicable standards as set forth in 40 CFR 60, 61, and 63
  2. the applicable state of West Virginia emissions limitations or permit conditions, including those with a future compliance date
  3. the applicable federally enforceable emissions limitations or permit conditions, including those with a future compliance date.

- *Allowable Emissions* - the emission rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to federally enforceable limits or limits enforceable by the Secretary which restrict the operating rate, or hours of operation, or both) and the most stringent of the following (WVCSR 45-14-2) [Added January 2006]:
  1. The applicable standards as set forth in 40 CFR Parts 60 and 61;
  2. The applicable State of West Virginia emissions limitations or permit conditions, including those with a future compliance date; or
  3. The applicable federally enforceable emissions limitations or permit conditions, including those with a future compliance date.

- *Alternative Fuel* - a fuel other than pipeline quality natural gas, distillate oil, wood or coat (WVCSR 45-2A-2) [Added January 2002].

- *Ambient Air* - that portion of the atmosphere, external to buildings, to which the general public has access (WVCSR 45-21-2.3).

- *Annual Fuel* or *Process Throughput Rate* - the actual or estimated annual fuel usage or process operating rate (WVCSR 45-29-2.

- *Applicable Regulations* -, for the purpose of this regulation, the West Virginia Administrative Regulations of the Air Pollution Control Commission as promulgated pursuant to the code of WV, of 1931, as amended, and regulations of the EPA promulgated pursuant to the Clean Air Act (WVCSR 45-19-2.3).

- *Applicable Requirements* - all of the following as they apply to emissions units in a Title V source (WVCSR 45-30-2).
  1. any standard or other requirement provided for in the state Implementation Plan approved by EPA or promulgated by EPA through rulemaking under Title I of the Clean Air Act that implements the relevant requirements of the Act, including any revisions to that state Implementation Plan

2. any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under Title I, including parts C or D, of the Clean Air Act, including any permits issued under 45 CSR 13, 45 CSR 14, 45 CSR 15, and 45 CSR 19
3. any standard or other requirement under Section 111, including Section 111(d), of the Clean Air Act
4. any standard or other requirements under Section 112 of the Clean Air Act, including any requirement concerning accident prevention under Section 112(r)(7) of the Clean Air Act, but not including the contents of any risk management plan required under 112(r) of the Clean Air Act
5. any standard or other requirement of the acid deposition control program under Title IV of the Clean Air Act or the regulations promulgated thereunder
6. any requirements established pursuant to 504(b) or Section 114(a)(3) of the Clean Air Act
7. any standard or other requirement governing solid waste incineration under Section 129 of the Clean Air Act
8. any standard or other requirement for consumer and commercial products under Section 183(c) of the Clean Air Act
9. any standard or other requirement for tank vessels under Section 183(f) of the Clean Air Act
10. Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the Clean Air Act, unless the Commission determines that such requirements need not be contained in a Title V permit pursuant to an exemption by EPA
11. Any national ambient air quality standard or increment or visibility requirement under part C of Title I of the Clean Air Act, but only as it would apply to temporary sources permitted pursuant to Section 504(e) of the Clean Air Act
12. Any emissions cap and related requirements established for the source by agreement with the Chief and EPA or otherwise applicable under the rules of the Commission
13. Any requirement imposed pursuant to the provisions of 45 CSR 4 and 45 CSR 27 and any other state-only requirement for state enforceable purposes only.

- *Area Source* - any nonmajor source subject to a standard, limitation or other requirement under Section 112 of the Clean Air Act (WVCSR 45-30-2) [Revised January 2001; Revised January 2004].

- *As Applied* - including dilution solvents added before application of the coating (WVCSR 45-21-2.4).

- *Asphalt* - a dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) of which the main constituents are bitumens that occur naturally or are a residue of petroleum refining (WVCSR 45-21-31.2.a).

- *Baseline* - the limitation of emissions of a source, as determined by the applicable regulations in effect at the time an application to construct or modify a source is filed and as more fully defined in Section 7 of this regulation (WVCSR 45-19-2.7).

- *Baseline Actual Emissions* - the rate of emissions, in tons per year, of a regulated NSR pollutant, as determined in accordance with subdivisions 2.8.a through 2.8.d (WVCSR 45-14-2) [Added January 2006].
  1. For any existing electric utility steam generating unit, baseline actual emissions means the average emission rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding when the owner or operator begins actual construction of the project. The Secretary shall allow the use of a different time period upon a determination that it is more representative of normal source operation,
  1.a. The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.
  1.b. The average rate shall be adjusted downward to exclude any noncompliant emissions that occurred while the source was operating above any emission limitation that was legally enforceable during the consecutive 24-month period.
  1.c. For a regulated NSR pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period can be used for each regulated NSR pollutant.

1.d. The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by subdivision 2.8.a.2.

2. For an existing emissions unit (other than an electric utility steam generating unit), baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the Secretary for a permit required under this rule, whichever is earlier, except that the 10-year period shall not include any period earlier than November 15, 1990.

2.a, The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.

2.b. The average rate shall be adjusted downward to exclude any noncompliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period.

2.c. The average rate shall be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the major stationary source must currently comply, had such major stationary source been required to comply with such limitations during the consecutive 24-month period. However, if an emission limitation is part of a maximum achievable control technology standard that the Administrator proposed or promulgated under 40 CFR Part 63, the baseline actual emissions need only be adjusted if the State has taken credit for such emissions reductions in an attainment demonstration or maintenance plan consistent with the requirements of 45CSR19-8.6.

2.d. For a regulated NSR pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for all the emissions units being changed. A different consecutive 24-month period can be used for each regulated NSR pollutant.

2.e. The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by paragraphs 2.8.b.2 and 2.8.b.3.

3. For a new emissions unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit shall equal zero; and thereafter, for all other purposes, shall equal the unit's potential to emit.

4. For a PAL for a stationary source, the baseline actual emissions shall be calculated for existing electric utility steam generating units in accordance with the procedures contained in subdivision 2.8.a, for other existing emissions units in accordance with the procedures contained in subdivision 2.8.b, and for a new emissions unit in accordance with the procedures contained in subdivision 2.8.c.

- *Baseline Area* - any county of the state of West Virginia in which a major source or major modification establishing the minor source baseline date would construct or would have an air quality impact equal to or greater than 1 ug/m^3 (annual average) of the pollutant for which the minor source baseline date is established. Any baseline area established originally for the TSP increments shall remain in effect and shall apply for purposes of determining the amount of available PM_{10} increments, except that such baseline area shall not remain in effect if the Director rescinds the corresponding minor source baseline date in accordance with paragraph 2.29.d (WVCSR 45-14-2) [Revised January 2010].

- *Baseline Concentration* - that ambient concentration level which exists in the baseline area at the time of the applicable minor source baseline date. A baseline concentration is determined for each pollutant for which a minor source baseline date is established and includes (WVCSR 45-14-2) [Citation Revised January 2010]:
  1. The allowable emissions of major stationary sources that commenced construction before the major source baseline date, but were not in operation by the applicable minor source baseline date.
  2. The actual emissions representative of sources in existence on the applicable minor source baseline date. However, the following will not be included in the baseline concentration and will affect the applicable maximum allowable increase(s):
     a. actual emissions from any major stationary source on which construction commenced after the major source baseline date
     b. actual emissions increases and decreases at any stationary source occurring after the minor source baseline date.

- *BAT* or *Best Available Technology* - an emissions limitation requiring the application of the maximum degree of reduction and control that the Director, on a case-by-case basis, determines is achievable for each toxic air pollutant which would be emitted from any stack, pipe, air pollution control device, or from any other equipment or facilities associated with a chemical processing unit. In the case of chemical processing units constructed or modified after the effective date of this rule, BAT may be less stringent than requirements for new or modified units. For all facilities, BAT shall represent the maximum degree of emission reduction that the Director determines is achievable taking into consideration the cost of achieving such mission reduction, and public health and environmental impacts. No BAT proposal shall be approvable that represents a level of control less stringent than any requirement for a chemical processing unit under 40 CFR 61 or 40 CFR 60. BAT shall include but not be limited to measures which (WVCSR 45-27-2) [Added February 1998]:
  - reduce or eliminate the emission rate of toxic pollutants through process changes or substitution of materials,
  - enclose or seal equipment or systems to eliminate toxic air pollutant emissions,
  - collect, capture, destroy and/or otherwise treat toxic air pollutants released from a process, stack, storage, or fugitive emissions point,
  - are work practice or operational methods.

- *Begin Actual Construction* - in general, initiation of physical on site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures. With respect to a change in method of operation, this term refers to those onsite activities, other than preparatory activities, which mark the initiation of the change (WVCSR 45-14-2) [Citation Revised January 2010].

- *Best Available Control Technology* - an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each regulated pollutant which would be emitted from any proposed major stationary source or major modification which the Director, on a case-by-case basis, taking into account energy, environmental and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combination techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any federally enforceable emissions limitations or emissions limitations enforceable by the Director. If the Director determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means that achieve equivalent results (WVCSR 45-14-2) [Citation Revised January 2010].

- *Biogenic* - a naturally occurring biological source or process that is not significantly affected by human actions or activity (WVCSR 45-42-2) [Added January 2009].

- *Blowing Tap* - any tap associated with ferroalloy submerged arc furnace in which an evolution of gas forces or projects jets of flame or metal sparks beyond the ladle, runner, or collection hood (WVCSR 45-7-2).

- *Building, Structure, Facility,* or *Installation* - all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities are a part of the same industrial grouping if they belong to the same "Major Group" (i.e., which have the same 2-digit code) as described in the Standard Industrial Classification Manual, 1987 (US Government Printing Office stock number GPO 1987 0-185-718:QL 3) (WVCSR 45-14-2) [Citation Revised January 2010.

- *Byproduct Coke Production Facility* - the production of coke by the destructive distillation of coal in recovery type ovens in which gaseous and liquid distillates are separated and recovered as byproducts, and includes any

onsite coal preparation, charging, coking, coke pushing, hot coke transfer, coke quenching, coke handling and the separation and preparation of distillates (WVCSR 45-7-2).

- *Can* - any cylindrical single walled container, with or without a top, cover, spout, and/or handle, that is manufactured from metal sheets thinner than 29 gauge (0.0141 in.) and into which solid or liquid materials are packaged (WVCSR 45-21-11.2.a).

- *Can Coating Line* - a coating line in which any coating is applied onto the surface of cans or can components (WVCSR 45-21-11.2.b).

- *Capture Efficiency* - the weight per unit time of VOC entering a capture system and delivered to a control device divided by the weight per unit time of total VOC generated by a source of VOC, expressed as a percentage (WVCSR 45-21-2.8).

- *Capture System* - all equipment (including, but not limited to, hoods, ducts, fans, booths, ovens, dryers, etc.) that contains, collects, and transports an air pollutant to a control device (WVCSR 45-21-2.9).

- *Carbon Adsorber* - an add-on control device that uses activated carbon to adsorb VOC from a gas stream (WVCSR 45-21-2.10).

- *Carbon Adsorption System* - a carbon adsorber with an inlet and outlet for exhaust gases and a system to regenerate the saturated adsorbent (WVCSR 45-21-2.11).

- *Certifying Individual* - the individual responsible for the completion and certification of the emission statement (e.g. officer of the company) and who will take legal responsibility for the emission statement's accuracy (WVCSR 45-29-2) [Citation Revised January 2008].

- *Charging Emissions* - any smoke and/or particulate matter emissions from one or more charging ports, space between charging port rings and oven refractory, drop sleeves, larry car hoppers, or emissions from any devices used for the capture and cleaning of emissions resulting from charging operations but shall not include emissions resulting from the temporary removal of a charging port lid for the purpose of sweeping coal spillage into the oven just charged after all lids have been seated over the charging ports following removal of the larry car (WVCSR 45-7-2).

- *Charging Operation* - any operation or procedure by which coal is introduced into a coke oven. For coke oven batteries employing larry cars, the charging operation shall begin when the gate(s) on the larry car coal hopper is (are) opened or the mechanical feeders start the flow of coal into the first charging port(s) until the oven is completely charged and the last charging port lid is seated (WVCSR 45-7-2).

- *Charging Port* - any opening through which coal is, or may be, introduced into a coke oven, whether or not such opening is regularly used for that purpose (WVCSR 45-7-2).

- *Chemical Change* - for the purpose of this rule, any change in a substance that does change the properties of the substance and by which a new substance is formed (WVCSR 45-7-2).

- *Chemical Processing Unit* - an assembly of reactors, tanks, distillation columns, heat exchangers, vaporizers, compressors, dryers, decanters, and/or other equipment used to treat, store, manufacture, or use toxic air pollutants. For the purpose of this rule, the term chemical processing unit includes surface coating equipment or similar equipment utilizing a toxic air pollutant as a solvent or for other purposes but does not include equipment used in the production and distribution of petroleum products providing that such equipment does not produce or contact materials containing more than 5 percent benzene by weight (WVCSR 45-27-2) [Added February 1998].

- *Clean Air Act (CAA)* - Public Law 88-206, 77 Stat. 392, 17 December 1963, 42 U.S.C. Sections 7401 - 7671q, as last amended by the Clean Air Act Amendments of 1990, P.L. 101-549, 15 November 1990 (WVCSR 45-30-2).

- *Clear Coating* - a coating that (1) either lacks color and opacity or is transparent and (2) uses the surface to which it is applied as a reflective base or undertone color (WVCSR 45-21-19.2.b).

- *Coating* - a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, adhesives, inks, maskants, and temporary protective coatings (WVCSR 45-21-2.13).

- *Coating Line* - a series of one or more coating applicators and any associated drying area and/or oven wherein a coating is applied, dried, and/or cured. A coating line ends at the point where the coating is dried or cured, or prior to any subsequent application of a different coating. It is not necessary to have an oven or a flashoff area in order to be included in this definition. This definition does not apply to web coating (WVCSR 45-21-2.14).

- *Cold Cleaning* - the batch process of cleaning and removing soils from a metal surface by spraying, brushing, flushing, or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition (WVCSR 45-21-30.2.a).

- *Combustion Source* - a source(s) subject to the standards set forth in section 5 of 45CSR10 (WVCSR 45-10-2) [Added January 2002].

- *Commence* - as applied to construction of a major stationary source or major modification that the owner or operator has all necessary preconstruction approvals or permits and either has (WVCSR 45-19-2):
  1. begun, or caused to begin, a continuous program of actual onsite construction of the source, to be completed within a reasonable time
  2. entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.

- *Complete* - in reference to an application for a permit, that the application contains all of the information necessary for processing the application. Designating an application complete for purposes of permit processing does not preclude the Director from requesting or accepting any additional information (WVCSR 45-14-2).

- *Condensate* - VOC liquid separated from natural gas that condenses due to changes in the temperature and/or pressure and remains liquid at standard conditions (WVCSR 45-21-2).

- *Condenser* - any heat transfer device used to liquefy vapors by removing their latent heats of vaporization. Such devices include, but are not limited to, shell and tube, coil, surface, or contact condensers (WVCSR 45-21-2).

- *Construction* - any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emission unit) which would result in a change in actual emissions (WVCSR 45-30-2).

- *Construction* - any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) which would result in a change in actual emissions (WVCSR 45-14-2) [Added January 2006].

- *Continuous Emission Monitoring System (CEMS)* - all equipment required for the determination of gas concentration or emission rate, installed, calibrated, operated and maintained as specified in 40 CFR Part 75, or 40 CFR Part 60, Appendix B, Performance Specification 2 or Performance Specification 7 and 40 CFR Part 60, Appendix F (WVCSR 45-10-2) [Added January 2002].

- *Continuous Opacity Monitoring System (COMS)* - an opacity monitor and associated system installed, calibrated, operated and maintained as specified in 40 CFR Part 60, Appendix B, Performance Specification 1 (PS1) and 40 CFR Part 60, Appendix F or as specified in 40 CFR Part 75 (WVCSR 45-2A-2) [Added January 2002].

- *Continuous Vapor Control System* - a vapor control system that treats vapors displaced from tanks during filling on a demand basis without intermediate accumulation (WVCSR 45-21-2).

- *Control Device* - equipment (such as an incinerator or carbon adsorber) used to reduce, by destruction or removal, the amount of air pollutant(s) in an air stream prior to discharge to the ambient air (WVCSR 45-21-2).

- *Control Efficiency* - the actual control efficiency achieved by the control device. The actual efficiency shall reflect control equipment downtime and maintenance degradation (WVCSR 45-29-2).

- *Control Equipment* - any equipment used for collecting or confining particulate matter for the purpose of preventing or reducing the emission of this air pollutant into the open air (WVCSR 45-2-2).

- *Control Equipment Identification Code* - the AIRS/AFS code that defines the equipment (such as an incinerator or carbon adsorber) used to reduce, by destruction or removal, the amount of air pollutant(s) in an air stream prior to discharge to the ambient air (WVCSR 45-29-2) [Citation Revised January 2008].

- *Control System* - a combination of one or more capture system(s) and control device(s) working in concert to reduce discharges of pollutants to the ambient air (WVCSR 45-21-2.21).

- *Conveyorized Degreasing* - the process of cleaning and removing soils from a continuous stream of metal parts using either cold or vaporized solvents (WVCSR 45-21-30.2.b).

- *Crude Oil* - a naturally occurring mixture that consists of hydrocarbons and/or sulfur, nitrogen, and/or oxygen derivatives of hydrocarbons and that is liquid at standard conditions (WVCSR 45-21-2.22).

- *Cutback Asphalt* - asphalt cement that has been liquefied by blending with petroleum solvents (diluents). Upon exposure to atmospheric conditions, the diluents evaporate, leaving the asphalt cement to perform its function (WVCSR 45-21-31.2.b).

- *Day* - a period of 24 consecutive h beginning at midnight local time, or beginning at a time consistent with a facility's operating schedule (WVCSR 45-21-2.23).

- *De Minimus Source* - any equipment or activity listed in Table 45-13B (see Appendix 1-7), whether individual or a part of a common plan (i.e., a common set of new sources or physical changes in or changes in the method of operation of an existing stationary source). A "de minimus source" is deemed to have insignificant emissions and/or is not usually a source of quantifiable emissions which can be practically regulated in determining potential to emit or actual emissions for the purpose of determining whether a permit is required under this rule. Emissions to the extent quantifiable from equipment or activities listed in Table 45-13B do not need to be added together by the source unless otherwise required by the Secretary (WVSCR 45-13-2) [Added January 2001; Revised January 2004].
  a. Unless otherwise determined by the Secretary, emissions from a de minimus source shall not be included in determining the "potential to emit" for purposes of applicability under this rule. However, in implementing the permitting program under this rule, the Director may require emissions information for de minimus sources for inclusion in a permit review. Sources located in nonattainment areas may not be eligible to use Table 45-13B for the pollutant or its precursors for which the area is in nonattainment. Inclusion of an activity in Table 45-13B does not preclude the source's duty to comply with the W. Va. Code § 22-5-1 et seq. and all applicable state and federal regulations, including 45CSR4.
  b. Activities listed in Table 45-13B do not require any monitoring, recordkeeping or reporting unless specifically requested by the Director.

c. Notwithstanding any other requirements and standards of this rule, a source may use the procedures described in subsection 5.13 to petition the Director for a determination of regulatory applicability for a particular activity that may meet the criteria for a "de minimus source" but which is not specifically listed in Table 45-13B.

- *Destruction or Removal Efficiency* - the amount of VOC destroyed or removed by a control device expressed as a percent of the total amount of VOC entering the device (WVCSR 45-21-2.24).

- *Discharge* - the release, escape, or emission of air pollutants into the air (WVCSR 45-13-2).

- *Discharge Point* - the point at which particulate matter is released from a stack into open air (WVCSR 45-2-2).

- *Dispersion Technique* - any technique which attempts to affect the concentration of a pollutant in the ambient air by (WVCSR 45-20-2.3):
  1. using that portion of a stack which exceeds good engineering practice stack height
  2. varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant
  3. increasing final exhaust gas plume rise by manipulating source process parameters, exhaust gas parameters, stack parameters, or combining exhaust gases from several existing stacks into one stack; or other selective handling of exhaust gas streams so as to increase the exhaust gas plume rise.
  4. such techniques do not include:
     a. the reheating of a gas stream, following use of a pollution control system, for the purpose of returning the gas to the temperature at which it was originally discharged from the facility generating the gas stream
     b. the merging of exhaust gas streams where:
        i. the source owner or operator demonstrates that the facility was originally designed and constructed with such merged gas streams
        ii. after 8 July 1985, such merging is part of a change in operation at the facility that includes the installation of pollution controls and is accompanied by a net reduction in the allowable emissions of a pollutant. This exclusion from the definition of "dispersion techniques" applies only to the emission limitation for the pollutant affected by such change in operation
        iii. before 8 July 1985, such merging was part of a change in operation at the facility that included the installation of emissions control equipment or was carried out for sound economic or engineering reasons. Where there was an increase in the emission limitation or, in the event that no emission limitation was in existence prior to the merging, an increase in the quantity of pollutants actually emitted prior to the merging, the Director shall presume that merging was significantly motivated by an intent to gain emissions credit for greater dispersion. If such a demonstration cannot be made by the source owner or operator that such merging was not significantly motivated by such intent, the Director shall deny credit for the effects of such merging in calculating the allowable emissions for the source
     c. smoke management in agricultural or silvicultural prescribed burning programs
     d. episodic restrictions on residential woodburning and open burning
     e. techniques which increase final exhaust gas plume rise where the resulting allowable emissions of SO_2 from the facility do not exceed 5000 tons per yr (tpy).

- *Distillate Oil* - fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D 39698, "Standard Specification for Fuel Oils" (WVCSR 45-2-2) [Added January 2009].

- *Double Block-and-Bleed System* - two block valves connected in series with a bleed valve or line that can vent the line between the two block valves (WVCSR 45-21-2.27).

- *Draft Permit* - the version of a permit for which the Chief offers public participation under Subsection 6.8 or affected state review under Subsection 7.2 (WVCSR 45-30-2.2).

- *Drum* - any cylindrical metal shipping container of 13- to 110-gal capacity (WVCSR 45-21-19.2.c).

- *Duly Authorized Representative* - the Director or such other agent or employee of the Commission who by virtue of special training and/or experience is qualified to make determinations relative to this regulation (WVCSR 45-4-2.7).

- *Duplicate Source Operation* - any combination of two or more individual source operations of any size that have the same nomenclature, either formerly adopted and/or commonly sanctioned by usage such as but not limited to two or more rotary driers, basic oxygen furnaces, or electric arc furnaces contained in the same plant (WVCSR 45-7-2).

- *Effective Date of the Operating Permit Program* - the date that EPA formally provides interim, partial, or full approval of the operating permit programs established under this rule (WVCSR 45-30-2).

- *Electric Utility Steam Generating Unit* - any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility (WVCSR 45-14-2) [Citation Revised January 2010.

- *Emission* - the release, escape, or discharge of air pollutants into the air (WVCSR 45-14-2) [Citation Revised January 2010].

- *Emission Point* - a stack, vent, process unit, or a definable area (such as an open materials storage yard) from which the emission of any air pollutant occurs (WVCSR 45-30-2).

- *Emissions Allowable Under the Permit* - a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or an enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject (WVCSR 45-30-2) [Citation Revised January 2008].

- *Emissions Unit* - any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant. This term is not meant to alter or affect the definition of the term "affected unit" for purposes of Title IV of the Clean Air Act (Acid Deposition Control) (WVCSR 45-30-2).

- *Emulsified Asphalt* - an emulsion of asphalt cement and water that contains a small amount of an emulsifying agent; it is a heterogeneous system containing two normally immiscible phases (asphalt and water) in which the water forms the continuous phase of the emulsion, and minute globules of asphalt form the discontinuous phase (WVCSR 45-21-31.2.c).

- *Enforceable* - enforceable by the Secretary and U.S. EPA unless specifically designated to mean otherwise in this rule (WVCSR 45-13-2) [Revised January 2004].

- *Equivalent Fuel Sulfur Content* - that quantity of SO_2 in pounds per million British Thermal Units (Btu) which corresponds to a given percent sulfur in fuel being burned and is calculated on the basis of one hundred percent (100 percent) conversion of the sulfur to SO_2 and assuming that no sulfur or SO_2 recovery or control measures are employed (WVCSR 45-10-2).

- *Estimated Emissions Units* - a two-position code that identifies the units associated with an estimated emissions (WVCSR 45-29-2) [Citation Revised January 2008].

- *Excess Emissions* - those emissions in excess of any requirement, standard, or numerical emission limit specified in this regulation (WVCSR 45-21-2.29).

- *Excessive Concentration* - for the purpose of determining good engineering practice stack height under Subsection 2.4.c. and the following (WVCSR 45-20-2.6):
  1. for sources seeking credit for stack height exceeding that established under Subsection 2.4.b. of this regulation, a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, and eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and which contributes to a total concentration due to emissions from all sources that is greater than an ambient air quality standard. For sources subject to APCC Regulation XIV the (Prevention of Significant Deterioration) an excessive concentration alternatively means a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, or eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and greater than a prevention of significant deterioration increment. The allowable emission rate to be used in making demonstrations under this part shall be prescribed by Regulation XVI (Standards of Performance for New Stationary Sources) that is applicable to the source category unless the owner or operator demonstrates that this emission rate is infeasible. Where such demonstrations are approved by the Director, an alternative emission rate shall be established in consultation with the source owner or operator
  2. for sources seeking credit after 11 October 1983, for increases in existing stack heights up to the heights established under Subsection 2.4.b. of this regulation, either:
     a. a maximum ground-level concentration due in whole or part to downwash, wakes, or eddy effects as provided in Subsection 2.6.a of this regulation except that the emission rate specified by any regulation of the Commission (or, in the absence of such a limit, the actual emission rate) shall be used
     b. the actual presence of a local nuisance caused by the existing stack, as determined by the Director, and
     c. for sources seeking credit after 12 January 1979 for a stack height determined under Subsection 2.4.b. of this regulation where the Director requires the use of a field study or fluid model to verify GEP stack height, for sources seeking stack height credit after 9 November 1984, based on the aerodynamic influence of cooling towers, and for sources seeking stack height credit after 31 December 1970, based on the aerodynamic influence of structures not adequately represented by the equations in Subsection 2.4.b. of this regulation, a maximum ground-level concentration due in whole or part to downwash, wakes or eddy effects that is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects.

- *Excursion* - (1) measured emissions exceeding the applicable standards set forth in sections 3 and 4 of 45CSR2; or (2) operating parameters outside the range set forth in an approved monitoring plan, which may or may not result in measured emissions exceeding the applicable standards set forth in sections 3 of 45CSR2 (WVCSR 45-2A-2) [Added January 2002].

- *Existing HMIWI Unit* - a HMIWI unit that commenced construction on or before June 20, 1996. Physical or operational changes made to an existing HMIWI unit solely for the purpose of complying with the requirements of subsection 6.3 are not considered a modification and do not result in an existing HMIWI unit becoming subject to the provisions of 40 CFR Part 60, Subpart Ec. (WVCSR 45-18-2) [Added February 2000; Revised January 2009].

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- *Existing Stationary Source Operating Permit* - a permit issued by the Secretary at the request of an owner or operator of a stationary source which establishes enforceable emission rates, operating conditions, and compliance determination procedures for that source based upon applicable rules and terms agreed to by the Chief and the owner or operator (WVCSR 45-13-2) [Revised January 2004].

- *Exterior Base Coat* - a coating applied to the exterior of a two-piece can body to provide protection to the metal or to provide background for any lithographic or printing operation (WVCSR 45-21-11.2.d).

- *Extreme Environmental Conditions* - any of the following: the weather all of the time, temperatures frequently above 95 °C (203 °F), detergents, abrasive and scouring agents, solvents, corrosive atmospheres, or similar environmental conditions (WVCSR 45-21-19.2.d).

- *Extreme Performance Coatings* - coatings intended for exposure to extreme environmental conditions (WVCSR 45-21-19.2.e).

- *Fabric Coating Line* - a web coating line where coating is applied to fabric. A fabric printing line is not considered a fabric coating line (WVCSR 45-21-14.2.a).

- *Fabric Coating Operation* - a coating application station and its associated flashoff area, drying area, and/or oven wherein coating is applied and dried or cured in a fabric (WVCSR 45-21-14.2.b).

- *Facility* - all of the pollutant-emitting activities that are located on one or more contiguous or adjacent properties, and are under the control of the same person (or person under common control) (WVCSR 45-21-2.31).

- *Federal Land Manager* - with respect to any lands in the US, the Secretary of the Department with authority over such lands (WVCSR 45-14-2) [Citation Revised January 2010].

- *Federally Enforceable* - all limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Parts 60, 61 and 63, rules of the approved state Implementation Plan of the state of WV, any permit requirements established pursuant to 40 CFR 52.21 or this rule, and any operating permits issued under a EPA-approved program that is incorporated into the state Implementation Plan and expressly requires adherence to any permit issued under such program (WVCSR 45-14-2) [Citation Revised January 2010].

- *Ferroalloy Electric Submerged Arc Furnace* - any furnace used in production of ferroalloys wherein electrical energy is converted to heat energy by transmission of current between electrodes partially submerged in the furnace charge (WVCSR 45-7-2).

- *Filter Cartridge* - a replaceable filter unit containing filtration paper and carbon or carbon only (WVCSR 45-21-35.2.a).

- *First Attempt at Repair* - to take rapid action for the purpose of stopping or reducing leakage of VOC to the atmosphere using best practices (WVCSR 45-21-2.32).

- *Flare* or *Flare Stack* - includes a combustion source normally comprised of but not limited to a length of stack or pipe which has an attached burner mechanism designed to destroy liquid or gaseous material with an open or semi enclosed flame (WVCSR 45-6-2).

- *Flashoff Area* - the space between the coating application area and the oven (WVCSR 45-21-2.33).

- *Flat Wood Paneling Coating Line* - a coating line used to apply and dry or cure coatings applied to flat wood panels including: printed interior panels made of hardwood plywood and thin particle board (i.e., less than or equal to 0.64 cm (0.25 in.) in thickness); natural finish hardwood plywood panels; and hardwood paneling with Class II finishes (WVCSR 45-21-20.2.b).

- *Flexographic Printing Press* - a printing press that uses a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials (WVCSR 45-21-34.2.a).

- *Freeboard Height* - for a cold cleaner, the distance from the liquid solvent level in the degreaser tank to the lip of the tank. For an open-top vapor degreaser, it is the distance from the vapor level in the tank during idling to the lip of the tank. For a vapor-conveyorized degreaser, it is the distance from the vapor level to the bottom of

the entrance or exit opening, whichever is lower. For a cold-conveyorized degreaser, it is the distance from the liquid solvent level to the bottom of the entrance or exit opening, whichever is lower (WVCSR 45-21-30.2.c).

- *Freeboard Ratio* - the freeboard height divided by the smaller interior dimension (length, width, or diameter) of the degreaser tank (WVCSR 45-21-30.2.d).

- *Fuel* - any form of combustible matter (solid, liquid, vapor or gas) that is used as a source of heat (WVCSR 45-2-2).

- *Fuel Burning Equipment* - and include any chamber, apparatus, device, mechanism, stack or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat for direct heat transfer as applied to a hot mix asphalt plant excluding internal combustion engines (WVCSR 45-3-2).

- *Fuel Burning Unit* - and includes any furnace, boiler apparatus, device, mechanism, stack, or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat transfer. For the purposes of this rule, all fuel burning units are classified in the following categories (WVCSR 45-2-2):
  1. Type 'a' means any fuel burning unit that has as its primary purpose the generation of steam or other vapor to produce electric power for sale.
  2. Type 'b' means any fuel burning unit not classified as a Type 'a' or Type 'c' unit such as industrial pulverized- fuel-fired furnaces, cyclone furnaces, gas-fired and liquid- fuel-fired units.
  3. Type 'c' means any hand-fired or stoker-fired fuel burning unit not classified as a Type 'a' unit.

- *Fuel Quality Analysis* - the sulfur content and the BTU content (WVCSR 45-10-2) [Added January 2002].

- *Fugitive Emissions* - those emissions that could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening (WVCSR 45-13-2).

- *Fugitive Particulate Matter* - any and all particulate matter generated by any operation involving or associated with the combustion of fuel in fuel burning units which, if not confined, would be emitted directly into the open air from points other than a stack outlet (WVCSR 45-2-2).

- *Fugitive Particulate Matter Control System* - any equipment or method used to confine, collect or dispose of fugitive particulate matter, including, but not limited to, hoods, bins, duct work, fans and air pollution control equipment (WVCSR 45-2-2).

- *Furnace Charge* - any material introduced into a ferroalloy electric submerged arc furnace, and may consist of, but is not limited to, ores, slag, carbonaceous material, and limestone (WVCSR 45-7-2).

- *Gasoline Dispensing Facility* - any site where gasoline is transferred from a stationary storage tank to a motor vehicle gasoline tank used to provide fuel to the engine of that motor vehicle (WVCSR 45-21-02) [Added January 2009].

- *Gasoline Tank Truck* - any truck or trailer equipped with a storage tank that is used for the transport of gasoline or vapor from a source of supply to a stationary storage tank at a gasoline dispensing facility, bulk gasoline plant, or bulk gasoline terminal (WVCSR 45-21-02) [Added January 2009].

- *General Permit* - a Title V operating permit that meets the requirements of Subsection 5.4 of this rule (WVCSR 45-30-2).

- *Good Engineering Practice (GEP) Stack Height* - the greater of (WVCSR 45-20-2):
  1. 65 m, measured from a ground-level elevation at the base of the stack
     a. for stacks in existence on 12 January 1979, and for which the owner or operator had obtained all applicable permits or approvals required, $H_g = 2.5H$, provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation

b. for all other stacks, Hg = H + 1.5L, where
   i. Hg = good engineering practice stack height, measured from the ground-level elevation at the base of the stack,
   ii. H = height of nearby structure(s) measured from the ground-level elevation at the base of the stack,
   iii. L = lesser dimension, height or projected width, of nearby structure(s) provided that the Director may require the use of a field study or fluid model to verify GEP stack height for the source

2. the height demonstrated by a fluid model or a field study approved by the Director, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures or nearby terrain features.

- *Greenhouse Gas* - the gaseous compounds: carbon di oxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF6) (WVCSR 45-42-2) [Added January 2009].

- *Hardboard* - a panel manufactured primarily from inter-felted ligno-cellulosic fibers that are consolidated under heat and pressure in a hot press (WVCSR 45-21-20.2.c).

- *Hardwood Plywood* - plywood whose surface layer is a veneer of hardwood (WVCSR 45-21-20.2.d).

- *Hazardous Air Pollutant* - any air pollutant listed pursuant to 40 CFR 61.01(a) or section 112(b) of the CAA (WVCSR 45-34-2) [Revised February 1998; Revised January 2004; Citation Revised January 2005; Revised January 2010].

- *Heat Input* - the rate of heat release from all fuels fired in all similar units vented by the test stack during the test run period (WVCSR 45-2-2).
  1. 'Design Heat Input (DHI)' means the heat input level (in MM Btu/h) for which an individual fuel burning unit has been designed to be operated during continuous operation.
  2. 'Total Design Heat Input (TDHI)' means the sum of the design heat inputs for all similar units located at one plant.
  3. 'Normal Maximum Operating Load (NMOL)' means the sum of the Design Heat Input levels (in MM Btu/h) of the similar unit(s) vented by the test stack, unless the owner/operator has elected to operate one or more of the similar units vented by the test stack at or below a specified percentage of its Design Heat Input level as part of a compliance program, permit, or consent order officially accepted by the Director. In such event, the NMOL is the sum of the Design Heat Input levels or fractions thereof as appropriate (i.e., NMOL = 0.75 DHI(1) + DHI(2)).

- *Hospital/Medical/Infectious Waste Incinerator* or *HMIWI* - any device that combusts any amount of hospital waste and/or medical/infectious waste as defined in 40 CFR § 60.51c (WVCSR 45-18-2 [Added February 2000; Citation Revised January 2009].

- *Incineration* - the destruction of combustible refuse by burning in a furnace designed for that purpose. For the purposes of this rule, the destruction of any combustible liquid or gaseous material by burning in a flare or flare stack, thermal oxidizer or thermal catalytic oxidizer stack is considered incineration (WVCSR 45-6-2) [Revised January 2001; Revised January 2009].

- *Incinerator* - a combustion apparatus in which solid, semisolid, liquid, or gaseous combustible wastes are ignited and burned and from which the solid and gaseous residues contain little or no combustible material (WVCSR 45-21-2.37) or any device used to accomplish incineration (WVCSR 45-6-2).

- *Incinerator Capacity* - the manufacturer's or designer's guaranteed maximum charging rate or such other rate as may be determined by the Secretary in accordance with good engineering practices. In case of conflict the determination by the Secretary shall govern. For the purpose of this rule the total of the capacities of all

furnaces within one system shall be considered as the Incinerator Capacity (WVCSR 45-6-2) [Revised January 2009].

- *Indirect Heat Exchanger* - a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters (WVSCR 45-2-2) [Added January 2001].

- *Industrial Waste Incinerator* - an incinerator that is used to incinerate gaseous, liquid, semiliquid and/ or solid byproduct waste from industrial sources (WVCSR 45-6-2).

- *Innovative Control Technology* - any system of air pollution control that has not been adequately demonstrated in practice, but would have a substantial likelihood of achieving greater continuous emissions reduction than any control system in current practice or of achieving at least comparable reductions at lower cost in terms of energy, economics, or nonair quality environmental impacts (WVCSR 45-14-2) [Citation Revised January 2010].

- *Intermittent Vapor Control System* - a vapor control system that employs an intermediate vapor holder to accumulate vapors displaced from tanks during filling. The control device treats the accumulated vapors only during automatically controlled cycles (WVCSR 45-21-2.38).

- *Intrasource Pollutants* - air pollutants emitted from within the same source that have comparable physical and chemical characteristics and properties (WVCSR 45-19-2.20).

- *Knife Coating* - the application of a coating material to a substrate by means of drawing the substrate beneath a knife that spreads the coating evenly over the full width of the substrate (WVCSR 45-21-2.39).

- *Laboratory Official* - the person, qualified by experience or education, who is charged with overseeing or conducting the laboratory analysis of the collected samples. This person is responsible for ensuring the accuracy and validity of the laboratory results (WVCSR 45-2-2).

- *Land Clearing Debris* - vegetative material generated by clearing of land for purposes of preparation for development, construction, mining or other such activity. Non-vegetative refuse is not included in this meaning (WVCSR 45-6-2) [Added January 2001].

- *Large Appliance* - any residential or commercial washer, dryer, range, refrigerator, freezer, water heater, dishwasher, trash compactor, air conditioner, or other similar products under Standard Industrial Classification Code 363 (WVCSR 45-21-17.2.a).

- *Large Appliance Coating Line* - a coating line in which any protective, decorative, or functional coating onto the surface of component metal parts (including, but not limited to, doors, cases, lids, panels, and interior parts) of large appliances (WVCSR 45-21-17.2.b).

- *Leak* - a VOC emission indicated by an instrument calibrated according to Method 21 of 40 CFR Part 60, Appendix A using zero air (less than 10 ppm of hydrocarbon in air) and a mixture of methane or n- hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane (WVCSR 45-21-2.40).

- *Lease Custody Transfer* - the transfer of produced crude oil or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation (WVCSR 45-21-2.41).

- *Liquid-Mounted Seal* - a primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof around the circumference of the tank (WVCSR 45-21-27.2.a).

- *Loading Rack* - an aggregation or combination of gasoline loading equipment arranged so that all loading outlets in the combination can be connected to a tank truck or trailer parked in a specified loading space (WVCSR 45-21-2.42).

- *Lower Explosive Limit* or *LEL* - the concentration of a compound in air below that a flame will not propagate if the mixture is ignited (WVCSR 45-21-2.43).

- *Lowest Achievable Emission Rate (LAER)* - for any source, that rate of emissions based on the following, whichever is more stringent (WVCSR 45-19-2.21):
  1. the most stringent emission limitation which is contained in the implementation plan of any state for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable
  2. the most stringent emission limitation which is achieved in practice by such class or category of source. This term applied to a new or modified emissions unit, means the lowest achievable emission rate for such emissions unit within the source. In no event shall the application of this term permit a proposed new or modified stationary source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance.

- *Lowest Achievable Emission Rate (LAER*) - for any source, the more stringent of the following (WVCSR 45-14-2) [Added January 2006]:
  1. The most stringent emissions limitation which is contained in the implementation plan of any State for such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or
  2. The most stringent emissions limitation which is achieved in practice by such class or category of stationary sources. This limitation, when applied to a modification, means the lowest achievable emission rate for the new or modified emissions units within the stationary source. In no event shall the application of the term permit a new or proposed new or modified stationary source to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance.

- *Magnet Wire Coating Line* - a coating line in which an electrically insulating varnish or enamel is applied onto the surface of wire for use in electrical machinery (WVCSR 45-21-18.2).

- *Major Modification* - any physical change in or change in the method of operation of a major stationary source which results in a significant net emissions increase of any regulated pollutant. However, the following actions do not constitute a physical change or change in the method of operation (WVCSR 45-14-2) [Citation Revised January 2010]:
  1. routine maintenance, repair, and replacement.
  2. use of an alternative fuel or raw material by reason of any order under Sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act.
  3. use of an alternative fuel by reason of an order or rule under Section 125 of the Clean Air Act.
  4. use of fuel generated from municipal solid waste as an alternative fuel at a steam generating unit.
  5. use of an alternative fuel or raw material by a stationary source, provided that:
     a. Prior to 6 January 1975, the source was capable of accommodating such alternative fuel or raw material, unless such change would be prohibited under any federally enforceable permit condition which was established after 6 January 1975 pursuant to 40 CFR 52.21 or under any permit issued or order entered pursuant to any rule of the Director after 6 January 1975
     b. The source is approved to use the alternative fuel or raw material under any permit issued under 40 CFR 52.21 or under any permit issued or order entered pursuant to any rule of the Director.
  6. an increase in the hours of operation unless such increase would be prohibited by a Federal permit issued pursuant to 40 CFR 52.21 or by any permit issued or order entered pursuant to any rule of the Director.
  7. an increase in the production rate unless such increase would be prohibited by a Federal permit issued pursuant to 40 CFR 52.21 or by any permit issued or order entered pursuant to any rule of the Director.
  8. any change in ownership at a stationary source.

9. the addition, replacement or use of a pollution control project at an existing electric utility steam generating unit, unless the Director determines that such addition, replacement, or use renders the unit less environmentally beneficial, or except
    a. When the Director has reason to believe that the pollution control project would result in a significant net increase in representative actual annual emissions of any criteria pollutant over levels used for that source in the most recent air quality impact analysis in the area conducted for the purpose of Title I, if any
    b. The Director determines that the increase will cause or contribute to a violation of any national ambient air quality standard or PSD increment, or visibility limitation.
10. the installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with:
    a. The state Implementation Plan
    b. Other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.
11. the installation or operation of a permanent clean coal technology demonstration project that constitutes repowering, provided that the project does not result in an increase in the potential to emit of any regulated pollutant emitted by the unit. This exemption shall apply on a pollutant-by-pollutant basis.
12. the reactivation of a very clean coal-fired electric utility steam generating unit.

- *Major Modification for Ozone* - a major modification for VOC (WVCSR 45-14-2) [Citation Revised January 2010].

- *Major Source Baseline Date* - (WVCSR 45-14-2) [Citation Revised January 2010]:
    1. in the case of particulate matter and SO_2, 6 January 1975, and
    2. in the case of NO_2, 8 February 1988.

- *Minor Source Baseline Date* - the earliest date after the trigger date on which a major stationary source or a major modification subject to the requirements of 40 CFR 52.21 or to this rule submits a complete application under this rule. The trigger date is:
    1. In the case of particulate matter and SO_2, 7 August 1977, and
    2. In the case of NO_2, 8 February 1988.

  The baseline date is established for each pollutant for which increments or other equivalent measures have been established if:
    1. The area in which the proposed source or modification would construct is designated as attainment or unclassifiable under Sections 107(d)(i)(D) or (E) of the Clean Air Act for the pollutant on the date of its complete application under 40 CFR 52.21 or this rule
    2. In the case of a major stationary source, the pollutant would be emitted in significant amounts, or in the case of a major modification, there would be a significant net emissions increase of the pollutant. Any minor source baseline date established originally for the TSP increments shall remain in effect and shall apply for purposes of determining the amount of available PM_{10} increments, except that the Director may rescind any such minor source baseline date where it can be shown to the Director's satisfaction that the emissions increase from the major stationary source, or the net emissions increase from the major modification, responsible for triggering that date did not result in a significant amount of PM_{10} emissions.

- *Major Emissions Unit* -(WVCSR 45-14-2) [Added January 2006]:
    1. Any emissions unit that emits or has the potential to emit 100 tons per year or more of the PAL pollutant in an attainment area; or
    2. Any emissions unit that emits or has the potential to emit the PAL pollutant in an amount that is equal to or greater than the major source threshold for the PAL pollutant as defined by the CAA for nonattainment areas. For example, in accordance with the definition of major stationary source in section 182(c) of the CAA, an emissions unit would be a major emissions unit for VOC if the unit is located in a serious ozone non attainment area and it emits or has the potential to emit 50 or more tons of VOC per year.

- *Major Modification* - any physical change in or change in the method of operation of a major stationary source which results in: a significant emissions increase (as defined in subsection 2.75) of any regulated NSR pollutant (as defined in subsection 2.66); and a significant net emissions increase of that pollutant from the major

stationary source. However, the following actions do not constitute a physical change or change in the method of operation (WVCSR 45-14-2) [Added January 2006; Revised January 2010]:

1. Routine maintenance, repair, and replacement.
2. Use of an alternative fuel or raw material by reason of any order under sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act.
3. Use of an alternative fuel by reason of an order or rule under section 125 of the CAA.
4. Use of fuel generated from municipal solid waste as an alternative fuel at a steam generating unit.
5. Use of an alternative fuel or raw material by a stationary source, provided that:
   5.a. Prior to January 6, 1975, the source was capable of accommodating such alternative fuel or raw material, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975 pursuant to 40 CFR 52.21 or under any permit issued or order entered pursuant to any rule of the Secretary after January 6, 1975;
   5.b. The source is approved to use the alternative fuel or raw material under any permit issued under 40 CFR 52.21 or under any permit issued or order entered pursuant to any rule of the Secretary.
6. An increase in the hours of operation unless such increase would be prohibited by a Federal permit issued pursuant to 40 CFR 52.21 or by any permit issued or order entered pursuant to any rule of the Secretary.
7. An increase in the production rate unless such increase would be prohibited by a Federal permit issued pursuant to 40 CFR 52.21 or by any permit issued or order entered pursuant to any rule of the Secretary.
8. Any change in ownership at a stationary source
9. The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with:
10. The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with:
    10.a. The State Implementation Plan; and
    10.b. Other requirements necessary to attain and maintain the National Ambient Air Quality Standards during the project and after it is terminated.
11. The installation or operation of a permanent clean coal technology demonstration project that constitutes repowering, provided that the project does not result in an increase in the potential to emit of any regulated NSR pollutant emitted by the unit. This exemption shall apply on a pollutant-by-pollutant basis.
12. The reactivation of a very clean coal-fired electric utility steam generating unit.
13. This definition shall not apply with respect to a particular regulated NSR pollutant when the major stationary source is complying with the requirements under section 25 for a PAL for that pollutant. Instead, the definition at subsection 2.53 shall apply.

- *Major Stationary Source* - defined as the following (WVCSR 45-14-2) [Revised January 2006 ; Revised January 2010]:
  1. any of the following stationary sources of air pollutants which emits or has the potential to emit, one hundred (100) tons per year or more of any regulated pollutant:
     - Fossil Fuel-fired Steam Electric Plants of More than 250 Million Btu/hr Heat Input,
     - Coal Cleaning Plants (with thermal dryers),
     - Kraft Pulp Mills,
     - Portland Cement Plants,
     - Primary Zinc Smelters,
     - Iron and Steel Mill Plants,
     - Primary Aluminum Ore Reduction Plants,
     - Primary Copper Smelters,
     - Municipal Incinerators Capable of Charging More than 250 Tons of Refuse per Day,
     - Hydrofluoric, Sulfuric and Nitric Acid Plants,
     - Petroleum Refineries,
     - Lime Plants,
     - Phosphate Rock Processing Plants,
     - Coke Oven Batteries,
     - Sulfur Recovery Plants,
     - Carbon Black Plants (furnace process),
     - Primary Lead Smelters,

- Fuel Conversion Plants,
- Sintering Plants,
- Secondary Metal Production Plants,
- Chemical Process Plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140),
- Fossil Fuel Boilers (or combinations thereof) Totaling More than 250 Million Btu/hour Heat Input,
- Petroleum Storage and Transfer Units with a Total Storage Capacity Exceeding 300,000 Barrels,
- Taconite Ore Processing Plants,
- Glass Fiber Processing Plants, and
- Charcoal Production Plants;

2. Notwithstanding the stationary source size specified in subdivision 2.43.a (list above), any stationary source which emits or has the potential to emit, two hundred fifty (250) tons per year or more of any regulated pollutant; or
3. Any physical change at a stationary source, not otherwise qualifying under subdivision 2.43.a as a major stationary source, if the change itself would constitute a major stationary source.
4. The fugitive emissions of a stationary source shall not be included in determining whether it is a major stationary source, unless the source is listed in Table 1.
5. In addition to those facilities covered under subdivision 2.43.d, all coal preparation plants as defined under 40 CFR § 60.251(a) which process more than 200 tons per day shall count fugitives from all "affected facilities" at the source, i.e., thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems.
6. For the purpose of this subsection, the term "affected facilities" means those facilities which are listed or identified as "affected facilities" in the applicable standard promulgated under § 111 or 112 of the CAA."

Table 1 SOURCE CATEGORIES WHICH MUST INCLUDE FUGITIVE EMISSIONS

- Fossil-Fuel-Fired Stearn Electric Plants Greater Than 250 Million Btu/Hour Heat Input
- Coal Cleaning Plants (with thermal dryers)
- Kraft Pulp Mills
- Portland Cement Plants
- Primary Zinc Smelters
- Iron and Steel Mill Plants
- Primary Aluminum Ore Reduction Plants
- Primary Copper Smelters
- Municipal Incinerators Capable of Charging Greater Than 250 Tons of Refuse/Day
- Hydrofluoric, Sulfuric, and Nitric Acid Plants
- Petroleum Refineries
- Lime Plants
- Phosphate Rock Processing Plants
- Coke Oven Batteries
- Sulfur Recovery Plants
- Carbon Black Plants (furnace process)
- Primary Lead Smelters
- Fuel Conversion Plants
- Sintering Plants
- Secondary Metal Production Plants
- Chemical Process Plants (The term chemical processing plant shall not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140
- Fossil Fuel Boilers (or combinations thereof) Totaling More Than 250 Million Btu/Hour Heat Input
- Petroleum Storage and Transfer Units with a Total Storage Capacity Exceeding 300,000 Barrels
- Taconite Ore Processing Plants
- Glass Fiber Processing Plants
- Charcoal Production Plants
- Any other stationary source category which, as of August 7, 1980, is being regulated under § 111

or 112 of the CAA.

- *Malfunction* - any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions (WVCSR 45-2-2).

- *Manufacturing Process* - any action, operation or treatment embracing chemical, industrial, or manufacturing efforts, and employing, for example, heat-treating furnaces, byproduct coke plants, core-baking ovens, mixing kettles, cupolas, blast furnaces, open hearth furnaces, heating and reheating furnaces, puddling furnaces, sintering plants, electric steel furnaces, ferrous and nonferrous foundries, kilns, stills, pipe stills, reformers, furnaces associated with manufacturing processes, driers, crushers, grinders, roasters, and equipment used in connection therewith, and all other methods or forms of manufacturing or processing that may emit SO_2 or other sulfur compounds (WVCSR 45-10-2).

- *Materials* - limestone, dolomite, iron ore, slag, coke, coal, sandstone, magnetite, sinter, sand, coal refuse, soda ash, ash, cement, or earth (WVCSR 45-17-2) [Revised January 2001].

- *Maximum Theoretical Emissions* - the quantity of VOC that theoretically could be emitted by a source without control devices based on the design capacity or maximum production capacity of the source and 8760 h of operation per year. The design capacity or maximum production capacity includes use of coatings with the highest VOC content used in practice by the source for the 2 yr. preceding 31 May 1993 (WVCSR 45-21-2.44).

- *Maximum True Vapor Pressure* - the equilibrium partial pressure exerted by a stored liquid at the temperature equal to: (1) for liquids stored above or below the ambient temperature, the highest calendar-mo average of the liquid storage temperature, or (2) for liquids stored at the ambient temperature, the local maximum monthly average temperature as reported by the National Weather Service. This pressure shall be determined (WVCSR 45-21-2.45):
  1. in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From External Floating Roof Tanks"
  2. by using standard reference texts
  3. by ASTM D2879-83
  4. by any other method approved by the EPA.

- *Measured Emissions Units* - a two-position code that identifies the units associated with a measured emissions value (WVCSR 45-29-2) [Citation Revised January 2008].

- *Metal Furniture* - any furniture piece made of metal or any metal part that will be assembled with other metal, wood, fabric, plastic, or glass parts to form a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desks, lockers, benches, shelving, file cabinets, and room dividers. This definition shall not apply to the coating of miscellaneous metal parts or products (WVCSR 45-21-16.2.a).

- *Metal Furniture Coating Line* - a coating line in which a protective, decorative, or functional coating is applied onto the surface of metal furniture (WVCSR 45-21-16.2.b).

- *Miscellaneous Parts and Products* - any metal part or metal product, even if attached to or combined with a nonmetal part or product. Miscellaneous metal parts and products include, but are not limited to (WVCSR 45-21-19.2.g):
  1. Large farm machinery (harvesting, fertilizing and planting machines, tractors, combines, etc.)
  2. Small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.)
  3. Small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.)
  4. Commercial machinery (office equipment, computers and auxiliary equipment, typewriters, calculators, vending machines, etc.)
  5. Industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.)
  6. Fabricated metal products (metal covered doors, frames, etc.)

7. Any other industrial category that coats metal parts or products under the Standard Industrial Classification Codes of Major Group 33 (primary metal industries), Major Group 34 (fabricated metal products), Major Group 35 (nonelectric machinery), Major Group 36 (electrical machinery), Major Group 37 (transportation equipment), Major Group 38 (miscellaneous instruments), and Major Group 39 (miscellaneous manufacturing industries)
8. Application of underbody antichip materials (e.g., underbody plastisol) and coating application operations other than prime, primer surfacer, topcoat, and final repair operations at automobile and light-duty truck assembly plants.

- *Miscellaneous Metal Parts and Products Coating Line* - a coating line in which a coating is applied to any miscellaneous metal parts and products (WVCSR 45-21-19.2.f).

- *Mobile Source* - a variety of onroad and nonroad vehicles, engines, locomotives, marine vessels, airplanes and other equipment that generate air pollutants and greenhouse gas emissions, and that move or can be moved from place to place (WVCSR 45-42-2) [Added January 2009].

- *Modification or Modified* - any physical change or change in a source which increases its potential to emit VOCs (WVCSR 45-21-2.46).

- *Modification* or *Modified* - for the purpose of WVCSR 45-27, (see the subsection on Toxic Air Pollutants in AE.5.WV.) any physical change or change in the method of operation of a chemical processing unit which increases its potential to emit a toxic air pollutant (WVCSR 45-27-2) [Added February 1998].

- *Modification* - for the purpose of WVSCR 45-13, any physical change in or change in the method of operation of any existing stationary source, excluding any emissions unit which meets or falls below the criteria delineated in Table 45-13B (see Appendix 1-7), which (WVCSR 45-13-2) [Revised January 2001; Revised January 2004]:
  1. results in an emissions increase of 61 lb/hr or more or 10 tpy or more, or more than 144 pounds per calendar day, of any regulated air pollutant
  2. results in an emissions increase of 2 lb/hr or 5 tpy of hazardous air pollutants considered on an aggregated basis
  3. results in an increase in emissions of an air pollutant listed in Table 45-13A (see Appendix 1-6) of 10 percent or more of the amount set forth in Table 45-13A at a facility which, prior to the physical change or change in method of operation, has the potential to emit the air pollutant at or above the amount set forth in Table 45-13A (however, nothing in this subdivision affects the facility's obligation to comply with WVCSR 45-27)
  4. results in an increase in emissions of any air pollutant listed in Table 45-13A (see Appendix 1-6) that would in turn result in total emissions of the air pollutant at the stationary source equal to or greater than the amounts in Table 45-13A
  5. results in any regulated air pollutant emissions increase for which the owner or operator of a source voluntarily chooses to obtain a modification permit pursuant to this rule, even though the owner or operator is not otherwise required to do so.
  6. The following actions, however, shall not constitute a modification of a stationary source:
     a. installation or replacement of air pollution control equipment, provided that such new equipment is at least as effective in the control of air pollutant emissions as any equipment replaced and that no new air pollutant discharge results from its installation
     b. routine maintenance, repair, and replacement (excluding such activities that are subject to new source performance standards under 45 CSR 16)
     c. an increase in hours of operation unless a limitation has been explicitly placed upon hours of operation in an applicable permit or order
     d. an increase in throughput or production rate if such increase does not exceed the design capacity of the source or emissions unit, or increase emissions above the levels provided in this paragraph and there is no explicit limitation of production rate in an applicable permit or order
     e. use of an alternative fuel or raw material, provided that the source is designed to accommodate such alternative use without increasing emissions above the levels provided in this paragraph and such usage is not prohibited by an applicable permit or order

f. an emissions reduction for each regulated pollutant from current actual emissions to new potential emissions from any replacement of a natural gas compressor engine not previously required to obtain a permit under this rule with another natural gas compressor engine, provided that the owner or operator of the source shall notify the Secretary of such replacement and the emissions reduction within ten (10) working days of the replacement.

- *National Ambient Air Quality Standard (NAAQS)* - the numerical standard specified by the EPA for each air pollutant for which air quality criteria have been issued (WVCSR 45-19-2.24).

- *Natural Finish Hardwood Plywood Panels* - panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners (WVCSR 45-21-20.2.e).

- *Nearby* - defined for a specific structure or terrain feature and for the following (WVCSR 45-20-2.5):
  1. for purposes of applying the formulae provided in Subsection 2.4.b. of this regulation means that distance up to five times the lesser of the height or the width dimension of a structure, but not greater than 0.8 km (1/2 mi), and
  2. for conducting demonstrations under Subsection 2.4.c. means not greater than 0.8 km (1/2 mi), except that the portion of a terrain feature may be considered to be nearby which falls within a distance of up to 10 times the maximum height (H(t)) of the feature, not to exceed 2 mi if such feature achieves a height (H(t)), 0.8 km from the stack that is at least 40 percent of the GEP stack height determined by the formulae provided in Subsection 2.4.b.B. of this regulation or 26 m, whichever is greater, as measured from the ground-level elevation at the base of the stack. The height of the structure or terrain feature is measured from the ground-level elevation at the base of the stack.

- *Necessary Pre-Construction Approvals or Permits* - for the purposes of this regulation, those permits or approvals required under Federal air quality control laws or regulations and air quality control laws and regulations of the state of WV. Where a consent order is required to be submitted to the EPA for inclusion in the state Implementation Plan, the applicant will not have all necessary preconstruction approvals or permits until such time as the EPA approves such consent order for inclusion in the state Implementation Plan (WVCSR 45-19-2.25).

- *Necessary Preconstruction Approvals or Permits* - for the purposes of this rule, those permits or approvals required under Federal air quality control laws and regulations and air quality control laws and rules of the state of West Virginia (WVCSR 45-14-2) [Citation Revised January 2010].

- *Net Emissions Increase* - with respect to any regulated NSR pollutant emitted by a major stationary source, the amount of emissions by which the sum of the following exceeds zero: (WVCSR 45-14-2 [Revised January 2006; Revised January 2010].
  a. Any increase in actual emissions from a particular physical change or change in the method of operation at a stationary source as calculated pursuant to subsection 3.4
  b. Any other increases and decreases in actual emissions at the major source that are contemporaneous with the particular change and are otherwise creditable. Baseline actual emissions for calculating increases and decreases under subdivision 2.46.b shall be determined as provided in subsection 2.8 of this section, except that paragraphs 2.8.a.3 and 2.8.b.4 shall not apply
  c. An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs not more than five (5) years prior to the date on which construction on the particular change commences or later than the date on which the increase from the particular change occurs.
  d. An increase or decrease in actual emissions is creditable only if the increase or decrease in actual emissions has not been relied upon by the United States Environmental Protection Agency in issuing a permit pursuant to 40 CFR 52.21 or by the Secretary in issuing a permit pursuant to this rule and such permit is in effect on the date on which the increase in emissions from the particular change occurs
  e. The increase or decrease in actual emissions of particulate matter, sulfur dioxide, or nitrogen oxides which occurred prior to the applicable minor source baseline date was required to be considered and calculated

in determining the amount of maximum allowable increases remaining available. With respect to particulate matter, only PM10 emissions can be used to evaluate the net emissions increase for PM10;

.f. An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level;

g. A decrease in actual emissions is creditable only to the extent that:

1. The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;
2. It is federally enforceable and is enforceable by the Secretary at and after the time that the actual construction on the particular change begins;
3. The decrease in actual emissions must have approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change;

h. An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed one hundred eighty (180) days.

- *New HMIWI Unit* - a HMIWI unit that commenced construction after June 20, 1996 or for which modification is commenced after March 16, 1998. A HMIWI unit shall not be defined as 'new' if physical or operational changes made to an existing HMIWI unit solely for the purpose of complying with emission guidelines for existing HMIWI units, as referenced in 40 CFR Part 60 Subpart Ce, which are partially incorporated by reference in this rule. Such changes are not considered a modification and do not result in an existing HMIWI unit becoming subject to the provisions of 40 CFR Part 60, Subpart Ec. (WVCSR 45-18-2) [Added February 2000; Revised January 2009].

- *Nonrecovery Coke Production Facility* - the destructive distillation of coal in which the gaseous and liquid distillates are separated from coal, but not recovered as byproducts, and includes any onsite coal preparation, charging, coking, coke pushing, hot coke transfer, coke quenching and coke handling (WVCSR 45-7-2).

- *Nonattainment Area* - for the purpose of this regulation, those areas designated in accordance with Section 107 of the Clean Air Act as not having attained National Ambient Air Quality Standards for specific air pollutants. Nonattainment areas for ozone, CO, and PM_{10} are divided into categories, which may have different major source size definitions and offset ratio requirements than in previous regulations. These categories are as follows (WVCSR 45-19-2.27):
  1. ozone nonattainment areas may be designated as Marginal, Moderate, Serious, Severe, or Extreme.
  2. CO nonattainment areas may be designated as Moderate or Severe.
  3. PM_{10} nonattainment areas may be designated as Moderate or Severe.

- *Normal Operation* - when used in the context of fuel quality and combinations fired, means the type, quality, and combination of fuel(s) fired which is representative of the fuel or fuel combination fired, in the unit(s) tested, over a reasonable period prior to the test, and the fuel or fuel combination which might reasonably be expected to continue to be fired in this unit after the test. If the type of fuel, quality or combination used in the unit is variable, use the type, quality, and/or combination fired in day-to-day operation which can reasonably be expected to produce the greatest particulate matter loading to the control equipment (e.g., if coal is fired 8 mo out of the yr and gas is fired 4 mo out of the year, coal is to be burned during the test) (WVCSR 45-2-2).

- *Objectionable Odor* - in addition to odors generally recognized as being objectionable, an odor shall be deemed objectionable when in the opinion of a duly authorized representative of the Air Pollution Control Commission, based upon his investigations or his investigations and complaints, such odor is objectionable (WVCSR 45-4-2.6).

- *Offtake Piping* - the piping that transports gaseous byproducts of the coking cycle from an oven to the coke oven gas collector main, such as standpipes, standpipe caps, goosenecks and slipjoints (WVCSR 45-7-2).

- *Open Burning* - the combustion of refuse whereby the gaseous products of combustion are not conveyed through manmade means from one point to another and are discharged directly to the open air. The term

includes "burn barrels" but does not include air curtain incinerators (WVCSR 45-6-2) [Revised January 2001; Revised January 2009].

- *Open-Ended Valve or Line* - any valve, except a safety relief valve, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping (WVCSR 45-21-2.47).

- *Open-Top Vapor Degreasing* - the process using condensation of hot solvent vapor to clean and remove soils from a batch of metal parts (WVCSR 45-21-30.2.e).

- *Organic Compound* - a chemical compound of carbon excluding CO, CO_2, carbonic acid, metallic carbides or carbonates, and ammonium carbonate (WVCSR 45-21-2.48).

- *Oven* - a chamber within which heat is used to bake, cure, polymerize, and/or dry a coating (WVCSR 45-21-2.49).

- *Overall Emission Reduction Efficiency* - the weight per unit time of VOC removed or destroyed by a control device divided by the weight per unit time of VOC generated by a source, expressed as a percentage. The overall emission reduction efficiency is the product of the capture efficiency and the control device destruction or removal efficiency (WVCSR 45-21-2.50).

- *Overvarnish* - a coating applied directly over a design coating or directly over ink to reduce the coefficient of friction, to provide gloss, and to protect the finish against abrasion and corrosion (WVCSR 45-21-11.2.f).

- *Owner or Operator* - any person who owns, leases, controls, operates, or supervises a facility, a source, or air pollution control or monitoring equipment (WVCSR 45-29-2) [Citation Revised January 2008].

- *Oxides of Nitrogen (NO_x)* - in air pollution usage, a compound comprised of nitric oxide (NO) and NO_2, expressed as molecular weight of NO_2 (WVCSR 45-29-2) [Citation Revised January 2008].

- *Oxygen Lancing* - the burning open of a taphole to remove slag or product from the taphole associated with operations of a ferroalloy electric submerged arc furnace (WVCSR 45-7-2).

- *Ozone Season* - that period of the yr during which conditions for photochemical ozone formation are most favorable. Generally, sustained periods of direct sunlight (i.e., long days, small cloud cover) and warm temperatures. For WV, the ozone season is June, July, and August (WVCSR 45-29-2.2.21); or the calendar period beginning April 1 and ending October 31 (WVCSR 45-21-31.2.d).

- *Packaging Rotogravure Printing Press* - a rotogravure printing press used to print on paper, paper board, metal foil, plastic film, and other substrates that are, in subsequent operations, formed into packaging products and labels, and other nonpublication products (WVCSR 45-21-34.2.b).

- *Pail* - any cylindrical metal shipping container of 1- to 12-gal capacity and constructed of 29-gauge (WVCSR 45-21-19) [Citation Revised January 2008].

- *Paper Coating Line* - a web coating line where coating is applied to paper. Printing presses are not considered paper coating lines. Products produced on a paper coating line include, but are not limited to, adhesive tapes and labels, book covers, postcards, office copier paper, drafting paper, and pressure sensitive tapes. Paper coating lines include, but are not limited to, application by impregnation or saturation or by the use of roll, knife, or rotogravure coating (WVCSR 45-21-13.2.a).

- *Paper Coating Operation* - a coating application station and its associated flashoff area, drying area, and/or oven wherein coating is applied and dried or cured on a paper coating line. A paper coating line may include more than one paper coating operation (WVCSR 45-21-13.2.b).

- *Particulate Matter* - any material except uncombined water that exists in a finely divided form as a liquid or solid (WVCSR 45-2-2).

- *Particulate Matter Emissions* - all finely divided solid or liquid material, other than uncombined water emitted to the ambient air as measured by applicable reference methods, or an equivalent or alternative method, specified in 40 CFR Chapter I, or by a test method specified in any rule of the Director which has been incorporated as part of the federally approved state Implementation Plan. All references to particulate or particulate matter in this rule shall mean particulate matter emissions (WVCSR 45-14-2) [Citation Revised January 2010].

- *Particulate Matter Capture System* - any equipment or method used to confine, collect, and transport particulate matter from elevators, screens, mixers, weighing equipment, bins and other plant components to air pollution control equipment. Particulate matter capture systems shall include, but not be limited to hoods, bins, ductwork, enclosures and fans (WVCSR 45-3-2).

- *Pathological Waste* - waste material consisting of only human or animal remains, anatomical parts or tissue, the bags or containers used to collect and transport the waste material, and animal bedding (if applicable). (WVCSR 45-6-2) [Revised January 2009].

- *Penetrating Prime Coat* - an application of low- viscosity liquid asphalt to an absorbent surface. It is used to prepare an untreated base for an asphalt surface. The prime coat penetrates the base, plugs the voids, and hardens and helps bind the top to the overlying asphalt course. The penetrating prime coat also reduces the necessity of maintaining an untreated base course prior to placing the asphalt pavement (WVCSR 45-21-31.2.e).

- *Percent Seasonal Throughput* - the weighted percent of yearly activity for the following periods (WVCSR 45-29-2) [Citation Revised January 2008]:
    1. December - February
    2. March - May
    3. June - August
    4. September - November.

- *Perceptible Leaks* - any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of liquid, open containers of solvent, or solvent-laden waste standing open to the atmosphere (WVCSR 45-21-35.2.b).

- *Permit* - any permit or group of permits covering a source or sources of emissions that are issued, renewed, amended, or revised pursuant to this rule (WVCSR 45-30-2).

- *Permit Modification* - a revision to a Title V operating permit issued under this legislative rule that meets the requirements of Subsection 6.5 of this rule (WVCSR 45-30-2).

- *Permit Revision* - any permit modification or administrative permit amendment (WVCSR 45-30-2).

- *Person* - any and all persons, natural or artificial, including the state of West Virginia or any other state, the United States of America, any municipal, statutory, public or private corporation organized or existing under the laws of this or any other state or country, and any firm, partnership or association of whatever nature (WVCSR 45-3-2 and 45-14-2) [Revised January 2001; Citation Revised January 2006].

- *Petroleum Liquid* - crude oil, condensate, and any finished or intermediate product manufactured or extracted at a petroleum refinery, but not including Nos. 2 through 6 fuel oils as specified in ASTM D396-78; gas turbine fuel oils Nos. 2-GT through 4-GT as specified in ASTM D2880- 78; or diesel fuel oils Nos. 2-D and 4-D, as specified in ASTM D975-78 (WVCSR 45-21-2.54).

- *Petroleum Solvent Cartridge Filtration System* - a process in which soil-laden solvent is pumped under pressure from a washer through a sealed vessel containing filter cartridges that remove entrained solids and impurities from the solvent (WVCSR 45-21-35.2.c).

- *Petroleum Solvent Dry Cleaning Facility* - a facility engaged in the cleaning of fabrics, clothing, and other articles in a petroleum solvent by means of one or more washes in the solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. Equipment at the facility includes, but is not limited to, any petroleum solvent washer, dryer, solvent filter system, settling tank, vacuum still, and any other container or conveyor of petroleum solvent (WVCSR 45-21-35.2.d).

- *Physical Change* - for the purpose of this rule, any change in a substance which does not change the properties of the substance. Such changes include but are not limited to crushing, grinding, drying, change of state and sizing (WVCSR 45-7-2).

- *Plant* - an 'asphaltic hot mix plant' which shall mean and include all the equipment utilized in the manufacture of asphaltic hot mix concrete, such as burners, driers, elevators, screens, mixers, weighing equipment, bins, and air pollution control equipment (WVCSR 45-3-2); or includes all fuel burning units, source operations, equipment, and grounds utilized in an integral complex (WVCSR 45-2-2).

- *Plant* or *Facility* - for the purpose of WVCSR 45-27, (see the subsection on Toxic Air Pollutants in AE.5.WV.) all chemical processing units existing on one or more contiguous or adjacent properties, which are owned by or under the control of the same person or persons (WVCSR 45-27-2) [Added February 1998].

- *Plantwide Applicability Limitation (PAL)* - an emission limitation expressed in tons per year, for a pollutant at a major stationary source, that is enforceable as a practical matter and established source-wide in accordance with subsections 25.1 through 25.15 (WVCSR 45-14-2) [Added January 2006].

- *Plastisol* - a coating made of a mixture of finely divided resin and a plasticizer. Plastisol is applied as a thick gel that solidifies when heated (WVCSR 45-21-2.56).

- PM_{10} - particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by a reference method based on Appendix J of 40 CFR 50 and designated in accordance with 40 CFR 53 or by an equivalent method designated in accordance with 40 CFR 53 (WVCSR 45-14-2) [Citation Revised January 2006].

- *Point* - a physical emission point or process within a facility that results in pollutant emissions (WVCSR 45-29-2) [Citation Revised January 2008].

- *Poling* - pushing a log timer into the furnace taphole to clear slag from the furnace tapping channel associated with operation of a ferroalloy electric submerged arc furnace (WVCSR 45-7-2).

- *Pollution Prevention* - any activity that through process changes, product reformulation or redesign, or substitution of less polluting raw materials, eliminates or reduces the release of air pollutants (including fugitive emissions) and other pollutants to the environment prior to recycling, treatment, or disposal; it does not mean recycling (other than certain "in-process recycling" practices), energy recovery, treatment, or disposal (WVCSR 45-14-2) [Added January 2006].

- *Potential to Emit* - the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is federally enforceable or is enforceable by the Secretary in any permit and/or consent order issued by the United States Environmental Protection Agency or by the Secretary. Secondary emissions do not count in determining the potential to emit of a stationary source (WVCSR 45-14-2) [Added January 2006].

- *Potential to Emit* - the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable. This term does not alter or affect the use of this term for any other purposes under the Clean Air Act, or the term "capacity factor" as used in Title IV of the Clean Air Act (Acid Deposition Control) or the regulations promulgated thereunder (WVCSR 45-30-2).

- *Prefilter* - a filter used in the sampling train prior to the primary filter for the purpose of reducing the particulate matter buildup on the primary filter (WVCSR 45-2-2).

- *Prescribed Burning* - the controlled application of fire to vegetation under specified environmental conditions and precautionary measures, which allows the fire to be confined to a predetermined area for the purpose of accomplishing specifically planned wildlife and forest management objectives (WVCSR 45-6-2) [Added January 2009].

- *Pressure Release* - the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device (WVCSR 45-21-2.57).

- *Primary Collection* - that equipment including but not limited to cyclones or multicyclones incorporated for the collection of fine particulate matter generated and emitted principally from the drying operation and from which all collected material may or may not be reinjected into the main aggregate flow (WVCSR 45-3-2).

- *Primary Filter* - the last filter used in the sampling train to separate the particulate matter sample from the sampled stack gas (WVCSR 45-2-2).

- *Printed Interior Panels* - panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed (WVCSR 45-21-20.2.f).

- *Printing Press* - equipment used to apply words, pictures, or graphic designs to either a continuous substrate or a sheet. A continuous substrate consists of paper, plastic, or other material that is unwound from a roll, passed through coating or ink applicators and any associated drying areas. The press includes all coating and ink applicators and drying areas between unwind and rewind of the continuous substrate. A sheet consists of paper, plastic, or other material that is carried through the process on a moving belt. The press includes all coating and ink applicators and drying operations between the time that the sheet is put on the moving belt until it is taken off (WVCSR 45-21-34.2.c).

- *Priority I Regions, Priority II Regions, and Priority III Regions* - as defined in Appendixes 1-3 at the end of this rule (WVCSR 45-10-2).

- *Probe* - the part of the pitot tube assembly (nozzle, sample tube, pitot tube, filter holder(s), sensor(s)), which precedes the last filter in the sampling train and conveys the sample gas and particulate matter from the nozzle inlet to the last filter disc used for collecting stack particulate matter (WVCSR 45-2-2).

- *Process Heater* - a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst (WVCSR 45-2-2) [Added January 2001].

- *Process Unit Shutdown* - a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 h is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns (WVCSR 45-21-2.59).

- *Process Weight* - that total weight of all materials introduced into a source operation, excluding solid, liquid, and gaseous fuels used solely as fuels, and excluding all process and combustion air (WVCSR 45-7-2).

- *Process Weight Rate* - a rate established as follows:
  1. For continuous or long-run steady-state source operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof.
  2. For cyclical or batch unit operations, or unit processes, the total process weight for a period that covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such a period.

  Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply (WVCSR 45-7-2).

- *Proposed Permit* - the version of a permit that the Secretary proposes to issue and forwards to EPA for review in compliance with Section 7 of this rule (WVCSR 45-30-2) [Revised January 2004].

- *Publication Rotogravure Printing Press* - a rotogravure printing press on which the following paper products are printed (WVCSR 45-21-34.2.d):
  1. Catalogues, including mail order and premium
  2. Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes
  3. Display advertisements, including general posters, outdoor advertisements, car cards, window posters; counter and floor displays; point-of-purchase, and other printed display material
  4. Magazines, Books
  5. Miscellaneous advertisements, including brochures, pamphlets, catalogue sheets, circular folders, announcements, package inserts, book jackets, market circulars magazine inserts, and shopping news
  6. Newspapers, magazine and comic supplements for newspapers, and preprinted newspaper inserts, including hi-fi and spectacolor rolls and sections
  7. Periodicals
  8. Telephone and other directories, including business reference services.

- *Pushing Emissions* - any smoke and/or particulate matter emissions resulting from the pushing operation (WVCSR 45-7-2).

- *Pushing Operation* - the removal of coke from a coke oven and shall begin when the coke mass starts to move and shall continue until the coke transfer car enters the quenching station (WVCSR 45-7-2).

- *Quenching Emissions* - any smoke and/or particulate matter emissions resulting from the quenching operation (WVCSR 45-7-2).

- *Quenching Operation* - the process by which the combustion of hot coke is stopped by application of water or any other procedure achieving the same effect (WVCSR 45-7-2).

- *Reasonably Available Control Technology* or *RACT* - the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. It may require technology that has been applied to similar, but not necessarily identical, source categories (WVCSR 45-21-2.60).

- *Refinishing* - the repainting of used equipment (WVCSR 45-21-19.2.i).

- *Refuse* - the useless, unwanted or discarded solid, liquid or gaseous waste materials resulting from community, commercial, industrial or citizen activities (WVCSR 45-6-2).

- *Regulated Air Pollutant* - the following (WVCSR 45-13-2) [Revised January 2001]:
  1. NO_x, any VOCs, or particulate matter

2. any air pollutant for which a national ambient air quality standard has been promulgated including particulate matter (PM_{10}), SO_2, CO, NO_2, ozone and lead or lead compounds
3. any air pollutant listed on Table 45-13A (see Appendix 1-6)
4. any other air pollutant subject to an emission standard promulgated by the Commission including mineral acids in 45 CSR 7
5. any air pollutant subject to a new source performance standard (NSPS) promulgated under section 111 of the Clean Air Act which requires new and modified sources to satisfy emissions standards, work practice standards and other requirements
6. any of the ozone-depleting substances specified as a Class I (primarily chlorofluorocarbons) or Class II substance (hydrochlorofluorocarbons) under Title VI of the Clean Air Act
7. any air pollutant subject to a standard or other requirement promulgated under section 112 of the Clean Air Act, specifically excluding air pollutants listed only in 112 (r).

- *Regulated Pollutant or Regulated Air Pollutant* - any pollutant regulated by the Clean Air Act or the West Virginia Air Pollution Control Law, codified at West Virginia Code Sections 22-5-1 et seq., and the rules promulgated thereunder, except as provided in paragraph 2.46.b., and the following pollutants (WVCSR 45-14-2) [Citation Revised January 2010]:
  1. CO
  2. NO_x
  3. Particulate Matter
  4. PM_{10}
  5. SO_2
  6. Ozone (VOCs)
  7. Lead
  8. Asbestos
  9. Beryllium
  10. Mercury
  11. Vinyl Chloride
  12. Fluorides
  13. Sulfuric Acid Mist
  14. Hydrogen Sulfide
  15. Total Reduced Sulfur Compounds
  16. Reduced Sulfur Compounds
  17. Municipal waste combustor organics (as total tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans
  18. Municipal waste combustor metals
  19. Municipal waste combustor acid gases.

- *Regulated Pollutant* - for the purpose of 45-19, any pollutant for which the Commission has promulgated an Ambient Air Quality Standard, VOCs and NO_x (WVCSR 45-19-2.32).

- *Regulated Air Pollutant* - for the purposes of the Title V Operating Permit regulations, any of the following (WVCSR 45-30-2):
  1. NO_x, any VOCs, or particulate matter
  2. Any pollutant for which a national ambient air quality standard has been promulgated
  3. Any pollutant that is subject to any standard promulgated under Sec. 111 of the Clean Air Act
  4. Any Class I or II substance subject to a standard, promulgated under or established by Title VI of the Clean Air Act (Sec. 602). (See Appendix 1-10 for a listing of Class I and II substances regulated pursuant to this rule.)
  5. Any pollutant subject to a standard or other requirements under Sec. 112 of the Clean Air Act, including Sections 112(g), (j), and (r), including the following:
     a. Any pollutant subject to requirements under Sec. 112(j) of the Clean Air Act. If the U.S. EPA fails to promulgate a standard by the date established pursuant to Sec. 112(e) of the Clean Air Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 mo after the applicable date established pursuant to Sec. 112(e) of the Clean Air Act.

b. Any pollutant for which the requirements of Sec. 112(g)(2) of the Clean Air Act have been met, but only with respect to the individual source subject to the that Sec. 112(g)(2) requirement.

6. Any other pollutant regulated by the State under an emission standard or ambient air quality standard.

- *Regulated Air Pollutant* - for purposes of this rule, any air pollutant regulated under rules promulgated by the Secretary pursuant to W.Va. Code 22-5-4 (WVCSR 45-42-2) [Added January 2009].

- *Reid Vapor Pressure* - the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids, except liquified petroleum gases, as determined by American Society for Testing and Materials, D323-72 (WVCSR 45-21-2.61).

- *Relocate or Relocation* - the physical movement of a source outside its existing plant boundaries (WVCSR 45-14-2) [Citation Revised January 2010].

- *Relocate or Relocation* - the physical movement of a source outside of its existing plant boundaries (WVCSR 45-14-2) [Added January 2006].

- *Relocation* - the physical movement of a source outside its existing plant boundaries (WVCSR 45-30-2).

- *Repaired* - that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: an instrument reading of 10,000 ppm or greater, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed (WVCSR 45-21-2.62).

- *Roll Coating* - the application of a coating material to a moving substrate by means of hard rubber, elastomeric, or metal rolls (WVCSR 45-21-2.63).

- *Repowering* - replacement of an existing coal- fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion, integrated gasification combined cycle, magnetohydrodynamics, direct and indirect coal-fired turbines, integrated gasification fuel cells, or as determined by the Administrator, in consultation with the Secretary of Energy, a derivative of one or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of 19 November 1990 (WVCSR 45-14-2) [Citation Revised January 2010]:
  1. Repowering shall also include any oil and/or gas-fired unit which has been awarded clean coal technology demonstration funding as of 1 January 1991, by the Department of Energy.
  2. The Director shall give expedited consideration to permit applications for any source that satisfies the requirements of this Subsection 2.43. and is granted an extension under Section 409 of the Clean Air Act.

- *Representative Actual Annual Emissions* - the average rate, in tons per year, at which the source is projected to emit a pollutant for the 2-yr period after a physical change or change in the method of operation of a unit, (or a different consecutive 2-yr period within 10 yr. after that change, where the Director determines that such period is more representative of normal source operations), considering the effect any such change will have on increasing or decreasing the hourly emissions rate and on projected capacity utilization. In projecting future emissions the Director shall (WVCSR 45-14-2) [Citation Revised January 2010]:
  1. Consider all relevant information, including but not limited to, historical operational data, the company's own representations, filings with the state or Federal regulatory authorities, and compliance plans under Title IV of the Clean Air Act
  2. Exclude, in calculating any increase in emissions that results from the particular physical change or change in the method of operation at an electric utility steam generating unit, that portion of the unit's emissions following the change that could have been accommodated during the representative baseline period and is attributable to an increase in projected capacity utilization at the unit that is unrelated to the particular change, including any increased utilization due to the rate of electricity demand growth for the utility system as a whole.

- *Responsible Official* - one of the following (WVCSR 45-13-2) [Revised January 2004]:
  1. For a corporation or other business entity: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either
     a. the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1990 dollars), or
     b. a representative delegated with such authority and approved in advance by the Secretary
  2. For a partnership or sole proprietorship: a general partner or the proprietor, respectively
  3. For a municipality, state, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA)
  4. The designated representative delegated with such authority and approved in advance by the Secretary

- *Roll Printing* - the application of words, designs, and pictures to a substrate, usually by means of a series of rolls each with only partial coverage (WVCSR 45-21-34.2.e).

- *Rotogravure Coating* - the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is recessed relative to the nonimage area, and the coating material is picked up in these recessed areas and is transferred to the substrate (WVCSR 45-21-2.64).

- *Rotogravure Printing Press* - any printing press designed to print on a substrate using a gravure cylinder (WVCSR 45-21-34.2.f).

- *Sampling Plane* - the imaginary plane located perpendicular to the gas flow in the duct or stack at the place selected for the extraction of the required samples (WVCSR 45-2-2).

- *Secondary Collection* - that equipment including but not limited to multicyclones, scrubbers, bag filters, and electrostatic precipitators, incorporated for the collection of that particulate matter not collected by the primary collection equipment and from which such collection material may or may not be reinjected into the main aggregate flow (WVCSR 45-3-2).

- *Secondary Emissions* - emissions which would occur as a result of the construction or operation of a stationary source or modification, but do not come from the stationary source or modification itself. For the purpose of this rule, secondary emissions must be specific, well defined, quantifiable, and impact the same general area as the stationary source or modification that causes the secondary emissions. Secondary emissions include, but are not limited to, emissions from any offsite support facility which would not otherwise be constructed or increase its emissions except as a result of the construction or operation of the stationary source or modification (WVCSR 45-13-2).

- *Secretary* -the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W. Va. Code §§22-1-6 or 22-1-8 (WVCSR 45-13-2) [Added January 2004].

- *Settling Tank* - a container, and any associated piping and ductwork, that gravimetrically separates oils, grease, and dirt from petroleum solvent (WVCSR 45-21-35.2.e).

- *Sewage Sludge Incinerator* - an incinerator that is used to incinerate the sludge produced by municipal or industrial sewage treatment plants (WVCSR 45-6-2).

- *Sheet Basecoat* - a coating applied to metal in sheet form to serve as either the exterior or interior of two-piece or three-piece can bodies or can ends (WVCSR 45-21-11.2.g).

- *Shut-Down* - the cessation of operation of a fuel burning unit(s) subject to this rule for any purpose (WVCSR 45-2-2) [Revised January 2001].

- *Side-Seam Spray Coat* - a coating applied to the seam of a three-piece can (WVCSR 45-21-11.2.h).

- *Significant* - defined as the following (WVCSR 45-14-2) [Revised January 2010]:
  1. in reference to a net emission increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:
     a. CO: 100 tpy
     b. NO_x: 40 tpy
     c. SO_2: 40 tpy
     d. Particulate matter: 25 tpy
     e. PM_{10}: 15 tpy
     f. Ozone: 40 tpy of VOCs or NOx
     g. Lead: 0.6 tpy
     h. Fluorides: 3 tpy
     i. Sulfuric acid mist: 7 tpy
     j. Hydrogen sulfide (H_2S): 10 tpy
     k. Total reduced sulfur (including H_2S): 10 tpy
     l. Reduced sulfur compounds (including H_2S): 10 tpy
     m. Municipal waste combustor organics (as total tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans: 3.5×10^{-6} tpy
     n. Municipal waste combustor metals (as particulate matter): 15 tpy
     o. Municipal waste combustor acid gases (as the sum of SO_2 and HCl): 40 tpy
     p. Municipal solid waste landfill emissions (as nonmethane organic compounds): 50 tpy
  2. in reference to a net emissions increase or the potential of a source to emit a regulated NSR pollutant that is not listed in above, any emissions rate; and
  3. no twithstanding rates in 1, any emissions rate or any net emissions increase associated with a major stationary source or major modification, which would construct within ten (10) kilometers of any Class I area, and have an impact on such area equal to or greater than 1 µg/m3 (twenty-four (24) hour average).

- *Significant Impact* - an increase in the ambient air concentration for a particular pollutant as follows (WVCSR 45-14-2) [Revised January 2010]:

	Averaging Time (h)				
Pollutant	Annual	24	8	3	1
	Ambient Air Concentration Increase (µg/m3)				
SO_2	1.0	5.0		25.0	
PM_{10}	1.0	5.0			
NO_2	1.0				
	Ambient Air Concentration Increase (mg/m3)				
CO			0.5		2.0

- *Similar Unit(s)* - all Type 'a', or all Type 'b', or all Type 'c' fuel burning units located at one plant (WVCSR 45-2-2).

- *Small Rural HMIWI* - an existing HMIWI which is located more than 50 miles from the boundary of the nearest Standard Metropolitan Statistical Area and which burns less than 2,000 pounds per week of hospital waste and medical/infectious waste. The 2,000 lb/week limitation does not apply during performance tests (WVCSR 45-18-2) [Added February 2000; Citation Revised January 2009].

- *Smoke* - small gasborne and airborne particulate matter arising from a process of combustion in sufficient number to be visible (WVCSR 45-2-2).

- *Solvent* - a substance that is liquid at standard conditions and is used to dissolve or dilute another substance; this term includes, but is not limited to, organic materials used as dissolvers, viscosity reducers, degreasing agents, or cleaning agents (WVCSR 45-21-2.65).

- *Solvent Filter* - a discrete solvent filter unit containing a porous medium that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device (WVCSR 45-21-35.2.f).

- *Solvent Metal Cleaning* - the process of cleaning soils from metal surfaces by cold cleaning, open-top vapor degreasing, or conveyorized degreasing (WVCSR 45-21-30.2.g).

- *Solvent Recovery Dryer* - a class of dry cleaning dryers that employs a condenser to condense and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in the installation of this device (WVCSR 45-21-35.2.g).

- *Source* - any building, structure, equipment, or installation that directly or indirectly releases or discharges, or has the potential to release or discharge, VOCs into the ambient air (WVCSR 45-21-2.66).

- *Source Operation* - the last operation in a manufacturing process preceding the emission of air contaminants which operation (WVCSR 45-7-2):
  1. results in the separation of air contaminants from the process materials or in the conversion of the process materials into air contaminants, and
  2. is not an air pollution abatement operation.

- *Source or Stationary Source* - any building, structure, facility, or installation that emits or may emit any regulated air pollutant (WVCSR 45-14-2) [Citation Revised January 2010].

- *Source-Specific Permit* - a single Title V operating permit addressing all of the relevant emission units and operations which are subject to applicable requirements at a particular source or major source (WVCSR 45-30-2).

- *Stack* - any duct, control equipment exhaust, or similar apparatus, which vents gases and/or particulate matter into the open air (WVCSR 45-2-2).

- *Stack* - for the purpose of WVCSR 45-27, (see the subsection on Toxic Air Pollutants in AE.5.WV.), stack means, but is not limited to, any stack, vent, duct, control equipment exhaust, or similar apparatus, from which a toxic air pollutant is or may be emitted onto the open air (WVCSR 45-27-2) [Added February 1998].

- *Stack in Existence* - that the owner or operator had (WVCSR 45-20-2.2):
  1. begun, or caused to begin, a continuous program of physical onsite construction of the stack
  2. entered into binding agreements or contractual obligations, which could not be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the stack to be completed in a reasonable time.

- *Standard Conditions* - for the purpose of this regulation shall mean a temperature of 68 °F (20 °C) and a pressure of 29.92 in. Hg (760 mm of hg) (WVCSR 45-3-2).

- *Standard Dryer* - a device that dries dry-cleaned articles by tumbling in a heated airstream (WVCSR 45-21-35.2.h).

- *Standard Metropolitan Statistical Area (SMSA)* - any areas listed in OMB Bulletin No. 93-17 entitled "Revised Statistical Definitions for Metropolitan Areas" dated 30 June 1993 (WVCSR 45-18-2) [Added February 2000; Citation Revised January 2009].

- *Start Up* - the setting in operation of a fuel burning unit subject to this rule for any purpose (WVCSR 45-2-2) [Revised January 2001].

- *Stationary Source* - for the purpose of this rule, any building, structure, facility, installation, or emission unit or combination thereof, excluding any emissions units which meets or falls below the criteria delineated in Table 45-13B (see Appendix 1-7) which (WVCSR 45-13-2) [Revised January 2001]:
  1. is subject to any substantive requirement of an emission control rule promulgated by the Commission
  2. discharges or has the potential to discharge more than 6 lb/h or 10 tpy of VOCs or any regulated air pollutant for which the Commission has promulgated an ambient air quality standard
  3. discharges or has the potential to discharge more than 2 lb/h or 5 tpy of VOCs hazardous air pollutants considered on an aggregated basis
  4. discharges or has the potential to discharge any air pollutant(s) listed in Table 45-13A (see Appendix 1-6) in the amounts shown in Table 45-13A or greater.

- *Stationary Source* - any building, structure, facility, installation, stationary process or process equipment which emits or may emit any regulated air pollutant or greenhouse gas (WVCSR 45-42-2) [Added January 2009].

- *Statutory Air Pollution* - is limited to the discharge into the air by the act of man of substances (liquid, solid, gaseous, organic or inorganic) in a locality, manner and amount as to be injurious to human health or welfare, animal or plant life, or property, or which would interfere with the enjoyment of life or property (WVCSR 45-13-2) [Added January 2001].

- *Still* - a device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device (WVCSR 45-21-35.2.i).

- *Submerged Fill* - the method of filling a gasoline tank truck or storage vessel where product enters within 150 mm (5.9 in.) of the bottom of the tank truck or storage vessel. Bottom filling of tank trucks and storage vessels is included in this definition (WVCSR 45-21-2.69).

- *Substrate* - the surface onto which a coating is applied or into which a coating is impregnated (WVCSR 45-21-2.70).

- *Sulfur Dioxide* - an air pollutant that is a nonflammable, nonexplosive, colorless, gaseous molecule composed of 1 atom of sulfur and 2 atoms of oxygen. In concentrations of 0.3 to 1.0 ppm and above, most people can detect it by taste; in concentrations greater than 3.0 ppm it has a pungent, irritating odor to most people (WVCSR 45-10-2).

- *Tapping* - the removal of product and slag from a ferroalloy electric submerged arc furnace under normal operating conditions, such as removal of metal under normal pressure and movement by gravity down the spout into a ladle (WVCSR 45-7-2).

- *Temporary Source and Sources of Temporary Emissions* - for a source located in a nonattainment area and subject to this regulation, those emissions occurring for a period of time less than 2 yr (WVCSR 45-19-2.37).

- *Test Team Supervisor* - the person, qualified by experience or education, who is charged with supervising the stack test. This person is responsible for ensuring the validity and correctness of the submitted test results (WVCSR 45-2-2).

- *Thin Particleboard* - a manufactured board that is 0.64 cm (0.25 in.) or less in thickness made of individual wood particles that have been coated with a binder and formed into flat sheets by pressure (WVCSR 45-21-20.2.g).

- *Tileboard* - paneling that has a colored, waterproof surface coating (WVCSR 45-21-20.2.h).

- *Title V Source* - a source required to obtain a Title V operating permit (WVCSR 45-30-2).

- *Topcoat* - the final coating(s), as applied, in a multiple-coat operation (WVCSR 45-21-2.71).

- *Topside Emissions* - any smoke and/or particulate matter emissions from one or more points on the topside of a coke oven battery excluding charging emissions (WVCSR 45-7-2).

- *Toxic Air Pollutant* - any of the following chemicals: Acrylonitrile, Allyl chloride, Benzene, 1,3,-Butadiene, Carbon tetrachloride, Chloroform, Ethylene dichloride, Ethylene oxide, Formaldehyde, Methylene chloride, Propylene oxide, Trichloroethylene, Vinyl chloride, Vinylidene chloride (WVCSR 45-27-2) [Added February 1998].

- *Toxic Air Pollutant Service* - for the purpose of WVCSR 45-27, (see the subsection on Toxic Air Pollutants in AE.5.WV.) that a piece of equipment such as a pump, valve or flange contains or contacts a process fluid containing 10 percent or more by weight of a toxic air pollutant (WVCSR 45-27-2) [Added February 1998].

- *Transport Emissions* - any smoke and/or particulate matter emissions which are emitted once the transport of the hot coke begins during the pushing operation and continues until the coke transfer car enters the quenching station (WVCSR 45-7-2).

- *True Vapor Pressure* - the equilibrium partial pressure exerted by a volatile organic liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks," second edition, February 1980 (WVCSR 45-21-2.72).

- *TSP or Total Suspended Particulate Matter* - particulate matter as measured by the method described in Appendix B of 40 CFR 50 (WVCSR 45-19-2.45).

- *USEPA* - the United States Environmental Protection Agency (WVCSR 45-14-2) [Citation Revised January 2010].

- *Vapor Balance System* - a closed system that allows the transfer or balancing of vapors, displaced during the loading or unloading of gasoline, from the tank being loaded to the tank being unloaded (WVCSR 45-21-2.74).

- *Vapor Collection System* - all piping, seals, hoses, connections, pressure-vacuum vents, and other equipment between the gasoline tank truck and the vapor processing unit and/or the storage tanks and vapor holder (WVCSR 45-21-2.75).

- *Vapor Control System* - a system that limits or prevents release to the atmosphere of organic compounds in the vapors displaced from a tank during the transfer of gasoline (WVCSR 45-21-2.76).

- *Vapor-Mounted Seal* - a primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof (WVCSR 45-21-27.2.b).

- *Vapor Recovery System* - a vapor gathering system capable of collecting VOC vapors and gases emitted during the operation of any transfer, storage, or process equipment (WVCSR 45-21-2.77).

- *Vaportight* - equipment that allows no loss of vapors. Compliance with vapor-tight requirements can be determined by checking to ensure that the concentration at a potential leak source is not equal to or greater than 100 percent of the lower explosive limit (LEL) when measured with a combustible gas detector, calibrated with propane, at a distance of 2.54 cm (1 in.) from the source (WVCSR 45-21-2.78).

- *Vaportight Gasoline Tank Truck* - a gasoline tank truck that has demonstrated within the 12 preceding mo that its product delivery tank will sustain a pressure change of not more than 75 mm (3.0 in.) of water within 5 min after it is pressurized to 450 mm (18 in.) of water; or when evacuated to 150 mm (5.9 in.) of water, the same tank will sustain a pressure change of not more than 75 mm (3.0 in.) of water within 5 min. This capability is to

be demonstrated using the test procedures specified in Method 27 of Appendix A of 40 CFR Part 60 (WVCSR 45-21-2.79).

- *Vinyl Coating Line* - a web coating line where a decorative, functional, or protective coating is applied to a continuous web of vinyl or vinyl-coated fabric. Lines used for coating and/or printing on vinyl and coating and/or printing on urethane are considered vinyl-coating lines (WVCSR 45-21-15.2).

- *Volatile Organic Compounds (VOC)* - as defined in 40 CFR § 51.100(s) (WVCSR 45-14-2) [Added January 2006; Revised January 2010].

- *Washer* - a machine that agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device (WVCSR 45-21-35.2.j).

- *Waste Heat Boiler* - any boiler which derives all or part of its heat input from the waste heat of a manufacturing process operation (WVCSR 45-10-2).

- *Web Coating Line* - all of the coating applicator(s), drying area(s), or oven(s), located between an unwind station and a rewind station, that are used to apply coating onto a continuous strip of substrate (the web). A web coating line need not have a drying oven (WVCSR 45-21-2.81).

- *Wet Scrubber System* - any emission control device that mixes an aqueous stream or slurry with the exhaust gases from an indirect heat exchanger to control emissions of particulate matter (PM) or SO_2 (WVCSR 45-2-2) [Added January 2001].

AIR EMISSIONS MANAGEMENT
GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items	AE.2.1.WV.
State-Specific Requirements	
General	AE.5.1.WV. and AE.5.2.WV.
Permits	AE.6.1.WV. through AE.6.5.WV.
Management and Administrative	AE.7.1.WV. through AE.7.3.WV.
Emissions Limits	AE.9.1.WV. through AE.9.10.WV.
Fuel-Burning Equipment	AE.15.1.WV. through AE.15.25.WV.
Miscellaneous Incinerators	AE.25.1.WV. through AE.25.8.WV.
Medical Waste Incinerators	
General	AE.30.1.WV. through AE.30.4.WV.
Monitoring	AE.32.1.WV and AE.32.2.WV.
Reporting/Recordkeeping Requirements	AE.34.1.WV.
Gasoline/Fuels	AE.55.1.WV. through AE.55.5.WV.
Printing Presses and Graphic Arts	AE.60.1.WV. through AE.60.6.WV.
Fugitive Emissions	AE.65.1.WV. through AE.65.5.WV.
Toxic Emissions	AE.67.1.WV. through AE.67.8.WV.
Dry Cleaning Operations	
Petroleum Solvent	AE.70.1.WV. through AE.70.3.WV.
Perchloroethylene	[Deleted]
Acid Production Units	AE.80.1.WV.
Coating Operations	AE.100.1.WV. through AE.100.16.WV.
Degreasing Operations	
Cold Cleaning	AE.116.1.WV.
Vapor Cleaning	AE.117.1.WV. and AE.117.2.WV.
Reporting	AE.118.1.WV. and AE.118.2.WV.
Open Burning	AE.130.1.WV.
Asphalt Paving Materials/Operations	AE.145.1.WV.
Other Emissions/Sources	AE.155.1.WV. through AE.155.3.WV.
City/County Specific Requirements	AE.160.1.WV. through AE.160.5.WV.

GUIDANCE FOR APPENDIX USERS	
REFER TO APPENDIX NUMBERS:	**REFER TO APPENDIX TITLES:**
1-1	Operating Source Emission Limits
1-2	Mineral Acid Emission Limits
1-3	Particulate Emission Rates For Type “c” Fuel Burning Units
1-4	Toxic Air Pollutant Limits
1-5	Emission Limits for HMIWI
1-6	Stationary Sources of Air Pollutants
1-7	De Minimus Sources
1-8	Federal Air Quality Control Regions
1-9	Hazardous Air Pollutants
1-10	Class I and II Substances
1-11	Ambient Air Quality Increments and Ceilings

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.2. **MISSING CHECKLIST ITEMS**	
AE.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
STATE-SPECIFIC REQUIREMENTS **AE.5.** **General**	
AE.5.1.WV. Sources must not use excess stack height or other dispersion techniques to reduce concentrations of air pollutants (WVCSR 45-14-6) [Citation Revised January 2006].	Verify that stack heights that exceed good engineering practices are not used, nor any other dispersion techniques, to reduce the concentration of any air pollutant and thereby affect the degree of emission limitation required. (NOTE: Stacks built or dispersion techniques implemented before 31 December 1970 are exempt.)
AE.5.2.WV. The discharge of objectionable odors is prohibited (WVCSR 45-4-3, 45-4-4 and 45-4-7).	Verify that there are no discharges of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. Verify that accidental and other infrequent discharges which cause or contribute to objectionable odor are reported by the person responsible to the Director in a manner to be prescribed by the Director. (NOTE: This regulation does not apply to the following sources of objectionable odor until such time as feasible control methods are developed: - internal combustion engines - normal and necessary operations associated with the production of agricultural products grown on the premises or livestock, dogs, cats, and poultry grown on the premises.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
STATE-SPECIFIC REQUIREMENTS **AE.6.** **Permits/ Notifications**	
AE.6.1.WV. All stationary sources must comply with permit and reporting requirements (WVCSR 45-13-5.1, 5.2, 5.13, and 5.14) [Revised January 2001; Revised January 2004; Revised January 2010].	Verify that the construction, modification, relocation and operation of any stationary source does not start without notifying the Secretary of and obtaining a permit to construct, modify, relocate and operate. (NOTE: For the purposes of this rule, the following do not constitute activities, and prior to obtaining a permit to construct, modify or relocate, a source may: - clear land - grub stumps, roots and other natural impediments to site development - excavate, grade and compact topsoil to establish temporary and final grade - dig and construct foundations and/or caissons and grade beams - demolish existing structures, provided that all activity comply and comport with all existing state and federal regulations including, but not limited to, asbestos requirements pursuant to 45CSR15, applicable National Emission Standards for Hazardous Air Pollutants pursuant to section 112 of the Clean Air Act, applicable requirements pursuant to the Resource Conservation and Recovery Act (42 U.S.C. §§ 6901 et s eq.) and applicable solid waste requirements - upgrade the utility support facilities, provided that in no instance shall these upgrades cause or contribute to new or increased emissions unto themselves or increase emissions from any other unit - construct or modify structures which are strictly office buildings, warehouses or buildings that could potentially be used for those purposes - order equipment and procure supplies with which an emissions unit could be composed, provided that such ordering and procuring is not in violation of any other state rule - receive or store on-site or off-site any equipment or supplies which make up in part or in whole an emission unit or any support equipment, facilities, building or structure. Verify that an emissions unit is not erected or installed prior to obtaining a permit to construct and operate. Verify that an owner or operator of any stationary source adding an additional emissions unit or making a change in the method of operation that results in an emissions increase, or in the discharge of a new regulated pollutant, in an amount below the levels that require a permit to modify, meets the following requirements: - maintains records briefly describing the emission unit or change, the pollutants involved, the potential to emit for each pollutant increased or added and supporting calculations - maintains these records for at least 2 yr and makes available to the Director

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	upon request. (NOTE: The above recordkeeping requirement does not apply to de minimus sources listed in Appendix 45-13B (see Appendix 1-7).) (NOTE: The owner or operator of any stationary source which adds an additional emissions unit or makes a change in the method of operation which results in an emissions increase, or in the discharge of a new regulated air pollutant, in an amount below the levels which require a permit to modify may notify the Secretary in writing even though a permit is not required. The Secretary shall notify the owner or operator in writing if the Secretary believes a permit is required or shall notify the owner or operator that insufficient information was submitted to enable a determination to be made and specify the information required.)
AE.6.2.WV. Major stationary source construction or relocation of any major stationary source or a major modification to be commenced after June 1, 2005 in any area designated as attainment or unclassifiable must comply with permit requirements (WVCSR 45-14-7 and 45-14-8) [Revised January 2006].	Verify that no person commences the construction or relocation of any major stationary source or a major modification in an attainment area without notifying the Director and obtaining a permit prior to beginning actual construction or modification. Verify that all permit conditions are met. (NOTE: Each permit application shall be signed by the owner or operator of the major stationary source or major modification, and such signature shall constitute an agreement that the applicant will assume responsibility for the construction, modification, or relocation, and operation of the major stationary source or major modification in accordance with applicable rules of the Secretary, the permit application, and any permit issued pursuant to this rule.) (NOTE: Any person proposing to construct a new major stationary source or a major medication shall apply best available control technology for each regulated NSR pollutant that it would have the potential to emit in significant amounts. For any proposed construction of a major stationary source or major modification which is a phased construction project, the determination of best available control technology shall be reviewed and modified as appropriate at the last reasonable time which occurs no later than eighteen (18) months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source.)
AE.6.3.WV. All persons who intend to construct major new air pollution sources, make major modification to major stationary air pollution sources must comply with	(NOTE: This checklist item applies to all major stationary sources and major modifications to major stationary sources proposing to construct anywhere in an area which is designated nonattainment as of the date of issuance of the permit. This regulation also applies to all proposed major stationary sources and to all major modifications to any such sources located anywhere in the state whose emission would cause a violation of a NAAQS or which would cause a significant

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
preconstruction review procedures and conditions (WVCSR 45-19-3.1 through 3.5).	impact on air quality in a designated nonattainment area. This regulation only applies to such proposed major stationary sources or major modifications when the expected pollutant, when discharged, would require classification of such proposed source or modification as a major stationary source or major modification and when the expected pollutant is the same pollutant for which the area of location or significant impact was designated nonattainment.) (NOTE: This regulation applies to portable facilities intending to locate or relocate anywhere in the state whose emission would cause a violation of a NAAQS or which would cause a significant impact on air quality in a designated nonattainment area. If the Chief makes a determination of applicability, then such portable facilities shall be considered as a new major stationary source for all purposes of this regulation and location or relocation of such source shall be considered construction.) Verify that any new or modified source to which this regulation is applicable do not begin actual construction or modification until all necessary preconstruction approvals and permits, including the permit under this regulation, have been issued.
AE.6.4.WV. Sources must have valid operating permits and must comply with permit conditions (WVCSR 45-30-3.1.a through 3.2.a and 45-30-4.1.a.3) [Revised January 2004].	Verify that no person operates any of the following sources, except in compliance with a permit issued under this rule: - any major source - any source, including an area source, subject to a Section 111 of the Clean Air Act - any source, including an area source, subject to a standard or other requirements under Section 112 of the Clean Air Act, except that a source is not required to obtain a permit solely because it is subject to regulations or requirements under Section 112(r) of the Clean Air Act - any affected source. (NOTE: If, on the effective date of the operating permit program, a source is not subject to enforceable emissions limitations or such other enforceable measures that require the continued operation and maintenance of air pollution control equipment and/or other operational limitations that make the source nonmajor, the source is treated as a major source subject to the requirements of this rule. (NOTE: Unless otherwise required by this rule to have a Title V operating permit, the following source categories are exempted from the obligation to obtain a Title V operating permit: - all sources and source categories that would be required to obtain a permit solely because they are subject to 40 CFR 60, subpart AA (1988) -- Standards of Performance for New Residential Wood Heaters - all sources and source categories that would be required to obtain a permit solely because they are subject to 40 CFR 61, subpart M (1984) -- National Emission Standard for Hazardous Air Pollutants for Asbestos, Section 61.145, Standard for Demolition and Renovation.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	(NOTE: Insignificant emission units or activities within a stationary source subject to this rule which require only identification within the required permit application are as follows (however, potential emissions from these units or activities may not be excluded in the determination as to whether a stationary source is a major source for the purpose of determining applicability of this rule): - flares used solely to indicate danger to the public - combustion units designed and used exclusively for comfort heating that used liquid petroleum gas or natural gas as fuel - comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment - indoor or outdoor kerosene heaters - space heaters operating by direct heat transfer - repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified - air contaminant detectors or recorders, combustion controllers or shutoffs - brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source - any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumers, and which may include, but not be limited to, personal use items janitorial cleaning supplies, office supplies and supplies to maintain copying equipment - equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption - portable generators - firefighting equipment and the equipment used to train firefighters - such other sources or activities as the Chief may determine.) (NOTE: Permit renewal application for each source is considered timely if it is submitted at least 6 months prior to the date of permit expiration.)
AE.6.5.WV. [Deleted January 2010].	(NOTE: WVCSR 45-14-24 was revised.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
STATE-SPECIFIC REQUIREMENTS **AE.7. Management/ Administrative**	
AE.7.1.WV. Stationary sources of VOCs and NO_x located in Putnam, Kanawha, Cabell, Wayne, Wood, or Greenbrier counties must comply with requirements for submittal of emission statements for VOCs and NO_x (WVCSR 45-29-3 through 45-29-5.1) [Revised January 2010].	(NOTE: This rule applies only to stationary sources of VOCs or NO_x located in Putnam, Kanawha, Cabell, Wayne, Wood, and Greenbrier counties.) (NOTE: Facilities with less than 25 tpy of plant-wide actual VOC or NO_x emissions are exempt from these requirements if the sources are included in the Chief of Air Quality's base yr and periodic emissions inventories.) Verify that stationary sources that emit VOCs or NO_x submit an emission statement to the Chief on or before 1 July of each yr for the prior calendar year. Verify that the emission statement contains certification that the information contained in the statement is accurate to the best knowledge of the individual certifying the statement and includes the full name, title, signature, date of signature, and telephone number of the certifying individual. Verify that the emission statement contains the following source identification information: full name, physical location, and mailing address of the facility. Verify that the emission statements contains the following operating data: - percentage annual throughput - days per week for both the normal operating schedule and for a typical ozone season day (if different from the normal operating schedule) - hr per day for both the normal operating schedule and for a typical ozone season day (if different from the normal operating schedule) - hr per yr for both the normal operating schedule and for a typical ozone season day (if different from the normal operating schedule). Verify that the emission statement contains the following emissions information: - actual VOC and/or NO_x emissions at the process level, in tons per yr and pounds per day for a typical ozone season day (estimated or measured) - emission method code (estimated or measured) - units code to identify the emissions units (tons per yr or pounds per day) - calendar yr for the emissions.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Verify that the emission statement contains the following control equipment information: - current primary and secondary control equipment identification codes - current control equipment efficiencies (percent). Verify that the emission statement contains the following process rate data: - annual fuel or process throughput rate - peak ozone season daily process rate.
AE.7.2.WV. Records for emission statements must be kept a minimum of 3 yr. (WVCSR 45-29-5.2 and 5.3) [Revised January 2004; Revised January 2010].	(NOTE: See AE.7.1.WV. for applicability and exemptions.) Verify that anyone submitting an emission statement maintains records of test methods, procedures, calculations or other information used to determine emission estimates for a period of 3 yr. following the date of submittal. (NOTE: The Director may require the submittal of records, test methods, or other data upon which the information is based to verify emission estimates).
AE.7.3.WV. Sources must report emissions of all greenhouse gases emitted above de minimis amounts to the Secretary (WVCSR 45-42-3 and 45-42-4) [Added January 2009].	(NOTE: This checklist item applies to stationary source that reports emissions of regulated air pollutants pursuant to emissions inventory requirements and emits one or more greenhouse gases on an annual basis greater than the de minimis amounts listed below: -carbon dioxide: 10,000 tons/year - methane: 476 tons/year - nitrous oxide: 32.6 tons/year - hydrofluorocarbons: 0.855 tons/year - perfluorocarbons: 1.09 tons/year - sulfur hexafluoride: 0.42 tons/year.) (NOTE: Stationary sources that do not report emissions of regulated air pollutants pursuant to the emissions inventory requirements are not required to, but may voluntarily report their greenhouse gas emissions.) Verify that, in accordance with a reporting cycle provided by the Secretary, affected sources report the quantity of all greenhouse gases emitted above de minimis amounts in the years specified by the Secretary. (NOTE: Affected sources are only required to report annual quantities of anthropogenic non-mobile source greenhouse gases emitted at the stationary source, and not required to report biogenic emissions of greenhouse gases.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
STATE-SPECIFIC REQUIREMENTS **AE.9.** **Emissions Limits**	
AE.9.1.WV. Discharges must not contribute to an exceedance of the state ambient air quality standards for sulfur oxides (WVCSR 45-8-4.1) [Revised January 2006; Revised January 2009].	Verify that sulfur oxide emissions do not exceed the annual primary standard for sulfur oxides of 0.030 parts per million (ppm) and 80 micrograms per cubic meter (µg/m3). Verify that sulfur oxide emissions do not exceed the 24-hour primary standard for sulfur oxides of 0.14 ppm (365 µg/m3), more than once per calendar year. Verify that e sulfur oxide emissions do not exceed the 3-hour secondary standard for sulfur oxides of 0.5 ppm, (1300 µg/m3), more than once per year.
AE.9.2.WV. Process source operations must comply with regulations pertaining to emission of smoke and/or particulate matter prohibitions and standards of measurement (WVCSR 45-7-3.1, 3.2 and 3.7) [Revised January 2001].	Verify that there are no emissions of smoke and/or particulate matter into the open air from any process source operation that is 20 percent opacity or greater. (NOTE: This requirement does not apply to smoke and/or particulate matter emitted from any process source operation which is less than 40 percent opacity for any period or periods aggregating no more than 5 min in any 60 min period.) Verify that there are no visible emissions from any storage structure associated with any manufacturing process that is required to have a full enclosure and be equipped with a particulate matter control device. (NOTE: These requirements do not apply to particulate matter emissions from internal combustion engines and aircraft.)
AE.9.3.WV. Manufacturing process source operation facilities must comply with requirements for the control and prohibition of particulate emissions by weight (WVCSR 45-7-4).	Verify that no particulate matter is vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Appendix 1-1. Verify that mineral acids are not released from any source operation or duplicate source operation or from air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity given in Appendix 1-2. (NOTE: These requirements do not apply to particulate matter emissions from internal combustion engines and aircraft, or to maintenance operations.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.9.4.WV. Manufacturing process sources must comply with sulfur dioxide emissions limits (WVCSR 45-10-4.1) [Added January 2001].	Verify that there are no emissions into the open air from any source operation an in-stack sulfur dioxide concentration exceeding 2000 parts per million by volume from existing source operations.
AE.9.5.WV. Any new major stationary source or the major modification of any existing major stationary source must comply with baseline pollution concentrations (WVCSR 45-14-4) [Added January 2006].	Verify that increases in pollutant concentrations over the baseline concentrations are not allowed in excess of those found in Appendix 1-11. Verify that, for any period other than an annual period, the applicable maximum allowable increase is exceeded only during 1 such period per year at any one location. Verify that no pollutant concentration exceed any air quality standard promulgated by the Secretary or the USEPA.
AE.9.6.WV. Discharges must not contribute to an exceedance of the state ambient air quality standards for particulate matter (WVCSR 45-8-4.2) [Added January 2009].	Verify that PM10 emissions do not exceed the primary and secondary 24-hour standards for PM10 of 150 µg/m3 Verify that PM2.5 emissions do not exceed in a calendar year annual primary and secondary standards for PM2.5 of 15.0 µg/m3. Verify that PM2.5 emissions do not exceed in a calendar year, the 24-hour primary and secondary standards for PM2.5 of 35 µg/m3.
AE.9.7.WV. Discharges must not contribute to an exceedance of the state ambient air quality standards for carbon monoxide (WVCSR 45-8-4.3) [Added January 2009].	Verify that carbon monoxide emissions do not exceed, more than once per year, the primary 8-hour standard for carbon monoxide of 9 ppm and 10 mg/m3. Verify that carbon monoxide emissions do not exceed, more than once per year, the primary 1-hour standard for carbon monoxide of 35 ppm (40 mg/m3).
AE.9.8.WV. Discharges must not contribute to an exceedance of the state ambient air quality standards for ozone (WVCSR 45-8-4.4) [Added January 2009;	Verify that ozone emissions do not exceed the 8 hour primary and secondary ambient air quality standards for ozone of 0.08 ppm, daily maximum 8-hour average.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
Revised January 2010].	
AE.9.9.WV. Discharges must not contribute to an exceedance of the state ambient air quality standards for nitrogen dioxide (WVCSR 45-8-4.5) [Added January 2009; Citation Revised January 2010]	Verify that nitrogen dioxide emissions do not exceed the annual primary and secondary standards for nitrogen dioxide of 0.053 ppm and 100 µg/m3. (NOTE: To demonstrate attainment, an annual mean is based upon hourly data that are at least 75 percent complete or upon data derived from manual methods that are at least 75 percent complete for the scheduled sampling days in each calendar quarter.)
AE.9.10.WV. Discharges must not contribute to an exceedance of the state ambient air quality standards for lead (WVCSR 45-8-4.6) [Added January 2009; Citation Revised January 2010].	Verify that lead emissions do not exceed the primary and secondary ambient air quality standard for lead and its compounds, measured as elemental lead by a reference method based on Appendix G of 40 CFR Part 50, or by an equivalent method. (NOTE: The primary and secondary ambient air quality standard for lead and its compounds is 1.5 µg/m3, averaged over a calendar quarter.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.15. **FUEL-BURNING EQUIPMENT**	
AE.15.1.WV. All fuel burning units must comply with registration procedures (WVCSR 45-2-6, 45-2A.3, and 45-2A-4) [Revised February 1998; Revised January 2002].	Verify that all persons owning and/or operating fuel burning units have registered the units with the Director. (NOTE: The owner/operator may register an allowable emission rate for each individual stack, in pounds per hour, determined as provided in 45-2A-4, Appendix B.) Verify that the owner and/or operator of fuel burning units that were under construction or on which construction was initiated as of 1 October 1974, not previously registered, have registered the units with the Director. (NOTE: 45-2A applies to any fuel burning unit(s) having a design heat input (DHI) over 10 million BTU/hr (mmBTU), except as follows: - a fuel burning unit(s) which combusts only natural gas is exempt from sections 5 and 6 (testing and monitoring plan) - a fuel burning unit(s) with a DHI of less than 100 mmBTU/hr is exempt from the periodic testing requirements of section 5, and the monitoring requirements of section 6.)
AE.15.2.WV. All fuel burning units must have a valid permit (WVCSR 45-2-7 and 45-2-11) [Revised February 1998; Revised January 2001].	Verify that no person constructs or modifies any fuel burning unit without first obtaining a permit for the construction or modification. (NOTE: This checklist item does not apply to fuel burning units having a heat input under 10 MBtu/h.)
AE.15.3.WV. All fuel burning units must comply with requirements pertaining to visible emissions (WVCSR 45-2-3.1, 45-2A-5.1, 45-2A-6) [Revised January 2001; Revised January 2002].	Verify that there is no emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than 10 percent opacity based on a 6 min block average. Verify that the owner/operator operates in compliance with an approved visible emission monitoring plan. (NOTE: The owner/operator of a fuel burning unit(s) with a DHI of 250 mmBTU/hr or greater must use a COMS to satisfy the requirements of an approved monitoring plan, except where the source is able to comply without COMS (this must be demonstrated) or the Director exempts the unit.) (NOTE: Visible emission tests must be conducted in accordance with 40 CFR Part 60, Appendix A, Method 9 (Method 9), or with COMS. Method 9 visible

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	emission tests must be conducted at a frequency established in the approved monitoring plan and must also be conducted in conjunction with all weight emission testing.) (NOTE: A fuel burning unit with a DHI of less than 100mmBTU/hr is exempt from visible emission testing and the monitoring plan.)
AE.15.4.WV. All fuel burning units must comply with regulations pertaining to particulate matter and standards of measurement (WVCSR 45-2-4, 45-2A-5.2 and 45-2-11) [Revised February 1998; Revised January 2001; Revised January 2002].	Verify that no person discharges particulate matter into the open air from all fuel burning units located at one plant, measured in terms of pounds per h in excess of the amount determined as follows: - for Type 'a' fuel burning units, the product of 0.05 and the total design heat inputs for such units (in million British thermal units per hour), provided however that no more than 1200 lb/h of particulate matter is discharged into the open air from all such units - for Type 'b' fuel burning units, the product of 0.09 and the total design heat inputs for such units (in million British thermal units per hour), provided however that no more than 600 lb/h of particulate matter is discharged into the open air from all such units - for Type 'c' fuel burning units, in excess of the values listed in Appendix 1-3, provided however that no more than 300 lb/h of particulate matter is discharged into the open air from all such units. (NOTE: Allowable emission rates for individual stacks are determined by the owner and/or operator and registered with the Director. The approved set of individual stack allowable emission rates becomes a non official part of the compliance schedule and/or any permits concerning the source(s), and must not be changed without the prior written approval of the Director.) Verify that there is no addition of sulfur oxides to a combustion unit exit gas stream for the purpose of improving emissions control equipment efficiency (unless written approval is provided by the Director.) (NOTE: The previous paragraph does not apply to combustion units in operation on or before 1 September 1974.) Verify that weight emission tests are conducted periodically to determine the compliance of each fuel stack with the weight emission standards. (NOTE: Weight emission tests must be conducted in accordance with 45CSR2 Appendix " Compliance Test Procedures for 45CSR2" or other equivalent EPA approved method approved by the Director. The baseline compliance test must be conducted within a time period starting 12 mo prior to and ending 12 mo after 15 March 2001 for existing fuel burning unit(s) and within 180 days of start-up for new fuel burning unit(s). The weight emission test results of the baseline test will establish the weight emission testing cycle to be used for subsequent testing.) (NOTE: A fuel burning unit with a DHI of less than 100mmBTU/hr is exempt

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	from visible emission testing and the monitoring plan.)
AE.15.5.WV. Any fuel burning source of fugitive particulate matter must be equipped with a fugitive particulate matter control system (WVCSR 45-2-5 and 45-2-11) [Revised February 1998; Revised January 2001].	Verify that no person causes, suffers, allows, or permits any source of fugitive particulate matter to operate that is not equipped with a fugitive particulate matter control system. Verify that this system is operated and maintained in such a manner as to minimize the emission of fugitive particulate matter. (NOTE: Sources of fugitive particulate matter associated with fuel burning units include, but are not limited to: - stockpiling of ash or fuel either in the open or in enclosures such as silos - transport of ash in vehicles or on conveying systems, to include spillage, tracking, or blowing of particulate matter from or by such vehicles or equipment - ash or fuel handling systems and ash disposal areas.) (NOTE: This checklist item does not apply to fuel burning units having a heat input under 10 MBtu/h.)
AE.15.6.WV. Fuel burning units must comply with recordkeeping and reporting requirements (WVCSR 45-2A-7) [Revised February 1998; Revised January 2001; Revised January 2002].	Verify that, for fuel burning unit(s) that burn only pipeline quality natural gas, operating records include, but are not limited to, the date and time of start-up and shutdown, and the quantity of fuel consumed on a monthly basis. Verify that, for fuel burning unit(s) which burn only distillate oil, operating records include, but are not limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a monthly basis and a BTU analysis for each shipment. Verify that, for fuel burning unit(s) which burn only wood, operating records include, but are not limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a daily basis and a quarterly ash and BTU analysis. Verify that, for fuel burning unit(s) which burn only coal, operating records include, but are not limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a daily basis and an ash and BTU analysis for each shipment. Verify that, for fuel burning unit(s) that burn an alternative fuel(s), operating records include, but are not limited to, the date and time of start-up and shutdown, and fuel quality analysis as approved by the Director. (NOTE: If a combination of fuels are burned all applicable recordkeeping requirements for each fuel burned must be met.) Verify that records of all required monitoring data and support information is

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	maintained on-site for a period of at least 5 yr from the date of monitoring, sampling, measurement or reporting. (NOTE: Support information includes all calibration and maintenance records and all strip chart recordings for continuous monitoring instrumentation, and copies of all required reports.) Verify that the owner/operator submits a periodic exception report to the Director, in a manner and at a frequency to be established by the Director. (NOTE: Exception report must provide details of all excursions outside the range of measured emissions or monitored parameters established in an approved monitoring plan, and shall include, but not be limited to, the time of the excursion, the magnitude of the excursion, the duration of the excursion, the cause of the excursion and the corrective action taken.) Verify that each owner/operator employing COMS submits a "COMS Summary Report" and/or an "Excursion and COMS Monitoring System Performance Report" to the Director on a quarterly basis postmarked by the 30th day following the end of each calendar quarter. (NOTE: If the total duration of excursions for the reporting period is less than 1 percent of the total operating time for the reporting period and monitoring system downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, the COMS Summary Report must be submitted to the Director; the Excursion and COMS Monitoring System Performance report shall be maintained on-site and must be submitted to the Director upon request.) (NOTE: If the total duration of excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the COMS Summary Report and the Excursion and COMS Monitoring System Performance Report must both be submitted to the Director.) Verify that each owner/operator employing non-COMS based monitoring submits a "Monitoring Summary Report" and/or an "Excursion and Monitoring Plan Performance Report" to the Director on a quarterly basis postmarked by the 30th day following the end of each calendar quarter. (NOTE: If the total number of excursions for the reporting period is less than 1 percent of the total number of readings for the reporting period and the number of readings missing for the reporting period is less than 5 percent of the total number of readings agreed upon in the monitoring plan for the reporting period, the Monitoring Summary Report must be submitted to the Director; the Excursion and Monitoring System Performance report must be maintained on-site and must be submitted to the Director upon request.) (NOTE: If the number of excursions for the reporting period is 1 percent or greater of the total number of readings for the reporting period or the number of

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	readings missing for the reporting period is 5 percent or greater of the total number of readings agreed upon in the monitoring plan for the reporting period, the Monitoring Summary Report and the Excursion and Monitoring System Performance Report must both be submitted to the Director.)

AE.15.7.WV. All fuel burning units must comply with regulations pertaining to startups, shut-downs and malfunctions (WVCSR 45-2-9 and 45-2-11) [Revised February 1998; Revised January 2001].	Verify that at all times, including periods of startups, shutdowns, and malfunctions, owners and operators, to the extent practicable, maintain and operate any fuel burning unit (including associated air pollution control equipment) in a manner consistent with good air pollution control practice for minimizing emissions.
	
	Verify that, except as provided, a fuel burning unit reports to the Director any malfunction of the unit or its air pollution control equipment which results in any excess particulate matter emission rate or excess opacity, in the time frames indicated as appropriate:
	
	- excess opacity periods meeting the following conditions are reported on a quarterly basis:
	  - the excess opacity period does not exceed 30 min in within any 24 hr period, and
	  - excess opacity does not exceed 40 percent
	- all other exceedances are reported within 30 days via a written report that includes:
	  - a detailed explanation of the factors involved or causes of the malfunction
	  - the date and time of duration (with starting and ending times) of the period of excess emissions
	  - an estimate of the mass of excess emissions discharged during the malfunction period
	  - the maximum opacity measured or observed during the malfunction
	  - immediate remedial actions taken at the time of the malfunction to correct or mitigate the effects of the malfunction
	  - a detailed explanation of the corrective measures or program that will be implemented to prevent a recurrence of the malfunction and a schedule for such implementation.
	
	(NOTE: The opacity standards apply at all times except in periods of startups, shut-downs and malfunctions. Where the Director believes that startups and shut-downs are excessive in duration and/or frequency, the Director may require an owner or operator to provide a written report demonstrating that such frequent startups and shut-downs are necessary.)
	
	(NOTE: This checklist item does not apply to fuel burning units having a heat input under 10 MBtu/h.)

AE.15.8.WV. Sources of SO_2	Verify that there is no construction, modification or relocation of any source of

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
must have a valid permit (WVCSR 45-10-7 and 45-10-10) [Revised February 1998; Revised January 2001].	sulfur dioxide without a permit. (NOTE: All fuel burning units having a heat input under 10 MBtu/h h are exempt from this requirement.)
AE.15.9.WV. Sources of SO_2 must be registered with the Director (WVCSR 45-10-6, 45-10-10, 45-10A-4) [Revised February 1998; Revised January 2001; Revised January 2002].	Verify that all owners/operators of fuel burning units register an allowable emission rate for each individual stack, in pounds per hr as determined by Appendix B. (NOTE: All fuel burning units utilizing CEMS or daily ASTM method sampling and analysis to demonstrate compliance with the plant-wide emission limit and individual stack limits; or The Director has approved a petition for an alternative individual stack allowable emission rate.) (NOTE: 45-10A applies to any fuel burning unit(s), manufacturing process source(s) or combustion source(s) subject to 45CSR10, except as follows: - fuel burning unit(s) with a design heat input of less than 10 million BTU's per hour - fuel burning unit(s) which combust natural gas, wood or distillate oil, alone or in combination - manufacturing process source operation(s) which have the potential to emit less than 500 pounds per yr of sulfur oxides.)
AE.15.10.WV. All fuel burning units in Priority I and II regions must comply with SO_2 weight emission standards (WVCSR 45-10-3.1.e, 45-10-3.4.a, and 45-10-10) [Revised February 1998; Revised January 2001; Revised January 2002].	Verify that, for Type 'b' and Type 'c' fuel burning units, there are no discharges of SO_2 into the open air from all stacks located at one plant in Priority I or II regions, measured in terms of lb/h, in excess of the amount determined by the product of 3.1 times the total design heat inputs for such units discharging through those stacks, in million British thermal units per hour. (NOTE: Unless otherwise approved by the Director, the maximum allowable emission rate for an individual stack shall not exceed by more than 25 percent the emission rate determined by prorating the total allowable emission rate specified in subsections 3.1, 3.2, or 3.3, on the basis of individual unit heat input at design capacity for all fuel burning units discharging through that stack.) (NOTE: All fuel burning units having a heat input under 10 MBtu/h h are exempt from this requirement.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
AE.15.11.WV. All fuel burning units in Region IV must comply with SO_2 weight emission standards (WVCSR 45-10-3.2.c, 45-10-3.4.a, and 45-10-10) [Revised February 1998; Revised January 2001; Revised January 2002].	Verify that, for Type 'b' and Type 'c' fuel burning units, there are no discharges of SO_2 into the open air from all stacks located at one plant in Region IV, measured in terms of pounds per hour, in excess of the amount determined by the product of 1.6 times the total design heat inputs for units discharging through those stacks, in million British thermal units per hour. (NOTE: Unless otherwise approved by the Director, the maximum allowable emission rate for an individual stack shall not exceed by more than 25 percent the emission rate determined by prorating the total allowable emission rate specified in subsections 3.1, 3.2, or 3.3, on the basis of individual unit heat input at design capacity for all fuel burning units discharging through that stack.) (NOTE: Notwithstanding the above, no more than 5500 lb SO_2/hr shall be discharged into the open air from all such stacks.) (NOTE: Region IV consists of the Kanawha Valley Air Quality Control Region: Kanawha County, Putnam County, and Falls and Kanawha Magisterial Districts of Fayette County). (NOTE: All fuel burning units having a heat input under 10 MBtu/hr are exempt from this requirement.)
AE.15.12.WV. All fuel burning units in Priority III regions, except Region IV must comply with SO_2 weight emission standards (WVCSR 45-10-3.3.f, 45-10-3.4.a, and 45-10-10) [Revised February 1998; Revised January 2001; Revised January 2002].	Verify that, for Type 'b' and Type 'c' fuel burning units, there are no discharges of SO_2 into the open air from all stacks located at one plant in Priority III regions (except Region IV), measured in terms of pounds per hour, in excess of the amount determined by the product of 3.2 times the total design heat inputs for units discharging through those stacks, in million British thermal units per hour. (NOTE: Unless otherwise approved by the Director, the maximum allowable emission rate for an individual stack shall not exceed by more than 25 percent the emission rate determined by prorating the total allowable emission rate specified in subsections 3.1, 3.2, or 3.3, on the basis of individual unit heat input at design capacity for all fuel burning units discharging through that stack.) (NOTE: Region IV consists of the Kanawha Valley Air Quality Control Region: Kanawha County, Putnam County, and Falls and Kanawha Magisterial Districts of Fayette County). (NOTE: All fuel burning units having a heat input under 10 MBtu/hr are exempt from this requirement.)
AE.15.13.WV. Waste heat boilers must comply with SO_2 limitations (WVCSR 45-10-3.7 and 45-10-10) [Revised February 1998; Revised	Verify that there are no discharges of SO_2 to the open air from the combustion of fuel in a fuel burning unit of a waste heat boiler in excess of 2.2 lb SO_2/MBtu/h. (NOTE: This limitation is based on the heat input provided to the boiler by the combustion of this auxiliary fuel. This provision applies only to the fuel used for

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
January 2001].	the waste heat boiler(s); it does not supersede any other requirements.) (NOTE: All fuel burning units having a heat input under 10 MBtu/h h are exempt from this requirement.)
AE.15.14.WV. [Deleted January 2001].	(NOTE: Regulation revised.)
AE.15.15.WV. [Deleted January 2001].	(NOTE: Regulation revised.)
AE.15.16.WV. [Deleted January 2002].	(NOTE: Regulation revised.)
AE.15.17.WV. Combustion of process gas streams containing hydrogen sulfide must meet control and mitigation plan requirements (WVCSR 45-10-5.1, 45-10-5.4, and 45-10-10) [Added January 2001; Revised January 2002].	Verify that there is no combustion of any process gas stream that contains hydrogen sulfide in a concentration greater than 50 grains per 100 ft^3 of gas except in compliance with an emission control and mitigation plan approved by the Director and USEPA. (NOTE: All fuel burning units having a heat input under 10 MBtu/h h are exempt from this requirement.) (NOTE: Compliance with the allowable hydrogen sulfide concentration limitations for combustion sources will be based on a block 3 hr averaging time.)
AE.15.18.WV. Fuel burning units, manufacturing process sources, and combustion sources of sulfur dioxides must meet fuel testing requirements (WVCSR 45-10A-5) [Added January 2002; Revised January 2007].	Verify that the owner/operator conducts or has conducted, weight emission tests to determine the compliance of each fuel burning unit with the weight emission standards (see AE.15.10.WV, AE.15.11.WV, and AE14.12.WV) at the following frequency: - if <= 50 percent of Factor, then no stack testing required - if between 50 percent and 90 percent of Factor, then once/5 yr - if >= 90 percent of Factor, the once/yr. Verify that the owner/operator conduct or have conducted, compliance tests to determine the compliance of each combustion source with the standards in AE.15.17.WV. at a frequency established in the approved monitoring plan. (NOTE: Weight emission tests must be conducted in accordance with 40 CFR Part 60, Appendix A, Method 6 or other equivalent EPA testing method approved by

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	the Director. If weight emission testing is required, the initial weight emission test shall be conducted within a time period starting 12 mo prior to, and ending 12 mo after, 15 March 2001 for existing units and within 180 days of start-up for new unit(s).) (NOTE: The owner/operator of a fuel burning unit(s), with a DHI greater than or equal to 10 million BTU's per h (mmBTU/hr) but less than 100 mmBTU/hr, may petition the Director for an alternative to weight emission testing.) (NOTE: The owner/operator of a fuel burning unit may petition for alternatives to the testing requirements for units that are infrequently used or for infrequently used fuels.) (NOTE: Manufacturing process source(s) utilizing a flare as a control device are exempt from the compliance testing requirements. The owner/operator of a manufacturing process source(s) may for good cause petition the Director for an alternative to compliance testing, which may include, but not be limited to, process gas sampling for percent sulfur by weight. To determine the emission rate of sulfur dioxide the manufacturing process source(s) will assume 100 percent conversion to sulfur dioxide of all unrecovered sulfur compounds.) (NOTE: The owner/operator of a fuel burning unit(s), manufacturing process unit(s), or combustion unit(s) employing CEMS are exempt from the testing requirements.)
AE.15.19.WV. Fuel burning units of sulfur dioxides must meet monitoring plan requirements or use CEMS (WVCSR 45-10A-6.1) [Added January 2002].	Verify that the owner/operator of a fuel burning unit(s) has an approved monitoring plan for each fuel burning unit(s) that describes the method the owner or operator will use to monitor compliance with the weight emission standards. (NOTE: The owner/operator of a fuel burning unit(s) may use CEMS, which will satisfy all of the requirements of an approved monitoring plan.) (NOTE: The owner/operator of a type `a' fuel burning unit(s) must use a CEMS to satisfy the requirements of an approved monitoring plan.)  Verify that the owner/operator of a type `b' or type `c' fuel burning unit(s) which burns fuel with a sulfur content that equates to 90 percent of or greater of the factor meet one of the following requirements: - use a CEMS to satisfy the requirements of an approved monitoring plan - conduct daily "as burned" fuel analysis in accordance with applicable ASTM procedures and test methods - CEMS, if required, is installed, operational and certified within 12 mo of the date of monitoring plan approval or within 12 mo of triggering the 90 percent threshold, whichever is later. (NOTE: If CEMS is used to satisfy the requirements of an approved monitoring plan if any other rule, permit or order requires the use of CEMS for the fuel

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	burning unit(s). If not yet installed, the CEMS must be installed by the date required in the other rule, permit or order.)
AE.15.20.WV. Manufacturing process sources and combustion sources of sulfur dioxides must meet monitoring plan requirements or use CEMS (WVCSR 45-10A-6.2 and 45-10A-6.3) [Added January 2002].	Verify that the owner/operator of a manufacturing process source(s) or combustion source has an approved monitoring plan for each source(s). (NOTE: The owner/operator of a manufacturing process source(s) may use CEMS, which will satisfy all of the requirements of an approved monitoring plan. The owner/operator of a manufacturing process source(s) with a potential to emit 100 tons per year(tpy) of sulfur dioxide and with the potential to emit sulfur dioxide at a rate greater than or equal to 90 percent of the applicable emission standard must use CEMS to satisfy the requirements of an approved monitoring plan.) Verify that, if CEMS is required for a manufacturing process, it is installed within 12 mo of the date of monitoring plan approval, within 12 mo of the receipt of denial of a petition or within 12 mo of triggering the 100 tpy and 90 percent thresholds, whichever is later. (NOTE: The owner/operator of a combustion source(s) which has a refinery process gas stream or any other process gas stream that contains an average hydrogen sulfide concentration greater than or equal to 45 grains per 100 cubic ft must use CEMS to satisfy the requirements of an approved monitoring plan.) Verify that, if CEMS is required for a combustion source, it is installed within 12 mo of the date of monitoring plan approval, within 12 mo of the receipt of denial of a petition, or within 12 mo of triggering the 45 grains per 100 cubic ft threshold in subdivision 6.3.b, whichever is later. (NOTE: If CEMS must be used to satisfy the requirements of an approved monitoring plan if any other rule, permit or order requires the use of CEMS for the manufacturing process source(s). If not yet installed, the CEMS must be installed by the date required in the other rule, permit or order.)
AE.15.21.WV. Fuel burning units, manufacturing process sources, and combustion sources of sulfur dioxide must meet recordkeeping requirements (WVCSR 45-10-8.3, 45-10A-7.1, and 45-10-10) [Added January 2001; Revised January 2002].	Verify that for fuel burning units, records of the operating schedule including the date and time of start-up and shutdown are maintained. Verify that records of the quantity of fuel consumed on a daily basis, and a periodic fuel quality analysis as follows are maintained for fuel burning units: - daily analysis for a fuel quality that is >= 90 percent of Factor - analysis per shipment for fuel quality that is < 90 percent of Factor (NOTE: The owner or operator must provide in the monitoring plan a quality control and quality assurance program for the fuel analysis. If a certified independent lab is used to provide the fuel analysis, the quality control and

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	assurance program is deemed to be satisfactory.) Verify that for combustion sources, records are maintained of the operating schedule and the quantity and quality of fuel consumed in each unit. (NOTE: Records for combustion sources shall include, but not be limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a daily basis, and a periodic fuel quality analysis. The frequency of periodic fuel quality analysis shall be established in an approved monitoring plan.) (NOTE: The owner or operator of a fuel burning unit or combustion source that utilizes CEMS is exempt from fuel quality analysis and operating record keeping.) Verify that for fuel burning units, manufacturing process sources, and combustion sources, records of all required monitoring data and support information is maintained on-site for a period of at least 5 yr from the date of monitoring, sampling, measurement or reporting. (NOTE: Support information includes all calibration and maintenance records and all strip chart recordings for continuous monitoring instrumentation, and copies of all required reports.) (NOTE: Fuel burning unit(s) that combusts natural gas, wood or distillate oil, alone or in combination, are exempt from the testing and monitoring requirements. Manufacturing operations in which the process is to partially combust wood during the manufacture of charcoal are exempt from the testing and monitoring requirements.)
AE.15.22.WV. Sources of sulfur dioxide must meet testing and monitoring requirements (WVCSR 45-10-8.1 and 8.2, and 45-10-10) [Added January 2002].	Verify that any compliance testing required by the Director is completed. (NOTE: Tests must be conducted in accordance with the appropriate test method in 40 CFR Part 60, Appendix A, Method 6, Method 15 or other equivalent EPA testing method approved by the Director. The Director may witness or conduct tests. Should the Director exercise his or her option to conduct tests, the operator will provide all necessary sampling connections and sampling ports to be located in a manner as the Director may require, power for test equipment, and the required safety equipment such as scaffolding, railings, and ladders to comply with generally accepted good safety practices.) Verify that any gas monitoring devices required by the Director are installed. Verify that any monitoring data is readily available at the source location or other reasonable location that the Director may specify. Verify that, prior to the installation of calibrated stack gas monitoring devices, sulfur dioxide emission rates are calculated on an equivalent fuel sulfur content basis.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that the owner or operator of fuel burning unit(s), manufacturing process source(s) or combustion source(s) demonstrates compliance by testing and/or monitoring in accordance with one or more of the following: 40 CFR Part 60, Appendix A, Method 6, Method 15, continuous emissions monitoring systems (CEMS) or fuel sampling and analysis as set forth in an approved monitoring plan for each emission unit. (NOTE: The installation, operation and maintenance of a continuous monitoring system meeting the requirements of 40 CFR 60, Appendix B, Performance Specification 2 (PS2) or Performance Specification 7 (PS7) are deemed to fulfill the requirements of a monitoring plan for a fuel burning unit(s), manufacturing process source(s) or combustion source(s). CEMS meeting the requirements of 40 CFR Part 75 (Acid Rain) will be deemed to have satisfied the requirements of PS2.) Verify that the owner or operator of a continuous emissions monitoring system follows the quality assurance requirements as set forth in 40 CFR Part 60, Appendix F. Verify that monitoring plans are approved by the Director. (NOTE: All fuel burning units having a heat input under 10 MBtu/h h are exempt from this requirement.) (NOTE: Fuel burning unit(s) that combusts natural gas, wood or distillate oil, alone or in combination, are exempt from the testing and monitoring requirements. Manufacturing operations in which the process is to partially combust wood during the manufacture of charcoal are exempt from the testing and monitoring requirements.)
AE.15.23.WV. Sources of sulfur dioxide employing CEMS must meet reporting requirements (WVCSR 45-10A-7.2.a) [Added January 2002].	Verify that each owner/operator employing CEMS for an approved monitoring plan, submits a "CEMS Summary Report" and/or a "CEMS Excursion and Monitoring System Performance Report" to the Director quarterly postmarked by the 30th day following the end of each calendar quarter. (NOTE: The Director may, on a case-by-case basis, require more frequent reporting if the Director deems it necessary to accurately assess the compliance status of the source. The CEMS Summary Report must contain the information and be in the format shown in Appendix A unless otherwise specified by the Director. Submittal of 40 CFR Part 75 data in electronic data reporting (EDR) format to the Director will be deemed to satisfy the reporting requirements.) (NOTE: If the total duration of excursions for the reporting period is less than 4 percent of the total source operating time for the reporting period and the total monitoring method downtime for the reporting period is less than 5 percent of the total source operating time for the reporting period, only the CEMS Summary Report must be submitted.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	(NOTE: If the total duration of excursions for the reporting period is 4 percent or greater of the total operating time for the reporting period or the total monitoring method downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the CEMS Summary Report and the CEMS Excursion and Monitoring System Performance Report must both be submitted to the Director.) Verify that the CEMS Excursion and Monitoring System Performance report are maintained on-site and are submitted to the Director upon request Verify that the CEMS Excursion and Monitoring System Performance Report includes the following information: - magnitude of each excursion, and the date and time, including starting and ending times, of each excursion - specific identification of each excursion that occurs during start-ups, shutdowns, and malfunctions of the facility - the nature and cause of any malfunction (if known), and the corrective action taken and preventative measures adopted - the date and time identifying each period during which quality-controlled monitoring data was unavailable, except for zero and span checks, and the reason for data unavailability and the nature of the repairs or adjustments to the monitoring system - when no excursions have occurred or there were no periods of quality-controlled data unavailability, and no monitoring systems were inoperative, repaired, or adjusted, this is stated in the report.
AE.15.24.WV. Sources of sulfur dioxide employing non-CEMS monitoring must meet reporting requirements (WVCSR 45-10A-7.2.b) [Added January 2002].	Verify that each owner/operator employing monitoring submits a "Monitoring Summary Report" and an "Excursion and Monitoring Plan Performance Report" to the Director on a quarterly basis postmarked by the 30th day following the end of each calendar quarter. Verify that the Excursion and Monitoring Plan Performance Report is maintained on-site and is submitted to the Director upon request. (NOTE: The Director may, on a case-by-case basis, require more frequent reporting if the Director deems it necessary to accurately assess the compliance status of the fuel burning unit(s). The Monitoring Summary Report shall contain the information and be in a format approved by the Director.) (NOTE: If the total number of excursions for the reporting period is less than 4 percent of the total number of readings for the reporting period and the number of readings missing for the reporting period is less than 5 percent of the total number of readings agreed upon in the monitoring plan for the reporting period, the Monitoring Summary Report must be submitted to the Director.) (NOTE: If the number of excursions for the reporting period is 4 percent or greater of the total number of readings for the reporting period or the number of

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	readings missing for the reporting period is 5 percent or greater of the total number of readings agreed upon in the monitoring plan for the reporting period, the Monitoring Summary Report and the Excursion and Monitoring Plan Performance Report must both be submitted to the Director.) Verify that the Excursion and Monitoring Plan Performance Report is in the format specified in an approved monitoring plan and includes, but not limited to, the following information: - the magnitude of each excursion, and the date and time, including starting and ending times, of each excursion - specific identification of each excursion that occurs during start-ups, shutdowns, and malfunctions of the facility - the nature and cause of any excursion (if known), and the corrective action taken and preventative measures adopted (if any) - the date and time identifying each period during when data is unavailable, and the reason for data unavailability and the corrective action taken - when no excursions have occurred or there were no periods of data unavailability, this is stated in the report.
AE.15.25.WV. Fuel sulfur content limitations should be met for all residential and other fuel burning units (Management Practice based on WVCSR 45-10-10.2) [Added January 2002].	(NOTE: In an effort to avoid the necessity for mandatory controls the Director strongly recommends that specific fuel quality objectives be met in Priority I and Priority II regions and in cities in Priority III regions (see Appendix 1-8 with a population of more than 10,000 (based on the latest census).) Verify no person uses or provides for sale fuel with a sulfur content greater 1.0 for coal or 0.50 for oil for use in residential and other fuel burning units not otherwise restricted.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
AE.25. **MISCELLANEOUS INCINERATORS**	
AE.25.1.WV. Refuse incinerators must comply with specific particulate emission standards (WVCSR 45-6-1.1.a, 45-6-4.1, 45-6-10) [Revised January 2009].	Verify that particulate matter is not discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula: Emissions (pounds/hour) = F x Incinerator Capacity (tons/hour) Where F equals: 5.43 (for incinerators with a capacity less than 15,000 lb/h) 2.72 (for incinerators with a capacity of 15,000 lb/h or greater). (NOTE: WVSCR 45-6 establishes emission standards for particulate matter and requirements for activities involving incineration of refuse which are not subject to, or are exempted from regulation under a federal counterpart for specific combustion sources.) (NOTE: The following combustion units are exempt from the requirements of this rule: - large municipal waste combustors, small municipal waste combustion units, hospital/ medical/ infectious waste incinerators, commercial and industrial solid waste incineration units, and other solid waste incineration units - air curtain incinerators which are a distinct operating unit of any commercial or industrial facility - any air curtain incinerator that burns less than 35 tons per day of municipal solid waste, or is located at an institutional facility burning any amount of institutional waste generated at that facility - incinerators or air curtain incinerators used on a temporary basis to combust vegetation or debris from disaster recovery or a state of emergency - any pathological waste incinerator subject to 45CSR18 or 45CSR25 - any facility which incinerates low-level radioactive waste or chemotherapeutic waste - any hazardous waste combustor subject to 40 CFR Part 63, Subpart EEE and 45CSR34 - any hazardous waste incinerator subject to 40 CFR Parts 264 or 265 and 45CSR25.)
AE.25.2.WV. Refuse incinerators in certain counties must comply with operating hour limitations (WVCSR 45-6-4.2) [Revised January 2009].	Verify that in the Counties of Brooke, Hancock, Ohio, Marshall and Kanawha and the Magisterial Districts of Valley (Fayette County), Scott and Pocatalico (Putnam County), Tygart (Wood County), the City of Fairmont and those portions of Union and Winfield Magisterial Districts west of I-79 (Marion County), no one operates any incinerator during the period starting 1 h before sunset and extending until 2 h after sunrise. (NOTE: This requirement does not apply to the operation of flares, pathological waste, industrial, or sewage sludge incinerators.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	(NOTE: WVSCR 45-6 establishes emission standards for particulate matter and requirements for activities involving incineration of refuse which are not subject to, or are exempted from regulation under a federal counterpart for specific combustion sources.) (NOTE: The following combustion units are exempt from the requirements of this rule: - large municipal waste combustors, small municipal waste combustion units, hospital/ medical/ infectious waste incinerators, commercial and industrial solid waste incineration units, and other solid waste incineration units - air curtain incinerators which are a distinct operating unit of any commercial or industrial facility - any air curtain incinerator that burns less than 35 tons per day of municipal solid waste, or is located at an institutional facility burning any amount of institutional waste generated at that facility - incinerators or air curtain incinerators used on a temporary basis to combust vegetation or debris from disaster recovery or a state of emergency - any pathological waste incinerator subject to 45CSR18 or 45CSR25 - any facility which incinerates low-level radioactive waste or chemotherapeutic waste - any hazardous waste combustor subject to 40 CFR Part 63, Subpart EEE and 45CSR34 - any hazardous waste incinerator subject to 40 CFR Parts 264 or 265 and 45CSR25.)
AE.25.3.WV. Refuse incinerators must comply with emission opacity limitations (WVCSR 45-6-4.3 and 4.4) [Revised January 2001; Revised January 2009].	Verify that there is no emission of smoke into the atmosphere that is 20 percent opacity or greater. (NOTE: The requirement does not apply to smoke, the shade or appearance of which is less than 40 percent opacity for a period or periods aggregating no more than 8 min per startup, or 6 min in any 60 min period for stoking operations.) (NOTE: WVSCR 45-6 establishes emission standards for particulate matter and requirements for activities involving incineration of refuse which are not subject to, or are exempted from regulation under a federal counterpart for specific combustion sources.) (NOTE: The following combustion units are exempt from the requirements of this rule: - large municipal waste combustors, small municipal waste combustion units, hospital/ medical/ infectious waste incinerators, commercial and industrial solid waste incineration units, and other solid waste incineration units - air curtain incinerators which are a distinct operating unit of any commercial or industrial facility - any air curtain incinerator that burns less than 35 tons per day of municipal solid waste, or is located at an institutional facility burning any amount of institutional waste generated at that facility - incinerators or air curtain incinerators used on a temporary basis to combust

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	vegetation or debris from disaster recovery or a state of emergency - any pathological waste incinerator subject to 45CSR18 or 45CSR25 - any facility which incinerates low-level radioactive waste or chemotherapeutic waste - any hazardous waste combustor subject to 40 CFR Part 63, Subpart EEE and 45CSR34 - any hazardous waste incinerator subject to 40 CFR Parts 264 or 265 and 45CSR25.)
AE.25.4.WV. Unburned or partially burned refuse or ash over a certain size cannot be emitted from any refuse incinerators (WVCSR 45-6-4.5) [Revised January 2009].	Verify that there is no emission of particles of unburned or partially burned refuse or ash that are large enough to be individually distinguished in the open air. (NOTE: WVSCR 45-6 establishes emission standards for particulate matter and requirements for activities involving incineration of refuse which are not subject to, or are exempted from regulation under a federal counterpart for specific combustion sources.) (NOTE: The following combustion units are exempt from the requirements of this rule: - large municipal waste combustors, small municipal waste combustion units, hospital/ medical/ infectious waste incinerators, commercial and industrial solid waste incineration units, and other solid waste incineration units - air curtain incinerators which are a distinct operating unit of any commercial or industrial facility - any air curtain incinerator that burns less than 35 tons per day of municipal solid waste, or is located at an institutional facility burning any amount of institutional waste generated at that facility - incinerators or air curtain incinerators used on a temporary basis to combust vegetation or debris from disaster recovery or a state of emergency - any pathological waste incinerator subject to 45CSR18 or 45CSR25 - any facility which incinerates low-level radioactive waste or chemotherapeutic waste - any hazardous waste combustor subject to 40 CFR Part 63, Subpart EEE and 45CSR34 - any hazardous waste incinerator subject to 40 CFR Parts 264 or 265 and 45CSR25.)
AE.25.5.WV. Refuse incinerators must comply with odor limitation requirements (WVCSR 45-6-4.6) [Revised January 2009].	Verify that incinerators, including all associated equipment and grounds, are designed, operated and maintained to prevent the emission of objectionable odors. (NOTE: WVSCR 45-6 establishes emission standards for particulate matter and requirements for activities involving incineration of refuse which are not subject to, or are exempted from regulation under a federal counterpart for specific combustion sources.) (NOTE: The following combustion units are exempt from the requirements of this rule: - large municipal waste combustors, small municipal waste combustion units,

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	hospital/ medical/ infectious waste incinerators, commercial and industrial solid waste incineration units, and other solid waste incineration units - air curtain incinerators which are a distinct operating unit of any commercial or industrial facility - any air curtain incinerator that burns less than 35 tons per day of municipal solid waste, or is located at an institutional facility burning any amount of institutional waste generated at that facility - incinerators or air curtain incinerators used on a temporary basis to combust vegetation or debris from disaster recovery or a state of emergency - any pathological waste incinerator subject to 45CSR18 or 45CSR25 - any facility which incinerates low-level radioactive waste or chemotherapeutic waste - any hazardous waste combustor subject to 40 CFR Part 63, Subpart EEE and 45CSR34 - any hazardous waste incinerator subject to 40 CFR Parts 264 or 265 and 45CSR25.)
AE.25.6.WV. Refuse incinerators must be registered with the Director (WVCSR 45-6-5) [Revised January 2009].	Verify that all persons owning and/or operating incinerators within the state have registered with the Secretary: - the name of the person, company or corporation operating the plant - the address, location, county - ownership (lessee, lessor) - the principal officer of the company, and - any such other reasonable information as the Secretary may require including but not limited to make, model, capacity, operating temperature, fuel used, stack parameters and description of air pollution control equipment. (NOTE: WVSCR 45-6 establishes emission standards for particulate matter and requirements for activities involving incineration of refuse which are not subject to, or are exempted from regulation under a federal counterpart for specific combustion sources.) (NOTE: The following combustion units are exempt from the requirements of this rule: - large municipal waste combustors, small municipal waste combustion units, hospital/ medical/ infectious waste incinerators, commercial and industrial solid waste incineration units, and other solid waste incineration units - air curtain incinerators which are a distinct operating unit of any commercial or industrial facility - any air curtain incinerator that burns less than 35 tons per day of municipal solid waste, or is located at an institutional facility burning any amount of institutional waste generated at that facility - incinerators or air curtain incinerators used on a temporary basis to combust vegetation or debris from disaster recovery or a state of emergency - any pathological waste incinerator subject to 45CSR18 or 45CSR25 - any facility which incinerates low-level radioactive waste or chemotherapeutic waste - any hazardous waste combustor subject to 40 CFR Part 63, Subpart EEE and

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	45CSR34 - any hazardous waste incinerator subject to 40 CFR Parts 264 or 265 and 45CSR25.)
AE.25.7.WV. All owners/ operators of refuse incinerators must have a valid permit (WVCSR 45-6-6.1) [Revised January 2009].	Verify that, except for temporary air curtain incinerators, no one constructs, modifies or relocates any incinerator without first obtaining a permit (see section AE.5.WV. above for permit requirements). (NOTE: WVSCR 45-6 establishes emission standards for particulate matter and requirements for activities involving incineration of refuse which are not subject to, or are exempted from regulation under a federal counterpart for specific combustion sources.) (NOTE: The following combustion units are exempt from the requirements of this rule: - large municipal waste combustors, small municipal waste combustion units, hospital/ medical/ infectious waste incinerators, commercial and industrial solid waste incineration units, and other solid waste incineration units - air curtain incinerators which are a distinct operating unit of any commercial or industrial facility - any air curtain incinerator that burns less than 35 tons per day of municipal solid waste, or is located at an institutional facility burning any amount of institutional waste generated at that facility - incinerators or air curtain incinerators used on a temporary basis to combust vegetation or debris from disaster recovery or a state of emergency - any pathological waste incinerator subject to 45CSR18 or 45CSR25 - any facility which incinerates low-level radioactive waste or chemotherapeutic waste - any hazardous waste combustor subject to 40 CFR Part 63, Subpart EEE and 45CSR34 - any hazardous waste incinerator subject to 40 CFR Parts 264 or 265 and 45CSR25.)
AE.25.8.WV. Operating instructions for refuse incinerators must be posted (WVCSR 45-6-4.9) [Added January 2009].	Verify that operating instructions for the incinerator are posted and clearly visible by the operator from the incinerator charging area. (NOTE: Flares and temporary air curtain incinerators are exempt from this requirement.) (NOTE: WVSCR 45-6 establishes emission standards for particulate matter and requirements for activities involving incineration of refuse which are not subject to, or are exempted from regulation under a federal counterpart for specific combustion sources.) (NOTE: The following combustion units are exempt from the requirements of this rule: - large municipal waste combustors, small municipal waste combustion units, hospital/ medical/ infectious waste incinerators, commercial and industrial

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	solid waste incineration units, and other solid waste incineration units - air curtain incinerators which are a distinct operating unit of any commercial or industrial facility - any air curtain incinerator that burns less than 35 tons per day of municipal solid waste, or is located at an institutional facility burning any amount of institutional waste generated at that facility - incinerators or air curtain incinerators used on a temporary basis to combust vegetation or debris from disaster recovery or a state of emergency - any pathological waste incinerator subject to 45CSR18 or 45CSR25 - any facility which incinerates low-level radioactive waste or chemotherapeutic waste - any hazardous waste combustor subject to 40 CFR Part 63, Subpart EEE and 45CSR34 - any hazardous waste incinerator subject to 40 CFR Parts 264 or 265 and 45CSR25.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
MEDICAL WASTE INCINERATORS **AE.30. General**	
AE.30.1.WV. [Deleted January 2009].	(NOTE: WVCSR 45-24 repealed. According to WVCSR 45-18-6.1, an HMIWI unit must meet the requirements of 40 CFR Part 60 Subpart Ec.)
AE.30.2.WV. [Deleted January 2009].	(NOTE: WVCSR 45-24 repealed. According to WVCSR 45-18-6.2, an existing HMIWI unit must meet the requirements of 40 CFR Part 60 Subpart Ce.)
AE.30.3.WV. Each existing small rural HMIWI must comply with specific requirements (WVCSR 45-18-6.4a through 6.4c, and 6.4i) [Added February 2000; Citation Revised January 2009].	Verify that each existing small rural HMIWI meets the Rural category emission limits in Appendix 1-5. Verify that each existing small rural HMIWI meets the operator training and qualification requirements specified in 40 CFR 60.53c (see AE.30.6 in the U.S. TEAM Guide). Verify that each existing small rural HMIWI has a waste management plan specified in 40 CFR 60.55c (see AE.30.7 in the U.S. TEAM Guide). Verify that each existing small rural HMIWI meets the opacity requirements specified in 40 CFR 60.52c(b) (see Appendix 1-7a in the U.S. TEAM Guide).
AE.30.4.WV. Each existing small rural HMIWI must comply with inspection requirements (WVCSR 45-18.6.4.d) [Added February 2000; Revised January 2009].	Verify that annual equipment inspections are conducted no later than 12 mo following the previous annual equipment inspection. Verify that, within 10 operating days following an equipment inspection, all necessary repairs are completed unless the owner or operator obtains written approval from the Secretary establishing an alternative repair schedule. Verify that all equipment inspections include the following: - inspection of all burners, pilot assemblies, and pilot sensing devices for proper operation: cleaning of pilot flame sensor, as necessary - ensuring proper adjustment of primary and secondary chamber combustion air, and adjustment as necessary - inspection of hinges and door latches and lubrication as necessary - inspection of dampers, fans, and blowers for proper operation - inspection of HMIWI door and door gaskets for proper sealing - inspection of motors for proper operation

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- inspection of primary chamber refractory lining; cleaning and repairing/replacing lining as necessary - inspection of incinerator shell for corrosion and/or hot spots - inspection of secondary/tertiary chamber and stack, cleaning as necessary - inspection of mechanical loader, including limit switches, for proper operation, if applicable - visual inspection of waste bed (grates), and repairing/sealing, as appropriate - for the burn cycle that follows the inspection, documentation that the incinerator is operating properly and making any necessary adjustments - inspection of air pollution control device(s) for proper operation, if applicable - inspection of waste heat boiler systems to ensure proper operation, if applicable - inspection of bypass stack components - ensuring proper calibration of thermocouples, sorbent feed systems and any other monitoring equipment - generally observing that the equipment is maintained in good operating condition.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
MEDICAL WASTE INCINERATORS **AE.32. Monitoring**	
AE.32.1.WV. Each existing small rural HMIWI must meet compliance and performance testing requirements (WVCSR 45-18.6.4e) [Added February 2000; Citation Revised January 2009].	Verify that the testing requirements in 40 CFR 60.56c(a), (b)(1) through (b)(9), (b)(11) (Mercury only), and (c)(1) are met (see U. S. TEAM Guide AE.32.1.) (NOTE: The 2,000 lb/week limitation does not apply during performance tests. Maximum charge rate and minimum secondary chamber temperature will be established as site-specific operating parameters during the initial performance test to determine compliance with applicable emission limits.) Verify that, following the date on which the initial performance test is completed or is required to be completed under 40 CFR 60.8, whichever date comes first, the small rural HMIWI does not operate above the maximum charge rate or below the minimum secondary chamber temperature measured as 3-hr rolling averages (calculated each hr as the average of the previous 3 operating hours) at all times except during periods of startup, shutdown, and malfunction. (NOTE: Operating parameter limits do not apply during performance tests.) (NOTE: Operation above the maximum charge rate or below the minimum secondary chamber temperature constitutes a violation of the established operating parameter(s). Operation above the maximum charge rate and below the minimum secondary chamber temperature simultaneously constitutes a violation of the PM, CO and dioxin/furan emission limits.) (NOTE: The owner or operator of a small rural HMIWI facility may conduct a repeat performance test within 30 days of violation of applicable operating parameter(s) to demonstrate that the designated facility is not in violation of the applicable emission limit(s). Repeat performance tests conducted pursuant to this section must be conducted using the identical opening parameters that indicated a violation.)
AE.32.2.WV. Each existing small rural HMIWI must meet monitoring requirements (WVCSR 45-218-6.4f) [Added February 2000; Citation Revised January 2009].	Verify that the temperature of the secondary chamber is monitored on a continuous basis and recorded, at a minimum, once every minute throughout operation. Verify that the date, time, and weight of each charge fed into the HMIWI device is automatically measured and recorded. Verify that monitoring devices are installed, calibrated to manufacturer's specifications, maintained, and operated are required.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that monitoring data is obtained at all times during HMIWI operation except during periods of monitoring equipment malfunction, calibration, or repair. Verify that, at a minimum, valid monitoring data is obtained for 75 percent of the operating hours per day and for 90 percent of the operating hours per calendar quarter that the designated facility is combusting hospital waste and/or medical/infectious waste.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
MEDICAL WASTE INCINERATORS **AE.34.** **Reporting/ Recordkeeping Requirements**	
AE.34.1.WV. Each existing small rural HMIWI must meet recordkeeping and reporting requirements (WVCSR 45-18-6.4g and 6.4h) [Added February 2000; Citation Revised January 2009].	Verify that records of the annual equipment inspections, any required maintenance, and any repairs not completed within 10 days of an inspection or Director approved repair date are maintained. Verify that an annual report containing information recorded above is submitted no later than 60 days following the yr in which data were collected. Verify that subsequent reports are sent no later than 12 calendar mo following the previous report. (NOTE: Once the unit is subject to permitting requirements under Title V, the owner or operator must submit these reports semiannually.) Verify that reports are signed and certified.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.55. **GASOLINE/FUELS**	
AE.55.1.WV. Gasoline dispensing facilities located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with vapor balance requirements (WVCSR 45-21-1 and 45-21-23.2.a) [Revised January 2004; Revised January 2009; Revised January 2010].	(NOTE: This checklist item applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that each gasoline dispensing facility complies with the following requirements: - all gasoline storage vessels at gasoline dispensing facilities are loaded by submerged fill - all vapor lines on the storage vessel are equipped with closures that seal upon disconnect - a vapor balance system is installed with a vapor tight line from the gasoline storage tank to the gasoline tank truck, and the system is designed such that the back pressure in the gasoline tank truck does not exceed 450 mm (18 in.) of water pressure or 150 mm (5.9 in.) of water vacuum - if a gauge well separate from the fill tube is used, it is provided with a submerged drop tube that extends to within 150 mm (5.9 in.) of the gasoline storage vessel bottom - liquid fill connections for all systems are equipped with vapor tight caps.
AE.55.2.WV. Gasoline tank trucks must not unload gasoline to a storage vessel at a gasoline dispensing facility located in Putnam, Kanawha, Cabell, Wayne, or Wood counties unless the facility meets specific vapor control equipment requirements (WVCSR 45-21-1, and 45-21-23.2.b.1 through 5) [Revised February 1998; Revised January 2004; Revised January 2009; Revised January 2010].	(NOTE: The requirements in this checklist item applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The following are exempt from these requirements: - any transfer made to a gasoline dispensing facility storage tank that is equipped with a floating roof or its equivalent that has been approved by the U.S. EPA - any stationary gasoline storage container with a capacity that is less than 2,080 L (550 gal) that is used exclusively for the fueling of implements of husbandry - any stationary storage tank with a capacity of less than 7,600 L (2,000 gal) that was constructed prior to January 1, 1979 - any stationary storage tank with a capacity of less than 950 L (250 gal) that was constructed after December 31, 1978. Verify that a gasoline tank truck does not unload gasoline to a gasoline storage vessel at a gasoline dispensing facility unless the following conditions are met: - all hoses in the vapor balance system are properly connected - closures that seal upon disconnect are required on the adapters or couplers that attach to the vapor line on the gasoline storage vessel - all vapor return hoses, couplers, and adapters used in the gasoline delivery are vapor tight - all vapor return equipment are compatible with the vapor balance equipment

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	installed on the gasoline dispensing facility storage vessel - all hatches on the gasoline tank truck are closed and securely fastened.
AE.55.3.WV. Storage vessels at gasoline dispensing facilities located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must be loaded only by vapor-tight gasoline tank trucks (WVCSR 45-21-23.2.b.6) [Revised February 1998; Revised January 2004; Revised January 2010].	(NOTE: See AE.55.2.WV. for applicability and exemptions.) Verify that the filling of storage vessels at gasoline dispensing facilities are limited to unloading by vapor-tight gasoline tank trucks. (NOTE: Documentation that the gasoline tank truck has met the specifications of Method 27 of 40 CFR Part 60, Appendix A, must be carried on the tank truck.)
AE.55.4.WV. Gasoline dispensing facilities located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with specific recordkeeping requirements (WVCSR 45-21-23.3) [Revised January 2010].	(NOTE: See AE.55.2.WV. for applicability and exemptions.) Verify that each gasoline dispensing facility maintains daily records showing the quantity of all gasoline delivered to the site. Verify that these records are retained for at least 3 yr. in a readily accessible location and are made available to the chief upon verbal or written request.
AE.55.5.WV. Gasoline dispensing facilities located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with VOC emissions reporting requirements (WVCSR 45-21-23.4) [Revised January 2010].	(NOTE: See AE.55.2.WV. for applicability and exemptions.) Verify that any gasoline dispensing facility complies with the requirements for initial certification of compliance and reporting excess VOC emissions (see AE.160.1.WV.).

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.60. **PRINTING PRESSES AND GRAPHIC ARTS**	
AE.60.1.WV. Printing operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must use inks and coatings meeting certain VOC content restrictions (WVCSR 45-21-1, 45-21-34.1 and 45-21-34.3) [Revised January 2004; Revised January 2010].	(NOTE: WVCSR 45-21 applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. WVCSR 45-21-34 applies to any packaging rotogravure, publication rotogravure, or flexographic printing press at any facility whose maximum theoretical emissions of VOCs without control devices from all printing presses are greater than or equal to 90.7 Mg (100 tons) per year. An owner or operator of a facility whose emissions are below this applicability threshold must comply only with the certification, recordkeeping, and reporting (see AE.60.3.WV.).) (NOTE: This section does not apply to facilities that use only petroleum-based solvents that contain chlorine.) Verify that no packaging rotogravure or flexographic printing press applies any coating or ink unless the VOC content is equal to or less than one of the following: - 40 percent VOC by volume of the coating or ink, minus water, as applied - 25 percent VOC by volume of the volatile content in the coating or ink, as applied - 0.5 kg VOC per kg (0.5 lb VOC per lb) coating solids, as applied. Verify that no publication rotogravure printing press applies any coating or ink unless the VOC content is equal to or less than one of the following: - 40 percent VOC by volume of the coating or ink, minus water, as applied - 25 percent VOC by volume of the volatile content in the coating or ink, as applied. (NOTE: As an alternative to compliance with the VOC limits, an owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press may comply with daily-weighted average limitations.)
AE.60.2.WV. VOC emission control systems for printing operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with certain efficiency requirements (WVCSR 45-21-34.5) [Revised January 2010].	(NOTE: See AE.60.1.WV. for applicability.) Verify that packaging rotogravure, publication rotogravure, or flexographic printing press equipped with a control system meet the following requirements: - a carbon adsorption control device is used that reduces the VOC emissions delivered from the capture system to the control device by at least 90 percent by weight, or - an incineration control device is used to reduce VOC emissions delivered from the capture system to the control device by at least 90 percent by

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	weight, or - any other VOC emission control device is used to reduce the VOC emissions delivered from the capture system to the control device by at least 90 percent. Verify that the printing press is equipped with a capture system and control device that provides an overall emission reduction efficiency of at least: - 75 percent for a publication rotogravure printing press - 65 percent for a packaging rotogravure printing press - 60 percent for a flexographic printing press.
AE.60.3.WV. Printing operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties and exempt due to levels of emissions being below the regulatory threshold must meet certification requirements (WVCSR 45-21-34.7.a) [Revised January 2010].	(NOTE: The requirements in this checklist item applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County and whose maximum theoretical emissions of volatile organic compound (VOC) without control devices from all printing presses are greater than or equal to 90.7 Mg (100 tons) per year.) Verify that a printing press that is exempt because its maximum theoretical VOC emissions (without control device) are less than 100 tpy certifies to the Chief that the facility is exempt, and that such certification includes: - the name and location of the facility - the address and telephone number of the person responsible for the facility - a declaration that the facility is exempt from this section due to low maximum VOC emissions - calculations demonstrating that total potential emissions of VOC from all flexographic and rotogravure printing presses at the facility are and will be less than 90.7 Mg (100 tons) per calendar yr before the application of capture systems and control devices. Verify that the printing press collects and records all of the following information each yr for each printing press, and maintains the information at the facility for a period of 3 yr.: - the name and identification number of each coating and ink, as applied, on each printing press - the weight of VOC per volume of coating solids and the volume of solids of each coating and ink, as applied, each yr on each printing press and - the total potential emissions. Verify that any record showing that total potential emissions of VOC from all printing presses exceed 90.7 Mg (100 tons) in any calendar yr before the application of capture systems and control devices is reported by sending a copy of the record to the Chief within 30 days after the exceedance occurs.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.60.4.WV. Printing operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties and complying with VOC emission limits by using complying coatings or inks must meet certain requirements (WVCSR 45-21-34.7.b) [Revised January 2010].	(NOTE: See AE.60.1.WV. for applicability.) Verify that any printing press that complies with the VOC emissions limits by means of use of complying coatings or inks, certifies to the Chief that it is (or will be, for new presses) in compliance. Verify that the certification includes: - the name and location of the facility - the address and telephone number of the person responsible for the facility - identification of subject sources - the name and identification number of each coating and ink, as applied - the VOC content of all coatings and inks, as applied. Verify that a printing press that complies with the VOC emissions limits by using coatings and inks with a maximum 40 percent VOC by volume of the coating or ink, minus water, as applied (see AE.60.1.WV.), collects and records all of the following information each day for each coating line and maintains the information at the facility for a period of 3 yr: - the name and identification number of each coating and ink, as applied - the VOC content of each coating and ink, as applied, expressed in units necessary to determine compliance. Verify that any record showing an exceedance of the VOC content limits is reported by the owner or operator of the subject printing press to the chief within 30 days following the exceedance. Verify that, at least 30 calendar d before changing the method of compliance from the use of complying coatings to daily-weighted averaging or control devices, the printing press certifies to the Chief that it will be in compliance with requirements for using those methods.
AE.60.5.WV. Printing operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties and complying with VOC emission limits by the use of daily weighted averaging must comply with certain requirements (WVCSR 45-21-34.7.c) [Revised January 2010].	(NOTE: See AE.60.1.WV. for applicability.) Verify that any owner or operator of a printing press complying by means of daily-weighted averaging certifies to the chief that the printing press is or will be in compliance, and that such certification includes: - the name and location of the facility - the address and telephone number of the person responsible for the facility - the name and identification of each printing press - the name and identification number of each coating and ink available for use on each printing press - the VOC content of each coating and ink, as applied, each day on each printing press, expressed in units necessary to determine compliance - the instrument or method by which the owner or operator will accurately

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	measure or calculate the volume of each coating and ink, as applied, each day on each printing press - the method by which the owner or operator will create and maintain records each day - an example of the format in which the records will be kept. Verify that any printing press complying by means of daily-weighted averaging collects and records all of the following information each day for each printing press, and maintains the information at the facility for a period of 3 yr.: - the name and identification number of each coating and ink, as applied, on each printing press - the VOC content and the volume of each coating and ink, as applied, each day on each printing press, expressed in units necessary to determine compliance - the daily-weighted average VOC content of all coatings and inks, as applied, on each printing press. Verify that any record showing noncompliance is reported by sending a copy of such record to the Chief within 30 d following the occurrence Verify that, at least 30 calendar days before changing the method of compliance from daily-weighted averaging to the use of complying coatings or control devices, the printing press certifies to the Chief that it will be in compliance with requirements for using those methods.
AE.60.6.WV. Printing operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties and complying with VOC emission limits by means of control devices must comply with certain requirements (WVCSR 45-21-34.7.d) [Revised January 2010].	(NOTE: See AE.60.1.WV. for applicability.) Verify that any printing press complying by means of control devices performs all tests and submits to the Chief the results of all tests and calculations necessary to demonstrate that the subject printing press will be in compliance with the requirements in AE.60.2.WV. Verify that any printing press complying by means of control devices collects and records all of the following information each day for each printing press, and maintain the information at the facility for a period of 3 yr.: - control device monitoring data - a log of operating time for the capture system, control device, monitoring equipment and the associated printing press - a maintenance log for the capture system, control device, and monitoring equipment detailing all routine and nonroutine maintenance performed including dates and duration of any outages. Verify that any record showing noncompliance is reported by sending a copy of such record to the Chief within 30 d following the occurrence. Verify that, at least 30 calendar days before changing the method of compliance

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	from the use of control devices to daily-weighted averaging or the use of complying coatings, the printing press certifies to the Chief that will be in compliance with requirements for using those methods.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.65. **FUGITIVE EMISSIONS**	
AE.65.1.WV. Manufacturing process or storage structures source of fugitive particulate matter must be equipped with a fugitive particulate matter control system (WVCSR 45-7-5) [Revised February 1998; Revised January 2001].	Verify that manufacturing processes or storage structures generating fugitive particulate matter are equipped with a system to minimize the emissions of fugitive particulate matter, which may include, but is not limited to, process equipment design, control equipment design or operation and maintenance procedures. Verify that a plant maintains particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Verify that good operating practices are implemented and when necessary particulate matter suppressants are applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment. (NOTE: These requirements do not apply to particulate matter emissions from internal combustion engines and aircraft.)
AE.65.2.WV. Emissions of particulate matter from materials handling, preparation and storage operations which cause statutory air pollution are prohibited (WVCSR 45-17-3) [Revised January 2001].	Verify that there are no emissions of fugitive particulate matter beyond the boundary lines of the property on which the discharge originates or at any public or residential location, which causes or contributes to statutory air pollution (see definitions).
AE.65.3.WV. [Deleted January 2001].	(NOTE: Regulation revised.)
AE.65.4.WV. [Deleted January 2001].	(NOTE: Regulation revised.)
AE.65.5.WV. [Deleted January 2001].	(NOTE: Regulation revised.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.67. **TOXIC EMISSIONS**	
AE.67.1.WV. Chemical processing units that may discharge toxic air pollutants must be registered (WVCSR 45-27-8).	Verify that all existing chemical processing units which discharge or may discharge a toxic air pollutant are registered with the Director. (NOTE: The information required for registration shall be determined by the Director, and shall be provided in the manner specified by the Director.)
AE.67.2.WV. The construction, modification, or relocation of chemical processing units must be permitted (WVCSR 45-27-9).	Verify that no one constructs, modifies, or relocates a chemical processing unit without first obtaining a permit. (NOTE: If the construction of a new chemical processing unit or the modification of an existing chemical processing unit at a plant increases total plant emissions of a toxic air pollutant to a level in excess of that in Table A (see Appendix 1-4), all chemical processing units emitting the pollutant shall become subject to BAT requirements or alternatively total plant emissions of the toxic air pollutant shall be reduced below the level of Table A (see Appendix 1-4).
AE.67.3.WV. Chemical processing units must employ BAT to control discharges of toxic air pollutants (WVCSR 45-27-3).	Verify that a plant that discharges or may discharge a toxic air pollutant into the open air in excess of the amounts shown in the Table A (see Appendix 1-4) employs BAT at all chemical processing units emitting the toxic air pollutant. (NOTE: However, any source or equipment specifically subject to a federal regulation or standard is not required to comply with provisions more stringent than such regulation or standard.) Verify that all chemical processing units are properly instrumented to alert the operator of process upsets, leaks, and other abnormal discharges of toxic air pollutants into the air. Verify that the operator records all process upsets, leaks, etc., and the associated emissions estimated from direct measurements of toxic air pollutant concentration and/or calculations using other process measurements.
AE.67.4.WV. BAT must be employed to control fugitive emissions of toxic air pollutants from chemical processing units (WVCSR 45-	Verify that all chemical processing units that may discharge toxic air pollutants apply BAT to prevent and control fugitive emissions to the air of toxic air pollutants as a result of leakage from equipment in toxic air pollutant service (including but not limited to, pump seals, compressor seals, valves, sampling connections, open-ended lines, safety relief valves, and flanges).

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
27-4).	(NOTE: In no event shall any equipment standard, program, or work practice less stringent than required under 40 CFR 61, Subpart V be deemed to represent BAT for control of toxic air pollutant emissions. However, any source or equipment specifically subject to a federal regulation or standard shall not be required to comply with provisions more stringent than such federal regulation and standard.) Verify that equipment to be used in toxic air pollutant service installed after 30 June 1990 is, to the maximum extent possible, designed and operated to prevent leaks of toxic air pollutants.
AE.67.5.WV. Emissions of toxic air pollutants from tanks must be controlled by BAT control devices (WVCSR 45-27-5).	Verify that working and filling losses of toxic air pollutants from tanks are controlled by routing such tank emissions to BAT control devices. (NOTE: The Director may approve the use of floating roof storage tanks as BAT, provided that such tanks are designed and operated in a manner which minimizes toxic air pollutant emissions taking in to consideration the toxic air pollutant emission rate, tank size, and control efficiency associated with such tanks. On a case-by-case basis, the Director may exempt very small process or storage tanks or tanks storing material mixtures containing low mass fractions of toxic air pollutants from the BAT requirements taking into consideration the actual level of emissions control and/or the toxic air pollutant emission rate from the tank.)
AE.67.6.WV. Wastewater from chemical processing units must be treated to remove or destroy toxic air pollutants (WVCSR 45-27-6).	Verify that BAT is used to remove and control or destroy toxic air pollutants from wastewater at the source, and/or that BAT is applied at the wastewater treatment plant to prevent or control the discharge of toxic air pollutants resulting from air stripping or evaporation. (NOTE: This provision shall not be more stringent than any specifically applicable federal regulation or standard.) (NOTE: The Director may exempt wastewater treatment units, tanks, or equipment from the requirement for BAT if the owner or operator can demonstrate to the satisfaction of the Director that air stripping or volatilization and emission to the air of toxic air pollutants from such sources does not occur or is insignificant from the standpoint of emissions and/or impact upon public health.)
AE.67.7.WV. BAT must be employed at chemical processing units to control emissions of toxic air pollutants from railcars and tank trucks (WVCSR 45-27-	Verify that chemical processing units employ BAT to prevent or control toxic air pollutant discharges in the loading and unloading of railcars and tank trucks with toxic air pollutants or material mixtures containing toxic air pollutants.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
7). **AE.67.8.WV.** Chemical processing units must meet specific reporting, recordkeeping, and testing requirements (WVCSR 45-27-10).	Verify that written records are maintained that identify all pumps, compressors, pressure relief valves, valves, sampling connections, open-ended lines, and flanges of a chemical processing unit that are in toxic air pollutant service. Verify that these records record the results of all monitoring and inspections, emissions control measures applied and the nature, timing, and results of repair efforts. Verify that the emission to the air of any toxic air pollutant resulting from an abnormal release or spill in excess of the following amounts is reported to the Director or his authorized representative not later than 24-h after the chemical processing unit has knowledge of such emission: - for ethylene oxide, and vinyl chloride, 1 lb - for acrylonitrile and butadiene, 10 lb - for all other toxic air pollutants, 50 lb. Verify that the chemical processing unit files a written report with the Director stating the details of any incident resulting in the emission of more than 50 lb of any toxic air pollutant within 7 days of the occurrence. Verify that any period of failure or inoperability of air pollution control equipment is reported to the Director no later than 24-h after the owner/operator has knowledge of such failure.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
DRY CLEANING OPERATIONS **AE.70.** **Petroleum Solvent**	
AE.70.1.WV. Petroleum solvent dry cleaners located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with operating requirements (WVCSR 45-21-1 and 45-21-35.3) [Revised January 2004; Revised January 2010].	(NOTE: WVCSR 45-21 applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that the drycleaner ensures that there are no perceptible leaks from any portion of the equipment, and that all washer lint traps, button traps, access doors, and other parts of the equipment where solvent may be exposed to the atmosphere are kept closed at all times except when opening is required for proper operation or maintenance. Verify that the drycleaner repairs any perceptible leaks in any portion of the dry cleaning equipment within 3 working days after the leak is detected. (NOTE: If necessary repair parts are not on hand, the owner or operator must order these parts within 3 working days and repair the leaks no later than 3 working days after the parts arrive.) Verify that the drycleaner: - limits the VOC emissions from each standard dryer to 1.6 kg (3.5 lb) VOC per 45 kg (100 lb) dry weight of articles dry cleaned - installs, maintains, and operates a solvent-recovery dryer such that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of no greater than 50 ml/min (0.013 gal/min) is attained. (NOTE: Any petroleum solvent dry cleaning facility that consumes less than 123,000 L (32,500 gal) of petroleum solvent per yr is exempt from this requirement.) (NOTE: This does not apply to facilities that use only perchloroethylene.)
AE.70.2.WV. Petroleum dry cleaning operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties and that fall below the regulatory threshold must maintain documentation to prove same (WVCSR 45-21-35.5.a) [Revised January 2010].	(NOTE: See AE.70.1.WV for applicability and exemptions.) Verify that a petroleum solvent dry cleaning operation claiming exemption from this section due to low solvent usage maintains records of annual solvent consumption in a readily accessible location for at least 3 yr. to document whether the applicability threshold has been exceeded.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.70.3.WV. Petroleum dry cleaners located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with specific recordkeeping requirements (WVCSR 45-21-35.5.b) [Revised January 2010].	(NOTE: See AE.70.1.WV for applicability and exemptions.) Verify that the drycleaner maintains the following records in a readily accessible location for at least 3 yr.: - records of the weight of VOCs vented from the dryer emission control device - records of the dry weight of articles dry cleaned for use - records of the weight of VOCs contained in the filtration waste samples - records of the weight of VOCs in filtration waste material per 100 kg (220 lb) dry weight of articles dry cleaned.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
DRY CLEANING OPERATIONS **AE.75.** **Perchloroethylene**	
AE.75.1.WV. [Deleted January 2008].	(NOTE: WVCSR 45-21-36 is reserved.)
AE.75.2.WV. [Deleted January 2008].	(NOTE: WVCSR 45-21-36 is reserved.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.80. **ACID PRODUCTION UNITS**	
AE.80.1.WV. Sulfur dioxide (SO_2) emissions from sulfuric acid manufacturing plants must meet specific limits (WVCSR 45-10-4.1.a through 4.1.c) [Added February 1998; Revised January 2001].	(NOTE: See AE.15 for additional requirements for sulfur dioxide emissions.) Verify that there are no sulfur dioxide tail gas emissions from sulfuric acid manufacturing plants exceeding the following limits: - for plant using elemental sulfur as a feed stock, 30 pounds per ton of acid produced - for plants using other materials as a feed stock, 40 pounds per ton of acid produced. Verify that there are no emissions of sulfur oxides, calculated as sulfur dioxide, from a sulfur recovery plant exceeding 0.06 pounds per pound of sulfur processed.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.100. **COATING OPERATIONS**	
AE.100.1.WV. All exempt (below threshold) coating lines/operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with certification, recordkeeping, and reporting requirements (WVCSR 45-21-1 and 45-21-4.2) [Revised January 2010].	(NOTE: The requirements in this checklist item applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that any coating line or operation that is exempt from the emission limitations because combined VOC emissions from all coating lines and operations at the facility are below the applicability threshold specified for the individual coating operation (before the application of capture systems and control devices), has provided certification to the Chief that includes: - the name and location of the facility - the address and telephone number of the person responsible for the facility - a declaration that the facility is exempt from the emission limitations because combined VOC emissions from all coating lines and operations at the facility are below the applicability threshold before the application of capture systems and control devices - calculations of the daily-weighted average that demonstrate that the combined VOC emissions from all coating lines and operations at the facility for a day representative of current maximum production levels are 6.8 kg (15 lb) or less before the application of capture systems and control devices. Verify that the owner or operator collects and records all of the following information each day, and maintains the information at the facility for a period of 3 yr.: - name and identification number of each coating, as applied - mass of VOC per volume (minus water and exempt compounds) and the volume of coating (minus water and exempt compounds), as applied, used each day - total VOC emissions at the facility. Verify that the owner or operator notifies the Chief of any record showing that combined VOC emissions from all coating lines and operations at the coating facility exceed 6.8 kg (15 lb) on any day, before the application of capture systems and control devices. Verify that a copy of such record is sent to the Chief within 30 days after the exceedance occurs.
AE.100.2.WV. Coating operations/lines located in Putnam, Kanawha, Cabell,	(NOTE: See AE.100.1.WV. for applicability.) Verify that any owner or operator of a coating line or operation subject to the

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
Wayne, or Wood counties and complying with VOC emissions limitations by means of complying coatings must meet certification requirements (WVCSR 45-21-4.3) [Revised January 2010].	VOC emission limitations and complying by means of the use of complying coatings certifies to the Chief that the coating line or operation is (or will be, for new operations or operations that are switching to complying coatings) in compliance with the requirements of this regulation, and that such certification includes: - name and location of the facility - address and telephone number of the person responsible for the facility - identification of subject sources - name and identification number of each coating, as applied, on each coating line or operation - mass of VOC per volume (minus water and exempt compounds) and the volume of each coating (minus water and exempt compounds), as applied - time at which the facility's "day" begins if a time other than midnight local time is used to define a "day". Verify that anyone complying by the use of complying coatings collects and records all of the following information each day for each coating line or operation, and maintains the information at the facility for a period of 3 yr.: - the name and identification number of each coating, as applied, on each coating line or operation - the mass of VOC per volume of each coating (minus water and exempt compounds), as applied, used each day on each coating line or operation. Verify that any record showing use of any noncomplying coatings are reported by sending a copy of such record to the Chief within 30 days following that use. Verify that at least 30 calendar days before changing the method of compliance from the use of complying coatings to daily-weighted averaging or control devices, the owner or operator complies with certification requirements for those compliance methods.
AE.100.3.WV. Coating operations/lines using daily-weighted averaging as the method of compliance with VOC emission limits must meet certification requirements (WVCSR 45-21-4.4.a) [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that the owner or operator of the coating line or operation certifies to the Chief that the coating line or operation is (or will be, for new operations or operations switching to daily-weighted averaging) in compliance, and that such certification includes: - name and location of the facility - address and telephone number of the person responsible for the facility - identification of subject sources - name and identification number of each coating line or operation which will comply by means of daily-weighted averaging - the instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating (minus water and exempt compounds), as applied, used each day on each coating line or operation

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- the method by which the owner or operator will create and maintain records each day - an example of the format in which the records will be kept - calculation of the daily-weighted average for a day representative of current or projected maximum production levels - time at which the facility's "day" begins if a time other than midnight local time is used to define a "day".
AE.100.4.WV. Coating lines/operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties and complying with VOC emission limits by means of daily weighted average must comply with specific recordkeeping requirements (WVCSR 45-21-4.4.b) [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that a coating line or operation complying by means of daily-weighted averaging collects and records all of the following information each day for each coating line or operation, and maintains the information at the facility for a period of 3 yr.: - the name and identification number of each coating, as applied, on each coating line or operation - the mass of VOC per volume (minus water and exempt compounds) and the volume of each coating (minus water and exempt compounds), as applied, used each day on each coating line or operation - the daily-weighted average VOC content of all coatings, as applied, on each coating line or operation.
AE.100.5.WV. Coating lines/operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties and complying with VOC emission limits by means of daily weighted averaging must comply with specific reporting requirements (WVCSR 45-21-4.4.c) [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that any record showing noncompliance with the applicable daily-weighted average requirements is reported by sending a copy of the record to the Chief within 30 days following the occurrence. Verify that at least 30 calendar days before changing the method of compliance from daily-weighted averaging to the use of complying coatings or control devices, the owner or operator complies certification requirements for those methods of compliance.
AE.100.6.WV. VOC coating lines/operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties and complying with VOC emission limits by means of control devices must comply with certain testing, recordkeeping, and reporting	(NOTE: See AE.100.1.WV. for applicability.) Verify that any coating line or operation complying by means of control devices performs a compliance test by 1 yr. from 31 May 1993, or upon startup of a new coating line or operation, or upon changing the method of compliance for an existing coating line or operation from the use of complying coatings or daily-weighted averaging to control devices. Verify that the coating line or operation records all of the following information

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 2010
requirements (WVCSR 4 5-21-4.5) [Revised J anuary 2010].	each day for each coating line or operation, and maintains the information at the facility for a period of 3 yr.: - name and identification number of each coating used on each coating line or operation - mass of VOC per unit volume of coating solids, as applied, the volume solids content, as applied, and the volume, as applied, of each coating used each day on each coating line or operation - maximum VOC content (mass of VOC per unit volume of coating solids, as applied) or the daily-weighted average VOC content (mass of VOC per unit volume of coating solids, as applied) of the coatings used each day on each coating line or operation - required overall emission reduction efficiency for each day for each coating line or operation - actual overall emission reduction efficiency achieved for each day for each coating line or operation - control device monitoring data - a log of operating time for the capture system, control device, monitoring equipment, and the associated coating line or operation - a maintenance log for the capture system, control device, and monitoring equipment detailing all routine and nonroutine maintenance performed including dates and duration of any outages - for thermal incinerators, all 3 h periods of operation in which the average combustion temperature was more than 28 degrees C (50 degrees F) below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance - for catalytic incinerators, all 3 h periods of operation in which the average temperature of the process vent stream immediately before the catalyst bed is more than 28 degrees C (50 degrees F) below the average temperature of the process vent stream during the most recent performance test that demonstrated that the facility was in compliance - for carbon adsorbers, all 3 h periods of operation during which the average VOC concentration or reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organics monitoring device during the most recent determination of the recovery efficiency of the carbon adsorber that demonstrated that the facility was in compliance. Verify that the owner or operator of a subject coating line or operation notifies the Chief in the following instances: - any records showing noncompliance with the applicable requirements for control devices is reported by sending a copy of the record to the Chief within 30 days following the occurrence - at least 30 calendar days before changing the method of compliance from control devices to the use of complying coatings or daily-weighted averaging, the owner or operator certifies that the operation will be in compliance with the requirements for those methods of compliance.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.100.7.WV. Coating lines or operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties and complying with VOC emission limits via use of control devices must meet specific requirements (WVCSR 45-21-6) [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that a capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance through the applicable coating analysis and capture system and control device efficiency test methods. Verify that the control device is equipped with the applicable monitoring equipment specified, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.
AE.100.8.WV. Can coating operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with air pollution control requirements pertaining to VOC emissions (WVCSR 45-21-11) [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that no owner or operator of a can coating line causes or allows the application of any coating on that line with VOC content, as applied, that exceeds the limits for the following coatings as indicated: - sheet basecoat and sheet overvarnish: 0.34 kg/L (2.8 lb/g) - exterior basecoat and overvarnish (2-piece can): 0.34 kg/L (2.8 lb/g) - interior body spray coat: 0.51 kg/L (4.2 lb/g) - two-piece can exterior end coat: 0.51 kg/L (4.2 lb/g) - side seam spray coat: 0.66 kg/L (5.5 lb/g) - end sealing compound coat: 0.44 kg/L (3.7 lb/g). (NOTE: This checklist item applies to any can coating line used to apply the following coatings: sheet base coat, exterior base coat, interior body spray coat, overvarnish, side seam spray coat, exterior end coat, and end sealing compound coat. The emission limits of this checklist item do not apply to coating lines within any facility whose actual emissions without control devices from all can coating lines within the facility are less than 6.8 kg (15 lb) VOC per day. An owner or operator of a facility whose emissions are below this applicability threshold must comply only with the certification, recordkeeping, and reporting requirements of AE.100.1.WV.) (NOTE: As an alternative, the can coating line may comply by using daily-weighted averaging or control/capture devices.) (NOTE: Any of these coating operations must also meet the applicable requirements in the General section above, e.g., those coating operations that are exempt must comply with the requirements of AE.100.1.WV., and coating operations must comply with the requirements for the specific method of compliance chosen (complying coatings, daily-weighted averaging, or control devices).)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.100.9.WV. Coil coating operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with coating VOC content restrictions (WVCSR 45-21-12.3) [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that no coil coating operation applies any coating with VOC content in excess of 0.31 kg/L (2.6 lb/gal) of coating, minus water and exempt compounds, as applied). (NOTE: This checklist item does not apply to any coating operation within a facility whose actual emissions without control devices from all coil coating operations within the facility are less than 6.8 kg (15 lb) VOC per day. An owner or operator of a facility whose emissions are below this applicability threshold shall comply with the certification, recordkeeping, and reporting requirements of AE.100.1.WV.) (NOTE: As an alternative, the coating line may comply by using daily-weighted averaging or control/capture devices.) (NOTE: Any of these coating operations must also meet the applicable requirements in the General section above, e.g., those coating operations that are exempt must comply with the requirements of AE.100.1.WV., and coating operations must comply with their requirements for the specific method of compliance chosen (complying coatings, daily-weighted averaging, or control devices).)
AE.100.10.WV. Paper coating facilities located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with VOC emission prevention and control requirements (WVCSR 45-21-13) [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that no paper coating operation applies any coating with VOC content in excess of 0.35 kg/L (2.9 lb/gal) of coating, minus water and exempt compounds, as applied. (NOTE: This checklist item does not apply to any coating operation within a facility whose actual emissions without control devices from all paper coating operations within the facility are less than 6.8 kg (15 lb) VOC per day. An owner or operator of a facility whose emissions are below this applicability threshold shall comply with the certification, recordkeeping, and reporting requirements of AE.100.1.WV.) (NOTE: As an alternative, the coating line may comply by using daily-weighted averaging or control/capture devices.) (NOTE: Any of these coating operations must also meet the applicable requirements in the General section above, e.g., those coating operations that are exempt must comply with the requirements of AE.100.1.WV., and coating operations must comply with their requirements for the specific method of compliance chosen (complying coatings, daily-weighted averaging, or control devices).)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.100.11.WV. Fabric coating facilities located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with VOC emission prevention and control requirements (WVCSR 45-21-14) [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that no fabric coating operation applies any coating with VOC content in excess of 0.35 kg/L (2.9 lb/gal) of coating, minus water and exempt compounds, as applied. (NOTE: This checklist item does not apply to any coating operation within a facility whose actual emissions without control devices from all fabric coating operations within the facility are less than 6.8 kg (15 lb) VOC per day. An owner or operator of a facility whose emissions are below this applicability threshold shall comply with the certification, recordkeeping, and reporting requirements of AE.100.1.WV.) (NOTE: As an alternative, the coating line may comply by using daily-weighted averaging or control/capture devices.) (NOTE: Any of these coating operations must also meet the applicable requirements in the General section above, e.g., those coating operations that are exempt must comply with the requirements of AE.100.1.WV., and coating operations must comply with their requirements for the specific method of compliance chosen (complying coatings, daily-weighted averaging, or control devices).)
AE.100.12.WV. All vinyl coating operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with VOC emission prevention and control requirements (WVCSR 45-21-15) [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that vinyl coating lines do not apply any coating with VOC content in excess of 0.45 kg/L (3.8 lb/gal) of coating, minus water and exempt compounds, as applied. (NOTE: This checklist item does not apply to any coating line within a facility whose actual emissions without control devices from all vinyl coating lines within the facility are less than 6.8 kg (15 lb) VOC per day. An owner or operator of a facility whose emissions are below this applicability threshold shall comply with the certification, recordkeeping, and reporting requirements of AE.100.1.WV.) (NOTE: As an alternative, the coating line may comply by using daily-weighted averaging or control/capture devices.) (NOTE: Any of these coating operations must also meet the applicable requirements in the General section above, e.g., those coating operations that are exempt must comply with the requirements of AE.100.1.WV., and coating operations must comply with their requirements for the specific method of compliance chosen (complying coatings, daily-weighted averaging, or control devices).)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.100.13.WV. Metal furniture coating operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with VOC emissions prevention and control requirements (WVCSR 45-21-16) [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that no metal furniture coating line applies any coating with VOC content in excess of 0.36 kg/L (3.0 lb/gal) of coating, minus water and exempt compounds, as applied. (NOTE: This checklist item does not apply to any coating line within a facility whose actual emissions without control devices from all metal furniture coating lines within the facility are less than 6.8 kg (15 lb) VOC per day. An owner or operator of a facility whose emissions are below this applicability threshold shall comply with the certification, recordkeeping, and reporting requirements of AE.100.1.WV.) (NOTE: As an alternative, the coating line may comply by using daily-weighted averaging or control/capture devices.) (NOTE: Any of these coating operations must also meet the applicable requirements in the General section above, e.g., those coating operations that are exempt must comply with the requirements of AE.100.1.WV., and coating operations must comply with their requirements for the specific method of compliance chosen (complying coatings, daily-weighted averaging, or control devices).)
AE.100.14.WV. All large appliance coating operations located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with VOC emission prevention and control requirements (WVCSR 45-21-17) [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that no large appliance coating line applies any coating with VOC content in excess of 0.34 kg/L (2.8 lb/gal) of coating, minus water and exempt compounds, as applied. (NOTE: This checklist item does not apply to: - any coating line within a facility whose actual emissions without control devices from all large appliance coating lines within the facility are less than 6.8 kg (15 lb) VOC per day; an owner or operator of a facility whose emissions are below this applicability threshold shall comply with the certification, recordkeeping, and reporting requirements of AE.100.1.WV. - the use of quick-drying lacquers for repair of scratches and nicks that occur during assembly, provided that the volume of coating does not exceed 0.95 L (0.25 gal) in any one 8-h period.) (NOTE: As an alternative, the coating line may comply by using daily-weighted averaging or control/capture devices.) (NOTE: Any of these coating operations must also meet the applicable requirements in the General section above, e.g., those coating operations that are exempt must comply with the requirements of AE.100.1.WV., and coating operations must comply with their requirements for the specific method of

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	compliance c hosen (complying co atings, d aily-weighted av eraging, o r co ntrol devices).)
AE.100.15.WV. Magnet wire coating o perations located in Putnam, Kanawha, C abell, Wayne, o r W ood c ounties must c omply with V OC prevention a nd c ontrol requirements (WVCSR 4 5-21-18) [Revised J anuary 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify that no magnet wire coating l ine uses a ny c oating with V OC c ontent in excess of 0.20 kg/L (1.7 lb/gal) of coating, minus water and exempt compounds, as applied. (NOTE: This checklist item does n ot apply to any coating line within a facility whose e missions without c ontrol d evices f rom a ll magnet wire c oating lin es within the facility are less than 6.8 kg (15 lb) VOC per day. An owner or operator of a facility whose emissions are below th is applicability threshold shall c omply with the certification, recordkeeping, and reporting requirements of AE.100.1.WV.) (NOTE: As an alternative, the coating line may comply by using daily-weighted averaging or control/capture devices.) (NOTE: A ny o f t hese co ating o perations must al so meet the ap plicable requirements in the General section above, e.g., those coating operations that are exempt must comply with the requirements of AE.100.1.WV., and coating operations must c omply with t he r equirements for the s pecific method of compliance c hosen (complying co atings, d aily-weighted av eraging, o r co ntrol devices).)
AE.100.16.WV. Miscellaneous metal p arts coating o perations located in Putnam, Kanawha, C abell, Wayne, o r W ood c ounties must c omply with V OC prevention a nd c ontrol requirements (WVCSR 4 5-21-19 [Revised January 2010].	(NOTE: See AE.100.1.WV. for applicability.) Verify t hat n o miscellaneous m etal p arts a nd p roducts c oating lin e a pplies an y coating with VOC content in excess of the emission limits below: - clear coating: 0.52 kg/L (4.3 lb/g) - steel pail and drum interior coating: 0.52 kg/L (4.3 lb/g) - air-dried coating: 0.42 kg/L (3.5 lb/g) - extreme performance coating: 0.42 kg/L (3.5 lb/g) - all other coatings: 0.36 kg/L (3.0 lb/g). (NOTE: I f more t han o ne e mission li mit a pplies to a s pecific c oating, t hen t he least stringent emission limit is applied.) (NOTE: As an alternative, the coating line may comply by using daily-weighted averaging or control/capture devices.) (NOTE: This checklist does not apply to the coating of the following metal parts and products that are covered by other checklist items in this section, or to: - the exterior of completely assembled aircraft

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- the exterior of major aircraft subassemblies, if approved by the Chief and the USEPA - automobile and truck refinishing - customized top coating of automobiles and trucks, if production is less than 35 vehicles per day - the exterior of completely assembled marine vessels - the exterior of major marine vessel subassemblies if approved by the Chief and the USEPA.) (NOTE: The emission limits in this checklist item do not apply to any coating line within a facility whose actual emissions without control devices from all miscellaneous metal part and products coating lines within the facility are less than 6.8 kg (15 lb) VOC per day. An owner or operator of a facility whose emissions are below this applicability threshold must comply with the certification, recordkeeping, and reporting requirements of AE.100.1.WV.) (NOTE: Any of these coating operations must also meet the applicable requirements in the General section above, e.g., those coating operations that are exempt must comply with the requirements of AE.100.1.WV., and coating operations must comply with the requirements for the specific method of compliance chosen (complying coatings, daily-weighted averaging, or control devices).)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
DEGREASING OPERATIONS **AE.116.** **Cold Cleaning**	
AE.116.1.WV. Cold cleaning facilities located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with air pollutant emission control requirements (WVCSR 45-21-1 and 45-21-30) [Revised January 2004; Revised January 2010].	(NOTE: The requirements in this checklist item applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that the owner/operator equips the cleaner with a cover that is easily operated with one hand, if: - the solvent true vapor pressure is greater than 2 kPa (15 mm Hg or 0.3 psi measured at 38 deg C (100 deg F) by ASTM D323-72 - the solvent is agitated - the solvent is heated. Verify that the owner/operator equips the cleaner with an internal drainage facility so that parts are enclosed under the cover while draining if the solvent true vapor pressure is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at 38 deg C (100 deg F) by ASTM D323-72, except that the drainage facility may be external for applications where an internal type cannot fit into the cleaning system. Verify that the owner/operator implements one of the following control measures if the solvent true vapor pressure is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at 38 deg C (100 deg F) by ASTM D323-72, or if the solvent is heated above 50 deg C (120 deg F): - freeboard that gives a freeboard ratio greater than or equal to 0.7 - water cover at least 2.54 cm (1 in.) in depth (solvent is insoluble in and heavier than water) - another system of equivalent control, such as a refrigerated chiller or a carbon adsorber, approved by the Chief. Verify that the owner/operator provides a permanent, legible, conspicuous label, summarizing the operating requirements. Verify that the operator stores waste solvent in covered containers. Verify that the operator closes the cover whenever parts are not being handled in the cleaner. Verify that the operator drains the cleaned parts until dripping ceases. Verify that the operator, if a sprayer is used, supplies a solvent spray that is a solid fluid stream (not a fine, atomized, or shower-type spray) at a pressure that does

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	not exceed 10 psig. Verify t hat t he o perator d egreases o nly materials t hat ar e n either p orous nor absorbent.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
DEGREASING OPERATIONS **AE.117.** **Vapor Cleaning**	
AE.117.1.WV. Solvent metal cleaning operations utilizing an open top vapor degreaser located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with air pollutant emission control requirements (WVCSR 45-21-1 and 45-21-30.1.a and 30.3.b) [Revised January 2004; Revised January 2010].	NOTE: WVCSR 45-21 applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. NOTE: Any open top vapor degreasing operation with an open area smaller than 1 m^2) (10.8 ft^2) is exempt from the requirements to have safety switches and keep the cover closed at all times except when processing work loads.) Verify that the owner/operator equips the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone. Verify that the owner/operator provides the following safety switches: - a vapor level thermostat that shuts off the pump heat if the condenser coolant is either not circulating or too warm - a spray safety switch that shuts off the spray pump if the vapor level drops more than 10 cm (4 in.). Verify that the owner/operator implements one of the following control measures: - freeboard ratio greater than or equal to 0.75 and, if the degreaser opening is greater than 1 m^2 (10.8 ft^2), a powered cover - refrigerated chiller - enclosed design (cover or door opens only when the dry part is actually entering or exiting the degreaser) - carbon adsorption system, with ventilation greater than or equal to 15 m^3/min/m^2 (50 ft^3/min/ft^2) of air/vapor area (when cover is open), and exhausting less than 25 ppm of solvent averaged over one complete adsorption cycle, or 24 h, whichever is less - a control system, demonstrated to have a capture efficiency equivalent to or greater than any of the above and approved by the Chief and the USEPA. Verify that the owner/operator keeps the cover closed at all times except when processing work loads through the degreaser Verify that the owner/operator minimizes solvent carryout by: - racking parts so that solvent will drain freely and not be trapped - moving parts in and out of the degreaser at less than 3.3 m/min (11 ft/min) - holding the parts in the vapor zone at least 30 s or until condensation ceases, whichever is longer - tipping out any pools of solvent on the cleaned parts before removal from the vapor zone

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- allowing parts to dry within the degreaser for at least 15 s or until visually dry, whichever is longer. Verify that the owner/operator degreases only materials that are neither porous nor absorbent. Verify that the owner/operator occupies no more than one-half of the degreaser's open top area with a workload. Verify that the operator always spray within the vapor level. Verify that the operator repairs solvent leaks immediately, or shuts down the degreaser. Verify that the operator stores waste solvent only in covered containers. Verify that the operator operates the cleaner such that water cannot be visually detected in solvent exiting the water separator. Verify that the operator uses no ventilation fans near the degreaser opening, and ensures that room exhaust ventilation does not exceed 20 $m^3/min/m^2$ (65 $ft^3/min/ft^2$) of degreaser open area, unless a higher rate is necessary to meet OSHA requirements. Verify that the owner/operator provides a permanent, conspicuous label, summarizing the operating procedures.
AE.117.2.WV. Solvent metal cleaning operations utilizing a conveyorized degreaser and located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with air pollutant emission control requirements (WVCSR 45-21-30.1.b and 30.3.c) [Revised January 2010].	(NOTE: See AE.117.1.WV. for applicability.) (NOTE: Any conveyorized degreaser with an air/vapor interface smaller than 2.0 m^2 (21.5 ft^2) is exempt from the requirement to install control devices.) Verify that no one uses workplace fans near the degreaser opening, and that exhaust ventilation does not exceed 20 m^3/min (65 ft^3/min) per m^2(ft^2) of degreaser opening, unless a higher rate is necessary to meet OSHA requirements. Verify that the owner/operator installs one of the following control devices: - a refrigerated chiller - a carbon adsorption system, with ventilation greater than or equal to 15 $m^3/min/m^2$ (50 $ft^3/min/ft^2$) of air/vapor area (when downtime covers are open), and exhausting less than 25 ppm of solvent by volume averaged over a complete adsorption cycle - an alternative system demonstrated to have a capture efficiency equivalent to or greater than the above and approved by the Chief and the USEPA.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that the owner/operator equips the cleaner with equipment, such as a drying tunnel or rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor. Verify that the owner/operator provides the following safety switches: - a condenser flow switch and thermostat that shut off the pump heat if the condenser coolant is either not circulating or too warm - a spray safety switch which shuts off the spray pump or the conveyor if the vapor level drops more than 10 cm (4 in.) - a vapor level control thermostat that shuts off the pump heat when the vapor level rises too high. Verify that the operator minimizes openings during operation so that entrances and exits will silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than 10 cm (4 in.) or less than 10 percent of the width of the opening Verify that the owner/operator provides downtime covers for closing off the entrance and exit during shutdown hours. Verify that the owner/operator minimizes carryout emissions by: - racking parts so that solvent will drain freely from parts and not be trapped - maintaining the vertical conveyor speed at less than 3.3 m/min (11 ft/min). Verify that the owner/operator stores waste solvent only in covered containers. Verify that the owner/operator repairs solvent leaks immediately, or shut down the degreaser. Verify that the owner/operator operates the cleaner such that water cannot be visually detected in solvent exiting the water separator. Verify that the owner/operator places downtime covers over entrances and exits of the conveyorized degreaser at all times when the conveyors and exhausts are not being operated. Verify that the owner/operator degreases only materials that are neither porous nor absorbent.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
DEGREASING OPERATIONS **AE.118.** **Reporting**	
AE.118.1.WV. Solvent metal cleaning sources located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with specific recordkeeping requirements (WVCSR 45-21-1 and 45-21-30.5) [Revised January 2004; Revised January 2010].	(NOTE: WVCSR 45-21 applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that the following records are maintained in a readily accessible location for at least 3 yr. and made available to the Chief upon request: - a record of central equipment maintenance, such as replacement of the carbon in a carbon adsorption unit - the results of all tests conducted to verify compliance.
AE.118.2.WV. Solvent metal cleaning sources located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with specific reporting requirements (WVCSR 45-21-30.6) [Revised January 2010].	(NOTE: See AE.118.1.WV. for applicability.) Verify that VOC emission sources comply with the following reporting requirements: - the initial compliance certification requirements for VOC sources (see AE.5.12.WV.) - the requirements regarding reports of excess emissions - the requirements for reporting for excess emissions related to any control devices used for compliance.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.130. **OPEN BURNING**	
AE.130.1.WV. Open burning is prohibited (WVCSR 45-6-3) [Revised January 2001; Revised January 2009].	Verify that there is no open burning. Verify that open burning of land clearing debris meets all the following conditions: - there is no practical alternate method for the disposal of the material to be burned - the health, safety, comfort and property of persons are protected from the effects of such burning - the Secretary approves the burning. (NOTE: The open burning of refuse for the purpose of volume reduction, elimination or product recovery by any person, firm, corporation, association or public agency is prohibited except for the following exemptions: - vegetation grown on the premises of a home or farm - fires set for the purpose of bona fide instruction and training of public and industrial employees and members of volunteer fire departments in the methods of fighting fires, provided that approval to conduct such burning is received from the Secretary - open burning of propellant and explosives wastes, provided that the open burning is conducted in accordance with 45 CSR 25 , hazardous waste disposal regulations.) (NOTE: The exemptions are subject to the following stipulation: Upon notification by the Director, there can be no form of open burning during existing or predicted periods of atmospheric stagnation.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
AE.145. **ASPHALT PAVING MATERIALS/ OPERATIONS**	
AE.145.1.WV. Cutback and emulsified asphalt operations located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. must comply with VOC emissions control requirements (WVCSR 45-21-1 and 45-21-31) [Revised January 2004; Revised January 2010].	(NOTE: The requirements in this checklist item applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) (NOTE: This section applies to the manufacture, mixing, storage, use, and application of cutback and emulsified asphalts. No exemptions are allowable based on the size or throughput of an operation.) Verify that there is no manufacture, mixing, storage, use, or application of cutback asphalts during the ozone season without approval of the Chief. (NOTE: The Chief may approve the manufacture, mixing, storage, use or application of cutback asphalts where: - long-life stockpile storage is necessary - the cutback asphalt is to be used solely as a penetrating prime coat.) Verify that, during the ozone season, there is no manufacturing, mixing, storage, or use of emulsified asphalt that contains any VOC. Verify that any facility that mixes, stores, uses, or applies cutback and emulsified asphalt maintains records of the manufacture, mixing, storage, use, or application of any asphalt containing VOC during the ozone season. Verify that these records are maintained in a readily accessible location for a minimum of 3 yr. and are made available to the Chief upon verbal or written request. (NOTE: "Ozone season" means the calendar period beginning 1 April and ending 31 October.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.155. **OTHER EMISSIONS/ SOURCES**	
AE.155.1.WV. [Deleted January 2001].	(NOTE: Regulation repealed.)
AE.155.2.WV. Hazardous waste treatment, storage, and disposal facilities (TSDFs) must comply with air emissions requirements (WVCSR 45-25-4.3 through 4.12) [Added January 1999; Revised February 2000; Revised January 2004; Revised January 2007].	(NOTE: Repeated in HW.105.3.WV.) Verify that owners and operators of hazardous waste tanks, containers, surface impoundments, landfills, waste piles, land treatment, miscellaneous units, thermal treatment units, incinerators, and boiler and industrial furnace facilities design, construct, maintain, and operate their facilities to minimize the possibility of a fire, explosion, or any unplanned, sudden, or non-sudden release of hazardous waste constituents to the air which could threaten human health or the environment. Verify that owners and operators of hazardous waste management facilities that treat, store, or dispose of ignitable or reactive wastes, or mix incompatible waste or incompatible wastes and other materials, prevent reactions which: - produce uncontrolled toxic mists, fumes, dust or gases in sufficient quantities to threaten human health or the environment - produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion. Verify that the hazardous waste pile is completely enclosed or otherwise designed it to prevent dispersal of the waste by wind. Verify that hazardous waste landfills are covered or otherwise managed to prevent wind dispersal of the waste. Verify that all landfills, surface impoundments, and land treatment facilities are located, designed, constructed, operated, maintained, and closed in a manner that assures protection of human health and the environment includes prevention of adverse effects on air quality and considers the following: - the volume and physical and chemical characteristics of the waste in the facility, including its potential for volatilization and wind dispersal - the existing quality of the air, including other sources of contamination and their cumulative impact on the air - the potential for health risks caused by human exposure to waste constituents - the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents - the potential for interference with the enjoyment of life or property

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- the persistence and permanence of such potential adverse effects. Verify that generator which own and operate hazardous waste treatment, storage, or disposal facilities utilize BACT to limit the discharge of hazardous waste constituents to the atmosphere during: - process turn-arounds - cleaning of process equipment - planned process shutdowns - tank truck, railroad tank car, and barge cleaning.
AE.155.3.WV. [Deleted January 2007].	(NOTE: Requirements found in HW.105.2.WV.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
AE.160. **COUNTY/CITY SPECIFIC REQUIREMENTS**	
AE.160.1.WV. Noncoating sources of VOCs located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with certification, recordkeeping, and reporting requirements (WVCSR 45-21-1 and 45-21-5) [Revised January 2004; Revised January 2010].	(NOTE: The requirements in this checklist item applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that the owner or operator of a noncoating VOC source has submitted to the Chief an initial compliance certification. Verify that for each occurrence of excess emissions expected to last more than 7 days, the owner or operator submits a report to the Chief by letter, within one business day of becoming aware of such occurrence, that includes the following information: - name and location of the facility - subject sources that caused the excess emissions - time and date of first observation of the excess emissions - cause and expected duration of the excess emissions. Verify that each owner or operator maintains up-to-date, readily accessible records of any equipment operating parameters specified to be monitored as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established are exceeded. Verify that these records are maintained for at least 3 yr. (NOTE: The Chief may at any time require a report of these data.) (NOTE: Periods of operation during which the parameter boundaries established during the most recent performance tests are exceeded are defined as follows: - for thermal incinerators, all 3 h periods of operation in which the average combustion temperature was more than 28 degrees C (50 degrees F) below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance - for catalytic incinerators, all 3 h periods of operation in which the average temperature of the process vent stream immediately before the catalyst bed is more than 28 degrees C (50 degrees F) below the average temperature of the process vent stream during the most recent performance test that demonstrated that the facility was in compliance - for carbon adsorbers, all 3 h periods of operation during which the average VOC concentration or reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organics monitoring device during the most recent determination of the recovery efficiency of the carbon adsorber that

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	demonstrated that the facility was in compliance.) Verify that each owner or operator maintains a log of operating time for the capture system, control device, monitoring equipment, and the associated source. Verify that each owner or operator maintains a maintenance log for the capture system, control device, and monitoring equipment detailing all routine and nonroutine maintenance performed including dates and duration of any outages. (NOTE: This section applies to all sources of VOC emissions, that is, any building, structure, equipment, or installation that directly or indirectly releases or discharges, or has the potential to release or discharge, VOCs into the ambient air. This includes many sources also regulated under other sections of this chapter/manual, such as coating operations, graphic arts/printing presses, solvent metal cleaning operations, drycleaners, and gasoline storage and dispensing facilities.) (NOTE: This regulation does not apply to any equipment at a facility used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance provided the operation of the equipment is not an integral part of the production process and the total actual VOC emissions from all such equipment at the facility do not exceed 204 kg (450 lb) in any calendar month. Owners/operators of such equipment must maintain documentation to prove actual VOC emissions for 3 yr. and make them available to the Chief upon request.) (NOTE: Any facility that becomes subject to the provisions of this regulation by exceeding an applicability threshold, or that is subject to a state or Federal rule imposing control requirements for VOCs due to exceeding an applicability threshold, must comply with these provisions, even if its throughput or emissions later fall below the applicability threshold.)
AE.160.2.WV. Sources located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must not conceal or dilute emissions in order to achieve compliance (WVCSR 45-21-7) [Revised January 2010].	(NOTE: See AE.160.1.WV. for applicability notes.) Verify that no VOC emitting-facility builds, erects, installs, or uses any article, machine, equipment, process, or other method that conceals emissions that would otherwise constitute noncompliance with an applicable regulation. (NOTE: This includes, but is not limited to, the use of gaseous diluents to achieve compliance, and the piecemeal carrying out of an operation to avoid coverage by a regulation that applies only to operations larger than a specified size). Verify that no owner or operator discharges or disposes of VOCs or material containing VOCs to surface impoundments, pits, wastewater treatment facilities, or sewers for the purpose of circumventing any provision or requirement of this regulation.

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
AE.160.3.WV. All VOC sources located in Putnam, Kanawha, Cabell, Wayne, or Wood counties must comply with requirements for handling, storage, and disposal of VOCs (WVCSR 45-21-8) [Revised January 2010].	(NOTE: See AE.160.1.WV. for applicability notes.) Verify that no owner or operator of a coating line or printing press allows the disposal of any VOC, or of any materials containing any VOC, at that facility in any 1 day in a manner that would permit the evaporation of more than 6.8 kg (15 lb) of VOC into the ambient air. (NOTE: This provision does not apply to coating or printing sources that are specifically exempt from the emission limitations under the regulations for that source; see AE.100.WV. and AE.60.WV.) Verify that no one uses open containers for the storage or disposal of cloth or paper impregnated with VOCs that are used for surface preparation, cleanup, or coating removal. Verify that no one stores in open containers spent or fresh VOC to be used for surface preparation, cleanup or coating removal. Verify that no one uses VOC for the cleanup of spray equipment unless equipment is used to collect the cleaning compounds and to minimize their evaporation to the atmosphere.
AE.160.4.WV. VOC sources located in Putnam County, Kanawha County, Cabell County, Wayne County, or Wood County must comply with registration and permit requirements (WVCSR 45-21-9) [Revised January 2010].	(NOTE: See AE.160.1.WV. for applicability notes.) Verify that all persons owning and/or operating a VOC source subject to this regulation and not previously registered, register such source(s) with the Chief. Verify that after 31 May 1993, no person constructs or modifies any source subject to this regulation without first obtaining a permit for such construction or modification pursuant to regulations of the commission.
AE.160.5.WV. Sources located in Putnam, Kanawha, Cabell, Wayne, or Wood counties and not regulated elsewhere with the potential to emit more than 100 tpy of VOCs must comply with air pollutant and VOC emissions control requirements (WVCSR 45-21-40) [Revised January 2010].	(NOTE: See AE.160.1.WV. for applicability notes.) (NOTE: This checklist item applies to any facility that has aggregate maximum theoretical emissions of 90.7 kkg (100 tons) of VOC or more per calendar yr in absence of control devices, not counting the following sources subject to VOC emission limitations elsewhere: - coating sources (see section AE.100.WV. in this manual) - printing presses (see section AE.60 in this manual and the TEAM Guide) - bulk gasoline terminals and plants, gasoline dispensing facilities, and petroleum storage facilities (see sections ST.5, ST.10, ST.15, and ST.20 in this manual and the TEAM Guide) - solvent metal cleaning operations (see sections AE.115 through AE.118 in this manual and the TEAM Guide)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- cutback and emulsified asphalt (see section AE.145 in this manual and the TEAM Guide) - petroleum and perchloroethylene drycleaners (see sections AE.70 and AE.75 in this manual and the TEAM Guide.) (NOTE: The requirements of this checklist item do not apply to coke ovens (including by product recovery plants), fuel combustion sources, barge loading facilities, jet engine test cells, vegetable oil processing facilities, wastewater treatment facilities, iron and steel production, surface impoundments, pits, and boilers, industrial furnaces, and incinerators with destruction efficiency of 95 percent or greater.) (NOTE: The requirements of this checklist item do not apply to any facility bound by an order or permit, enforceable by the Chief and the USEPA, which limits the facility's emissions to less than 100 tons of VOC per calendar yr without the application of control devices.) Verify that the owner or operator of a coating line or operation whose emissions are below this applicability threshold complies with the certification, recordkeeping, and reporting requirements of AE.100.1.WV. Verify that the owner or operator of any source at a facility complies with a control plan developed and approved by the Chief and by the USEPA.

Appendix 1-1

Operating Source Emission Rates
(Source: WVCSR 45-7, Table 45-7A) [Citation Revised January 2007]

Operating S ource O peration o r Total Duplicate Source Operation Process Weight in lb/h[1]	Maximum Allowable Total Stack Emission Rate in lb/h for the Appropriate Process Weight and Source Operation Type[1]			
	Type 'a'	Type 'b'	Type 'c'	Type 'd'[2]
0	0	0	0	0
2,500	3	3	9	0.2
5,000	5	5	13	0.8
10,000	10	10	19	1.8
20,000	16	16	26	4.0
30,000	22	22	32	6.2
40,000	28	28	36	8.3
50,000	31	31	40	10.5
100,000	33	33	54	21.2
200,000	37	37	70	21.2
300,000	40	40	80	21.2
400,000	43	46	88	21.2
500,000	47	53	94	21.2
600,000	50	62	99	21.2
700,000	50	71	99	21.2
800,000	50	79	99	21.2
900,000	50	88	99	21.2
1,800,000 & above	50	176	99	21.2

[1] For a process weight between any two consecutive process weights stated in this table, the emission limitation shall be determined by linear interpolation.

[2] Type 'd' source operation stack emission rates do not apply to MINERAL ACIDS. See Appendix 1-3.

Appendix 1-2

Mineral Acid Emission Limits
(Source: WVCSR 45-7, Table 45-7B) [Revised February 1998; Citation Revised January 2007]

Mineral Acid	Allowable stack gas concentration in mg/dry cubic meter at standard conditions from source operations or duplicate source operations in existence on 1 July 1970	Allowable stack gas concentration in mg/dry cubic meter at standard conditions from source operations or duplicate source operations installed after 1 July 1970
Sulfuric Acid Mist	70	35
Nitric Acid Mist and/or Vapor	140	70
Hydrochloric Acid Mist and/or Vapor	420	210
Phosphoric Acid Mist and/or Vapor	6	3

Appendix 1-3

Particulate Emission Rates for Type "C" Fuel Burning Units
(Source: WVCSR 45-2, Table 45-2A) [Revised January 2007]

Total Design Heat Input for All Type 'c' Fuel Burning Units Located at One Plant in Million British Thermal Units per Hour	Total Allowable Particulate Matter Emission Rate for All Type 'c' Fuel Burning Units Located at One Plant
10	3.4
20	5.6
40	9.0
60	11.7
80	14.4
100	16.6
200	26.4
400	42.2
600	54.0
3,333	300.0

For values between any two corresponding consecutive values listed, linear interpolation is to be used for both columns.

Appendix 1-4

Toxic Air Pollutant Limits
(Source: WVCSR 45-27, Table A) [Added February 1998]

	Pounds/year
Acrylonitrile	500
Allyl Chloride	10,000
Benzene	1,000
1,3 Butadiene	500
Carbon Tetrachloride	1,000
Chloroform	1,000
Ethylene Dichloride	1,000
Ethylene Oxide	500
Formaldehyde	1,000
Methylene Chloride	5,000
Propylene Oxide	5,000
Trichloroethylene	10,000
Vinyl Chloride	1,000
Vinylidene Chloride	2,000

Appendix 1-5

Emission Limits for HMIWI
(WVCSR 45-18, Table 18-A) [Added February 2000; Revised January 2008; Citation Revised January 2009]

Pollutant	Units (7 percent oxygen, dry basis)	Emission Limits			
		HMIWI size			
		Small	Medium	Large	Rural
Particulate matter	mg/dsc (gr/dscf){a}	115(0.05)	69(0.03)	34(0.015)	197 (0.86)
Carbon monoxide	ppmv {b}	40	40	40	40
Dioxins/furans	sng/dscm total CCD/CDF (gr/10 [9] dscf) ng/dscm TEQ (gr/10 [9] dscf {c}	125 (55) 2.3 (1.0)	125 (55) 2.3 (1.0)	125 (55) 2.3 (1.0)	800 (350) 15 (6.6)
Hydrogen chloride	ppmv or pe rcent r eduction {d}	100 or 93 percent	100 or 93 percent	100 or 93 percent	3100
Sulfur dioxide	Ppmv	55	55	55	55
Nitrogen oxides	Ppmv	250	250	250	250
Lead	mg/dscm (gr/10[3] dscf) or percent reduction	1.2(0.52) or 70 percent	0.07(0.03) or 98 percent	0.07(0.03) or 98 percent	10(4.4)
Cadmium	mg/dscm (gr/10[3] dscf) or percent reduction	0.16(0.07) or 65 percent	0.16 (0.07) or 65 percent	0.16 (0.07) or 65 percent	4(1.7)
Mercury	mg/dscm (gr/10[3] dscf) or percent reduction	0.55(0.24) or 85 percent	0.55(0.24) or 85 percent	0.55(0.24) or 85 percent	7.5(3.3)

{a} milligrams per dry standard cubic meter (grains per dry standard cubic ft)
{b} parts per million by volume
{c} nanograms per dry standard cubic meter total dioxins/furans (grains per billion dry standard cubic ft) or nanograms per dry standard cubic meter TEQ (grains per billion dry standard cubic ft)
{d} milligrams per dry standard cubic meter (grains per thousand dry standard cubic ft)

Appendix 1-6

Stationary Sources of Air Pollutants
(WVCSR 45-13, Table 45-13A) [Added January 2001]

Pollutant	Potential Emission Rate pounds/year
Acrylonitrile	500
Allyl Chloride	10,000
Arsenic Compounds (Inorganic)	200
Asbestos	14
Benzene	1,000
Beryllium	0.8
1,3 Butadiene	500
Carbon Tetrachloride	1,000
Chloroform	1,000
Ethylene Dichloride	1,000
Ethylene Oxide	500
Formaldehyde	1,000
Lead or lead compounds	1,200
Mercury	200
Methylene Chloride	5,000
Propylene Oxide	5,000
Trichloroethylene	10,000
Vinyl chloride	1,000
Vinylidene Chloride	2,000

Appendix 1-7

De Minimus Sources
(WVCSR 45-13, Table 45-13B) [Added January 2001; Revised January 2004]

1. Air compressors and pneumatically-operated equipment, including hand tools; instrument air systems (excluding fuel-fired compressors); emissions from pneumatic starters on reciprocating engines, turbines or other equipment; and periodic use of air for cleanup (excluding all sandblasting activities).
2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
3. Any consumer product used in the same manner as in normal consumers' use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumers and which may include, but not be limited to, personal use items; janitorial cleaning supplies; office supplies; and supplies to maintain copying equipment.
4. Bathroom/toilet vent emissions.
5. Tobacco smoking rooms and areas.
6. Batteries and battery charging stations, except at battery manufacturing plants.
7. Bench-scale laboratory equipment used for physical or chemical analysis, excluding lab fume hoods or vents.
8. Routine calibration and maintenance of laboratory equipment or other analytical instruments.
9. Boiler water treatment operations, excluding cooling towers.
10. Portable brazing, soldering, gas cutting or welding equipment used as an auxiliary to the principal equipment at the source.
11. CO_2 lasers, used only in metals and other materials which do not emit any hazardous air pollutants in the process.
12. Combustion emissions from propulsion of mobile sources.
13. Wood heaters, cookstoves or fireplaces used for heating and/or cooking at residential or publicly-owned facilities.
14. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
15. Demineralized water tanks and demineralizer vents.
16. Drop hammers or hydraulic presses for forging or metalworking.
17. Equipment used exclusively for pressing, drawing or stamping of metals, excluding emissions due to quenching activities or supporting equipment.
18. Emissions from die-casting machinery, excluding emissions from melt furnaces or other associated processes.
19. Foundry sand molding forming equipment, provided no heat is applied and no VOCs or hazardous air pollutants are emitted, but not including the metal pouring process.
20. Electric or steam-heated drying ovens, autoclaves or steam sterilizers, excluding the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
21. Emergency electrical generators at residential locations.
22. Emergency road flares.
23. Environmental chambers not using hazardous air pollutant gases.
24. Emissions from food preparation at restaurants and cafeterias.
25. Equipment used exclusively to slaughter animals, excluding other equipment at slaughterhouses, such as rending cookers, boilers, heating plants, incinerators and electrical power generating equipment.
26. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
27. Fire suppression systems.
28. Firefighting equipment and the equipment used to train firefighters and emergency response individuals, which is subject to 45CSR6 and complies with 45CSR15.
29. Single-use flares used solely to indicate danger to the public.
30. Hand-held applicator equipment for hot melt adhesives with no VOCs or hazardous air pollutants in the adhesive formulation.
31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.

32. Humidity chambers.
33. Hydraulic and hydrostatic testing equipment.
34. Mobile internal combustion engines used for landscaping purposes.
35. Laser trimmers using dust collection to prevent fugitive emissions.
36. Laundry activities, excluding dry-cleaning and steam boilers.
37. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
38. Oxygen scavenging (de-aeration) of water.
39. On-site plant maintenance and upkeep activities, including, lawn care, weed control, pest control, general repairs, cleaning, painting, surface coating, welding, plumbing, grinding, cutting, woodworking, janitorial activities, re-tarring roofs, installing insulation, and paving parking lots, provided that these activities are not conducted as part of a manufacturing process and are not related to the source's primary business activity; provided further, that for cleaning, surface coating and painting activities, the source is not subject to VOC or HAP control requirements and the source minimizes the generation of fugitive emissions of any regulated air pollutants; and provided further, that the source complies with the asbestos requirements in 45CSR15.
40. Commercial and residential maintenance and upkeep activities occurring at a building, residence or other structure, including lawn care, weed control, pest control, general repairs, cleaning, painting, surface coating, welding, plumbing, grinding, cutting, woodworking, janitorial activities, re-tarring roofs, installing insulation, and paving parking lots, provided that these activities are not conducted as part of a manufacturing process; provided further, that for cleaning, surface coating and painting activities, the source is not subject to VOC or HAP control requirements and the source minimizes the generation of fugitive emissions of any regulated air pollutants; and provided further, that the source complies with the asbestos requirements in 45CSR15.
41. Portable electrical generators that can be moved by hand from one location to another. "Moved by hand" means that it can be moved without the assistance of any motorized or nonmotorized vehicle, conveyance or device.
42. Process water filtration systems and demineralizers.
43. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants.
44. Shock chambers.
45. Solar simulators.
46. Steam cleaning operations, excluding hazardous air pollutant emissions.
47. Steam leaks.
48. Steam vents and safety relief valves, provided that such valves shall be included in any permit application that may otherwise be required under this rule.
49. Storage tanks, reservoirs and pumping and handling equipment of any size containing soaps, vegetable oil, animal grease or fat and aqueous salt solutions, provided appropriate lids and covers are utilized, excluding rendering plants.
50. Storage tanks, vessels and containers holding or storing liquid substances that will not emit any regulated air pollutant.
51. Vents from continuous emissions monitors and other analyzers.
52. Operation of groundwater remediation wells, including emissions from the pumps and collection activities. This does not include emissions from air-stripping treatment or storage.
53. Log wetting areas that are using only water.
54. Log flumes.
55. The storage, handling and handling equipment for bark and wood dust not subject to 45CSR7.
56. Solid waste dumpsters.
57. Ozone generators used in water treatment facilities.
58. Storage vessels having less than 10,567 gal capacity containing petroleum or organic liquids with a vapor pressure of 1.5 psia or less at storage temperature, provided that the emissions from all such organic liquid storage tanks, in the aggregate, are less than 2 tons per yr for hazardous air pollutants or VOCs.
59. A source that is not major that emits only nonprocessed fugitive emissions (other than haul roads).

Appendix 1-8

Federal Air Quality Control Regions
(WVCSR 45-10, Table 45-10A) [Added January 2002]

Priority Classification	Federal Air Quality Control Region	Included West Virginia Counties
I	Region I, Steubenville-Weirton-Wheeling Interstate Air Quality Control Region (Ohio – West Virginia)	Brooke Hancock Marshall Ohio
	Region VII, Cumberland-Keyser Interstate Air Quality Control District Region (West Virginia - Maryland)	Grant (Union District only) Mineral (Elk, New Creek, and Piedmont District)
II	Region II, Parkersburg-Marietta Interstate Air Quality Control Region (West Virginia - Ohio)	Jackson Pleasants Tyler Wetzel Wood
III	All other regions	All other counties or districts not listed above

Appendix 1-9

Hazardous Air Pollutants
(WVCSR 45-30, Table 45-30A) [Added January 2004]

CAS #	Chemical Name
75070	Acetaldehyde
60355	Acetamide
75058	Acetonitrile
98862	Acetophenone
53963	2-Acetylaminofluorene
107028	Acrolein
79061	Acrylamide
79107	Acrylic acid
107131	Acrylonitrile
107051	Allyl chloride
92671	4-Aminobiphenyl
62533	Aniline
90040	o-Anisdine
1332214	Asbestos
71432	Benzene (including benzene from gasoline)
92875	Benzidine
98077	Benzotrichloride
100447	Benzyl chloride
92524	Biphenyl
117817	Bis(2-ethylhexyl) phthalate (DEHP)
542881	Bis(chloromethyl) ether
75252	Bromoform
106990	1,3-Butadiene
156627	Calcium cyanamide
133062	Captan
63252	Carbaryl
75150	Carbon disulfide
56235	Carbon tetrachloride
463581	Carbonyl sulfide
120809	Catechol
133904	Chloramben
57749	Chlordane
7782505	Chlorine
79118	Chloroacetic acid
532274	2-Chloroacetophenone
108907	Chlorobenzene
510156	Chlorobenzilate
67663	Chloroform
107302	Chloromethyl methyl ether
126998	Chloroprene
1319773	Cresols/Cresylic acid isomers and mixture)
95487	o-Cresol
108394	m-Cresol

CAS #	Chemical Name
106445	p-Cresol
98828	Cumene
94757	2,4-D, salts and esters
3547044	DDE
334883	Diazomethane
132649	Dibenzofurans
96128	1,2-Dibromo-3-chloropropane
84742	Dibutylphthalate
106467	1,4-Dichlorobenzene(p)
91941	3,3-Dichlorobenzidene
111444	Dichloroethyl ether Bis(2-chloroethyl)ether)
542756	1,3-Dichloropropene
62737	Dichlorvos
111422	Diethanolamine
121697	N,N-Diethyl aniline(N,N-Dimethylaniline)
64675	Diethyl sulfate
119904	3,3-Dimethoxybenzidine
60117	Dimethyl aminoazobenzene
119937	3,3-Dimethyl benzidine
79447	Dimethyl carbamoyl chloride
68122	Dimethyl formamide
57147	1,1-Dimethyl hydrazine
131113	Dimethyl phthalate
77781	Dimethyl sulfate
534521	4,6-Dinitro-o-cresol, and salts
51285	2,4-Dinitrophenol
121142	2,4-Dinitrotoluene
123911	1,4-Dioxane (1,4-Diethyleneoxide)
122667	1,2-Diphenylhydrazine
106898	Epichlorohydrin (1-Chloro-2,3-epoxypropene)
106887	1,2-Expoxybutane
140885	Ethyl acrylate
100414	Ethyl benzene
51796	Ethyl carbamate (Urethane)
75003	Ethyl chloride (Chloroethane)
106934	Ethylene dibromide (Dibromoethane)
107062	Ethylene dichloride (1,2-Dichloroethane)
107211	Ethylene glycol
151564	Ethylene imine (Aziridine)
75218	Ethylene oxide
96457	Ethylene thiourea
75343	Ethylidene dichloride (1,1-Dichloroethane)
50000	Formaldehyde
76448	Heptachlor
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
77474	Hexachloro cyclopentadiene

CAS #	Chemical Name
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethyl-phosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid
7664393	Hydrogen fluoride (Hydrofluoric acid)
123319	Hydroquinone
78591	Isophorone
58899	Lindane (all isomers)
108316	Maleic anhydride
67561	Methanol
72435	Methoxychlor
74839	Methyl bromide (Bromomethane)
74873	Methyl chloride (Chloromethane)
71556	Methyl chloroform(1,1,1-Trichloroethane)
78933	Methyl ethyl ketone (2-Butanone)
60344	Methyl hydrazine
74884	Methyl iodide (Iodomethane)
108101	Methyl isobutyl ketone (Hexone)
624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis (2-chloroaniline)
75092	Methylene chloride (Dichloromethane)
101688	Methylene diphenyl diisocyanate (MDI)
101779	4,4'-Methylenedianiline
91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine
56382	Parathion
82688	Pentachloro-nitrobenzene (Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (Aroclors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone

CAS #	Chemical Name
123386	Propionaldehyde
114261	Propoxur (Baygon)
78875	Propylene dichloride (1,2-Dichloropropane)
75569	Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine)
91225	Quinoline
106514	Quinone
100425	Styrene
96093	Styrene oxide
1746016	2,3,7,8-etrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane
127184	Tetrachloroethylene (Perchloroethylene)
7550450	Titanium tetrachloride
108883	Toluene
95807	2,4-Toluene diamine
584849	2,4-Toluene diisocyanate
95534	o-Toluidine
8001352	Toxaphene (chlorinated camphene)
120821	1,2,4-Trichlorobenzene
79005	1,1,2-Trichloroethane
79016	Trichloroethylene
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol
121448	Triethylamine
1582098	Trifluralin
540841	2,2,4-Trimethylpentane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride
75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixture)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes
	Antimony Compounds
	Arsenic Compounds (inorganic including arsine)
	Beryllium Compounds
	Cadmium Compounds
	Chromium Compounds
	Cobalt Compounds
	Coke Oven Emissions
	Cyanide Compounds[1]
	Glycol ethers[2]
	Lead Compounds
	Manganese Compounds
	Mercury Compounds
	Fine mineral fibers[3]

CAS #	Chemical Name
	Nickel Compounds
	Polycylic Organic Matter[4]
	Radionuclides (including radon) [5]
	Selenium Compounds

NOTE: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemicals (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

[1] X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)2

[2] Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH2CH2)n-OR' where n = 1, 2, or 3, R = alkyl or aryl groups, and R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH2CH)n-OH. Polymers are excluded from the glycol category.

[3] Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

[4] Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.

[5] A type of atom which spontaneously undergoes radioactive decay.

Appendix 1-10

Class I and II Substances
(WVCSR 45-30, Table 45-30B) [Added January 2004]

Class I Substances

Group I
chlorofluorocarbon-11 (CFC-11)
chlorofluorocarbon-12 (CFC-12)
chlorofluorocarbon-113 (CFC-113)
chlorofluorocarbon-114 (CFC-114)
chlorofluorocarbon-115 (CFC-115)

Group II
halon-1211
halon-1301
halon-2402

Group III
chlorofluorocarbon-13 (CFC-13)
chlorofluorocarbon-111 (CFC-111)
chlorofluorocarbon-112 (CFC-112)
chlorofluorocarbon-211 (CFC-211)
chlorofluorocarbon-212 (CFC-212)
chlorofluorocarbon-213 (CFC-213)
chlorofluorocarbon-214 (CFC-214)
chlorofluorocarbon-215 (CFC-215)
chlorofluorocarbon-216 (CFC-216)
chlorofluorocarbon-217 (CFC-217)

Group IV
carbon tetrachloride

Group V
methyl chloroform

This list also includes the isomers of the substances listed above, other than 1,1,2-trichloroethane (an isomer of methyl chloroform).

Class II Substances

hydrochlorofluorocarbon-21 (HCFC-21)
hydrochlorofluorocarbon-22 (HCFC-22)
hydrochlorofluorocarbon-31 (HCFC-31)
hydrochlorofluorocarbon-121 (HCFC-121)
hydrochlorofluorocarbon-122 (HCFC-122)
hydrochlorofluorocarbon-123 (HCFC-123)
hydrochlorofluorocarbon-124 (HCFC-124)
hydrochlorofluorocarbon-131 (HCFC-131)
hydrochlorofluorocarbon-132 (HCFC-132)
hydrochlorofluorocarbon-133 (HCFC-133)
hydrochlorofluorocarbon-141 (HCFC-141)
hydrochlorofluorocarbon-142 (HCFC-142)
hydrochlorofluorocarbon-221 (HCFC-221)
hydrochlorofluorocarbon-222 (HCFC-222)
hydrochlorofluorocarbon-223 (HCFC-223)

hydrochlorofluorocarbon-224 (HCFC-224)
hydrochlorofluorocarbon-225 (HCFC-225)
hydrochlorofluorocarbon-226 (HCFC-226)
hydrochlorofluorocarbon-231 (HCFC-231)
hydrochlorofluorocabron-232 (HCFC-232)
hydrochlorofluorocarbon-233 (HCFC-233)
hydrochlorofluorocarbon-234 (HCFC-234)
hydrochlorofluorocarbon-235 (HCFC-235)
hydrochlorofluorocarbon-241 (HCFC-241)
hydrochlorofluorocarbon-242 (HCFC-242)
hydrochlorofluorocarbon-243 (HCFC-243)
hydrochlorofluorocarbon-244 (HCFC-244)
hydrochlorofluorocarbon-251 (HCFC-251)
hydrochlorofluorocarbon-252 (HCFC-252)
hydrochlorofluorocarbon-253 (HCFC-253)
hydrochlorofluorocarbon-261 (HCFC-261)
hydrochlorofluorocarbon-262 (HCFC-262)
hydrochlorofluorocarbon-271 (HCFC-271)

This list also includes the isomers of the substances listed above.

Appendix 1-11

Ambient Air Quality Increments and Ceilings
(WVCSR 45-14-4.1) [Added January 2006; Revised January 2008]

Pollutant	Maximum Allowable Increase (μ/m^3)
Class I	
Particulate matter:	
PM(10), Annual geometric mean	4
PM(10), 24-hour maximum	8
Sulfur dioxide:	
Annual arithmetic mean	2
24-hour maximum	5
3-hour maximum	25
Nitrogen dioxide:	
Annual arithmetic mean	2.5
Class II	
Particulate matter:	
PM(10), Annual geometric mean	17
PM(10), 24-hour maximum	30
Sulfur dioxide:	
Annual arithmetic mean	20
24-hour maximum	91
3-hour maximum	512
Nitrogen dioxide:	
Annual arithmetic mean	25
Class III	
Particulate matter:	
PM(10), Annual geometric mean	34
PM(10), 24-hour maximum	60
Sulfur dioxide:	
Annual arithmetic mean	40
24-hour maximum	182
3-hour maximum	700
Nitrogen dioxide:	
Annual arithmetic mean	50

SECTION 2

CULTURAL RESOURCES MANAGEMENT

West Virginia Supplement, January 2010

This section covers the state requirements for Cultural Resources Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

The curatorial guidelines presented in the document *Curatorial Guidelines--Collections Management Facility* represents a first approximation by the West Virginia Division of Culture and History (WVDCH) to comply with federally mandated curation standards (36 CFR 79). These guidelines will ensure standardization in the labeling and in the packaging of collections and associated records to facilitate their incorporation into the WVDCH collections management facility. All collections in this facility will be available for scientific, educational, and religious uses pursuant to 36 CFR 79.

Definitions

- *Archaeology* - the systematic, scientific study of past cultures through examination of material remains (West Virginia Code of State Regulations, Title 82, Series 3, Section 2 (WVCSR 82-3-2)).

- *Burial Grounds* - a location where, during history or prehistory, human bodies or skeletal remains are entombed in visibly marked or unmarked graves and may include objects or artifacts with them (WVCSR 82-3-2).

- *Director* - Director of Historic Preservation (WVCSR 82-3-2).

- *Excavation* - the controlled removal of dirt to uncover and retrieve artifacts or human skeletal remains (WVCSR 82-3-2).

- *Permit* - a written authorization issued by the Director of Historic Preservation, or designee, to conduct excavations of historic and prehistoric ruins, archaeological sites, burial grounds, human skeletal remains, and unmarked graves, and to remove or alter grave markers. A permit shall be valid for one designated site (WVCSR 82-3-2).

- *Ruins* - the remnants of structures constructed by humans during historic or prehistoric times (WVCSR 82-3-2).

- *Sites* - areas occupied for various durations by humans throughout history and prehistory including, but not limited to, campsites, villages, dwellings, rock shelters and industrial complexes (WVCSR 82-3-2).

CULTURAL RESOURCES MANAGEMENT	
GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS	
	REFER TO CHECKLIST ITEMS:
Missing Checklist Items	CR.2.1.WV.
Archaeological/Indian Sites	CR.15.1.WV. through CR.15.5.WV.

COMPLIANCE CATEGORY: CULTURAL RESOURCES MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
CR.2. **MISSING CHECKLIST ITEMS**	
CR.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: CULTURAL RESOURCES MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
CR.15. **ARCHAEOLOGICAL/ INDIAN SITES**	
CR.15.1.WV. A permit from the Director of Historic Preservation facilities must be obtained for all proposed excavations of a ruin or an archaeological site (WVCSR 82-3-3.1 and 82-3-3.2).	Verify that a permit is obtained prior to excavating any historic or prehistoric ruins or archaeological sites. (NOTE: Permits are issued for up to 2 yr. and are suspended or revoked at any time for failing to meet terms and conditions of the permit.) Verify that the terms of the permit are met for all excavations.
CR.15.2.WV. Excavations of a ruin or archaeological site must meet reporting requirements (WVCSR 82-3-3.3).	Verify that an annual progress report is submitted to the Director of Historic Preservation on the anniversary date of the permit for all excavation. Verify that a final report of the excavation is submitted upon completion of the fieldwork.
CR.15.3.WV. A permit from the Director of Historic Preservation facilities must be obtained for all proposed excavations of burial grounds, human skeletal remains, and unmarked graves (WVCSR 82-3-4.1 and 82-3-4.3).	Verify that the Director is notified in the event of the discovery of skeletal remains, grave artifacts, or grave markers. Verify that a permit is obtained prior to excavation or removal of the remains. (NOTE: Permits are issued for 2 yr and are suspended or revoked at any time due to failure of meeting terms and conditions of the permit.) Verify that the terms and conditions of the permit are met.
CR.15.4.WV. Excavations of burial grounds, human skeletal remains, and unmarked graves must meet reporting requirements (WVCSR 82-3-4.5).	Verify that an annual progress report is submitted to the Director of Historic Preservation on the anniversary date of the permit. Verify that a final report of the excavation is submitted upon completion of the fieldwork.
CR.15.5.WV. A permit from the Director of Historic Preservation facilities must be obtained for all proposed	Verify that a permit is obtained before removing or altering the appearance of a grave marker.

COMPLIANCE CATEGORY: CULTURAL RESOURCES MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
removals or alterations of the appearance of a grave marker (WVCSR 82-3-5.1).	

SECTION 3

HAZARDOUS MATERIALS MANAGEMENT

West Virginia Supplement, January 2010

This section covers the state requirements for Hazardous Materials Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Definitions

- *Alliance* - the working group of state, local, industry and environmental officials established by the Secretary, U.S. Department of Transportation that developed recommendations for the uniform procedures and forms that would be included in the Federal regulations (West Virginia Code of State Regulations, Series 150, Title 23, Section 2 (WVCSR 150-23-2)).

- *Base State* - the state in which a motor carrier must obtain a registration and/or permit (WVCSR 150-23-2).

- *Base State Agreement* - the agreement among participating jurisdictions electing to register or to permit motor carriers and/or shippers of hazardous materials (WVCSR 150-23-2).

- *Emergency Notification* - the notification required by Section 304 of Title III, 42 U.S.C. 11004, which must be given immediately in the event of a release of a listed hazardous substance that exceeds the reportable quantity for that substance (WVCSR 55-1-2).

- *Emergency Planning District* - a geographic area designated by the SERC as requiring its own comprehensive emergency response plan. The SERC may designate existing political subdivisions or multijurisdictional planning organizations as such districts (WVCSR 55-1-2).

- *Emergency Response Plan* - the plan to be developed by each Local Emergency Planning Committee in accordance with W. Va. Code Sec. 15-5A-7 and 42 U.S.C. 11003 (WVCSR 55-1-2).

- *EPA* - the United States Environmental Protection Agency, its Administrator and the Administrator's designee (WVCSR 55-1-2).

- *Facility* - all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by, or under common control with, such person) and subject to the provisions of Section 302 of Title III, 42 U.S.C. 11002 (WVCSR 55-1-2).

- *Gasoline Dispensing Facility* - any retail site where gasoline is transferred from a stationary storage tank to a motor vehicle gasoline tank used to provide fuel to the engine of that motor vehicle (WVCSR 55-1-2).

- *Hazardous Chemical Inventory Form* - the Emergency and Hazardous Chemical Inventory Form that must be submitted by covered facilities to the SERC, the LEPC and the local fire department which has jurisdiction over the facility (WVCSR 55-1-2).

- *Hazardous Materials* - (WVCSR 150-23-2) [Revised January 2004]:
    1. hazardous materials of a type and amount that requires the transport vehicle to be placarded pursuant to 49 C.F.R. 172
    2. "hazardous substances" and/or "marine pollutants" when transported in bulk packaging as defined in 49 C.F.R. 171.8

3. hazardous waste of a type and amount that requires the shipment to be accompanied by a Uniform Hazardous Waste Manifest contained in 40 C.F.R. 262, including "state designated hazardous wastes." State designated hazardous wastes are additional hazardous wastes that have been officially determined by states that have been authorized by the United States Environmental Protection Agency to manage Resource Conservation Recovery Act (RCRA) programs within their respective states

- *LEPC* - a Local Emergency Planning Committee, for each emergency planning district, which is appointed by the SERC in accordance with the provisions of W. Va. Code (WVCSR 55-1-2).

- *List of MSDS Chemicals* - a list of chemicals submitted to the SERC, the LEPC and the local fire department in lieu of the requirement to submit copies of MSDS (WVCSR 55-1-2).

- *Motor Carrier* - a person that owns or operates one or more motor vehicles that transport hazardous materials (WVCSR 150-23-2).

- *MSDS* - material safety data sheet, a form required by the Occupational Safety and Health Act of 1970, as amended, and the regulations promulgated thereunder, 29 U.S.C. 651 et seq., and in accordance with the Federal Occupational Safety and Health Administration's Hazard Communication Standard, 40 C.F.R. 1910.1200, for reporting health and safety information on hazardous substances (WVCSR 55-1-2).

- *Oil And Gas Extraction Storage Facility* - a facility that exclusively stores crude oil or liquid hydrocarbons or other fluids resulting, obtained or produced in connection with the production or storage of crude oil or natural gas; receives the crude oil liquid hydrocarbon or other stored fluids by direct conveyance through piping or tubing; is located on the same site as, or on a site adjacent to, the well from which the crude oil, liquid hydrocarbons, or other fluids are produced or obtained; and is used for the storage of the crude oil, liquid hydrocarbons or other fluids prior to their transportation off the premises of the facility for sale, use or disposal (WVCSR 55-1-2).

- *SERC* - the State Emergency Response Commission, a statutory body created pursuant to W. Va. Code Sec. 15-5A-1 et seq. (WVCSR 55-1-2).

- *Threshold Quantity* - the amount of a substance present at a facility in which a facility becomes subject to the provisions of Title III, 42 U.S.C. 11002 (WVCSR 55-1-2).

- *Title III* - the Emergency Planning and Community Right-to-Know Act of 1986, as amended, and the regulations promulgated thereunder, 42 U.S.C. 11001 et seq. P.L. 99-499 (WVCSR 55-1-2).

- *Toxic Chemical Release Form* - the form that must be reported annually of toxic chemical releases on a Toxic Chemical Release Reporting Form to the EPA and a State Official designated by the Governor pursuant to Section 313 of Title III, 42 U.S.C. 11023 (WVCSR 55-1-2).

- *Uniform Application* - the uniform motor carrier registration and permit application form established under the uniform program (WVCSR 150-23-2).

- *Uniform Program* - the program developed by the Alliance for the uniform state registration and permitting of hazardous materials transportation (WVCSR 150-23-2).

HAZARDOUS MATERIALS MANAGEMENT
GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS

	REFER TO CHECKLIST ITEMS:
Missing Checklist Items	HM.2.1.WV.
State-Specific Hazardous Materials Requirements	
Personnel Training	
(NOTE: Any government entity may request certification of their hazardous material response training program by submitting a copy of the program to the State Fire Marshall (WVCSR 87-3-1).)	
Releases of Hazardous Materials	HM.20.1.WV.
Right-to-Know	HM.30.1.WV.
Hazardous Materials Transportation	HM.50.1.WV. through HM.50.4.WV.

COMPLIANCE CATEGORY: HAZARDOUS MATERIALS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HM.2. **MISSING CHECKLIST ITEMS**	
HM.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: HAZARDOUS MATERIALS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HM.20. **RELEASES OF HAZARDOUS MATERIALS**	
HM.20.1.WV. Spills and accidental discharges of hazardous materials must be reported and cleaned up (WVCSR 47-11-2.2.a, 2.5, and 2.5.a) [Revised February 1998; Revised January 2007].	Verify that any person who is responsible for a spill or accidental discharge of pollutants into the waters of the State gives immediate notification to the Division of Water Resources' Emergency Notification Number, 1-800-642-3074. Verify that any person who causes or contributes in any way to the spill or accidental discharge into state waters immediately takes any and all measures necessary to contain it, clean it up, remove it, and otherwise render it harmless to the waters of the State.

COMPLIANCE CATEGORY: HAZARDOUS MATERIALS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HM.30. **RIGHT-TO-KNOW**	
HM.30.1.WV. Facilities required to report under SARA Title III must submit reports to state and local emergency planning commissions and local fire departments (WVCSR 55 -1-3).	Verify that the owner or operator of a facility required to report under SARA Title III prepares and submits MSDS or list of MSDS chemicals to the State Emergency Planning Response Commission (SERC), the local Emergency Planning Committee (LEPC) and the local fire department with jurisdiction over the facility containing the information required by and in accordance with Section 311 of Title III, 42 U.S.C. 11021. Verify that the owner or operator prepares and submits hazardous chemical inventory forms to the SERC, the LEPC and the local fire department with jurisdiction over the facility containing the information required by and in accordance with Section 312 of Title III, 42 U.S.C. 11022. Verify that the owner or operator prepares and submit toxic chemical release forms to the SERC as required by and in accordance with Section 313 of Title III, 42 U.S.C. 11023.

COMPLIANCE CATEGORY: HAZARDOUS MATERIALS MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HM.50. **HAZARDOUS MATERIALS TRANSPORTATION**	
HM.50.1.WV. Transporters of hazardous materials are required to be registered (WVCSR 150-23-10).	Verify that the transporter is registered. (NOTE: The registration section is Part I of the uniform application. A motor carrier registers in its base state.) (NOTE: The registration period begins on 1 July of each year. A registration remains valid for one year from the date of issuance.)
HM.50.2.WV. Transporters of hazardous materials are required to comply with permitting procedures for highway transportation of hazardous materials (WVCSR 150-23-12).	Verify that the transporter obtains a uniform hazardous materials permit from the Public Service Commission of West Virginia. (NOTE: The permit section for hazardous materials is Part II of the uniform application. A motor carrier applies to its base state for a uniform permit.) (NOTE: The uniform permit is valid for a period of 3 yr. or until a motor carrier fails to renew its registration, whichever occurs first.)
HM.50.3.WV. Transporters of hazardous materials are required to comply with regulations regarding owner/ operator vehicles (WVCSR 150-23-8.1).	Verify that the transporter of hazardous materials using owner/ operator vehicles takes responsibility for the operation of such vehicles and drivers in the following ways: - providing all assurances and certifications contained in the uniform permit, as if such vehicles were owned and operated by the permitted motor carrier and the driver was employed by the motor carrier - providing information on the owner/operator that is required in the part III business disclosure for hazardous waste transporters.
HM.50.4.WV. Transporters of hazardous materials are required to comply with regulations regarding the retention of credentials (WVCSR 150-23-14.2).	Verify that the motor carrier maintains a copy of the state issued credential form in each vehicle. Verify that the motor carrier displays the company registration number on shipping papers for all hazardous material loads of a type or quantity that requires the vehicle to be placarded in accordance with 49 CFR 172.

SECTION 4

HAZARDOUS WASTE MANAGEMENT

West Virginia Supplement, January 2010

This section covers the state requirements for Hazardous Waste Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

- The provisions contained in 40 CFR Parts 260, 261, 262, 264, 265, 266, 270 and 279 as listed in Appendix 4-1 effective June 1, 2008, are adopted and incorporated by reference with the following modifications (WVCSR 45-25-3.2) [Revised January 1999; Revised January 2009; Revised January 2009]:
  1. whenever the term "United States" is used it shall also mean the State of West Virginia
  2. whenever the terms "Administrator" or "Regional Administrator", "The Assistant Administrator for Solid Waste and Emergency Response" or " Director" is used, the term means the Secretary of the West Virginia Department of Environmental Protection
  3. whenever the term "Environmental Protection Agency" is used in 40 CFR 266, the term also means the West Virginia Department of Environmental Protection
  4. the distance provisions of 40 CFR 265.382 apply only to the open burning or open detonation of military explosives in a manner that presents an uncontrolled fragment release hazard. The applicable distance provisions of the American Table of Distances for Commercial Explosives, effective 19 June 1991, and of the Department of Defense Contractors Safety Manual for Ammunition and Explosives (DOD 4145.26-M), as amended 11 April 1988, apply otherwise.

- The provisions of 40 CFR part 260 are hereby adopted and incorporated by reference (WVCSR 33-20-2) [Added January 2009].

- The provisions of 40 CFR part 263 are hereby adopted and incorporated by reference insofar as those regulations relate to the transportation of hazardous waste by air and water. (33-20-6) [Added January 2009].

- The provisions of 40 CFR part 268 are hereby adopted and incorporated by reference with the modifications, exceptions and additions set forth in this section (WVCSR 33-20-10) [Added January 2009]:
  1. The provisions of 40 CFR §§ 268. 5, 268.6, 268.10, 268.11, 268.12, 268.13, 268.42(b) and 268.44 are excepted from incorporation by reference.
  2. The term "Administrator" in 40 CFR § 268.40(b) will retain its meaning as defined in 40 CFR § 260.10.

- The provisions of the 40 CFR part 270 and 40 CFR part 267 are hereby adopted and incorporated by reference with the modifications, exceptions and additions set forth in this section (WVSCR 33-20-11) [Added January 2009].

Definitions

- *Air Pollutants* - solids, liquids, or gases that, if discharged into the air, may result in statutory air pollution (WVCSR 45-25-2).

- *Air Pollution Control Equipment* - any equipment used for collecting or converting hazardous waste emissions for the purpose of preventing or reducing emissions of these materials into the open air from hazardous waste treatment, storage, or disposal facilities (WVCSR 45-25-2).

- *Authorized* - any person and/or transport vehicle that has received an EPA identification number from the U.S. Environmental Protection Agency which enables that person to transport or offer hazardous waste for transportation by highway vehicle upon the roads and highways of the state of West Virginia (WVCSR 157-7-2) [Citation Revised January 2008].

- *Best Available Control Technology (BACT)* - an emissions limitation based on the maximum degree of reduction for each pollutant which would be emitted from any hazardous waste treatment, storage or disposal facility which the Director, on a case-by-case basis, taking into account energy, environmental and economic impacts and other costs, determines its achievable for such facility through application of production processes or available methods, systems, or techniques. If the Director determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results (WVCSR 45-25-2).

- *CFR* - the Code of Federal Regulations published by the Office of the Federal Register, National Archives and Records Service, General Services Administration (WVCSR 45-25-2).

- *Department of Environmental Protection (DEP)* - the Department created by the provisions of West Virginia Code Sections 22-1-1 et. seq. (WVCSR 45-25-2).

- *Hazardous Waste Management* - the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery and disposal of hazardous wastes (WVCSR 157-7-2) [Citation Revised January 2008].

- *Highway Transporter* - a person engaged or authorized to engage in offsite transportation of hazardous waste by road and highway (WVCSR 157-7-2) [Citation Revised January 2008].

- *Offer* - that moment when the shipper (generator) certifies the uniform hazardous waste manifest (WVCSR 157-7-2) [Citation Revised January 2008].

- *Person* - any individual, trust, firm, joint stock company, public, private or government corporation, partnership, association, state or federal agency, the United States government, this State or any other state, municipality, county commission or any other political subdivision of a state or any interstate body (WVCSR 157-7-2) [Added January 2005; Citation Revised January 2008].

- *RCRA* - the Federal Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act, as amended; 42 U.S.C. Section 6901 et. seq. (WVCSR 45-25-2).

- *Secretary* - the Secretary of the West Virginia Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W. Va. Code § 22-1-6 or § 22-1-8. For the purpose of this rule, the term "Secretary" also means the administrator of the West Virginia's solid waste permit program in the administration of sections 2002 and 4005 of Resource Conservation and Recovery Act (RCRA) (WVCSR 33-1-2) [Added January 2009].

- *Shipper* - any person transporting, and/or offering hazardous waste for offsite management by highway transporter (WVCSR 157-7-2) [Citation Revised January 2008].

- *Transport Vehicle* - includes an automobile, van, tractor, trailer or semi trailer, portable tank, cargo tank, or any combination thereof, propelled or drawn by mechanical power and used upon the roads and highways for the transportation of hazardous waste or authorized to transport hazardous waste (WVCSR 157-7-2) [Citation Revised January 2008].

- *Transporter* - any person accepting hazardous waste for transportation on the roads and highways of this state (WVCSR 157-7-2) [Citation Revised January 2008].

- *Uniform Hazardous Waste Manifest* - the shipping document EPA form 8700-22 and, if necessary, EPA form 8700-22A, originated and signed by the generator in accordance with the instructions included in the Appendix to 40 CFR Part 262.20(a) (WVCSR 157-7-2) [Citation Revised January 2008].

HAZARDOUS WASTE MANAGEMENT GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS	
	REFER TO CHECKLIST ITEMS:
Missing Checklist Items	HW.2.1.WV.
State-Specific Hazardous Waste Requirements	HW.5.1.WV. and HW.5.4.WV.
All Sizes of Generators	HW.10.1.WV.
Conditionally Exempt Small Quantity Generators (CESQG)	HW.15.1.WV. and HW.15.2.WV.
Small Quantity Generators (SQG)	[Deleted]
Generators	[Deleted]
Transportation of Hazardous Waste	HW.100.1.WV. through HW.100.4.WV.
All TSDFs	HW.105.1.WV. through HW.105.3.WV.
Export/Import of Hazardous Waste	HW.265.1.WV. and HW.265.3.WV.
Small Quantity Universal Waste Handlers	
Specific Wastes	[Deleted]
Notification	HW.320.1.WV.
Large Quantity Universal Waste Handlers	
Specific Wastes	[Deleted]
Notification	HW.410.1.WV.

GUIDANCE FOR APPENDIX USERS	
APPENDIX NUMBER:	**APPENDIX TITLE:**
4-1	Air Pollution Provisions Contained in 40 CFR Adopted by Reference by the State of West Virginia
4-2	[Deleted]

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HW.2. **MISSING CHECKLIST ITEMS**	
HW.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HW.5. **STATE-SPECIFIC HAZARDOUS WASTE REQUIREMENTS**	
HW.5.1.WV. Hazardous waste activities must be reported (WVCSR 33-20-3.2 and 33-20-4) [Revised February 1998; Revised February 2000; Revised January 2004; Revised January 2005; Revised January 2009; Citation Revised January 2010].	(NOTE: This notification requirement applies also to conditionally exempt small quantity generators.) Verify that each generator and each storage, treatment, disposal, or other facility submits a notification form to the Secretary. (NOTE: If one facility site includes more than one storage, treatment, or disposal activity, only one notification form for the entire facility site is required.) Verify that generators that store, treat, or dispose of hazardous waste on-site file a notification form for generation activities as well as storage, treatment, and disposal activities, unless those activities are exempted. Verify that new generators and those initiating activities required to comply with the EPA identification number requirements, provide a copy of their application for an EPA identification number to the Administrator.
HW.5.2.WV. The owner of any property on which hazardous waste has been stored, treated, or disposed of must record certain information on the deed or lease to the property (WVCSR 33-20-12) [Citation Revised February 1998; Revised January 2005; Revised January 2009].	Verify that the owner of the property on which a hazardous waste management facility is located, records, in accordance with state law, a notation on the deed or lease to the facility property (or on some other instrument that is normally examined during title search) that will in perpetuity notify any potential purchaser of the property that: - the land has been used to manage hazardous wastes - its use is restricted under 40 CFR Section 264.117(c). Verify that, upon actual transfer of property upon which hazardous wastes were stored, treated, or disposed of, the facility notifies the Secretary in writing of such transfer.
HW.5.3.WV. [Moved January 2005].	(NOTE: Moved to HW.10.1.WV., January 2005.]
HW.5.4.WV. All LQG, SQG CESQG and TSDF must submit an annual Hazardous	Verify that each calendar year, all generators including LQG, SQG, CESQG, and TSDFs, submit to the Director the Hazardous Waste Management Fee Fund Report and the Hazardous Waste Emergency Response Fund Fee Assessment

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
Waste Emergency Response Fund Fee Assessment Report (WVCSR 33-24-4 and 33-26-4) [Added January 2004; Revised January 2005; Revised January 2010].	Report including the following information: - total amounts (in tons) of hazardous waste generated, excluding nonhazardous constituents - the amounts (in tons) of the quantity of hazardous waste which was treated or disposed of off-site - the amounts (in tons) of that quantity of hazardous waste which was treated or disposed of on-site - the amount (in tons) of that quantity of hazardous waste which was treated off-site so that such waste was rendered nonhazardous - the amount (in tons) of that quantity of hazardous waste that was treated on-site so that such waste was rendered nonhazardous.

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HW.10. **ALL SIZES OF GENERATORS**	
HW.10.1.WV. Wastewater containing a mixture of waste and one or more hazardous wastes is exempt from the definition of hazardous waste if the owner or operator meets specific requirements (WVCSR 33-20-3.1) [Added January 2004; Revised January 2005 ; Revised January 2009 ; Revised January 2010]	(NOTE: Moved from HW.5.3.WV., January 2005.) (NOTE: WV adopts and incorporates by reference 40. CFR Part 261 with the following additions.) Verify that in order for a mixture of a waste and one or more hazardous wastes identified in 40 CFR 261.3(a)(2)(iv) to be exempt from the definition of hazardous waste, the owner or operator complies with the following: - provide a certification in writing to the Secretary that groundwater monitoring is or will be in place at the wastewater treatment facility - includes a time schedule for the installation of groundwater monitoring. (NOTE: This requirement does not apply to wastewater treatment units or containers.) Verify that, before claiming an exemption, the owner or operator of each wastewater treatment facility receiving mixtures of wastes notifies the Secretary of the receipt of the wastes. Verify that a list of hazardous wastes that are expected to be present in the exempted mixture is submitted annually to the Secretary.

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HW.15. **CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS (CESQG)**	
HW.15.1.WV. CESQGs must not send hazardous waste and acute hazardous waste to offsite municipal or industrial waste treatment, storage, or disposal facilities (WVCSR 33-20-3.2) [Revised February 1998; Revised January 2009].	(NOTE: The provisions of 40 CFR Sections 261.5(f)(3)(iv) and (v) and (g)(3)(iv) and (v) are excepted from incorporation by reference. These are the Sections that allow hazardous waste and acute hazardous waste from CESQGs to be sent to permitted, licensed, or registered municipal or industrial offsite treatment, storage, or disposal facilities.) Verify that conditionally exempt small quantity generators notify the Secretary of their hazardous waste activity (see HW.5.1.WV.)
HW.15.2.WV. [Deleted January 2005].	(NOTE: CSR 33-20 revised.)

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HW.45. **SMALL QUANTITY GENERATORS (SQG)**	
HW.45.1.WV. [Deleted January 2005].	(NOTE: CSR 33-20 revised.)

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HW.55. **GENERATORS**	
HW.55.1.WV. [Deleted January 2007].	(NOTE: WVCSR 45-25-1 and 45-25-4 revised.)

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HW.100. **TRANSPORTATION**	
HW.100.1.WV. [Deleted January 2004].	(NOTE: Checklist item deleted; equivalent to Federal requirements.)
HW.100.2.WV. [Deleted January 2004].	(NOTE: Checklist item deleted; equivalent to Federal requirements.)
HW.100.3.WV. Highway transporters of hazardous waste for offsite treatment, storage, or disposal must comply with certain transportation procedures (WVCSR 157-7-5).	Verify that every hazardous waste transporter or authorized hazardous waste transporter operating upon the roads and highways of West Virginia is in compliance with all applicable rules and regulations enforced by the West Virginia Department of Highways.

HW.100.4.WV. Highway transporters of hazardous waste for offsite treatment, storage, or disposal must comply with certain procedures in the event of a discharge (WVCSR 157-7-6).	Verify that a highway transporter who has discharged hazardous waste gives notice to:
	
	- the West Virginia Division of Highways, 1900 Washington Street, East, Charleston, West Virginia 25305, Telephone: (304)348-3028; 24 h a day
	- the West Virginia Department of Natural Resources, Department of Waste Management, 1260 Greenbrier Street, Charleston, West Virginia 25311, Telephone 800-642-3074
	- the National Response Center 1-800-424-8802 or (202) 426-2675, but only if:
	  - a person is killed
	  - a person receives injuries requiring hospitalization
	  - total property damage from the spill exceeds $50,000
	  - the discharge involves radioactive waste and/or materials
	  - the discharge involves shipment of etiologic agents.
	
	Verify that the notice contains the following information:
	
	- name of reporter
	- name and address of carrier
	- phone number where reporter can be reached
	- date, time and location of spill
	- extent of injuries, if any
	- type and quantity of hazardous waste involved, if any

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- description of incident and whether a continuing danger to life exists at the scene. Verify that, within 15 calendar days of the date of discovery of the discharge of any quantity of hazardous waste, the highway transporter files a written report--as specified in 49 CFR 171.16, as amended--with the West Virginia Division of Highways and the West Virginia Department of Natural Resources. Verify that the report contains the following information: - the location of the discharge in relation to surface water, public water supplies, groundwater, wildlife inhabitants, and agricultural production - the quantity and description of the hazardous waste removed and the disposition of that material - the disposition, quantity and description of the unremoved hazardous waste - a copy of the hazardous waste manifest is attached to the report. Verify that the highway transporter cleans up any hazardous waste discharge that occurs during transportation or takes such action as required or approved by Federal, state or local officials so that the hazardous waste discharge no longer presents a hazard to human health or the environment.

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HW.105. **ALL TSDFS**	
HW.105.1.WV. [Deleted January 2005].	(NOTE: 33-20-11.9 applies to draft permits only.)
HW.105.2.WV. TSDFs must maintain a list of all permits or construction approvals received or applied for (WVCSR 45-25-4.1) [Revised January 2009].	Verify that TSDF maintains a listing of all permits or construction approvals received or applied for under any of the following programs and their counterpart programs administered by the state, where appropriate: - Hazardous Waste Management Program - Prevention of Significant Deterioration (PSD) Program or the Federal Clean Air Act - nonattainment program under West Virginia DEP, Division of Air Quality or the Federal Clean Air Act - National Emission Standards for Hazardous Pollutants (NESHAP) preconstruction approval or the Federal Clean Air Act - Standards of Performance for New Stationary Sources or the Federal Clean Air Act - other relevant air pollution control permits including local permits.
HW.105.3.WV. TSDFs must comply with regulations regarding air emissions (WVCSR 45-25-4.3, 4.9, 4.10, 4.11, and 4.12) [Revised January 2007; Revised January 2009].	Verify that hazardous waste tanks, containers, surface impoundments, landfills, waste piles, land treatment, miscellaneous units, thermal treatment units, incinerators, and boiler and industrial furnace facilities are designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned, sudden, or non-sudden release of hazardous waste constituents to the air which could threaten human health or the environment. Verify that the facility fully encloses a hazardous waste pile or otherwise designs it to prevent dispersal of the waste by wind. Verify that hazardous waste landfills are covered or otherwise managed to prevent wind dispersal of the waste. Verify that the protection of human health and the environment includes the prevention of adverse effects on air quality and considers the following: - the volume and physical and chemical characteristics of the waste in the facility, including its potential for volatilization and wind dispersal - the existing quality of the air, including other sources of contamination and their cumulative impact on the air - the potential for health risks caused by human exposure to waste constituents - the potential damage to wildlife, crops, vegetation, and physical structures

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	caused by exposure to waste constituents - the potential for interference with the enjoyment of life or property - the persistence and permanence of such potential adverse effects. Verify that facilities that own and operate hazardous waste treatment, storage, or disposal facilities utilize BACT to limit the discharge of hazardous waste constituents to the atmosphere during: - process turn-arounds - cleaning of process equipment - planned process shutdowns - tank truck, railroad tank car, and barge cleaning.

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
HW.265. **EXPORT/IMPORT OF HAZARDOUS WASTE**	
HW.265.1.WV. All documentation, manifests, exception reports, annual reports or records submitted to the EPA or the EPA region by the generator must be submitted to the Director (WVCSR 33-20-5.4) [Revised February 1998; Revised January 2004; Revised January 2009].	(NOTE: The provisions of 40 CFR part 262, subpart E, Exports of Hazardous Waste are adopted and incorporated by reference.) Verify that any person subject to the provisions of subpart E files with the Secretary copies of all documentation, manifests, exception reports, annual reports or records, submitted to EPA, the Administrator or the Regional Administrator as required by and within the time frames set forth in 40 CRF 262 subpart E, Exports of Hazardous Waste.
HW.265.2.WV. All documentation, manifests, exception reports, annual reports or records submitted to the EPA or the EPA region by the TSDF must be submitted to the Director (WVCSR 33-20-7.2 and 7.3) [Added January 2009; Citation Revised January 2010].	(NOTE: The provisions of 40 CFR 264 are adopted and incorporated by reference.) Verify that the Secretary receives the identical notifications that are received by the EPA under the provisions of 40 CFR 264.12(a)(1) and (2). (NOTE: 40 CFR 264.12 states that the owner or operator of a TSDF that has arranged to receive hazardous waste from a foreign source notifies the Regional Administrator in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. In addition, the owner or operator of a recovery facility that has arranged to receive hazardous waste within the OECD provides a copy of the tracking document bearing all required signatures to the Office of Enforcement and Compliance Assurance, Environmental Protection Agency.)
HW.265.3.WV. All documentation, manifests, exception reports, annual reports or records submitted to the EPA or the EPA region by the interim TSDF must be submitted to the Director (WVCSR 33-20-8.1 and 8.2) [Added January 2010].	(NOTE: The provisions of 40 CFR 265 are adopted and incorporated by reference.) Verify that the Secretary receives the identical notifications that are received by the EPA under the provisions of 40 CFR 2654.12(a)(1) and (2). (NOTE: 40 CFR 265.12 states that the owner or operator of a TSDF that has arranged to receive hazardous waste from a foreign source notifies the Regional Administrator in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. In addition, the owner or operator of a recovery facility that has arranged to receive hazardous waste within the OECD provides a copy of the tracking document bearing all required signatures to the Office of

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Enforcement and Compliance Assurance, Environmental Protection Agency.)

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SMALL QUANTITY UNIVERSAL WASTE HANDLERS **HW.290.** **Specific Wastes** **HW.290.1.WV.** [Deleted January 2005].	(NOTE: Regulation revised.)

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
SMALL QUANTITY UNIVERSAL WASTE HANDLERS **HW.320.** **Notification**	
HW.320.1.WV. All documentation, manifests, exception reports, annual reports or records required to be submitted to the EPA or the EPA region must be submitted to the Secretary (WVCSR 33-20-13) [Added January 2005; Revised January 2009; Revised January 2010].	(NOTE: The provisions of 40 CFR 273 are adopted and incorporated by reference.) Verify that any person subject to the provisions of 40 CFR 273 files with the Secretary copies of all documentation, manifests, exception reports, annual reports or records, required to be submitted to EPA, the Administrator, or the Regional Administrator.

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
LARGE QUANTITY UNIVERSAL WASTE HANDLERS **HW.380.** **Specific Wastes** **HW.380.1.WV.** [Deleted January 2005].	(NOTE: Regulation revised.)

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
LARGE QUANTITY UNIVERSAL WASTE HANDLERS **HW.410. Notification**	
HW.410.1.WV. All documentation, manifests, exception reports, annual reports or records required to be submitted to the EPA or the EPA region must be submitted to the Director (WVCSR 33-20-13) [Added January 2005; Revised January 2009].	(NOTE: The provisions of 40 CFR 273 are adopted and incorporated by reference.) Verify that any person subject to the provisions of 40 CFR 273 files with the Secretary copies of all documentation, manifests, exception reports, annual reports or records, required to be submitted to EPA, the Administrator or the Regional Administrator.

Appendix 4-1

Air Pollution Provisions Contained in 40 CFR
Adopted by Reference by the State of West Virginia
(Source: WVCSR 45-25, Table 25-A) [Revised February 1998; Revised January 2004; Revised January 2009]

CFR	Subpart	Title
40 CFR 264, 265	O	Incinerator
40 CFR 270.19	B	Specific Requirements for Incinerators
40 CFR 270.42	D Appendix	Permit Modification at the Request of the Permittee Appendix I
40 CFR 270.62	F	Hazardous Waste Incinerator Permits
40 CFR 270.72	G	Changes During Interim Status
40 CFR 264	X	Miscellaneous Units
40 CFR 270.23	B	Specific Requirements for Miscellaneous Units
40 CFR 264, 265	AA	Air Emission Standards for Process Vents
40 CFR 270.24	B	Specific Requirements for Process Vents
40 CFR 264, 265	BB	Air Emission Standards for Equipment Leaks
40 CFR 270.25	B	Specific Requirements for Equipment Leaks
40 CFR 264, 265	CC	Air Emission Standards for Tanks, Surface Impoundments, and Containers
40 CFR 264.179, 265.178	I	
40 CFR 264.200, 265.202	J	
40 CFR 264.232, 265.231	K	
40 CFR 265	Appendix	Appendix VI
40 CFR 270.14(b)(5)	A	General Information
40 CFR 270.27	B	Specific Requirements for Air Emissions Control for Tanks, Surface Impoundments and Containers
40 CFR 265	P	Thermal Treatment
40 CFR 266	H	Hazardous Waste Burned in Boilers and Industrial Furnaces
	Appendices	Appendix 1 to XIII
40 CFR 270.22	B	Specific Requirements for Boilers and Industrial Furnaces Burning Hazardous Wastes
40 CFR 270.66	F	Permits for Boiler and Industrial Furnaces Burning Hazardous Waste
40 CFR 279.23	C	On-site Burning In Space Heater
40 CFR 279	G	Standards for Used Oil Burners Who Burn Off-Specification Used Oil for Energy Recovery
40 CFR 270.14(b)(22)	B	Permit Application
40 CFR 270.1(c)(2)(viii)(C)	A	General Information
40 CFR 270.30(m)	B	Information repository
40 CFR 261.6(c)(1)	A	Requirements for Recyclable Materials
40 CFR 261.4	-	Exclusions
40 CFR 261.38	D	Comparable/Syngas Fuel Exclusion
40 CFR 262.34	C	Accumulation Time
40 CFR 260.11	B	References
40 CFR 264.15(b)(4)	B	General Inspection Requirement
40 CFR 264.73(b)(6)	E	Operating Records
40 CFR 270.235	I	Options for Incinerators and Cement and Lightweight Aggregate Kilns to Minimize Emissions from Startup, Shutdown, and Malfunction Events.

Appendix 4-2

Hazardous Waste Management Provisions Contained in 40 CFR Adopted by Reference by the State of West Virginia
(Source: WVCSR 33-20-2 through 13)
[Deleted January 2007]

SECTION 5

NATURAL RESOURCES MANAGEMENT

West Virginia Supplement, January 2010

This section covers the state requirements for Natural Resources Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

A current list of Federal threatened and endangered species found in the state and a list of rare, threatened and endangered plant, invertebrate and vertebrate species in the State is maintained by the West Virginia Department of Natural Resources at http://www.wvdnr.gov/Wildlife/RareSpecList.shtm .

NATURAL RESOURCES MANAGEMENT GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS	
	REFER TO CHECKLIST ITEMS:
Missing Checklist Items	NR.2.1.WV.

COMPLIANCE CATEGORY: NATURAL RESOURCES MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
NR.2. **MISSING CHECKLIST ITEMS**	
NR.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

SECTION 6

OTHER ENVIRONMENTAL ISSUES

West Virginia Supplement, January 2010

This section covers the state requirements for Other Environmental Issues and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

OTHER ENVIRONMENTAL ISSUES
GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS

	REFER TO CHECKLIST ITEMS:
The NEPA Process	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.	
Missing Checklist Items	O1.2.1.WV.
Environmental Noise	
Missing Checklist Items	O2.2.1.WV.
State-Specific Requirements	[Deleted]
CERCLA Cleanup Sites	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.	
Missing Checklist Items	O3.2.1.WV.
Pollution Prevention	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.	
Missing Checklist Items	O4.2.1.WV.
Program Management	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.	

COMPLIANCE CATEGORY: OTHER ENVIRONMENTAL ISSUES West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
THE NEPA PROCESS **O1.2.** **Missing Checklist Items** **O1.2.1.WV.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: OTHER ENVIRONMENTAL ISSUES West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
ENVIRONMENTAL NOISE **O2.2.** **Missing Checklist Items**	
O2.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: OTHER ENVIRONMENTAL ISSUES West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
ENVIRONMENTAL NOISE **O2.5.** **State-Specific Requirements** **O2.5.1.WV.** [Deleted January 2007].	(NOTE: WVCSR 17C-15-34 was deleted.)

COMPLIANCE CATEGORY: OTHER ENVIRONMENTAL ISSUES West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
CERCLA CLEANUP SITES **O3.2** **Missing Checklist Items** **O3.2.1.WV.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: OTHER ENVIRONMENTAL ISSUES West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
POLLUTION PREVENTION **O4.2.** **Missing Checklist Items**	
O4.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

SECTION 7

PESTICIDE MANAGEMENT

West Virginia Supplement, January 2010

This Section covers the state requirements for Pesticide Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

(NOTE: See section WA.150.WV. in the *Wastewater Management Chapter* for best management practices for the application and storage of manures and fertilizers.)

Definitions

- *Act* - the West Virginia Pesticide Control Act (WV 19-16A-1 et. seq.) (West Virginia Code of State Regulations, Title 61, Series 12A, Section 2 (WVCSR 61-12A-2).

- *Agreement* - any written or verbal contract, accepted proposal, work order, guarantee, warranty, or combination of these (WVCSR 61-12C-2).

- *Appurtenances* - valves, pumps, fittings, pipes, hoses, plumbing or metering devices that are connected to a bulk pesticide container or used for transferring bulk pesticides between containers (WVCSR 61-12H-2).

- *Basement* - the floor below the principle floor which may be wholly or partially below grade and may be earthen or covered (WVCSR 61-12C-2).

- *Bulk Pesticide* - any registered pesticide which is transported or held in an individual container in undivided quantities of greater than 55 U.S. gal liquid measure or 100 lb net dry weight. This term does not apply to those pesticides packaged for retail sale and use in containers approved by the U.S. Department of Transportation for interstate transportation (WVCSR 61-12H-2.3; 61-12I-2).

- *Broadcast* - the application of pesticides over an area such as a lawn, field, room, crawl space, or other such surface. The term does not include crack and crevice or spot applications made to selected plants, insects, soil, or surfaces (WVCSR 61-12J-2).

- *Bulk Pesticide Storage Facility* - any facility or site where bulk pesticides are being stored for more than thirty consecutive days per year in quantities of greater than 300 U.S. gal liquid or 100 lb net dry weight for purposes of repackaging (WVCSR 61-12H-2).

- *Bulk Pesticide Storage Facility Registry* - the annual listing of all bulk pesticide storage facilities in the state as derived from written notification of the facility location by the facility's owner, operator or person-in-charge (WVCSR 61-12H-2).

- *Bulk Repackaging* - the transfer of bulk quantities of a registered pesticide from one bulk container to another bulk container in an unaltered state in preparation for sale to, or distribution for, use by another person (WVCSR 61-12H-2).

- *Commercially* - the activity of conducting business relating to applying, selling, or recommending the use of pesticides on a regular routine basis (WVCSR 61-12B-2).

- *Competent* - properly qualified to perform the functions associated with pesticide application, the degree of capability required being directly related to the nature of the activity and the associated responsibility (WVCSR 61-12A-2).

- *Consumer Information Sheet* - a fact sheet that is designed for distribution to consumers and contains information on the toxicity of the end use concentration of a pesticide product. In the case of ready-to-use products, "consumer information sheets" may be the same as "material safety data sheets" (WVCSR 61-12J-2).

- *Crack and Crevice Treatment* - the application of small amounts of insecticides into openings commonly found at expansion joints, between different elements of construction, and between equipment and floors or walls (WVCSR 61-12J-2).

- *Crawl Space* - an area under a structure between the wood portion above and the soil below, which cannot be considered as a floor (WVCSR 61-12C-2).

- *Day Care Center* - a completed structure used for the care of 13 or more children on a nonresidential basis (WVCSR 61-12J-2) [Revised January 2009].

- *Dedicated Pesticide Container* - a pesticide container effectively designed and constructed to hold a specific pesticide and to be reused, prepackaged, or refilled. Such containers shall clearly and permanently identify the pesticide to which it is dedicated and include a clearly visible tamper indicator which reveals that the integrity of the container has been either maintained or disrupted. In cases where the tamper indicator is not intact, the container shall not qualify as a dedicated container and shall not be eligible for reuse, repackaging or refilling until it has been cleaned, inspected and resealed by the registrant or its agent. Clean containers in good repair that are not dedicated containers but are otherwise suitable for or intended for use as bulk pesticide container may, upon approval of the seller or the registrant, be used, reused, refilled, or repackaged with bulk pesticides as provided herein (WVCSR 61-12H-2).

- *Discharge* - any spill, leak, deposit, dumping or emptying, either accidental or otherwise, that results in a release of a pesticide outside the contained portion of an operational area. Discharge does not include lawful transfer, loading, unloading, repackaging, refilling of a pesticide provided these or other similar activities are carried out within an operational area containment. In addition discharge does not include the lawful distribution, use, disposal or application of a pesticide (WVCSR 61-12H-2.8; 61-12I-2).

- *Emergency and Discharge Response Plan* - a plan describing procedures to be employed in the event of an emergency, such as a fire or flood, or discharge at a bulk pesticide storage facility. The plan shall result in the notification of appropriate state authorities, mitigate the emergency, stop the discharge, recover the discharge, and clean up the affected area (WVCSR 61-12H-2).

- *Existing Structure* - any building or part thereof, whether vacant or occupied (WVCSR 61-12C-2).

- *Family Day Care Facility* - a completed structure used to provide nonresidential child care for 7 to 12 children (WVCSR 61-12J-2) [Added January 2007].

- *Footer or Footing* - the base or lower course upon which a foundation, pillar, pier, chimney, or other structure rests which may be below the surface of the ground or on the ground (WVCSR 61-12C-2).

- *Fumigant* - a gaseous or readily volatilizable chemical (as sulfuryl fluoride or methyl bromide) used as a disinfectant or pesticide (WVCSR 61-12A-2).

- *Fumigation* - the application of a fumigant to one or more rooms in a structure, or to the entire structure, or to a localized space within a structure or outside of a structure, such as a box car, aircraft, truck, ship or any object which is sealed or covered (WVCSR 61-12A-2).

- *Inside Treatment* - the application of pesticides for termite control to the soil in the areas under a structure in a basement or crawl space, or in the case of slab-on-ground construction, it may mean application to any area inside a structure where a pesticide is applied through or under the slab (WVCSR 61-12C-2).

- *Integrated Pest Management* - a system of controlling pests in which pests are identified, action thresholds are considered, all possible control options are evaluated and selected controls are implemented. Control options, which include biological, chemical, cultural, manual, and mechanical methods, are used to prevent or remedy unacceptable pest activity or damage. Choice of control options is based on effectiveness, environmental impact, site characteristics, worker/public health and safety, and economics. The goal of an integrated pest management system is to manage pests and the environment to balance benefits of control, costs, public health and environmental quality. Integrated pest management takes into account site specific factors and takes advantage of all pest management options (WVCSR 61-12J-3) [Added January 2007].

- *Least Hazardous Materials* - the use of pest control practices and methods, including the use of chemicals in a manner to cause the least practical exposure to the occupants of a structure. The "least hazardous materials" takes into account the pest control method, toxicity of the product and the exposure to the occupants to the practice or methods employed to control pests, such as the use of a non-volatile material formulation and/or application method as opposed to a broadcast application that creates potential for exposure (WVCSR 61-12J-2).

- *Licensed Pesticide Application Business* - a pesticide business commercially applying pesticides for hire (WVCSR 61-12B-4.2a).

- *Material Safety Data Sheet* - a fact sheet that is designed for distribution to chemical manufacturing plant workers and refers to the toxicity of the concentrate of a pesticide product. In the case of ready-to-use products, "material safety data sheets" may be the same as "consumer information sheets" (WVCSR 61-12J-2).

- *New Construction* - any building or part thereof which is under construction and has not yet been occupied (WVCSR 61-12C-2).

- *Nonbulk Pesticide* - any liquid or non-liquid pesticides distributed, sold, offered for sale, packaged or repackaged in containers of less that 55 U.S. gal liquid or 100 lb net dry weight and includes all pesticides not meeting the definition of bulk pesticides (WVCSR 61-12I-2).

- *Nonbulk Quantity Repackaging* - the authorized transfer in nonbulk quantities of a specific bulk pesticide to a suitable nonbulk container capable of holding the specific bulk pesticide. Nonbulk quantity repackaging may only be performed at a bulk pesticide storage facility under a specified written authorization and agreement between the facility and the registrant of the bulk pesticide. This definition does not preclude the lawful filling and labeling of either single use dedicated containers or other containers, as the registrant's original unbroken container, carried out under a formal, written contractual agreement between a contract repackager and the registrant (WVCSR 61-12H-2).

- *Operational Area* - an area or areas where the contents of pesticide containers are transferred between containers, including the transfer to application equipment, loaded, unloaded, mixed, repackaged, refilled or where pesticides are cleaned, washed or rinsed from containers or application, handling, storage or transportation equipment. An operational area does not include a facility or location that receives and/or distributes pesticides in the manufacturer's original unbroken container and such containers remain sealed or otherwise unopened, or areas not falling within the definition of a permanent operational area (WVCSR 61-12H-2.11; 61-12I-2).

- *Operational Area Containment* - any structure or system designed and constructed to intercept and contain discharges, including container or equipment wash water, rinsates, and rainwater, and to prevent escape, runoff and leaching from an operational area (WVCSR 61-12H-2 and 61-12I-2).

- *Outside Treatment* - the application of pesticides for termite control to the soil adjacent to the foundation, including porches, entry platforms, breezeways, etc., attached to the structure and underground as far as the footer (WVCSR 61-12C-2).

- *Permanent Operational Area* - an operational area where either pesticide concentrates or use dilution mixtures in excess of 300 U.S. gal of liquid or 3000 lb of net dry weight are transferred, loaded, unloaded, mixed, repackaged, refilled, or cleaned, washed or rinsed from containers or application equipment, handling equipment, storage equipment or transportation equipment over a 30 day period either consecutive or cumulative during a calendar year (WVCSR 61-12I-2).

- *Pesticide* - for the purposes of the rule relating to integrated pest management programs for schools and day care centers, the use of insecticides and herbicides that are sprayed into or around a building and the adjacent play grounds utilized by a school or day care center (WVCSR 61-12J-2).

- *Pesticide Consultant* - a person commercially recommending the use of pesticides to others (WVCSR 61-12B-2).

- *Primary Containment* - the storage of bulk pesticide in either its original container or other suitable container, including dedicated containers, effectively designed and constructed to contain the pesticide or pesticides that may be stored therein (WVCSR 61-12H-2).

- *Re-Entry Period* - the time that must elapse from the completion of a pesticide application until students or school and day care employees may enter the building to conduct scheduled activities (WVCSR 61-12J-2).

- *Regulated Pest* - a specific organism considered by the state or by a Federal agency to be a pest requiring regulatory restrictions, regulations or control procedures in order to protect the host, man or the environment (WVCSR 61-12A-2).

- *Regulated Pesticide Application Business* -a pesticide business commercially applying pesticides not for hire (WVCSR 61-12A-2).

- *Regulated Pesticide Dealer* - a dealer commercially selling general use pesticides (WVCSR 61-12B-2).

- *Restricted Use Pesticide Dealer* - a dealer commercially selling restricted use pesticides (WVCSR 61-12B-2).

- *Rodding and Injection* - the insertion of pesticides into the soil by means of a pipe or hollow rod through which a pesticide is forced under pressure and may be used in conjunction with a shallow trench. Rodding may be the creation of holes made with a bar or rod in the soil (WVCSR 61-12C-2).

- *School* - a completed structure utilized as a public or private school, grades kindergarten through twelfth grade (WVCSR 61-12J-2).

- *School Grounds* - the area outside of the school buildings controlled, managed, or owned by the school or school district, including lawns, playgrounds, sports fields, and any other property or facility controlled, managed, or owned by a school (WVCSR 61-12J-2) [Added January 2007].

- *Secondary Containment* - any structure effectively designed and constructed to contain discharges and to prevent escapes, runoff and leaching of pesticides from bulk pesticide storage facilities and operational areas (WVCSR 61-12H-2).

- *Slab-On-Ground Construction* - the erection of a structure, usually on the poured concrete floor, which may or may not have a foundation and footer and under which there is no open space (WVCSR 61-12C-2).

- *Space Treatment* - the application of a pesticide that is intended to discharge the pesticide into the air throughout an entire room or area (WVCSR 61-12J-2).

- *Spot Treatment* - the application of a pesticide to a limited area where pests are likely to occur, such as floors, walls, bases or the underside of equipment, turf or ground. A "spot" shall not be more than 2 ft^2 and shall not be more than 20 percent of a surface area (WVCSR 61-12J-2).

- *Termite Shelter Tube* - the mud tube constructed upon walls, pipes, or other surfaces, or freestanding from the ground to the wood above, by subterranean termites (WVCSR 61-12C-2).

- *Trenching* - the removal of the soil in contact with a foundation, pillar, pier, chimney, etc. (WVCSR 61-12C-2).

- *Termiticide* - those pesticides that are approved by the United States Environmental Protection Agency for the control of termites (WVCSR 61-12C-2).

- *Unit Masonry Foundation* - foundation construction using concrete, cinder, or other blocks with voids, hollow tile blocks, brick with space between tiers, etc. (WVCSR 61-12C-2).

- *Use Dilution* - the concentration of a mixed pesticide prepared for application (to control or abate pests) according to its registered label (WVCSR 61-12C-2).

- *Utility Rights-Of-Way* - those rights-of-ways maintained by persons providing public service to the citizens of the state and may include but is not limited to electric companies, gas companies, communication companies and railroads (WVCSR 61-12D-2).

PESTICIDE MANAGEMENT GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS	
	REFER TO CHECKLIST ITEMS:
Missing Checklist Items	PM.2.1.WV.
Pesticide Applicators	PM.5.1.WV. through PM.5.4.WV.
Pesticide Application	
General	PM.10.1.WV.
Equipment	PM.15.1.WV.
Aerial	PM.25.1.WV.
Other	PM.35.1.WV. through PM.35.7.WV.
Documentation	PM.40.1.WV.
Storage, Mixing, Preparation	PM.45.1.WV. through PM.45.4.WV.
Bulk Pesticides	PM.60.1.WV. through PM.60.6.WV.

GUIDANCE FOR APPENDIX USERS	
APPENDIX NUMBERS:	**APPENDIX TITLES:**
7-1	Commercial Applicator Categories
7-2	Use of the Least Hazardous Materials -- Re-entry Intervals

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PM.2. **MISSING CHECKLIST ITEMS**	
PM.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PM.5. **PESTICIDE APPLICATORS**	
PM.5.1.WV. Persons applying restricted use pesticides are required to be certified (WVCSR 61-12A-4 and 61-12A-11) [Revised February 1998].	Verify that persons who apply restricted use pesticides are certified in the appropriate category (see Appendix 7-1 for categories). Verify that government employees, including Federal employees, who apply restricted use pesticides have either been: - certified in the state of West Virginia, or - qualified under the Government Agency Plan (GAP), or another EPA approved plan judged by the Commissioner to be at least equal to the Act and rules promulgated pursuant to the Act. Verify that Federal employees using restricted use pesticides have their qualifying documents endorsed by the Commissioner, or a state document issued which permits the Federal employee to use restricted use pesticides in West Virginia. (NOTE: The certification of such individuals is valid only when applying or supervising the application of pesticides in the performance of their official duties.) (NOTE: If, in an emergency situation, Federal employees are brought in to West Virginia to control or eradicate pests, and these employees have been properly qualified to use restricted use pesticides under the plan of another state or under an acceptable Federal government agency plan, the employee is considered to be certified in West Virginia. The employee and his or her agency have, within 10 days of entering the state, to present qualifying credentials to the Commissioner. At this time, the Commissioner will issue state credentials if the employee is to remain in West Virginia as an applicator of restricted use pesticides. These provisions do not apply to non-Federal employees contracted to perform pesticide applications for the Federal government. In an emergency, however, and with the concurrence of the Commissioner, a properly certified Federal applicator may act in a supervisory capacity of a non-Federal applicator, provided that applicator is properly certified in West Virginia or under the plan of another state. Within 10 days of entering the state, the non-Federal applicator certified in another state is required to apply for West Virginia certification.)
PM.5.2.WV. A certified applicator must supervise non-certified persons applying restricted use pesticides (WVCSR 61-12A-8) [Revised	Verify that all non-certified applicators are under the direct supervision of a certified applicator. Verify that, during the non-certified applicator's use of a restricted use product, the supervising certified applicator:

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
January 2007].	- is able to be at the point of use of the restricted use product within a reasonable [undefined] period of time - ensures that the noncertified applicator has means by which to contact him immediately - is available to be contacted by the noncertified applicator - arrives at the point of use within a reasonable [undefined] period of time if summoned by the noncertified applicator. (NOTE: The certified applicator is required to consider the potential for serious consequences of a delay in arriving at the use site when determining what is a reasonable period of time.) Verify that supervision conforms to the level of supervision required by the labeling on the pesticide product.
PM.5.3.WV. Businesses applying pesticides must be licensed (WVCSR 61-12B-4.1).	Verify that any pesticide application business that is engaged in the business of applying pesticides upon the lands of another is qualified as either a Licensed Pesticide Application Business or a Regulated Pesticide Application Business. Verify that pesticide application businesses employ certified commercial applicators or certified public applicators for the various categories or subcategories of their operation. Verify that all pesticide applications made by pesticide application businesses are made by certified commercial applicators, certified public applicators or registered technicians who have completed a training program approved by the Commissioner.
PM.5.4.WV. Pesticide consultants must be licensed (WVCSR 61-12B-6).	Verify that all persons commercially recommending the use of pesticides are licensed as a pesticide consultant. Verify that the pesticide consultant meets the requirements of a commercial applicator in the specific category or subcategory in which he is making recommendations for pesticide use. (NOTE: Retail sales personnel or certified applicators of any business which holds a pesticide application business license, and certified public applicators or company sales representatives certified in the category of Demonstration and Research are not required to be licensed as Pesticide Consultants.)

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PESTICIDE APPLICATION **PM.10.** **General**	
PM.10.1.WV. Registered persons having sensitivity to pesticides must be notified of pesticide applications (WVCSR 61-12E-2).	(NOTE: The Pesticide Division of the Department of Agriculture maintains a registry of persons with a documented health sensitivity to pesticides. The registry of persons with health sensitivity to pesticides is distributed to pesticide application business for voluntary notification. Distribution of the list occurs during March of each year or upon the initial licensing of a pesticide application business, and an updated list is distributed every 4 mo or more often if determined necessary by the Commissioner.) Verify that persons on the registry for health sensitivity to pesticide drift are notified before pesticide applications.

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PESTICIDE APPLICATION **PM.15. Equipment**	
PM.15.1.WV. Pesticide application equipment must be in good condition and capable of satisfactory operation (WVCSR 61-12A-12).	Verify that all equipment or application apparatus is in sound mechanical condition and capable of satisfactory operation. Verify that all pesticide application equipment is properly equipped to dispense the proper amount of pesticide. Verify that all pesticide mixing, storage or holding tanks, whether on application equipment or not, are leakproof. Verify that all spray distribution systems are leakproof, and any operating pumps are capable of operating at sufficient pressure to assure a uniform and adequate rate of discharge. Verify that all pesticide application equipment is equipped with whatever cut-off valves and discharge orifices are necessary to enable the operator to pass over (or by) nontarget areas without contaminating them. Verify that all mixing or loading sites for spray equipment are equipped with a mechanism to prevent the backsiphoning of pesticides into water sources: backflow/anti-siphon valves in the plumbing system and/or an air gap between the top of the mixing tank and the water inlet hose are both acceptable.

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PESTICIDE APPLICATION **PM.25.** **Aerial**	
PM.25.1.WV. Aerial applications of pesticide must be performed by FAA-certified applicators (WVCSR 61-12A-6.3.n).	Verify that persons applying pesticides by aircraft hold a valid Agricultural Applicator Certification from the Federal Aviation Administration.

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PESTICIDE APPLICATION **PM.35.** **Other**	
PM.35.1.WV. Termite treatments must meet general requirements (WVCSR 61-12C-3 and 61-12C-8.1).	Verify that only pesticides registered for termite control by the USEPA and by the Department of Agriculture are used to control termites in and around structures. (NOTE: When a licensed pesticide application business in the category of structural pest control is doing wood destroying insect control or pre-treatment to control termites according to specifications set forth in a bid proposal which do not meet the minimum requirements set forth in WVCSR 61-12C, the pesticide application business is not in violation of this rule provided that: - the specifications under which he is working are available to the Commissioner - the application does not conflict with the label of the pesticide being used for wood destroying insect control.) Verify that pesticides used to control termites are mixed and used according to the directions on the label. Verify that all termite treatments are documented prior to treatment by treatment graphs and specifications to be completed by a commercial applicator certified in structural pest control. Verify that all termiticide application equipment or application apparatus are kept in sound working condition. Verify that all termiticide distribution systems, including pumps, hoses, nozzles and fittings, etc., are maintained in a manner to prevent leaks or spills. Verify that all pumps used with termiticide distribution systems are capable of sufficient pressure to assure a uniform and adequate rate of discharge. Verify that the pressure and rate of discharge of the termiticide are indicated by pressure gauges, flow meters or other means of equal measurement capable of demonstration by the applicator. Verify that all vehicle or trailer-mounted termiticide application systems are of a type requiring a pump to pull termiticide from a holding tank. (NOTE: The use of an air compressor to pressurize termiticide holding tanks is prohibited.)
PM.35.2.WV. Special	(NOTE: Treatment of houses with drilled or hand-dug wells must be performed

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**

precautions are required when applying te rmiticide n ear water wells (WVCSR 6 1-12C-6.1 and 61 -12C-6.2) [Citation Revised J anuary 2007].	with extreme caution to avoid contamination of wells and groundwater, which can result in label violations and liability claims from the owner of the property being treated and/ or neighbors of adjoining property using domestic wells. The licensed pesticide application business decides whether or not a treatment can be made to a property or portions of a property containing wells.)
	
	Verify t hat, when treating p roperty with e xisting d omestic wells, t he p esticide application b usiness o btains an d k eeps as a p art of t he t reatment r ecord f or t he property the following information on well location and construction:
	
	- the lo cation a nd d istance o f a ll wells within 1 00 f t o f th e structure o r structures being treated
	- information on the construction of drilled wells, including but not limited to:
	  - the overall depth of the well
	  - the type and depth of the well casing
	  - the presence or absence of grouting around the well casing
	  - the location and condition of any currently used or abandoned supply lines to the property being treated
	  - the integrity of the well casing where supply lines enter the well
	- information on the construction of dug wells, including but not limited to:
	  - the overall depth of the well
	  - the depth to the surface of water in the well
	  - the construction of the well, i.e., earth walls, laid stone or block, poured concrete, etc.
	- the location and condition of any currently used or abandoned supply lines to the property being treated.

PM.35.3.WV. The treatment of wood de stroying be etles and o ther o rganisms must meet specific r equirements (WVCSR 61-12C-7.1 and 61-12C-7.3).	(NOTE: Preventative t reatment i n t he ab sence o f an i nfestation i s p rohibited without approval of the Commissioner. Treatment is permitted for the control or prevention of reinfestation of the families of beetles which are known to reinfest seasoned wood, i.e., Anobiidae, Lyctidae, Bostrichidae, Cerambycidae (old house borer an d f lat o ak b orer o nly) an d Curculionidae. T reatment i s e xpressly prohibited f or t he c ontrol or prevention o f ot her be etles t hat cau ses d amage t o seasoned wood structures, except with prior approval of the Commissioner.) Verify that infestation is confirmed before treatment for wood destroying beetles is u ndertaken (aids f or d etermining act ive i nfestation ar e p resented i n W VCSR 61-12C-4). Verify that treatment for infestations of the following wood destroying organisms are p erformed o nly with the p rior ap proval o f t he Commissioner o f t he W est Virginia Department of Agriculture: - Ambrosia beetles - Bark beetles - Flat headed borers - Long-horned borers

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	- Metallic wood borers - Pin worms - Round headed borers other than old house and flat oak borers - Timber beetles - the Siricidae (woodwasps) - Marine borers. Verify that when wood-destroying beetles are present at or below the subfloor level, pesticides are applied from underneath the structure using an approved pesticide in accordance with label directions. Verify that all the following conditions are met prior to fumigation to control wood destroying beetles: - there is evidence to indicate or reasonable cause to suspect that a substantial active infestation of wood-destroying beetles exists above the subfloor level - the property owner is informed of other alternative treatments such as spot application, removal and replacement of infested wood members or treatment of the sub-structure only if it is actively infested - the Commissioner is notified of the location at least 48 h prior to the anticipated time of treatment. (NOTE: When a licensed pesticide application business in the category of structural pest control is doing wood destroying insect control according to specifications set forth in a bid proposal which do not meet the minimum requirements set forth in WVCSR 61-12C, the pesticide application business is not in violation of this rule provided that: - the specifications under which he is working are available to the Commissioner - the application does not conflict with the label of the pesticide being used for wood destroying insect control.)
PM.35.4.WV. Schools, day care centers and family day care facilities must comply with integrated pest management requirements (WVCSR 61-12J-4, 5 and 10) [Revised January 2007].	(NOTE: Areas of schools, including but not limited to greenhouses, nursery plots or agricultural field plantings, utilized for vocational agricultural plots or research are exempt from these requirements.) Verify that schools and day care centers develop and maintain an integrated pest management program utilizing the best management practices contained in "Integrated Pest Management in Schools and Other Public Institutions, Best Management Practices," published by the Department of Agriculture. Verify that the integrated pest management program for a participating school contains: - a policy statement - pest management objectives - education of the building occupants in integrated pest management practices - inspection activities

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	- monitoring activities - an evaluation of integrated pest management strategies in practice - action thresholds for common pests. Verify that the school or day care facility surveys the facility and records the structural maintenance, cultural or sanitation practices that need correcting in order to insure the success of an integrated pest management program. Verify that this survey record is updated periodically. Verify that schools update the survey prior to the beginning of each school year with a follow-up inspection within 6 months, with the items to be corrected noted on the record. Verify that schools and day care centers have filed completed integrated pest management plans with the Commissioner for compliance inspection. Verify that when any changes are made to the program, schools and day care centers submit the revised integrated pest management plan to the Commissioner prior to the initiation of the new plan. Verify that schools and day care centers maintain an Integrated Pest Management file containing the following items or documents: - the adopted integrated pest management plan - sanitation and maintenance surveys - monitoring diagrams of the facility - pest surveillance data sheets - treatment records of the facility, including a floor plan indicating treatment locations - labels of pesticide products used at the facility - copies of consumer information sheets when available and material safety data sheets. Verify that schools and day care centers keep for a period of 2 yr. all documents required to be in the Integrated Pest Management Files. Verify that schools provide copies of pesticide labels and consumer information sheets when available, or material safety data sheets in the absence of consumer information sheets, upon request from employees of the school facility or to parents or legal guardians of the school's students. Verify that day care centers provide copies of pesticide labels and consumer information sheets when available, or material safety data sheets in the absence of consumer information sheets, to a child's parents or legal guardians upon request. Verify that, at the inception of the integrated pest management program, the day care center makes a survey of the facility and records the structural maintenance, cultural or sanitation practices that need correcting in order to insure the success

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	of an integrated pest management program. Verify that the survey record is updated periodically with the items corrected noted on the record with the date of correction.

PM.35.5.WV. School and day care center must meet pest-monitoring requirements (WVCSR 61-12J-6 and 7).	Verify that each school and day care center has a monitoring program that includes inspecting areas of the facility for pest evidence, entry points, food, water and harborage sites, and estimating pest population levels.
	
	Verify that each school and day care center conducts a monitoring program in suspect areas of their facility on an ongoing basis, and that the monitoring program includes:
	
	- a floor plan of the facility showing the number and location of each trap
	- periodic inspection of each trap at no greater than monthly intervals with the following information recorded on a Pest Surveillance Data Sheet
	  - the trap number and its location
	  - the date checked
	  - the trap's condition (either OK or needs to be replaced)
	  - the numbers and kinds of insects, arthropods, rodents or other pests trapped
	  - pest damage or other evidence of pests such as feces, cast skins, or rub marks
	  - any need for pest management
	  - the name of the person performing the monitoring activity
	- replacement of the traps when the adhesive is no longer tacky or when the trap is full, whichever comes first
	- removal and disposition of the trap after catch numbers are recorded and identification is confirmed, to prevent counting specimens more than one time and to prevent their use as food by other insects or rodents.
	
	Verify that, when monitoring indicates the level of pest infestation meets or exceeds the threshold levels established for the facility and pest type, the progressive levels of pest control techniques and chemical applications (see in Appendix 7-2) are followed in controlling the pest population.
	
	Verify that no pesticides are applied unless monitoring indicates that pest populations meet or exceed threshold levels.

PM.35.6.WV. Schools and day care centers must meet specific notification requirements for pesticide applications (WVCSR 61-12J-8).	Verify that schools and day care centers notify their employees at least 24 h in advance of the application of pesticides in levels 3 and 4 as detailed in Appendix 7-2. Verify that school administrators notify the parents or legal guardians of the right to be informed of pesticide applications at level 3 or 4 (see Appendix 7-2) at the

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	beginning of each school year, or at the time a student is enrolled into the school. Verify that the notification to parents or legal guardians contains a registration form, whereby the parent or legal guardian can request to be notified by the school administrator of the pesticide application at level 3 or 4 pesticides. Verify that the administrator of the school provides notification to parents or legal guardians requesting such notification at least 24 h in advance of the pesticide applications at level 3 or 4. Verify that the operators of daycare centers notify the parent or legal guardian of the right to be informed of the pesticide applications at level 3 or 4. Verify that the day care center operator posts and makes available to the parent or legal guardian, notification of the pesticide applications at level 3 or 4 at least 24 h in advance of any pesticide application. Verify that the notification is placed at the register where the parent or legal guardian signs the child into and out of the day care center.
PM.35.7.WV. Schools and day care center integrated pest management plans must meet specific pesticide application requirements (WVCSR 6 1-12J-9).	Verify that pesticide applications are not made in the presence of students, children in day care centers or employees of schools and day care centers, except for school or day care center employees who are certified pesticide applicators. (NOTE: Pesticides are applied to a localized area of infestation when students, children or school and day care center employees are present if the infestation causes an imminent threat of bodily harm.) Verify that all pest control methods or practices are conducted in conformance to the Use of the Least Hazardous Materials as outlined in Appendix 7-2. Verify that all pesticide applications made to schools and day care centers are applied in accordance with the integrated pest management plan filed with the Commissioner. Verify that all pesticide applications are made only by certified commercial pesticide applicators, certified public applicators, or registered technicians under the supervision of a certified pesticide applicator.

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PESTICIDE APPLICATION **PM.40. Documentation**	
PM.40.1.WV. Certified applicators are required to maintain records of pesticide applications (WVCSR 61-12A-9).	Verify that each commercial applicator or certified public applicator keeps records detailing the application of all pesticides for a period of at least 2 yr. Verify that commercial or public applicator records contain the following information at a minimum: - the pesticide used, including the EPA registration number - the formulation, the dilution rate and the quantity of the pesticide used - the date and the place of application - the pest against which the pesticide was used. (NOTE: In the case of a business in the classification of General Pest and Ornamental and Turf pest control, the records for the quantity used are kept as the total quantity used per day by each applicator when less than 1 gal of use dilution spray or 1 lb of dust, powder or prepared rodenticide baits are used at any location. When more than these amounts are used at one location, the quantity of the pesticide for that location is maintained separately.) Verify that private applicators keep records for a period of 2 yr. detailing the use of restricted use pesticides. Verify that private applicator records contain the following information: - the pesticide used, including EPA registration number - the formulation, the dilution rate and the quantity of the pesticide used - the date and the place of application - the pest against which the pesticide was used. (NOTE: Records kept by a licensed pesticide application business or a regulated pesticide business serve as the records for the individual certified employees of those businesses.)

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PM.45. **STORAGE, MIXING, HANDLING**	
PM.45.1.WV. Permanent pesticide operational areas must meet specific requirements (WVCSR 61-12I-3.1 through 61-12I-3.3.c) [Revised February 1998; Citation Revised January 2007].	Verify that all permanent operational area activities are conducted or carried out within operational area containments. Verify that all operational area activities conducted or carried out within a permanent operational area are: - carried out in a manner that prevents the escape of discharges that results in unreasonable adverse effects on the environment - carried out on an impervious surface, such as a concrete pad or other similar pad approved by the Commissioner, that is suitably coated with a material to retard absorption of discharges and to facilitate recovery of any discharged materials. Verify that all operational area containments: - are constructed of materials and in a manner that will withstand the weight and movement of any equipment that are placed or parked within the operational area containment - are maintained at all times when operational activities are occurring - are designed to catch and contain any discharge in the operational area.
PM.45.2.WV. The management of liquid pesticide in pesticide operational areas must meet specific requirements (WVCSR 61-12I-3.3.c.A) [Added February 1998].	Verity that containment for liquid pesticides including container and equipment rinsate and liquid pesticides mixed with a liquid or dry carrier meet the following requirements: - are curbed or sloped to contain discharges - discharges are immediately recovered - are capable of holding a minimum volume of 10 percent of the total capacity of the single largest container or vehicle operated within the operational area or a minimum of 250 gal whichever is greater. Verify that discharges are immediately recovered from the operational area containment. Verify that, at least one person is available to monitor the loading and unloading and stop the process in the case of a no operational spill, except when the operational area containment is equal to 125 percent of the capacity of the single largest container or vehicle operated within the operational area. Verify that rainfall or other liquids do not flow either onto or out of the operational area containment only when a suitable recovery or storage facility

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	collects, diverts or manages rainfall.
PM.45.3.WV. Nonliquid pesticide management in permanent pesticide operational areas must meet specific requirements.(WVCSR 61-12I-3.3.c.B) [Added February 1998].	Verify that the operational area containment for nonliquid pesticides meets the following requirements: - does not extend beneath any conveyers or augers used in operational area activities unless such conveyers or augers are fully enclosed and constructed to prevent discharge - is of adequate area to contain discharges from the largest container or equipment operated within the operational area containment - consists of a tarpaulin made of nonabsorbent materials which is of adequate thickness and construction to withstand all foreseeable loading conditions, and is generally compatible with the materials stored or placed on it. Verify that discharges are immediately recovered from the operational area containment. Verify that rainfall or other liquids do not flow either on to or out of the operational area containment unless a suitable recovery or storage facility collects, diverts or manages rainfall.
PM.45.4.WV. The recovery, storage, and use of discharges from permanent pesticide operational area must meet specific requirements (WVCSR 61-12I-4) [Added February 1998].	Verify that all discharges within the operational area containment are immediately and fully recovered. Verify that operational area surfaces exposed to pesticides are periodically cleaned, with all rinsates recovered and properly stored or disposed of according to state requirements. Verify that recovered discharges are stored aboveground in suitable containers in compliance with all secondary containment provisions. Verify that recovered discharges are used according to applicable product label(s). Verify that rainwater recovered from containment areas is used for pesticide dilutions only when it is reasonably free of pesticides.

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
PM.60. **BULK PESTICIDES**	
PM.60.1.WV. Bulk pesticide storage facilities must meet construction standards (WVCSR 61-12H-5.1) [Citation Revised January 2007].	Verify that, when a facility is located in a flood plain, groundwater recharge area, near wells or surface water, or similar areas, the facility is engineered and constructed in a manner to prevent the contamination of the surface water and groundwater of this state. Verify that all primary containers of bulk pesticides are constructed, installed, and maintained to prevent a discharge and are constructed of materials and construction compatible with the pesticide stored and the conditions of storage, including any specifications that appear on the pesticide label. Verify that all bulk pesticide storage facilities are constructed with a means of secondary containment to prevent discharges and facilitate the recovery of pesticides which meets the following standards: - the secondary containment is constructed of sufficient thickness, density and composition to contain any discharged material and is liquid-tight with cracks, seams and joints sealed - the secondary containment for outside storage is maintained to contain a minimum of 125 percent of the capacity of largest single container in addition to the displacement of tanks, appurtenances, and other authorized items within the containment area - containment tanks stored under a roof have a minimum containment of 110 percent of the capacity of the largest single tank in addition to the displacement of tanks, appurtenances, and other authorized items within the containment area - minimum containment capacities are maintained at all times - secondary containment has sloped floor design, unless otherwise approved by the Commissioner - where liquid-tight sumps are used for the temporary collection of liquids from the secondary containment area, the minimum capacities of these sumps have been determined by industry recognized engineering standards - automatically operated pumps are used to remove liquids from secondary containment areas or sumps only when the sumps or auxiliary tanks are located within the secondary containment - tanks used to store liquids collected from the sump are within the secondary containment area unless the tank contains only water - floor drains or valves to a liquid-tight sump and manually operated pumps are used only when the integrity of the secondary containment is maintained. Verify that the operational areas at all bulk pesticide storage facilities are designed and constructed to prevent discharges that are expected to result in unreasonable adverse effects to man or to the environment.

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PM.60.2.WV. Bulk pesticide storage facilities must meet operational requirements (WVCSR 61-12H-5.2 and 61-12H-8.1).	Verify that when a discharge occurs, the facility manager or designated facility employee immediately contacts the Commissioner and the manufacturer. (NOTE: If such discharge is a reportable quantity (RQ), as defined in 29 CFR 1910.120 and 1910.1200, SARA Title III Sections 301 - 304, the operator must also notify the National Response Center.) Verify that bulk pesticides, rinse waters containing pesticides, or discharges are not stored underground. Verify that all persons operating a bulk pesticide facility store, handle, transport, load, and unload pesticides in a manner to prevent discharge that results in unreasonable adverse effects to man or the environment. Verify that all hazards of the pesticide are considered in the handling and loading practices. Verify that bulk containers are thoroughly cleaned and inspected prior to repackaging or refilling. (NOTE: Cleaning is omitted only when a dedicated reusable bulk or nonbulk container is to be refilled with the same pesticide product, bearing the same label as the preceding product and the seal or a tamper indicator is otherwise intact.) Verify that operators dispose of discharges which accumulate in any secondary containment or operational area containment as provided by the product's original labeling. (NOTE: If the discharge is contaminated or otherwise unfit for use, reuse or disposal according to label directions, the facility operator has to immediately contact the Commissioner.) Verify that rainwater recovered from containment areas is used for pesticide dilution or other appropriate uses only when it is reasonably free of pesticide residue. Verify that recovered liquids from the secondary containment area or sump are used according to label directions or disposed of according to applicable state and Federal requirements. Verify that all pesticides used for custom mixing, tank mixing or repackaging are registered and labeled in compliance with both the FIFRA and the Pesticide Control Act of 1990 (WV Code Section 19-16A-1, et. seq.). Verify that the operator affixes the registered product label to the bulk storage container in the proximity of the outlet valve upon delivery of the pesticide.

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that the operator maintains locking devices on bulk pesticide storage containers or container valves, and conducts such other measures required to restrict access by unauthorized personnel to the bulk container storage area.
PM.60.3.WV. Bulk pesticide storage facilities must meet inspection and maintenance requirements (WVCSR 61-12H-5.3) [Citation Revised January 2007].	Verify that the operator of a bulk pesticide storage facility inspects and maintains storage containers, appurtenances, operational containment areas, and secondary containment areas to minimize the risk of a pesticide discharge. Verify that bulk pesticide storage is inspected as follows: - for bulk pesticide storage containers and appurtenances, at least weekly during the use-season and whenever pesticide is stored therein - for secondary containment areas, at least monthly while the bulk pesticide is in storage - for operational containment areas, at least monthly during the use-season. Verify that the operator performs maintenance on the bulk pesticide storage facility as necessary in order to ensure the integrity of the bulk pesticide containers, secondary containment areas, and operational containment areas are maintained.
PM.60.4.WV. Bulk pesticide storage facilities must meet recordkeeping requirements (WVCSR 61-12H-5.3.1, and 61-12H-5.4) [Citation Revised January 2007].	Verify that a written record of all inspections and maintenance is made on the day of the inspection or maintenance and kept at the facility or at the nearest local office from which the facility is administered. Verify that the following records are prepared and kept on file at the bulk pesticide storage facility or at the nearest local office from which the facility is administered while bulk pesticides are being stored: - the name of the person making the inspection, the date of each inspection, condition noted, and maintenance performed, if needed - the beginning and end amounts in each fixed storage container calculated and recorded on a daily basis - the amounts of bulk pesticide delivered, sold, or used - a written record of all pesticide discharges outside the operational area or outside the secondary containment area including data, time, type of pesticide, volume, cause (if known), actions to contain, and management of the discharge is kept for at least 5 yr. from the date of entry.
PM.60.5.WV. Bulk pesticide storage facilities are required to maintain an Emergency and Discharge Response Plan	Verify that the operator of bulk pesticide storage facility has prepared a written emergency and discharge response plan for the storage facility, and keeps the plan current at all times. Verify that the Emergency and Discharge Response Plan includes, but is not

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
(WVCSR 61-12H-6).	limited to: - the identity and telephone numbers of the persons who are to be contacted in the event of an emergency or discharge - for every bulk pesticide stored at the facility, a complete copy of the storage container label registered in this state - a complete copy of the Material Safety Data Sheet for every bulk pesticide stored at the facility - the procedures and equipment to be used in controlling and recovering or otherwise responding to an emergency or a discharge - an identification, by location, of every fixed bulk pesticide storage container of a greater than 300 gal capacity located at the facility, and the type of bulk pesticide stored therein - the general location within the facility of fixed storage containers of less than 300 gal capacity. Verify that a copy of the plan is kept at a prominent location at the storage facility and, if applicable, at the nearest local office from which the storage facility is administered. Verify that the plan is available for employee use and for inspection by the Commissioner. Verify that the operator of the bulk pesticide storage facility has provided a current copy of the plan to all local fire and police departments. Verify that each bulk pesticide storage facility has equipment on the premises necessary to mitigate and recover pesticide discharges, including, pumps, recovery containers, personal protective equipment and absorbent materials. Verify that the operator prominently posts a checklist of discharge response equipment and their locations. Verify that the bulk pesticide storage facility conducts emergency and discharge response training with all new and existing employees of the facility annually before the beginning of the pesticide-use season, and gives new employees such training within 30 days of employment. Verify that the operator does not allow new employees to participate in actual emergency responses until such training has occurred.
PM.60.6.WV. Transportation of bulk pesticides must comply with specific requirements (WVCSR 61-12H-7).	Verify that any person transporting bulk pesticides meets all applicable marking and placarding standards of the Public Service Commission and U.S. Department of Transportation rules and regulations. Verify that bulk pesticide containers are secured to prevent movement, shifting or discharge during transportation.

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Verify that a label for the registered pesticide product accompanies each shipment. Verify that when a discharge occurs during the transportation of bulk pesticides, the operators contact the department and the pesticide manufacturer for guidance.

Appendix 7-1

Commercial and Private Applicator Categories
(Source: WVCSR 61-12A-4.2 and 61-12A-5) [Revised January 2007]

Commercial Applicator Categories

Agricultural Plant Pest Control. Commercial applicators using or supervising the use of restricted use pesticides in the production of agricultural crops, including but not limited to tobacco, peanuts, cotton, feed grains, soybeans and forage; vegetables; small fruits; and tree fruits and nuts; as well as on grasslands and noncrop agricultural lands.

Agricultural Animal Pest Control. Commercial applicators using or supervising the use of restricted use pesticides on animals, including but not limited to beef cattle, dairy cattle, swine, sheep, horses, goats, poultry and livestock, and to places on or in which animals are confined.

Forest Pest Control. Commercial applicators using or supervising the use of restricted use pesticides in forests, forest nurseries and forest seed producing areas.

Ornamental and Turf. Commercial applicators using or supervising the use of restricted use pesticides to control pests in the maintenance and production of ornamental trees, shrubs, flowers and turf.

1. Ornamental and Turf Outdoors. This subcategory is for commercial applicators using or supervising the use of restricted use pesticides outdoors in the maintenance and production of ornamental trees, shrubs and flowers. When requested persons certified in this category performs incidental treatment to indoor plants in small areas not to exceed 10 ft^2.
2. Ornamental Pest Control Indoors. This subcategory is for commercial applicators that use or supervise the use of restricted use pesticides indoors in the maintenance and production of ornamental plants.

Seed Treatment. Commercial applicators using or supervising the use of restricted use pesticides on seeds.

Aquatic Pest Control. Commercial applicators using or supervising the use of any restricted use pesticide purposefully applied to standing or running water, and excludes public health applicators as defined in Subdivision 4.2.i. of this rule.

Right-of-Way/Industrial Weed Control. Commercial applicators using or supervising the use of restricted use pesticides in the maintenance of public roads, electric power lines, pipelines, railway rights-of-way, fence lines, structural perimeters or other similar areas.

Industrial, Institutional, Structural and Health Related Pest Control. Commercial applicators in this category are subcategorized as follows:

1. General. This subcategory includes commercial applicators using or supervising the use of restricted use pesticides in and around residential, commercial, institutional or industrial facilities, including food preparation areas such as kitchens, cafeterias or snack shops. When requested, persons certified in this subcategory perform incidental treatment to indoor plants in small areas not to exceed 10 ft^2.
2. Structural. This subcategory includes commercial applicators using or supervising the use of restricted use pesticides to control wood destroying pests in structures.
3. Fumigation. This subcategory includes commercial applicators using or supervising the use of restricted use pesticides, in gaseous form, within enclosed gas tight spaces such as, tents, structures, vehicles or vessels, for a wide range of commodities and conditions.
4. Wood Preservation and Wood Product Treatment. This subcategory includes commercial applicators using or supervising the use of restricted use pesticides, at treating plants and saw mills, for preservative treatment of wood by pressure, dipping, soaking and diffusion processes to produce a commodity for sale and/or installation. This subcategory also includes the handling and topical application and injection of wood preservatives, for operations such as, groundline pole treatment, waterproofing, millwork cutoffs, or supplemental field treatment.

5. Urban Integrated Pest Management. This subcategory includes commercial applicators using or supervising the use of restricted use pesticides in integrated pest management programs in and around commercial, institutional or industrial facilities, including food preparation areas such as kitchens, cafeterias or snack shops.

Public Health. Commercial applicators using or supervising the use of restricted use pesticides for Federal, state or other governmental units in public health programs for the management and control of pests having medical and public health importance.

Regulatory. Commercial applicators using or supervising the use of restricted use pesticides for Federal, state or other governmental units in the control of regulated pests.

Demonstration and Research. Commercial applicators who demonstrate to the public the proper use and techniques of application of restricted use pesticides or supervise the demonstrations. Examples of such persons are extension specialists and county agents, commercial representatives demonstrating pesticide products, and those individuals demonstrating methods used in public programs. Also included in this category are commercial applicators conducting field research that use or supervise the use of restricted use pesticides. Examples of such persons are state, Federal and other persons conducting field research utilizing restricted use pesticides. Pesticide Storage and Distribution (Excluding application). This category includes those persons who store, display and distribute restricted use pesticides in the operation of a business selling or distributing pesticides. Certification in this category does not permit the application of pesticides for hire.

Miscellaneous Pest Control. This category includes commercial applicators that is required to be certified applicators in an area other than those specified. Certification in this category is issued on a case by case basis. The activities of the applicator certification are restricted to the applicators experience and demonstration of competency.

(NOTE: When any pesticide is declared to be a restricted use pesticide and a category for the use of that pesticide does not exist, the Commissioner establishes an appropriate subcategory under the category of Miscellaneous Pest Control.)

Private Applicator Categories

Agricultural Pest Control. This category includes private applicators using or supervising the use of restricted use pesticides in the production of agricultural commodities, including but not limited to tobacco, peanuts, cotton, feed grains, soybeans and forage; vegetables; small fruits; tree fruits and nuts; as well as on grasslands and non-crop agricultural lands. This category also includes private applicators using or supervising the use of restricted use pesticides on animals and places on or in which animals are confined. Examples of such animals include, but are not limited to: beef cattle, dairy cattle, swine, sheep, horses, goats, poultry and livestock.

Appendix 7-2

Use of the Least Hazardous Materials -- Re-entry Intervals

(Source: WVCSR 61-12J-7) [Revised January 2009]

7.1. In an integrated pest management program, persons responsible for pest management should evaluate all possible control options. Control options range from non-chemical methods to least hazardous pesticides to pesticides with a higher degree of risk to human health. In keeping with the legislative mandate for integrated pest management, the pest control contractor shall, after monitoring the pest infestations, proceed in controlling pests using the least hazardous method that is both practical and effective as outlined in this Section.

7.1.1. Level 1 -- Non-chemical Control Methods

7.1.1.a. Pest-preventive measures should be incorporated into existing structures. These preventive measures reduce the need for pesticide applications, and include sanitation, such structural repairs as sealing cracks, and such physical and mechanical controls as screens, traps, and air doors. A school, day care center or family day care facility shall consult the West Virginia Department of Agriculture's best management practices document "Integrated Pest Management in Schools and Other Public Institutions, Best Management Practices" for integrated pest management strategies for specific sites. Every facility will experience slightly different combinations of pests.

7.1.2. Level 2 -- Least Hazardous Materials

7.1.2.a. If non-chemical pest management methods alone are ineffective or impractical, it may be necessary for a school, day care center or family day care facility to incorporate a pesticide into the integrated pest management program. Although all pesticides are inherently toxic, there are a number of pesticide materials that are determined to be of low impact to occupants because of their organic or biological nature, low toxicity, relative nonvolatility, and/or low or nonexistent exposure to the occupants due to the manner in which they are applied as baits, gels or dusts into cracks and crevices or wall voids.

7.1.2.b. The least hazardous pesticides are those with a Caution signal word (EPA toxicity categories III and IV) including dusts, pyrethrin and prethoid, boric acid, disodium octaborate tetrahydrate, silica gel, and diatomaceous earth; insecticidal soaps; insect growth regulators; biological control agents -- fungi, bacteria, nematodes; or materials formulated as baits in tamper-resistant containers or for crack and crevice or void placement only.

7.1.2.c. There is no re-entry interval for these products due to their level of safety.

7.1.3. Level 3 -- Crack and Crevice and Spot Treatments

7.1.3.a. Schools, day care centers or family day care facilities shall apply products with an EPA Caution signal word but not listed under Level 2 as crack and crevice or spot treatments.

7.1.3.b. Products applied by these methods provide for reduced, minimal use of liquid materials that may present some, but limited volatility of the pesticide applied. Exposure to occupants is minimal.

7.1.3.c. The re-entry interval for which students and employees shall remain out of the treated area of the facility after the conclusion of treatment is 4 hrs or the time period specified on the pesticide label as registered by the United States Environmental Protection Agency, which ever is greater.

7.1.4. Level 4 -- Broadcast Applications and Space Treatments

7.1.4.a. Products with a Caution signal word applied by broadcast application or as a space treatment or products with a Warning or Danger signal word applied by any application method.

7.1.4.b. Products applied by these methods create the greatest opportunities for exposure at the time of application due to drift or volatility. However products applied as fogging agents are usually of low mammalian toxicity and pose little exposure after label re-entry times specified by the United States Environmental Protection Agency.

7.1.4.c. The re-entry interval for which students and employees are to remain out of the treated area of the facility after the conclusion of treatment is 8 hrs or the period specified on the label of the pesticide product as registered by the United States Environmental Protection Agency, which ever is greater, except when the air in the treated area can be purged by the heating, cooling and ventilation system, the period of reentry shall be 4 hr or the period specified on the label of the pesticide product as registered by the United States Environmental Protection Agency, which ever is greater.

SECTION 8

PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT

West Virginia Supplement, January 2010

This section covers the state requirements for POL Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

The provisions of Title 40 of the Code of Federal Regulations, Part 279 (40 CFR 279) on used oil are incorporated by reference. Consult the rules of the Division of Air Quality regarding the burning of used oil (WVCSR 33-20-14) [Added January 2004].

Definitions

NOTE: The regulations cited in this chapter refer the reader to sections of the West Virginia Code for definitions; those sections have been repealed, and the definitions are no longer available.

PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS	
	REFER TO CHECKLIST ITEMS:
Missing Checklist Items	PO.2.1.WV.
Discharges/Spills	PO.15.1.WV. through PO.15.3.WV.
POL Storage	
General	PO.20.1.WV. through PO.20.8.WV.
Used Oil	
(NOTE: The provisions of 40 CFR part 279 are adopted and incorporated by reference.)	

COMPLIANCE CATEGORY: PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
PO.2. **MISSING CHECKLIST ITEMS**	
PO.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PO.15. **DISCHARGES/ SPILLS**	
PO.15.1.WV. Non-permitted discharges of petroleum are prohibited (WVCSR 47-58-7.1) [Added February 1998].	Verify that no person (unless an authorization has been issued by a groundwater regulatory agency), deliberately allows crude oil, or any petroleum product derived from crude oil, to escape from any well, pipeline, impoundment, storage tank, treatment unit, or storage container, or to flow onto or under the land surface in such a manner that could impact groundwater quality.
PO.15.2.WV. Spills and accidental discharges must be reported (WVCSR 47-11-2.2.a, 2.5, and 2.5.a) [Added February 1998].	Verify that any person who is responsible for any spill or accidental discharge of pollutants [including petroleum] into the waters of the State gives immediate notification to the Division of Water Resources' Emergency Notification Number, 1-800-642-3074. Verify that any person who causes or contributes in any way to the spill or accidental discharge into state waters immediately takes any and all measures necessary to contain it, clean it up, remove it, and otherwise render it harmless to the waters of the State.
PO.15.3.WV. POL storage facilities at oil and gas facilities are required to notify the Division of Oil and Gas within 24 h of a reportable discharge (WVCSR 35-1-3.1). [Revised January 2005; Revised January 2007].	Verify that the owner/operator or person in charge of an oil storage facility from which a reportable discharge occurred notified the Division of Oil and Gas by calling 1-800-642-3074 within 24 h after becoming aware of the discharge. (NOTE: A "reportable discharge" is identified as the following: - any discharge which would be reportable pursuant to section 311(b) of the Federal Water Pollution Control Act Amendment of 1972, as amended by the Clean Water Act of 1977, 33 U.S.C. 1321 - any upset or bypass causing effluent limitations established under the general permit to be exceeded - any pit failure which results in a discharge to any surface water of the state.") (NOTE: This checklist item applies to facilities operated in connection with the exploration, development, production, storage and recovery of oil and gas, and related mineral resources in this state.)

COMPLIANCE CATEGORY: PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
POL STORAGE **PO.20. General**	
PO.20.1.WV. All operators of oil and gas production facilities must have appropriate containment and/or diversionary structures or equipment to prevent discharged oil or other pollutants from reaching the waters of the state (WVCSR 35-1-7.1).	Verify that at least one of the following preventative systems or its equivalent is used as a minimum, unless an appropriate water pollution control permit provides for another method of spill prevention: - dikes, berms, or retaining walls sufficiently impervious to contain spilled oil or other pollutants - curbing - culverting, gutters or other drainage systems - weirs, booms or other barriers - spill diversion ponds - retention ponds - sorbent materials. (NOTE: This checklist item applies to facilities operated in connection with the exploration, development, production, storage and recovery of oil and gas, and related mineral resources in this state.)
PO.20.2.WV. The dikes or equivalent spill preventative systems must have drains closed and sealed at all times except when rainwater is being drained (WVCSR 35-1-7.2 through 35-1-7.3) [Revised January 2005].	Verify that, at tank batteries central treatment stations, dikes or equivalent spill prevention systems have drains closed and sealed at all times except when rainwater is being drained. Verify that field drainage ditches, road ditches, and oil traps, sumps or skimmers, if they exist, are inspected at regularly scheduled intervals for accumulation of oil that may have escaped from small leaks. (NOTE: This checklist item applies to facilities operated in connection with the exploration, development, production, storage and recovery of oil and gas, and related mineral resources in this state.)
PO.20.3.WV. Storage tanks at oil and gas production facilities must be compatible with the material stored (WVCSR 35-1-7.4) [Citation Revised January 2005].	Verify that tanks used for the storage of oil or other pollutants are compatible with the material stored and the conditions of storage. (NOTE: This checklist item applies to facilities operated in connection with the exploration, development, production, storage and recovery of oil and gas, and related mineral resources in this state.)
PO.20.4.WV. Secondary containment systems are	Verify that all tank battery and central treatment plant installations are provided with a secondary means of containment for the entire contents of the largest single

COMPLIANCE CATEGORY: PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
required at oil and gas production facilities (WVCSR 35-1-7.5) [Citation Revised January 2005].	tank if feasible, or alternate systems such as those outlined in PO.20.1.WV. above. Verify that drainage from undiked areas is safely confined in a catchment basin or holding pond. (NOTE: This checklist item applies to facilities operated in connection with the exploration, development, production, storage and recovery of oil and gas, and related mineral resources in this state.)
PO.20.5.WV. Storage tanks at oil and gas production facilities must be visually inspected (WVCSR 35-1-7.6) [Citation Revised January 2005].	Verify that all tanks containing oil or other pollutants are visually examined by a competent person as to their condition and need for maintenance on a scheduled periodic basis. Verify that examinations include the foundation and supports of tanks that are above the surface of the ground. (NOTE: This checklist item applies to facilities operated in connection with the exploration, development, production, storage and recovery of oil and gas, and related mineral resources in this state.)
PO.20.6.WV. New and old tank battery installations must, as far as practical, be fail-safe engineered or updated in to a fail-safe engineered installation, to prevent spills (WVCSR 35-1-7.7) [Citation Revised January 2005].	Verify that new and old tank battery installations have one or more of the following: - adequate tank capacity to assure that a tank does not overfill if a pumper/gauger is delayed in making regular rounds - overflow equalizing lines between tanks so that a full tank can overflow to an adjacent tank - adequate vacuum protection to prevent tank collapse during a pipeline run - high level sensors to generate and transmit an alarm signal to the computer where facilities are a part of a computer production control system. (NOTE: This checklist item applies to facilities operated in connection with the exploration, development, production, storage and recovery of oil and gas, and related mineral resources in this state.)
PO.20.7.WV. Above ground valves and lines at oil and gas production facilities must be inspected periodically (WVCSR 35-1-7.8) [Citation Revised January 2005].	Verify that all above ground valves and pipelines, including gathering lines and transportation lines, are examined periodically on a scheduled basis for general condition of items such as flange joints, valve glands and bodies, drip pans, pipeline supports, pumping well polish rods stuffing boxes, bleeder and gauge valves. (NOTE: This checklist item applies to facilities operated in connection with the exploration, development, production, storage and recovery of oil and gas, and

COMPLIANCE CATEGORY: PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	related mineral resources in this state.)
PO.20.8.WV. Saltwater disposal facilities and production facilities at oil and gas production facilities must be examined periodically (WVCSR 35-1-7.9 and 35-1-7.10) [Citation Revised January 2005].	Verify that saltwater (oil field brine) disposal facilities are examined often, particularly following a sudden change in atmospheric temperature to detect, possible system upsets that causes a discharge. Verify that production facilities have a program of flowline maintenance to prevent spills from this source including periodic examinations, corrosion protection, flowline replacement, and adequate records, as appropriate, for the individual facility. (NOTE: This checklist item applies to facilities operated in connection with the exploration, development, production, storage and recovery of oil and gas, and related mineral resources in this state.)

SECTION 9

SOLID WASTE MANAGEMENT

West Virginia Supplement, January 2010

This section covers the state requirements for Solid Waste Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Incorporation by Reference

West Virginia incorporates by reference Federal regulations on emissions from new and existing municipal solid waste landfills, 40 CFR Part 60 Subparts Cc and WWW effective 1 July 1998, as amended by the Federal Register through 1 June 1999 (West Virginia Code of State Regulations, Title 45, Series 23, Section 1 (WVCSR 45-23-1)).

Definitions

- *Access Road* - any road used for facility access, or for the hauling of solid waste to a solid waste facility, including internal or infrequently used access roads to all monitoring and treatment appurtenances or from a road that is under Federal, state, or local authority (West Virginia Code of State Regulations, Title 33, Series 1, Section 2 (WVCSR 33-1-2)) [Revised February 1998].

- *Act* - the Solid Waste Management Act, West Virginia Code Section 22-15-1, et. seq. (WVCSR 33-1-2) [Revised February 1998].

- *Active Life* - the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities performed in accordance with Section 6 of this rule (WVCSR 33-1-2) [Revised February 1998].

- *Active Portion* - that part of a solid waste facility that has received or is receiving wastes and/or has not been closed in accordance with Section 6 of this rule (WVCSR 33-1-2) [Revised February 1998].

- *Airport* - any public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities (WVCSR 33-1-2) [Revised February 1998].

- *Animal Carcasses, Body Parts, Bedding and Related Wastes* - contaminated animal carcasses, body parts, and bedding of animals that are known to have been exposed to infectious agents during research, production of biologicals, testing of pharmaceuticals, or for any other reason (WVCSR 64-56-3) [Revised February 1998].

- *Applicant* - the person applying for a commercial or noncommercial solid waste facility permit or similar renewal permit and any person related to such person by virtue of common ownership, common management or family relationships as the Secretary specifies, including the following: spouses, parents and children and siblings (WVCSR 33-1-2) [Revised February 1998; Revised January 2005].

- *Approved Solid Waste Facility* - a solid waste facility or practice which has a valid permit under the Act (WVCSR 33-1-2) [Revised February 1998; Revised January 1999].

- *Aquifer* - a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs (WVCSR 33-1-2) [Revised February 1998].

- *Areas Susceptible to Mass Movement* - those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the SWLF, or a portion thereof, because of natural or man-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluction, block sliding, and rock fall (WVCSR 33-1-2) [Revised February 1998].

- *Asbestos* - the asbestiform varieties of serpentinite, chrysotile, riebeckite, crocidolite, cummingtonite-grunerite, anthophyllite, and actinolite tremolite (WVCSR 33-1-2) [Revised February 1998; Revised January 2005].

- *Backhauling* - the practice of using the same container to transport solid waste and to transport any substance or material used as food by humans, animals raised for human consumption or reusable item which may be refilled with any substance or material used as food by humans (WVCSR 33-1-2) [Revised February 1998].

- *Beneficial Use* - the use or reuse of whole waste tires or tire derived material which are reused in constructing retaining walls, rebuilding highway shoulders and subbase, building highway crash attenuation barriers, and other civil engineering applications, feed hopper or watering troughs for livestock, or other agricultural uses approved by the division of environmental protection, playground equipment, boat or truck dock construction, house or building construction, go-cart, motorbike or race track barriers, recapping, alternative daily cover, or similar types of beneficial applications. However, waste tires may not be reused as fencing, as erosion control structures, along stream banks or river banks or reused in any manner where human health or the environment, as determined by the Secretary of the Division of Environmental Protection, is put at risk (WVCSR 33-5-2) [Added January 2001].

- *Bird Hazard* - an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants (WVCSR 33-1-2) [Revised February 1998].

- *Blood and Blood Products* - liquid waste human blood and blood products in a free-flowing or unabsorbed state (WVCSR 64-56-3) [Revised February 1998].

- *Buffer Zone* - the distance between the composting operation and the adjacent property boundaries (WVCSR 33-3-2) [Revised February 1998].

- *Bulking Agent* - any material mixed and composted with sewage sludge (WVCSR 33-1-2) [Revised February 1998].

- *Bulky Goods* - items or materials which cannot be reasonably and conveniently collected during regularly scheduled weekly pickups, including any of the following discarded items (WVCSR 33-1-2) [Revised February 1998; Revised January 2005]:
  a. refrigerators, washing machines, clothes dryers, dishwashers, ovens, stoves, microwave ovens, and other appliances;
  b. air conditioners
  c. bicycles
  d. furniture
  e. waste tires off the rim, having a radius of no more than 16.5 inches, from automobiles, from pickup trucks, from motorcycles, from all-terrain vehicles, and from farm tractors
  f. other items, not included above, that are at least 3 feet in length, width, or height, or at least 50 pounds in weight.

  Bulky goods do not include:
  a. automotive components, parts, or frames that weigh at least 200 pounds each
  b. automotive parts, such as motors and transmissions that have a high density
  c. hazardous waste
  d. items that can be easily divided and placed into bags, boxes, or other containers, less than 3 feet high, long, or wide, that, with contents, weigh less than 50 pounds each
  e. construction and demolition debris generally.

- *Chief* - the Chief of the Office of Waste Management of the West Virginia Division of Environmental Protection or the Chief's authorized representative (WVCSR 33-1-2) [Revised February 1998].

- *Class A Solid Waste Facility* - a commercial solid waste facility which handles an aggregate of between 10,000 and 30,000 tons of solid waste per month. Class A facility includes two or more Class B solid waste landfills owned or operated by the same person in the same county, if the aggregate tons of solid waste handled per month by such landfills exceeds 9999 tons of solid waste per month (WVCSR 33-1-2) [Revised February 1998].

- *Class B Solid Waste Facility* - a commercial solid waste facility which receives or is expected to receive an average daily quantity of mixed solid waste equal to or exceeding 100 tons each working day, or serves or is expected to serve a population equal to or exceeding 40,000 persons, but which does not receive solid waste exceeding an aggregate of 10,000 tons/mo. Class B facilities do not include construction/demolition facilities. (WVCSR 33-1-2) [Revised February 1998; Revised February 2000].

- *Class C Solid Waste Facility* - a commercial solid waste facility which receives or is expected to receive an average daily quantity of mixed solid waste of less than 100 tons each working day, and serves or is expected to serve a population of less than 40,000 persons. Class C solid waste facilities do not include construction/demolition facilities (WVCSR 33-1-2) [Revised February 1998].

- *Class D Solid Waste Facility* - any noncommercial solid waste facility for the disposal of only construction/demolition waste in an area no greater than two (2) acres in size and not exceeding the height of the adjoining ground elevation.(WVCSR 33-1-2) [Revised February 1998; Revised January 2005].

- *Class D-1 Solid Waste Facility* - a commercial or noncommercial facility solid waste facility for the disposal of only construction/demolition waste permitted pursuant to Section 3.16.e.4 (WVCSR 33-1-2) [Revised February 1998; Revised January 2005].

- *Class E Solid Waste Facility* - any solid waste facility for the purpose of recycling at which neither land disposal nor biological, chemical, or thermal transformation of solid waste occurs (WVCSR 33-1-2) [Revised February 1998].

- *Class F Solid Waste Facility* - any industrial solid waste disposal facility (WVCSR 33-1-2) [Revised February 1998].

- *Clean Water Act or CWA* - the Federal Water Pollution Control Act, as amended; 33 U.S.C (WVCSR 33-1-2) [Revised February 1998].

- *Coal Combustion Byproducts* - the residuals, including fly ash, bottom ash, bed ash, and boiler slag flue gas emission control waste produced by coal-fired or coal/gasfired electrical or steam generating units. For non-electrical steam generating units burning a combination of solid waste and coal, a CO level of less than or equal to 100 ppm on a 24 h average basis is required for the byproducts to meet this definition. The CO level must be calculated on a dry gas basis corrected to 7 percent oxygen (WVCSR 33-1-2) [Revised February 1998].

- *Commercial Infectious Medical Waste Facility* - any infectious medical waste management facility at which 35 percent or more by weight of the total infectious medical waste stored, treated, or disposed of by said facility in any calendar year is generated offsite (WVCSR 64-56-3) [Revised February 1998].

- *Commercial Recycler* - any person, corporation or business entity whose operation involves the mechanical separation of materials for the purpose of reselling or recycling at least 70 percent by weight of the materials coming into the commercial recycling facility (WVCSR 33-1-2) [Revised February 1998].

- *Commercial Solid Waste* - all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential wastes (WVCSR 33-1-2) [Revised February 1998].

- *Commercial Solid Waste Facility* - any solid waste facility which accepts solid waste generated by sources other than the owner or operator of the facility and does not include an approved solid waste facility owned and operated by a person for the sole purpose of the disposal, processing or composting of solid wastes created by that person or such person and other persons on a cost-sharing or nonprofit basis and does not include land upon which reused or recycled materials are legitimately applied for structural fill, road base, mine reclamation, and similar applications (WVCSR 33-1-2) [Revised February 1998; Revised January 1999].

- *Commercial Yard Waste Composting Facility* - any solid waste facility which is authorized to handle or accept up to 36,000 tons/yr of yard waste and/or other compostable solid waste materials generated by sources other than the owner or operator of the facility, provided that, a commercial yard waste composting facility shall not include an approved solid waste facility owned and operated by a person for the sole purpose of composting yard waste created by that person or other persons on a cost-sharing or nonprofit basis and shall not include land upon which finished compost is applied for use as a soil amendment/soil conditioner (WVCSR 33-3-2) [Revised February 1998].

- *Composite Liner* - a system consisting of two components; the upper component must consist of a minimum 60 mil high density polyethylene (HDPE) and the lower component must consist of at least a 2 ft layer of compacted soil with a hydraulic conductivity of no more than 1×10^{7} cm/s. The HDPE component must be installed in direct and uniform contact with the compacted soil component (WVCSR 33-1-2) [Revised February 1998].

- *Composting* - the aerobic, thermophilic decomposition of natural constituents of solid waste to produce a stable, humus-like material (WVCSR 33-1-2) [Revised February 1998].

- *Construction/Demolition Waste* - waste building materials, packaging, and grubbing waste, resulting from construction, remodeling, repair and demolition operations on houses, commercial and industrial buildings, , including, but not limited to, wood, plaster, bricks, blocks and concrete, and other masonry materials, but does not include asbestos-containing materials, household furnishings, burnt debris, material containing lead-based paint, pressure-treated wood, contaminated solid waste, yard waste or waste tires and other items listed in subdivision 5.4.a. (WVCSR 33-1-2) [Revised February 1998; Revised January 2005].

- *Cover Material* - soil or other material, approved by the Secretary and used in a controlled manner to cover solid waste at solid waste disposal facilities (WVCSR 33-1-2) [Revised February 1998].

- *Cultures and Stocks of Microorganisms and Biologicals* - discarded cultures, stocks, specimens, vaccines and associated items likely to have been contaminated by an infectious agent, discarded etiologic agents, and wastes from the production of biologicals and antibiotics likely to have been contaminated by an infectious agent (WVCSR 64-56-3) [Revised February 1998].

- *Department of Transportation Symbol* - the identification number placed on new tires mandated by the Federal Motor Vehicle Safety Standards for motor vehicles and motor vehicle equipment pursuant to Section 103 of the National Traffic and Motor Vehicle Safety Act of 1966, as amended (WVCSR 33-5-2) [Revised February 1998].

- *Disease Vectors or Vector* - any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans (WVCSR 33-1-2) [Revised February 1998].

- *Displacement* - the relative movement of any two sides of a fault measured in any direction (WVCSR 33-1-2) [Revised February 1998].

- *Disposal* - the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste into or on any land or water so that such solid waste or any constituent thereof may enter the environment or be emitted into the air, or discharged into any waters, including groundwaters (WVCSR 33-1-2) [Revised February 1998].

- *DOT Regulated Tire* - any tire that was originally used for those purposes defined under "tire" or "used tire" or meets the definition of "waste tire" that is identified with a DOT Symbol (WVCSR 33-5-2) [Revised February 1998].

- *Endangered or Threatened Species* - any endangered or threatened species, as defined in 50 CFR 17, of animal or plant and includes those species listed as endangered or threatened in 50 CFR 17 (WVCSR 33-1-2) [Revised February 1998].

- *Energy Recovery Incinerator* - any solid waste facility at which solid wastes are incinerated with the intention of using the resulting energy for the generation of steam, electricity or any other use not specified herein (WVCSR 33-1-2) [Revised February 1998].

- *Existing SWLF* - any solid waste landfill that deposits solid waste 2 June 1996 (WVCSR 33-1-2) [Revised February 1998; Revised January 1999].

- *Fault* - a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side (WVCSR 33-1-2) [Revised February 1998].

- *Floodplain* - the lowland and relatively flat areas adjoining waters of the state that may be inundated by the 100 yr flood (WVCSR 33-1-2) [Revised February 1998].

- *Gas Condensate* - the liquid generated as a result of gas recovery process(es) at the SWLF (WVCSR 33-1-2) [Revised February 1998].

- *Generator* - any person whose act or process produces infectious medical waste (WVCSR 64-56-3) [Revised February 1998; Revised February 2000].

- *Groundwater* - any water occurring in the zone of saturation beneath the seasonal high water table, or any perched water zones, or water below the land surface in a zone of saturation (WVCSR 33-1-2) [Revised February 1998].

- *Holocene* - the most recent epoch of the Quaternary Period, extending from the end of the Pleistocene Epoch to the present (WVCSR 33-1-2) [Revised February 1998].

- *Hospital* - an institution which is primarily engaged in providing to patients in the institution, by or under the supervision of physicians, diagnostic and therapeutic services for medical diagnosis, treatment and care of injured, disabled or sick persons or services for the rehabilitation of injured, disabled or sick persons. This term also includes psychiatric and tuberculosis hospitals (WVCSR 64-56-3) [Revised February 1998].

- *Household Waste* - any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas) (WVCSR 33-1-2) [Revised February 1998].

- *Incineration Technologies* - any technology that uses controlled flame combustion to thermally breakdown solid waste, including refuse-derived fuel, to an ash residue that contains little or no combustible materials, regardless of whether the purpose is processing, disposal, electric or steam generation or any other method by which solid waste is incinerated (WVCSR 33-1-2) [Revised February 1998].

- *Incinerator* - an enclosed device using controlled flame combustion to thermally breakdown solid waste, including refuse-derived fuel, to an ash residue that contains little or no combustible materials (WVCSR 33-1-2) [Revised February 1998].

- *Industrial Solid Waste* - any solid waste generated by manufacturing, or industrial processes that is not a hazardous waste regulated under subtitle C of RCRA. Such wastes may include, but are not limited to, waste

resulting from factories, processing plants, refineries, fertilizer/agricultural chemicals; food and related products/byproducts; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals, manufacturing/foundries; organic chemicals; slaughter houses, mills, tanneries, electric power generating plants, mines, or mineral processing operations; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste (WVCSR 33-1-2) [Revised February 1998].

- *Industrial Solid Waste Landfill* - any solid waste disposal facility which is owned, operated, or leased by an industrial establishment for the land disposal of industrial solid waste created by that person or such person and other persons on a cost-sharing or nonprofit basis. This term does not include land application units, surface impoundments, or injection wells (WVCSR 33-1-2) [Revised February 1998].

- *Infectious Agent* - any organism such as a virus or a bacteria that is in such quantity that it is capable of being communicated by invasion of and multiplication in body tissues and capable of causing disease or adverse health impacts in humans (WVCSR 64-56-3) [Revised February 1998].

- *Infectious Medical Waste* - infectious medical waste which is capable of producing an infectious disease. Medical waste is considered capable of producing an infectious disease if it has been, or is likely to have been, contaminated by an organism likely to be pathogenic to healthy humans, if such organism is not routinely and freely available in the community, and such organism has a significant probability of being present in sufficient quantities and with sufficient virulence to transmit disease. For the purposes of this rule, infectious medical waste includes the following materials (WVCSR 33-1-2):
    1. Animal Carcasses, Body Parts, Bedding and Related Waste - contaminated animal carcasses, body parts, and the bedding of animals that are known to have been exposed to infectious agents during research, the production of biologicals, or the testing of pharmaceuticals, or for any other reason
    2. Blood and Blood Products - liquid waste human blood and blood products in a free-flowing or unabsorbed state
    3. Laboratory Wastes - cultures and stocks of infectious agents and associated biologicals including, but not limited to, cultures from medical and pathological laboratories, cultures and stocks of infectious agents from research and industrial laboratories, wastes from the production of biologicals, and discarded live and attenuated vaccines
    4. Cultures and Stocks of Microorganisms and Biologicals - discarded cultures, stocks, specimens, vaccines and associated items likely to have been contaminated by an infectious agent, discarded etiologic agents, and wastes from the production of biologicals and antibiotics likely to have been contaminated by an infectious agent
    5. Pathological Wastes - human pathological wastes, including tissues, organs, body parts, and containers of body fluids exclusive of those fixed in formaldehyde or another fixative
    6. Sharps - discarded articles that may cause punctures or cuts and that have been used in animal or human patient care or treatment, or in pharmacies or medical, research, or industrial laboratories, including, but not limited to, hypodermic needles, syringes with attached needles, scalpel blades, lancets and broken glassware
    7. Isolation wastes - wastes generated from the care of a patient who has or is suspected of having any disease listed as Class IV in Classification of Etiologic Agents on the Basis of Hazard published by the United States Centers for Disease Control
    8. Other Infectious Wastes include, but is not limited to any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill of any infectious medical waste, and waste contaminated by or mixed with infectious medical waste.

- *Infectious Medical Waste Management Facility* - an infectious medical waste facility which generates, handles, processes, stores, treats or disposes of infectious medical waste, including all land and and structures, other appurtenances, and improvements thereon, used for infectious medical waste (WVCSR 64 -56-3) [Revised February 1998].

- *Isolation Wastes* - wastes generated from the care of a patient who has or is suspected of having any disease listed as Class IV in "Classification of Etiologic Agents on the Basis of Hazard," published by the United States Centers for Disease Control (WVCSR 64-56-3) [Revised February 1998].

- *Karst Region* - a type of topography which is formed over limestone or dolomite by dissolution of the formation and is characterized by sinkholes, caves, and similar features (WVCSR 33-1-2) [Revised February 1998].

- *Karst Terranes* - areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terranes include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys (WVCSR 33-1-2) [Revised February 1998].

- *Land Application* - the application of liquid wastes onto a soil surface or the incorporation of solid waste into the soil surface for treatment and disposal (WVCSR 33-1-2) [Revised February 1998].

- *Landfill* - any solid waste facility or part of one at which solid waste, or its residue after treatment, is intentionally used for disposal on or in the land for the purpose of permanent disposal. Such facility is situated, for the purposes of this rule, in the county where the majority of the spatial area of the facility is located. The term Landfill does not include a land application unit, or injection well (WVCSR 33-1-2) [Revised February 1998; Revised January 1999].

- *Lateral Expansion* - a horizontal expansion of the waste boundaries of an existing SWLF (WVCSR 33-1-2) [Revised February 1998].

- *Leachate* - any liquid that has come into contact with, passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste (WVCSR 33-1-2) [Revised February 1998].

- *Lead Acid Battery* - means an encasement which contains or contained lead and sulfuric acid to produce an electrical charge (WVCSR 33-4-2) [Revised February 1998].

- *Lead Acid Battery Dealer* - any person selling, collecting, disposing, storing, recycling or otherwise handling new or spent lead acid batteries on a wholesale or retail basis (WVCSR 33-4-2) [Revised February 1998].

- *Lead Acid Battery Storage Facility* - any facility used for the storage of lead acid batteries, including any wholesale or retail business, automotive service or repair garages or other persons that handle lead acid batteries for purposes of commerce, recycling or disposal (WVCSR 33-4-2) [Revised February 1998].

- *Lift* - the vertical thickness of compacted solid waste and the cover material immediately above it (WVCSR 33-1-2) [Revised February 1998].

- *Liner* - a continuous layer of natural or manmade materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of solid waste, any constituents of such waste, or leachate and which complies with this rule (WVCSR 33-1-2) [Revised February 1998].

- *Liquid Waste* - any waste material that is determined to contain Free Liquids as defined by Method 9095 (Paint Filter Liquids Test), as described in Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (EPA Pub. No. SW-846) (WVCSR 33-1-2) [Revised February 1998].

- *Lithified Earth Material* - all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include manmade materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface (WVCSR 33-1-2) [Revised February 1998].

- *Lower Explosive Limit (LEL)* - the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25 ^{o}C) and atmospheric pressure (WVCSR 33-1-2) [Revised February 1998].

- *Major Alluvial Aquifer* - an aquifer composed of alluvial materials located adjacent to West Virginia rivers, such as the Kanawha River, Little Kanawha River, and Ohio River as depicted on Groundwater Hydrology of the Minor Tributary Basins of those rivers (WVCSR 33-1-2) [Revised February 1998].

- *Major Domestic Use Aquifer* - an aquifer which serves as a domestic or public water supply serving at least an average of 25 individuals per day for at least 60 days/yr, or which has at least 15 service connections (WVCSR 33-1-2) [Revised February 1998].

- *Major Modification* - a modification to an approved permit in which a major change to the permit is to occur as specified in Section 3.18 of this rule (WVCSR 33-1-2) [Revised February 1998].

- *Manifest* - the form used for identifying the quantity, composition, and the origin, routing, and destination of infectious medical waste during its transportation from the point of generation to the point of offsite treatment or disposal (WVCSR 64-56-3) [Revised February 1998].

- *Materials Recovery Facility* - any solid waste facility at which source-separated materials or materials recovered through a mixed waste processing facility are manually or mechanically shredded or separated for purposes of reuse and recycling, but does not include a composting facility (WVCSR 33-1-2) [Revised February 1998].

- *Maximum Horizontal Acceleration in Lithified Earth Material* - the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 yr, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment (WVCSR 33-1-2) [Revised February 1998].

- *Medical Waste* - infectious and noninfectious solid waste generated in the course of the diagnosis, treatment or immunization of human beings or animals, or in research pertaining thereto, or in the production or testing of biologicals. The term "medical waste" does not include low-level radioactive waste, any hazardous waste identified or listed under Subtitle C of the federal Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6921 et seq., as amended, or any household waste as defined in the regulations promulgated pursuant to Subtitle C of that Act (WVCSR 64-56-3) [Revised February 1998; Revised February 2000].

- *Mixed Solid Waste* - solid waste from which materials sought to be reused or recycled have not been source-separated from general solid waste (WVCSR 33-1-2) [Revised February 1998].

- *Mixed Waste Processing Facility* - any solid waste facility at which materials are recovered from mixed solid waste through manual or mechanical means for purposes of reuse, recycling or composting (WVCSR 33-1-2) [Revised February 1998].

- *Municipal Solid Waste* - any household or commercial solid wastes as defined in this rule and any sludge from a waste treatment plant or a water supply treatment plant (WVCSR 33-1-2) [Revised February 1998].

- *Municipal Solid Waste Incineration* - the burning of any solid waste collected by any municipal or residential solid waste disposal company (WVCSR 33-1-2) [Revised February 1998].

- *New SWLF* - any solid waste landfill facility that has not received waste prior to 30 April 1999 (WVCSR 33-1-2) [Revised February 1998; Revised January 1999; Revised February 2000].

- *Non-Commercial Infectious Medical Waste Facility* - any infectious medical waste facility at which less than 35 percent by weight of the total infectious medical waste stored, treated or disposed of by said facility in any calendar year is generated offsite (WVCSR 64-56-3) [Revised February 1998].

- *Noncommercial Solid Waste Facility* - any approved solid waste facility owned and operated by a person for the sole purpose of disposing of solid wastes created by that person or such person and other persons on a cost-sharing or nonprofit basis (WVCSR 33-1-2) [Revised February 1998].

- *Noninfectious Medical Waste* - any medical waste not capable of producing an infectious disease or infectious medical waste which has been rendered noninfectious. Noninfectious medical waste is considered solid waste for purposes of this rule (WVCSR 64-56-3) [Revised February 1998].

- *Non-Residential Composting Activities* - a composting activity by persons such as landscape contractors, nurseries or greenhouses, lawn and garden companies, solid waste authorities and municipalities which are authorized to compost up to 12,000 tons/yr of yard waste materials consisting of grass clippings, weeds, leaves, brush/shrub or tree prunings and other acceptable compostable materials which have been approved in writing by the Chief to produce a safe product for use as a soil amendment/soil conditioner (WVCSR 33-3-2) [Revised February 1998].

- *Nuisance* - any practice or condition created by a composting facility or activities which results in dust, dirt, mud, infectious molds, bacteria or fungi, or offensive odor, or attracts vectors such as insects, rodents, snakes or in any way interferes with the normal use of any properties or causes harm or injury to any person or the environment (WVCSR 33-3-2) [Revised February 1998].

- *Offsite* - a facility or area for the collection, storage, transfer, processing, treatment, or disposal of infectious medical waste which is not on the generator's site, or a facility or area that receives infectious medical waste for storage or treatment that has not been generated onsite at that facility or area (WVCSR 64-56-3) [Revised February 1998].

- *Office* - the Office of Waste Management of the West Virginia Division of Environmental Protection or its designee (WVCSR 33-1-2) [Revised February 1998].

- *One (1) Pick-Up Truckload, or its Equivalent* - a vehicle manufacturers specified or recommended cargo weight rating. The cargo weight rating does not include the weight of the vehicle, fuel and passengers. For example, a one half-ton pick-up truck may have a cargo weight rating of 1100 pounds, and a one-ton pick-up truck may have a cargo weight rating of 2000 pounds (WVCSR 33-1-4.14.a) [Added January 2005].

- *Onsite* - the same or geographically contiguous property which may be divided by a public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing, as opposed to going along, the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way controlled by said person and to which the public does not have access, is also considered onsite property. Hospitals with more than one facility located in the same county shall be considered one site (WVCSR 64-56-3) [Revised February 1998].

- *Open Burning* - the combustion of solid waste without the following (WVCSR 33-1-2):
    1. control of combustion air to maintain adequate temperature for efficient combustion
    2. containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion
    3. control of the emission of the combustion products.

- *Open Dump* - any solid waste disposal which does not have a permit under West Virginia Code Section 22-15, and is not otherwise authorized by an order of the Secretary, or is in violation of State law; or where solid waste is disposed in a manner that does not protect the environment (WVCSR 33-1-2) [Revised February 1998].

- *Operator* - the person(s) responsible for the overall operation of a solid waste facility or part thereof (WVCSR 33-1-2) [Revised February 1998].

- *Operating Hours* - the predetermined period of time specified by the facility permit or other such approval by the Secretary during which activities may be conducted at a solid waste facility. These activities are not limited to the actual process of disposal (WVCSR 33-1-2) [Revised February 1998].

- *Owner* - the person(s) who owns a solid waste facility or part thereof (WVCSR 33-1-2) [Revised February 1998].

- *Pathological Waste* - human pathological wastes, including tissues, organs, body parts, and containers of body fluids, exclusive of those fixed in formaldehyde or another fixative (WVCSR 64-56-3) [Revised February 1998].

- *Perennial Stream* - a stream or a portion of a stream that flows continuously or that under normal conditions supports aquatic life whose life history requires residence in flowing water for a continuous period of at least 6 mo (WVCSR 33-1-2) [Revised February 1998].

- *Permittee* - any person holding a permit or who is otherwise authorized to conduct solid waste activities under the Act (WVCSR 33-1-2) [Revised February 1998].

- *Persistent Violation* - any violation of the Act, this rule, any permit term or condition, or any order of this rule which is identified during two or more consecutive inspections performed by the Secretary (WVCSR 33-1-2) [Revised February 1998].

- *Person or Persons* - any of the following (WVCSR 33-1-2) [Revised February 1998]:
    1. any industrial user, public or private corporation, institution, association, firm, or company organized or existing under the laws of this or any other State or country
    2. the State of West Virginia
    3. any governmental agency, including Federal facilities
    4. any political subdivision of this State, including county commission, municipal corporation, industry, sanitary district, public service district, drainage district, soil conservation district, or watershed improvement district
    5. any partnership, trust, or estate
    6. any person or individual
    7. any group of persons or individuals acting individually or as a group
    8. any legal entity whatever.

- *Person* - individual, partnership, corporation, society, association, government body or other legal entity (WVCSR 64-56-3) [Added February 2000].

- *Petroleum* - petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 ^{o}F and 14.7 lb psi absolute) and pipeline liquids. The term includes any refined petroleum products (WVCSR 33-1-2) [Revised February 1998].

- *Petroleum-Contaminated Soil* - any soil, dirt, rock or other earthen material which contains more than a de minimis (100 ppm of total petroleum hydrocarbons or less) amount of petroleum and which is not a hazardous waste (WVCSR 33-1-2) [Revised February 1998].

- *Point Source* - any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, or vessel, floating craft, or system, or landfill leachate collection system from which pollutants are or may be discharged to the waters of the State (WVCSR 33-1-2) [Revised February 1998].

- *Poor Foundation Conditions* - those areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of a SWLF (WVCSR 33-1-2) [Revised February 1998].

- *Post Closure* - activities after the closure of a solid waste facility which are necessary to ensure compliance with the provisions of the Act and any rules promulgated thereunder including the application of final cover, grading, revegetation, groundwater monitoring, surface water monitoring, gas monitoring and control, leachate treatment, erosion control, and the abatement of any pollution or degradation to land, water, air, or other natural resources (WVCSR 33-1-2) [Revised February 1998].

- *Publicly-Owned Treatment Works* or *POTW* - any works owned by the state or any political subdivision thereof, any municipality or any other public entity which processes raw, domestic, industrial or municipal sewage by any artificial or natural processes in order to remove or so alter constituents as to render the waste less offensive or dangerous to the public health, comfort or property of any of the inhabitants of this State, before the discharge of the plant effluent into any of the waters of this State, and which produces sewage sludge (WVCSR 33-1-2) [Revised February 1998; Revised January 1999].

- *QA/QC* - quality assurance and quality control (WVCSR 33-1-2) [Revised February 1998].

- *Qualified Groundwater Scientist* - a scientist or engineer who has received a baccalaureate or postgraduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields as may be demonstrated by State registration, professional certification(s), or completion of accredited university programs that enable that individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action (WVCSR 33-1-2) [Revised February 1998].

- *Receiving Hours* - the period of time designated by the facility solid waste permit, or otherwise approved by the Secretary within the operating hours that the solid waste facility accepts solid waste for disposal (WVCSR 33-1-2) [Revised February 1998].

- *Recycle* - the process by which recovered products are transformed into new products and includes the collection, separation, recovery and sale, or reuse of metals, glass, paper, and other materials (WVCSR 33-1-2) [Revised February 1998].

- *Recycling Facility* - any solid waste facility for the purpose of recycling at which neither land disposal nor biological, chemical, or thermal transformation of solid waste occurs: Provided that, mixed waste recovery facilities, sludge processing facilities and composting facilities are not considered recycling facilities nor considered to be reusing or recycling solid waste within the meaning of Chapter 22, Article 15, Chapter 22C, Article 4, and Chapter 20 Article 11, of the Code (WVCSR 33-1-2) [Revised February 1998].

- *Regulated Hazardous Waste* - a solid waste that is a hazardous waste, as defined in 40 CFR 261.3, that is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b) (WVCSR 33-1-2) [Revised February 1998; Revised January 2005].

- *Remediate or Remediation* - to remove all tires located above grade at a site and may also include the removal of the solid waste incidental to the removal of waste tires at a site. However, remediation does not include clean up of hazardous waste (WVCSR 33-5-2) [Added January 2001].

- *Residential Solid Waste* - garbage, rubbish, trash, furniture, household appliances and other similar wastes not herein specified, generated at residential property (WVCSR 33-1-4.14.a) [Added January 2005].

- *Resource Recovery Facility* - any solid waste facility at which solid wastes are physically, mechanically, biologically, chemically, or thermally transformed for the purpose of separating, removing, or creating any material or energy for reuse or sale and at which land disposal of solid waste does not occur. Resource recovery facilities include incinerators equipped with integral or separate heat recovery systems, and other such solid waste facilities not herein specified, but does not include sewage sludge processing facilities (WVCSR 33-1-2) [Revised February 1998].

- *Runoff* - any rainwater, leachate, or other liquid that drains over land from any part of a facility (WVCSR 33-1-2) [Revised February 1998].

- *Runon* - any rainwater, leachate, or other liquid that drains over land onto any part of a facility (WVCSR 33-1-2) [Revised February 1998].

- *Sale and/or Selling* - exchange, consignment, barter, gift, and offer for sale. Sale and/or selling include the removal of tires from a stock of merchandise by a wholesale distributor, or a retail tire dealer, for its own use (WVCSR 33-5-2) [Revised February 1998].

- *Salvage* - scrap copper, brass, rope, rags, paper, rubber, junked, dismantled, or wrecked machinery, machine or motor vehicles or any parts thereof; or iron, steel and other scrap ferrous or nonferrous materials (WVCSR 33-1-2) [Revised February 1998].

- *Salvage Yard* -:
  1. any facility which is maintained, operated or used for the storing, buying, selling or processing of salvage materials or for the operation and maintenance of a motor vehicle graveyard, at which only mechanical processing of solid waste takes place and where no solid waste is disposed of onsite (WVCSR 33-1-2) [Revised February 1998];
  2. any place which is maintained, operated or used for the storing, keeping, buying, selling or processing of salvage, or for the operation and maintenance of a motor vehicle graveyard; however, no salvage yard shall accept, store or process more than one hundred waste tires unless it has all of the permits necessary to operate a monofill, waste tire processing facility or solid waste facility. Any salvage yard which currently has on its premises more than one hundred waste tires not on a vehicle must establish a plan in conjunction with the division of environmental protection for the proper disposal of the waste tires (WVSCR 33-5-2) [Added January 2001].

- *Saturated Zone* - that part of the earth's crust in which all voids are filled with water (WVCSR 33-1-2) [Revised February 1998].

- *Scale or Scale House* - the area of the facility where waste initially enters the premises and the total and tare weights are determined and a receipt of deposit is generated (WVCSR 33-1-2) [Revised February 1998].

- *Schedule of Compliance or Compliance Schedule* - a list of activities approved or ordered by the Secretary, which may include dates or specified times for completion of each or all activities which, when completed, will result in a site, facility, or practice which is environmentally sound and conforms to the requirements of the Act, this rule, or permit terms and conditions (WVCSR 33-1-2) [Revised February 1998].

- *Secretary* - the Secretary of the Department of Health and Human Resources or his or her designee (WVCSR 64-56-3) [Revised February 1998].

- *Secretary* - the Secretary of the West Virginia Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W. Va. Code §22-1-6 or §22-1-8. For the purpose of this rule, the term "Secretary" also means the administrator of the West Virginia's solid waste permit program in the administration of sections 2002 and 4005 of Resource Conservation and Recovery Act (RCRA) (WVCSR 33-1-2) [Revised February 1998; Revised January 2005].

- *Seismic Impact Zone* - an area with a 10 percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull will exceed 0.10 G in a 250 yr period (WVCSR 33-1-2) [Revised February 1998].

- *Sewage* - water-carried human or animal wastes from residences, buildings, industrial establishments, or other places together with such groundwater infiltration and surface waters as may be present (WVCSR 33-1-2) [Revised February 1998].

- *Sewage Sludge* - any solid, semisolid or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage, scum or solids removed in primary, secondary or advanced wastewater treatment processes and a material derived from sewage sludge. Sewage Sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator (WVCSR 33-1-2) [Revised February 1998].

- *Sewage Sludge Processing Facility* - a solid waste facility that processes sewage sludge for land application, incineration or disposal at an approved landfill. Such processes include, but are not limited to, composting, lime stabilization, thermophilic microbial and anaerobic digestion (WVCSR 33-1-2) [Revised February 1998; Revised January 1999].

- *Sharps* - discarded articles that may cause punctures or cuts and that have been used in animal or human patient care or treatment, or in pharmacies or medical, research or industrial laboratories, including, but not limited to, hypodermic needles, syringes with attached needles, scalpel blades, lancets and broken glassware (WVCSR 64-56-3) [Revised February 1998].

- *Shredded Waste Tires* - tires or tire derived material, which has been processed by shredding to particle sizes not greater than 72 $in.^2$ (WVCSR 33-5-2) [Revised February 1998; Revised January 2001].

- *Sludge* - any solid, semisolid, or liquid waste, or residue, or precipitate, generated from, or separated from or created by a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar origin, exclusive of the treated effluent from a wastewater treatment plant (WVCSR 33-1-2) [Revised February 1998].

- *Small Quantity Generator* - any generator of infectious medical waste who generates 50 lb or less during a 1 mo period (WVCSR 64-56-3) [Revised February 1998].

- *Soil Amendment/Soil Conditioner* - an organic matter source or yard waste compost that when added to the soil improves the general physical, chemical and biological properties of the soil (WVCSR 33-3-2) [Revised February 1998].

- *Solid Waste* - any garbage; paper; litter; refuse; cans; bottles; waste processed for the express purpose of incineration; sludge from a water treatment plant, water supply treatment plant, or air pollution control facility; and other discarded materials, including car casses of any dead animal or any other offensive or unsightly matter; solid, liquid, semisolid, or contained liquid or gaseous material resulting from industrial, commercial, mining operations, and community activities. The term "solid waste" does not include (WVCSR 33-1-2) [Revised January 1999]:
    1. solid or dissolved materials in sewage
    2. solid or dissolved materials in irrigation return flows
    3. industrial discharges that are point sources and have permits under WV Code Section 22-11; or subject to permit under 33 U.S.C. 1342
    4. source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended, (68 Stat 923) including any nuclear or byproduct material considered by Federal standards to be below regulatory concern
    5. a hazardous waste either identified or listed under West Virginia Code Section 22-18
    6. refuse, slurry, overburden, or other wastes or material, resulting either from coal-fired electric power or steam generation, or from the exploration, development, production, storage, and/or recovery of coal, oil and gas and/or other mineral resources -- that are placed or disposed of at a facility which is regulated under West Virginia Code Sections 22- 2-1 et seq., 22-3-1 et seq., 22-4-1 et seq., 22-6-1 et seq., 22-7-1 et seq., 22-8-1 et seq., 22-9-1 et seq., 22-10-1 et seq., 22A-1-1 et seq., 22C-2-1 et seq., 22C-7-1 et seq., 22C-8-1 et seq., or 22C-9-1 et seq., so long as such placement or disposal is in conformance with a permit issued pursuant to such chapters
    7. materials which are recycled by being used or reused in an industrial process to make a product, as effective substitutes for commercial products, or are returned to the original process as substitutes for raw material feedstock.

- *Solid Waste Disposal* - the practice of disposing of solid waste including placing, depositing, dumping, or throwing or causing to be placed, deposited, dumped, or thrown any solid waste (WVCSR 33-1-2) [Revised February 1998].

- *Solid Waste Disposal Shed* - a geographical area which the solid waste management board designates as provided in West Virginia Code Section 22C-3-9 for solid waste management (WVCSR 33-1-2) [Revised February 1998; Revised January 2005].

- *Solid Waste Disposal Surface Impoundment* - a natural depression or manmade excavation or diked area that is designed for the disposal of solid waste containing free liquids and that is not an injection well, landfill, land application unit, or a surface impoundment as defined in Section 2 of this rule (WVCSR 33-1-2) [Revised February 1998].

- *Solid Waste Facility* - any system, facility, land, contiguous land, improvements on the land, structures, or other appurtenances or methods used for processing, recycling, or disposing of solid waste including landfills, solid waste disposal surface impoundments, transfer stations, incinerators, recycling facilities, materials recovery facilities, mixed waste processing facilities, sewage sludge processing facilities, commercial composting facilities and other such facilities not herein specified, but not including land upon which sewage sludge is applied in accordance with West Virginia Code Section 22-15-20. Such facility is deemed to be situated, for purposes of this rule, in the county where the majority of the spatial area of such facility is located: Provided, That a salvage yard, licensed and regulated pursuant to the terms of West Virginia Code Section 17-23-1 et. seq., is not a solid waste facility (WVCSR 33-1-2) [Revised February 1998; Revised January 1999].

- *Solid Waste Landfill Facility (SWLF)* - a discrete area of land, or portion thereof, or an excavation that receives household waste, and that is not a land application facility, surface impoundment, injection well, or waste pile. A SWLF may also receive other types of RCRA Subtitle D solid wastes, such as commercial solid wastes, nonhazardous sludge, small quantity generator wastes, and industrial solid wastes. Such a publicly or privately owned landfill may be a new SWLF, an existing SWLF, or a lateral expansion (WVCSR 33-1-2) [Revised February 1998; Revised January 2005].

- *Solid Waste Facility Operator* - any person or persons possessing or exercising operational, managerial or financial control over a commercial solid waste facility, whether or not such person holds a certificate of convenience and necessity or a permit for such facility (WVCSR 33-1-2) [Revised February 1998].

- *Source-Separated Materials* - materials separated from general solid waste at the point of origin for the purpose of reuse and recycling but does not mean sewage sludge (WVCSR 33-1-2) [Revised February 1998].

- *Spent Lead Acid Battery* - an encasement which contains or contained lead and sulfuric acid which will no longer produce an electrical charge (WVCSR 33-4-2) [Revised February 1998].

- *Storage or Storage Area* - the interim storage of solid waste, at a permitted or unpermitted solid waste facility on a temporary basis. Any storage that exceeds 180 days, without the prior written approval of the Secretary, in such a manner, constitutes illegal disposal of such solid waste (i.e., staging areas) (WVCSR 33-1-2) [Revised February 1998; Revised January 2005].

- *Storage Cell* - a dedicated area for long term storage for waste tires or tire derived material located within an approved solid waste disposal facility for the purpose of long term storage for the eventual retrieval for marketing purposes (WVCSR 33-5-2) [Revised February 1998].

- *Structural Components* - liners, leachate collection systems, final covers, runon/runoff systems, and any other component used in the construction and operation of the SWLF that is necessary for protection of human health and the environment (WVCSR 33-1-2) [Revised February 1998].

- *Structural Fill* - an engineered/designed and controlled homogeneous fill with a projected spread in lifts not exceeding 12 in. and compacted with proper power equipment. The material must be compacted in horizontal lifts to achieve the required design dry density and in-situ strength (WVCSR 33-1-2) [Revised February 1998].

- *Subtitle C* - Subtitle C of the Federal Resource Conservation and Recovery Act of 1976, 90 Stat. 2806, as amended (WVCSR 64-56-3) [Revised February 1998].

- *Surface Impoundment* - a facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area that is designed to hold an accumulation of contaminated surface runoff or leachate or both (WVCSR 33-1-2) [Revised February 1998].

- *Tire* - any continuous solid or pneumatic rubber covering designed to encircle the wheel of a vehicle and may include the following types of tires: passenger car tires, light- and heavy-duty truck tires, high speed industrial tires, bus tires, and special service tires (including military, off-the-road, recreational/all terrain vehicle, and slow speed industrial) (WVCSR 33-5-2) [Revised February 1998].

- *Tire Derived Material* - any shredded, chipped, crumb rubber or other such tire material that has been processed from a tire or waste tire (WVCSR 33-5-2) [Revised February 1998; Revised January 2001].

- *Transfer Station* – a structure of a combination of structures, machinery, or devices at a place, location or facility where solid waste is taken from collection vehicles and placed in other transportation units for movement to another solid waste management facility. Provided when the generator of solid waste disposes of said waste into a container such as a roll-off, greenbox or bin which is temporarily positioned (not more than five days) at a specific location for transport by a transportation unit, such container will not be considered a transfer station. Under any circumstances, leachate, litter and windblown materials must be properly managed (WVCSR 33-1-2) [Revised February 1998; Revised January 1999; Revised January 2005].

- *Transport* - the movement of infectious medical waste from one location to another, except for onsite movement of infectious medical waste (WVCSR 64-56-3) [Revised February 1998].

- *Transport Vehicle* - a motor vehicle, aircraft, boat, barge or rail car used for the transportation of cargo by any mode. Each cargo-carrying body shall be considered a separate transport vehicle (WVCSR 64-56-3) [Revised February 1998].

- *Transporter* - a person engaged in the offsite transportation of infectious medical waste (WVCSR 64-56-3) [Revised February 1998].

- *Treatment* - any method, technique or process, including neutralization, designed to change the physical, chemical or biological character or composition of any infectious medical waste so as to render such waste noninfectious (WVCSR 64-56-3.28) [Revised February 1998].

- *Unstable Area* - a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements and karst terranes (WVCSR 33-1-2) [Revised February 1998].

- *Uppermost Aquifer* - the geologic formation nearest the natural ground surface that is an aquifer, as well as, lower aquifers that are hydraulically interconnected with this aquifer within the facility's permit boundary (WVCSR 33-1-2) [Revised February 1998].

- *Uppermost Significant Aquifer* - the first, uppermost aquifer encountered which is laterally persistent under the entire site and is free flowing throughout the year. This defines the aquifer which flows all 12 mo of the year and can be encountered under any given point on the permitted site (WVCSR 33-1-2) [Revised February 1998].

- *USGS* - the United States Geological Survey (WVCSR 33-1-2) [Revised February 1998].

- *Vector* - any insect, rodent, or other organism capable of directly or indirectly transmitting infectious diseases or pathogenic organisms from one person to another or from an animal to a person (WVCSR 33-5-2) [Revised February 1998].

- *Washout* - the carrying away of solid waste by waters of the base flood (WVCSR 33-1-2) [Revised February 1998].

- *Waste Management Unit Boundary* - a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer (WVCSR 33-1-2) [Revised February 1998; Revised January 1999].

- *Waste Tire* - any continuous solid or pneumatic rubber covering designed to encircle the wheel of a vehicle but which has been discarded, abandoned or is no longer suitable for its original, intended purpose nor suitable for recapping, or other beneficial use, as defined in W. Va Code § 17-24-2, because if wear, damage or defect. A tire is no longer considered to be suitable for its original intended purpose when it fails to meet the minimum requirements to pass a West Virginia motor vehicle safety inspection. Used tires located at a commercial recapping facility or retail tire dealer for the purpose of being reused or recapper are not waste tires (WVCSR 33-5-2) [Revised February 1998; Revised January 2001].

- *Waste Tire Chips* - tires or tire derived materials that have been reduced to particle sizes not greater than 2 in. x 2 in. (WVCSR 33-5-2) [Revised February 1998].

- *Waste Tire Monofill* - an approved solid waste facility where waste tires not mixed with any other waste are placed for the purpose of long term storage for eventual retrieval for marketing purposes (WVCSR 33-5-2) [Revised February 1998; Revised January 2001].

- *Waste Tire Pile* - a collection and/or accumulation of more than one hundred waste tires into a single location or given parcel or tract of land (WVCSR 33-5-2) [Added January 2001].

- *Waste Tire Processing Facility* - a solid waste facility or manufacturer that accepts waste tires generated by sources other than the owner or operator of the facility for processing by such means as cryogenics, pyrolysis, pyroprossing, cutting, splitting, shredding, quartering, grinding, or otherwise breaking down waste tires for the purposes of disposal, reuse, recycling or marketing (WVCSR 33-5-2) [Revised February 1998; Revised January 2001].

- *Waste Tire Transporter* - any person who transports waste tires collected from retail tire dealers or other sources in this state. Waste tire transporters must be in compliance with W. Va. Code 24-2-1b(a) to lawfully transport tires. However, persons transporting waste tires generated by their own business activities, citizens transporting their own waste tires, or persons who are transporting waste tires generated from state authorized waste tire remediation or cleanup projects are not, in this instance, waste tire transporters (WVCSR 33-5-2) [Added January 2001].

- *Water Resources, Water,* or *Waters* - any and all water on or beneath the surface of the ground, whether percolating, standing, diffused or flowing, wholly or partially within this State, or bordering this state and within its jurisdiction, and includes, without limiting the generality of the foregoing, natural or artificial lakes, rivers, streams, creeks, branches, forks, brooks, ponds (except farm ponds, industrial settling basins and ponds and water treatment facilities), impounding reservoirs, springs, wells, watercourses, and natural wetlands (WVCSR 33-1-2) [Revised February 1998].

- *Wetlands* - those naturally occurring areas, as defined under 40 CFR 232.2(r) that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that, under normal circumstances, do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (WVCSR 33-1-2) [Revised February 1998].

- *Wholesale Distributor* - a person or persons who distribute tires to tire dealers in this state or to its own retail establishments in this state (WVCSR 33-5-2) [Revised February 1998].

- *Windrow* - an elongated pile created by the placement of yard waste (WVCSR 33-3-2) [Revised February 1998].

- *Yard Waste* - grass clippings, weeds, leaves, brush, garden waste, shrub or tree prunings and other living or dead plant tissues, except that, such materials which, due to inadvertent contamination or mixture with other substances which render the waste unsuitable for composting, shall not be considered to be yard waste: Provided, That the same or similar waste generated by commercial agricultural enterprises is excluded (WVCSR 33-3-2) [Revised February 1998; Revised January 2002].

- *Yard Waste Composting* - the controlled decomposition of yard waste to produce a stable and beneficial humus-like material (WVCSR 33-3-2) [Revised February 1998].

- *7Q10* - the seven consecutive day drought flow with a 10 yr return frequency (WVCSR 33-1-2) [Revised February 1998].

- *100 Yr Flood* - a flood that has a 1 percent or greater chance of recurring in any given year or a flood of a magnitude equaled or exceeded once in 100 yr on the average, over a significantly long period of time (WVCSR 33-1-2) [Revised February 1998].

SOLID WASTE MANAGEMENT GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS	
	REFER TO CHECKLIST ITEMS:
Missing Checklist Items	SO.2.1.WV.
General	SO.5.1.WV through SO.5.7.WV.
Permits, Approvals, Exemptions	SO.6.1.WV.
Specific Wastes	SO.9.1.WV.
Storage/Collection of Solid Waste	SO.10.1.WV.
Transfer Facilities	SO.15.1.WV. through SO.15.8.WV.
Medical Waste	
Generators	SO.105.1.WV.
Containers/Labeling/Storage Areas	SO.110.1.WV. through SO.110.18.WV.
Transportation	SO.115.1.WV. through SO.115.7.WV.
Treatment/Disposal	SO.120.1.WV. through SO.120.11.WV
Documentation	SO.125.1.WV. through SO.125.12.WV.
Landfills	
Permits	SO.135.1.WV. through SO.135.25.WV.
Inert Waste Landfills	SO.140.1.WV. through SO.140.4.WV.
Incinerators	SO.145.1.WV. and SO.145.2.WV.
Waste Tire Management	SO.160.1.WV. through SO.160.11.WV.
Yard Waste/Composting	SO.165.1.WV. through SO.165.9.WV.
Closure of Solid Waste Facilities	SO.180.1.WV. through SO.180.8.WV.

GUIDANCE FOR APPENDIX USERS	
APPENDIX NUMBERS:	**APPENDIX TITLES:**
9-1	Minimum Design Criteria for Landfills

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.2. **MISSING CHECKLIST ITEMS**	
SO.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
STATE SPECIFIC **SO.5.** **General**	
SO.5.1.WV. Solid waste must be disposed of lawfully (WVCSR 33-1-1.6) [Revised January 2005].	Verify that solid waste is disposed, processed, stored, transferred, or recycled only at permitted solid waste facilities. Verify that unless specifically authorized by a permit, solid waste is not discharged, deposited, injected, dumped, spilled, leaked, burned, buried so that the solid waste or any constituent enters the environment. (NOTE: Solid waste landfill facilities failing to satisfy this rule are considered open dumps, as defined in Section 2 of this rule, and will be subject to the actions and penalties outlined in Chapter 22, Article 15, Section 15.)
SO.5.2.WV. Solid waste facilities must not be established, constructed, operated, maintained, or allowed in an area where there is a reasonable probability that the facility will cause adverse effects (WVCSR 33-1-3.1).	Verify that no solid waste facility causes the following: - a significant adverse impact upon natural wetlands - a significant adverse impact upon, or jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of a critical habitat of any animal or plant protected under the Endangered Species Act of 1973, or violates any requirement under the Marine Protection, Research and Sanctuaries Act of 1972 for the protection of a marine sanctuary, unless specifically approved by the U. S. Fish and Wildlife Service - a significant adverse impact upon any surface water - a significant adverse impact upon groundwater quality - non-compliance with other agency requirements - the generation and subsequent migration and concentration of methane or other explosive gases in any facility structure, excluding the leachate collection system or gas control or recovery system components, or in the soils or air at or beyond the facility property boundary in excess of 25 percent of the lower explosive limit for such gases at any time - the emission of any air contaminant exceeding the limitations for those substances as set by the West Virginia Division of Environmental Protection, Division of Air Quality.
SO.5.3.WV. No person may create or operate an open dump (WVCSR 33-1-7.1) [Revised January 2000; Revised January 2006].	Verify that no person creates or operates an open dump. Verify that additional solid waste is not added to an open dump at any time. Verify open burning of solid waste is prohibited.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	(NOTE: Any existing open dump should be under a compliance schedule approved by the Secretary.) (NOTE: An open dump operated prior to 1 April 1988 by a landowner or tenant for the disposal of solid waste generated by the landowner or tenant at her residence or farm is not deemed to constitute a violation if the open dump did not constitute a violation of law on 1 January 1988.) Verify that after 1 April 1988, no additional solid waste was contributed to an open dump operated by a landowner or tenant for the disposal of solid waste generated by the landowner or tenant at her residence or farm. Verify that the landowner or tenant who operated an open dump for the disposal of solid waste generated at her residence or farm, at a minimum, covers the accumulated waste with 2 ft of topsoil. (NOTE: An unauthorized dump created by unknown persons is not deemed to constitute a violation and the owner of the land on which such dump is located is not liable for unauthorized dumping unless she refuses to cooperate with the Division in stopping the dumping. Cooperation with the Division may include, but is not limited to, the following: - the posting of signs stating that dumping is illegal - the erection of fencing to surround the accumulated waste - surveillance of the open dumping areas to determine the identity of contributors to such open dumps - the removal and keeping of certain indications of ownership as contemplated by West Virginia Code Section 20-7-26(b) - testimony before a judicial officer regarding the identity of contributors to the dump.)
SO.5.4.WV. Solid waste facilities must take specific protective measures (WVCSR 33-1-7.2a) [Revised January 2000; Revised January 2007].	(NOTE: Sites that do not meet these requirements are considered to be open dumps.) Verify that solid waste facilities take the following protective measures: - prevent the discharge of pollutants from the accumulated waste into the waters of the State (e.g., measures to prevent runoff into surface water bodies or the infiltration of leachates to local aquifers) - impede the access of disease vectors to the accumulated waste (e.g., the application of cover material at appropriate frequencies or other techniques approved in writing by the Secretary) - prevent the introduction of hazardous or infectious materials to the accumulated waste - reduce the risk of fire in the accumulated waste (e.g., venting measures to reduce the concentration of explosive gases generated by the waste) - limit public access to the accumulated waste (e.g., the erection of fencing to surround the accumulated waste) - prevent adverse impacts to area wildlife, particularly with regard to the

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	destruction or adverse modification of habitat critical to any endangered or threatened species of animal or plant - any other similar measures specified by the Secretary in Division policy, regulation, or rule.
SO.5.5.WV. [Deleted January 2006].	(NOTE: WVCSR 33-1-7.1.f (prohibition of open burning of solid waste) is incorporated in SO.5.3.WV.)
SO.5.6.WV. Persons occupying a residence or operating a business establishment must have solid waste disposal documentation (WVCSR 33-7-2.1, 2.2, and 2.4) [Added January 2000].	Verify that each person occupying a residence or operating a business establishment in WV is able to provide proof to the Division of Environmental Protection that his solid waste was disposed of at an approved solid waste facility. Verify that all records are maintained for a minimum of 3 yr and be made available for inspection by an authorized representative of the Secretary upon request. (NOTE: Proof of proper solid waste disposal includes: Records demonstrating that a person has subscribed to and used a solid waste collection service and has paid the fees established; or Records, including bills of receipt, demonstrating that a person has delivered his or her waste to an approved solid waste facility for disposal.) (NOTE: The term "solid waste collection service" means a collection service offered either by a common carrier certificated by the West Virginia Public Service Commission (or similar body of a contiguous state) or by a municipality or other governmental body.)
SO.5.7.WV. Approved solid waste facilities must keep records of solid waste deliveries made by individuals (WVCSR 33-7-2.3 and 2.4) [Added January 2000; Revised January 2007].	Verify that approved solid waste facility maintain records of each delivery of solid waste made by an individual who is not in the business of hauling or disposing of solid waste. Verify that the records include the following: - the name and address of the individual who delivered the waste for disposal - a description of the origin, type, and estimated amounts of the waste delivered for disposal - a copy of the bill of receipt for the waste delivered for disposal. Verify that all records are maintained for a minimum of 3 yr and are made available for inspection by an authorized representative of the Secretary upon request.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
STATE SPECIFIC **SO.6.** **Permits/ Notifications/ Exemptions**	
SO.6.1.WV. A permit must be obtained from the Secretary prior to the installation, establishment, construction, modification, operation, or closure of any solid waste facility (WVCSR 33-1-3.5) [Revised January 2007].	Verify that a permit is obtained from the Secretary prior to the installation, establishment, construction, modification, operation, or closure of any solid waste facility. (NOTE: All permits issued pursuant to West Virginia Code Section 22-15 and this rule has a fixed term not to exceed 5 yr from the date of issuance.) (NOTE: The Secretary may administratively extend any permit expiration date for a period of up to 1 yr.)

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
STATE SPECIFIC **SO.9.** **Specific Wastes**	
SO.9.1.WV. Lead acid battery handling, storage and disposal must meet specific requirements (WVCSR 33-4-3) [Revised January 2007; Revised January 2009].	Verify that no lead acid batteries are deposited in a solid waste facility. Verify that new lead acid batteries and spent lead acid batteries are stored in compliance with all local, state and Federal Regulations to prevent contamination or injury from acid spillage or leakage. Verify that any person selling or offering lead acid batteries for sale at retail or wholesale meets the following requirements: - accept, at the point of transfer, spent lead acid batteries from customers when purchases new batteries - post written notices on at least 8 1/2 inch by 11 inch poster clearly visible to all customers and containing the universal recycling symbol and the following language: - It is unlawful to dispose of a lead acid battery in a W. Va. landfill. - Please RECYCLE your used batteries. - State rules require us to accept used or spent lead acid batteries for recycling in exchange for new batteries purchased from the dealer. Note: " It is not necessary to exchange a used battery in order to purchase a new one." Verify that spent lead acid batteries are delivered to an automotive battery dealer, or wholesaler, or a secondary lead smelter permitted by USEPA, or a collection or recycling facility authorized under the Hazardous Waste laws of the State of West Virginia, or other jurisdiction. Verify that lead acid battery dealers dispose of spent lead acid batteries by: - delivery to a secondary lead smelter permitted by the USEPA - delivery to the agent of a battery manufacturer or wholesaler for delivery to a secondary lead smelter permitted by the USEPA - delivery to a collection or recycling facility authorized under the laws of the State of West Virginia or laws of the state where the collection or recycling facility is located. Verify that lead acid battery dealers collect, recycle, and dispose of lead acid batteries in a lawful manner, and keep records of the collection, recycling or disposal on file for at least 3 yr.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.10. **STORAGE/ COLLECTION OF SOLID WASTE**	
SO.10.1.WV. Solid waste receptacles must be maintained (WVCSR 33-1-5.6.a) [Revised February 1998].	Verify that litter is prevented, open dumping is controlled, and leachate is managed for any green box, bin, roll-off or dumpster at places other than approved solid waste facilities.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
SO.15. **TRANSFER FACILITIES**	
SO.15.1.WV. Transfer facilities must comply with general requirements (WVCSR 33-1-5.2.a) [Revised February 1998].	Verify that transfer station activities have received a permit from the Secretary. Verify that ash, residue, or other wastes requiring special handling are not received or handled at a transfer station unless the Secretary has specifically approved handling that waste by permit. (NOTE: Waste requiring special handling includes asbestos, free liquids, tires, unemptied/uncrushed drums, bulky goods, infectious wastes, sewage sludge, shredder fluff, municipal incinerator ash, and petroleum-contaminated soils.) Verify that transfer stations do not: - mix solid waste with, or store solid waste in such close proximity to other solid waste to create a risk of fire or explosion, or a risk to the accumulation of poisonous or otherwise harmful vapors or gases - allow explosive waste to be processed at the facility. Verify that regulated hazardous waste is not disposed, processed, or stored where transfer station activities are conducted.
SO.15.2.WV. Transfer facilities must comply with signage requirements (WVCSR 33-1-5.2.c and 33-1-4.6.a.1.M) [Revised February 1998; Citation Revised January 2007].	Verify that transfer station open to the public posts a sign at the entrance that indicates the facility name, permit number, the hours that solid waste is received, the hours of operation, including hours for exempt disposal of solid waste, waste types accepted, penalties for unauthorized use, necessary safety precautions, and any other pertinent information. Verify that required signs are posted and maintained for the duration of the active life of the transfer station, are clearly visible, readable, and uniform throughout the operation, are permanently fixed, and are made of durable material.
SO.15.3.WV. Transfer facilities must comply with access control requirements (WVCSR 33-1-5.2.d) [Revised February 1998; Revised January 2007].	Verify that a gate or other barrier is maintained at potential vehicular access points to block unauthorized access to the site when an attendant is not on duty. Verify that the operator constructs and maintains a fence or other suitable barrier around the site sufficient to prevent unauthorized access. Verify that access to the site is limited to times when an attendant is on duty.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.15.4.WV. Transfer facilities must comply with weighing requirements (WVCSR 33-1-5.2.f) [Revised February 1998].	Verify that solid waste delivered to a transfer station is accurately weighed or otherwise accurately measured prior to unloading.
SO.15.5.WV. Transfer facilities must comply with specific equipment requirements (WVCSR 33-1-5.2.g) [Revised February 1998].	Verify that loading, unloading, storage, compaction and related activities are conducted in an enclosed building, unless otherwise approved by the Secretary. Verify that the equipment necessary for operation of the facility is maintained onsite in accordance with the permit. Verify that the equipment is maintained in an operable condition. Verify that standby equipment is located on the site or at a place where it can be available within 24 h. Verify that equipment is operated and maintained so as to prevent solid waste from being unintentionally removed from the storage area. Verify that equipment used to handle putrescible solid waste is cleaned at the end of each working day.
SO.15.6.WV. Transfer facilities must comply with unloading area requirements (WVCSR 33-1-5.2.h) [Revised February 1998].	Verify that the approach and unloading area is adequate in size and design to facilitate the rapid unloading of solid waste from the collection vehicles and the unobstructed maneuvering of the vehicles and other equipment. Verify that the loading areas and unloading areas are constructed of impervious material which is capable of being cleaned by high pressure water spray and are equipped with drains or sumps connected to a sanitary sewer system or treatment facility to facilitate the removal of water. Verify that, if an unloading pit is used, the facility truck wheel curbs and tie downs that are sufficient to prevent trucks from backing into the pit or falling into the pit while unloading. Verify that an attendant or clearly marked sign directs vehicles to the unloading area. Verify that collection vehicles unload waste promptly in unloading areas. Verify that solid waste is confined to the unloading area and the approved storage areas.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.15.7.WV. Transfer facilities must comply with cleaning and maintenance requirements (WVCSR 33-1-5.2.i) [Revised February 1998].	Verify that all areas within the building are kept clean. Verify that the operator does not allow putrescible waste to remain at the transfer station at the end of the day or for more than 24 h. Verify that plumbing is properly maintained and the floors are well drained. Verify that macerators, hammer mills, and grinders are cleanable and equipped with drains that connect to a sanitary sewer system or treatment facility. Verify that provision is made for the routine operational maintenance of the facility.
SO.15.8.WV. Transfer facilities must comply with specific operating and design requirements (WVCSR 33-1-5.2.k) [Revised February 1998].	Verify that the operator prevents and eliminates conditions not otherwise prohibited that are harmful to the environment or public health, or which create safety hazards, odors, dust, noise, unsightliness and other public nuisances. Verify that the operator does not cause or allow open burning. Verify that the operator prevents the attraction, harborage or breeding of vectors. Verify that salvaging of materials is not conducted unless salvaging is controlled by the operator to prevent interference with prompt and sanitary operations and is conducted to prevent a health hazard or nuisance. Verify that salvaged materials are promptly removed from the unloading area and either stored in an approved area or transported offsite. Verify that the operator does not allow litter to be blown or otherwise deposited offsite. Verify that fences or other barriers sufficient to control blowing litter are located in the area immediately downwind from the unloading area, unless transfer activities are conducted within an enclosed building or the solid waste being transferred cannot create blowing litter. Verify that litter is collected at least weekly from fences, roadways, tree line barriers, and other barriers and disposed or stored in compliance with applicable requirements, unless a greater frequency is set in the permit. Verify that the facility is surrounded with rapidly growing trees, shrubbery, fencing, berms, or other appropriate means to screen it from the surrounding area. Verify that only household waste and commercial waste is accepted at the facility, unless specifically approved by the Secretary.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that all solid waste passing through the transfer station is ultimately treated or disposed of at a facility authorized by the Division if in this State, or by the appropriate governmental agency or agencies if in other states, territories, or nations. Verify that transfer station with operating mechanical equipment has an attendant on duty at all times that the facility is open suitable fencing, gates, or signs are provided. Verify that all floors are drained and free from standing water all drainage from cleaning areas is discharged to sanitary sewers or the equivalent. Verify that adequate storage space for incoming solid waste is available at the transfer station. Verify that all solid waste is removed from the transfer station facility whenever transfer containers are full, or weekly, whichever comes first.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
MEDICAL WASTE **SO.105.** **Generators**	
SO.105.1.WV. Infectious medical waste must not be compacted or subjected to violent mechanical action (WVCSR 64-56-8.10) [Added February 1998].	Verify that infectious medical waste is not compacted or subject to violent mechanical action unless as a part of a specific treatment process approved by the Secretary. (NOTE: Ambulance or rescue services are exempt from these requirements, except that all infectious medical waste generated in an ambulance or rescue vehicle is packaged as required and delivered to a permitted infectious medical waste management facility. (WVCSR 64-56-2.2b))

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
MEDICAL WASTE **SO.110. Containers/ Labeling/ Storage Areas**	
SO.110.1.WV. Infectious waste must be packaged appropriately prior to storage, treatment or transport (WVCSR 64-56-2.2.b, 64-56-6.1.c and 6. 2.a and 2. b) [Revised February 2000; Citation Revised January 2007].	Verify that infectious medical waste is contained and sealed onsite in leak-proof plastic bags capable of passing the American Society for Testing and Materials drop weight test (ASTM-D-959-80) using 125 lb, or in three (3) mil plastic bags or containers with equivalent containment properties. Verify that free liquids are contained in breakresistant, tightly stoppered containers. Verify that heavier materials are supported in double-walled corrugated fiberboard boxes or equivalent rigid containers. Verify that no person knowingly accept for transportation, storage, treatment or disposal any infectious medical waste that is not packaged and labeled. Verify that proper repackaging of infectious medical waste that has spilled during transportation is accomplished prior to further transportation. (NOTE: Ambulance or rescue services are exempt from this section's requirements, except that all infectious medical waste generated in an ambulance or rescue vehicle is packaged as required and delivered to a permitted infectious medical waste management facility.) (NOTE: The generator of infectious medical waste is responsible for ensuring that the packaging and labeling of infectious medical waste is in compliance. Contractors or other agents may provide services to the generator, including packaging and labeling of infectious medical waste. No contract or other relationship relieves the generator of the responsibility for required packaging and labeling the infectious medical waste (WVCSR 64-56-6.a and 6.b) [Added February 2000].)
SO.110.2.WV. Containers for sharps must be clearly labeled and specially packaged (WVCSR 64-56-6.2.c) [Revised February 2000].	Verify that sharps are collected at the point of generation in rigid, leak-proof and puncture-resistant containers clearly marked as infectious medical waste. Verify that containers are compatible with selected treatment processes to preclude contact with waste materials, and sealed before handling. Verify that sharps containers are not completely filled. Verify that if the sharps are to be stored or treated offsite, the sharps containers are placed inside leak-proof plastic bags capable of passing the American Society for Testing and Materials drop weight test (ASTM-D-959-80) using 125 lb, or in

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	three (3) mil plastic bags or containers with equivalent containment properties. Verify that prior to storage, the plastic bags are bound at the gathered open end with tape or another closing device that prevents leakage of liquids. (NOTE: Sharps which are rendered noninfectious and encapsulated in a solid state onsite may be discarded as solid waste.)
SO.110.3.WV. The management of Infectious waste bags must meet specific requirements (WVCSR 64-56-6.2.d) [Revised February 2000; Revised January 2007].	Verify that all bags containing infectious medical waste are red in color, except for waste to be steam treated. Verify that infectious medical waste that is to be steam treated is contained in orange bags and marked with autoclave tape or other heat-activated ink capable of indicating whether or not the appropriate temperature has been reached. Verify that red and orange bags are imprinted with the international biohazard symbol and the words "infectious medical waste" or "biomedical waste" or "biohazard" or "regulated medical waste" if treatment is to occur offsite. Verify that wastes contained in red bags are managed as infectious medical waste. Verify that wastes contained in orange bags are managed as infectious medical waste prior to steam treatment and as solid waste after steam treatment (but not removed from the orange bags).
SO.110.4.WV. All infectious waste transported offsite must be boxed after being bagged (WVCSR 64-56-6.2.e) [Revised February 2000; Revised January 2007].	Verify that, in addition to other packaging, all infectious medical waste that is transported offsite is also packaged in double-wall corrugated fiberboard boxes or equivalent rigid containers. Verify that the boxes or containers are leak-resistant or lined with a tear-resistant leak-proof plastic bag.
SO.110.5.WV. Reusable containers for infectious waste must meet certain requirements (WVCSR 64-56-6.2.f) [Revised February 2000].	Verify that reusable containers are leakproof and vermin-proof, have tight-fitting covers, and are kept clean and in good repair. Verify that reusable containers are thoroughly washed and disinfected if they are contaminated by or come in contact with improperly contained medical waste items, unless the surfaces of the containers have been protected from contamination by disposable liners, bags or other devices. Verify that such disposable liners, bags or other devices are removed and handled as infectious medical waste.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	(NOTE: Red or orange bags may not be enclosed in a bags of different colors.)

SO.110.6.WV. Disinfection of infectious waste containers must use an approved method (WVCSR 6 4-56-6.2.g) [Revised February 2000].	Verify that disinfection of containers used to hold infectious medical waste is accomplished by one of the following methods:
	- immersion in hot water at a temperature of at least 180 ^{o}F for a minimum of 30 s
	- exposure to a chemical sanitizer by immersion in one of the following for a minimum of 30 s:
	  - hypochlorite solution of 100 ppm available chlorine
	  - iodoform solution of 25 ppm available iodine
	  - quaternary ammonium solution of 200 ppm active agent
	- swabbing or rinsing the container with a chemical sanitizer double the strength specified above or a chemical with equivalent sanitizing capabilities.

SO.110.7.WV. Employees must be trained to use protective equipment when managing infectious waste (WVCSR 6 4-56-6.2.h) [Revised February 2000].	Verify that employers direct employees packaging infectious medical waste to use personnel protection equipment and provide training in its use.
SO.110.8.WV. Infectious medical waste to be transported offsite must be labeled prior to being stored onsite or transported offsite (WVCSR 6 4-56-6.3.a) [Revised February 2000].	Verify that the label is securely attached to the outer layer of packaging, is clearly legible, written with indelible ink, and at least 3 in. x 5 in. in size. Verify that the following information is included on the label: - the name, address, business, and fax numbers telephone number of the generator - the words “infectious medical waste” or “biomedical waste” or “biohazard” or “regulated medical waste” - the name, address, business telephone, and fax numbers number of all transporters, treatment facilities, or other persons to whose control the infectious medical waste is being transferred and the permit numbers of transporters, if applicable - the date on which the infectious medical waste was packaged.
SO.110.9.WV. Recognizable treated noninfectious medical waste must be labeled prior to transport (WVCSR 6 4-56-	Verify that recognizable treated noninfectious medical waste is labeled prior to being transported offsite. (NOTE: Treated medical wastes that will pass through a screen with a one-half

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
6.3.b) [Revised February 2000].	inch (1/2") grid are considered not recognizable.) Verify that the label is securely attached to the outer layer of packaging, is clearly legible, written with indelible ink, and at least 3 in. x 5 in. in size. Verify that the following information is on the label: - the name, address, business, and fax numbers telephone number of the generator - the name, address, business telephone number, and fax numbers of the facility at which the waste was rendered noninfectious - the weight of the treated noninfectious medical waste and the method of treatment - a signed and dated certification by the facility at which the waste was rendered noninfectious which states: "I hereby certify under penalty of law that this waste has been rendered noninfectious in accordance with procedures required by Infectious Medical Waste, 64 CSR 56."
SO.110.10.WV. Areas where infectious medical waste is stored on a bulk basis must have a spill kit (WVCSR 64-56-7.1).	Verify that all infectious medical waste management facilities keep a spill containment and cleanup kit within the vicinity of any area where infectious medical waste is managed on a bulk storage basis. Verify that the location of the kit provides for rapid and efficient cleanup of spills anywhere within the area. Verify that the kit contains the following: - an amount of absorbent material sufficient to have a rated capacity of 1 gal of liquid for every cubic foot of infectious medical waste that is normally managed in the area for which the kit is provided or of 10 gal, whichever is less - 1 gal of hospital grade disinfectant effective against myco bacteria a sprayer capable of dispersing its charge in a mist or in a stream at a distance - enough red plastic bags to enclose 150 percent of the maximum quantity stored or transported - bags that meet the American Society for Testing and Materials drop weight test (ASTM-D-959-80) using one hundred twenty-five (125) lb or are three (3) mils thick or the equivalent and are accompanied by sealing tape or devices and labels or tags (these bags must be large enough to enclose any box or other container normally used for infectious medical waste management by that facility or carried by a transport vehicle) - an adequate first aid kit and 100 yd of boundary marking tape - 2 new sets of overalls, gloves, boots, caps, and devices to protect the eyes and respiratory tract, and tape for sealing wrists and ankles. (NOTE: The overalls, boots and caps must be oversized or fitted to the infectious medical waste workers or transporters, and made of materials impermeable to

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	liquids. Boots may be of thick rubber and gloves are a heavy neoprene or equivalent material. Boots, gloves and breathing devices may be reused if disinfected between uses.)
SO.110.11.WV. Specific spill response procedures must be followed whenever there is a spill of infectious medical waste (WVCSR 64-56-7.2 through 7.4).	(NOTE: When a spill involves a single container of infectious medical waste with a weight of less than 50 lb. and a volume of spilled liquid of less than 1 quart, the individual responsible for the cleanup may elect to use dress and procedures other than those required. Any proposed alternate procedures for small quantity spills must be specified in the infectious medical waste management plan and provide protection to the health of workers and the public equivalent to that provided by the procedures specified.) Verify that, immediately following a spill of infectious medical waste or its discovery, all individuals present leave the area until any aerosol settles. Verify that the cleanup crew implements the following procedures for cleaning up a spill: - put on cleanup outfits and secure the spill area from entry by unauthorized persons - spray all broken containers of infectious medical waste with disinfectant - place broken containers and spillage in the packing bags in the kit - disinfect and take other steps necessary to clean up the area - clean and disinfect non-disposable items and clothing - remove cleanup outfits and place disposable items in a cleanup bag - take prompt steps to initiate procedures for the replenishment of the containment and cleanup kit.
SO.110.12.WV. Pre-transport storage of infectious medical waste must not exceed 30 days (WVCSR 64-56-8.2) [Revised January 2004].	Verify that infectious medical waste other than sharps is not stored for more than 30 days prior to transportation to an infectious medical waste management facility, even if refrigerated. Verify that the total amount of storage time, including transportation to an infectious medical waste management facility, does not exceed 45 days. Verify that infectious medical waste management facilities that treat infectious medical waste onsite do not store the infectious medical waste more than 30 days. (NOTE: This checklist is applicable to the storage of infectious medical waste at any time after packaging (sealing) for transport, including time spent during transportation and at all treatment and disposal sites or facilities.)
SO.110.13.WV. Infectious medical waste sealed for	Verify that infectious medical waste is stored in a specifically designated area located at or near the treatment site, or at the pickup point if it is to be transported

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
transport must be stored in a designated area (WVCSR 64-56-8.3).	offsite for treatment. (NOTE: This checklist is applicable to the storage of infectious medical waste at any time after packaging (sealing) for transport, including time spent during transportation and at all treatment and disposal sites or facilities.)
SO.110.14.WV. Pre-transport storage of infectious medical waste must maintain the integrity of the storage container (WVCSR 64-56-8.4).	Verify that the manner of storage maintains the integrity of the containers. Verify that the manner of storage prevents the leakage of waste from the container, provides protection from water, rain and wind, and maintains the waste in a non-putrescent state. (NOTE: This checklist is applicable to the storage of infectious medical waste at any time after packaging (sealing) for transport, including time spent during transportation and at all treatment and disposal sites or facilities.)
SO.110.15.WV. Storage areas for infectious medical waste sealed for transport must meet specific requirements (WVCSR 64-56-8.5 through 7).	Verify that all storage areas are constructed of materials which are durable, easily cleanable, impermeable to liquids, and vermin-proof. Verify that carpets and floor coverings with open seams in which water may be entrapped are not used in storage areas. Verify that all floor drains discharge directly to a sanitary sewage disposal system or other containment system which prevents any spilled materials from reaching the environment. Verify that all storage areas are kept clean and in good repair. (NOTE: This checklist is applicable to the storage of infectious medical waste at any time after packaging (sealing) for transport, including time spent during transportation and at all treatment and disposal sites or facilities.)
SO.110.16.WV. Storage areas for infectious medical waste sealed for transport must comply with access control requirements (WVCSR 64-56-8.8).	Verify that all storage areas have access control that limits access to those persons specifically designated to manage infectious medical waste. Verify that the areas are posted prominently with the international biohazard symbol and with warning signs located adjacent to the exterior of entry doors, gates or lids which indicate the use of the area for storage of infectious medical waste and that entry to unauthorized persons are denied. (NOTE: This checklist is applicable to the storage of infectious medical waste at any time after packaging (sealing) for transport, including time spent during transportation and at all treatment and disposal sites or facilities.)

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.110.17.WV. Infectious medical waste sealed for transport must not be placed in chutes (WVCSR 64-56-8.9) [Added February 1998].	Verify that infectious medical waste is placed in chutes at any time. (NOTE: This checklist is applicable to the storage of infectious medical waste at any time after packaging (sealing) for transport, including time spent during transportation and at all treatment and disposal sites or facilities.)
SO.110.18.WV. Infectious medical waste sealed for transport must not be compacted or subjected to violent mechanical action (WVCSR 64-56-8.10) [Added February 1998].	Verify that infectious medical waste is not compacted or subject to violent mechanical action unless as a part of a specific treatment process approved by the Secretary. (NOTE: This checklist is applicable to the storage of infectious medical waste at any time after packaging (sealing) for transport, including time spent during transportation and at all treatment and disposal sites or facilities.)

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
MEDICAL WASTE **SO.115. Transportation**	
SO.115.1.WV. Transporters of infectious waste must be permitted (WVCSR 64-56-9.9) [Revised January 2004].	Verify that no person transports infectious medical waste in West Virginia for another who does not possess a permit issued by the Secretary, and, if applicable, valid authority issued by the public service commission. (NOTE: Permits issued by the Secretary are not transferable or assignable and automatically become invalid upon a change of ownership or upon suspension or revocation.) (NOTE: Ambulance or rescue services are exempt from these requirements, except that all infectious medical waste generated in an ambulance or rescue vehicle is packaged as required and delivered to a permitted infectious medical waste management facility (WVCSR 64-56-2.2b).) (NOTE: This checklist item applies to all transportation of infectious medical waste over roads or highways within West Virginia, regardless of point of origin or intended disposal. See SO.115.7.WV. for requirements for small quantity generators.)
SO.115.2.WV. Infectious waste to be transported must be packaged and labeled (WVCSR 64-56-9.4).	Verify that no person knowingly accepts for transportation any infectious medical waste that is not packaged and labeled in accordance with this rule (see section SO.110.WV.). (NOTE: This checklist item applies to all transportation of infectious medical waste over roads or highways within West Virginia, regardless of point of origin or intended disposal. See SO.115.7.WV. for requirements for small quantity generators.)
SO.115.3.WV. Transporters must deliver infectious waste only to a permitted infectious medical waste management facility (WVCSR 64-56-9.5).	Verify that a transporter delivers infectious medical waste in West Virginia only to a permitted infectious medical waste management facility. Verify that transporters of infectious medical waste out of state transport it to a facility permitted by the receiving jurisdiction. (NOTE: This checklist item applies to all transportation of infectious medical waste over roads or highways within West Virginia, regardless of point of origin or intended disposal. See SO.115.7.WV. for requirements for small quantity generators.)

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
SO.115.4.WV. Vehicles transporting infectious medical waste must comply with identification requirements (WVCSR 64-56-9.6).	Verify that all vehicles transporting infectious medical waste (except for exempt small quantity generators) are prominently identified while transporting the infectious medical waste with the following: - the international biohazard symbol - the words "infectious medical waste", or "biomedical waste", or "biohazard" or "regulated medical waste" - the number of the transporter's permit issued by the Secretary - if applicable, a placard in accordance with United States Department of Transportation requirements. (NOTE: This checklist item applies to all transportation of infectious medical waste over roads or highways within West Virginia, regardless of point of origin or intended disposal. See SO.115.7.WV. for requirements for small quantity generators.)
SO.115.5.WV. Vehicles transporting infectious medical waste must comply with design, operating and maintenance requirements (WVCSR 64-56-9.7).	Verify that vehicles that transport infectious medical waste comply with the following: - include a cargo-carrying portion that is closed and secured except when loading or unloading infectious medical waste to prevent unauthorized access and exposure to wind and precipitation - are designed and constructed so as to contain any spillage - are cleaned and disinfected following leakage or spills - are cleaned and disinfected prior to using the conveyance for any other purpose - is not used to transport food, foodstuffs, food additives, food containers or any substances to be ingested by people or animals or applied to food or feed simultaneously with the transport of infectious medical waste. (NOTE: This checklist item applies to all transportation of infectious medical waste over roads or highways within West Virginia, regardless of point of origin or intended disposal. See SO.115.7.WV. for requirements for small quantity generators.)
SO.115.6.WV. Vehicles transporting infectious medical waste must carry a spill response kit (WVCSR 64-56-9.8)	Verify that all vehicles transporting infectious medical waste carry a spill containment and cleanup kit in the vehicle whenever infectious medical waste is conveyed. Verify that direct physical contact of the transport vehicle or equipment with infectious medical waste is considered and managed as a spill. (NOTE: This checklist item applies to all transportation of infectious medical waste over roads or highways within West Virginia, regardless of point of origin or intended disposal. See SO.115.7.WV. for requirements for small quantity generators.)

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.115.7.WV. Small quantity generators of infectious waste must meet specific conditions for transportation (WVCSR 64-56-9.2) [Added February 2000].	Verify that a small quantity generator (or his employee) (see definitions) transporting his or her infectious medical waste to a permitted infectious medical waste management facility meets the following conditions: - the employee who transports the infectious medical waste is trained in the proper handling of infectious medical waste as required - the infectious medical waste is delivered within 45 days of its generation - via the U.S. postal service, if the requirements set by that agency are met.)

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
MEDICAL WASTE **SO.120.** **Treatment/Disposal**	
SO.120.1.WV. Treatment of infectious medical waste must meet specific requirements regarding methods of treatment (WVCSR 64-56-10.1).	Verify that all infectious medical waste is treated by one of the following methods: - incineration - steam treatment - discharge to a sanitary sewer - any other alternative method approved in writing and permitted by the Secretary. (NOTE: The residue or ash remaining after the treatment of infectious medical waste in accordance with this rule becomes noninfectious medical waste and may be disposed of in the same manner as ash from solid waste incineration.) (NOTE: Ambulance or rescue services are exempt from these requirements, except that all infectious medical waste generated in an ambulance or rescue vehicle is packaged as required and delivered to a permitted infectious medical waste management facility (WVCSR 64-56-2.2b).)
SO.120.2.WV. Infectious medical waste incinerators must comply with all incinerator requirements (WVCSR 64-56-10.1 and 10.2.a) [Revised February 2000].	Verify that all owners and operators of infectious medical waste incinerators comply with applicable State laws and with rules of the West Virginia Air Pollution Control Commission regarding incineration. Verify that all infectious medical waste is treated by one of the following methods: - incineration as described in Section 10.3 - steam treatment as described in Section 10.3 - discharge to a sanitary sewer as described in Section 10.4 - any other alternative method approved in writing and permitted by the Secretary.
SO.120.3.WV. Incineration of infectious medical waste must comply with residence times and temperature requirements (WVCSR 64-56-10.2.b and 2.c) [Revised February 2000].	Verify that, whenever infectious medical waste is introduced into an incinerator, all the waste is subjected to a burn temperature of not less than 1400 ^{o}F for a period not less than 1 h. Verify that gases generated by the combustion are subjected to a temperature of not less than 1800 ^{o}F for a period of 1 s or more.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that an incinerator used for treatment of infectious medical waste has interlocks or other process control devices to prevent feeding of the incinerator until the temperatures and residence times can be achieved. Verify that in the event low temperatures occur, facilities have automatic auxiliary burners which are capable, excluding the heat content of the waste, of independently maintaining the secondary chamber temperature at the minimum of 1800 ^{o}F.
SO.120.4.WV. Infectious medical waste incinerators must comply with recordkeeping requirements (WVCSR 64-56-10.2.d) [Revised February 2000].	Verify that there is continuous monitoring and recording of primary and secondary chamber temperatures. Verify that monitoring data is maintained for a period of 3 yr.
SO.120.5.WV. Ash from the infectious medical waste incinerator must meet certain requirements (WVCSR 64-56-10.2.e) [Revised February 2000].	Verify that all combustible waste converted by the incineration process into ash that is not recognizably in its pre-incineration form. Verify that incinerator ash is tested at least quarterly, using a commingled random sample, for total organic carbon content, and annually for lead, mercury, cadmium, and other heavy metals. (NOTE: A maximum of 5 percent fixed carbon is permitted (95 percent burnout).)
SO.120.6.WV. Infectious medical waste incinerator operators must be registered with the Secretary (WVCSR 64-56-10.2.f and 10.2.g) [Revised February 2000].	Verify that all individuals who operate infectious medical waste incinerators are registered with the Secretary. (NOTE: The Secretary issues a registration number to individuals who complete a course of study approved by the Secretary and obtain a passing score on a written examination.)
SO.120.7.WV. Steam treatment of infectious waste must meet certain requirements (WVCSR 64-56-10.3.a) [Revised February 2000].	Verify that a steam treatment process for infectious medical waste maintains one of the following: - a temperature of not less than 250 ^{o}F for 90 min at 15 psi gauge pressure - a temperature of 272 ^{o}F for 45 min at 27 psi - a temperature of 250 ^{o}F for 28 min at 80 psi - a temperature of 270 ^{o}F for 16 min at 80 psi - a temperature of 270 ^{o}F for 30 min at 32 psi.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.120.8.WV. Infectious medical waste packages treated using steam must have indicator tapes (WVCSR 64-56-10.3.b) [Revised February 2000].	Verify that each package of infectious medical waste to be treated with steam has a tape attached that will indicate if the steam treatment temperature has been reached. (NOTE: The infectious medical waste is not considered satisfactorily treated if the indicator does not indicate that the treatment temperature was reached during the process.)
SO.120.9.WV. Effectiveness of steam treatment of infectious medical waste must be tested at least once every 40 hr of operation (WVCSR 64-56-10.3.c) [Revised February 2000].	Verify that steam treatment units are evaluated under full loading for effectiveness with spores of Bacillus stearothermophilus no less than once per every 40 hr of operation.
SO.120.10.WV. Steam treatment for medical waste must comply with recordkeeping requirements (WVCSR 64-56-10.3.4).	Verify that a log is kept at each steam treatment unit for the preceding 3 yr period, and that the log records: - the date, time and operator of each usage - the type and approximate amount of waste treated - the post-treatment reading of the temperature sensitive tape - the dates and results of calibration - the results of the testing required by Section 10.3.3 of this rule. (NOTE: Where multiple steam treatment units are used, a working log can be maintained at each unit and such logs periodically consolidated at a central location. The consolidated logs are retained for 3 yr and are available for review.)
SO.120.11.WV. Discharge of liquid infectious medical waste to sanitary sewers must meet specific conditions (WVCSR 64-56-10.4) [Revised February 2000].	Verify that liquid infectious medical waste is discharged only to sanitary sewers through a drainage fixture of a size and type adequate to discharge the waste to a sewer system approved by the Department. Verify that a grinder is not used to reduce infectious solid matter to a size or consistency which can be discharged to a sewer.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
MEDICAL WASTE **SO.125.** **Documentation**	
SO.125.1.WV. All non-commercial infectious medical waste facilities must obtain a permit (WVCSR 64-56-4.1 through 4.3, 4.16 and 4.17) [Revised February 2000; Revised January 2004].	(NOTE: Commercial infectious medical waste management facilities must also be permitted. See WVCSR 64-65-11 for detailed requirements.) Verify that no person owns, constructs, modifies or operates an infectious medical waste management facility, or stores, transports, treats or disposes of any infectious medical waste without first obtaining a permit from the Secretary. Verify that no person begins physical construction of a new infectious medical waste management facility without having received a permit. Verify that the following major changes in the permittee's infectious medical waste management plan are approved before implementing the change: - installing a new unit for the treatment of infectious medical waste or replacing existing units not including improvements, as determined by the secretary, or repairs to existing units - changing the location of treatment - permanently increasing the volume of infectious medical waste by at least 20 percent, if the amount of the increase is 50 pounds or more. (NOTE: No prior approval is necessary in the case of a hospital which may in an emergency make an immediate change in its plan necessary to protect the safety and care of patients, employees or the public. In that event, the hospital must notify the Secretary immediately followed by written notification within 15 days. An application for approval of any change in the plan which is beyond the control of the permittee must be submitted within 15 days of its occurrence.) (NOTE: Minor changes in the infectious medical waste plan may be made without notifying the Secretary, but will be included in the next application for permit renewal.) (NOTE: Small quantity generators (see definitions) who generate infectious medical waste in the provision of health care services in their own office are not required to obtain a permit.) (NOTE: Ambulance or rescue services are exempt from these requirements, except that all infectious medical waste generated in an ambulance or rescue vehicle is packaged as required and delivered to a permitted infectious medical waste management facility. (WVCSR 64-56-2.2b))
SO.125.2.WV. All infectious waste records must be	Verify that all pertinent records required by this rule are retained for a period of

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
retained for at least 3 yr (WVCSR 64-56-12.11).	not less than 3 yr. (NOTE: The period of retention extends automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Secretary.)
SO.125.3.WV. All infectious waste facilities must submit annual reports (WVCSR 64-56-13).	Verify that all generators (except small quantity generators), commercial storage and transfer facilities and treatment facilities submit an annual report covering the preceding calendar year to the Secretary by the twentieth day of January, setting out the quantity of waste generated during a particular time period and the disposition of the infectious medical waste. Verify that transporters submit these reports on a quarterly basis.
SO.125.4.WV. Infectious medical waste management facilities must keep a log of infectious medical waste received from small quantity generators (WVCSR 64-56-12.10).	Verify that, in instances when an infectious medical waste management facility accepts less than 50 lb of infectious medical waste from a small quantity generator, the infectious medical waste management facility maintains a log of such receipts which includes, at a minimum, the following: - the name and address of the generator - the weight of the waste received - the date of receipt of the waste - the signature of the person receiving the waste.
SO.125.5.WV. Generators must meet manifesting requirements when transporting infectious medical waste offsite for storage or treatment (WVCSR 64-56-12.1 and 12.9).	Verify that generators of infectious medical waste that is to be transported offsite for storage or treatment initiate a four-part manifest that is available from or approved by the Secretary. Verify that copies of the manifest are distributed as follows: - copy 3 of the manifest is retained by the generator after acceptance by the transporter - copy 2 of the manifest is retained by the transporter after acceptance by the treatment facility - copy one of the manifest is retained by the treatment facility. (NOTE: The treatment facility shall forward the original to the generator.) (NOTE: Small quantity generators who elect to transport their own infectious medical waste are not required to use a manifest.)
SO.125.6.WV. Generators	Verify that if the generator does not receive the completed manifest from the

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
must file exception reports with the Secretary if the original manifest is not returned by the treatment facility within 50 days (WVCSR 64-56-12.2).	treatment facility within fifty (50) days after the date the medical waste was accepted by the transporter, the generator reports this fact to the Secretary.
SO.125.7.WV. Infectious medical waste management facilities must not accept infectious medical waste unless accompanied by a manifest (WVCSR 64-56-12.5 through 12.8).	Verify that an infectious medical waste management facility does not accept more than 50 lb of infectious medical waste from a generator per month or any quantity of infectious medical waste from a transporter unless it is accompanied by a properly completed manifest. Verify that an infectious medical waste management facility, in the presence of the generator or transporter, completes the appropriate transport or storage, treatment or disposal facility portion of the manifest, including a handwritten acceptance signature and date of acceptance, and immediately gives a signed copy of the manifest to the generator or transporter, with any discrepancies in manifest information noted on the manifest copy. Verify that the infectious medical waste treatment facility records on the manifest the date on which the shipment OGM was received and accepted by the facility. Verify that the infectious medical waste treatment facility keeps one (1) copy of the completed manifest as part of the facility operating record and forwards the original to the generator within 7 days after treatment.
SO.125.8.WV. Transporters must not accept infectious medical waste unless accompanied by a manifest (WVCSR 64-56-12.3).	Verify that a transporter does not accept infectious medical waste from a generator unless the waste is accompanied by a manifest with the generator portion completed, signed, and dated by the generator.
SO.125.9.WV. Transporters must complete their portion of the manifest in the presence of the generator (WVCSR 64-56-12.4).	Verify that the transporter, in the presence of the generator or, in the event of multiple transporters, in the presence of the previous transporter, completes the transporter portion of the manifest, including a handwritten acceptance signature and date of acceptance, and immediately give a signed copy of the manifest to the generator or previous transporter, with any discrepancies in manifest information noted on the manifest copy.
SO.125.10.WV. Transporters who commingle loads must initiate new manifests	Verify that any transporter who commingles loads initiates a new manifest as a generator.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
(WVCSR 64-56-12.1).	Verify that he or she submits the first copy of the original manifest back to the actual generator after receiving the first copy of the manifest for the commingled infectious medical waste from the treatment facility, along with a photocopy of the commingled load manifest.

SO.125.11.WV. All infectious medical waste management facilities must develop an infectious medical waste management plan (WVCSR 64-56-5) [Revised February 2000].	Verify that the infectious medical waste management plan contains policies and procedures for managing infectious medical waste which are consistent with these requirements.
	
	Verify that the infectious waste management includes the following:
	
	- a projection of the weight of the infectious medical waste which will be generated monthly
	- a description of infectious and noninfectious medical waste handling, storage, separation and volume-reduction procedures
	- the methods which will be used to treat the infectious medical waste
	- transportation method
	- manifest systems and labeling
	- disposal methods consistent with Section 10.4 of this rule
	- the name, address, telephone and fax numbers and public service commission or other permit or license number of any infectious medical waste transporter, if applicable
	- training procedures, including an outline of training programs, and procedures for the certification of personnel involved in the treatment of infectious medical waste
	- the name, address, telephone number, and fax number of the person responsible for infectious medical waste management at the generator or the facility, and the name, address and telephone number of an alternate person to contact in the event the manager is not available
	- policies requiring that no infectious medical waste will be knowingly transported or knowingly received by the generator or facility without being packaged and labeled in accordance with this rule
	- contingency plans for effective action to minimize damage from any interruption in treatment, storage or disposal of infectious medical waste
	- a description of the procedures used to:
	  - prevent hazards in loading and unloading operations
	  - prevent runoff from infectious medical waste handling areas to other areas of the facility or environment
	  - prevent contamination of water supplies
	  - mitigate effects of equipment failure and power outages
	  - prevent exposure of personnel to infectious medical waste
	- procedures for continuity of operations during a change of ownership
	- any other information pertinent to the evaluation of compliance with this rule.

SO.125.12.WV. Infectious	Verify that infectious medical waste management facilities which are willing to

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
medical waste facilities receiving waste generated offsite must comply with additional requirements for their infectious waste management plan (WVCSR 64-56-5.3 through 5.5).	accept infectious medical waste generated offsite for treatment also include the following in their infectious medical waste management plan: - procedures for receiving offsite infectious medical waste which are consistent with this rule - a statement as to whether the facility plans to receive from offsite more than 35 percent by weight of the total amount of infectious medical waste treated at the facility - a statement that the facility will not knowingly accept any infectious medical waste which is not properly packaged and labeled in accordance with Section 6 of this rule - procedures for keeping records in accordance with Section 13 of this rule - procedures for returning manifests to the generator after treatment of the infectious medical waste - procedures for reporting to the Secretary as required by this rule - procedures to be followed for closure of the facility including, but not limited to, notification of all facilities using the treatment service 30 days prior to closure. (NOTE: The Secretary may grant a period of no more than 1 yr from the date of issuance of final applicable USEPA rules relating to medical waste incineration standards for an infectious medical waste management facility which has been granted a waiver under Section 10.2.7 of this rule to develop a proposal to modify or upgrade its treatment process to comply with this rule. The plan for modification or upgrading is considered to be part of the facility's infectious medical waste management plan.)

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.135. **LANDFILLS**	
SO.135.1.WV. Permittees or applicants for permits for solid waste landfill facilities (SWLFs) must comply with regulations regarding closure and receipt of waste (WVCSR 33-1-1.1.a) [Revised February 1998].	Verify that existing solid waste landfill facilities (SWLFs), or portions thereof, that stopped receiving waste before 2 June 1996 close their SWLF in accordance with terms and conditions of their solid waste permit and Department regulations. Verify that existing SWLFs, or portions thereof, that initiate, or continue receiving waste after 2 June 1996 comply with the terms and conditions of their existing solid waste permit or modification and rules and regulations, or order, in place on 2 June 1996. (NOTE: West Virginia regulations pertaining to landfills (WVCSR 33-1-3 and 33-1-4) use a variety of terms: "landfills," "solid waste landfill facilities (SWLFs)," "solid waste facilities," "solid waste disposal facilities," etc. All of these terms are defined in the regulation (see definitions). They appear to be used almost interchangeably in this section to refer to all types of landfills. The term "solid waste landfill facility (SWLF)" is used in this manual unless the regulation specifically states otherwise.)
SO.135.2.WV. Permittees or applicants for permits for solid waste landfill facilities (SWLFs) must meet location restrictions with regulations regarding closure and receiving waste (WVCSR 33-1-3.2) [Added February 1998].	Verify that no SWLF is located within 300 ft of any surface water (facility drainage or sedimentation control structures are exempt from this distance calculation). Verify that no SWLF is located within 300 ft of any natural wetlands, unless the SWLF can make a satisfactory demonstration to the Secretary. Verify that no SWLF is located within the watercourse of a perennial stream. Verify that new SWLFs, existing SWLFs and lateral expansions located in a 100-year floodplains do not: - restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or - result in a washout of solid waste so as to pose a hazard to human health and/or the environment. Verify that new SWLFs and lateral expansions are not located within 1000 ft of the nearest edge of the right-of-way of any state highway, interstate, federal aid primary or federal aid secondary, or county highway, or the boundary of any public park unless the facility is screened by natural objects, plantings, fences, or other appropriate means so that it is not readily visible from the highway or park. Verify that new SWLFs and lateral expansions are not located within 200 ft (60 meters) of a fault that has had displacement in Holocene time (i.e., during the last

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	eleven thousand years), unless the SWLF demonstrates to the Secretary in a permit application that an alternative setback distance of less than 200 ft will prevent damage to the structural integrity of the SWLF and will be protective of human health and the environment. Verify that new SWLFs and lateral expansions are not located within 500 ft of a dwelling that is, or will be occupied, at the time of initial facility siting, unless written permission is received from the owner of the dwelling. Verify that new SWLFs, existing SWLFs, and lateral expansions are not located within 1200 ft of any public or private water supply well in existence at the time of initial facility siting. Verify that new SWLFs, existing SWLFs, and lateral expansions are not located within 1 000 ft of any area considered by the Secretary to be unstable due to extreme geologic and hydrologic conditions (e.g., immaturely to maturely developed karst terrain, solution cavities), unless the SWLF can demonstrate that engineering measures have been incorporated into the SWLF's design to ensure that the integrity of the structural components of the SWLF will not be disrupted. Verify that new SWLFs, and lateral expansions are not located above underground mine workings or within the critical angle of draw of such workings, unless otherwise approved by the Secretary in writing. Verify that new SWLFs and lateral expansions are not located within previously surface mined areas, unless otherwise approved by the Secretary in writing. Verify that new SWLFs and lateral expansions are not located in seismic impact zones, unless the SWLF demonstrates to the Secretary that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. Verify that the SWLF retains a copy of all demonstrations for location standards that have previously received the written approval of the Secretary in the facility operating record. (NOTE: West Virginia regulations pertaining to landfills (WVCSR 33-1-3 and 33-1-4) use a variety of terms: "landfills," "solid waste landfill facilities (SWLFs)," "solid waste facilities," "solid waste disposal facilities," etc. All of these terms are defined in the regulation (see definitions). They appear to be used almost interchangeably in this section to refer to all types of landfills. The term "solid waste landfill facility (SWLF)" is used in this manual unless the regulation specifically states otherwise.)
SO.135.3.WV. Solid waste landfill facilities (SWLFs) must comply with minimum	Verify that SWLFs meet the design criteria listed in Appendix 9-1. (NOTE: SWLFs may have these criteria altered by the Secretary; if so, this

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
design c riteria (WVCSR 3 3-1-4.5) [Added February 1998].	alteration will be reflected in their permit.) (NOTE: W est V irginia r egulations p ertaining to la ndfills (WVCSR 3 3-1-3 a nd 33-1-4) use a variety of terms: "landfills," " solid waste landfill facilities (SWLFs)," "solid waste f acilities," " solid waste d isposal f acilities," e tc. A ll o f these terms are defined in the regulation (see definitions). They appear to be used almost i nterchangeably i n this s ection to r efer to a ll t ypes of l andfills. T he term "solid waste landfill facility (SWLF)" is used in this manual unless the regulation specifically states otherwise.)
SO.135.4.WV. Landfill managers must be trained and certified in s olid waste management p rocedures and practices (WVCSR 3 3-1-4.3.a and b) [Revised F ebruary 1998; R evised J anuary 1999 ; Revised January 2005].	Verify t hat e very c ommercial s olid w aste d isposal f acility la ndfill is o perated under the direction of an individual who has authority and knowledge to make and implement decisions regarding operating conditions at the facility. Verify t hat t he i ndividual i n charge has a ttended a nd successfully c ompleted a course of instruction in solid waste management procedures and practices. (NOTE: W est V irginia regulations p ertaining to la ndfills (WVCSR 3 3-1-3 a nd 33-1-4) use a variety of terms: "landfills," "solid waste landfill facilities (SWLFs)," "solid waste f acilities," " solid waste d isposal f acilities," e tc. A ll o f these terms are defined in the regulation (see definitions). They appear to be used almost i nterchangeably i n this s ection to r efer to a ll t ypes of l andfills. T he term "solid waste landfill facility (SWLF)" is used in this manual unless the regulation specifically states otherwise.)

SO.135.5.WV. SWLFs m ust meet general o perating requirements (W VCSR 3 3-1-4.6.a.1.A through E) [Added February 1998 ; C itation Revised January 2005].	Verify t hat SWLFs c onform t o a n approved pl an of operation a nd t he following general operating requirements:
	
	- daily deposition of solid waste is confined to as small an area as practical
	- provisions are made to confine windblown material within the active disposal area
	- at the c onclusion o f e ach d ay o f o peration, a ll windblown material is collected an d p roperly disposed o f i n the act ive d isposal ar ea, u nless t he operator establishes to the satisfaction of the Secretary that:
	  - all windblown material ca nnot b e co llected u sing r easonable ef forts because of conditions beyond the control of the operator
	  - windblown material which can b e co llected u sing a r easonable ef fort has been collected and disposed of properly
	- putrescible materials such as spoiled foods and a nimal carcasses ar e immediately co mpacted a nd covered b y t he u se o f d aily cover an d o ther means
	- permittees o f al l S WLFs c ontrol p ublic acces s an d p revent unauthorized vehicular traffic through t he u se o f a rtificial b arriers, in cluding fencing, natural barriers, both, or other methods approved in writing by the Secretary, as appropriate to protect human health and the environment.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.135.6.WV. SWLFs must implement programs for excluding the receipt of regulated hazardous waste and PCB wastes (WVCSR 33-1-4.6.a.1.F) [Added February 1998; Revised February 2000; Revised January 2007].	Verify that an operator implemented program detects and prevents attempts to dispose of hazardous wastes (regulated under Subtitle C of RCRA and defined in 40CFR161) and polychlorinated biphenyls (PCB) wastes at the facility (regulated under the Toxic Substances Control Act, and as defined in 40CFR161, or as reflected in W. Va. Code § 22-18-1 et seq.). Verify that SWLF operators incorporate the following measures, at a minimum, into their programs to exclude receipt of hazardous waste: - random inspections of incoming loads - inspection of suspicious loads - recordkeeping of inspection results (including date, time, name of the hauling firm, driver, source of waste, vehicle identification numbers, and all observations made by the inspector) - training of personnel to recognize hazardous waste. Verify that the SWLF has procedures to notify proper Department authorities if a regulated hazardous waste is found at the facility (unless the SWLF takes other steps approved by the Secretary in writing to ensure that incoming loads do not contain regulated hazardous wastes or PCB wastes). Verify that records of any inspections, activities and information are reported on a form prescribed by the Secretary and that copies of these inspection records and all related information are retained in the SWLF's operating record. Verify that the program includes training of SWLF personnel to recognize regulated hazardous waste and PCB wastes. Verify that the training records are maintained in the SWLF operating record. Verify that the program includes procedures for providing written notification to the Secretary if a regulated hazardous waste or PCB waste is discovered at the SWLF.
SO.135.7.WV. SWLFs must meet specific security, health and safety requirements (WVCSR 33-1-4.6.a.1.G through M, and P) [Added February 1998].	Verify that effective means are taken to limit and control public access and prevent illegal dumping of wastes at the active disposal area to minimize exposure of the public to hazards. Verify that effective means, including the use of daily cover, is taken to prevent or control on-site populations of disease vectors, including flies, rodents, other insects, vermin, using techniques appropriate for the protection of human health and the environment. Verify that equipment is provided, and daily cover material made available, to control accidental fires.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Verify that arrangements have been made with the local fire protection agency to utilize their services when needed. Verify that an attendant is on duty at the SWLF at all times while it is open for public use. Verify that a gate is provided at the entrance to the operation and kept locked when an attendant is not on duty. Verify that the gate area is policed at the beginning of each day of operation to remove any solid waste which has been indiscriminately dumped during periods when the SWLF was closed. Verify that a sign, acceptable to the Secretary, is posted at the entrance of any SWLF operated for public use which indicates the facility name, permit number, the hours that solid waste is received, the hours of operation, including hours for exempt disposal of solid waste, waste types accepted, penalties for unauthorized use, necessary safety precautions, and any other pertinent information. Verify that the signs are posted and maintained for the duration of the active life of the SWLF, are clearly visible, readable, and uniform throughout the operation, permanently fixed, and made of durable material. Verify that daily cover is applied to the active disposal area to control the prohibited act of scavenging.
SO.135.8.WV. SWLFs must meet landscaping requirements (WVCSR 33-1-4.6.a.1.N, O, S and T) [Added February 1998].	Verify that the SWLF is surrounded with rapidly growing trees, shrubbery, fencing, berms, or other appropriate means to screen it from the surrounding area and to provide a wind break. Verify that means acceptable to the Secretary are taken to control dust resulting from operations. Verify that all topsoil within the SWLF construction limits is salvaged and stored within the property boundaries for use in facility closure. Verify that all stockpiled soil material which is not anticipated to be used within 6 mo is seeded. Verify that all access roads to the active area of the operation are maintained in good condition so as to prevent sedimentation of drainage ways.
SO.135.9.WV. Open burning at SWLFs must meet specific requirements (WVCSR 33-1-4.6.a.1.Q) [Added February	Verify that all burning is prohibited in accordance with statutes, rules and regulations of the West Virginia Division of Air Quality (see the *Air Emissions Management* chapter of this manual, section AE.130.WV.).

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
1998].	Verify that all open burning of solid waste, except for the infrequent burning of land clearing debris, diseased trees, or debris from emergency clean-up operations, is not conducted at SWLFs, except as approved by the Division of Air Quality.
SO.135.10.WV. Provisions for backup equipment must be made (WVCSR 33-1-4.6.a.1.R) [Added February 1998].	Verify that provisions are made for backup equipment in the event of operating equipment breakdown.
SO.135.11.WV. SWLFs must meet specific requirements for solid waste placement (WVCSR 33-1-4.6.b.1) [Added February 1998].	Verify that solid waste is placed for disposal only at designated working faces. Verify that working face width is minimized and does not exceed 100 ft unless otherwise approved by the Secretary. Verify that the slopes of working faces do not exceed thirty-three and one-third percent. Verify that, to prevent lateral migration of leachate through the final cover, all daily and intermediate cover from each lift of solid waste within 25 ft of the final cover is removed. Verify that daily cell height does not exceed 8 ft in the vertical dimension except in the middle area of the daily cell to divert stormwater. Verify that the vertical dimension of the middle area of the daily cell does not exceed 11 ft. Verify that solid waste is placed in layers not exceeding 2 ft in depth and compacted with a minimum of 3 passes with an 815 Caterpillar compactor or other equipment of equivalent compacting ability, or as otherwise approved by the Secretary.
SO.135.12.WV. SWLFs must meet specific requirements for cover material application (WVCSR 33-1-4.6.b.2) [Added February 1998 ; Revised January 2005].	Verify that all SWLFs cover the entire exposed solid waste disposal area with a minimum thickness of 6 inches of compacted cover material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging. Verify that solid waste fill surfaces which will remain exposed to weather for periods in excess of 30 days have a minimum of 12 in. of compacted cover material applied within 30 days of completion of the fill surface. Verify that solid waste fill surfaces which will receive no further solid waste

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	deposits place final cover. Verify that cover material is available from the SWLF site or other designated sources in sufficient quantities to provide: - 6 in. of compacted daily cover material - 12 in. of compacted intermediate cover material - sufficient final cover material.
SO.135.13.WV. SWLFs must meet specific placement and cover requirements in winter (WVCSR 33-1-4.6.b.3) [Added February 1998].	Verify that, for the installation of all liners, a layer of waste at least 4 ft thick, or an adequate amount of other frost protection material, is placed over the granular blanket in all portions of the lined area prior to 31 December of the same year of the liner was constructed. Verify that waste is not placed during the winter on any portion of the liner not having a four-foot thick layer of waste or other adequate frost protection material covering it after 31 December of each year. Verify that portions of the liner without 4 ft of protection investigated for density and effects from freeze-thaw, as specified by the Secretary, and repaired and recertified during the next construction season if required, prior to additional waste placement.
SO.135.14.WV. Landfills must receive only those solid wastes authorized by the facility permit (WVCSR 33-1-4.7.a) [Revised February 1998].	Verify that landfills receive only those wastes specified in the permit or in writing by the Secretary. (NOTE: The following wastes are acceptable to be received if specified in the permit or in writing: - agricultural waste - commercial waste - compost - construction waste - debris - demolition waste - discarded material - garbage - household waste - industrial waste - inert waste - municipal solid waste - non-municipal incinerator ash - putrescible waste - refuse - residential waste - rubbish - scrap metal

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	- sludge - trash - bulky goods - other materials approved by the Secretary - properly treated infectious wastes.)

SO.135.15.WV. Landfills are prohibited from receiving specific wastes (WVCSR 33-1-4.7.b) [Revised February 1998; Revised January 2005; Revised January 2007].	Verify that landfills do not receive the following wastes under any conditions, unless otherwise approved by the Secretary:
	
	- free liquids
	- regulated hazardous wastes
	- unstabilized sewage sludge or sludges that have not been dewatered, or contain less than 20 percent solids by weight
	- pesticide containers that have not been triple rinsed and crushed
	- drums that are not empty and not crushed.
	
	(NOTE: Fiber drums of asbestos waste disposed designated asbestos disposal areas do not need to emptied or crushed.)
	
	Verify that waste that may be infectious waste, or is recognizable treated noninfectious medical waste is not accepted for disposal, unless otherwise approved by the Secretary.
	
	(NOTE: Treated medical waste that will pass through a screen with a 1/2 in. grid is not considered recognizable.)
	
	Verify that waste that may be infectious waste, or is recognizable treated noninfectious medical waste is labeled prior to being transported off the landfill site.
	
	Verify that the label is sized and attached in the manner required for infectious medical waste (see SO.110.8.WV.) unless:
	
	- the waste was generated by a household or by an individual during self-care or self-treatment
	- the waste has not been compacted and is accompanied by a label, manifest, or shipping document that:
	  - identifies the generator of the waste by name, address and business telephone number of the generator
	  - identifies the name, address and business telephone number of the generator of the facility at which the waste was rendered noninfectious;
	  - identifies the amount of waste rendered noninfectious by weight, volume, or number of containers, and the method of treatment
	  - includes a signed and dated certification by the facility at which the waste was rendered noninfectious
	  - is maintained on file at the municipal solid waste facility receiving that waste for final disposal, with the exception that labels permanently attached to the waste are not required to be maintained on file.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.135.16.WV. Free liquids and poorly-contained liquids must be absorbed on solid material before being placed in a landfill (WVCSR 33-1-4.13.c) [Revised February 1998; Revised January 2007].	Verify that free liquids are not disposed of in a landfill. Verify that free liquids and poorly-contained liquids are absorbed on solid material before being placed in a landfill. Verify that SWLFs do not place bulk or noncontainerized liquid waste in SWLF unless one of the following conditions is met: - the waste is household waste other than septic waste - the waste is leachate or gas condensate derived from the SWLF. Verify that SWLFs do not place containers holding liquid waste in a SWLF unless: - the container is a small container similar in size to that normally found in household waste - the container is designed to hold liquids for use other than storage - the waste is household waste.
SO.135.17.WV. Landfills must meet gas management requirements (WVCSR 33-1-4.10) [Added February 1998].	Verify that effective means are utilized by the SWLF to prevent the migration of explosive gases generated in any facility structure, and to ensure that: - the concentration of methane or other explosive gases generated by the facility, including the waste fill, or any facility structure (excluding the leachate collection system or gas control or recovery system components) or in the soils or air at or beyond the facility property boundary does not exceed 25 percent of the lower explosive limit for methane or other such explosive gases, in facility structures - the concentration of methane and other explosive gases does not exceed the lower explosive detection limit for methane or other explosive gases at the facility property boundary. (NOTE: If required by the Secretary in writing, passive gas vents or other appropriate means to vent gas approved by the Secretary, must be installed on disposal areas that have not received waste in 6 months, nor will receive waste in one year, to control methane and other explosive gases. The number of gas vents must number a minimum of 1 per acre.) Verify that all SWLFs implement an ongoing (routine) explosive gas monitoring program, and that the type and frequency of monitoring is approved by the Secretary.
SO.135.18.WV. SWLFs	Verify that the SWLF installs background and downgradient wells after approval

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
must comply with groundwater monitoring and corrective action guidelines (WVCSR 33-1-4.11.a.1) [Revised February 1998; Citation Revised January 2005; Revised January 2007].	by the Secretary. Verify that a copy of the monitoring program is in the operating record. Verify that, at a minimum, the program includes procedures and techniques for: - sample collection - sample preservation and shipment - analytical procedures - chain of custody control - quality assurance and quality control. Verify that all conditions of the monitoring program are being met. (NOTE: Groundwater monitoring programs must be submitted and approved as part of the permit application.)
SO.135.19.WV. SWLFs must develop an operating record (WVCSR 33-1-4.4.a, b, c.15, d, and e) [Revised February 1998; Revised January 1999; Revised February 2000; Citation Revised January 2005; Revised January 2007].	Verify that every facility develops and maintains, on site, or at an alternative location approved by the Secretary an operating record that contains the information listed below. Verify that new facilities have a record in place on the first day of business operations. Verify that the record includes a table of contents which outlines, by section, title and page number, the standards required by 33-1-4. (NOTE: The items listed here may be waived if those items are included in the facility permit, renewals, modifications and other similar permit documents or application, provided that the permit and/or application is kept in the operating record file: - the facility title - the engineering consultants - the name and address of the facility owner and the name of the facility operator, the permit holder or permittee - the location of the facility by latitude and longitude and county - the proposed area of waste fill - the anticipated life of the facility and its disposal capacity - the waste contributors, including all municipalities and major commercial and industrial customers - the waste type and quantity and source to be disposed - any exemptions requested from the Division.) Verify that the record includes a description of required groundwater, surface water, gas, unsaturated zone, and leachate monitoring programs developed in accordance with the approved QA/QC plan.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that the following documents are maintained in the SWLF operating record: - a listing of any required inspection records, training procedures, and notification procedures - gas monitoring results from monitoring and any remediation plans - design documentation for the placement of leachate or gas condensate in the SWLF - any required demonstration, certification, finding, monitoring, testing, or analytical data - any required closure and postclosure care plans and any monitoring, testing or analytical data - any required cost estimates and financial assurance documentation - any other required demonstration, certification, finding, monitoring, testing, or analytical data. (NOTE: All information contained in the operating record must be furnished upon request to the Secretary or be made available at all reasonable times for inspection by the Secretary.) Verify that the operating record includes a general discussion of the design of the major engineering features, such as base grade configuration and relationships to subsurface conditions, anticipated waste types and characteristics, phases of development, traffic routing, liner design, facility monitoring, final capping, closure, long-term post-closure care and other similar design features. Verify that the operating record includes an appendix which lists the references used and includes any additional data not previously presented, supplemental design calculations, material specifications, operating agreements such as draft leachate treatment agreements or signed soil borrow agreements, documents related to long-term post-closure care funding, and other appropriate information. (NOTE: West Virginia regulations pertaining to landfills (WVCSR 33-1-3 and 33-1-4) use a variety of terms: "landfills," "solid waste landfill facilities (SWLFs)," "solid waste facilities," "solid waste disposal facilities," etc. All of these terms are defined in the regulation (see definitions). They appear to be used almost interchangeably in this section to refer to all types of landfills. The term "solid waste landfill facility (SWLF)" is used in this manual unless the regulation specifically states otherwise.)
SO.135.20.WV. The operating record for landfills must describe the daily operations (WVCSR 33-1-4.4.c.1 through 14) [Revised February 1998; Revised January 2004].	Verify that the record describes the daily operations of the facility including a discussion of the following items: - the timetable for the phases of facility development - the waste types accepted or excluded - typical waste handling techniques, and methods for handling unusual waste types - procedures for excluding the receipt of hazardous waste

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	- the hours of operation - traffic routing - drainage and erosion controls - windy, wet, and cold weather disposal operations - fire protection equipment - anticipated staffing requirements - methods for disease vector, dust, and odor control - daily cleanup - direction of filling - salvaging.
SO.135.21.WV. Operators of SWLFs must keep a daily log (WVCSR 33-1-4.12.a) [Revised February 1998; Revised January 1999; Revised February 2000].	Verify that the operator keeps daily logs that describe the type, amount, and source of all solid waste received at the solid waste facility. Verify that the daily logs are kept on file at the facility and include: - a description of waste handling problems or emergency disposal activities - a record of deviations from the approved design or operational plans - a record of actions taken to correct violations.
SO.135.22.WV. SWLFs must submit monthly tonnage and monitoring reports (WVCSR 33-1-4.12.b.through f.) [Added January 1999; Revised February 2000; Revised January 2005].	Verify that a monthly solid waste tonnage report is submitted to the Secretary postmarked by the twentieth day of the following month. Verify that the tonnage report includes the following: - description of the type, amount, and of the solid waste received at the solid waste facility for the month - the hazardous waste exclusion efforts and results - the out of shed waste - the total waste from each state including West Virginia - the tax-exempt tonnage and any other tonnage that does not count against the facility's monthly capacity - free day tonnage - facilities that use shredded waste tires as alternative daily cover include that tonnage in each monthly tonnage report. Verify that a copy of the monthly tonnage report is also submitted to the Department's Solid Waste Management board, the West Virginia Public Service Commission and the applicable county or regional solid waste authority. Verify that the official copy of the tonnage reports is not faxed or electronically mailed to the Department. Verify that the monthly tonnage report is legible, and contains the original signature of the principal officer in charge of the facility.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Verify that groundwater, surface water and leachate monitoring reports are submitted and a copy of the monitoring reports is submitted to the applicable county or regional solid waste authority. Verify that a copy of the tonnage and monitoring reports are kept on file at the solid waste facility.
SO.135.23.WV. SWLFs must meet annual operational reporting requirements (WVCSR 33-1-4.12.g) [Added January 1999].	Verify that an annual solid waste facility operational report is submitted to the Secretary before 31 January of the following year. Verify that the report includes the following: - an updated list of users of the facility - a summary of the daily logs of solid waste received during the previous year - a summary of the previous year's surface and groundwater monitoring activities - a brief narrative describing the status of development, construction, maintenance, expansion, and closure of all facilities or portion of facilities that are a part of the approved solid waste facility - a topographic map showing the permitted area, location of current working areas and completed areas in relationship to the grid system of the solid waste sequencing plan - cross-sections of the area that has been filled - computations estimating the volume of the area that has been filled - volume of the remaining useful life of the facility, in months.
SO.135.24.WV. Solid waste facilities must comply with regulations regarding receiving and accumulating special solid wastes (WVCSR 33-1-4.13.e through 4.13.k) [Revised February 1998].	Verify that drums and other bulk containers are not disposed until emptied and crushed, and that pesticide containers are triple rinsed before disposal. (NOTE: Fiber drums of asbestos which are to be disposed of in designated asbestos disposal areas in accordance with this Rule need not be either emptied or crushed.) Verify that appliances and other bulky waste goods are not accumulated at a facility for more than 60 days prior to disposal unless an alternative schedule is approved by the Secretary. Verify that infectious waste is not disposed of in a landfill. (NOTE: See SO.135.15.WV. for an exception to this prohibition.) (NOTE: Nonhazardous bottom ash from the incineration of infectious waste is not considered infectious waste.) Verify that sewage sludge disposed at a landfill contains at least 20 percent solids

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	by weight. (NOTE: This requirement may be met by adding or blending sand, sawdust, lime, leaves, soil, or other materials that have been approved by the Secretary prior to disposal. Alternative sludge disposal methods can be utilized upon obtaining written approval from the Secretary.) (NOTE: Sewage sludge may not represent more than 25 percent by weight of the total weight of waste disposed of at the landfill on any working day, and the Division may require the landfill operator to periodically sample and analyze incoming sewage sludge.) Verify that shredder fluff is not disposed of in any facility unless specifically approved in writing by the Secretary. Verify that ash from municipal incinerators is disposed of on a liner system that conforms to the requirements of 33 CSR 1 (see Appendix 9-1 for details). Verify that soils contaminated with petroleum are disposed of in a manner prescribed by the Secretary.
SO.135.25.WV. Commercial and public landfills must establish a monthly free disposal day (WVCSR 33 -1-4.14.) [Added January 2005].	Verify that all commercial and public landfills establish and publish a yearly schedule providing for 1 day per month on which a person not in the business of hauling or disposing of solid waste, may dispose of, in a solid waste landfill facility, an amount of residential solid waste, up to 1 pick-up truckload or its equivalent, free of all charges and fees. Verify that the monthly free day schedule is approved 20 days prior to the initial date of publication each calendar year. Verify that following the publication, the landfill facility submits to the Secretary and the Department's Solid Waste Management Board a copy of the established and published yearly schedule of the free day. Verify that the yearly schedule is posted at the facility and is clearly visible and legible. Verify that landfill facilities do not give preferential treatment to either paying or non-paying customers on free day. Verify that the hours of operation on free day are the same as hours of operation on other authorized days of the month. Verify that eligible free day participants are limited to one pick-up truckload or its equivalent, per free day. Verify that only household appliances that have had their efrigerant (chlorofluorocarbons or hydrochlorofluorocarbons) removed are disposed in the

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	landfill. Verify residential solid waste is secured in a manner to prevent windblown material. (NOTE: Solid waste landfill facilities are not required to accept waste tires without charge on free day.)

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.140. **INERT WASTE LANDFILLS**	
SO.140.1.WV. Construction/demolition Class D-1 solid waste facilities must accept only certain wastes (WVCSR 33-1-5.4.a) [Revised February 1998; Revised January 2005].	Verify that only the construction/demolition wastes approved in the facility permit are accepted. (NOTE: Prohibited materials include, but are not limited to: putrescible wastes, household wastes, automobile shredder fluff, industrial wastes, sludge wastes, liquid paint including lead-based paint or products coated with lead-based paint, lacquers, solvents, adhesives, cements, sealants, pesticides, aerosols, resin containers, brake fluid, lubricating oil and oil filters, any automotive fluids or fuels, railroad ties, pressure treated wood and engineered wood products, metal wastes (such as piping, wiring appliances, and "white goods"), electrical wastes (such as batteries, mercury- containing switches, ballasts, transformers and capacitors, fluorescent tubes, and computer equipment) carpet and other synthetic flooring material, or other items prohibited by the Class D General Permit Groundwater Protection Plan.) (NOTE: There are 2 classifications of construction/demolition landfills: Class D, and Class D-1.)
SO.140.2.WV. Class D-1 solid waste facilities must have liner systems that meet specific standards (WVCSR 33-1-5.4.b.1 through 3) [Revised February 1998].	Verify that a liner system for a Class D-l solid waste facility consists of the following elements: - sub-base - compacted soil liner - leachate collection and protective cover zone. Verify that the sub-base portion of the liner system consists of a cleared and grubbed natural ground surface capable of supporting the entire liner system. Verify that the compacted soil liner complies with the following: - is a minimum compacted thickness of 2 ft - is compacted in 6 in. lifts - is no more permeable than 1 x 10^{-6} cm/s based on laboratory and field testing - is free of particles greater than 3 in. in any dimension - is placed without damaging the subgrade - is placed during a period of time when both the air temperature and the soil temperature are above freezing so that neither the compacted soil nor the subbase is frozen - have a slope of at least 2 percent to facilitate the drainage of leachate across the liner surface - is designed, operated, and maintained so that the physical and chemical

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	characteristics of the liner and the liner's ability to restrict the flow of solid waste, solid waste constituents, or leachate is not adversely affected by the leachate - the compacted soil construction liner certification and a QA/QC report are submitted to the Secretary prior to the placement of the leachate collection and protective cover zone.
SO.140.3.WV. The leachate collection and protective cover of a Class D-1 facility must meet certain requirements (WVCSR 33-1-5.4.b.4) [Revised February 1998].	Verify that the leachate collection and protective cover zone does the following: - creates a flow zone between the compacted soil liner and solid waste more permeable than 1 x 10^{-3} cm/s based on laboratory and field testing is at least 18 in. thick - is constructed of soil or earthen materials to ensure that the hydraulic leachate head on the composite liner does not exceed 1 ft at the expected flow capacity from the drainage area except during storm events - is comprised of clean soil or earthen materials that contain no debris, plant material, rocks, or other solid material larger than 0.25 in. in diameter and no material with sharp edges - is graded, uniformly compacted, and smoothed - is installed in a manner that prevents damage to the compacted soil liner - contain a perforated piping system capable of intercepting liquid within the leachate collection zone and conveying the liquid to control collection points. (NOTE: The leachate collection zone including the piping system are designed and placed on a minimum slope of 2 percent to facilitate efficient leachate drainage and prevent ponding on the composite liner.) Verify that the piping system meets the following requirements: - the slope sizing and spacing of the piping system ensures that liquids drain efficiently from the leachate collection zone - the distance between pipes in the piping system does not exceed 100 ft on center. - the pipes are installed perpendicular to the flow - the minimum diameter of the perforated pipe is 4 in with a wall thickness of Schedule 40 or greater - the pipe is capable of supporting anticipated loads without failure based on facility design - rounded stones or aggregates, sized to prevent clogging of the pipes and damage to the composite liner are, placed around the pipes of the piping system - the piping system is installed in a fashion that facilitates cleanout, maintenance, and monitoring - manholes or cleanout risers are located along the perimeter of the leachate detection piping system - the number and spacing of the manholes or cleanout risers is sufficient to ensure proper maintenance of the piping system by water jet flushing or an

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	equivalent method - the leachate collection system is cleaned and maintained as necessary. Verify that the leachate collection zone construction certification and a QA/QC report are submitted to the Secretary prior to the placement of solid waste.
SO.140.4.WV. Class D facilities must meet specific design and operational requirements (WVCSR 33-1-5.4.c) [Revised February 1998].	(NOTE: Class D solid waste facilities can accept only certain wastes as a Class D-1 solid waste facility (see SO.140.1.WV.) Verify that a Class D facility (other than a Class D-1 solid waste facility) does not exceed 2 acres in size and complies with the following: - access is controlled in such a manner as to discourage unauthorized entry and is limited to those authorized to deposit waste material and only during scheduled hours - construction/demolition and cover material is not placed in or near a stream channel and is placed in such a way to prevent erosion and sedimentation - cover material is graded and maintained to prevent ponding and minimize erosion - erosion and sediment controls are installed as necessary to prevent sedimentation - the disturbed area is revegetated to prevent erosion and sedimentation - except when extended by the Secretary, all operations for a Class D solid waste facility have been completed including covering with a minimum of 24 in. of soil, regrading, dressing up, seeding, mulching and fertilizing prior to the expiration date of the permit - the SWLF notifies the Secretary to arrange for a final inspection prior to removing equipment from the site - all site reclamation is completed before equipment removal. Verify that only 1 Class D landfill is located per 10 acre site and is not located within 200 feet of another solid waste facility. (NOTE: There are 2 classifications of construction/demolition landfills: Class D, and Class D-1.)

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.145. **INCINERATORS**	
SO.145.1.WV. Incinerators must comply with minimum design and operating standards (WVCSR 33-1-5.1.c) [Revised February 1998; Revised February 2000].	Verify that the facility is situated, equipped, operated, and maintained to minimize interference with other activities in the area. Verify that adequate shelter and sanitary facilities are available for personnel. Verify that a sign is prominently posted at the entrance to the facility which indicates the name, permit number, the hours of operation, the hours waste may be received, necessary safety precautions, and any other pertinent information. Verify that all incoming solid waste is confined to the designated storage area and no putrescible waste is stored for more than 24 h. Verify that solid waste stored outside of containers is tied securely in bundles of a size that can be readily handled for collection, and in a manner that minimizes litter, safety hazards, and fire hazards. Verify that dust is controlled in the unloading and charging areas. Verify that permanent records are maintained including the weights of material treated, the quantity of resulting ash and residue, hours of plant operation, combustion temperatures, residence time, and other pertinent information. Verify that appropriate firefighting equipment is available in the storage and charging areas and elsewhere as needed. Verify that arrangements are made with local fire protection agency to provide adequate emergency firefighting forces. Verify that means of communication with emergency facilities are provided. Verify that adequate equipment is provided to allow cleaning after each day of operation or as required in order to maintain the plant in a sanitary condition. Verify that the charging openings as well as all equipment throughout the plant are provided with adequate safety equipment. Verify that the facility is designed and operated so that it will not cause a nuisance because of the emission of noxious odors, gases, contaminants, or particulate matter, or exceed emission limitations established by state air pollution control rules. Verify that ash and residue are disposed of at a solid waste facility permitted by the Secretary to accept the material.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that ash or residue from a facility with a design capacity of 500 lb/h is placed in a monofill. Verify that all wastewater from the facility is discharged into a sanitary sewer or other system approved in writing by the Secretary. Verify that upon the completion of construction of a new facility, and at least 10 days prior to initial operation, the Secretary is notified to allow inspection of the facility both prior to and during any performance test(s) and initial operation. Verify that open burning of solid waste at the facility is prohibited. Verify that no hazardous waste is accepted for disposal. Verify that an alternative disposal method, approved by the Secretary in writing, is used during any time that the facility is inoperative. Verify that the incoming waste is screened to eliminate unacceptable material from entering the facility, such as hazardous waste, asbestos, explosive materials, or other materials which may endanger public health and safety.
SO.145.2.WV. Incinerators with a design capacity in excess of 500 lb/h must implement an ash testing program (WVCSR 33-1-5.1.d) [Revised February 1998].	Verify that the ash testing program is completed within 60 days of construction and shake-down of the incinerator. Verify that representative samples of both fly ash and bottom ash are tested for physical characteristics, bulk chemical composition, analysis using the appropriate leaching test and analysis using the Toxicity Characteristic Leaching Procedure (TCLP) or other test to determine the wastes' regulatory status under Federal or state hazardous waste laws. (NOTE: Test methods, the number of tests, detection limits, and parameters to be tested for will be specified by the Secretary.) Verify that a long-term ash testing program is established. Verify that for the first year of operation, quarterly testing of at least one sample of bottom ash and one sample of fly ash is performed using approved methods and procedures. Verify that after the first year annual sampling and testing is performed.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.160. **WASTE TIRE MANAGEMENT**	
SO.160.1.WV. The generation, accumulation, collection, transportation, storage, processing, disposal or management of waste tires must meet permitting requirements (WVCSR 33-5-3.1.a through 3.1.c) [Revised February 1998; Revised January 2001; Revised January 2002].	Verify that any person who generates, accumulates, collects, transports, stores, processes, disposes, or otherwise manages waste tires in the State of West Virginia has obtained a permit from the Department of Environmental Protection. (NOTE: Persons who use no more than 100 waste tires for beneficial use (see definitions) may, in the discretion of the Secretary, accumulate waste tires for this specific purpose without a permit. Also, a recycling facility is exempt from permitting whose only function is to accept at no charge, buy or transfer source separated material, including waste tires for reuse, resale or transfer for further processing.) (NOTE: Waste tires or tire derived material that is used as an alternative or supplemental fuel is not required a solid waste facility permit or be regulated under this rule, so long as the facility utilizing such material is permitted and regulated by the Division of Air Quality within the Department of Environmental Protection or other appropriate state regulatory agency.) (NOTE: A facility or pilot project which utilizes waste tires as raw material feedstock in a process such as pyrolysis, cryogenics (chemical/thermal) or high pressure waterjetting to break down waste tires into their respective constituents of crumb rubber, polyester or nylon fiber, steel belts and other constituents not herein specified to develop new and/or recyclable materials does not require a solid waste facility permit or be regulated under this rule, so long as the facility is permitted and regulated including the handling, storage, and stockpiling of waste tires consistent with this rule by the Division of Air Quality, Office of Water Resources or other appropriate state regulatory agency. Additionally, the Secretary may allow, without a solid waste facility permit, pilot or test projects using the latest best available technology.)
SO.160.2.WV. Waste tires are prohibited from disposal in landfills (WVCSR 33-5-3.1.d.1, through 3.1.e.1, 3.1.e.4, 3.1.e.5, and 3.1.e.6) [Revised February 1998; Revised January 2001].	Verify that whole waste tires are not disposed of in a landfill. (NOTE: Commercial solid waste landfill facilities may dispose of whole waste tires generated from the Division of Highways waste tire remediation projects and the Division of Environmental Protection open dump program when the Division of Highways or the Division of Environmental Protection has determined that there is no other reasonable alternative available.) (NOTE: Waste tires may be disposed in waste tire monofills to provide a long term storage site for waste tires or tire derived material, while minimizing the risk of vector attraction, fire and leachate generation until such time that markets are

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	further developed for reuse and recycling.) (NOTE: Beneficial use of shredded waste tires is acceptable and may be substituted as alternative daily cover at solid waste landfills, if approved in writing by the Division.) (NOTE: Tire derived material may be beneficially reused as the first 8 ft of select waste by being placed on the protective cover of the composite liner system and is exempt from the calculation of monthly tonnage limits and solid waste disposal assessment fees.)
SO.160.3.WV. Waste tire monofills and processing facilities must meet permitting requirements (WVCSR 33-5-3.2) [Revised February 1998; Revised January 2001].	Verify that a permit is obtained from the Secretary prior to the installation, establishment, construction or operation of a waste tire monofill or a waste tire processing facility. (NOTE: A portable tire grinder or tire shredding machine does not constitute a waste tire processing facility, unless determined otherwise by the Secretary.) Verify that a salvage yard which has on its premises, at any given time, more than 100 waste tires not mounted on wheels on vehicles or machines obtains a commercial solid waste facility permit to store tires or enters into an agreement with the Division of Environmental Protection for the proper disposal of the waste tires.
SO.160.4.WV. Waste tire processing facilities must meets pecific design and construction requirements (WVCSR 33-5-3.5) [Revised February 1998; Revised January 2001].	Verify that a waste tire processing facility or activity is secured and enclosed within a minimum 6 ft high woven wire or chain link perimeter fence with a lockable entrance gate and an emergency exit gate at another location. Verify that no portion of the surface of the ground on which waste tires or tire derived material is stored is less than 2 percent or greater than 8 percent in grade. Verify that all access roads including fire lanes/fire breaks and the buffer zone are designed and constructed for all weather conditions with proper storm drainage provisions. Verify that the facility is designed in a manner that restricts unauthorized access. Verify that signs are posted at the main entrance gate that directs persons entering the facility during regular business hours to report to the site office. Verify that the storage plan addresses the receiving and handling of waste tires and tire derived material at, to and from the facility. Verify that a vector control plan is submitted that includes a description of how storage piles and any fire pond impoundment will be maintained to prevent and/or

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	control mosquito breeding and harborage of disease carrying vectors.
SO.160.5.WV. Waste tire monofills or storage cells must meet specific design and construction requirements (WVCSR 33-5-3.6) [Revised February 1998; Revised January 2001].	Verify that a waste tire monofill or storage cell has a liner system that consists of the following elements: - subbase - compacted soil liner - leachate collection and protective cover zone. Verify that daily QA/QC reports are prepared and maintained in a bound log book at the site in regard to liner system construction. Verify that the subbase portion of the liner system consists of a cleared and grubbed natural ground surface capable of supporting the entire liner system. Verify that the compacted soil liner: - is a minimum compacted thickness of 1 ft - is compacted in 6 in. lifts - is no more permeable than 1×10^{-6} cm/sec based on laboratory and field testing - is free of particles greater than 2 in. in any dimension - is placed without damaging the subbase - is placed during a period of time when both the air temperature and the soil temperature are above freezing so that neither the compacted soil nor the subbase are frozen - has a slope of at least 2 percent to facilitate the drainage of any leachate across the liner surface - is designed, operated, and maintained so that the physical and chemical characteristics of the liner and its ability to restrict the flow of constituents, or leachate is not adversely affected by the leachate. Verify that the construction of the compacted soil liner is certified by a West Virginia registered professional engineer, and that a QA/QC report is submitted to the Secretary prior to the placement of the leachate collection and protective cover zone. Verify that the leachate collection and protective cover zone: - creates a flow zone between the compacted soil liner and waste tires and/or tire derived material more permeable than 1×10^{-3} cm/sec based on laboratory and field testing - is designed and placed on a minimum slope of 2 percent to facilitate efficient leachate drainage and prevent ponding on the compacted soil liner - is at least 9 in. thick - is constructed of soil or rear then materials to ensure that the hydraulic leachate head on the compacted soil liner does not exceed 1 ft at the expected flow capacity from the drainage area except during storm events

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- is comprised of clean soil or earthen materials that contain no debris, plant material, rocks, or other solid material larger than one-quarter inch in diameter and no material with sharp edges - is graded, uniformly compacted, and smoothed - is installed in a manner that prevents damage to the compacted soil liner - contains a perforated piping system capable of intercepting liquid within the leachate collection zone and conveying the liquid to control collection points. Verify that the construction of the leachate collection and protective cover zone is certified by a West Virginia registered professional engineer, and that a QA/QC report is submitted to the Secretary prior to the placement of waste tires or tire derived material in the monofill.
SO.160.6.WV. Waste tire monofills, processing facilities and activities must meet general operating requirements (WVCSR 33-5-3.7) [Revised February 1998; Revised January 2001].	Verify that the operation of a waste tire monofill, processing facility or activity conforms to an approved plan of operation, and the following requirements: - provisions to secure the facility from theft, vandalism and fire, which may include posting a security guard during non-operational hours if so directed by the Secretary - confining windblown material within the operational area and controlling dust and noise - installing and maintaining surface water diversion ditches around the areas - restricting access to the monofill processing facility or activity through the use of fencing (woven wire or chain link not less than 6 ft in height) - effective means are taken to control flies, rodents, vectors, insects and vermin - a supervisor is on duty at the facility at all times while it is open - the main entrance gate and emergency exit gate are kept locked when an attendant is not on duty - there is no open burning of waste tires - all topsoil within the facility construction limits is salvaged and stored/seeded within the property boundaries for use in the facility closure - whole waste tires are cut into at least 4 near equal portions, or split into at least 2 near equal portions, or shredded or chipped prior to placement in a monofill. Verify that a minimum of one downgradient monitoring well is drilled to intersect the uppermost significant aquifer. Verify that, if the disposal area is between 5 – 10 acres, a minimum of 2 downgradient monitoring wells are drilled, and if the disposal area is greater than 10 acres, a minimum of 3 monitoring wells are drilled. Verify that a minimum of 4 independent samples from each well (background and downgradient) are collected and analyzed during the first semiannual sampling event.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Verify that at least one sample from each well (background and downgradient) is collected and analyzed during subsequent semiannual sampling events.
SO.160.7.WV. Waste tire monofills/storage cells, processing facilities, activities and salvage yards must meet specific recordkeeping and reporting requirements (WVCSR 33-5-3.8) [Added January 2001].	Verify that waste tire monofills/storage cells, processing facilities/activities and salvage yards submit quarterly reports to the Secretary prior to the fifteenth day of the next quarterly reporting period on forms provided by the Secretary that include: - date, quantity and origin of waste tires and tire derived material received at the facility - quantity/tonnage of waste tires and tire derived material processed at the facility - quantity/tonnage of waste tires and tire derived material stored at the facility - name, address, telephone number and certificated motor carrier identification numbers of the waste tire transporters who transport waste tires and tire derived material to and from the facility, including the quantity/tonnage of waste tires and tire derived material so transported - a description of any fires, vector or environmental problems, other conditions, or changes in the facility's operational procedures, and steps taken to prevent a reoccurrence - the name, type and quantities of pesticides used during the reporting period for vector control Verify that the groundwater sampling analysis monitoring reports and accompanying report determining whether there was a statistically significant increase over background values, is submitted semiannually. Verify that quarterly reports are maintained at the facility for not less than 5 yr.
SO.160.8.WV. Waste tire monofills/storage cells, processing facilities, and activities must meet specific closure requirements (WVCSR 33-5-3.10) [Added January 2001].	Verify that, upon closure, all miscellaneous waste materials including but not limited to wheel rims, hubcaps, paper, trucks, trailers, containers, machinery and other items or debris remaining at the facility at closure are removed and taken to a Division of Environmental Protection-approved solid waste facility for reuse, recycling and/or disposal. Verify that all trucks, trailers, containers, structures and machinery are secured until removed. Verify that all disturbed ground is graded, mulched and seeded. Verify that sediment and erosion control structures are installed and maintained as necessary. Verify that storm water and surface water drainage is directed away from the facility or activity in a manner consistent with state water quality standards.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that a closure cap is immediately installed over the final placement of waste tires or tire derived material consisting of: - a substantial separation filter cloth to prevent soil or any other material from coming in contact with the tire material - a minimum of 1 ft of intermediate cover soil placed and compacted directly over the filter cloth to create a fire break, minimize the inflow of precipitation and to protect the filter cloth from damage - a final 1 ft minimum layer of soil sloped not less than 3 percent nor more than 25 percent grade is placed and compacted directly over the intermediate cover and revegetated. Verify that daily QA/QC reports are prepared and maintained in a bound log book at the site in regard to the closure cap construction.
SO.160.9.WV. Waste tire transporters must meet specific requirements (WVCSR 33-5-3.12) [Added January 2001].	Verify that no waste tire transporter or other person transports waste tires to a site or facility that does not have a valid permit or license to accept waste tires. Verify that waste tire transporters keep records which include: - the name, address and telephone numbers of the retail tire dealer(s), and the number of whole waste tires transported from the retail tire dealer(s) business location(s) - records showing the name, address, and telephone number of the permitted site or facility to where the whole waste tires were transported. Verify that these records are retained by the waste tire transporter for a period of not less than 3 yr.
SO.160.10.WV. [Deleted January 2008].	(NOTE: WVCSR 157-8, Waste Tire Remediation/Environmental Cleanup, was repealed.)
SO.160.11.WV. [Deleted January 2008].	(NOTE: WVCSR 157-8, Waste Tire Remediation/Environmental Cleanup, was repealed.)

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.165. **YARD WASTE/ COMPOSTING**	
SO.165.1.WV. Domestic yard waste must be disposed of in accordance with specific requirements (WVCSR 33-3-1.5 and 33-3-3.1.b) [Added February 1998; Revised January 2002].	Verify that domestic yard waste is disposed of in a manner consistent with one or any combination of the following: - disposal in a publicly or privately operated commercial or noncommercial composting facility or activity - disposal by composting on the property from which domestic yard waste is generated or on adjoining property or neighborhood property if consent is obtained from the owner of the adjoining or neighborhood property - disposal by open burning where such activity is not prohibited accepted by a solid waste landfill for disposal when the Secretary determines that none of the options above are available. (NOTE: Effective 1 January 1997 it is unlawful to deposit yard waste, including grass clippings and leaves, in a solid waste facility in West Virginia. This prohibition does not apply to a facility designed specifically to compost yard waste or otherwise recycle or reuse such items.) (NOTE: Commercial yard-waste facilities are also subject to the leachate management and reporting requirements that apply to solid waste facilities; see section SO.135.WV.)
SO.165.2.WV. The handling or management of yard waste to produce compost must meets pecific requirements (WVCSR 33-3-3.1.a) [Revised February 1998; Revised January 2002].	Verify that methods employed for yard waste composting are consistent with Section 4 of the Solid Waste Management Board's Program for the Proper Handling of Yard Waste, dated 1 May 1993. Verify that yard wastes are not combined with sludge, petroleum contaminated soil or other solid waste materials specified by the Secretary. (NOTE: A yard waste composting facility may not be situated atop a partially or fully closed solid waste disposal area, unless approved by the Secretary in writing; An existing solid waste facility by minor permit modification may include yard waste composting operations.) (NOTE: Commercial yard-waste facilities are also subject to the leachate management and reporting requirements that apply to solid waste facilities; see section SO.135.WV.)
SO.165.3.WV. All non-residential yard composting	Verify that no person establishes, installs, constructs or operates the following:

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
operation must either be permitted or registered (WVCSR 33-3-3.5) [Revised February 1998; Revised January 2002].	- a commercial yard waste composting facility without obtaining a solid waste facility permit from the Department - a non-residential composting activity without the property owner/operator obtaining a registration number from the Department of Environmental Protection, Office of Waste Management, Solid Waste Management Section. (NOTE: Residential and non-residential composting activities are exempt from the requirement to obtain a commercial solid waste facility permit.)
SO.165.4.WV. Commercial yard waste composting facilities must comply with specific siting requirements (WVCSR 33-3-3.2.a) [Added February 1998; Revised January 2002].	Verify that commercial yard waste composting facilities comply with the following location standards: - the facility is located in an area which has been authorized for composting facilities by the county and/or regional solid waste authority approved siting plan the facility is not sited or constructed in areas subject to a one hundred year flood plain, and no facility is closer than 300 ft to any regularly flowing stream, perennial stream, pond, lake, wetland or spring - the facility is not located in areas which are geologically unstable or where the site topography exceeds six percent grade - sites have sufficient area and terrain to allow for proper management of run-on, runoff and leachate - the facility is not located within 2000 ft of any health care facility, school, church, or similar type of institution (the Secretary may reduce this setback distance if the owner or operator can successfully demonstrate that a nuisance will not be created due to the operation of the facility) - the facility is not located within 200 ft of drinking water supply wells and occupied dwellings - the facility is not located within 50 ft of a federal or state highway right-of-way or within 25 ft of a city street right-of-way - the operational area of the facility is not located within 100 ft of an adjacent property owner's boundary line - the facility is not located on land where runoff drains into a sinkhole - the facility is not located on land that has a seasonal high groundwater table (based on soil maps) less than 2 ft from the land surface - the facility is not located on land that has less than 20 in. of soil over bedrock or on an impervious pan, and - the facility is not located within 10,000 ft to the closest point of any airport runway used or planned to be used by turbojet aircraft or within 5000 ft to the closest point of any airport runway used only by piston type aircraft or within other areas where a substantial bird hazard to aircraft would be created. (NOTE: Commercial yard-waste facilities are also subject to the leachate management and reporting requirements that apply to solid waste facilities; see section SO.135.WV.)
SO.165.5.WV. Non-	Verify that non-residential composting activities are not sited or constructed in

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
residential composting facilities must comply with specific siting requirements (WVCSR 33-3-3.3) [Added February 1998; Revised January 2002].	areas closer than 100 ft to any regularly flowing stream, perennial stream, pond, lake, wetland or spring. Verify that non-residential composting activities have sufficient area and terrain to allow for the proper management of run-on, runoff and leachate. Verify that non-residential composting activities are not located within 100 ft of an adjacent property owner's boundary line without obtaining prior written permission from the adjacent property owner. Verify that non-residential composting activities are not located within 100 ft of a sinkhole. Verify that non-residential composting activities do not exceed 5 acres in size without written approval from the Secretary. (NOTE: Compliance with any of the location standards for yard waste composting facilities or activities in this rule does not relieve the owner or operator from compliance with all other codes, ordinances or rules.) (NOTE: Commercial yard-waste facilities are also subject to the leachate management and reporting requirements that apply to solid waste facilities; see section SO.135.WV.)

SO.165.6.WV. Commercial yard waste composting facilities must comply with specific design and construction requirements (WVCSR 33-3-3.2.a) [Added February 1998].	Verify that a handling area and proper equipment is provided to segregate waste other than yard waste and non-compostable components in the yard waste and to store those components in properly constructed containers prior to their disposal at a permitted solid waste disposal facility.
	
	Verify that, if the yard waste composting facility is located in any area where the seasonal high water table (based on soil maps) lies within 5 ft of the ground surface, the composting and handling areas are hard-surfaced and diked to prevent entry of run-on or escape of runoff and other liquids, and provided with a sump at the low point of the hard-surface area with an adequately sized pump to convey liquids to a wastewater treatment, disposal or holding facility.
	
	Verify that accepted engineering practices are incorporated into the design of facilities located on sites with:
	
	- springs, seeps, and other groundwater intrusions
	- gas, water, phone, sewage lines or other utilities under the active areas
	- electrical transmission lines above or below the active areas
	- additional design and construction considerations:
	  - areas used for mixing, curing, and storing of compost are graded to prevent run-on, collect runoff, and provided with a drainage system to route the collected runoff to a wastewater storage, treatment, or disposal facility
	  - a buffer zone with the minimum width of 100 ft is incorporated in the

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	facility design between facility adjacent property boundaries and the operational areas of the facility - roads serving the unloading, handling, composting, and storage areas are of all-weather construction and the design features for each are shown on drawings submitted to the Division of Environmental Protection in the application. Verify that the design of a commercial yard waste composting facility is signed and sealed by a West Virginia registered professional engineer. (NOTE: Commercial yard-waste facilities are also subject to the leachate management and reporting requirements that apply to solid waste facilities; see section SO.135.WV.)
SO.165.7.WV. Yard waste composting facilities must comply with operating requirements (WVCSR 33-3-3.8) [Revised February 1998].	Verify that commercial yard waste composting facilities and non-residential composting activities meet the following operational requirements: - the addition of any other solid waste including but not limited to hazardous, sludges, infectious, construction debris, demolition, industrial or other municipal solid waste to the yard waste is strictly prohibited - waste other than yard waste and non-compostable solid wastes is segregated from the compostable yard waste and promptly removed from the site for proper disposal at an approved facility - segregated solid waste is removed from the facility at the end of each working day. unless it is stored in containers specifically designed for storage of solid waste (provided that the material does not remain at the facility more than 30 d) - screening and removal of non-compostable solid wastes from the windrows or compost piles occurs after the composting process is completed - access to a yard waste composting facility is allowed only when an attendant is on duty - any nuisance created by a commercial yard waste composting facility or a non-residential composting activity which causes harm or injury to any person or the environment is abated (or the composting facility or activity may be required by the Chief to cease and desist operations) - shrubs, brush, tree prunings or any other bulky, woody type materials are shredded, ground or otherwise reduced in size prior to being mixed with other yard wastes to be composted - the operator of a yard waste composting facility implements and enforces a safety program designed to prevent hazards and accidents - open burning is prohibited - fugitive dust and mud deposits on main offsite roads and access roads is minimized at all times to limit nuisances and the operator is immediately abate any nuisances - leachate or other runoff from a compost facility is not permitted to drain or discharge into surface waters except when authorized under a West Virginia NPDES permit issued by the Division - a 100 ft buffer zone is provided and maintained in a manner acceptable to the

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Chief. (NOTE: Other acceptable compostable materials may include, but are not limited to, coffee grounds, kitchen scraps, pet and human hair, shredded newspapers, lint and sweepings, wood ashes, fish and poultry carcasses/litter, and animal manures.) (NOTE: Commercial yard-waste facilities are also subject to the leachate management and reporting requirements that apply to solid waste facilities; see section SO.135.WV.)
SO.165.8.WV. Commercial yard waste facilities must comply with specific closure requirements (WVCSR 33-3-4) [Revised February 1998; Revised January 2002].	Verify that the commercial yard waste facility closes in a manner that minimizes the need for further maintenance. Verify that all solid waste, compost, and residues are removed and disposed in a permitted solid waste disposal facility. Verify that the commercial yard waste composting facility has a written closure plan. Verify that commercial yard waste facility completes closure activities in accordance with the approved closure plan and within 6 mo after receiving the final volume of wastes. (NOTE: The Secretary may approve a longer closure period if the owner or operator can demonstrate that the required or planned closure activities will, of necessity, take longer than 6 mo to complete; and that he or she has taken all necessary steps to eliminate any threat to human health and the environment from the unclosed but inactive facility.) (NOTE: Commercial yard-waste facilities are also subject to the leachate management and reporting requirements that apply to solid waste facilities; see section SO.135.WV.)
SO.165.9.WV. Commercial yard waste facilities must comply with training requirements (WVCSR 33-3-5) [Added January 2002].	Verify that commercial yard waste composting facility operators have a minimum 2 yr on the job experience in yard waste composting or receive training and education in yard waste composting. Verify that training and education consists of at least 40 classroom hrs of instruction that covers the following: - proper and safe equipment operation and equipment preventive maintenance - composting science technology which encompasses the composting process, composting methods, composting operations, site and environmental considerations, facility design and use, compost quality control, using and marketing compost, composting economics, record keeping and reporting, worker safety, business math and volumetric calculations.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	(NOTE: All training and education programs must be approved by the Department of Environmental Protection, Division of Waste Management.) (NOTE: Any person who has 2 yrs on the job experience is considered a certified yard waste composting operator, provided that, written verification of on the job experience or training and education is properly submitted to, and approved by the Department of Environmental Protection.) (NOTE: Commercial yard-waste facilities are also subject to the leachate management and reporting requirements that apply to solid waste facilities; see section SO.135.WV.)

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
SO.180. **CLOSURE OF SOLID WASTE FACILITIES**	
SO.180.1.WV. Landfills must provide advance notice of intent to close to the Secretary (WVCSR 33-1-6.1.b) [Revised February 1998; Revised January 2002].	(NOTE: These requirements apply to all types of landfills.) Verify that at least 120 days prior to closing the landfill, the landfill notifies the Secretary in writing of the intent to close and the expected date of closure. Verify that prior to the closing date, the landfill notifies all users of the facility of the intent to close so that alternative disposal options may be evaluated. Verify that signs are posted at all points of access to the facility at least 30 days prior to closure indicating the date of closure and alternative disposal facilities. Verify that a notice of the upcoming closure (a Class II legal advertisement) is published in a local newspaper at least 30 days prior to closure and a copy of the notice is provided to the Secretary within 10 days of the date of publication.
SO.180.2.WV. Closed landfills are to be fenced and gated so as to prevent access (WVCSR 33-1-6.1.c) [Revised February 1998; Revised January 2002].	(NOTE: These requirements apply to all types of landfills.) Verify that, within 10 days after ceasing to accept waste, the permittee restricts access by the use of gates, fencing, or other appropriate means to ensure against further use of the facility. (NOTE: If the final use allows access, such access must be restricted until closure has been completed and approved by the Secretary.)
SO.180.3.WV. Following closure the deed of the property must be annotated (WVCSR 33-1-6.1.d) [Revised February 1998; Revised January 2002].	(NOTE: These requirements apply to all types of landfills.) Verify that, following closure of all portions of the landfill, the owner or operator records a deed notation to the property with the county clerk's office (and retains a copy of the deed notation in the facility operating record) that notifies any potential purchaser that: - the land has been used as a landfill facility - its use is restricted under Section 6.3.f.3 to ensure postclosure care including any use that would interfere with maintaining the integrity and effectiveness of the final cover and maintaining the system to control the formation and release of leachate and explosive gases into the environment. (NOTE: The landfill may request permission from the Secretary to remove the

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	notation from the deed if all wastes are removed from the facility.) Verify that the deed includes the following: - a survey plot indicating the location and dimension of the landfill - a record of waste, including type, location, and quantity of waste disposed of at the site - disposal location of asbestos and any other waste specified by the Secretary. Verify that a certification of deed notation is filed within 90 days of closure.
SO.180.4.WV. The closure plan must include the installation of a final cover system that is designed to minimize infiltration and erosion (WVCSR 33-1-6.1.e.1) [Revised February 1998; Revised January 2002].	(NOTE: These requirements apply to all types of landfills.) Verify that the landfill provides a final cover system comprised of an erosion layer underlain by an infiltration layer and grading. Verify that the operator places final cover within 6 mo after disposal in the final lift ceases or as soon thereafter as weather permits. Verify that surface water runon is diverted around all areas used for waste disposal to limit the potential for erosion of the covers oils and increased infiltration. Verify that drainage swales conveying surface water runoff over previous waste disposal areas are lined with a minimum thickness of 2 ft of earthen material or a layer of synthetic material acceptable to the Secretary. Verify that the grade of the final surface of the landfill is not less than 3 percent or more than 25 percent (unless otherwise approved by the Secretary as a part of the issued permit). Verify that within 90 days after the placement of final cover, the landfill completes seeding, fertilizing, and mulching of the finished surface.
SO.180.5.WV. Landfills must have a closure plan that describes the steps necessary to close all portions of the landfill at any point during its active life in accordance with cover design requirements (WVCSR 33-1-6.1.e.3 through 7) [Revised February 1998; Revised January 2005].	(NOTE: These requirements apply to all types of landfills.) Verify that the closure plan, at a minimum, includes the following information: - a description of the final cover and the methods and procedures to be used to install the cover - an estimate of the largest area of the landfill ever requiring a final cover at any time during the active life - an estimate of the maximum inventory of wastes ever onsite over the active life of the landfill facility - a schedule for completing all activities necessary to satisfy the closure criteria.

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Verify that the Secretary is notified that a closure plan has been prepared and placed in the operating record. Verify that prior to beginning closure activities of each portion of the SWLF, a permittee notifies the Secretary that a notice of the intent to close has been placed in the operations record. Verify than closure activities begin for each portion of the landfill no later than 30 days after the date on which the landfill receives the known final receipt of wastes or, if the landfill has remaining capacity and there is a reasonable likelihood that it will receive additional wastes, no later than 1 yr after the most recent receipt of wastes. Verify that closure activities are completed in accordance with the closure plan within 180 days following the beginning of closure.
SO.180.6.WV. All landfills must comply with regulations regarding prohibited activities at closed activities (WVCSR 33-1-6.1.f and 6. 2) [Revised February 1998; Revised January 2002].	Verify that the following activities are not conducted at closed landfills unless specifically approved by the Secretary in writing: - use of the facility for agricultural purposes - establishment or construction of any buildings - excavation of the final cover or any waste materials. (NOTE: Upon application to the Secretary, a permittee may request inactive status for a period not to exceed 6 mo. To qualify for inactive status, the permittee must do the following: - demonstrate that all solid wastes are covered by at least 1 ft of intermediate cover - demonstrate that all areas where solid waste disposal is complete have been covered with final cover - demonstrate that all disturbed areas have been seeded in accordance with the revegetation plans - restrict access to the area - demonstrate that leachate collection and treatment will be maintained - demonstrate that notations have been made in permanent deed records in the County Clerk's Office that the site has been used as a solid waste facility - provide any other assurance specified by the Secretary.)
SO.180.7.WV. Landfills must prepare a written postclosure plan (WVCSR 33-1-6.3.f) [Revised February 1998].	(NOTE: These requirements apply to all types of landfills.) Verify that the postclosure plan includes, at a minimum, the following information: - a description of the monitoring and maintenance activities - for each landfill, and the frequency at which these activities will be

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	performed - name, address, and telephone number of the person or office to contact about the facility during the postclosure period - a description of the planned uses of the property during the postclosure period.
SO.180.8.WV. Landfills must conduct postclosure care as required by the permit following closure of each portion of the landfill (WVCSR 33-1-6.3.a through e) [Revised February 1998; Revised January 2002; Revised January 2005].	(NOTE: These requirements apply to all types of landfills.) Verify that postclosure care continues for up to 30 yr after final closure of areas unless otherwise modified by the Secretary and consists of the following: - continuous monitoring as specified in the monitoring plan required by the permit - prompt repair of any settling of solid waste which occurs up to 30 yr of the date of final closure, causing ponding of waters in areas of solid waste deposits - immediate repair of any cracking or erosion of cover material which occurs and cause waters to enter solid waste deposits - maintaining and operating the leachate collection system - site monitoring, at a minimum frequency of once each month during the post-closure period, to ensure that solid waste deposits and vandalism do not occur at the closed solid waste facility.

Appendix 9-1

Minimum Design Criteria for Landfills

(Source: WVCSR 33-1-4.5) [Added February 1998; Revised January 1999; Revised January 2002]

4.5.a. Design Capacity.

The minimum design capacity of a landfill must equal or exceed the expected volume of solid waste and daily and intermediate cover that will be disposed of at the facility within 10 years after operations begin. Expansions of existing facilities are not subject to the ten-year minimum design capacity requirement.

4.5.b. Drainage and Sediment Control Plan.

4.5.b.1. Stream Channel Diversions.

4.5.b.1.A. Design Capacity.

4.5.b.1.A.1. The design capacity of channels for temporary and permanent channel diversions must be at least equal to the capacity of the unmodified stream channel immediately upstream and downstream of the diversion.

4.5.b.1.A.2. The temporary and permanent channel diversions must be designed so that the combination of channel, bank, and floodplain configuration is adequate to pass safely the peak runoff of a 25-year, 24-hour storm for a temporary channel diversion and a 100-year, 24-hour storm for a permanent channel diversion.

4.5.b.1.B. Removal of Temporary Diversions. -- Temporary channel diversions must be removed when they are no longer needed to achieve the purpose for which they were approved as long as downstream facilities which were being protected are modified or removed.

4.5.b.1.C. Stream Channel Specifications. -- The drainage and sediment control plan must contain the following plans, design data, and specifications concerning stream channels:

4.5.b.1.C.1. A "stream channel design computation sheet" to be completed for each proposed temporary or permanent stream channel diversion;

4.5.b.1.C.2. Construction plans showing:

4.5.b.1.C.2.(a) A plan view of the area showing centerline profiles of existing stream channel and proposed location of the temporary or permanent stream channel (drawn to scale);

4.5.b.1.C.2.(b) Profiles along the centerline of the existing and temporary or permanent stream channel showing original ground, proposed and existing stream bottom (drawn to scale);

4.5.b.1.C.2.(c) A cross-section showing original ground limits, bottom width, side slopes, depth of flow, floodplain configuration; and

4.5.b.1.C.2.(d) A detailed sequence of the installation of temporary or permanent stream channel diversions;

4.5.b.1.C.3. Construction specifications; and

4.5.b.1.C.4. Maintenance schedule and procedures for maintenance.

4.5.b.2. Diversions.

4.5.b.2.A. Run-on Control System.

4.5.b.2.A.1. Permittees of all SWLFs must design, construct, operate, and maintain:

4.5.b.2.A.2. A run-on control system capable of preventing flow onto any part of the disposal area including the active portion of the SWLF.

4.5.b.2.B. Design Capacity. -- The run-on control systems must have the capacity to pass safely the peak discharge from the contributing watersheds from a 25-year, 24-hour storm.

4.5.b.2.C. Diversion Specifications. -- The drainage and sediment control plan must contain the following plans, design data, and specifications concerning diversions:

4.5.b.2.C.1. A "Diversion Design Computation Sheet" must be completed for each proposed diversion;

4.5.b.2.C.2. Construction plans showing:

4.5.b.2.C.2.(a) A profile based upon survey along the centerline of the diversion showing original ground line and proposed diversion bottom;

4.5.b.2.C.2.(b) A channel cross-section showing the original ground line, bottom width, side slopes, depth of flow, freeboard, and other pertinent information drawn to scale;

4.5.b.2.C.2.(c) The type of soil in which the diversion will be excavated. Either the soil must be sampled and classified at intervals of five hundred (500) ft or a demonstration of erosion potential based on existing soils information must be made; and

4.5.b.2.C.2.(d) The type and design of the outlet proposed for each diversion;

4.5.b.2.C.3. Maintenance schedule and procedures for maintenance; and

4.5.b.2.C.4. Construction and vegetation specifications.

4.5.b.3. Sediment Control. -- Sediment control structures must be constructed in appropriate locations in order to control sedimentation. All runoff from the disturbed area must pass through a sedimentation pond or ponds. All sediment control structures must be designed, constructed, and maintained in accordance with the specifications contained in the U.S. Soil Conservation Service's "Erosion and Sediment Control Handbook for Developing Areas in West Virginia" unless the Secretary approves the use of an equivalent handbook of guidance, or as otherwise specified in this rule. Temporary erosion and sediment control measures must be implemented during construction until permanent sedimentation control can be established.

4.5.b.3.A. Design and Construction Requirements.

4.5.b.3.A.1. All sediment control structures must be designed, constructed and certified prior to the commencement of any earthmoving or grading activities in upgradient areas which may contribute runoff to such control structures. Any change to the approved control structures made during construction must be indicated on "as-built" plans showing the approved design, the changes made, and surveyed reference points. All "as-built" plans must be submitted to the Secretary.

4.5.b.3.A.2. All sediment control structures must be located as near as possible to the disturbed area. All sediment control structures must be located out of perennial streams unless otherwise approved by the Secretary.

4.5.b.3.A.3. All sediment control structures must have a sediment capacity of 0.125 acre-ft for each acre of disturbed area in the structure's watershed. In addition to the sediment capacity, the sediment control structure must have the detention capacity to store a 2-year, 24-hour frequency storm. The water stored from this storm must be released through a nonclogging dewatering device that allows the stored volume of water to be evacuated within a 7-day to 8-day period. The elevation of the nonclogging dewatering device must not be lower than the maximum elevation of the designed sediment storage volume. and also satisfy the storm water provisions of the Federal Clean Water Act, as reflected in W. Va. Code § 22-11 et seq., and any rules promulgated thereunder.

4.5.b.3.A.4. All discharges from sediment control structures must not cause a violation of state and federal water quality standards and must meet all effluent limitations as reflected in W. Va. Code § 22-11-1 et seq., and any rules promulgated thereunder.

4.5.b.3.A.5. All sediment control structures must be designed, constructed, and maintained to prevent short-circuiting.

4.5.b.3.A.6. All sediment control structures must be cleaned out when the sediment accumulation reaches sixty percent (60 percent) of the design sediment capacity. The cleanout elevation must be indicated on the plans submitted for the structure. Sediment removal and disposal must be done in a manner that minimizes adverse effects on surface water and groundwater quality.

4.5.b.3.A.7. All sediment control structures must be designed, constructed, and maintained to meet the following safety standards:

4.5.b.3.A.7.(a) An adequate structural foundation must be provided for all structures through the clearing of trees and brush and the exclusion of organic material. Earthen materials used in the construction must be free of trees, roots, brush, frozen soil, organic materials, coal processing materials, construction waste, and other debris. All earthen materials must be properly compacted to prevent excessive settlement.

4.5.b.3.A.7.(b) Sediment control structures must provide a combination of principal and emergency spillways that will safely discharge a minimum 25-year, 24-hour storm without overtopping of the structure. There must be no outflow through the emergency spillway

during the passage of a 10-year, 24-hour frequency storm through the sediment control structure. All spillways must discharge an adequate distance beyond the downstream toe of the structure to a natural drainway to prevent erosion of the downstream toe.

4.5.b.3.A.7.(c) The contributing drainage area(s) for a sediment control structure must not exceed 200 acres.

4.5.b.3.A.7.(d) The minimum diameter of the principal spillway and the discharge conduit must be twelve (12) inches.

4.5.b.3.A.7.(e) A minimum difference in elevation of one and one-half (1.5) ft between the top of the principal spillway and the bottom of the invert of the emergency spillway must be provided. A minimum difference in elevation of one (1) foot of freeboard between the maximum design flow elevation in the emergency spillway and the top of the settled embankment must be provided.

4.5.b.3.A.7.(f) The vertical distance between the lowest point along the centerline of the sediment control structure and the top (crest) of the sediment control structure must not exceed twenty-five (25) ft.

4.5.b.3.A.7.(g) Appropriate barriers must be provided to control seepage along the conduits that extend through the embankment.

4.5.b.3.A.7.(h) All inspection reports and engineering certifications must be provided to the Secretary.

4.5.b.3.A.7.(i) The sediment control structure must possess a minimum embankment width of ten (10) ft.

4.5.b.3.A.7.(j) The embankment must be designed and constructed with a minimum static safety factor of 1.5.

4.5.b.3.A.7.(k) The embankment must be stabilized and revegetated upon construction.

4.5.b.3.A.8. Sediment control structures must be inspected and closed in accordance with section 6 of this rule.

4.5.b.3.A.9. Any sediment control structure that is an artificial barrier or obstruction, including any works appurtenant to it and any reservoir created by it, which is or will be placed, constructed, enlarged, altered or repaired so that does or will impound or divert water and:

4.5.b.3.A.9.(a) Is or will be twenty-five (25) ft or more in height from the natural bed of the stream or watercourse measured at the downstream toe of the barrier and which does or can impound fifteen (15) acre-ft or more of water; or

4.5.b.3.A.9.(b) Is or will be six (6) ft or more in height from the natural bed of the stream or watercourse measured at the downstream toe of the barrier and which does or can impound fifty (50) acre-ft or more of water; or is, by definition, a "dam" as defined in W. Va. Code § 22-14-1 et seq. is subject to regulation under the provisions of W. Va. Code, § 22-14-1 et seq.

4.5.b.3.A.10. Discharge Structures. -- Discharge from temporary or permanent sediment control structures, diversions, or stream channel diversions must be controlled by energy dissipaters, riprap channels or other devices approved by the Secretary to reduce erosion, to prevent deepening or enlargement of stream channels, and to minimize disturbance of the hydrologic balance. Discharge structures must be designed in accordance with standard engineering procedures.

4.5.b.3.B. Abandonment Procedures. -- Minimum requirements for abandoning sediment control structures prior to total release of a bond are as follows:

4.5.b.3.B.1. Excavated Sediment Pond (Dugout Type). -- There is no required abandonment procedure for excavated ponds unless they have an embankment. If they have an embankment, they must follow the abandonment procedures outlined in part 4.5.b.3.B.1 of this rule.

4.5.b.3.B.2. Embankment-Type Sediment Control Structures; Embankment-Type Excavated Sediment Control Structures; Crib and Gabion Control Structures. -- Sediment control structures and all accumulated sediment above the structure must be removed from the natural drainway if they are built across it. Sediment control structures adjacent to natural drainways must be abandoned by diverting the entrance channel to the natural drainways providing that vegetation has been established on-site, thus preventing any future surface runoff from entering the abandoned sediment control structure. When sediment control structures are removed, the natural drainway must be returned to its original profile and cross-section as near

as practical. An original profile and cross-section view for the channel must be submitted with the drainage plan. The channel sides and bottom must be rock riprap. The riprap must extend up to the top of the channel. The riprap requirement may be waived where the bottom and sides of the channel consist of bedrock. Provisions must be made to control sediments during removal of the sediment control structure and any necessary stream channel work.

4.5.b.3.B.3. Revegetation of Disturbed Areas. -- All areas disturbed during abandonment of a sediment control structure must be seeded and mulched immediately to revegetate and stabilize the disturbed areas.

4.5.b.4. Run-off Control System.

4.5.b.4.A. All permittees must design, construct, operate, and maintain a run-off control system capable of flow collections and controlling from any portion of the landfill to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

4.5.b.4.B. Run-off from all portions of the landfill, including the active portion must be handled in accordance with Chapter 22, Article 15 of the Code of W. Va.

4.5.c. Access Roads.

4.5.c.1. Access Road Construction Plans. -- Construction plans for an access road (i.e., a road used for facility access or for the haulage of solid waste to the facility) must contain the following:

4.5.c.1.A. A plan view drawn to scale showing the station baseline, the location of each culvert with the drainage flow direction, the location of each intermittent or perennial stream with its flow direction, and other data pertinent to the construction of the access road.

4.5.c.1.B. A profile based upon survey drawn to scale (the scale should be no greater than 1 inch = 100 ft horizontal and 1 inch = 50 ft vertical) showing the road surface, the location and size of culverts, station elevations, original ground, and percent grades.

4.5.c.1.C. A cross-section of the access road showing culverts and their slopes, fill materials, original ground, ditches, and sediment control devices.

4.5.c.1.D. A structure computation sheet and a cross-section showing all data pertinent to the crossing of each intermittent or perennial stream.

4.5.c.1.E. Construction specifications -- covering excavation, selection and placement of materials, vegetative protection against erosion, road surfacing, drainage, and sediment control -- that incorporate the design criteria set forth in paragraph 4.5.c.2 of this rule.

4.5.c.1.E.1. All grades referred to in paragraph 4.5.c.2 of this rule must be subject to a tolerance of two percent (2 percent). All linear measurements referred to in paragraph 4.5.c.2 of this rule must be measured from the horizontal and must be subject to a tolerance of five percent (5 percent).

4.5.c.1.E.2. All primary access roads for the facility, including those leading to the active area, must be designed for all-weather operation in accordance with standards of the West Virginia Division of Highways.

4.5.c.2. Access Road Construction.

4.5.c.2.A. Grades. -- The grading of an access road must be such that:

4.5.c.2.A.1. The overall grade must not exceed ten percent (10 percent).

4.5.c.2.A.2. The maximum pitch grade must not exceed fifteen percent (15 percent) for three hundred (300) ft in each one thousand (1,000) ft of road construction. The intersection of the access road with an existing highway must be designed to provide sufficient sight distance and minimum interference with traffic on the highway.

4.5.c.2.A.3. The surface must pitch toward the ditchline at a minimum rate of 1/2 in./ft of surface width or crowned at the minimum rate of 1/2 in./ft of surface width as measured from the centerline of the access road.

4.5.c.2.B. Curves. -- The grade on switchback curves must be reduced to less than the approach grade and must not be greater than ten percent (10 percent);

4.5.c.2.C. Cut Slopes. -- Cut slopes must not be steeper than 1:1 in soils or 1:4 in rock.

4.5.c.2.D. Drainage Ditches. – After the effective date of this rule, newly designed ditches must be provided on both sides of a throughout and on the inside shoulder of a cutfill section, with ditch

relief culverts being spaced according to grade. Water must be intercepted or directed around and away from a switchback. All ditchlines must be capable of passing the peak discharge of a 25-year, 24-hour storm. Where superelevation to the inside of a curve will improve the safety of the access road, such as in the head of a hollow, a ditchline may be located on the outside shoulder of the cutfill section provided that the ditchline is designed so that it will remain stable and that drainage control in accordance with the Act is also provided for water on the outside of the curve.

4.5.c.2.E. Drainage Culverts. -- Ditch relief culverts must be installed wherever necessary to ensure proper drainage of surface water beneath or through the access road.

4.5.c.2.E.1. Culverts must be installed in accordance with the following spacings:

4.5.c.2.E.1.(a) For a road grade of zero to five percent (0 percent to 5 percent), the spacing must be three hundred to eight hundred (300 to 800) ft;

4.5.c.2.E.1.(b) For a road grade of five to ten percent (5 to 10 percent), the spacing must be two hundred to three hundred (200 to 300) ft; and

4.5.c.2.E.1.(c) For a road grade of ten to fifteen percent (10 to 15 percent), the spacing must be one hundred to two hundred (100 to 200) ft.

4.5.c.2.E.2. Culverts must cross the access road at a thirty (30) degree angle downgrade with a minimum grade of three percent (3 percent) from inlet to outlet, except in the conveyance of intermittent or perennial streams where the pipe must be straight and coincide with the normal flow.

4.5.c.2.E.3. The inlet end of each culvert must be protected by a headwall of stable material as approved by the Secretary and the slope at the outlet end must be protected with an apron of rock riprap, energy dissipater, or other material approved by the Secretary.

4.5.c.2.E.4. Culverts must be covered by compacted fill to a minimum depth of one (1) foot or one-half (1/2) of the culvert inside diameter, whichever is greater. 4.5.c.2.E.5. Alternative culvert designs may be submitted to the Secretary for approval in cases where the design criteria in subparagraph 4.5.c.2.E of this rule is deemed to be impractical.

4.5.c.2.F. Culvert Openings. – After the effective date of this rule, newly designed culvert openings installed on an access road must be at least 12 inches in diameter or equivalent area, but, in any event, all culvert openings must be of adequate capacity to carry the peak discharge capacity of a 25-year, 24-hour storm from the contributing watershed and must receive necessary maintenance to function properly at all times.

4.5.c.2.G. Intermittent or Perennial Stream Crossing. – After the effective date of this rule newly designed culverts, bridges, or other drainage structures must be used to cross intermittent or perennial streams. Consideration must be given to such factors as weather conditions, season of the year, and time period for construction with regard to using measures to minimize adverse effects to the water quality and stream channel. In no event may the sediment load of the stream be significantly increased or the water quality be significantly decreased during the construction period. Water control structures must be designed with adischarge capacity capable of passing, at a minimum, the peak runoff of a 25-year, 24-hour storm from the contributing watersheds. If approved by the Secretary, the capacity of the water control structure itself can be at least equal to or greater than the stream channel discharge capacity immediately upstream and downstream of the crossing provided the structure can pass at least a 25-year, 24-hour storm.

4.5.c.2.H. Revegetation of Slopes. -- All disturbed area including fill and cut slopes, must be revegetated by the use of seed and mulch immediately, unless approved by the Secretary, after the construction of an access road and that revegetation must be maintained thereafter as necessary to control or prevent erosion.

4.5.c.2.I. Surfacing. -- An access road must not be surfaced with any acid-producing or toxic materials and the surface must be maintained in a manner that controls or prevents erosion and siltation.

4.5.c.3. Removal of Drainage Structures. -- Bridges, culverts, and stream crossings necessary to provide access to the facility must not be removed until reclamation is completed and approved by the Secretary. The same precautions as to water quality are to be taken during removal of drainage structures as those taken during construction and use.

4.5.c.4. Existing Access Roads. -- Where existing roads are to be used for access or haulage, the requirements of subparagraphs 4.5.c.2.A through 4.5.c.2.E of this rule may be waived by the Secretary if it can be demonstrated that reconstruction to meet the requirements of subdivision 4.5.c of this rule would

result in greater environmental harm than is produced by existing conditions and that the drainage requirements in paragraph 4.5.c.2 of this rule can otherwise be met.

4.5.c.5. Infrequently Used Access Roads. -- Access roads constructed for and used only to provide infrequent service to facilities such as monitoring devices may be exempted by the Secretary from compliance with the requirements of subparagraphs 4.5.c.2.A, 4.5.c.2.H, and 4.5.c.2.I of this rule.

4.5.c.6. Dust Control. -- All reasonable means must be employed to control dust from the surface of access roads, including those statutes, rules and regulations of the W. Va. Division of Air Quality.

4.5.c.7. Abandonment of Access Roads. -- Access roads must be abandoned in accordance with the following:

4.5.c.7.A. Every effort must be made when an access road is abandoned to prevent erosion by the use of culverts, water bars, or other devices. Water bars or earth berms must be installed in accordance with the following spacings;

4.5.c.7.A.1. For a grade of zero to five percent (0 percent to 5 percent), the spacing must be three hundred to eight hundred (300 to 800) ft;

4.5.c.7.A.2. For a grade of five to ten percent (5 to 10 percent), the spacing must be two hundred to three hundred (200 to 300) ft; and

4.5.c.7.A.3. For a grade of ten to fifteen percent (10 to 15 percent), the spacing must be one hundred to two hundred (100 to 200) ft.

4.5.c.7.B. The land covered by an access road must be revegetated by the use of seed and mulch immediately, unless approved by the Secretary, after the abandonment of the road in accordance with subdivision 4.5.f of this rule.

4.5.d. Liners.

4.5.d.1. Liner System Requirements. -- A person who receives a permit for a landfill after 2 June 1996 -- including a permit that results in an expansion of a currently permitted landfill --must design, construct, operate, and maintain a liner system at that landfill. Nothing within this rule may be construed to allow the installation of any liner system on areas not lined as of 2 June 1996, that is not in conformance with subparagraph 4.5.d.1.C or 4.5.d.1.E of this rule. Landfills that do have an W. Va. Code Chapter 22 Article 15 permit and a liner installed as of that date may install a liner as approved by the Secretary in accordance with the following:

4.5.d.1.A. A landfill for which a valid closure permit has been issued pursuant to W. Va. Code § 22-15-10 may remain in operation after the date of this rule, provided that -- the facility is in conformance with its permit and this rule, and such landfill has in place:

4.5.d.1.A.1. Groundwater monitoring wells in conformance with the requirements of subdivision 3.8.d of this rule;

4.5.d.1.A.2. A groundwater monitoring program in conformance with the requirements of subsection 4.11 of this rule;

4.5.d.1.A.3. An effective leachate treatment capability; and

4.5.d.1.A.4. Sediment run-off control.

4.5.d.1.B. All new SWLFs and lateral expansions that meets all of the requirements enumerated in subparagraphs 4.5.d.1.A and 4.5.d.1.B of this rule, may remain in operation provided that: the liner must meet the following criteria:

4.5.d.1.B.1. The liner must be constructed, installed and maintained in accordance with a design approved by the Secretary.

4.5.d.1.B.2. The design must ensure that the concentration values listed in Appendix III to this rule will not be exceeded in the uppermost aquifer at the relevant point of compliance, as specified by the Secretary under subparagraph 4.5.d.1.G, or;

4.5.d.1.B.3. With a composite liner, as defined in section 2 and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner.

4.5.d.1.C. A liner system must consist of the following elements:

4.5.d.1.C.1. Subbase, which is the prepared layer of soil or earthen materials upon which the remainder of the liner system is constructed;

4.5.d.1.C.2. Leachate detection zone, which consists of a perforated piping system within a layer of soil or earthen material placed on top of the subbase and upon which the composite liner is placed;

4.5.d.1.C.3. Composite liner, which consists of two (2) components; the compacted clay component topped with the synthetic liner;

4.5.d.1.C.4. Leachate collection and protective cover zone which is a leachate collection system within a prepared layer of soil or earthen material placed over the composite liner; and

4.5.d.1.C.5. A reinforcement layer, if indicated by stability studies or other indicators, to prevent liner failure.

4.5.d.1.D. Active areas of existing landfills which have installed liners, leachate collection systems, and groundwater monitoring programs, as of 2 June 1996, may petition the Secretary to allow use of an alternative liner system, if:

4.5.d.1.D.1. A demonstration is made to the Secretary that an alternative design will provide the same degree of protection of the groundwater resources as the liner system described in subparagraph 4.5.d.1.E of this rule. The demonstration must include a series of groundwater monitoring well sampling analyses and also the direction-of-migration and rate-of-flow studies showing that there are no existing or potential groundwater pollution problems; and

4.5.d.1.D.2. A bond or other applicable means of financial assurance is posted in compliance with subdivision 3.7.j and subdivision 3.13.

4.5.d.1.E. In order to allow for the development of new technology, applicants may petition the Secretary to allow installation of an alternative liner system upon a demonstration to the Secretary that the alternative system will be equally or more protective of the groundwater resources than the liner system described in subdivision 4.5.d of this rule.

4.5.d.1.F. Alternative Liner Design. -- Any permittee who wishes to utilize an alternative liner design must submit a design to the Secretary that complies with subdivision 4.5.d of this rule, and must address the following factors:

4.5.d.1.F.1. The hydrogeologic characteristics of the facility and surrounding land; 4.5.d.1.F.2. The climatic factors of the area; and

4.5.d.1.F.3. The volume and physical and chemical characteristics of the leachate.

4.5.d.1.G. Relative Point of Compliance.

4.5.d.1.G.1. The relevant point of compliance specified by the Secretary must be no more than 150 meters (492 ft) from the waste management unit boundary and must be located on land owned by the owner of the SWLF.

4.5.d.1.G.2. In determining the relevant point of compliance, the Secretary must consider at least the following factors:

4.5.d.1.G.2.(a) The hydrogeologic characteristics of the facility and surrounding land;

4.5.d.1.G.2.(b) The volume and physical and chemical characteristics of the leachate;

4.5.d.1.G.2.(c) The quantity, quality, and direction, of flow of groundwater;

4.5.d.1.G.2.(d) The proximity and withdrawal rate of the groundwater users;

4.5.d.1.G.2.(e) The availability of alternative drinking water supplies;

4.5.d.1.G.2.(f) The existing quality of the groundwater, including other sources of contamination and their cumulative impacts on the groundwater and whether groundwater is currently, or reasonably expected to be used, for drinking water;

4.5.d.1.G.2.(g) Public health, safety, and welfare effects; and

4.5.d.1.G.2.(h) Practicable capability of the permittee.

4.5.d.2. Liner System Limitations.

4.5.d.2.A. No person may construct a liner system for a facility unless there is at least four (4) ft maintained between the bottom of the subbase of the liner system and the seasonal high groundwater table.

4.5.d.2.A.1. The location of the seasonal high groundwater table may be inferred by such indicators as soil mottling, soil gleying and iron and manganese concentrations.

4.5.d.2.A.2. Drainage systems may be utilized to maintain a four (4) foot isolation distance between the bottom of the subbase of the liner system and the seasonal high groundwater table. The drainage system must be limited to drain tile, piping, and french drains.

4.5.d.2.B. No person may construct a liner system for a facility unless at least eight (8) ft can be maintained between the bottom of the subbase of the liner system and the permanent groundwater table.

4.5.d.2.C. A minimum of four (4) ft vertical separation must be maintained between the bottom of the subbase of the liner system and bedrock unless otherwise approved by the Secretary. If backfilled material is used, the nature of these materials is subject to approval by the Secretary.

4.5.d.2.D. If the approved design plans provide for the placement of additional adjacent liner, waste may not be placed within fifteen (15) ft of an edge of the liner that will be joined by an additional adjacent liner. The edge must be protected by soil cover or other method approved in the permit until additional liner is added.

4.5.d.2.E. If the approved design plans do not provide for the placement of additional adjacent liner, waste must not be placed within five (5) ft of an edge of the liner.

4.5.d.2.F. A liner berm at least four (4) ft high must be constructed and maintained along the edge of the liner to prevent the lateral escape of leachate.

4.5.d.2.G. The edge of the liner must be clearly marked.

4.5.d.2.H. The operator must comply with additional requirements the Secretary deems necessary to protect public health, safety, and the environment.

4.5.d.3. Liner System Subbase.

4.5.d.3.A. The subbase portion of a liner system must:

4.5.d.3.A.1. Be at least six (6) inches thick and compacted to a Standard Proctor density of at least ninety-five percent (95 percent) at three to five percent (3 percent to 5 percent) wet of optimum; 4.5.d.3.A.2. Have a minimum bearing capacity of two and one-quarter tons per square foot plus one-half of the total applied load in pounds per square foot;

4.5.d.3.A.3. Be no more permeable than 1 x 10[-6] cm/sec based on laboratory and field testing;

4.5.d.3.A.4. Be hard, uniform, smooth, and free of debris, rock, plant materials, and other foreign material; and

4.5.d.3.A.5. Have a slope of at least two percent (2 percent).

4.5.d.3.A.6. The subbase construction certification and a Q.A./Q.C. report must be submitted to the Secretary prior to the placement of any material over the subbase.

4.5.d.3.A.7. Be free of particles greater than 2 inches in any dimension, and must also be free of debris, rock, plant materials, and other foreign materials.

4.5.d.4. Liner System Leachate Detection Zone.

4.5.d.4.A. The leachate detection zone must:

4.5.d.4.A.1. Create a flow zone between the subbase and the composite liner more permeable than 1 x 10[-3] cm/sec based on laboratory and field testing. The leachate detection zone including piping system must be designed and placed on a minimum slope of two percent (2 percent);

4.5.d.4.A.2. Be at least twelve (12) inches thick;

4.5.d.4.A.3. Be comprised of clean soil or earthen materials that contain no debris, plant material, or material with sharp edges;

4.5.d.4.A.4. Have geotextile material placed within the leachate detection zone in such a manner as to prevent clogging of the piping system. The geotextile material must not be placed directly against pipes; and

4.5.d.4.A.5. Contain a perforated piping system capable of detecting and intercepting liquid within the leachate detection zone and conveying the liquid to central collection points, as follows:

4.5.d.4.A.5.(a) The slope, size, and spacing of the piping system must assure that liquids drain efficiently from the leachate detection zone;

4.5.d.4.A.5.(b) The distance between pipes in the piping system must not exceed one hundred (100) ft on center unless otherwise approved by the Secretary;

4.5.d.4.A.5.(c) The pipes must be installed nearly perpendicular to the slope with continuous positive slope;

4.5.d.4.A.5.(d) The minimum diameter of the perforated pipe must be four (4) inches with a wall thickness of Schedule 40 or greater;

4.5.d.4.A.5.(e) The pipe must be capable of supporting anticipated loads without failure based upon facility design;

4.5.d.4.A.5.(f) Rounded stones or aggregates must be placed around all portions of the pipes of the piping system. The stones or aggregates must be sized to prevent clogging of the pipes and damage to the subbase and the composite liner;

4.5.d.4.A.5.(g) The piping system must be installed in a fashion that facilitates cleanout, maintenance, and monitoring. Manholes or cleanout risers must be located along the perimeter of the leachate collection piping system. The number and spacing of the manholes or cleanout risers must be sufficient to ensure proper maintenance of the piping system by water jet flushing or an equivalent method;

4.5.d.4.A.5.(h) The leachate detection system must be cleaned and maintained as necessary;

4.5.d.4.A.5.(i) If required by the Secretary in writing leachate detection pipes used to transport leachate that are not within the bounds of the composite liner, must be double-walled pipe; and

4.5.d.4.A.5.(j) The leachate detection zone construction certification and a Q.A./Q.C. report must be submitted to the Secretary prior to the placement of the composite liner.

4.5.d.5. Liner System Composite Liner. -- The composite liner must be comprised of the following components, unless otherwise approved in writing by the Secretary:

4.5.d.5.A. The compacted clay component must:

4.5.d.5.A.1. Be a minimum compacted thickness of two (2) ft;

4.5.d.5.A.2. Be compacted in six (6) inch lifts;

4.5.d.5.A.3. Be no more permeable than 1 x 10[-7] cm/sec based on laboratory and field testing;

4.5.d.5.A.4. Be free of particles greater than two (2) inches in any dimension, and must also be free of debris, rock, plant materials, and other foreign materials; 4.5.d.5.A.5. Be placed without damaging the subbase and leachate detection zone;

4.5.d.5.A.6. Be placed during a period of time when both the air temperature and the soil temperature are above freezing so that neither the compacted clay nor the subbase are frozen;

4.5.d.5.A.7. Have a slope of at least two percent (2 percent) to facilitate the drainage of leachate across the liner surface; and

4.5.d.5.A.8. Be designed, operated, and maintained so that the physical and chemical characteristics of the liner and liner's ability to restrict the flow of solid waste, solid waste constituents, or leachate is not adversely affected by the leachate.

4.5.d.5.A.9. The Secretary may approve the substitution of three (3) ft of compacted soil, with a minimum permeability of 1 x 10-6 cm/sec for the required two (2) ft of compacted clay, with a minimum permeability of 1x10-7 cm/sec if equivalency of groundwater protection can be proven.

4.5.d.5.B. The synthetic component must:

4.5.d.5.B.1. Be no more permeable than 1 x 10[-7] cm/sec;

4.5.d.5.B.2. Have a minimum thickness of sixty (60) mils;

4.5.d.5.B.3. Be installed in accordance with manufacturer's specifications under the supervision of an authorized representative of the manufacturer;

4.5.d.5.B.4. Be inspected for uniformity, damage, and imperfections during construction or installation;

4.5.d.5.B.5. Have a slope of at least two percent (2 percent) to facilitate the drainage of leachate across the liner surface;

4.5.d.5.B.6. Be designed to withstand the calculated tensile forces acting upon the synthetic materials when installed on slopes greater than twenty-five percent (25 percent);

4.5.d.5.B.7. Have field seams oriented parallel to the line of the maximum slope and not across the slope. In corners and irregularly-shaped portions, the number of field seams must be minimized. No horizontal seam may be less than five (5) ft from the toe of slope;

4.5.d.5.B.8. Have the seam area free of moisture, dust, dirt, debris, and foreign material of any kind before seaming. Field seaming is prohibited, unless otherwise approved by the Secretary when the ambient air temperature is below five degrees centigrade (5 degrees C), above forty degrees centigrade (40 degrees C), during precipitation or when winds are in excess of twenty (20) miles per hour;

4.5.d.5.B.9. Be anchored a minimum 24 in. horizontally back from the edge of the top of the slope. The liner must be anchored by cutting a trench 12 to 16 in. in depth, laying the liner

across the soil perimeter of the trench, backfilling the trench, and compacting the backfill material; and

4.5.d.5.B.10. Be installed under the direction of a field crew foreman or other person approved in writing by the Secretary with documented successful liner installation experience.

4.5.d.5.C. The certification of the construction of the composite liner compacted clay component and a Q.A./Q.C. report must be submitted to the Secretary prior to the placement of the composite liner synthetic component.

4.5.d.5.D. The composite liner synthetic component construction certification and the Q.A./Q.C. report must be submitted to the Secretary prior to the placement of the leachate collection and protective cover zone.

4.5.d.6. Liner System Leachate Collection and Protective Cover Zone.

4.5.d.6.A. The leachate collection and protective cover zone must:

4.5.d.6.A.1. Create a flow zone between the composite liner and solid waste more permeable than 1 x 10[-3] cm/sec based upon both laboratory and field testing. The leachate collection zone including the piping system must be designed and placed on a minimum slope of two percent (2 percent) to facilitate efficient leachate drainage and prevent ponding on the composite liner;

4.5.d.6.A.2. Be at least eighteen (18) inches thick;

4.5.d.6.A.3. Be constructed of soil or earthen materials to ensure that the hydraulic leachate head on the composite liner does not exceed one (1) foot at the expected flow capacity from the drainage area except during storm events;

4.5.d.6.A.4. Be comprised of clean soil or earthen materials that contain no debris, plant materials, rocks, or other solid materials larger than one-quarter (1/4) inch in diameter and no material with sharp edges;

4.5.d.6.A.5. Be graded, uniformly compacted, and smoothed;

4.5.d.6.A.6. Be installed in a manner that prevents damage to the composite liner;

4.5.d.6.A.7. Contain a perforated piping system capable of intercepting liquid within the leachate collection zone and conveying the liquid to control collection points. The piping system must also meet the following:

4.5.d.6.A.7.(a) The slope, sizing and spacing of the piping system must ensure that liquids drain efficiently from the leachate collection zone;

4.5.d.6.A.7.(b) The distance between pipes in the piping system must not exceed one hundred (100) ft on center unless otherwise approved by the Secretary;

4.5.d.6.A.7.(c) The pipes must be installed nearly perpendicular to the slope with continuous positive slope;

4.5.d.6.A.7.(d) The minimum diameter of the perforated pipe must be four (4) inches with a wall thickness of Schedule 40 or greater;

4.5.d.6.A.7.(e) The pipe must be capable of supporting anticipated loads without failure based upon facility design;

4.5.d.6.A.7.(f) Rounded stones or aggregates must be placed around all portions of the pipes of the piping system. The stones or aggregates must be sized to prevent clogging of the pipes and damage to the composite liner;

4.5.d.6.A.7.(g) The piping system must be installed in a fashion that facilitates cleanout, maintenance, and monitoring. Manholes and cleanout risers must be located along the perimeter of the leachate detection piping system. The number and spacing of the manholes and cleanout risers must be sufficient to ensure proper maintenance of the piping system by water jet flushing or an equivalent method;

4.5.d.6.A.7.(h) The leachate collection system must be cleaned and maintained as necessary;

4.5.d.6.A.7.(i) Have geotextile material placed within the leachate collection system in such a manner as to prevent clogging of the piping system. The geotextile material must not be placed directly against pipes. And

4.5.d.6.A.7.(j) If required by the Secretary in writing leachate collection pipes used to transport leachate that are not within the bounds of the composite liner, must be double-walled pipe.

4.5.d.6.B. The leachate collection zone construction certification and the Q.A./Q.C. report must be submitted to the Secretary prior to the placement of solid waste.

4.5.d.7. Liner System Engineer Certification.

4.5.d.7.A. The liner system must be inspected during, and at the end of the construction by a registered professional engineer.

4.5.d.7.B. Upon completion of construction of each major element or stage of the liner system, including the subbase, leachate detection zone, composite liner, leachate collection zone and protective cover (and prior to the deposition of waste), the engineer must certify to the Secretary under seal that the element or stage was constructed as approved in the permit.

4.5.d.8. Liner System Initial Placement of Solid Waste. -- The first eight (8) ft of solid waste placed on the protective cover must not contain material capable of penetrating or puncturing the protective cover.

4.5.e. Quality Assurance and Quality Control.

The quality control measures and tests required by the Q.A./Q.C. plan under subdivision 4.5.5 of this rule must be employed to ensure that the engineering design and performance standards are achieved.

4.5.e.1. The Q.A./Q.C. inspector will inspect those aspects of the subbase and subgrade preparation including, but not limited to, the following:

4.5.e.1.A. Subgrade Preparation.

4.5.e.1.A.1. Site preparation, including clearing, and grubbing;

4.5.e.1.A.2. Excavation and contouring of the subgrade to required elevations;

4.5.e.1.B. Subbase Preparation.

4.5.e.1.B.1. Compaction of subbase to design density at proper moisture content to achieve required strength and stability to support the liner; 4.5.e.1.B.2. Moisture content density and field strength tests performed as required;

4.5.e.1.B.3. Compacted lift thickness;

4.5.e.1.B.4. Compaction equipment weight, speed, and number of passes;

4.5.e.1.B.5. Method of moisture addition;

4.5.e.1.B.6. Proof rolling of subbase; and

4.5.e.1.B.7. Fine finishing of the subbase for acceptability of areas to be lined.

4.5.e.2. The Q.A./Q.C. inspector must inspect those aspects of the liner system including, but not limited to, the following:

4.5.e.2.A. Liner material to ensure that the materials being used meet specifications;

4.5.e.2.B. Liner material stockpiling, storage, and handling in a manner that prevents damage;

4.5.e.2.C. Inspections of locations where inlet/outlet structures that penetrate the liner to ensure the compatibility of those structures with respect to the liner;

4.5.e.2.D. Final grades of the liner to ensure that they are within acceptable tolerance;

4.5.e.2.E. Final inspection of the liner for acceptability prior to placement of the protective cover material;

4.5.e.2.F. Installation of the compacted clay component of the liner with respect to the following:

4.5.e.2.F.1. Compaction of the liner to design density at the proper moisture content to achieve the required hydraulic conductivity and the maintenance of the design strength and stability;

4.5.e.2.F.2. Uniformity of compaction;

4.5.e.2.F.3. Compacted lift thickness;

4.5.e.2.F.4. Compacted liner thickness; 4.5.e.2.F.5. Compaction equipment weight, speed, and number of passes;

4.5.e.2.F.6. Moisture content, density, hydraulic conductivity, and field infiltration tests to ensure that they are performed as required; and

4.5.e.2.F.7. Repairs and corrective or remedial action performed as required;

4.5.e.2.G. Synthetic liner component with respect to the following:

4.5.e.2.G.1. Liner panel placement is in accordance with required configuration;

4.5.e.2.G.2. Permanent and temporary anchoring procedures are followed;

4.5.e.2.G.3. Overlap and seam width are in accordance with the design;

4.5.e.2.G.4. The area of seaming is clean and supported;

4.5.e.2.G.5. The uniformity and continuity of seams and welds;

4.5.e.2.G.6. Cap strips are installed on all seams, as applicable;
4.5.e.2.G.7. Qualitative and quantitative field seaming tests are performed as required for imperfections in seams, wrinkles, and fishmouths and that all imperfections are repaired as required; and
4.5.e.2.G.8. Corrective or remedial action taken;
4.5.e.2.H. The Q.A./Q.C. inspector must inspect those aspects of the leachate detection, and leachate collection and protective cover systems including, but not limited to, the following:
4.5.e.2.H.1. Material stockpiling, storage, and handling to prevent damage;
4.5.e.2.H.2. Drainage layer placement;
4.5.e.2.H.3. Thickness of the leachate detection, leachate collection and protective cover zones;
4.5.e.2.H.4. Grain size analyses, relative density and compaction tests are performed as required;
4.5.e.2.H.5. Uniformity of the soil;
4.5.e.2.H.6. Grades and alignments are within acceptable tolerance;
4.5.e.2.H.7. Placement of stone or aggregate around all portions of the pipes in the piping systems;
4.5.e.2.H.8. Proper implementation of actions to protect the piping system and the other components of the liner system from the loads and stresses due to the traffic of backfilling and other equipment; and
4.5.e.2.H.9. Proper placement of the geotextile materials within the leachate detection zone and within the leachate collection and protective cover zone.
4.5.e.2.I. Daily Q.A./Q.C. reports must be prepared by the Q.A./Q.C. inspectors and maintained in a bound log book which must be available at the job site at all times for inspection by the Secretary. All lab reports and field testing results must be signed and dated by the inspector, and must be attached to the log book reports. Each daily log book report must include, but not be limited to, the following:
4.5.e.2.I.1. Identification of project name, location, and date;
4.5.e.2.I.2. Weather conditions prevalent during construction and installation including:
4.5.e.2.I.2.(a) Temperature (daily high and low);
4.5.e.2.I.2.(b) Barometric pressure (high and low);
4.5.e.2.I.2.(c) Wind direction and maximum speed;
4.5.e.2.I.2.(d) Time of each precipitation event; and
4.5.e.2.I.2.(e) Total amount of each precipitation event;
4.5.e.2.I.3. Description and location of construction currently underway;
4.5.e.2.I.4. A listing of all equipment and personnel at work at each unit;
4.5.e.2.I.5. Description and location of areas being tested or observed;
4.5.e.2.I.6. Off-site material received and quality verification documentation;
4.5.e.2.I.7. Calibration of test equipment;
4.5.e.2.I.8. Description and location of remedial action taken; and
4.5.e.2.I.9. Decisions and comments including conversations, directives, and directions for the following:
4.5.e.2.I.9.(a) Acceptance or failure of inspections and tests;
4.5.e.2.I.9.(b) Acceptance or failure of daily work unit performance;
4.5.e.2.I.9.(c) Problems encountered and corrective action taken;
4.5.e.2.I.9.(d) On-going corrective action;
4.5.e.2.I.9.(e) In-field modifications; and
4.5.e.2.I.9.(f) Assessment of overall project quality.

4.5.f. Revegetation Plan.

4.5.f.1. Function of Annual and Biennial Cover Crops. -- On areas where erosion is likely to occur, rapid establishment of vegetative cover is required. Immediate revegetation by the use of seeding and mulching with approved annuals and biennials on such areas must be approved as a means for achieving temporary vegetative cover only.
4.5.f.2. Minimum Requirements of Soil Amendments.

4.5.f.2.A. A minimum of six hundred pounds per acre (600 lb/acre) of 10-20-10 or 10-20-20 fertilizer, or equivalent, must be applied. Fertilizer rates based on soil analyses conducted by a qualified lab may be substituted for the minimum fertilizer rate.

4.5.f.2.B. Lime is required where soil pH is less than 5.5. Lime rates must be such that a standard soil pH of 6.0 is achieved.

4.5.f.2.C. Mulch must be used on all disturbed areas. A list of approved materials and minimum application rates is available from the Secretary.

4.5.f.3. Standards for Evaluating Vegetative Cover.

4.5.f.3.A. Final Revegetation Report. -- The report must be submitted to the Secretary within sixty (60) days after the final cover or cap has been completed and contain the actual acreage planted including the application rates of soil amendments, including fertilizer, lime, mulch, and seeding mixture.

4.5.f.3.B. Time for Inspection. -- Prior to the spring and fall planting seasons, the operator must review all disturbed areas. Those areas that will not be disturbed again must be graded, limed, fertilized, mulched, and seeded. Those areas that have been previously seeded but are deficient of vegetative cover must be reseeded to establish a satisfactory stand of vegetation. Disturbed areas that may sit idle for more than sixty (60) days must be temporarily revegetated.

4.5.f.3.C. Standards for Perennials. -- Standards for legumes and perennial grasses are required to achieve at least a ninety percent (90 percent) ground cover. Substandard areas must not exceed one-quarter acre in size, nor total more than ten percent (10 percent) of the revegetated area.

4.5.g. Miscellaneous.

All facilities must be designed to meet the following requirements:

4.5.g.1. A method of controlling any dust or windblown debris must be included in the facility design. The factors which will be considered by the Secretary when evaluating alternative provisions for controlling dust and windblown debris includes the remoteness of the facility, natural screening and windbreaks, and waste types.

4.5.g.2. Access to the facility must be restricted through the use of fencing, natural barriers, or other methods approved in writing by the Secretary.

4.5.g.3. The facility must be designed so that final grades in each phase are reached as soon as possible and the open area used for refuse filling is minimized.

4.5.g.4. The grade of the surface of the facility must not be less than three percent (3 percent) or more than twenty-five percent (25 percent) unless otherwise approved by the Secretary as a part of the issued permit.

4.5.g.5. Long slopes must incorporate runoff control measures and terracing in order to minimize erosion. For sites having a natural slope greater than twenty-five percent (25 percent), a slope up to thirty-three percent (33 percent) may be considered acceptable if terracing is incorporated at least every twenty (20) ft of vertical distance with runoff control.

4.5.g.6. All facilities which may obstruct flight patterns to instrument approach airports must follow Federal Aviation Administration guidelines in designing intermediate and final grades;\.

4.5.g.7. A permittee storing waste must provide a sufficient number of containers to contain solid waste generated during periods between regularly scheduled collections.

4.5.g.8. An individual container or bulk container used for the storage of solid waste must have the following characteristics:

4.5.g.8.A. The container must be constructed to be easily handled for collection; and

4.5.g.8.B. The container must be corrosion resistant and compatible with waste to be stored.

4.5.g.9. An individual container or bulk container used for the storage of putrescible solid waste must also have the following characteristics:

4.5.g.9.A. The container must be equipped with a tight fitting lid or cover, or otherwise sealed; and

4.5.g.9.B. The container must be watertight, leak proof, insect proof, and rodent proof.

4.5.g.10. A permittee that stores waste outside of containers must tie the wastes securely in bundles of a size that can be readily handled for collection, and in a manner that minimizes litter, safety hazards, and fire hazards.

SECTION 10

STORAGE TANK MANAGEMENT

West Virginia Supplement, January 2010

This Section covers the state requirements for Storage Tank Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

West Virginia adopts and incorporates by reference the provisions contained in 40 C.F.R. Part 280 as published in the Code of Federal Regulations on May 1, 2007, with the following exceptions (WVSCR 33-30-2) [Revised January 2009]:

1. The definition of "implementing agency" that appears in 40 C.F.R. 280.12 shall not apply and shall be replaced by "the West Virginia department of environmental protection."
2. The provisions contained in 40 C.F.R. 280.20(e) shall not apply and WVCSR 33-30-3 applies in lieu thereof
3. The provisions contained in 40 C.F.R. 280.22 shall not apply and WVCSR 33-30-4 applies in lieu thereof
4. The phrase "section 9005 of Subtitle I of the Resource Conservation and Recovery Act, as amended" that appears in 40 C.F.R. 280.34 shall not apply and shall be replaced by the phrase "W. Va. Code §22-17-13"
5. The provisions contained in 40 C.F.R. 280.34(a)(1) shall not apply and shall be replaced by " (1) notification in accordance with the provisions of WVCSR 33-30-4"
6. The provisions contained in appendices II and III of 40 C.F.R. Part 280 shall not apply.

Definitions

- *Actual Emissions* - the quantity of VOCs emitted from a source during a particular time period (West Virginia Code of State Regulations (WVCSR) 45-21-2).
- *ASTM* - American Society for Testing and Materials (WVCSR 45-21-2).
- *Administrator* - the Administrator of the USEPA (WVCSR 45-14-2).
- *Annual Fuel or Process Throughput Rate* - the actual or estimated annual fuel usage or process operating rate (WVCSR 45-29-2).
- *Bulk Gasoline Plant* - a gasoline storage and distribution facility with an average daily throughput of 76,000 L (20,000 gal) of gasoline or less on a 30-day rolling average (WVCSR 45-21-2).
- *Bulk Gasoline Terminal* - a gasoline storage facility that receives gasoline from refineries, delivers gasoline to bulk gasoline plants or to commercial or retail accounts, and has a daily throughput of more than 76,000 L (20,000 gal) of gasoline on a 30-day rolling average (WVCSR 45-21-2).
- *Capture Efficiency* - the weight per unit time of VOC entering a capture system and delivered to a control device divided by the weight per unit time of total VOC generated by a source of VOC, expressed as a percentage (WVCSR 45-21-2).
- *Capture System* - all equipment (including, but not limited to, hoods, ducts, fans, booths, ovens, dryers, etc.) that contains, collects, and transports an air pollutant to a control device (WVCSR 45-21-2).
- *Carbon Adsorber* - an add-on control device which uses activated carbon to adsorb volatile organic compounds from a gas stream (WVCSR 45-21-2).

- *Carbon Adsorption System* - a carbon adsorber with an inlet and outlet for exhaust gases and a system to regenerate the saturated adsorbent (WVCSR 45-21-2).

- *Commission* - the West Virginia Air Pollution Control Commission (WVCSR 45-21-2).

- *Continuous Vapor Control System* - a vapor control system that treats vapors displaced from tanks during filling on a demand basis without intermediate accumulation (WVCSR 45-21-2).

- *Control Device* - equipment (such as an incinerator or carbon adsorber) used to reduce, by destruction or removal, the amount of air pollutant(s) in an air stream prior to discharge to the ambient air (WVCSR 45-21-2.20).

- *Control System* - a combination of one or more capture system(s) and control device(s) working in concert to reduce discharges of pollutants to the ambient air (WVCSR 45-21-2).

- *Crude Oil* - a naturally occurring mixture that consists of hydrocarbons and/or sulfur, nitrogen, and/or oxygen derivatives of hydrocarbons and that is liquid at standard conditions (WVCSR 45-21-2.22).

- *Director* - the Director of the Division of Environmental Protection or his or her designated representative (WVCSR 45-21-2).

- *Division of Environmental Protection* - that Division of the West Virginia Department of Commerce, Labor and Environmental Resources created by the provisions of West Virginia Code Section 22-1-1, et. seq. (WVCSR 45-21-2).

- *Emission* - the release or discharge, whether directly or indirectly, of VOCs into the ambient air (WVCSR 45-21-2).

- *Excess Emissions* - those emissions in excess of any requirement, standard, or numerical emission limit specified in this regulation (WVCSR 45-21-2).

- *External Floating Roof* - a cover over an open-top storage tank consisting of a double deck or pontoon single deck that rests upon and is supported by the volatile organic liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell (WVCSR 45-21-2).

- *First Attempt at Repair* - to take rapid action for the purpose of stopping or reducing leakage of VOCs to the atmosphere using best practices (WVCSR 45-21-2).

- *Gasoline* - any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kPa (8.15 in. of Mercury [in Hg]) or greater that is used as a fuel for internal combustion engines (WVCSR 45-21-2).

- *Gasoline Tank Truck* - any truck or trailer equipped with a storage tank that is used for the transport of gasoline or vapor from a source of supply to a stationary storage tank at a gasoline dispensing facility, bulk gasoline plant, or bulk gasoline terminal (WVCSR 45-21-2).

- *Intermittent Vapor Control System* - a vapor control system that employs an intermediate vapor holder to accumulate vapors displaced from tanks during filling. The control device treats the accumulated vapors only during automatically controlled cycles (WVCSR 45-21-2).

- *Internal Floating Roof* - a cover or roof in a fixed-roof tank that rests upon or is floated upon the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell (WVCSR 45-21-28).

- *Leak* - a VOC emission indicated by an instrument calibrated according to Method 21 of 40 CFR Part 60, Appendix A using zero air (less than 10 parts ppm of hydrocarbon in air) and a mixture of methane or n- hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane (WVCSR 45-21-2).

- *Liquid-Mounted Seal* - a primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof around the circumference of the tank (WVCSR 45-21-27).

- *Loading Rack* - an aggregation or combination of gasoline loading equipment arranged so that all loading outlets in the combination can be connected to a tank truck or trailer parked in a specified loading space (WVCSR 45-21-2).

- *Lower Explosive Limit or LEL* - the concentration of a compound in air below which a flame will not propagate if the mixture is ignited (WVCSR 45-21-2).

- *Maximum True Vapor Pressure* - the equilibrium partial pressure exerted by a stored liquid at the temperature equal to (WVCSR 45-21-2):
    1. for liquids stored above or below the ambient temperature, the highest calendar-month average of the liquid storage temperature
    2. for liquids stored at the ambient temperature, the local maximum monthly average temperature as reported by the National Weather Service. This pressure shall be determined:
        a. in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss from External Floating Roof Tanks"
        b. by using standard reference texts
        c. by ASTM D2879-83
        d. by any other method approved by the USEPA.

- *Open-Ended Valve or Line* - any valve, except a safety relief valve, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping (WVCSR 45-21-2).

- *Organic Compound* - a chemical compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate (WVCSR 45-21-2).

- *Overall Emission Reduction Efficiency* - the weight per unit time of VOC removed or destroyed by a control device divided by the weight per unit time of VOC generated by a source, expressed as a percentage. The overall emission reduction efficiency is the product of the capture efficiency and the control device destruction or removal efficiency (WVCSR 45-21-2).

- *Owner or Operator* - any person who owns, leases, controls, operates, or supervises a facility, a source, or air pollution control or monitoring equipment (WVCSR 45-21-2).

- *Perceptible Leaks* - any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of liquid, open containers of solvent, or solvent-laden waste standing open to the atmosphere (WVCSR 45-21-35).

- *Person* - any and all persons, natural or artificial, including any municipal, public or private corporation organized or existing under the law of this or any other state or country and any firm, partnership, or association of whatever nature (WVCSR 45-3-2).

- *Petroleum Liquid* - crude oil, condensate, and any finished or intermediate product manufactured or extracted at a petroleum refinery, but not including Nos. 2 through 6 fuel oils as specified in ASTM D396-78; gas turbine fuel oils Nos. 2-GT through 4-GT as specified in ASTM D2880- 78; or diesel fuel oils Nos. 2-D and 4-D, as specified in ASTM D975-78 (WVCSR 45-21-2).

- *Petroleum Refinery* - any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through the redistillation, cracking, or reforming of unfinished petroleum derivatives (WVCSR 45-21-2).

- *Petroleum Solvent Cartridge Filtration System* - a process in which soil-laden solvent is pumped under pressure from a washer through a sealed vessel containing filter cartridges that remove entrained solids and impurities from the solvent (WVCSR 45-21-35).

- *Pressure Release* - the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device (WVCSR 45-21-2).

- *Reid Vapor Pressure* - the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids, except liquefied petroleum gases, as determined by American Society for Testing and Materials, D323-72 (WVCSR 45-21-2).

- *Source* - any building, structure, equipment, or installation that directly or indirectly releases or discharges, or has the potential to release or discharge, VOCs into the ambient air (WVCSR 45-21-2).

- *Submerged Fill* - the method of filling a gasoline tank truck or storage vessel where product enters within 150 mm (5.9 in.) of the bottom of the tank truck or storage vessel. Bottom filling of tank trucks and storage vessels is included in this definition (WVCSR 45-21-2).

- *True Vapor Pressure* - the equilibrium partial pressure exerted by a volatile organic liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss from Floating Roof Tanks," second edition, February 1980 (WVCSR 45-21-2).

- *Vapor Balance System* - a closed system that allows the transfer or balancing of vapors, displaced during the loading or unloading of gasoline, from the tank being loaded to the tank being unloaded (WVCSR 45-21-2).

- *Vapor Collection System* - all piping, seals, hoses, connections, pressure-vacuum vents, and other equipment between the gasoline tank truck and the vapor processing unit and/or the storage tanks and vapor holder (WVCSR 45-21-2).

- *Vapor Control System* - a system that limits or prevents release to the atmosphere of organic compounds in the vapors displaced from a tank during the transfer of gasoline (WVCSR 45-21-2).

- *Vapor-Mounted Seal* - a primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof (WVCSR 45-21-27).

- *Vapor Recovery System* - a vapor gathering system capable of collecting VOC vapors and gases emitted during the operation of any transfer, storage, or process equipment (WVCSR 45-21-2).

- *Vapor-Tight* - equipment that allows no loss of vapors. Compliance with vapor-tight requirements can be determined by checking to ensure that the concentration at a potential leak source is not equal to or greater than 100 percent of the lower explosive limit (LEL) when measured with a combustible gas detector, calibrated with propane, at a distance of 2.54 cm (1 in.) from the source (WVCSR 45-21-2).

- *Vapor-Tight Gasoline Tank Truck* - a gasoline tank truck that has demonstrated within the 12 preceding months that its product delivery tank will sustain a pressure change of not more than 75 mm (3.0 in.) of water within 5 min after it is pressurized to 450 mm (18 in.) of water; or when evacuated to 150 mm (5.9 in.) of water, the same tank will sustain a pressure change of not more than 75 mm (3.0 in.) of water within 5 min. This capability is to be demonstrated using the test procedures specified in Method 27 of Appendix A of 40 CFR Part 60 (WVCSR 45-21-2).

- *Waxy, Heavy-Pour Crude Oil* - crude oil with a pour point of 10 ^{o}C (50 ^{o}F) or higher as determined by the American Society for Testing and Materials Standard D 97-66, "Test for Pour Point of Petroleum Oils" (WVCSR 45-21-27).

STORAGE TANK MANAGEMENT GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS	
	REFER TO CHECKLIST ITEMS:
Missing Checklist Items	ST.2.1.WV.
Aboveground Storage Tanks	ST.5.1.WV.
Emissions/Discharges from Bulk Gasoline Terminals	ST.10.1.WV. through ST.10.14.WV.
Emissions/Discharges from POL Storage Vessels	ST.15.1.WV. through ST.15.10.WV.
UST State-Specific	ST.30.1.WV. through ST.30.9.WV.
New or Upgraded USTs	ST.35.1.WV. and ST.35.2.WV.

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
ST.2. **MISSING CHECKLIST ITEMS**	
ST.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
ST.5. **ABOVEGROUND STORAGE TANKS**	
ST.5.1.WV. Aboveground storage tanks at industrial establishments must have secondary containment (WVCSR 47-58-2 and 47-58-4.8.a) [Added February 1998; Citation Revised January 2009].	Verify that aboveground storage tanks at industrial establishments have secondary containment that is appropriate considering the potential to contaminate groundwater. Verify that the secondary containment is adequately designed and constructed to contain the materials for long enough to allow removal and disposal without additional contamination of groundwater (in no case will that time be less than 72 h). (NOTE: "Industrial establishment" includes any mill, factory, tannery, paper or pulp mill, mine, colliery, breaker or mineral processing operation, quarry, refinery, electric power generating facility, well, and each and every industry or plant or works, or activity in the operation or process of which industrial wastes, sewage, or other wastes are produced. Furthermore, any facility or activity not set forth above may be subject to any or all of the requirements of this rule at the Director's discretion. This definition does not include private or publicly owned sewage treatment operations.)

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
ST.10. **EMISSIONS/ DISCHARGES FROM BULK GASOLINE TERMINALS**	
ST.10.1.WV. Bulk gasoline plants must comply with vapor balance system requirements (WVCSR 45-21-1.1, 45-21-21.1.b, 45-21-21.2.a and 2. b) [Revised January 2004; Citation Revised January 2009].	(NOTE: All of the checklist items in section ST.10. (based on Regulation 21, Title 45) apply to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The following are exempt from these requirements: - any stationary storage tank of 2082 L (550 gal) capacity or less - any bulk gasoline plant with an average daily throughput of gasoline of less than 15,000 L (4000 gal) on a 30-day rolling average, provided that records are maintained according to the requirements in ST.10.5.WV.) Verify that each bulk gasoline plant is equipped with a vapor balance system between the gasoline storage vessel and the incoming gasoline tank truck designed to capture and transfer vapors displaced during filling of the gasoline storage vessel. Verify that these lines are equipped with fittings that are vapor tight and that automatically and immediately close upon disconnection. Verify that each bulk gasoline plant is equipped with a vapor balance system between the gasoline storage vessel and the outgoing gasoline tank truck designed to capture and transfer vapors displaced during the loading of the gasoline tank truck. Verify that the vapor balance system is designed to prevent any vapors collected at one loading rack from passing to another loading rack.
ST.10.2.WV. Bulk gasoline plants must comply with operational requirements (WVCSR 45-21-21.2.c.1 through 2. c.6) [Revised February 1998; Revised January 2004; Revised January 2009].	(NOTE: All of the checklist items in section ST.10. (based on Regulation 21, Title 45) apply to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The following are exempt from these requirements: - any stationary storage tank of 2082 L (550 gal) capacity or less - any bulk gasoline plant with an average daily throughput of gasoline of less than 15,000 L (4000 gal) on a 30-day rolling average, provided that records are maintained according to the requirements in ST.10.5.WV.) Verify that each owner/operator of a bulk gasoline plant acts to ensure that the following procedures are followed during all loading, unloading, and storage

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	operations: - the vapor balance system is connected between the tank truck and storage vessel during all gasoline transfer operations - all storage vessel openings, including inspection hatches and gauging and sampling devices, are vapor tight when not in use - the gasoline tank truck compartment hatch covers are not opened during the gasoline transfer - all vapor balance systems are designed and operated at all times to prevent gauge pressure in the gasoline tank truck from exceeding 450 mm (18 in.) of water and vacuum from exceeding 150 mm (5.9 in.) of water during product transfers - no pressure vacuum relief valve in the bulk gasoline plant vapor balance system begins to open at a system pressure of less than 450 mm (18 in.) of water or at a vacuum of less than 150 mm (5.9 in.) of water - all product transfers involving gasoline tank trucks at bulk gasoline plants are limited to vapor-tight gasoline tank trucks.
ST.10.3.WV. All bulk gasoline plants, including those otherwise exempt, must comply with specific operational requirements (WVCSR 45-21-21.2.c.7 through 2. c.9) [Revised February 1998].	(NOTE: All of the checklist items in section ST.10. (based on Regulation 21, Title 45) apply to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that all bulk plants, including those exempted at the beginning of this section, comply with the following requirements: - filling of storage vessels is restricted to submerged fill - loading of outgoing gasoline tank trucks is limited to submerged fill - owners/operators of bulk gasoline plants or owners/operators of tank trucks observe all parts of the transfer and discontinue transfer if any leaks are observed.
ST.10.4.WV. Vapor balance systems must comply with inspection and repair requirements (WVCSR 45-21-21.2.d) [Revised January 2004; Revised January 2009].	(NOTE: All of the checklist items in section ST.10. (based on Regulation 21, Title 45) apply to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The following are exempt from these requirements: - any stationary storage tank of 2082 L (550 gal) capacity or less - any bulk gasoline plant with an average daily throughput of gasoline of less than 15,000 L (4000 gal) on a 30-day rolling average, provided that records are maintained according to the requirements in ST.10.5.WV.) Verify that each calendar month, vapor balance systems and each loading rack handling gasoline are inspected for liquid or vapor leaks during gasoline transfer operations. (NOTE: For purposes of this checklist item, detection methods incorporating

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	sight, sound, or smell are acceptable.) Verify that each leak that is detected is repaired within 15 calendar days after it is detected.
ST.10.5.WV. Bulk gasoline plants must have a pressure measurement device to ensure compliance (WVCSR 45-21-21.3) [Revised January 2004; Revised January 2009].	(NOTE: All of the checklist items in section ST.10. (based on Regulation 21, Title 45) apply to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The following are exempt from these requirements: - any stationary storage tank of 2082 L (550 gal) capacity or less - any bulk gasoline plant with an average daily throughput of gasoline of less than 15,000 L (4000 gal) on a 30-day rolling average, provided that records are maintained according to the requirements in ST.10.5.WV.) Verify that a pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument) capable of measuring 500 mm (20 in.) of water gauge pressure within a plus or minus 2.5 mm (0.098 in.) of water precision, is calibrated and installed on the bulk gasoline plant vapor balance system at a pressure tap, located as close as possible to the connection with the gasoline tank truck.

ST.10.6.WV.
Owners/operators of bulk gasoline plants must comply with recordkeeping requirements (WVCSR 45-21-21.4) [Revised January 2004; Revised January 2009; Revised January 2009].
	(NOTE: All of the checklist items in section ST.10. (based on Regulation 21, Title 45) apply to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The following are exempt from these requirements:
	
	- any stationary storage tank of 2082 L (550 gal) capacity or less
	- any bulk gasoline plant with an average daily throughput of gasoline of less than 15,000 L (4000 gal) on a 30-day rolling average, provided that records are maintained according to the requirements in ST.10.5.WV.)
	
	Verify that the owner/operator of a bulk gasoline plant maintains the following records in a readily accessible location for at least 3 yr and makes these records available to the Director upon verbal or written request.
	
	- daily records showing the quantity of all gasoline loaded into gasoline tank trucks
	- a record of each monthly leak inspection, including, at a minimum, the following information:
	  - date of inspection
	  - findings (may indicate no leaks discovered or location, nature, and severity of each leak)
	  - leak determination method
	  - corrective action (date each leak repaired; reasons for any repair interval in excess of 15 days)
	  - inspector name and signature.

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
ST.10.7.WV. Owners/operators of bulk gasoline plants must comply with reporting requirements (WVCSR 45-21-21.5, 45-21-5.1, and 45-21-5.2) [Revised January 2004; Revised January 2009; Revised January 2009].	(NOTE: All of the checklist items in section ST.10. (based on Regulation 21, Title 45) apply to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The following are exempt from these requirements: - any stationary storage tank of 2082 L (550 gal) capacity or less - any bulk gasoline plant with an average daily throughput of gasoline of less than 15,000 L (4000 gal) on a 30-day rolling average, provided that records are maintained according to the requirements in ST.10.5.WV.) Verify that the owner/operator of any bulk plant submits to the Director an initial compliance certification by 31 May 1994. Verify that the owner/operator of a bulk plant, for each occurrence of excess emissions expected to last more than 7 days, supplies the Director by letter with the following information within 1 business day of becoming aware of such occurrence: - the name and location of the facility - the subject sources that caused the excess emissions - the time and date of first observation of the excess emissions - the cause and expected duration of the excess emissions - the proposed corrective actions and schedule to correct the conditions causing the excess emissions.
ST.10.8.WV. Bulk gasoline terminal loading racks must comply with vapor collection requirements (WVCSR 45-21-22.1, 22.2.a and 22.2.b).	(NOTE: This checklist item applies to loading racks at any bulk gasoline terminal which deliver liquid product into gasoline tank trucks located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that each loading rack at a bulk gasoline terminal is equipped with a vapor collection system designed to collect the total VOC vapors displaced from tank trucks during product loading. Verify that each vapor collection system is designed to prevent any VOC vapors collected at one loading rack from passing to another loading rack.
ST.10.9.WV. Loading of gasoline can only occur into vapor-tight gasoline trucks and must comply with certain procedures (WVCSR 45-21-22.2.c through e) [Revised February 1998; Revised	(NOTE: This checklist item applies to loading racks at any bulk gasoline terminal which deliver liquid product into gasoline tank trucks located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that loading of liquid product into gasoline tank trucks is limited to vapor-tight gasoline tank trucks using the following procedures:

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
January 2009].	- the owner/operator obtains the vapor tightness documentation for each gasoline tank truck that is to be loaded at the bulk gasoline terminal loading rack - the owner/operator requires the tank identification number to be recorded as each gasoline tank truck is loaded at the terminal - the owner/operator cross-checks each tank identification number with the file of tank vapor tightness documentation within 2 weeks after the tank is loaded - the terminal owner/operator notifies the owner/operator of each non-vapor-tight gasoline tank truck loaded at the bulk gasoline terminal loading rack that the truck is not vapor tight within 3 weeks after the loading has occurred - the terminal owner/operator takes steps to assure that the non-vapor-tight gasoline tank truck will not be reloaded at the bulk gasoline terminal loading rack until vapor tightness documentation for that tank is obtained. Verify that loadings of gasoline tank trucks at the bulk gasoline terminal loading rack are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system. Verify that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the bulk gasoline terminal loading racks.
ST.10.10.WV. Vapor collection and loading equipment must comply with pressure limitation requirements (WVCSR 45-21-22.2.f and 2.g) [Revised January 2009].	(NOTE: This checklist item applies to loading racks at any bulk gasoline terminal which deliver liquid product into gasoline tank trucks located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that the vapor collection and liquid loading equipment are designed and operated to prevent gauge pressure in the delivery tank from exceeding 4500 Pa (450 mm of water) during product loading. Verify that no pressure-vacuum vent in the bulk gasoline terminal's vapor collection system begins to open at a system pressure less than 4500 Pa (450 mm of water).
ST.10.11.WV. Vapor collection systems must meet certain inspection and emissions requirements (WVCSR 45-21-22.2.h and 2.i) [Revised January 2009].	(NOTE: This checklist item applies to loading racks at any bulk gasoline terminal which deliver liquid product into gasoline tank trucks located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that each calendar month, the vapor collection system, the vapor control system, and each loading rack handling gasoline are inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. (NOTE: For purposes of this checklist item, detection methods incorporating sight, sound, or smell are acceptable.)

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Verify that each detection of a leak is recorded and the source of the leak repaired within 15 calendar days after it is detected. Verify that the total organic compounds emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks do not exceed 80 mg/L (4.7 gr/gal) of gasoline loaded.
ST.10.12.WV. Outgoing gasoline trucks must be loaded using submerged fill (WVCSR 4 5-21-22.2.j) [Revised January 2009].	(NOTE: This checklist item applies to loading racks at any bulk gasoline terminal which deliver liquid product into gasoline tank trucks located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that loading of outgoing gasoline tank trucks is restricted to the use of submerged fill.
ST.10.13.WV. Bulk gasoline terminals must comply with recordkeeping and reporting requirements (WVCSR 4 5-21-22.4) [Revised January 2009].	(NOTE: This checklist item applies to loading racks at any bulk gasoline terminal which deliver liquid product into gasoline tank trucks located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that the tank truck vapor tightness documentation is kept on file at the terminal in a permanent form available for inspection. Verify that the documentation file for each gasoline tank truck is updated at least once per year to reflect current test results as determined by Method 27 of 40 CFR 60, Appendix A, including, as a minimum, the following information: - test title: Gasoline Delivery Tank Pressure Test--EPA Reference Method 27 - tank owner and address - tank identification number - testing location - date of test - tester name and signature - witnessing inspector, if any: Name, signature, and affiliation - test results: Actual pressure change in 5 min, mm of water (average for 2 runs). Verify that a record of each monthly leak inspection is kept on file at the terminal, including, as a minimum, the following information: - date of inspection - findings (may indicate no leaks discovered or location, nature, and severity of each leak) - leak determination method - corrective action (date each leak repaired, reasons for any repair interval in excess of 15 days) - inspector name and signature.

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that the terminal keeps documentation of all notifications on file at the terminal. Verify that daily records are maintained of gasoline throughput. Verify that a bulk gasoline terminal maintains the following records in a readily accessible location for at least 3 yr and makes these records available to the Director upon verbal or written request.
ST.10.14.WV. Bulk gasoline plants with loading racks that dispense liquid product into tanks must comply with reporting requirements (WVCSR 45-21-5.1, 45-21-5.2, and 45-21-21.5) [Revised January 2009].	((NOTE: This checklist item applies to loading racks at any bulk gasoline terminal which deliver liquid product into gasoline tank trucks located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.) Verify that any bulk plant with loading racks that dispense liquid products into tanks submit to the Director an initial compliance certification by 31 May 1994. Verify that the owner/operator of a bulk plant, for each occurrence of excess emissions expected to last more than 7 days, supplies the Director by letter with the following information within 1 business day of becoming aware of such occurrence: - the name and location of the bulk plant - the subject sources that caused the excess emissions - the time and date of first observation of the excess emissions - the cause and expected duration of the excess emissions - the proposed corrective actions and schedule to correct the conditions causing the excess emissions.

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
ST.15. **EMISSIONS/ DISCHARGES FROM POL STORAGE VESSELS**	

ST.15.1.WV. Petroleum liquid storage vessels with external floating roofs must comply with design and operating requirements (WVCSR 45-21-1.1 and 45-21-27.1 and 27.3) [Revised January 2004; Revised January 2009].	(NOTE: This checklist applies to any petroleum liquid storage tank that is equipped with an external floating roof and that has a capacity greater than 150,000 liters (40,000 gallons) located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. This checklist item does not apply to any petroleum liquid storage tank that:
	
	- is used to store waxy, heavy pour crude oil
	- has a capacity less than 1, 600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer
	- contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kPa (1.5 psia) provided that records are kept consistent with the note in ST.15.3.WV.
	- contains a petroleum liquid with a maximum true vapor pressure less than 27.6 kPa (4.0 psia), and:
	  - is of welded construction
	  - presently possesses a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid-filled type seal, or other closure device of demonstrated equivalence approved by the Director and the USEPA
	- is of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).)
	
	Verify that the petroleum liquid storage tank has been fitted with the following:
	
	- a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal)
	- a closure or other device that controls VOC emissions with an effectiveness equal to or greater than a seal and is approved by the Director and the USEPA.
	
	Verify that all seal closure devices meet the following requirements:
	
	- there are no visible holes, tears, or other openings in the seal(s) or seal fabric
	- the seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall
	- for vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (0.125 in.) in width between the secondary seal and the tank wall does not exceed 21.2 cm^2/m (1.0 in^2/ft) of tank diameter.
	
	Verify that all openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are:

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- equipped with covers, seals, or lids in the closed position except when the openings are in actual use - equipped with projections into the tank that remain below the liquid surface at all times. Verify that automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports. Verify that rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting. Verify that emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90 percent of the area of the opening.

ST.15.2.WV. Petroleum liquid storage tanks with external floating roofs must comply with inspection requirements (WVCSR 45-21-27.4) [Revised January 2004; Revised January 2009].	Verify that the owner/operator of a petroleum liquid storage tank with an external floating roof:
	
	- performs routine inspections semi-annually (the inspections include a visual inspection of the secondary seal gap)
	- measures the secondary seal gap annually when the floating roof is equipped with a vapor-mounted primary seal.
	
	(NOTE: This checklist applies to any petroleum liquid storage tank that is equipped with an external floating roof and that has a capacity greater than 150,000 liters (40,000 gallons) located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. This checklist item does not apply to any petroleum liquid storage tank that:
	
	- is used to store waxy, heavy pour crude oil
	- has a capacity less than 1, 600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer
	- contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kPa (1.5 psia) provided that records are kept consistent with the note in ST.15.3.WV.
	- contains a petroleum liquid with a maximum true vapor pressure less than 27.6 kPa (4.0 psia), and:
	  - is of welded construction
	  - presently possesses a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid-filled type seal, or other closure device of demonstrated equivalence approved by the Director and the USEPA
	- is of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).)

ST.15.3.WV. Petroleum	Verify that the owner/operator of any petroleum liquid storage tank with an

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
liquid storage tanks with external floating roofs must comply with recordkeeping requirements (WVCSR 45-21-27.5) [Revised January 2004; Revised January 2009].	external floating roof maintains the following records in a readily accessible location for at least 3 yr and makes copies of the records available to the Director upon verbal or written request: - records of the types of petroleum liquids stored - records of the maximum true vapor pressure of the liquid as stored - records of the results of the inspections. (NOTE: Any tank exempted from this section because it contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kPa (1.5 psia), but that contains a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psi), must maintain the following records in a readily accessible location for at least 3 yr and make copies of the records available to the Director upon verbal or written request: - records of the average monthly storage temperature - records of the type of liquid stored - records of the maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 7.0 kPa (1.0 psia).) (NOTE: This checklist applies to any petroleum liquid storage tank that is equipped with an external floating roof and that has a capacity greater than 150,000 liters (40,000 gallons) located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. This checklist item does not apply to any petroleum liquid storage tank that: - is used to store waxy, heavy pour crude oil - has a capacity less than 1, 600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer - contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kPa (1.5 psia) provided that records are kept consistent with the note in ST.15.3.WV. - contains a petroleum liquid with a maximum true vapor pressure less than 27.6 kPa (4.0 psia), and: - is of welded construction - presently possesses a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid-filled type seal, or other closure device of demonstrated equivalence approved by the Director and the USEPA - is of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).)
ST.15.4.WV. Petroleum tanks with external floating roofs must comply with certain reporting requirements (WVCSR 45-21-5.1, 45-21-5.2, and 45-21-27.7) [Revised January 2004; Citation	Verify that any petroleum liquid storage tank with an external floating roof submits to the Director an initial compliance certification by 31 May 1994. Verify that any petroleum liquid storage tank with an external floating roof, for each occurrence of excess emissions expected to last more than 7 days, supplies the Director by letter with the following information within 1 business day of

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**

Revised January 2009].	becoming aware of such occurrence:
	
	- the name and location of the facility
	- the subject sources that caused the excess emissions
	- the time and date of first observation of the excess emissions
	- the cause and expected duration of the excess emissions
	- the proposed corrective actions and schedule to correct the conditions causing the excess emissions.
	
	(NOTE: This checklist applies to any petroleum liquid storage tank that is equipped with an external floating roof and that has a capacity greater than 150,000 liters (40,000 gallons) located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. This checklist item does not apply to any petroleum liquid storage tank that:
	
	- is used to store waxy, heavy pour crude oil
	- has a capacity less than 1, 600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer
	- contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kPa (1.5 psia) provided that records are kept consistent with the note in ST.15.3.WV.
	- contains a petroleum liquid with a maximum true vapor pressure less than 27.6 kPa (4.0 psia), and:
	  - is of welded construction
	  - presently possesses a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid-filled type seal, or other closure device of demonstrated equivalence approved by the Director and the USEPA
	  - is of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).)

ST.15.5.WV. Petroleum liquid storage tanks with fixed roofs must comply with design and operating requirements (WVCSR 45-21-1.1, 45-21-28.1 and 28.3) [Revised January 2004, Revised January 2009].	(NOTE: This checklist item applies to any fixed roof petroleum liquid storage tank with a capacity greater than 150, 000 L (40,000 gal) located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. This checklist item does not apply to any petroleum liquid storage tank that: - has a capacity of less than 1,600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer - is a horizontal UST used to store JP-4 jet fuel - contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kPa (1.5 psia), provided that records are maintained consistent with the note in ST.15.7.WV.) Verify that the petroleum liquid storage tank is equipped with either: - an internal floating roof equipped with a closure seal or seals to close the space between the roof edge and tank wall - an equally effective alternative control, approved by the Director and the

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	USEPA. Verify that the tank is maintained so that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials. Verify that all openings, except stub drains, are equipped with covers, lids, or seals so that: - the cover, lid, or seal is in the closed position at all times except when in actual use - automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports - rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.
ST.15.6.WV. Petroleum liquid storage tanks with fixed roofs must comply with specific inspection requirements (WVCSR 45-21-28.4) [Revised January 2004; Revised January 2009].	(NOTE: This checklist item applies to any fixed roof petroleum liquid storage tank with a capacity greater than 150,000 L (40,000 gal) located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. This checklist item does not apply to any petroleum liquid storage tank that: - has a capacity of less than 1,600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer - is a horizontal UST used to store JP-4 jet fuel - contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kPa (1.5 psia), provided that records are maintained consistent with the note in ST.15.7.WV. Verify that the owner/operator of a petroleum liquid storage tank with a fixed roof performs routine, semi-annual, visual inspections of the internal floating roof and its closure seal or seals through roof hatches. Verify that the owner/operator of a petroleum liquid storage tank with a fixed roof performs a complete inspection of cover and seal whenever the tank is emptied for non-operational reasons or at least every 5 yr, whichever is more frequent.
ST.15.7.WV. Petroleum liquid storage tanks with fixed roofs must comply with recordkeeping requirements (WVCSR 45-21-28.5) [Revised January 2004; Revised January 2009].	(NOTE: This checklist item applies to any fixed roof petroleum liquid storage tank with a capacity greater than 150, 000 L (40,000 gal) located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. This checklist item does not apply to any petroleum liquid storage tank that: - has a capacity of less than 1,600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer - is a horizontal UST used to store JP-4 jet fuel - contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kPa (1.5 psia), provided that records are maintained consistent with the note in ST.15.7.WV.)

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Verify that a petroleum liquid storage tank with a fixed roof maintains the following records in a readily accessible location for at least 3 yr and make copies of the records available to the Director upon verbal or written request: - records of the types of petroleum liquids stored in that tank - records of the maximum true vapor pressure of the liquid as stored - records of the results of the inspections. (NOTE: The owner/operator of a petroleum liquid storage tank with a fixed roof exempted because it contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kPa (1.5 psia), but contains a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psi), must maintain the following records in a readily accessible location for at least 3 yr and make copies of the records available to the Director upon verbal or written request: - records of the average monthly storage temperature - records of the type of liquid stored - records of the maximum true vapor pressure for any petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia).)
ST.15.8.WV. Petroleum tanks with fixed roofs must comply with VOC reporting requirements (WVCSR 45-21-5.1, 45-21-5.2, and 45-21-28.6) [Revised January 2004; Revised January 2009].	((NOTE: This checklist item applies to any fixed roof petroleum liquid storage tank with a capacity greater than 150, 000 L (40,000 gal) located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. This checklist item does not apply to any petroleum liquid storage tank that: - has a capacity of less than 1,600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer - is a horizontal UST used to store JP-4 jet fuel - contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kPa (1.5 psia), provided that records are maintained consistent with the note in ST.15.7.WV.) Verify that an initial compliance certification was sent to the Department by 31 May 1994. Verify that the owner/operator of any petroleum liquid storage tank with an external floating roof, for each occurrence of excess emissions expected to last more than 7 days, supplies the Director by letter with the following information within 1 business day of becoming aware of the occurrence: - the name and location of the facility - the subject sources that caused the excess emissions - the time and date of first observation of the excess emissions - the cause and expected duration of the excess emissions - the proposed corrective actions and schedule to correct the conditions causing the excess emissions.

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**

ST.15.9.WV. Gasoline tank trucks must comply with gasoline vapor collection requirements (WVCSR 45-21-1.1 and 45-21-24.2) [Revised January 2009].	(NOTE: This checklist item applies to any gasoline tank truck equipped for gasoline vapor collection located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. No exemptions are allowable based on number of gasoline tank trucks or total quantity of volatile organic compound (VOC) emissions.)
	
	Verify that all gasoline tank trucks meet the following requirements:
	
	- are vapor-tight gasoline tank truck as demonstrated by Method 27 of Appendix A of 40 CFR 60
	- display a sticker near the Department of Transportation Certification plate that:
	  - shows the date that the tank truck last passed the vapor-tightness test
	  - shows the identification number of the truck tank
	  - expires not more than 1 year from the date of the leak tight test
	- operate with hatches open only during measurement of product level or maintenance.

ST.15.10.WV. Gasoline tank trucks must comply with recordkeeping and reporting requirements (WVCSR 45-21-24.5) [Revised January 2009].	(NOTE: This checklist item applies to any gasoline tank truck equipped for gasoline vapor collection located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. No exemptions are allowable based on number of gasoline tank trucks or total quantity of volatile organic compound (VOC) emissions.) Verify that a gasoline tank truck maintains records of all certification, testing, and repairs. Verify that the records identify the gasoline tank truck, the date of the tests or repair, and, if applicable, the type of repair and the date of retest. Verify that the records are maintained in a legible, readily available condition for at least 3 yr after the date the testing or repair is completed, and are made available to the Director upon written or verbal request. Verify that the records of certification tests contain, at a minimum, the following: - the gasoline tank truck vessel tank identification number - the initial test pressure and the time of the reading - the final test pressure and the time of the reading - the initial test vacuum and the time of the reading - the final test vacuum and the time of the reading - at the top of each report page, the company name and the date and location of the tests on that page - the name and the title of person conducting the test. Verify that a gasoline tank truck certifies and reports to the Director annually that the tank truck has been tested by an applicable method.

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that the certification includes: - the name and address of the company and the name and telephone number of the responsible co mpany representative under whose signature the certification is submitted - a record of the certification test.

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
ST.30. **UST STATE-SPECIFIC**	
ST.30.1.WV. All UST service and installation work must be performed under the supervision of a certified individual (WVCSR 33-30-3.2) [Revised February 1998; Revised January 2002; Revised January 2009].	Verify that underground storage tank system owner and operator ensures that the individual supervising the installation, repair, retrofitting, upgrade, change-in-service, closure, tightness testing or corrosion protection installation, repair, upgrade or testing is certified by the secretary in the applicable class for the activity performed. (NOTE: The certified individual is required to ensure that the underground storage tank system installation, repair, retrofit, upgrade, change-in-service, closure, tightness testing or corrosion protection installation, repair, upgrade or testing is conducted in accordance with all applicable rules, regulations, and policies established by the secretary.)
ST.30.2.WV. Certain UST activities require the onsite presence at all times of a certified individual (WVCSR 33-30-3.2.a) [Revised February 1998; Revised January 2002; Revised January 2009].	Verify that an individual who holds a current certificate issued by the Secretary is present at all times during: - the installation process involving the preparation of the excavation immediately prior to receiving backfill and the tank - setting of the tank and the piping (including placement of any anchoring devices), backfilling to the level of the tank - strapping - anytime during the installation in which piping components are connected, installation of corrosion protection either galvanic or impressed current when anodes are installed, electrical connections are made to the tank and anodes - when the corrosion protection system is energized - all testing of the underground storage tank and piping performed during the installation - completion of the backfill and filling of the excavation - installation of release detection devices within the excavation zone - the tightness testing of tanks and/or piping - the change-in-service or closure process involving the process of vapor removal, purging, inserting, cleaning and all subsurface sample collection events - the testing of a corrosion protection system either galvanic or impressed current. Verify that an individual who holds a current certificate issued by the Director is present at all times during: - the repair, retrofitting or up grading process involving the excavation of existing tanks and/or piping - the actual performance of repairs to the tank and/or piping - anytime during the process when components of the piping are connected

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	- anytime during the repair process when the tank and/or associated piping are tested and at anytime during the process when equipment is connected to the tank and/ or piping.
ST.30.3.WV. The certified individual must be certified in the appropriate category (WVCSR 33-30-3.3) [Revised February 1998 ; Revised January 2009].	Verify that the certified individual has the appropriate UST system certificates issued by the Secretary with the following categories: - a class A certificate will allow the individual certified to install, repair, retrofit or upgrade an UST system - a class B certificate will allow the individual certified to perform a change-in-service or close an UST system - a class C certificate will allow the individual certified to perform tank and/or piping tightness testing and to perform minor repairs and to disconnect and reconnect piping and equipment to an UST system as is necessary to perform the tightness test - a class D certificate will allow the individual certified to install, repair, test or upgrade corrosion protection systems either galvanic or impressed current on an underground storage tank system - a class E certificate will allow the individual certified to conduct routine tests, system maintenance, and routine inspections on corrosion protection systems either galvanic or impressed current on an underground storage tank system. (NOTE: All certificates and certificate renewals expire December 31 of every second year.)
ST.30.4.WV. Certified individuals must carry an identification card (WVCSR 33-30-3.6) [Revised February 1998; Revised January 2009].	Verify that an individual who holds a current certificate presents his or her identification card upon request.
ST.30.5.WV. Owners/ operators must notify the Director of the existence of USTs (WVCSR 33-30-4.1 and 4 .2) [Revised February 1998; Revised January 2009].	Verify that the owner/operator of a UST system submits a notice of the existence of such tank system to the Secretary by completing the prescribed form. (NOTE: The owner/operator of an UST system that was in the ground prior to 1 May 1990, is exempt from the notification requirements if notice was previously given to the Secretary in accordance with the provisions of the federal Hazardous and Solid Waste Amendments of 1984.) (NOTE: The owner/operator of an UST system that was removed from the ground on or before 8 May 1986, is exempt from the notification requirements.) Verify that all owners and operators of underground storage tank systems installed on or after December 22, 1988, provide the secretary, notification of compliance

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	with the following requirements: - for underground storage tank systems installed on or after December 22, 1988, and before January 1, 1995, installation of tanks and piping as certified under section XI of the form - for underground storage tank systems installed on or after January 1, 1995, installation of tanks and piping by an individual certified by the secretary - cathodic protection of steel tanks and piping in accordance with the provisions of 40 C.F.R. 280.20(a) and 280.20(b) - spill and overfill prevention equipment in accordance with the provisions of 40 C.F.R. 280.20(c)) - release detection in accordance with the provisions of 40 C.F.R. 280.41 and 280.42.
ST.30.6.WV. Installation of new USTs requires prenotification (WVCSR 33-30-4.3) [Revised February 1998; Revised January 2009].	Verify that all owners/operators of UST systems notify the Secretary in writing at least 30 days prior to beginning the installation. (NOTE: The 30 days time period may be waived when such action is in response to a release from an existing UST system on the site.)
ST.30.7.WV. All UST installations after 22 December 1988 must be certified (WVCSR 33-30-4.4 and 4.5) [Revised February 1998; Revised January 2009].	Verify that all owners and operators of UST systems ensure that: - when the system was installed on or after 22 December 1988, and before 1 January 1995, the installer certifies, in the notification form, that the methods used to install the tanks and piping comply with the requirements of 40 CFR 280.20(d) - when the system was installed on or after 1 January 1995, the installation of tanks and piping was performed by an individual certified by the Secretary, and the installer certifies in the notification form that the methods used to install the tanks and piping comply with the requirements of 40 CFR 280.20(a) through (d)). (NOTE: An owner or operator may provide notice for several tanks by using one notification form, but an owner of tanks located at more than one place of operation must file a separate notification form for each separate place of operation.)
ST.30.8.WV. Change of status for a UST must be reported to the Director (WVCSR 33-30-4.7) [Revised February 1998; Revised January 2009].	Verify that the owner/operator reports changes in the status of any UST system by completing a new notification form and then submitting that form to the Secretary by 31 December of the year in which the change of status occurred.

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
ST.30.9.WV. Product deliverers must not deliver product into a UST unless the owner is certified to be in compliance (WVCSR 33-30-6.1 through 6.3) [Revised February 1998; Revised January 2009].	Verify that product deliverers, including any person who approves a delivery order or delivers or deposits product into an UST do not deliver product unless the department has certified that the underground storage tank owner or operator is in compliance with the requirements of notification requirements (33 C.S.R. 30 §4)a. Verify that an UST is eligible to receive product when in compliance with the requirements of 40 C.F.R. Part 280: - required spill prevention equipment is installed and properly operated and maintained - required overfill protection equipment is installed and properly operated and maintained - required leak detection equipment is installed and properly operated and maintained - required corrosion protection equipment including a buried metal flexible connector is installed and properly operated and maintained. Verify that product deliverers do not deliver or deposit into an underground storage tank or an underground storage tank owner or operator accept or allow delivery or deposit to an underground storage tank that the department has identified as ineligible to receive product.

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
ST.35. **NEW or UPGRADED USTs**	
ST.35.1.WV. New or replaced UST tanks or piping must have secondary containment (WVCSR 33-30-5.1 and 5.3) [Added January 2009].	Verify that each new or replaced tank or piping connected to any new or replaced tank, including tanks or piping used for emergency power generation, are secondarily contained and monitored for leaks according to the following: - the interstitial space is monitored in compliance with 40 C.F.R. 280.43(g) - the secondary containment system contains regulated substances released from the tank and piping system until they are detected and removed - the secondary containment system prevents the release of regulated substances to the environment at any time during the operational life of the tank and piping system - the secondary containment system is checked for evidence of a release at least every 30 days. (NOTE: The secondary containment requirement applies only to the specific underground storage tank and piping being replaced and not to other underground storage tanks and connected pipes comprising such system. These requirements do not apply to repairs meant to restore an underground storage tank, piping, or dispenser to operating condition.) (NOTE: The above requirements do not apply to suction piping that meets the requirements of 40 C.F.R. 280.41(b)(2)(I) or to piping that manifolds two or more tanks together.)
ST.35.2.WV. New or replaced motor fuel dispenser systems must have secondary containment (WVCSR 33-30-5.2) [Added January 2009].	Verify that new or replaced motor fuel dispensers have under-dispenser containment. Verify that the motor fuel dispenser system includes the equipment necessary to connect the system to the underground storage tank system such as check valves, shear valves, unburied risers or flexible connectors, or other transitional components that are beneath the dispenser and connect the dispenser to the underground piping. Verify that the secondary containment meets the following: - is liquid-tight on its sides, bottom, and at any penetration - is compatible with the substance conveyed by the piping - allows for visual inspection and access to the components in the containment system, be monitored or both - is liquid-tightness tested every three years.

SECTION 11

TOXIC SUBSTANCES MANAGEMENT

West Virginia Supplement, January 2010

This section covers the state requirements for Toxic Substances Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

NOTES:

The following Federal standards, which are in effect as of 19 August 1996, are applicable to asbestos abatement activities (West Virginia Code of State Regulations, Title 64, Series 45, Section 16 (WVCSR 64-63-11)) [Revised January 1999]:

- USEPA: Asbestos-Containing Materials in Schools, 40 CFR Part 763, Subpart E
- USEPA: Friable Asbestos Containing Materials in Schools, 40 CFR Part 763, Subpart F
- USEPA: Asbestos Abatement Projects, 40 CFR Part 763, Subpart G
- USEPA: National Emission Standards for Hazardous Air Pollution, 40 CFR Part 61, Subpart M
- OSHA: Occupational Health and Environmental Controls--Asbestos, 29 CFR, Part 1926, Subpart D § 1926.1101
- 15 U.S.C. 2646, Toxic Substances Control Act, Section 206.

The following Federal standards are applicable to lead abatement activities (WVCSR 64-45-16) [Added January 1999; Revised February 2000; Revised January 2007]:

- USEPA: Lead; Requirements for Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities; Final Rule, 40 CFR Part 745.227 (January 5, 2001)
- OSHA: Lead Exposure in Construction; Interim Final Rule. 29 CFR 1926.62 (4 May 1993)
- HUD: Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (June 1995)
- EPA: Lead; Requirements for Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities; Final Rule. 40 CFR Part 745.225 (b),(c),(d),(e),(f),(g),(h),(i).

The following are exempt for notification and licensing requirements for lead abatement (West Virginia Code (WVC) 16-35-7)

- Homeowners performing lead abatement or interim abatement controls on their single unit owner-occupied housing are exempt from the requirements of this article
- Abatement does not include renovation, remodeling, landscaping or other activities, when the purpose of such activities are not intended to permanently eliminate lead-based paint hazards, but, instead, are designed to repair, restore or remodel a given structure or dwelling, even though these activities may incidentally result in a reduction or elimination of lead-based paint hazards. Abatement also does not include interim controls, operations and maintenance activities, or other measures and activities designed to temporarily, but not permanently reduce lead-based paint hazards.
- The provisions of this article do not apply to lead-hazard reduction activities or to persons performing such activities when such activities are performed wholly within or on an industrial facility and are performed by persons who are subject to the training requirements of OSHA: Provided, That the provisions of this article do apply to any child-occupied building or area such as a child day care center located at an industrial facility.

Definitions:

- *Abatement* - any measure or set of measures designed to permanently eliminate lead-based paint hazards. Abatement includes, but is not limited to (WVCSR 64-45-3) [Added January 1999]:
  1. the removal of lead-based paint and lead-contaminated dust, the permanent containment or encapsulation of lead-based paint, the replacement of lead-painted surfaces or fixtures, and the removal or covering of lead contaminated soil
  2. all preparation, cleanup, disposal, and post-abatement clearance testing activities associated with such measures
  3. projects for which there is a written contract to permanently eliminate lead-based paint hazards from a dwelling unit or child-occupied building
  4. projects involving the permanent elimination of lead-based paint or lead contaminated soil
  5. projects involving the permanent elimination of lead-based paint hazards or lead contaminated soil that are conducted by persons who advertise or hold themselves out to conduct lead related activities
  6. projects involving the permanent elimination of lead-based paint hazards that are conducted in response to federal, state or local abatement orders.

  (NOTE: Abatement does not include renovation, remodeling, landscaping or other activities, when the purpose of such activities is not intended to permanently eliminate lead-based paint hazards, but, instead, are designed to repair, restore or remodel a given structure or dwelling, even though these activities may incidentally result in a reduction or elimination of lead-based paint hazards. Abatement also does not include interim controls, operations and maintenance activities, or other measures and activities designed to temporarily, but not permanently, reduce lead-based paint hazards (WVCSR 64-45-12.2) [Added January 1999].)

- *Asbestos* - the asbestiform varieties of chrysotile (serpentine), crocidolite (riebeckite), amosite (cummingtonite-grunerite), anthophyllite, tremolite, and actinolite (WVCSR 64-63-2) [Revised January 1999].

- *Asbestos Abatement* - procedures to control fiber release from asbestos-containing materials (WVCSR 64-63-2) [Revised January 1999].

- *Asbestos Abatement Project* - an activity involving the repair, removal, enclosure, or encapsulation of asbestos-containing material: Provided, That the removal of less than 3 ft^2 or 3 linear feet of asbestos-containing materials required in the performance of a maintenance activity not intended solely as asbestos abatement is not considered to be an asbestos abatement project (WVCSR 64-63-2) [Added January 1999].

- *Asbestos Abatement Project Designer (or Asbestos Project Designer)* - a person who specifies engineering methods and work practices to be used during asbestos abatement projects (WVCSR 64-63-2) [Revised January 1999].

- *Asbestos Abatement Supervisor (or Asbestos Supervisor)* - a person responsible for the direction of asbestos abatement projects (WVCSR 64-63-2) [Revised January 1999].

- *Asbestos-Containing Material* - any material or product which contains more than one percent asbestos by weight (WVCSR 64-63-2) [Revised January 1999].

- *Asbestos Contractor* - a person who enters into contract for a project for asbestos abatement (WVCSR 64-63-2) [Revised January 1999].

- *Asbestos Inspector* - a person employed to inspect for the presence of asbestos containing materials, evaluate the condition of the materials, and collect samples for asbestos content confirmation (WVCSR 64-63-2) [Revised January 1999].

- *Asbestos Management Planner* - a person employed to interpret survey results, assess hazards, evaluate and select control options, or develop an operation and maintenance plan (WVCSR 64-63-2) [Revised January 1999].

- *Asbestos Worker* - a person who works on an asbestos abatement project (WVCSR 64-63-2) [Revised January 1999].

- *Building or Other Man-Made Structure* - a building or a part of a building, or a group of buildings on the same premises, or any other type of man-made construction, such as a pipeline, barn, shed, trailer, or any appurtenance to a building or other man-made structure project (WVCSR 64-63-2) [Added January 1999].

- *Bulk Sample* - a sample of any material, other than air samples, collected from an existing structure or appurtenance for the purpose of analysis to ascertain whether such material contains asbestos (WVCSR 64-63-2) [Added January 1999].

- *Clearance Air Monitoring* - air monitoring performed after the completion of any asbestos abatement project and prior to the reoccupation of the contained work area by the public and conducted for the purpose of protecting the public from health hazards associated with exposure to asbestos fibers (WVCSR 64-63-2) [Added January 1999].

- *Contained Work Area* - designated rooms, spaces, or other areas where asbestos abatement activities are being performed, including decontamination structures (WVCSR 64-63-2) [Added January 1999].

- *Director* - The director of the division of health of the department of health and human resources or his or her designee (WVCSR 64-63-2) [Added January 1999].

- *Division* - the Division of Health of the Department of Health and Human Resources (64-63-2) [Revised January 1999].

- *Encapsulate* - the application of any material onto any asbestos-containing material to bridge or penetrate the material to prevent fiber release (WVCSR 64-63-2) [Revised January 1999].

- *Enclosure* - the permanent confinement of friable asbestos containing materials with an airtight barrier in an area not used or designed as an air plenum (WVCSR 64-63-2) [Revised January 1999].

- *EPA* - the United States Environmental Protection Agency (WVCSR 64-63-2) [Revised January 1999].

- *Friable* - material which is capable of being crumbled, pulverized, or reduced to powder by hand pressure or which under normal use or maintenance emits or can be expected to emit asbestos fibers into the air, including material normally considered non-friable, which has been or may be rendered friable by the forces acting on the material in the course of demolition or renovation operations (WVCSR 64-63-2) [Revised January 1999].

- *HEPA* (High Efficiency Particulate Air) Filtering System - a filtering system capable of trapping and retaining at 99.97 percent of all monodispersed particles 0.3 micrometers in diameter or larger (WVCSR 64-45-3 and 64-63-2) [Added January 1999].

- *Lead-Based Paint (LBP)* - paint or other surfacing coatings that contain lead at or in excess of 5000 parts per million (ppm), or one half of one percent (0.5 percent) by weight, or 1.0 milligram per square centimeter (1.0 mg/cm2) (WVCSR 64-45-3) [Added January 1999; Revised January 2007].

- *Lead-Contaminated Dust* - Surface dust containing lead at or in excess of 40 micrograms per square foot for floors, at or in excess of 250 micrograms per square foot for interior window sills, at or in excess of 400 micrograms per square foot for window troughs and exterior concrete or other rough surfaces (WVCSR 64-45-3) [Added January 1999; Revised January 2007].

- *Lead-Contaminated Soil* - soil containing lead at or in excess of 1200 ppm, or 400 ppm for bare, high-contact play areas (WVCSR 64-45-3) [Added January 1999; Revised January 2007].

- *Lead-Contaminated Waste* - any discarded materials with lead toxicity equal to or in excess of 5 ppm as determined by the total characteristic leachate procedure (TCLP) (WVCSR 64-45-3) [Added January 1999].

- *License* - a document authorizing an individual to perform specific lead abatement activities (WVCSR 64-45-3) [Added January 1999].

- *OSHA* - the United States Department of Labor Occupational Safety and Health Administration (WVCSR 64-63-2) [Revised January 1999].

- *PCM (Phase Contrast Microscopy)* - a technique used for counting fibers in air samples which does not distinguish fiber types (WVCSR 64-63-2) [Added January 1999].

- *Person* - a corporation, partnership, sole proprietorship, firm, enterprise, franchise, association or any individual or entity (WVCSR 64-63-2) [Revised January 1999].

- *Public Building* - any building that is generally open to the public, including but not limited to museums, airport terminals, hospitals, stores, restaurants, convention centers and other office buildings, corporate facilities and government buildings that do not expressly prohibit access to the public (WVCSR 64-45-3) [Added January 1999].

- *Reoccupancy* - reoccupancy by individuals of a room, space, or other area in which an asbestos abatement project has been completed (WVCSR 64-63-2) [Added January 1999].

- *Repair* - returning damaged asbestos-containing material to an undamaged condition so as to prevent asbestos fiber release (WVCSR 64-63-2) [Revised January 1999].

- *Resilient Floor Covering* - floor tile, sheet vinyl, and associated adhesives which contain more than one percent asbestos by weight. (WVCSR 64-63-2) [Added January 1999].

- *Resilient Floor Covering Worker* - a person who is employed to remove resilient floor covering in single-family dwellings (WVCSR 64-63-2) [Added January 1999].

- *XRF Analyzer* - an instrument that determines lead concentration in milligrams per square centimeter (mg/cm[2]) using the principle of x-ray fluorescence (XRF) (WVCSR 64-45-3) [Added February 2000].

TOXIC SUBSTANCES MANAGEMENT GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS	
	REFER TO CHECKLIST ITEMS:
PCB Management	
PCB Missing Checklist Items	T1.2.1.WV.
Asbestos Management	
Asbestos Missing Checklist Items	T2.2.1.WV.
Renovation and Demolition of Asbestos Containing Structures	T2.5.1.WV. through T2.5.6.WV.
Asbestos Personnel Training/Certification	T2.10.1.WV. through T2.10.3.WV.
Asbestos Disposal	T2.15.1.WV. through T2.15.7.WV.
Radon Gas	
Radon Missing Checklist Items	T3.2.1.WV.
LBP Management	
LBP Missing Checklist Items	T4.2.1.WV.
Notification Requirements	T4.10.1.WV. and T4.10.2.WV.
Training Requirements	T4.15.1.WV.
Work Practice Standards	T4.20.1.WV. through T4.20.4.WV.

GUIDANCE FOR APPENDIX USERS	
APPENDIX NUMBERS:	**APPENDIX TITLES:**
11-1	Minimum Number of Air Samples for Non-School Asbestos Abatement Projects
11-2	Minimum Number and Location of Lead Abatement Single-Surface Samples

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PCB MANAGEMENT **T1.2.** **Missing Checklist Items** **T1.2.1.WV.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
ASBESTOS MANAGEMENT **T2.2.** **Missing Checklist Items** **T2.2.1.WV.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
T2.5. **RENOVATION AND DEMOLITION OF ASBESTOS CONTAINING STRUCTURES**	
T2.5.1.WV. Buildings must be inspected for asbestos prior to their renovation or destruction (WVCSR 64-63-1.6, 64-63-7 and 64-63-10.1.a) [Added January 1999; Citation Revised January 2007].	(NOTE: These asbestos management requirements apply to the following: - owners of buildings and other man-made structures - persons who conduct asbestos abatement projects - asbestos analytical laboratories - persons who perform the work of asbestos clearance air monitors, contractors, inspectors, management planners, project designers, supervisors, workers - resilient floor covering workers (provided that any individual, corporation, partnership, sole proprietorship, firm, enterprise, franchise, association or any business entity which contracts to remove resilient floor covering materials in single-family dwellings is not required to be licensed as an asbestos contractor.) Verify that, prior to any renovation or demolition activities of a building or other man-made structure, the owner has it inspected for the presence of asbestos by a licensed asbestos inspector. Verify that inspect interior and exterior surfaces suspected of containing asbestos which may be affected by the renovation or demolition are thoroughly inspected and analyzed by an asbestos inspector. Verify that the asbestos inspector generates a written report that at a minimum: - identifies by narrative any sampling locations where the presence of asbestos-containing material has been confirmed - details the location and amount of all materials suspected of or assumed to contain asbestos - lists analysis results for all samples taken of materials suspected to contain asbestos - includes drawings or narrative descriptions of the locations where bulk samples of materials suspected of containing asbestos were obtained.
T2.5.2.WV. Each asbestos abatement project must have a written project design (WVCSR 64-63-4.1.d, 64-63-8, and 64-63-10.1.b) [Added	(NOTE: See T2.5.1.WV. for applicability.) Verify that each asbestos abatement project in the building or other man-made structure is designed by a licensed asbestos abatement designer.

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
January 1999; Revised January 2007].	Verify that licensed asbestos contractors do not participate in an asbestos abatement project not designed by a licensed asbestos project designer. Verify that, for each asbestos abatement project, a licensed asbestos project designer generates a written project design that provides: - a chronological time frame for each facet of the abatement activity - the name and address of the building or other man-made structure where each asbestos abatement project is to occur - the name, address, phone number, and copies of the asbestos-abatement training certificates and licenses of the project designer - a schematic floor plan showing the asbestos abatement project area, including a description of the characteristics of the material - a statement identifying the abatement activity as repair, removal, encapsulation, or enclosure - a schematic floor plan of the containment area which shows the physical dimensions, entrance, exit, windows, decontamination unit, load-out area, emergency exits, placement of the HEPA exhaust air filtration units, any measuring devices, warning signs, and barrier tape - specifications for the construction of and the amounts of materials needed to build the project containment area structure, which is separated from the uncontaminated environment by polyethylene sheeting or other materials used in conjunction with the existing floors, ceilings, and walls of the structure - specifications for the number and capacity of HEPA exhaust air filtration units and backups - specifications for air monitoring of personnel - specifications for the clearance of the contained work area for reoccupancy, including the number of sample collection points and the analytical method to be employed - a schematic location and the specifications for the heating, ventilation and air-conditioning system shut-offs, electrical power, water source, fire exits, fire extinguisher, fire alarm, telephone, tool and equipment room, supply box, air monitoring station, project field office, and bathrooms - a description of the work procedures to be used - a description of the materials and tools to be used.
T2.5.3.WV. The Division must be notified prior to an asbestos abatement project (WVCSR 64-63-10) [Added January 1999].	(NOTE: See T2.5.1.WV. for applicability.) Verify that the owner of a building or other man-made where an asbestos abatement project is to occur notifies the Division 10 days prior to commencement of the project. Verify that, in an emergency resulting from a sudden unexpected event which is not a planned renovation or demolition, the owner notifies the Division as soon as possible, but no later than the next working day following the emergency.

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	(NOTE: The owner of a building or other man-made structure may delegate, in writing, the responsibilities for compliance with state and federal notification requirements for asbestos abatement projects to the person who contracts for the projects.) (NOTE: For asbestos abatement projects involving less than 160 ft^2 or 260 linear feet of asbestos-containing material in buildings or other man-made structures which are not used as schools, notification may consist of a weekly summary in lieu of separate notifications for each project.) (NOTE: The removal of resilient floor covering materials in single-family dwellings is exempt from these notification requirements.)
T2.5.4.WV. Asbestos abatement project work areas must meet specific requirements (WVCSR 64-63-4.1.e, 4.1.f, 4.1.i, and 4.1.j) [Added January 1999; Revised January 2007].	(NOTE: See T2.5.1.WV. for applicability.) Verify that asbestos abatement projects takes place in a contained work area. Verify that the work area is under a negative-pressure, HEPA-filtered exhaust system. Verify that a mobile contained work area to remove large amounts of asbestos-containing materials is not constructed to circumvent the minimum clearance standards required for reoccupancy. Verify that exterior asbestos-containing sidings, cementiteous materials, and roofing materials are removed intact with minimal breakage.
T2.5.5.WV. Asbestos abatement projects must meet project clearance and minimum sampling requirements (WVCSR 64-63-5 and 64-63-6) [Added January 1999].	(NOTE: See T2.5.1.WV. for applicability.) (NOTE: Clearance air monitoring is not required for a contained work area in a building or other man-made structure, if the building or other man-made structure is scheduled for immediate demolition.) Verify that, prior to clearing the contained area of an asbestos abatement project for reoccupancy, a clearance air monitor conducts a visual inspection of the contained work area to confirm removal of asbestos-containing materials, for cleanliness prior to taking samples, and to ensure the following: - that all sampling equipment is functional and calibrated in accordance with manufacturers specifications, and that a written record of the calibration is maintained - that air monitoring incorporates aggressive sampling condition activity to dislodge any remaining dust by sweeping all floors, walls, and ceilings with a leaf blower with a minimum of one horsepower prior to sampling; and by operating one operating stationary 20 in. fan directed at the ceiling for every 10,000 ft^3 or fraction thereof in the contained area during sampling

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- that the recommended air volume is drawn on each sampling cassette as prescribed by the analytical method. Verify that, prior to clearing the contained area of an asbestos abatement project for reoccupancy, a clearance air monitor samples the site to ensure that asbestos levels meet the following standards: - 0.01 f/cc (asbestos fibers per cubic centimeter) for each sample analyzed by PCM - 0.02 s/cc (asbestos structures per cubic centimeter) for each sample analyzed by TEM. (NOTE: The minimum number of air samples to be obtained from a lead abatement project area is defined in Appendix 11-1). Verify that the clearance air monitor generates a written report to confirm or deny clearance of the contained work areas of an asbestos abatement project at the conclusion of the project that includes the following: - the name and signature of any individual who collected any air sample required by this rule - the locations indicated by drawings and a sample log where samples were collected - the date of collection - the name and address of the laboratory which analyzed the samples - the date of the analysis - the results of the analysis - the method of analysis - the name and signature of the individual performing the analysis - proof that the laboratory meets the applicable requirements of this rule - either a statement clearing the contained work areas for reoccupancy, or a statement denying clearance of the contained work areas and containing an explanation for denying clearance.
T2.5.6.WV. Asbestos abatement projects must meet recordkeeping sampling requirements (WVCSR 6 4-63-4.1.m and 4.2 through 4.4) [Added January 1999; Citation Revised January 2007].	(NOTE: See T2.5.1.WV. for applicability.) Verify that the abatement contract keeps a record of each asbestos abatement project that includes the following: - the name, address and asbestos license number of all individuals who worked on the asbestos abatement project - the location and a description of the asbestos abatement project, including the amount of asbestos material that was removed - the starting and completion dates of each asbestos abatement project and a summary of the procedures that were used to comply with all federal and State standards - the name and address of each site where waste containing asbestos was

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	deposited, and the disposal site receipts - required air monitoring results, including: - the name and signature of any individual who collected the air samples - the locations where the samples were collected - the date of collection - the name and address of the laboratory which analyzed the samples - the date, results, and method of the analysis - the name and signature of the individual who performed the analysis - proof that the laboratory meets the applicable requirements of this rule. Verify that, upon request, these records for current projects are available to the Department, the division of environmental protection, and the division of labor of the bureau of commerce according to the following schedule: - for current projects, immediately - for completed projects, within a reasonable time (depending upon the length of time since the project's completion and whether or not the advance notice might adversely affect an investigation being conducted by any State agency). Verify that these records are kept for 30 yr.

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
T2.10. **ASBESTOS PERSONNEL TRAINING**	
T2.10.1.WV. Persons engaged in asbestos abatement activities must be licensed (WVCSR 64-63-1.6, 64-63-3.1, and 64-63-4.1.a) [Revised January 1999; Citation Revised January 2007].	(NOTE: These asbestos management requirements apply to the following: - owners of buildings and other man-made structures - persons who conduct asbestos abatement projects - asbestos analytical laboratories - persons who perform the work of asbestos clearance air monitors, contractors, inspectors, management planners, project designers, supervisors, workers - resilient floor covering workers (provided that any individual, corporation, partnership, sole proprietorship, firm, enterprise, franchise, association or any business entity which contracts to remove resilient floor covering materials in single-family dwellings is not required to be licensed as an asbestos contractor) Verify that asbestos analytical laboratories, clearance air monitors, contractors, inspectors, management planners, project designers, supervisors, workers, and all of the contractor's employees or agents who will come into contact with asbestos or who will be responsible for an asbestos abatement project are licensed by the Director.
T2.10.2.WV. Asbestos abatement projects must be supervised on-site by a licensed asbestos supervisor (WVCSR 64-63-4.1.b) [Revised January 1999].	(See T2.10.1.WV for applicability.) Verify that each asbestos abatement project is supervised on-site by a licensed asbestos supervisor.
T2.10.3.WV. [Deleted January 1998].	

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
T2.15. **ASBESTOS DISPOSAL**	
T2.15.1.WV. Landfills must protect individuals involved in the management of asbestos wastes from exposure (WVCSR 33-3-4.b) [Added February 1998].	Verify that the landfill ensures that every individual involved in the management of asbestos wastes is protected from exposure in conformance with the provisions of this rule and other applicable state and federal statutes, rules and regulations.
T2.15.2.WV. Solid wastes that contain asbestos must meet specific packaging requirements (WVCSR 33-3-4.b.1) [Added February 1998].	Verify that all solid wastes that may contain friable or nonfriable category II asbestos are placed in double plastic bags and sealed or encased in 2 sealed layers of plastic wrap. Verify that each bag or layer is six mils thick or greater and boldly marked "CAUTION: CONTAINS ASBESTOS FIBERS. AVOID CREATING DUST. CANCER AND LUNG DISEASE HAZARD." Verify that the name and address of the generator is also marked on the container. (NOTE: Use of sealed cardboard containers or fiber drums may be required for dense waste or as extra protection against breaking of bags. Other special handling or packaging methods may be approved where equal environmental protection is, or will be achieved. Such alternative methods must only be considered where bagging, wrapping, or packaging is proven not to be possible.)
T2.15.3.WV. Asbestos wastes must meet specific transportation requirements (WVCSR 33-3-4.b.2) [Added February 1998].	Verify that properly packaged asbestos wastes are transported in a closed conveyance with the crew segregated from the load. Verify that asbestos waste is accompanied by appropriate shipping papers to identify the waste, its origin, and its destination.
T2.15.4.WV. Asbestos wastes must be disposed of in special landfills or landfill areas (WVCSR 33-3-4.b.3 and 3.A) [Added February 1998].	Verify that asbestos waste is disposed in a special purpose landfill or in a special area of a landfill. Verify that asbestos wastes are placed in a lined area designed and constructed to meet the minimum liner requirements for landfills (see the *Solid Waste Management* chapter, section SO.135.WV. for further information).
T2.15.5.WV. Asbestos waste	Verify that asbestos waste is buried below the natural ground surface of the site,

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
must meet placement and cover requirements (WVCSR 33-3-4.b.3.B through D, and H) [Added February 1998].	or at a depth below the final grade of the landfill approved by the director, so as to maximize the prevention of wind and water erosion of the asbestos disposal area. Verify that asbestos waste is hand placed in the trench or cell or by other means approved by the Director that ensure integrity of bags, wrappings, or containers. Verify that asbestos waste is not compacted until a sealing layer of soil has been placed over the waste and precautions are taken to prevent the breaking of bags or wrapping. Verify that all accidentally broken materials are covered with 12 in. or more of soil immediately. (NOTE: A cell which has been completely covered with soil, at least one foot thick, may be compacted.) Verify that asbestos waste is covered with at least one foot of soil at the end of each day of operation, and that a final cover of 3 feet of soil is placed over all areas that have not been in use or will not be used for more than 30 days. Verify that areas that will not or have not been used for one year, in addition to final soil cover, are graded for erosion prevention and revegetated.
T2.15.6.WV. Asbestos waste landfills must be fenced (WVCSR 33-3-4.b.3.E, F and I) [Added February 1998].	Verify that any active portion of the asbestos disposal area, or area which has not received final cover and revegetation, plus a fifty-foot wide buffer zone on all sides of the area, is fenced (unless a waiver is obtained from the Director). Verify that the fence is of the six feet high chain link type with 3 strands of barbed wire on top, and completely encompasses the disposal area and internal buffer zone and maintains access control through locked gates. Verify that the fence bears permanent signs every 300 ft or closer that boldly state: "CAUTION: CONTAINS ASBESTOS FIBERS. AVOID CREATING DUST. CANCER AND LUNG DISEASE HAZARD" in 2 inch high or larger letters. Verify that the fenced area of the asbestos disposal facility is not located closer than 50 ft to the property boundary or building or structure.
T2.15.7.WV. Asbestos waste landfills must meet specific recordkeeping requirements (WVCSR 33-3-4.b.3.E, F and I) [Added February 1998].	Verify that a plat of the area, surveyed and clearly marked as containing asbestos waste is provided to the Director upon request and is contained and specifically noted in the deed notation. Verify that the landfill maintains records for a period of 3 years on the nature and quantity of asbestos waste and the source.

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
RADON GAS **T3.2.** **Missing Checklist Items** **T3.2.1.WV.** Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
LEAD-BASED PAINT **T4.2.** **Missing Checklist Items**	
T4.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
LBP MANAGEMENT **T4.10.** **Notification Requirements**	
T4.10.1.WV. The Division must be notified 10 days prior to a lead abatement project (WVCSR 64-45-5.1.c and 64-45-14) [Added January 1999; Revised February 2000; Citation Revised January 2007].	Verify that each owner or other person responsible for the operation of a building, facility, residence, or structure where a lead abatement project is to occur notifies the Division 10 days prior to commencement of the project. Verify that the lead abatement contractor notifies the Division at least 10 days prior to the commencement of each lead abatement project. (NOTE: These LBP requirements do not apply to the following: - homeowners performing lead abatement or interim controls on their single unit owner-occupied housing - lead hazard reduction activities or to persons performing such activities when such activities are performed wholly within or on an industrial facility and are performed by persons who are subject to the training requirements of OSHA, provided that the provisions of this rule do apply to any child occupied building or area such as a child day care center located at an industrial facility (WVCSR 64-45-12.1 and 64. 45.12.3) [Added January 1999].)
T4.10.2.WV. The Director must be notified of elevated blood levels (WVCSR 64-45-13) [Added January 1999; Revised February 2000; Citation Revised January 2007].	Verify that any person, contractor, or laboratory notifies the Director of any medically confirmed elevated blood-lead levels within 36 h of discovery. (NOTE: See T4.10.1.WV for exemptions.)

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
LBP MANAGEMENT **T4.15.** **Training Requirements**	
T4.15.1.WV. Lead inspectors, risk assessors, workers, supervisors, designers, and contractors must be licensed (WVCSR 64-45-4 and 64.45-5.1.a) [Added January 1999; Revised February 2000].	Verify that lead inspectors, risk assessors, workers, supervisors, designers, and contractors are licensed by the Director. Verify that employees or agents who will come into contact with lead or who will be responsible for a lead abatement project are properly licensed. (NOTE: Applicants must submit proof of passage of an applicable accredited refresher course every third year from the date of the original training and certification.)

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
LBP MANAGEMENT **T4.20.** **Work Practice Standards**	
T4.20.1.WV. Lead abatement projects must meet specific operating requirements prior to commencement of the project (WVCSR 64-45-6 through 64-45-8) [Added January 1999; Revised February 2000; Revised January 2007].	Verify that interior and exterior surfaces suspected of containing lead that may be affected by renovation or demolition are thoroughly inspected and analyzed for lead content with an XRF analyzer. Verify that the licensed lead inspector generates a written report that at a minimum: - identifies by drawings and narrative any sampling location where the presence of lead containing material has been confirmed - details the location and amount of all materials that contain lead - lists analysis, XRF results, or both for all samples - includes drawings and narrative descriptions of locations of samples and/or XRF readings - includes a statement that the inspection is not a risk assessment. Verify that a licensed lead abatement designer generates a written report that provides: - a chronological time frame for each facet of the abatement activity - the name and address of the building or structure where the lead abatement project is to occur - the name, address, phone number, and lead abatement training certificates and licenses for the project designer - a schematic floor plan showing the lead abatement project area, including a description of the characteristics of the material - a statement identifying the abatement activity as repair, removal, encapsulation, or enclosure - a schematic floor plan of the project area which shows the physical dimensions, entrance, exit, windows, decontamination unit, load-out area, emergency exits, placement of the HEPA exhaust air filtration units, if applicable, and any measuring devices, warning signs, and barrier tape - sampling protocol for project clearance for reoccupancy, including the number of samples, collection points and the analytical method to be employed - a schematic of the heating, ventilation and air-conditioning system shut-offs, electrical power, water source, fire exits, fire extinguisher, fire alarm, telephone, tool and equipment room, supply box, project field office, bathrooms and decontamination area - a description of the work procedures to be used - a description of the materials and tools to be used in the abatement project - an occupant protection plan.

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that a licensed lead abatement risk assessor generates a written report that provides: - background information regarding the age, condition and physical characteristics of the structure and residential use patterns - a schematic site plan showing each room within the structure, its use and the location and condition of LBP - a copy of any previous test results or inspections regarding LBP or other assessments for lead hazards - an assessment of the potential routes of lead exposure for occupants or lead abatement professionals, which is based upon adequate dust, water, soil and paint chip sampling - a detailed description of recommended control strategies for reducing LBP hazards and justification for the strategy selected, the locations where the recommended actions should take place, and a suggested prioritization for taking each action based on the degree of the hazard. Verify that the risk assessment is maintained by the risk assessor or firm for 3 yr.
T4.20.2.WV. Lead abatement projects must meet work method requirements (WVCSR 64-45-9 and 64-45-10) [Added January 1999].	Verify that the following methods are not used during a lead abatement project: - open flame burning, torching, fossil fuel-powered heat plates, welding, cutting torches, and heat guns operating at temperatures greater than 1100 ^{o}F to remove LBP - uncontained machine sanding or grinding - uncontained hydro-blasting and high-pressure water washing - uncontained abrasive blasting or sandblasting - chemical paint removers that contain methylene chloride - dry scraping LBP (except for areas around electrical outlets). (NOTE: The following lead abatement project methods are recommended: - electric-powered flameless heat guns operating 1100 ^{o}F (provided that proper respiratory protection is used) - mechanical HEPA sanding, HEPA vacuum blasting, and HEPA vacuuming needle guns - wet scraping (provided that no electrical hazards are present while doing so) - removal of building components to be stripped of LBP off site (provided that dust generation during the removal and transportation of the building components is kept to a minimum) - chemical removal methods which do not contain methylene chloride (provided that product material safety data sheet recommendations for safety, and OSHA regulations are implemented) - enclosure of building components that contain LBP (provided that the enclosure material becomes a permanent part of the building structure and is properly sealed to ensure that lead dust is permanently contained) - encapsulation of LBP (provided that the encapsulating material becomes a permanent part of the building component and will be guaranteed by the lead abatement company and manufacturer from defect for a minimum of 20 yr)

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- total removal of lead-contaminated soil or the covering of lead-contaminated areas with a suitable material that will limit exposure (suitable material includes but is not limited to stone, pavement, gravel or vegetative cover).)
T4.20.3.WV. Lead abatement projects must meet project clearance and minimum sampling requirements (WVCSR 64-45-6.1.c and 64-45-11) [Added January 1999; Revised January 2007].	Verify that a licensed lead inspector conducts a visual inspection at the conclusion of a lead abatement project and samples each area or room to ensure that dust, soil, and waste material lead levels meet the following clearance levels: - below 40 micrograms of lead per square foot for interior floors or other horizontal surfaces - below 250 micrograms of lead per square foot for interior window sills - below 40 micrograms of lead per square foot for window troughs and exterior concrete or other rough surfaces - below 400 ppm for bare soil areas that are child play areas - below 1200 ppm for residential bare soil areas - a total characteristic leachate procedure below 5 ppm lead toxicity for discarded building materials. (NOTE: The minimum number of samples to be obtained from a lead abatement project area is defined in Appendix 11-2.) Verify that, in addition to the required number of samples as defined in Appendix 11-2, the lead inspector takes one soil sample for each 400 ft^2 of bare soil area of a lead abatement project and one composite sample from homogeneous building materials that are representative of the waste stream.

T4.20.4.WV. Lead abatement projects must meet recordkeeping requirements (WVCSR 64-45-5.1.g and 64-45-5.2) [Added January 1999].	Verify that licensed lead abatement contractors keep a record of each lead abatement project that includes the following:
	
	- the name, address and lead abatement license number of the individual who supervised the lead abatement project and of each employee or agent who worked on the project
	- the location and a description of the lead abatement project and the amount of lead material that was removed
	- the starting and completion dates of each lead abatement project and a summary of the procedures that were used to comply with all federal and state standards
	- the name and address of each disposal site where waste containing lead was deposited and the disposal site receipts
	- required clearance sample results or air monitoring results, including:
	  - the name and signature of the lead inspector who collected the clearance samples
	  - where the samples were collected
	  - the date of collection
	  - the name and address of all laboratories analyzing the samples
	  - the date of analysis

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	- the results of analysis - the method of analysis - the name and signature of the person performing the analysis - certification that the laboratory is EPA certified to analyze lead samples. Verify that, upon request, these records are available to the state agencies of health, natural resources, environmental protection, labor and air pollution control according to the following schedule: - for current projects, immediately - for completed projects, within a reasonable time (depending upon the length of time since the project's completion and whether or not the advance notice might adversely affect an investigation being conducted by any of the agencies). Verify that these records are kept for 3 yr.

Appendix 11-1

Minimum Number of Air Samples for Non-School Asbestos Abatement Projects
(Source: WVCSR 64-63, Table 64-63B) [Added January 1999; Citation Revised January 2007]

Size of Contained Work Area	**Minimum Number of Samples**
<= 49 ft^2	0
50 - 160 ft^2	2
161 - 2500 ft^2	3
2501 - 5000 ft^2	4
5001 - 10,000 ft^2	5
> 10,000 ft^2	Calculate*

* Five samples plus one additional sample for each additional 5000 ft^2

Appendix 11-2

Minimum Number and Location of Lead Abatement Single-Surface Samples
(Source: WVCSR 64-45, Table D)
[Added January 1999; Revised February 2000; Revised January 2005; Revised January 2009]

Clearance Category	Category Description	Number and Location of Single Wipe Samples in Each Area	Number and Location of Composite Wipe Samples
1	Interior treatments No containment within dwelling	Two dust samples from at least 4 rooms in dwelling (treated or untreated) *One interior window sill or window trough alternating between rooms. *One floor. AND *For common areas, one for every 2000 ft^2 of a common area room floor, if present.	Three composite samples for every batch of four room (whether treated batch of four room (whether treated or untreated): *One floor composite. *One interior window sill composite. *One window trough composite. AND *For common areas, one floor subsample for every 2000 ft^2 (if present); up to 8000 ft^2 can be sampled for every composite.
2	Interior treatments With containment (Plastic sheeting as airlock on doors between treated and untreated areas)	Same as Category 1 but only in every treated room (up to four rooms) AND One floor sample outside the containment area but within 10 feet of the airlock to determine the effectiveness of the containment system. This extra single-surface sample is recommended in 20 percent of the treated dwellings in multifamily housing and all single-family homes. *For common areas, one floor sample for every 2000 ft^2 and one floor sample outside containment.	Same as Category 1 but only in every treated room AND One floor sample outside the containment area but within 10 feet of the airlock to determine the effectiveness of the containment system. This extra single-surface sample is recommended in 20 percent of the treated dwellings in multifamily housing and all single-family homes. *For common areas, one floor subsample for every 2000 ft^2 (up to 8000 ft^2 for each composite) and one floor sample outside containment.
3	Exterior treatments	Two dust samples as follows: *At least one dust sample on a in part of the outdoor living area (e.g., a porch floor or entryway). *One window trough sample on each floor where exterior work was performed. An additional trough	Two dust samples as follows: *One composite on a horizontal surface in a part of the outdoor living area (e.g., a porch floor or entryway). *One window trough composite for every four floors where exterior work was not done, including lower

Clearance Category	Category Description	Number and Location of Single Wipe Samples in Each Area	Number and Location of Composite Wipe Samples
		sample s hould be co llected f rom a few l ower floor to d etermine if troughs below t he ar ea were contaminated by the work above.	floors w here exterior w ork w as not done, if present.
4	Routine maintenance work	At least 1 floor dust sample for every 20 high-hazard j obs n ear t he work area.	Same as single-surface sampling.
5	Soil treatment	One dust sample from the entryway.	One dust sample from the entryway.

* A room includes a hallway or a stairway. If no window, just one floor sample must be collected. When a closet is treated, the room to which it is attached should be tested. A closet is not considered to be a separate room. If all rooms received similar treatments and cleaning, only four rooms need to be sampled for clearance purposes. More rooms may need to be sampled in larger dwellings. The room to be sampled should be selected based on where most of the dust-generating work was done or in the judgment of the clearance examiner.

SECTION 12

WASTEWATER MANAGEMENT

West Virginia Supplement, January 2010

This section covers the West Virginia requirements for Wastewater Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Definitions

- *Agricultural Land* - land on which a food crop, feed crop, or fiber crop is grown. This includes, but is not limited to, range land and land used as pasture (West Virginia Code of State Regulations, Title 33, Series 2, Section 2 (WVCSR 33-2-2)) [Added January 2001; Citation Revised January 2008].

- *Administrator* - the Administrator of the USEPA, or an authorized representative (WVCSR 47-10-2).

- *Agronomic Rate* - the whole sewage sludge application rate, by dry weight, designed (WVCSR 33-2-2) [Added February 2000]:
  1. to provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop or vegetation on the land; and
  2. to minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

- *Animal Feeding Operation* - a lot or facility (other than an aquatic animal production facility) where the following conditions are met (WVCSR 47-10-13):
  1. animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in a 12 mo period
  2. crops, vegetation forage growth, or postharvest residues are not sustained in the normal growing season over any portion of the lot or facility.

  (NOTE: See Appendix 12-2 for criteria for "concentrated animal feeding operations.")

- *Aquaculture Projects* - a defined managed water area which uses discharges of pollutants into that designated area for the maintenance or production of harvestable freshwater plants or animals (WVCSR 47-10-13).

- *Beneficial Use* -
  1. the use of a nonhazardous material for a specific beneficial purpose where it is done in a manner that protects groundwater and surface water quality, soil quality, air quality, human health, and the environment. This may include use as a fertilizer substitute or other purpose approved by the Secretary (WVCSR 33-8-2).
  2. the use of a non-hazardous material for a specific beneficial purpose where it is done in a manner that protects groundwater and surface water quality, soil quality, air quality, human health, and the environment. This may include use as a fertilizer substitute, soil amendment, cover material, fill material, mulch or horticultural product, or other purpose approved by the Secretary (WVCSR 33-9-2) [Added January 2009].

- *Best Management Practices* - activities, procedures and practices to prevent or remedy the introduction of fertilizer or manure residues into groundwater to the extent technically feasible and economically practical. Best Management Practices are designed to maintain the health and long-term productivity of the soil, water and related plant and animal resources and to minimize the threat of soil, waste and nutrient contamination to the waters of the state (WVCSR 61-22B-2).

- *Bulk Sewage Sludge Product* - a material derived from sewage sludge that is sold or given away in quantities exceeding one metric ton (WVCSR 33-2-2).

- *Chief, Office of Water Resources* - the Chief, Office of Water Resources of the Division of Environmental Protection (WVCSR 64-9-2) [Added February 1998; Revised January 1999].

- *Chief Operator* - the individual who is responsible for the overall operation of the wastewater treatment works (WVCSR 64-5-3).

- *Commissioner* - the commissioner of agriculture of the state of West Virginia or his or her duly authorized agent (WVCSR 61-22B-2).

- *Concentrated Aquatic Animal Production Facility* - a hatchery fish farm, or other facility which meets the criteria in Appendix C (see Appendix 12-3 of this chapter) (WVCSR 47-10-13).

- *Contaminant* - any material in a solid, liquid or gaseous state that has the potential to cause contamination (WVCSR 47-58-2).

- *Contamination* - any man made or man induced alteration of the chemical, physical, or biological, integrity of the groundwater, resulting from activities regulated under this rule, in excess of existing groundwater quality, unless that site has been granted a deviation or variance from existing quality as provided for in the West Virginia Groundwater Protection Act, or is subject to an order, permit, or other regulatory action that requires restoration or maintenance of groundwater quality at a different concentration or level (WVCSR 47-58-2).

- *Department* - the Department of Environmental Protection (WVCSR 33-9-2) [Added January 2009].

- *Domestic Septage* - either liquid or solid material (septage) removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap at a restaurant (WVCSR 33-2-2) [Added February 2000].

- *Director* - Director of the West Virginia Division of Health or his or her lawful designee (WVCSR 64-9-2) [Revised February 1998; Revised January 1999].

- *Discharge* - when used without qualification, the discharge of a pollutant for purposes of this series (WVCSR 47-10-2).

- *Effluent* - liquid discharge from a sewage treatment or disposal system (WVCSR 64-9-2) [Revised January 1999].

- *Effluent Limitation* - any restriction established under state or Federal law on quantities discharge rates, concentrations or other specified units of measure of pollutants which are discharged from point sources into waters of the state (WVCSR 47-10-2).

- *Exceptional Quality Compost* - compost resulting from sewage sludge, which compost meets the Table 1 metal limits of this rule and which has been treated to achieve Class A pathogen reduction requirements in accordance with 40 CFR 503.32(a) and one of the vector attraction requirements in 40 CFR 503.33(b)(1) through (b)(8) (WVCSR 33-2-2) [Added January 2001].

- *Existing Facility* - for the purpose of this regulation means any facility and/or activity which was in operation prior to the effective date of this regulation or which does not meet the definition of a new facility (WVCSR 47-58-2).

- *Fertilizer* - any substance containing one or more recognized plant nutrients which is used for its plant nutrient content and which is designed for use or claimed to have value in promoting plant growth. The term fertilizer does not include agricultural liming materials, wood ashes, gypsum, unmanipulated animal or vegetable manures and other products exempted by regulation of the commissioner (WVCSR 61-22B-2).

- *Filtrate or Water Treatment Plant Filtrate* - any sludge that results from the treatment of water at a water treatment plant (WVCSR 33-9-2) [Added January 2009].

- *General Permit* - a regional or Statewide permit issued by the Department for a specified category, or categories, of beneficial use of filtrate, in accordance with the provisions of section 11, the terms and conditions of which allow an original applicant and a new applicant to register to operate under the general permit if the terms and conditions of the general permit are met (WVCSR 33-9-2) [Added January 2009].

- *Groundwater* - the water occurring in the zone of saturation beneath the seasonal high water table, or any perched water zones (WVCSR 47-58-2).

- *Impoundment* - an area which is a natural topographic depression, manmade excavation, or diked area that is designed or improved in such a manner so as to hold an accumulation of contaminated surface runoff, process wastewater, product, or sewage, or any other liquid substance that could impact groundwater, but does not include any area used for secondary containment (WVCSR 47-58-2).

- *Indirect Discharger* - a nondomestic discharger introducing pollutants to a publicly owned treatment works (WVCSR 47-10-2).

- *Individual Sewer System* - a sewer system with a daily design flow not to exceed one thousand (1,000) gallons per day with subsurface discharge or not to exceed six hundred (600) gallons per day design flow with surface discharge. The system is owned by and maintenance is performed by a single entity (WVCSR 64-9-2) [Revised February 1998; Revised January 1999].

- *Individual Sewer System Installer* - Any person engaging in the construction, installation, modification, extension, alteration and location of an individual or an on-site sewer system, sewage tank, or an excreta disposal system (WVCSR 64-9-2) [Added February 1998; Revised January 1999].

- *Industrial Establishment* - any mill, factory, tannery, paper or pulp mill, mine, colliery, breaker or mineral processing operation, quarry, refinery, electric power generating facility, well, and each and every industry or plant or works, or activity in the operation or process of which industrial wastes, sewage, or other wastes are produced. Furthermore, any facility or activity not set forth above may be subject to any or all of the requirements of this rule at the Director's discretion pursuant to Section 5 of this rule. This definition does not include private or publicly owned sewage treatment operations (WVCSR 47-58-2).

- *Interference* - an indirect discharge which, along or in conjunction with a discharge or discharges from other sources, both:
  1. inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal
  2. cause a violation of any requirement of the POTW's NPDES Permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with applicable statutory provisions, regulations or permits issued thereunder (WVCSR 47-10-2).

- *Land Application Site* -
  1. the location where sewage sludge is sprayed or spread onto the land surface; injected below the land surface; or incorporated into the soil so that the sewage sludge can either condition the soil or fertilize the crops or vegetation grown in the soil (WVCSR 33-2-2) [Added January 2001].
  2. a location where filtrate is sprayed or spread onto the land surface, or incorporated into the soil so that the filtrate can fertilize the crops or vegetation grown in the soil (WVCSR 33-9-2) [Added January 2009].

- *Long-term* - the application of filtrate to a site multiple times for a period of 18 months or more (WVCSR 33-9-2) [Added January 2009].

- *Liner* - a continuous layer of natural or manmade materials, beneath and on the sides of an area, which restricts the downward or lateral escape of contaminants (WVCSR 47-58-2).

- *Manure* - any substance composed of excreta of animals, other than man, and may include bedding or other materials normally associated with the substance as well as water associated with or added to the substance (WVCSR 61-22B-2).

- *New Facility* - for the purpose of this regulation means any facility and/or activity which begins construction 180 days or more after the effective date of this regulation (WVCSR 47-58-2).

- *Nutrient or Nutrient Content* - an element essential for plant growth, which for the purposes of this rule are nitrogen, phosphorous, potassium, calcium, and magnesium (WSCSR 33-8-2) [Added January 2004].

- *Nonpoint Source* -a diffuse source of substances that have the potential to impair the beneficial uses of groundwater resulting from activities over a relatively large area, the effects of which must normally be addressed or controlled by a management or conservation practice (WVCSR 61-22B-2).

- *Odor* - a sensation resulting from the stimulation of the human sense of smell (WVCSR 3 3-2-2) [Added February 2000].

- *Other Container* - either an open or closed receptacle. This includes, but is not limited to, a bucket, box, carton, and vehicle or trailer with a load capacity of one metric ton or less (WVCSR 33-2-2) [Added January 2001].

- *Pass Through* - an indirect discharge that exits the POTW into waters of the state in quantities or concentrations that alone or in combination with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTWs NPDES permit (including an increase in the magnitude or duration of a violation) (WVCSR 47-10-2).

- *Permit* - any license, certification, registration, permit, or any other approval granted by an agency authorized to regulate facilities or activities, which may have an impact on groundwater (WVCSR 47-58-2).

- *Permit* - a written document issued by the Director giving the holder permission to construct, install, extend, alter or operate an approved sewer system, or method of sewage disposal, or to collect, remove, transport or dispose of sewage (WVCSR 64-9-2) [Revised January 1999].

- *Person or Persons* - any industrial user, public or private corporation, institution, association, firm or company organized or existing under the laws of this or any other state or country; state of West Virginia; governmental agency, including federal facilities; political subdivision; county commission; municipal corporation; industry; sanitary district; public service district; drainage district; soil conservation district; watershed improvement district; partnership trust; estate; person or individual; group of persons or individuals acting individually or as a group; or any legal entity whatever (WVCSR 33-2-2) [Added February 2000].

- *Plow Layer* - the layer of soil, which is turned or mixed by plowing, tilling, disking, harrowing, or other similar activity (WVCSR 33-9-2) [Added January 2009].

- *Point Source* - a source of substances that have the potential to impair the beneficial uses of groundwater resulting from an activity over a small area and generally is limited to mixing, loading and storage sites or feedlots. A source is not considered a point source until a discharge of substances occurs (WVCSR 61-22B-2).

- *Public Sewer System* - a sewage collection system or systems with or without treatment facilities with a daily design flow exceeding one thousand (1,000) gallons per day with sub-surface discharge or exceeding six hundred (600) gallons per day with surface discharge serving one (1) or more dwellings or establishments. The

system is owned by and maintenance is performed by a single entity. This definition includes municipal sewer systems (WVCSR 64-9-2) [Added February 1998; Revised January 1999].

- *Runoff Infiltration Control System* - any system which is designed to prevent contamination of groundwater from any materials stored in an outside material storage area, by either prohibiting stormwater from contacting the material, or by intercepting and properly disposing of stormwater which has become contaminated due to contact with the material (WVCSR 47-58-2).

- *Secondary Containment* - utilizing dikes, berms, synthetic or natural liner systems, double walled containment vessels, or any combination thereof to prevent contaminants from accidentally discharging into the environment (WVCSR 47-58-2).

- *Secretary* -
  1. Secretary of the West Virginia Department of Health and Human Resources or his or her designee (WVCSR 64-5-3).
  2. Secretary of the Department of Environmental Protection or person to whom the Secretary has delegated authority or duties pursuant to W. Va. Code § 22-1-6 (WVCSR 33-9-2) [Added January 2009].

- *Separate Storm Sewer* - a conveyance or system of conveyances (including pipes, conduits ditches, and channels) primarily used for collecting and conveying stormwater runoff and which is either:
  1. located in an urbanized area as designated by the U.S. Bureau of the Census according to the criteria in 39 FR 15202 (1 May 1974)
  2. not located in an urbanized area but designated under Paragraph 13.4.c of this Section (WVCSR 47-10-13).

- *Sewage* - any excreta or liquid waste containing animal, vegetable, and/or mineral matter in suspension or solution including, but not limited to, waste from water closets, urinals, lavatories, bathtubs, laundry tubs, washing machines, drinking fountains, sinks, kitchen equipment, and other sanitary fixtures or facilities (WVCSR 64-9-2) [Citation Revised January 2008].

- *Sewage Sludge* - solid, semisolid or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage, scum or solids removed in primary, secondary or advanced wastewater treatment processes and a material derived from sewage sludge. "Sewage sludge" does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator (WVCSR 33-2-2 and 33-9-2) [Added February 1998; Citation Revised January 2009].

- *Sewage Sludge Processing Facility* - a solid waste facility that processes sewage sludge for land application, incineration or disposal at an approved landfill. Such processes include, but are not limited to, composting, lime stabilization, thermophilic digestion and anaerobic digestion (WVCSR 33-2-2) [Added February 1998].

- *Sewer System* - a system whether publicly or privately owned which receives and treats sewage and provides for the disposal of effluent and sludge therefrom. This definition includes individual sewer systems and public sewer systems (WVCSR 64-9-2) [Revised January 1999].

- *Sewage Tank* - a watertight receptacle designed and constructed to receive and retain sewage solids. Sewage tanks shall include, but not be limited to, septic tanks, aeration type sewage treatment systems, privy pits and vaults, holding tanks or receptacles and self-contained excreta disposal facilities (WVCSR 64-9-2) [Revised January 1999].

- *Sewage Tank Cleaner* - any person engaged in the collection, removal, transportation or disposal of sewage (WVCSR 64-9-2) [Revised January 1999].

- *Short-term* - the application of filtrate to a site one or more times over a period of less than 18 months (WVCSR 33-9-2) [Added January 2009].

- *Silvicultural Point Source* - any discernible, confined, and discrete conveyance related to rock crushing gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the state. The term does not include nonpoint source silvicultural activities such as nursery operations site preparation, reforestation and subsequent cultural treatment thinning, prescribed burning, pest and fire control, harvesting operations surface drainage or road construction and maintenance from which there is natural runoff. However, some of these activities (such as stream crossings for roads) may involve point source discharges of dredged or fill material which may require a CWA Section 404 permit (WVCSR 47-10-13).

- *Sludge* -
  1. any solid, semisolid, residue or precipitate, separated from or created by a municipal, commercial or industrial waste treatment plant, water supply treatment plant or air pollution control facility or any other such waste having similar origin (WVCSR 33-2-2) [Added February 1998].
  2. any solid, semisolid, residue or precipitate, separated from or created by a municipal, commercial or industrial water supply treatment plant or any other waste having similar origin (WVCSR 33-9-2) [Added January 2009].

- *Small Wastewater Treatment Works (IS)* - any wastewater treatment works that (WVCSR 64-5-3):
  1. serves more than an individual home, excluding home aeration units and septic tank systems
  2. treats a daily flow of wastewater less than 500 and one population equivalent served
  3. uses extended aeration, a form of pond treatment system or other technology approved by the Secretary for treatment.

- *Soil Improvement Site* - the location where filtrate is sprayed or spread onto the land surface, or incorporated into the soil, so that the filtrate can improve the growing conditions for the crops or vegetation grown in the soil (WVCSR 33-9-2) [Added January 2009].

- *Standard Soil Absorption System* - a system designed to receive effluent from a septic tank to be disposed of at soil depths ranging from 18 to 36 inches from the original ground surface (WVCSR 64-9-2) [Added February 1998; Revised January 1999].

- *Total Fats* - fats, oils, and greases of animal or vegetable origin that may be determined quantitatively based on their common solubility in an organic extracting solvent and recovery from that solvent, but does not include petroleum compounds (WVCSR 33-8-2) [Added January 2004].

- *25-Year 24-Hour Rainfall Even* - the maximum 24-h precipitation event with a probable recurrence interval of once in 25 yr, as defined by the National Weather Service, U.S. Department of Commerce, in Technical Paper Number 40, "Rainfall Frequency Atlas of the United States", May 1961, and subsequent amendments, or equivalent regional or state rainfall probability information developed therefrom (WVCSR 61-22B-2).

- *Wastewater* - water containing human, animal, or domestic waste (WVCSR 64-9-2) [Revised January 1999].

- *Wastewater Treatment Works* - a facility for treating and discharging wastewater, except that this definition does not include industrial wastewater treatment works regulated by the Division of Environmental Protection (WVCSR 64-5-3).

- *Water Treatment Plant* - any facility, equipment, unit or system used to improve the quality of water to make it more suitable for domestic, commercial, or industrial purposes or for any other beneficial use. (WVCSR 33-9-2) [Added January 2009].

- *Water Well* - any excavation or penetration in the ground, whether drilled, bored, cored, driven or jetted that enters or passes through an aquifer for purposes that may include, but are not limited to: a water supply, exploration for water, dewatering or heat pump wells, except that this definition shall not include ground water monitoring activities and all activities for the exploration, development, production, storage, and recovery of

coal, oil, and gas, and other mineral resources which are regulated under WVCA 22-1-1 et seq., 22A-1-1 et seq., or 22B-1-1 et seq. (WVCSR 64-9-2) [Added February 1998; Revised January 1999].

- *Zone of Initial Dilution* - the area within the mixing zone where initial dilution of the effluent with the receiving water occurs, and where the concentration of the effluent will be greatest in the water column (WVCSR 46-1-5.2(b)).

WASTEWATER MANAGEMENT GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS	
	REFER TO CHECKLIST ITEMS:
Missing Checklist Items	WA.2.1.WV.
Discharges to the Environment	WA.5.1.WV. through WA.5.4.WV.
Permits	WA.10.1.WV. and WA.10.2.WV.
Treatment Works	WA.20.1.WV. through WA.20.3.WV.
Limitations for Mixing Zones	WA.90.1.WV.
Other Discharges and Dischargers	WA.95.1.WV. through WA.95.6.WV.
Individual Sewage Systems	WA.100.1.WV. through WA.100.10.WV.
Land Application of Sewage Sludge	WA.130.1.WV. through WA.130.7.WV.
Other Sewage/Sludge Management	WA.148.1.WV. through WA.148.8.WV.
Water Protection Programs/Recharge Programs	WA.150.1.WV. through WA.150.8.WV.

GUIDANCE FOR APPENDIX USERS	
REFER TO APPENDIX NUMBERS:	**REFER TO APPENDIX TITLES:**
12-1	Specific Exclusions From NPDES Permit Requirements
12-2	Criteria for Determining a Concentrated Animal Feeding Operation
12-3	Criteria for Determining a Concentrated Aquatic Animal Production Facility
12-4	Maximum Concentration of Metals in Sewage Sludge for Land Application
12-5	Maximum Allowable Soil Concentrations
12-6	Frequency of Monitoring
12-7	Maximum Concentration of Metals in Filtrate for Land Application and Maximum Allowable Soil Concentrations

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WA.2. **MISSING CHECKLIST ITEMS**	
WA.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WA.5. **DISCHARGES TO THE ENVIRONMENT**	
WA.5.1.WV. Discharges that contribute to or cause adverse conditions in waters of the state are prohibited (WVCSR 46-1-3 and 47 -2-3) [Citation Revised January 2007].	Verify that no sewage, industrial wastes or other wastes are discharged to the waters of the state that will cause or contribute to: - distinctly visible floating or settleable solids, suspended solids, scum, foam or oily slicks - deposits or sludge banks on the bottom - odors in the vicinity of the waters - taste or odor that would adversely affect the designated uses of the affected waters - materials in concentrations which are harmful, hazardous or toxic to man, animal or aquatic life - distinctly visible color - concentrations of bacteria that would impair or interfere with the designated uses of the affected waters - the requirement of an unreasonable degree of treatment for the production of potable water by modern water treatment processes as commonly employed - any other condition, including radiological exposure, which adversely alters the integrity of the waters of the state including wetlands; no significant adverse impact to the chemical, physical, hydrologic or biological components of aquatic ecosystems.
WA.5.2.WV. Discharges of petroleum products and other harmful substances that may impact groundwater quality are prohibited (WVCSR 47 -58-7).	Verify that no one deliberately allows any of the following substances to escape from a well, pipeline, impoundment, storage tank, treatment unit, or storage container, or deliberately allows them to flow onto or under the land surface in a manner that could impact groundwater quality, unless an authorization has been issued by a groundwater regulatory agency: - crude oil - any petroleum product derived from crude oil - septage - natural gas - salt water - any chemical mixture which may impact groundwater quality.
WA.5.3.WV. Spills and accidental discharges must be reported (WVCSR 47-11-2.2.a and 2.2.b).	Verify that any person who causes or is responsible for any spill or accidental discharge of pollutants into the waters of the State gives immediate notification to the Division of Water Resources' Emergency Notification Number 1 -800-642-3074.

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that the notification sets forth (as far as possible and as soon as practical): - the time and place of such spill or discharge - type or types and quantity or quantities of the material or materials released - action or actions taken to stop such spill or discharge and to minimize its polluting effect - the measure or measures taken or to be taken in order to prevent a recurrence of any such spill or discharge - additional information as may be requested by the Division of Water Resources.
WA.5.4.WV. Specific measures must be taken to contain and cleanup a spill or accidental discharge (WVCSR 47-11-2.5).	Verify that all necessary measures are immediately taken to contain any spill or accidental discharge of any pollutant(s) into State waters. Verify that all necessary measures are taken to clean up, remove, or render harmless any spill or accidental discharge of any pollutant(s) into State waters. (NOTE: When the Chief determines it is necessary for the effective containment and abatement of spills and accidental discharges, he may require monitoring of affected waters until the possibility of any adverse effect on the waters of the State no longer exists.)

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WA.10. **PERMITS**	
WA.10.1.WV. A state NPDES permit is necessary for the discharge of pollutants from a point source (WVCSR 47-10-3 and 47-10-5.1 and 5.2) [Revised February 1998; Revised January 2009].	Verify that pollutants are not discharged from a point source into state waters without a valid state NPDES permit. (NOTE: See Appendix 1-1 for a list of sources exempt from this permit requirement.) (NOTE: Permits are effective for a fixed term not to exceed 5 yr. A WV/NPDES permit will be deemed to be a permit issued in accordance with Article 5 and the Clean Water Act. See WVSCR 47-10-5 for conditions applicable to all NPDES permits.) Verify that the facility is in compliance with all conditions of the WV/ NPDES permit. Verify that the facility is complying with all effluent standards or prohibitions established under CWA Section 307(a) for toxic pollutants, even if the permit has not yet been modified to incorporate the requirement. Verify that the facility applies for a new permit at least 180 days prior to expiration of the permit.
WA.10.2.WV. NPDES permits are necessary for certain special activities that result in point source discharges (WVCSR 47-10-13).	Verify that any concentrated animal feeding operations have applied for and received the necessary NPDES permit. Verify that any concentrated aquatic animal production facility has applied for and received the necessary NPDES permit. (NOTE: See the definitions and Appendix 12-2 and Appendix 12-3 for criteria for "concentrated animal feeding operations" and "concentrated aquatic animal production facility.") Verify that discharges into aquaculture projects have the necessary NPDES permit. Verify that separate storm sewers have been permitted either individually or under a general permit. (NOTE: A permit for discharges into the waters of the state from a separate storm sewer covers all conveyances which are a part of that separate storm sewer system, even though there may be several owners or operators of these conveyances. However, discharges into separate storm sewers from point sources

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	which are not part of the separate storm sewer systems may also require a permit.) Verify that silvicultural point source activities have applied for and received an NPDES permit.

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WA.20. **TREATMENT WORKS**	
WA.20.1.WV. Operators of wastewater treatment facilities must be certified (WVCSR 64-5-5) [Revised January 2004].	Verify that any individual who operates a Class IS, I, II, III, or IV wastewater treatment works in West Virginia is certified by the secretary. Verify that the wastewater treatment works has employed an individual as the chief operator to be responsible for the operation of the works and that the chief operator works onsite. (NOTE: The chief operator of a Class IS wastewater treatment works may be employed on a part-time basis.) Verify that the chief operator of a Class I, II, III, IV wastewater treatment works is a full-time employee (except that the Secretary may permit an operator of a Class I works to be part-time based upon substantial evidence that the facility will operate in accordance with applicable state rules and laws). Verify that the chief operator of a Class IS wastewater treatment works has a Class IS certificate, or a Class I or higher certificate and previous experience in an IS extended aeration system, or a Class I or higher class level certificate and has passed the Class IS examination prior to being employed as the chief operator. Verify that the chief operator of a Class I, II, III or IV wastewater treatment works is certified at a level at least equal to the classification of the wastewater treatment works. Verify that individuals with an operator-in-training certificate are supervised on-site by an operator with a certificate at a class level equal to or greater than the classification of the wastewater treatment works (except an operator-in-training at a Class IS wastewater treatment works must be supervised by a certified wastewater treatment works operator who has a Class IS certificate or meets one of the other criteria for a chief operator of a Class IS wastewater treatment works). Verify that the certificates of all individuals involved in operating a wastewater treatment works are prominently displayed at the wastewater treatment works.
WA.20.2.WV. Small wastewater treatment plants must meet specific operational, design, and permitting requirements (WVCSR 47-11-7).	(NOTE: These requirements apply to sewage treatment plants of 40,000 gal per day capacity or less.) Verify that the operational reliability is provided for small wastewater treatment plants so that pollutants are not discharged during periods of power failure. Verify that the wastewater treatment structure is protected against physical damage for the 25-yr flood level and operability be maintained during the 10-yr

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	flood level. Verify that equalization facilities are provided for mine bathhouses, schools, shopping centers or other wastewater treatment facilities which surcharge the plant on a periodic basis (as opposed to generally constant flows). (NOTE: In cases where the organic loading is of low concentration, supplemental substances may be added to obtain adequate treatment.) Verify that there is no construction, installation, modification or operation of a wastewater disposal system (treatment plant, sewers, lift stations and appurtenances) until a Water Pollution Control Permit has been issued for the facilities.
WA.20.3.WV. Disposal of septage in a public sewage treatment plant must meet certain restrictions (WVCSR 64-47-8.1) [Added January 2004].	Verify that, the owner and operator of the public sewage treatment plant grants permission in writing to the septage hauler for disposal of septage. Verify that the disposal of septage is prohibited in a public sewage treatment plant treating less than one hundred thousand (100,000) gallons per day, unless pre-treatment is provided.

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WA.90. **LIMITATIONS FOR MIXING ZONES**	
WA.90.1.WV. Mixing zones must meet certain requirements (WVCSR 46-1-5 and 47-2-5) [Added February 2000; Revised January 2005; Citation Revised January 2007].	(NOTE: Mixing zones will be part of a permit.) Verify that permit defined conditions and limitation are met. Verify that concentrations of pollutants do not exceed the acute criteria at the edge of the assigned zone of initial dilution. Verify that the chronic criteria are met at the edge of the assigned mixing zone. Verify that mixing zones, including zones of initial dilution, meet the following requirements: - do not interfere with fish spawning or nursery areas or fish migration routes - do not overlap public water supply intakes or bathing areas - cause lethality to or preclude the free passage of fish or other aquatic life - harm any threatened or endangered species. Verify that the mixing zone does not exceed 1/3 of the width of the receiving stream. Verify that in lakes and other surface impoundments, the volume of a mixing zone does not affect in excess of 10 percent of the volume of that portion of the receiving waters available for mixing.

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WA.95. **OTHER DISCHARGES AND DISCHARGERS**	

WA.95.1.WV. Coin-operated laundries and other commercial laundries must meet discharge requirements (WVCSR 47-11-3).	Verify that coin-operated laundries and other commercial laundries located within the corporate limits of a West Virginia municipality, town or within the boundaries of a public service district, or sanitary district or a privately owned installation having an approved sewage treatment facility, divert wastewater to these systems for treatment.
	
	Verify that when a laundry without pretreatment of the wastewater is connected to a sewer, it adheres to local plumbing codes and to any special regulations regarding acceptance of waste at the sewage treatment plant.
	
	Verify that equipment for removal of lint from the water is provided when a laundry with pretreatment discharges directly to a sewer.
	
	Verify that when laundries are located so that a POTW is unavailable or incapable of handling or treating the wastewater, the laundries either divert the wastewater to an approved sewage treatment facility, apply to the Chief for an approved sewage treatment facility, or apply for a permit to construct, install and operate a disposal system.
	
	Verify that any disposal system constructed, installed and operated meets, at a minimum, the following requirements:
	
	- substantial removal of all settleable solids
	- 90 percent removal of a 5-day biochemical oxygen demand
	- chlorination of final effluent at the initial installation:
	  - a chlorination contact chamber provides a contact period of at least 15 min with a residual of 0.5 mg/L of chlorine at maximum flow
	  - dechlorination may be necessary to meet water quality
	  - standards criteria.
	
	Verify that a laundry discharging water into a receiving stream used primarily for recreational pursuit and supporting sport fisheries, also provides tertiary treatment of additional BOD removal to 10 mg/L.
	
	Verify that for laundries located where no discharge of the wastewater can be made to a sanitary sewer or to a receiving stream, holding tanks are provided for wastes and the wastes are transported to an approved wastewater treatment plant for treatment.
	
	Verify that the following systems are not used:
	
	- septic tanks with or without leach fields
	- cesspools

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	- direct or indirect discharge of untreated or inadequately treated laundry wastewater to the waters of the State.
WA.95.2.WV. Coin-operated car washes and other commercial car washes must meet discharge requirements (WVCSR 47-11-4.2).	Verify that any coin operated or fee generating car wash located where a publicly owned treatment works and sewerage system is available to handle and treat its wastewater, direct it to the publicly owned treatment works. (NOTE: A coin operated or other fee generating car wash so situated need not install a pretreatment system unless the POTW certifies that it could not handle and treat the establishment's wastewater without minimum pretreatment.) Verify that a car wash discharging to a POTW without pretreatment of the wastewater adheres to local plumbing codes and to any special local ordinances or regulations regarding acceptance of waste at the sewage treatment plant. Verify that a car wash pretreatment system, at a minimum, consists of a device to prevent large objects from entering the sewer lines and a settling tank to remove settleable solids, and complies with the applicable requirements of the local sewer use ordinance or regulations including pretreatment requirements, where applicable.
WA.95.3.WV. Coin-operated car washes and other commercial car washes that do not discharge to a POTW must meet specific treatment standards (WVCSR 47-11-4.3 and 4.4).	Verify that any coin-operated or fee-generating car-wash located where a POTW is unavailable or incapable of handling or treating the wastewater either directs its wastewater to an approved sewage treatment facility or applies to the Chief for a permit to construct, install and operate a disposal system. Verify that any disposal system constructed, installed and operated meets, at a minimum, the following requirements: - substantial removal of all settleable solids - substantial removal of 5-day biochemical oxygen demand - a grease trap is installed and properly maintained within to prevent oil and grease from entering the wastewater treatment facility - a grit removal chamber is installed in such a manner to be readily cleaned. Verify that a car wash which does not provide treatment facilities provides impervious holding facilities for wastes and the wastes are transported to an approved wastewater treatment plant for treatment.
WA.95.4.WV. Car washes must dispose of settleable materials properly (WVCSR 47-11-4.5).	Verify that any car wash employing a water reuse system provides proper disposal of settleable materials.

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WA.95.5.WV. Certain types of disposal systems are not used for car washes (WVCSR 47-11-4.6).	Verify that the following systems are not used: - septic tanks with or without leach fields - cesspools - direct or indirect discharge of untreated or improperly treated wastewater from coin-operated or other fee generating car washing establishments to the waters of the State.
WA.95.6.WV. Restaurants and similar establishments where a large quantity of grease and fats in liquid wastes occur must have grease traps (WVCSR 64-47-10) [Added January 2004].	Verify that there are grease traps for all restaurants and similar establishments where a large quantity of grease and fats in liquid wastes will occur. Verify that the location of the external grease trap is within 30 feet from the fixtures served. (NOTE: If meeting this distance requirement is not possible and thus, external grease traps are not possible due to existing conditions or physical limitations, the Commissioner may allow internal grease traps.) Verify that only those plumbing fixtures into which the grease and fats are discharging connect to the grease trap. Verify that the external grease trap has a minimum of 150 gallons capacity. Verify that the external grease trap is in an easily accessible place outside the building served.

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WA.100. **INDIVIDUAL SEWAGE SYSTEMS**	
WA.100.1.WV. Permits must be obtained prior to the installation of sewage disposal systems (WVCSR 64-9-3.1 and 64-9-4) [Revised February 1998; Revised January 1999].	Verify that no sewer system is installed or established without first obtaining a written permit from the Director. Verify that a permit to construct, install, or modify is obtained prior to the construction or installation. Verify that, prior to construction, a discharge permit is obtained from the chief of the office of water resources, where applicable. Verify that a sewer system permit is obtained prior to the construction or installation of any dwelling or establishment that will require a sewer system. (NOTE: A permit for an individual sewer system or for a public sewer system on which construction has not begun within one year from the date of issuance is invalid unless a request for a renewal is approved by the Director.) Verify that, where subsurface discharge systems are used, there is sufficient area to install the initial system and a suitable replacement area.
WA.100.2.WV. All dwellings or establishments must be provided with toilet facilities and a sewer system (WVCSR 64-9-3.2 through 3.5) [Revised February 1998; Revised January 1999].	Verify that every dwelling or establishment whether publicly or privately owned, where persons reside, assemble, or are employed, is provided with toilet facilities, and a sewer system approved by the Director. (NOTE: It is the duty of the owner of each dwelling or establishment to provide toilet facilities and a sewer system constructed and installed in compliance with an approved plan.) Verify that all sewer systems are designed, constructed, installed, maintained and operated so that excreta, sewage, or effluent discharges: - do not create a health hazard affecting the public - do not violate any federal, state or local laws or regulations governing water pollution or sewage disposal.
WA.100.3.WV. The construction, installation, or modification of any sewer system must meet specific standards (WVCSR 64-9-7)	Verify that mechanical sewer systems with surface discharge and mechanical sewer systems where additional treatment is required for subsurface discharge have a perpetual maintenance program approved by the Director. Verify that sewage treatment and disposal plants conduct all physical, chemical,

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
[Added February 1998; Revised January 1999].	and bacteriological control tests required by the Division of Health. Verify that sewage treatment and disposal plants serving a public sewer system are equipped with necessary testing apparatus for making any required physical, chemical, and bacteriological control tests. (NOTE: The Division of Health, upon written request, will furnish a statement of the control tests necessary for a particular plant.) Verify that the results of the control tests and the record of the sewage treatment plant's operation are entered upon a permanent record form or ledger and maintained at the plant. Verify that the operator of the sewage treatment or disposal plant submits a summary of operation and control data to the Division of Health each month, or as otherwise directed. (NOTE: The Division of Health, by specific written direction, may waive the submission of operating reports from sewage treatment or disposal plants serving 500 or fewer persons.)
WA.100.4.WV. Individual sewer systems must be inspected and approved by the Director (WVCSR 64-9-6.3 and 64-9-6.4) [Revised January 1999].	Verify that no system is used or placed into operation until the system has been inspected and approved in writing by the Director. Verify that no part of any sewer system utilizing soil absorption disposal of effluent is covered until the system has been inspected and approved in writing by the Director. (NOTE: Any part of the system that is covered prior to such approval will be uncovered upon oral or written order of the Director.)
WA.100.5.WV. [Deleted January 2007].	(NOTE: WVCSR 64-9-7 repeated in WA.100.3.WV.)
WA.100.6.WV. The abandonment of a sewer system must meet specific closure requirements (WVCSR 64-9-3.6) [Revised February 1998; Revised January 1999].	Verify that a sewer system is abandoned in the following manner: - the contents of the sewage tank are removed by a certified septic tank cleaner - the tank or the excavation is filled to eliminate any physical hazard - the tank, if removed, is disposed of in a manner approved by the Director and the Chief. Verify that: - electrical service to the system is terminated, and electrical service boxes,

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	switches, meters, and similar equipment, removed or rendered harmless - water service to the system is disconnected - other potentially hazardous equipment associated with the system is removed or rendered harmless.
WA.100.7.WV. Disposal of sewage off lot or requiring the crossing or use of adjacent property must have a recorded easement (WVCSR 64-9-3.8) [Added February 1998; Revised January 1999].	Verify that, in cases of off lot disposal of sewage or effluent requiring the use or crossing of adjacent property, a recorded easement or authorization binding to the heirs and assigns of the properties involved is obtained.
WA.100.8.WV. Permits are required for collecting, removing, transporting or disposing of the contents of a sewage tank (WVCSR 64-9-10.1) [Revised February 1998; Revised January 1999].	Verify that persons engaging in collecting, removing, transporting, or disposing of the contents of a sewage tank have a permit from the county in which the business is located. (NOTE: Out of state sewage tank cleaners obtain the permit from the county where most of their business is located.)
WA.100.9.WV. Individual sewer system installers must be certified (WVCSR 64-9-11) [Revised January 1999].	Verify that all individual and on-site sewer system installers are certified by the Director. (NOTE: A Class I certificate will apply to the installation of individual septic tank soil absorption systems and privies. A Class II certificate will apply to those individual or on-site sewer systems covered by the Class I certificate plus all alternative and innovative individual sewer systems as set forth within the Design Standards. Certification will expire 5 yr from date of issuance and the certificate holder will apply to the Director for renewal of the certificate prior to the expiration date.)
WA.100.10.WV. Sewage tanks must meet specific cleaning requirements (WVCSR 64-9-10.3 through 64-9-10.9) [Added January 1999].	Verify that precaution are taken by sewage tank cleaners to prevent the leaking, spilling, or dripping of the sewage tank contents during collection, removal, transportation and disposal. Verify that sewage tanks are not cleaned by bailing or dipping and then emptying the bailing or dipping container into a carrier tank. Verify that any leakage, spillage, or drippings are cleaned up immediately. Verify that the sewage tank cleaner carries chlorinated lime or similar satisfactory

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	disinfectant for immediately treating the areas where leakage, spillage, or dripping has occurred. Verify that the contents of sewage tanks are not transported in an open bed motor carrier vehicle, or any other type vehicle, unless said sewage contents are contained within approved portable receptacles. Verify that, before being used, facilities for cleaning sewage tank cleaning equipment are inspected and approved by the Director. Verify that the contents of sewage tanks are disposed of in a manner that prevents spread of disease and avoids creation of nuisance conditions. Verify that sewage tank cleaners keep a written record of all jobs accomplished and submit the report to the Director quarterly.

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
WA.130. **LAND APPLICATION OF SLUDGE**	
WA.130.1.WV. Permits are required for specific sewage sludge related activities and facilities (WVCSR 33-2-4.1) [Added February 1998; Revised January 2001; Revised January 2004].	Verify that a solid waste facility permit is obtained prior to the construction or operation of a sewage sludge processing facility (including mixed waste composting facilities which utilize sewage sludge) or a commercial solid waste facility which processes or handles sewage sludge or materials derived from sewage sludge. Verify that sewage sludge is not land applied without a land application permit. (NOTE: Land application permit requirements may be incorporated into a modification of a facility's WV/NPDES permit.) (NOTE: A land application permit is not required for sewage sludge products which: - meet the maximum concentration of metals specified in appendix 12-4 - is treated to achieve Class A pathogen reduction requirements - meets one of the vector attraction reduction requirements - is sold or given away in a bag or other container.) (NOTE: Any person who land applies bulk sewage sludge products which meet the Table 1 metals limits of this rule, and which have been treated to achieve Class A pathogen reduction requirements and one of the vector attraction reduction requirements, is not required to obtain a land application permit for sites where such products are applied on agricultural land less than 2 acres in size and the annual quantity of sludge product applied to that site does not exceed 2 dry tons per acre, except that those products derived from domestic septage are not exempt from permitting requirements. This exemption from permitting does not apply to multiple sites on the same parcel of land, and does not exempt sewage sludge processing facilities from any other permitting or reporting requirements of this rule or of the Sewage Sludge Management Act.) (NOTE: Any person who land applies exceptional quality compost is not required to obtain a land application permit for sites where such compost is applied on 2 acres or less in size and the quantity of exceptional quality compost applied to that site does not exceed the agronomic rate for the land or a rate of 15 dry tons per acre, whichever is less. This exemption from permitting does not apply to multiple sites on the same parcel of land and does not exempt sewage sludge processing facilities from any other permitting or reporting requirements of this rule or of the Sewage Sludge Management Act.) (NOTE: Land upon which sewage sludge is land applied is not a solid waste facility; see definitions.)

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Verify that publicly owned treatment works (POTWs) which produce sewage sludge and are regulated under a WV/NPDES permit, obtain a sewage sludge processing facility modification as a part of the existing WV/NPDES permit which includes an approved sewage sludge management plan. Verify that facilities which are surface disposal sites as defined in 40 CFR 503, Subpart C, (see the definitions in the U.S. TEAM Guide) meet all requirements of 33 CSR 1 applicable to landfills (see the *Solid Waste Management* chapter, section SO.135.WV.).
WA.130.2.WV. Sewage sludge land application sites must meet siting restrictions and location standards (WVCSR 33-2-3.2) [Added February 1998; Revised January 2001].	Verify that sewage sludge is not be applied to land that meets any of the following conditions: - land that is frozen, snow-covered, or known to be flooded on a regular basis unless the applicant can demonstrate to the Director that the land application will not cause runoff into streams or wetlands - land within 50 ft of surface water to include streams, springs, ponds, wetlands, or other collection points for surface water - land within 200 ft of drinking water supply wells or other personal water supply - land within 200 ft of an occupied dwelling - land within 50 ft of a federal or state highway - land within 100 ft of an adjacent property owner's property line - land from which drainage leads into a sinkhole - land that has been tested and determined to have a pH of less than 6.2, unless the pH is adjusted to 6.2 or greater - land that has a slope greater than 15 percent - land that has a seasonal high groundwater table less than 2 ft from the surface - land that has less than 6 in. of soil over bedrock or an impervious pan - land containing soil with surface permeability of less than 0.6 in./h or greater than 6 in./hr - other land determined by the Director to be unsuitable for application of sewage sludge. (NOTE: Sewage sludge that meets the metals limits, and which have been treated to achieve Class A pathogen reduction requirements and one of the vector attraction reduction requirements, and which is sold or given away in a bag or other container, and exceptional quality compost which is land applied in accordance with this rule, is not subject to the preceding requirements, so long as the sewage sludge products are not applied to: - land within 50 ft of any surface water, or surface water collection point - land with a slope greater than 15 percent - land from which drainage leads to a sinkhole.) Verify that sewage sludge meets the allowable concentrations of metals (see Appendix 12-4). Verify that, if circumstances at sewage sludge processing facilities result in short

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	term excursions of Table 1 criteria, written notification is provided to the Chief, Office of Water Resources within 5 days, and a written plan to identify and correct the problem is submitted within 60 days. (NOTE: The Director may develop temporary loading rates, for a period not to exceed six months, based on the provisional limitations of Table 2 (see Appendix 12-4).) (NOTE: The Director assigns an individual and lifetime loading rate for each land application site by considering background soil concentrations and maximum allowable pollutant concentrations (see Appendix 12-5).) Verify that no land, except a solid waste facility, accepts or stores so much sewage sludge as to exceed the agronomic rate or a rate of fifteen dry ton per acre per year, whichever is less. (NOTE: Up to twenty-five dry tons per acre per year may be applied in the reclamation of surface mine land.) Verify that sewage sludge is not stored at a land application site for a period longer than one week. (NOTE: Storage will be allowed for up to 3 months where provisions, approved by the chief of the Office of Water Resources of the Division, have been made to prevent leachate runoff into surface or groundwater.) Verify that septage is stored only in-tank and for no more than 3 days, or as otherwise authorized by the chief of the Office of Water Resources of the Division. Verify that sewage sludge is applied only during the hours of daylight. (NOTE: Exceptional quality compost may be stored at a distributor's property that is not a land application site or sewage sludge processing facility for a period of up to 3 mo. Upon written request by the distributor and with the approval of the Division, the exceptional quality compost may be stored on the distributor's property for an additional 3 months. These time limitations for storage do not apply to exceptional quality compost contained in a bag or other container which is closed, and are in addition to and do not affect other time limitations for storage in this rule.)
WA.130.3.WV. Sewage sludge processing facilities must meet operational and design requirements (WVCSR 33-2-3.3 and 33-2-5.1.a.2) [Added February 1998;	Verify that areas used for processing, curing and storage of raw materials, intermediate and final products, loading and unloading areas, impoundments, pipelines, ditches, pumps and drums, sumps and tanks, are designed, constructed and operated to prevent release of contaminants to the groundwater and surface water.

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
Revised February 2000].	Verify that storage of finished products is limited to one year. Verify that sewage sludge processing facilities are designed and operated to control vectors and odors. Verify that sewage sludge processing facilities are not operated or constructed within the 100-yr flood plain unless provisions have been made to prevent the encroachment of flood waters upon the facility. Verify that sewage sludge processing facilities protect all land areas within their boundaries where sewage sludge, intermediate or final products come in direct contact with the land surface (see the requirements in section WA.150.WV. below on protection of groundwater from industrial establishments). Verify that offsite odor monitoring is quarterly or as otherwise specified by the Director. (NOTE: The Barnebey-Cheney scentometer or other instrument, device or technique designated by the Director may be used as a guide in the enforcement of this rule and may used in the determination of the objectionability of an odor.) (NOTE: When an odor is determined to be objectionable and repetitious by the Director, the director may require the facility to conduct related studies within a specified time period.) Verify that monitoring for sewage sludge and sewage sludge product quantity is conducted at the frequency required in Appendix 12-6.
WA.130.4.WV. Sewage sludge processing facilities must meet leachate management requirements (WVCSR 33-2-3.4) [Added February 1998].	Verify that any liquid which comes in contact with sewage sludge at a sewage sludge processing facility is handled as leachate.
WA.130.5.WV. Sewage sludge processing facilities must meet storm water management requirements (WVCSR 33-2-3.5) [Added February 1998].	Verify that storm water drainage is directed around and away from the operating area. Verify that all storm water is collected and discharged in compliance with State Water Quality Standards and the storm water permit issued by the Office of Water Resources of the Division. (NOTE: Sewage sludge processing facilities are also going to be required, as industrial activities, to apply for discharge permits for storm water.)

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WA.130.6.WV. Landfill disposal of sewage sludge must meet specific requirements (W VCSR 3 3-2-3.6) [Added F ebruary 1998 ; Revised January 2004].	Verify that sewage sludge disposed of at a landfill contains at least twenty percent solids by weight. (NOTE: This requirement may be met by adding or blending sand, sawdust, lime, or s oil. Alternative s ludge d isposal methods c an b e utilized with p rior written approval from the chief.) Verify that sewage s ludge d oes no t represent more than t wenty-five p ercent b y weight of the total weight of waste disposed of at the landfill on any working day. Verify that sewage sludge is not be used as daily cover by a landfill.

WA.130.7.WV. Exceptional quality c ompost sold or g iven away i n q uantities e xceeding one t on must meet s pecific requirements (W VCSR 3 3-2-3.7) [Added January 2001].	Verify t hat e xceptional q uality c ompost i s no t sold o r gi ven a way i n quantities exceeding one metric ton unless:
	
	- the D ivision i s n otified i n writing o f t he in tent to d istribute e xceptional quality compost in quantities exceeding one metric ton at least 30 days prior to the initial distribution in West Virginia
	- distribution r ecords a re maintained f or e xceptional qua lity c ompost a nd reported to the Division monthly, including:
	  - the n ame a nd ad dress o f each p erson r eceiving b ulk quantities o f exceptional quality compost in excess of one metric ton
	  - the quantity of exceptional quality compost received by each person
	  - the results of all tests conducted as part of their monitoring program
	- a written cer tification i s p repared s tating t hat t he co mposter h as co mplied with t he r equirements of t his rule, a nd pr ovided t o t he Division a nd t o a ny person to whom e xceptional q uality c ompost is d istributed in q uantities exceeding one metric.
	
	(NOTE: E xceptional q uality c ompost s old o r g iven a way in a b ag o r o ther container is not subject to these requirements.)

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WA.148. **OTHER SEWAGE/SLUDGE MANAGEMENT**	
WA.148.1.WV. Permits are required for specific sewage sludge related activities and facilities (WVCSR 33-8-1, 33-8-3 and 33-8-4) [Added January 2004; Revised January 2009].	(NOTE: This checklist item applies to any person who seeks to beneficially reuse sludge or other non-hazardous material within the state. This checklist item does not apply to sewage sludge, products derived from sewage sludge, or materials regulated as hazardous waste.) Verify that sludge or other material determined to have beneficial characteristics similar to sewage sludge has a land application permit. (NOTE: Land application permit requirements may be incorporated into a modification of a facility's WV/NPDES permit.) (NOTE: The following materials are not eligible to be considered beneficial: - any sludge or other material that is a listed or characteristic hazardous waste - sludge generated from any manufacturing or processing of metals, plastics, herbicides, pesticides, algaecides, or fungicides - petroleum contaminated soils - sludge generated from a drinking water treatment plant - wastes from saw milling or logging operations - any sludge or other material having a nutrient concentration that will not provide at least fifty percent of the established crop nutrient need for either nitrogen, phosphorous, or potassium.)
WA.148.2.WV. Land application of materials that have beneficial characteristics similar to sewage sludge must meet location standards and restrictions (WVCSR 33-8-3.2) [Added January 2004; Revised January 2009].	Verify that sewage sludge is not be applied to land that meets any of the following conditions: - land that is frozen, snow-covered, or known to be flooded on a regular basis unless the applicant can demonstrate to the Director that the land application will not cause runoff into streams or wetlands - land within 50 ft of surface water to include streams, springs, ponds, wetlands, or other collection points for surface water - land within 200 ft of drinking water supply wells or other personal water supply - land within 200 ft of an occupied dwelling - land within 50 ft of a federal or state highway - land within 100 ft of an adjacent property owner's property line - land from which drainage leads into a sinkhole - land that has been tested and determined to have a pH of less than 6.2, unless the pH is adjusted to 6.2 or greater - land that has a slope greater than 15 percent - land that has a seasonal high groundwater table less than 3 ft from the surface - land that has less than 6 in. of soil over bedrock or an impervious pan

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 2010
	- land containing soil with surface permeability of less than 0.6 in./h or greater than 6 in./hr - land that is within 100 ft of a vertical rock outcrop - land where the application of sludge or other material is likely to adversely affect a threatened or endangered species - other land determined by the Director to be unsuitable for application of sewage sludge. Verify that or sludge or other approved material is applied to land in a manner that will result in exceeding the maximum soil concentration for arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, or zinc as listed in Appendix 12-4. Verify that no land, except a solid waste facility, accepts or stores so much sewage sludge as to exceed the agronomic rate or a rate of fifteen dry ton per acre per year, whichever is less. (NOTE: Up to twenty-five dry tons per acre per year may be applied in the reclamation of surface mine land.) Verify that sludge or other approved material is not applied to land in a manner that will result in exceeding the groundwater standards. Verify that sludge or other material is not stored at a land application site for a period longer than one week (except storage is allowed for no longer than 3 months where provisions, approved by the Secretary, have been made to prevent leachate runoff into surface or groundwater). Verify that sludge or other approved material is not applied to land in a manner that diminishes soil productivity, seed germination, or plant health. Verify that sludge is only applied during daylight hours. Verify that persons applying sludge or other materials containing 10 percent or more total fats comply with the following requirements: - If the sludge or other material is incorporated into the soil within 20 days of application to the soil, the annual loading rate of total fats to the soil does not exceed one percent of soil mass of the plow layer - if the sludge or other material is not incorporated into the soil within 20 days of application to the soil, the annual loading rate of total fats to the soil does not exceed 2 tons/acre/year - if the total fat content of the sludge or other material exceeds one percent, no surface application of liquids occurs on existing stands of grass or other forage crop.
WA.148.3.WV. Sewage sludge processing facilities	Verify that areas used for processing, curing and storage of raw materials, intermediate and final products, loading and unloading areas, impoundments,

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
must meet operational and design requirements (WVCSR 33-8-3.3 and 3. 4) [Added January 2004].	pipelines, ditches, pumps and drums, sumps and tanks, are designed, constructed and operated to prevent release of contaminants to the groundwater and surface water. Verify that storage of finished products is limited to one year. Verify that sewage sludge processing facilities are designed and operated to control vectors and odors. Verify that the storage area is not operated or constructed within the 100-yr flood plain unless provisions have been made to prevent the encroachment of flood waters upon the facility. Verify that all land storage areas are protected in accordance with the groundwater regulations (see the requirements in section WA.150.WV. below on protection of groundwater from industrial establishments). (NOTE: When an odor is determined to be objectionable and repetitious by the Secretary, the Secretary may require the activity to cease and/or require the facility to conduct related studies within a specified time period.)
WA.148.4.WV. Beneficial use of water treatment plant filtrate must be permitted (WVCSR 33-9-1, 33-9-3.2, 33-9-3.3, and 33-9-11) [Added January 2009].	Verify that no person land applies or otherwise beneficially uses filtrate without first obtaining a permit for such use from the Secretary. (NOTE: The Secretary may issue a short-term permit (use not to exceed 18 months) or a long term permit (term not to exceed 5 years). In addition the Secretary may issue a general permit to cover a category of filtrate uses within a geographic area.) (NOTE: This checklist item applies to the beneficial use of water treatment plant sludge. This checklist does not apply to sewage sludge, products derived from sewage sludge, sludges similar to sewage sludge (see WA.148.1.WV. through WA.148.3.SV.), or materials regulated as hazardous waste.)
WA.148.5.WV. Water treatment plant filtrate must meet specific requirements to be land applied (WVCSR 33-9-5.1, 5.5, 5.8.f, 5.8.g, 5.8.k, and 33-9-6.2.b, and 6. 2.d) [Added January 2009].	Verify that the concentration of any heavy metal in the filtrate does not exceed the limits listed in Appendix 12-7, Table 1. Verify that filtrate is not applied in a manner that will result in exceeding the maximum soil concentrations listed in Appendix 12-7, Table 2. (NOTE: The Secretary is authorized to issue variances to allow land application to soils where the background levels of metals in the soil exceed the maximum soil concentrations of metals.) Verify that any filtrate that is a listed or characteristic hazardous waste is not land applied.

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	Verify that any filtrate having a nutrient concentration that will not provide at least 50 percent of the established crop nutrient need for either nitrogen, phosphorous, or potassium is not land applied unless the Secretary approves. Verify that filtrate is not applied in a manner that diminishes soil productivity, seed germination, or plant health. Verify that filtrate is only land applied during daylight hours. Verify that no person land applies filtrate that exceeds the agronomic rate for that land application site or a rate of 15 dry tons per acre per year, whichever is less. Verify that, if filtrate is mixed with sewage sludge, then the rule governing the beneficial use of materials similar to sewage sludge (see WA.148.1.WV. through WA.148.3.SV.) governs the resulting mixture. (NOTE: This checklist item applies to the beneficial use of water treatment plant sludge. This checklist does not apply to sewage sludge, products derived from sewage sludge, sludges similar to sewage sludge (see WA.148.1.WV. through WA.148.3.SV.), or materials regulated as hazardous waste.)
WA.148.6.WV. Water treatment plant filtrate must be applied to land that meets specific requirements (WVCSR 33-9-5.7.a, 5.8.h and 33-9-6.2.a) [Added January 2009].	Verify that filtrate is not applied to land that meets any of the following conditions unless approved by the Secretary: - land that is frozen, snow-covered, or known to be flooded on a regular basis - land within 50 feet of surface water to include streams, springs, ponds, wetlands, or other collection points for surface water unless the water in the collection point will be treated before being released into a surface water - land within 200 feet of drinking water supply wells or other private water supply - land within 50 feet of an occupied dwelling - land within 20 feet of a federal or state highway unless the beneficial use includes soil improvement for plantings on West Virginia Department of Transportation or federal highway rights of way and is applied with permission of the applicable state or federal highway authority or fill or grading material on West Virginia Department of Transportation or federal highway rights of way with permission of the applicable state or federal highway authority - land from which drainage leads into a sinkhole - land that has a slope greater than 15 percent - land that has a seasonal high groundwater table less than 3 feet from the surface - land where the application of filtrate is likely to adversely affect a threatened or endangered species or its designated critical habitat - land where there has been a precipitation event measured at more than 0.25 inches in the previous 24 hours or where there is the expectation that a precipitation event of a like magnitude will occur within 24 hours after application

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	- other land determined by the Secretary to be unsuitable for land application Verify that filtrate is not applied to land that meets any of the following conditions without specific permission from the Secretary: - land within 100 feet of an adjacent property owner's property line, unless written permission is given by the adjacent property owner - land with a pH of less than 6.2, unless the adjustment of pH to 6.2 or greater can be accomplished by the addition of a higher pH filtrate - land that is within 100 feet of a vertical rock outcrop, unless it is shown that the land application will not adversely affect groundwater. Verify that new soil analyses for those metals listed in appendix 12-7, Table 2 is completed at each land application site whenever 50 percent of the assigned lifetime loading rate for the site has been achieved. (NOTE: This checklist item applies to the beneficial use of water treatment plant sludge. This checklist does not apply to sewage sludge, products derived from sewage sludge, sludges similar to sewage sludge (see WA.148.1.WV. through WA.148.3.WV.), or materials regulated as hazardous waste.)
WA.148.7.WV. Water treatment plant filtrate applied to land subsurface must meets specific requirements (WVCSR 33-9-5.7.b and 5.7.c.) [Added January 2009].	Verify that filtrate is not applied to land subsurface that meets any of the following conditions unless approved by the Secretary: - land within 200 feet of drinking water supply wells or other private water supply - land from which drainage leads into a sinkhole - land that has a seasonal high groundwater table less than 3 feet from the surface - land where the application of filtrate is likely to adversely affect a threatened or endangered species or its designated critical habitat - other land determined by the Secretary to be unsuitable for land application. Verify that any filtrate applied to the land subsurface for the maintenance and construction of utility distribution and collection systems is covered by a minimum of 6 inches of non-filtrate fill material. (NOTE: This checklist item applies to the beneficial use of water treatment plant sludge. This checklist does not apply to sewage sludge, products derived from sewage sludge, sludges similar to sewage sludge (see WA.148.1.WV. through WA.148.3.SV.), or materials regulated as hazardous waste.)
WA.148.8.WV. Areas used for storing, mixing, processing, and curing of water treatment plant filtrate	Verify that areas used for storing, mixing, processing, and curing of filtrate, including filtrate loading and unloading areas, impoundments, pipelines, ditches, pumps, drums, sumps and tanks, are designed, constructed and operated to prevent

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
must meet specific requirements (WVCSR 3 3-9-6.1) [Added January 2009].	release of contaminants to the groundwater and surface water. Verify that outdoor storage of finished products that have been processed or cured is limited to one year provided the permanent storage area is constructed and operated to prevent the release of contaminants to groundwater or surface water. Verify that all storage areas are designed and operated to control vectors and odors. Verify that storage areas are not operated or constructed within the one hundred year flood plain unless provisions have been made to prevent the encroachment of flood waters upon the storage area. Verify that filtrate is not stored at a land application site prior to land application for a period of more than one week. (NOTE: The Secretary may authorize storage for up to three months where acceptable provisions have been made to prevent leachate runoff into surface or groundwater.) (NOTE: This checklist item applies to the beneficial use of water treatment plant sludge. This checklist does not apply to sewage sludge, products derived from sewage sludge, sludges similar to sewage sludge (see WA.148.1.WV. through WA.148.3.SV.), or materials regulated as hazardous waste.)

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WA.150. **WATERSHED PROTECTION PROGRAMS/ RECHARGE PROGRAMS**	
WA.150.1.WV. [Deleted January 2004].	(NOTE: See WA.150.4.WV.)
WA.150.2.WV. Contaminated runoff from outdoor material storage or disposal areas at industrial establishments must be controlled (WVCSR 47-58-4.3) [Revised January 2004; Revised January 2007].	Verify that existing areas used for outdoor, noncontainerized storage or disposal of raw materials, products or waste are evaluated for their potential to contaminate groundwater. Verify that where substantial potential exists, the areas have runoff/infiltration control systems. Verify that new areas used for storage or disposal of raw materials, products or wastes are designed, constructed and operated to prevent release of contaminants to the groundwater, using liner systems if necessary. (NOTE: Groundwater monitoring stations for existing and new areas may be necessary to assure protection of the groundwater resource.) (NOTE: This subsection includes requirements for the prevention of groundwater contamination due to facilities, operations, or activities that qualify as industrial establishments (see definitions).)
WA.150.3.WV. Contamination from impoundments must be prevented at industrial establishments (WVCSR 47-58-4.5) [Revised January 2007].	(NOTE: This requirement applies to all types of impoundments: Holding, storage, equalization, treatment, etc.) Verify that existing impoundments are evaluated for their potential to cause groundwater contamination. Verify that where potential for contamination exists, action is taken to eliminate, to the degree practicable, the potential for groundwater contamination. (NOTE: In addition, further evaluation may be necessary to determine if contamination has occurred and to address such contamination in accordance with the act. Placement of groundwater monitoring stations may be necessary to perform this evaluation.) Verify that new impoundments are designed and operated to prevent

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	contamination of groundwater. Verify that new impoundments that are found to have the potential to contaminate groundwater use a liner or other appropriate control system. (NOTE: Groundwater monitoring stations may be necessary to assure protection of the groundwater resource.) (NOTE: This subsection includes requirements for the prevention of groundwater contamination due to facilities, operations, or activities that qualify as industrial establishments (see definitions).)
WA.150.4.WV. The closure of impoundments at industrial establishments must be handled in a specific manner (WVCSR 47-58-4.6) [Revised January 2007].	(NOTE: This requirement applies to all types of impoundments: holding, storage, equalization, treatment, etc.) Verify that all wastewater is treated and removed. Verify that all solids and sludges are properly disposed by in-place closure if approved by the Director, or removed to a landfill, or incinerated, unless a beneficial reuse is allowed. Verify that impoundments are graded and leveled to the maximum extent possible including, where practicable, filling with soils or other material approved by the Director, capped (if the Director determines necessary), and vegetated. Verify that prior to closing an impoundment that has been found to be contaminating groundwater, a plan is submitted to the Director that includes, but is not limited to, details of capping, filling, grading, and runoff control. (NOTE: This subsection includes requirements for the prevention of groundwater contamination due to facilities, operations, or activities that qualify as industrial establishments (see definitions).)
WA.150.5.WV. Ditches, pumps, ancillary equipment and drums containing materials that have potential to contaminate groundwater must be designed and managed so that spills and leaks are contained at industrial establishments (WVCSR 47-58-4.7.b through d) [Revised February 1998; Revised January 2004;	Verify that ditches are not installed as primary conveyances for materials that have the potential to contaminate groundwater, unless provided with appropriate liners. Verify that pumps and ancillary equipment (e.g. valves, flanges, filters, condensate lines and instrumentation) handling materials that have the potential to contaminate groundwater are selected and installed to prevent or contain any spills or leaks. Verify that drums containing materials that have the potential to contaminate groundwater are stored so that spills and leaks are contained. Verify that measures are taken to control drum deterioration and/or damage due to

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
Revised January 2007].	handling. (NOTE: This subsection includes requirements for the prevention of groundwater contamination due to facilities, operations, or activities that qualify as industrial establishments (see definitions).)
WA.150.6.WV. Industrial establishments must have a comprehensive groundwater protection plan (WVCSR 47-58-4.11 and 4. 12.c) [Revised January 2004].	Verify that each federal facility that is an industrial establishment has a comprehensive groundwater protection plan (GPP). Verify that each GPP contains the following: - an inventory of all operations that may reasonably be expected to contaminate the groundwater resources with an indication of the potential for soil and groundwater contamination from those operations - a description of procedures designed to protect groundwater from the identified potential contamination sources, with specific attention given to: - manufacturing facilities - materials handling - equipment cleaning - construction activities - maintenance activities - pipelines carrying contaminants - sumps and tanks containing contaminants - a list of procedures to be employed in the design of any new equipment/operations - a summary of all activities carried out under other regulatory programs that have relevance to groundwater protection - a discussion of all available information reasonably available to the facility/ activity regarding existing groundwater quality at, or which may be affected by the site - a clarification that no wastes be used for deicing, fills, etc., unless provided for in existing regulations - provisions for all employees to be instructed and trained on their responsibility to ensure groundwater protection (job procedures provide direction on how to prevent groundwater contamination) - provisions for quarterly inspections to ensure that all elements and equipment of the site's groundwater protection program are in place, properly functioning and appropriately managed. Verify that the GPP is available onsite at all times. (NOTE: This subsection includes requirements for the prevention of groundwater contamination due to facilities, operations, or activities that qualify as industrial establishments (see definitions).)
WA.150.7.WV. The storage	Verify that fertilizers are stored inside a sound structure or device having a cover

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
and handling of fertilizers and manures should prevent pollution of the groundwater through point-source discharges (MP based on WVCSR 61-22B-3).	or rooftop, sidewalls, and a base sufficient to prevent contact with precipitation and surface water. Verify that manure is stored in a facility that meets or exceeds the standards of the Soil Conservation Service Field Office Technical Guide. Verify that, if those standards are not met, manure is not stored: - without a tarpaulin or other suitable covering to prevent seepage or runoff to surface or groundwater - on land within 100 ft of shallow wells, or wells that do not meet the Water Well Design Standards set by WV 64 CSR 46 et seq. (effective 6-8-84) - on land within 50 ft from surface water, including springs, ponds, wet areas or other collection points for surface water - on land within 50 ft of an open portal of a sinkhole - on land that has a slope greater than 15 percent, unless measures are taken to divert runoff of precipitation from the slopes above the storage area from the fertilizer or manure - on land that has a seasonable groundwater table that is less than 2 ft from the surface - on land that has less than 20 in. of soil over bedrock or an impervious pan - on land that has a reasonable expectation of having a flood event resulting from a 25-yr, 24-h frequency storm during the storage period. Verify that mixing and loading operations for liquid fertilizers or for fertilizers containing pesticides are conducted at least 100 ft from any wellhead or within a watertight loading pad. Verify that, when cleaning equipment used for storing or applying fertilizers or manures, extreme care is taken that waste water or spillage from the operation is recovered and applied at normal agronomic rates or otherwise disposed of in a manner that will not contaminate groundwater. Verify that in the area where fertilizers or manures are stored and used, dry or abandoned wells are plugged. Verify that all persons practicing fertilization use a proper antibacksiphon device. (NOTE: Section 61-22B establishes voluntary best management practices to prevent or minimize the entry of nutrients from fertilizers and manures into groundwater while maintaining and improving the soil and plant resources of the State.)
WA.150.8.WV. The application of manures and fertilizers should meet specific standards for the protection of groundwater	Verify that the no land application of manure or fertilizers containing nitrogen is made: - with less than 10 in. of soil over fractured bedrock - to snow-covered and frozen, frozen or saturated land

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
from nonpoint source discharges (MP based on WVCSR 61-22B-4).	- within 50 ft of a wellhead - that is in imminent danger of being inundated by floodwater - that drains into a sinkhole with an open portal unless that sinkhole has a 20 ft vegetative buffer zone with at least 90 percent of the land in the buffer zone covered with vegetation. Verify that fertilizers containing nitrogen are not applied in the fall to land that has coarse textured soils, unless that application is made to support the growth of a fall cover crop. Verify that operations applying fertilizers or manures should use the following practices: - utilize alternate crop rotations to reduce the amount of fertilizers or manures needed to maintain crop production and to utilize nitrogen residuals in the soil - utilize practices to enhance soil condition that reduces nitrate leaching (such as practices to improve soil tilth and increase organic matter of the soil) - utilize conservation tillage, grassed waterways, contouring, vegetative buffer zones or other effective conservation practices to reduce fertilizer or manure residue runoff into sinkholes, wells or other potential sites for groundwater contamination - plan the application of fertilizers containing nitrogen so that the application is made as close as practically possible to the time when the crop requires the nitrogen - apply fertilizers or manures based on a rate recommended after soil tests, plant tissue testing and/or manure content testing - apply nitrogen from a combination of fertilizer and/or manure at rates that supply no more than 125 percent of the demonstrated need of the crop, based on soil test, plant tissue test or estimated from yield goal, previous crop, manure management, and soil properties as recommended by a laboratory or soils specialist/ agronomist - calibrate application equipment to assure proper application rates - avoid application to a field that has an average slope of greater than 25 percent unless that application is needed to establish or maintain close-grown grasses and/or clovers for the control of erosion; provided that suitable procedures are used to prevent runoff containing these residues from moving into groundwater when application is made to slopes of greater than 25 percent.

Appendix 12-1

Specific Exclusions From NPDES Permit Requirements

(Source: WVCSR 47-10-3.2)

It is recognized that the Federal NPDES program excludes certain discharges from needing a NPDES permit (although other Federal permits may be necessary) and that the State Act, in certain instances, is broader in scope than the Federal NPDES program. The discharge of dredged or fill material into navigable waters of the United States, for example, does not need a Federal NPDES permit; rather a 404 permit from the United States Army Corps of Engineers is required. The State Act regulates discharges into all waters of the State including groundwater; the Federal NPDES program, on the other hand, regulates discharges into a less inclusive category of waters. In addition, the State Act requires permits for construction of a disposal system or part thereof and the discharge of pollutants into the State's waters; the Federal NPDES program, however, does not require permits for the construction of the facility but rather just for the discharge of pollutants from a point source into water of the United States. Finally, the Natural Streams Preservation Act, West Virginia Code, Chapter 20, Article 5B, Section 1 et seq., requires a separate permit to modify any of the protected streams designated by the legislature.

The following discharges do not require a NPDES permit; however, the specification of exclusions under this section shall not relieve any person of any requirement imposed by the State Act or regulations including State Act permit requirements:

A. Any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink wastes; or any other discharge incidental to the normal operation of a vessel. This exclusion does not apply to rubbish, trash, garbage, or other such materials discharged overboard; nor to other discharges when the vessel is operating in a capacity other than a means of transportation such as when used as an energy or mining facility, a storage facility, or when secured to a storage facility, or when secured to the bed of the water or waters of the State for the purpose of mineral or oil exploration or development.

B. Discharges of dredged or fill material into waters of the State, which are regulated under Section 404 of CWA.

C. The introduction of pollutants into publicly or privately owned treatment works except as the Chief may otherwise require. Plans or agreements to switch to this method of disposal in the future do not relieve dischargers of the obligation to have and comply with permits until all discharges of pollutants to waters of the State are eliminated.

D. Any introduction of pollutants from nonpoint source agricultural and silvicultural activities, including runoff from orchards cultivated crops, pastures range lands, and forest lands, but not discharges from concentrated animal feeding operations (as defined in Section 13.1), discharges from concentrated aquatic animal production facilities (as defined in Section 13.2), and discharges from silvicultural point sources (as defined in Section 13.5).

E. Water, gas, or other material which is injected into a well either to facilitate production of oil or gas, or for disposal purposes and is approved by the State pursuant to applicable State law.

F. Return flows from irrigated agriculture.

Any discharge in compliance with the instructions of an On-Scene Coordinator pursuant to 40 CFR 1510 (The National Oil and Hazardous Substance Pollution Plan) or 33 CFR 153.10(e) (Pollution by Oil and Hazardous Substances).

Appendix 12-2

Criteria for Determining a Concentrated Animal Feeding Operation

(Source: WVCSR 47-10, Appendix B)

An animal feeding operation is a concentrated animal feeding operation for purposes of subsection 13.1 if either of the following criteria is met:

(a) More than the number of animals specified in any of the following categories are confined:
   (1) 1,000 slaughter and feeder cattle,
   (2) 700 mature dairy cattle (whether milked or dry cows),
   (3) 2,500 swine each weighing over 25 kilograms (approximately 55 pounds),
   (4) 500 horses,
   (5) 10,000 sheep or lambs,
   (6) 50,000 turkeys,
   (7) 100,000 laying hens or broilers (if the facility has continuous overflow watering),
   (8) 30,000 laying hens or broilers (if the facility has a liquid manure handling system),
   (9) 5,000 ducks, or
   (10) 1,000 animal units; or

(b) More than the following number and types of animals are confined:
   (1) 300 slaughter or feeder cattle,
   (2) 200 mature dairy cattle (whether milked or dry cows),
   (3) 750 swine each weighing over 25 kilograms (approximately 55 pounds),
   (4) 150 horses,
   (5) 3,000 sheep or lambs,
   (6) 16,500 turkeys,
   (7) 30,000 laying hens or broilers (if the facility has continuous overflow watering),
   (8) 9,000 laying hens or broilers (if the facility has a liquid manure handling system),
   (9) 1,500 ducks, or
   (10) 300 animal units; and either one of the following conditions are met: pollutants are discharged into navigable waters through a man-made ditch, flushing system or other similar man-made device; or pollutants are discharged directly into waters of the State which originate outside of and pass overt across, or through the facility or otherwise come into direct contact with the animals confined in the operation.

However, no animal feeding operation is a concentrated animal feeding operation as defined above if such animal feeding operation discharges only in the event of a 25 year, 24-hour storm event.

The term "animal unit" means a unit of measurement for any animal feeding operation calculated by adding the following numbers: the number of slaughter and feeder cattle multiplied by 1.0, plus the number of mature dairy cattle multiplied by 1.4, plus the number of swine weighing over 25 kilograms (approximately 55 pounds) multiplied by 0.4, plus the number of sheep multiplied by 0.1, plus the number of horses multiplied by 2.0.

The term "man-made" means constructed by man and used for the purpose of transporting wastes.

Appendix 12-3

Criteria for Determining a Concentrated Aquatic Animal Production Facility

(Source: WVCSR 47-10, Appendix C)

A hatchery, fish farm, or other facility is a concentrated aquatic animal production facility for purposes of subsection 13.2 if it contains, grows, or holds aquatic animals in either of the following categories:

(a) Cold water fish species or other cold water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year but does not include:
   (1) Facilities which produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year; and
   (2) Facilities which feed less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding.

(b) Warm water fish species or other warm water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year but does not include:
   (1) Closed ponds which discharge only during periods of excess runoff; or
   (2) Facilities which produce less than 45,454 harvest weight kilograms (approximately 100, 000 pounds) of aquatic animals per year.

"Cold water aquatic animals" include, but are not limited to the Ameiuride, Centrarachidae and Cyprinidae families of fish; e.g., respectfully, catfish, sunfish and minnows.

Appendix 12-4

Maximum Concentration of Metals in Sewage Sludge or Other Material for Land Application
(Source: WVCSR 33-2 and 33-8, Table 1 and Table 2)
[Revised February 2000; Revised January 2001; Revised January 2004]

Metal	Concentration (mg/kg)
Arsenic	20
Cadmium	39
Chromium	1000
Copper	1500
Lead	250
Mercury	10
Molybdenum	18
Nickel	200
Selenium	36
Zinc	2800

Provisional Maximum Concentration of Metals in Sewage Sludge for Producers Not Meeting Table 1 Criteria.

Metal	Concentration (mg/kg)
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

Appendix 12-5

Maximum Allowable Soil Concentrations

(Source: WVCSR 33-2, Table 3 and WVCSR 33-8, Table 2) [Revised January 2001; Revised January 2004]

Metal	Concentration (mg/kg)
Arsenic	13.0
Cadmium	2.4
Chromium	290.0
Copper	92.0
Lead	85.0
Mercury	2.4
Molybdenum	4.6
Nickel	83.0*
Selenium	10.0
Zinc	290.0**

* For sandy to silt loam soils with a permeability greater than 2.0 inches per hour, the maximum allowable soil concentration for nickel is 50 mg/kg.

** For those sites with greater than 30 percent legume species, the maximum allowable soil concentration for zinc is 130 mg/kg for sandy to silt loam soils with permeability greater than 2.0 inches per hour and 200 mg/kg for other soil types.

Appendix 12-6

Frequency of Monitoring
(Source: WVCSR 33-2, Appendix A) [Added February 2000]

AMOUNT OF SEWAGE SLUDGE RECEIVED (actual dry tons per 365 day period)	**FREQUENCY OF MONITORING**
Greater than zero but less than 290	once every 6 months
Equal to or greater than 290 but less than 1,500	once per quarter (4 times per year)
Equal to or greater than 1,500 but less than 15,000	once per month (12 times per year)
Equal to or greater than 15,000	once per week

Appendix 12-7

Maximum Concentration of Metals in Filtrate for Land Application and Maximum Allowable Soil Concentrations
(Source: WVCSR 33-9, Table 1 and Table 2)
[Added January 2009]

Table 1. Maximum Concentration of Metals in Filtrate for Land Application

Metal	Concentration (mg/kg)
Arsenic	20
Cadmium	39
Chromium	1000
Copper	1500
Lead	250
Mercury	10
Molybdenum	18
Nickel	200
Selenium	36
Zinc	2800

Table 2. Maximum Allowable Soil Concentrations

Metal	Concentration (mg/kg)
Arsenic	130
Cadmium	24
Chromium	290
Copper	92
Lead	85
Mercury	24
Molybdenum	46
Nickel	83*
Selenium	10
Zinc	290**

* For sandy to silt loam soils with a permeability greater than 2.0 inches per hour, the maximum allowable soil concentration for nickel is 50 mg/kg.

** For those sites with greater than 30 percent legume species, the maximum allowable soil concentration for zinc is 30 mg/kg for sandy to silt loam soils with permeability greater than 2.0 inches per hour and 200 mg/kg for other soil types

SECTION 13

WATER QUALITY MANAGEMENT

West Virginia Supplement, January 2010

This section covers the state requirements for Water Quality Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Rules and regulations concerning drinking water treatment and supply for the state of West Virginia are found in the West Virginia Code of State Regulations, Title 64, Series 3. The state of West Virginia has adopted by reference the following (WVCSR 64-3-10.1) [Revised January 2005; Citation Revised January 2010]

- National Primary Drinking Water Regulations, 40 CFR Part 141
- National Primary Drinking Water Regulations Implementation, 40 CFR Part 142, Subparts A and F, and Sections 40 CFR 142.20(b), 142.21; 142.62, 142.63, 142.64 and 142.65
- National Secondary Drinking Water Regulations, 40 CFR Part 143.

Definitions

- *Abandoned Water Well* - a water well that is no longer in use or is declared to be abandoned by the owner. A water well is also abandoned if the Commissioner has determined that the well presents a threat to groundwater or public health (WVCSR 64-19-3) [Added January 2009].

- *Apprentice* - a person working under the direction of a master or journeyman well driller or a pump installer (WVCSR 64-19-3) [Added January 2009].

- *Barnyard* - a fenced area for animals, which generally adjoins the barn on a farm. It applies to traffic alleys, holding pens, convalescent pens, maternity pens, calf pens and confined exercise yards (WVSCR 64-46-3) [Added January 2009].

- *Bottled Water* - all water which is sealed in bottles, packages or other containers and offered for sale for human consumption, including bottled mineral water (WVCSR 64-3-3) [Revised January 2003; Revised January 2005; Revised January 2010].

- *Bottled Water Distributor* - a person who buys and sells bottled water on a wholesale basis (WVCSR 64-3-3).

- *Bureau* - the Bureau for Public Health in the West Virginia Department of Health and Human Resources (WVCSR 64-19-3) [Added January 2009].

- *Certified Operator* - an individual holding a valid West Virginia public water system certification in accordance with Section 6 of this rule (WVCSR 64-4-3) [Revised January 2001; Revised January 2008].

- *Certified Well Driller* - an individual granted a written certificate by the Commissioner to drill, construct, alter or abandon water wells who meets the requirements of this rule (WVCSR 64-19-3) [Added January 2009].

- *Chief Operator* - the certified operator whom the owner designates who is responsible for managing the daily operational activities of an entire public water system or a water treatment facility, or a distribution system in a manner that ensures meeting state and federal safe drinking water rules and regulations (WVCSR 64-4-3) [Revised January 2001; Revised January 2008].

- *Class 5* - injection wells not included in Classes 1, 2, 3, or 4. Class 5 wells include, but are not limited to: (WVCRR 47-13-4.5) [Added January 2010].
  a. Cesspools, including multiple dwelling, community or regional cesspools, or other devices that receive wastes, which have an open bottom and sometimes have perforated sides. The UIC requirements do not apply to single family residential cesspools nor to nonresidential cesspools which receive solely sanitary wastes and have the capacity to serve fewer than twenty (20) persons a day.
  b. Sand backfill and other backfill wells used to inject a mixture of water and sand, mill tailings or other solids into mined out portions of subsurface mines whether what is injected is a radioactive waste or not.
  c. Septic system wells used to inject the waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank. The UIC requirements do not apply to single family residential septic system wells, nor to nonresidential septic system wells which are used solely for the disposal of sanitary waste and have the capacity to serve fewer than twenty (20) persons a day.
  d. Injection wells associated with the recovery of geothermal energy for heating, aquaculture and production of electric power.
  e. Radioactive waste disposal wells other than Class 4.
  f. Wells used for solution mining of conventional mines such as stopes leaching.
  g. Injection wells used for in situ recovery of lignite, coal, tar sands, and oil shale.
  h. Wells used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts.
  i. Injection wells used in experimental technologies.
  j. Wells for waste disposal into solution cavities in carbonate formations.
  k. Sinkholes used for the disposal of sewage or any other waste.
  l. Air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump.
  m. Cooling water return flow wells used to inject water previously used for cooling.
  n. Drainage wells used to drain surface fluid, primarily storm runoff, into a subsurface formation.
  o. Dry wells used for the injection of wastes into a subsurface formation.
  p. Recharge wells used to replenish the water in an aquifer.
  q. Salt water intrusion barrier wells used to inject water into the fresh water aquifer to prevent the intrusion of salt water into the fresh water.
  r. Subsidence control wells (not used for the purpose of oil or natural gas production) used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water.

- *Commissioner* - Commissioner of the West Virginia Bureau for Public Health or his or her designee (WVCSR 64-3-3 and 64-4-3) [Added January 2002; Citation Revised January 2008].

- *Community Water System* - A public water system that serves at least fifteen (15) service connections used by year round residents or regularly serves at least twenty-five (25) year round residents (WVCSR 64-4-3) [Added January 2002].

- *Confined Aquifer* - an aquifer bounded above and below by beds of distinctly lower permeability than that of the aquifer itself containing groundwater under pressure greater than that of the atmosphere. The term is synonymous with the term "artesian aquifer" (WVSCR 64-46-3) [Added January 2009].

- *Contaminant* - any substances either manmade or natural, which are concentrated enough to degrade water quality to a degree making the water harmful to public health or to the environment (WVSCR 64-46-3) [Added January 2009].

- *Contamination* - any manmade, man-induced or natural alteration of the chemical, physical, or biological integrity of the ground water, resulting from activities regulated under the West Virginia Department of Environmental Protection's rule, Groundwater Protection Regulations, 47CSR58. Any alteration in excess of existing ground water quality, unless that site has been granted a deviation or variance from existing quality as provided in the West Virginia Ground Water Protection Act, or is subject to an order, permit, or other

regulatory action that requires restoration or maintenance of ground water quality at a different concentration or level (WVSCR 64-46-3) [Added January 2009].

- *Dewatering Well* - a well used to lower groundwater levels to allow for construction of footings, sewer lines, building foundations, dams, etc. (WVCSR 64-19-3) [Added January 2009].

- *Hand Dug Well* - a manually excavated well of a permanent nature installed for water supply (WVCSR 64-19-3) [Added January 2009].

- *Heat Pump or Geothermal Well* - any well constructed to use the heat exchange properties of either groundwater or of geologic material penetrated by the well (WVSCR 64-46-3) [Added January 2009].

- *Injection Well* - a well, subsurface distribution system, or an improved sinkhole into which fluids are being injected (WVCSR 47-13-2) [Added January 2010).

- *Journeyman Well Driller* - a person certified by the Commissioner to practice well drilling under the general supervision of a master well driller (WVCSR 64-19-3) [Added January 2009].

- *Master Well Driller* - a person certified by the Commissioner to practice well drilling including pump and pumping equipment installation, and removal, when maintenance or repair of a well is required (WVCSR 64-19-3) [Added January 2009].

- *Natural or Naturally Occurring or Natural Temperature* - (WVCSR 47-2-2) [Added January 1999; Citation Revised January 2008]:
  1. those water quality values which exist unaffected by -- or unaffected as a consequence of any water use by any person
  2. those water quality values which exist unaffected by the discharge, or direct or indirect deposit of, any solid, liquid or gaseous substance by any person from any point source or non-point source.

- *Non-point Source* - any source other than a point source from which pollutants may reach the waters of the state (WVCSR 47-2-2) [Added January 2002; Citation Revised January 2008].

- *Non-Transient Non-Community Water System* - A public water system that is not a community water system and that regularly serves at least twenty-five (25) of the same persons over six (6) months per year (WVCSR 64-4-3) [Added January 2002].

- *Operate* - to perform the practical work and apply the technical knowledge and skill in the treatment, testing and distribution of drinking water (WVCSR 64-4-3) [Revised January 2001].

- *Operator-in-Training (OIT)* - An individual who holds a valid operator-in-training certificate issued by the Commissioner, and who is training under the supervision of the chief operator at a public water system while completing the educational or experience requirements to become a certified operator (WVCSR 64-4-3) [Added January 2002].

- *Owner* - the person that is legally responsible for the operation of the public water system (WVCSR 64-4-3) [Revised January 2008].

- *Person* - individual, partnership, association, syndicate, company, firm, trust, corporation, government corporation, institution, department, division, bureau, agency, Federal agency or any other entity recognized by law (WVCSR 64-3-3).

- *Point Source* - mean any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges

and return flows from irrigated agriculture (WVCSR 47-2-2) [Added January 2002; Citation Revised January 2008].

- *Potable Water* - water free from impurities in amounts sufficient to cause disease or harmful physiological effects, with bacteriological, chemical, physical and radiological quality conforming to applicable rules and standards of the Bureau for Public Health (WVSCR 64-46-3) [Added January 2009].

- *Potable Water Well* - any water well that provides potable water, other than a public water supply for human consumption (WVSCR 64-46-3) [Added January 2009].

- *Present* - to be readily available to perform tasks at the water treatment plant (WVCSR 64-4-3) [Added January 2008].

- *Public Water System* - A public water system is any water supply or system that regularly supplies or offers to supply water for human consumption through pipes or other constructed conveyances, if serving at least an average of twenty-five individuals per day for at least sixty days per year, or which has at least fifteen service connections, and shall include (WVCSR 64-4-3) [Added January 2001; Revised January 2003]:
  1. Any collection, treatment, storage, and distribution facilities under the control of the owner or operator of the system and used primarily in connection with the system; and
  2. Any collection or pretreatment storage facilities not under such control which are used primarily in connection with the system.

  A public water system does not include a system which meets all of the following conditions:
  1. Which consists only of distribution and storage facilities (and does not have any collection and treatment facilities);
  2. Which obtains all of its water from, but is not owned or operated by a public water system that otherwise meets the definition;
  3. Which does not sell water to any person; and
  4. Which is not a carrier conveying passengers in interstate commerce.

- *Public Water Supply Operator Certificate* - a document issued by the Commissioner granting an individual permission to operate a public water system (WVCSR 64-4-3) [Revised January 2001].

- *Pump* - any mechanical equipment or device used to transfer water from a well (WVCSR 64-19-3) [Added January 2009].

- *Pump Installer* - any person who engages for compensation in pump or pumping equipment installation, removal, alteration or repair and who is certified by the Commissioner to practice pump and pump ping equipment installation to withdraw water from a well (WVCSR 64-19-3) [Added January 2009].

- *Pumping Equipment* - equipment or related materials that are used or intended to assist withdrawing groundwater from a well, including seals and other safeguards to protect the water from contamination; associated fittings; intake and discharge piping; controls to provide sanitary water storage facilities and deliver water to a distribution piping system (WVCSR 64-19-3) [Added January 2009].

- *Sanitary Survey* - an onsite review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of the source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water, as described in the Federal regulations adopted in this rule (WVCSR 64-3-3) [Revised January 2003].

- *Secretary* - the Secretary of the Department of Health and Human Resources (WVCSR 64-3-3) [Added January 2010].

- *Water Quality Criteria* - levels of parameters or stream conditions that are required to be maintained by these regulations. Criteria may be expressed as a constituent concentration, levels, or narrative statement, representing a quality of water that supports a designated use or uses (WVCSR 47-2-2) [Added January 2007].

- *Water System* - includes any well and equipment for distribution, extending from and including the source of the water to the point of discharge from any pressure tank or other storage vessel to the point of discharge from the water pump where no pressure tank or other storage vessel is present (WVSCR 64-46-3) [Added January 2009].

- *Water Treatment Plant* - a facility to process and treat water for distribution to consumers in accordance with the Division of Health rule, " Public Water Systems," 64CSR3 (WVCSR 64-4-3) [Revised January 2001 ; Revised January 2008].

- *Water Well* - any excavation or penetration in the ground, whether drilled, bored, cored, driven, washed, jetted, hand dug or otherwise constructed that enters or passes through an aquifer for purposes that may include, but are not limited to, a potable water supply, exploration for water, industrial, irrigation, commercial, dewatering, or geothermal heat pump wells, and water return wells. This definition shall not include ground water monitoring activities, and all activities for the exploration, development, production, storage and recovery of coal, oil and gas and other mineral resources regulated under Chapters 22, 22a , or 22b of the WV Code (WVCSR 64-19-3) [Added January 2009].

- *Water Well Contractor* - any individual, partnership, syndicate, association, company, firm, trust, corporation or any other entity that contracts to drill, construct, alter, or abandon water wells in the State of West Virginia. (WVCSR 64-19-3) [Added January 2009].

- *Well* - for the purpose of the State UIC Program, means a bored, drilled or driven shaft, or a dug hole whose depth is greater than the largest surface dimension (WVCSR 47-13-2) [Added January 2010).

- *Well Completion Report* - a record, accurately kept at the time of drilling, showing the depth; thickness and character of the different strata penetrated; location of water-bearing strata; water level; depth; size, type and amount of casing installed; location of the well; owner; driller; pump installer; date the well was completed; information on any permanent well pumping equipment installed by the well driller or pump installer and any other information required by the Commissioner (WVCSR 64-19-3) [Added January 2009].
    1. For geothermal and dewatering wells, one completion form, indicating well locations, is required for a system regardless of the number wells.
    2. If wells vary in depth or geology, a single representative geologic log for each type is required. Water bearing zones, any voids, and coal seams or voids, or both penetrated shall be documented on the geologic log indicating appropriate depths.

- *Well Driller* - an individual who engages in water well drilling, construction, alteration, or abandonment, or who supervises these activities (WVCSR 64-19-3) [Added January 2009].

WATER QUALITY MANAGEMENT GUIDANCE FOR WEST VIRGINIA CHECKLIST USERS	
	REFER TO CHECKLIST ITEMS:
Missing Checklist Items	WQ.2.1.WV.
State-Specific Requirements	
Permits, Approvals, and Notification	WQ.5.1.WV. and WQ.5.2.WV.
Operators	WQ.6.1.WV. through WQ.6.3.WV.
Public Water Systems	
General	WQ.10.1.WV. through WQ.10.9.WV.
Disinfection and Filtration	WQ.20.1.WV. through WQ.20.4.WV.
Notification and Reporting Requirements	WQ.30.1.WV. and WQ.30.2.WV.
Drinking Water Well	WQ.90.1.WV. through WQ.90.9.WV.
Miscellaneous Wells	WQ.100.1.WV.
Injection Control Wells	
All Wells	WQ.109.1.WV.
Class I Wells	WQ.110.1.WV. through WQ.110.3.WV.
Class V Wells	WQ.114.1.WV.
Water Quality Standards	WQ.115.1.WV. and WQ.115.2.WV.

GUIDANCE FOR APPENDIX USERS	
APPENDIX NUMBERS:	**APPENDIX TITLES:**
13-1	Average Acceptable Range of Fluoride
13-2	Water Quality Criteria
13-3	Water Use Categories and Listings
13-4	Classification of Public Water Systems
13-5	Minimum Horizontal Distance Between a Groundwater Well and Source

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WQ.2. **MISSING CHECKLIST ITEMS**	
WQ.2.1.WV. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	Determine whether any new regulations have been issued since the finalization of the manual. Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists. Verify that the Federal facility is in compliance with all applicable and newly issued regulations.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
STATE-SPECIFIC REQUIREMENTS **WQ.5.** **Permits, Notifications, and Exemptions**	
WQ.5.1.WV. A permit is required to operate a public water supply system (WVCSR 64-3-5 and 64-3-6) [Revised February 2000; Revised January 2003; Revised January 2005; Revised January 2007; Revised January 2010].	Verify that the public water system has a valid permit to operate. (NOTE: The permit is renewable annually.) Verify that, in the event of a proposed change in the ownership of a public water system, the new owner submits a written application to the Commissioner at least 15 working days before the proposed change to transfer the permit to operate. Verify that the current permit to operate is posted in a conspicuous place at the public water system's treatment plant or main office. (NOTE: The Commissioner has the right of access to all parts of a public water system and must be furnished access to all information and required records.)
WQ.5.2.WV. A permit is required prior to any construction, alteration or renovation of a public water system (WVCSR 64-3-4.1, 4.2, 4.8, and 4.9) [Revised February 1998; Revised January 2003; Revised January 2005; Citation Revised January 2007].	Verify that a permit has been obtained prior to any construction, alteration, renovation or award a contract for any construction, alteration or renovation of a public water system. Verify that a permit application is submitted to the Commissioner at least 45 days prior to the date when construction, alteration or renovation is scheduled to begin. (NOTE: A permit is not required for any minor addition to, or alteration or renovation of an existing public water system which will not significantly affect the quality or quantity of the water supply service rendered.) Verify that a public water system submits a written description of proposed additions, alterations or renovations to the commissioner no less than 10 working days prior to implementing the additions, alterations or renovations.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
STATE-SPECIFIC REQUIREMENTS **WQ.6.** **Operators**	
WQ.6.1.WV. Public water systems are to be operated by a certified operator (WVCSR 64-4-5.1.a, 5.1.b, 5.1.c, 5.1.f, 5.1.g. and 5.1.j,) [Revised February 1998; Revised January 2001; Revised January 2002; Revised January 2008].	[Moved from WQ.10.6.WV. January 2002.] Verify that public water systems employ a Chief Operator with a certification equal to or higher than the system classification and an adequate number of certified operators to operate the system. (NOTE: See Appendix 13-4 for public water system classifications.) Verify that public water systems do not employ more operators in training (OITs) than the number of employed certified operators, unless written permission is granted by the Commissioner. Verify that public water systems apply to the Commissioner for OIT certification, on behalf of OIT applicants, within 30 days of their hire at the public water system. Verify that public water systems renew the OIT certification every 2 years or until all requirements for Class I certification are met. Verify that, for Class II, III, and IV public water systems, a certified operator is present at all times when the plant is operational, unless the Commissioner grants a written exception. Verify that public water systems post a copy of the current certification of all certified operators employed at the public water system and a copy of the certified operators' renewal card, if applicable, in a conspicuous location in the water treatment plant, or, if there is no water treatment plant, the office of the public water system.
WQ.6.2.WV. Public water systems must meet notification requirements regarding the operators (WVCSR 64-4-5.1.d, 5.1.e, and 5.1.i) [Added January 2002; Revised January 2008].	Verify that public water systems notify the Commissioner within 10 days, of any employment status changes, except termination, of the system's certified operators, OITs, and intended certified operators and OITs, including their reassignment. Verify that public water systems notify the Commissioner within 24 hours if a certified operator or OIT terminates employment for any reason. Verify that public water systems submit a personnel status report by July 15 every year. including, at a minimum:

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	- a list of all certified operators - the operator in charge of each shift (if applicable) - the Chief Operator - any OIT's currently employed.
WQ.6.3.WV. Public w ater system operators must meet specific r equirements (WVCSR 64-4-5.2) [Added January 2008].	Verify that a certified operator notifies the Commissioner at least 30 days prior to voluntarily terminating employment with a public water system. Verify that. a certified operator complies with the following requirements: - have t he o riginal p ersonal cer tification car d i ssued b y t he C ommissioner upon his or her person at all times the operator is operating the public water system - does not work in a public water system under the certification of another - only the person whose name appears on the operator certification is certified by that document.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PUBLIC WATER SYSTEMS **WQ.10. General**	
WQ.10.1.WV. [Moved January 2004].	(Moved to WQ.20.1.WV.)
WQ.10.2.WV. [Moved January 2004].	(Moved to WQ.20.2.WV.)
WQ.10.3.WV. [Moved January 2004].	(Moved to WQ.20.3.WV.)
WQ.10.4.WV. [Moved January 2004].	(Moved to WQ.20.4.WV.)
WQ.10.5.WV. Laboratories providing drinking water testing results must be certified (WVCSR 64-3-13.1) [Revised January 2010].	Verify that laboratories providing drinking water testing results are certified by the Commissioner or by the Federal Environmental Protection Agency.
WQ.10.6.WV. [Moved January 2002].	[Moved to WQ.6.1.WV.)
WQ.10.7.WV. [Deleted January 2008].	(NOTE: WVCSR 150-7-4.1 applies to private fire protection service connections to public utilities.)
WQ.10.8.WV. Drinking water supplies must be protected from potential sewer contamination	Verify that there is no physical connection between a public or private drinking water supply system and a sewer or appurtenance. (NOTE: A general guideline is that gravity or pressure sanitary sewers, or both,

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
(WVCSR 64-47-4.2.s) [Added January 2004].	shall be at least 10 feet horizontally from a drinking water supply.)
WQ.10.9.WV. Public water systems must protect cross-connections (WVCSR 64-15-4.1, 64-15-5.2, 64-15-6.3, 64-15-7.3, and 64-15.8.8) [Added January 2005; Citation Revised January 2007; Citation Revised January 2008].	Verify that no unprotected cross-connection is installed or maintained in a public water system. Verify that each water service line, including but not limited to, the following types of facilities, requires installation of an approved backflow prevention method, unless investigation by the public water system determines that no actual or potential health hazard, or other degradation of the public water system exists: - hospitals, mortuaries, clinics, nursing homes, and animal hospitals - laboratories - sewage treatment plants, sewage pumping stations, and storm water pumping stations - petroleum processing or storage plants - slaughterhouses, poultry processing plants, and food or beverage processing plants - piers, docks, and waterfront facilities - photo development plants - car washes and Laundromats - public swimming pools - farms when they use water for reasons other than household purposes - other facilities specified by the community public water system. Verify that, when a booster pump is installed on the premises served by a public water system, a check valve on the discharge is installed and a low-suction pressure cut-off controller designed to shut off the booster pump when the pressure in the service line on the suction side of the pump drops to 20 pounds per square inch gauge or less is installed. Verify that, when any approved backflow prevention assembly is found to be defective, the public water system is immediately notify of any defect and within 10 days repair, overhaul, replaces and test the assembly again. (NOTE: Cross-connection guidance can be found in the Cross Connection and Backflow Prevention Manual, EW-114.)

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PUBLIC WATER SYSTEMS **WQ.20.** **Disinfection and Filtration**	
WQ.20.1.WV. Public water supply systems which use a raw water source which is open to the atmosphere must provide filtration treatment (WVCSR 64-3-4.10) [Revised January 2003].	Verify that public water supply systems using a raw water source which is open to the atmosphere or subject to surface runoff provide filtration treatment.
WQ.20.2.WV. All public water systems are required to meet disinfection requirements (WVCSR 64-3-7) [Revised January 2007; Revised January 2010].	Verify that all public water systems are disinfected with chlorine, chlorine dioxide, chloramine or ozone. Verify that the disinfectant is applied during treatment at a point before entering the distribution system that will provide effective log removal. Verify that ground water systems install chemical disinfection to provide at least a four-log virus inactivation or removal before or at the first customer, for any ground water source. Verify that chlorine residual testing equipment measures free and total chlorine residuals to the nearest 0.2 milligrams per liter. Verify that, for all public water systems, at least 0.2 milligrams per liter of total chlorine residual are maintained throughout the distribution system at all times. (NOTE: The Commissioner may authorize variances, in writing, in the chlorine disinfection parameters and may impose additional monitoring requirements if a variance is authorized.)
WQ.20.3.WV. [Deleted January 2010].	(NOTE: WVSCR 64-3-7 was revised.)
WQ.20.4.WV. Public water systems must comply with specific fluoride requirements (WVCSR 64-3-8) [Revised January 2003; Revised	Verify that concentrations of fluoride present in the drinking water of a public water system are within the levels specified in Appendix 13-1. Verify that the drinking water of fluoridated or defluoridated public water systems

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
January 2005].	is monitored once per day for fluoride concentration. Verify that a sample of drinking water is submitted by the public water system to the Commissioner or to a certified laboratory for fluoride analysis at least once per month.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
PUBLIC WATER SYSTEMS **WQ.30.** **Notification and Reporting Requirements**	
WQ.30.1.WV. Records of public water system operation and maintenance are to be kept for a required time period (WVCSR 64-3-9) [Revised February 2000; Revised January 2003; Citation revised January 2005; Revised January 2007].	Verify that a public water system retains records of microbiological, turbidity, radiological and chemical analyses, or a summary of the records, at a convenient location on or near the premises of the public water system, in accordance with the federal regulations adopted in this rule. Verify that the public water system retains monthly operational reports for 5 years.
WQ.30.2.WV. Public water systems are required to meet certain reporting requirements (WVCSR 64-3-12) [Revised February 2000; Revised January 2005; Revised January 2007; Revised January 2010].	Verify that the results of any test, measurement or analysis are delivered to the Commissioner within 40 working days of the system's receipt of the test, measurement or analysis. (NOTE: Analytical results of tests performed by the laboratory of the Bureau for Public Health are not required to be reported.) Verify that any failure to comply with the reporting requirements is reported to the Commissioner within 48 hr of the discovery of the violation. Verify that a written summary of the public water system operation, test data, and other information as may be required by the Commissioner is submitted to the Commissioner at least once per month. Verify that a public water system distributes a public notice for any failure to comply with this rule or the federal regulations adopted in this rule. Verify that the content, distribution, recordkeeping, and reporting of the public notification are performed in a time and manner as specified in the federal rules with the exception of Tier 1 public notices. Verify that for Tier 1 public notices, the time required for initial public notices and consultation with the state is as soon as possible, but no more than 12 hours

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WQ.90. **DRINKING WATER WELL**	
WQ.90.1.WV. A permit is required to drill, construct, alter or abandon a water well (WVCSR 64-19-4) [Revised January 2009].	Verify that a permit to drill, construct, alter or abandon a water well is obtained jointly by the water well contractor and the property owner at least 15 days prior to the actual well drilling, construction, alteration or abandonment. (NOTE: The following activities may be conducted by a certified well driller without an individual permit: - the repair of any well, including redevelopment, cleaning or screen replacements, provided that this does not include deepening of the well - acidizing a well.) (NOTE: The Commissioner may issue an emergency water well permit. A certified well driller requesting an emergency permit shall contact the Commissioner no later than the next business day after the emergency occurs.) (NOTE: Where applicable, an underground injection control permit shall be obtained from the West Virginia Department of Environmental Protection in compliance with DEP's rule, Underground Injection Control, 47CSR13, prior to construction for a water well.) Verify that, if the water well is not constructed within the appropriate period, a new well permit is obtained from the Commissioner prior to the start of any well drilling activity. (NOTE: A permit, unless revoked, is valid for a period of one year from the date of issuance, the Commissioner may extend the time limit upon written request by the permittee.)
WQ.90.2.WV. Water wells are to be a specific minimum distance from sources of contamination (WVCSR 64-46-2, 64-46-4, 64-46-9, and 64-47-4.2.s.3) [Revised January 2004; Revised January 2008; Revised January 2009].	(NOTE: WVCSR 64-46 applies to all water wells, pumps and pumping equipment installations other than those used to supply public water systems. Water wells for public water systems must be installed, altered, and deepened in accordance with Public Water System Design Standards, WVCSR 64-77.) Verify that a water well is located at least 10 feet from a property line. Verify that the water well is located as far as possible from any existing or potential sources of contamination. Verify that the following minimum horizontal distances listed in Appendix 13-5 are maintained between water wells, other than a well serving a public water

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	system, and a source or potential source of pollution or contamination. Verify that the top of the well casing does not extend or terminate in the basement of any building or in a pit, room, or other space below ground surface. Verify that all water wells are located to be accessible for cleaning, treatment, repair, testing, abandonment, and other maintenance. Verify that a well is constructed in such a manner that seasonal floodwater cannot enter the well. Verify that no gravity or pressure sanitary sewer line is located within 50 ft of a public, private or individual homeowner's drinking water well. (NOTE: The commissioner may give written approval for variance from the 50 ft requirement but under no conditions is a gravity or pressured sanitary sewer to be closer than 10 ft to a private homeowner's well.)
WQ.90.3.WV. Records of completed water wells must be submitted to the Commissioner within 30 days (WVCSR 64-19-5) [Added January 2009].	(NOTE: See WQ.90.2.WV. for applicability.) Verify that, within 30 calendar days after the water well has been constructed, altered, or abandoned, the certified well driller submits a completion report to the Commissioner. Verify that, when the pumping equipment is installed after the record of completion has been submitted, the record is amended by the certified well driller or pump installer and resubmitted to the Commissioner within 30 calendar days of installation of the pumping equipment. (NOTE: A completion report is not required for the repair of pumps or the replacement of pumps or pumping equipment if the depth of the setting and efficiency are not affected.)
WQ.90.4.WV. A valid West Virginia certification of the proper class is required to drill, construct, alter or abandon any water well (WVCSR 64-19-6) [Added January 2009].	(NOTE: See WQ.90.2.WV. for applicability.) Verify that a person that installs, repairs or replaces a well pump or well pumping equipment possesses a valid West Virginia certification of the proper class (NOTE: Well drillers are classified into one of 3 classes: - master well driller - journeyman well driller -an apprentice well driller.) Verify that a journeyman or master well driller is on-site in direct charge of

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	drilling, constructing, altering or abandoning a water well. (NOTE: Pump installers classified into two classes: a certified pump installer or an apprentice. Verify that a certified person has in their possession a valid certification for the proper class at all times during any operations. Verify that a certified or licensed plumber/electrician does not break the well seal or alter, cut or drill into the casing, unless also certified as a pump installer.
WQ.90.5.WV. A well drilling contractor must securely attach a metal tag or engraved well cap to the wellhead (WVCSR 64-19-10) [Added January 2009].	(NOTE: See WQ.90.2.WV. for applicability.) Verify that the well drilling contractor securely attaches a metal tag or engraved well cap to the wellhead containing the following information: - the contractor's name, address and permit number - the depth of the well - the date of construction or alteration.
WQ.90.6.WV. Water wells and pump controls must be protected and meet construction standards (WVCSR 64-46-6.6, 6.11, 64-46-7.8 and 7. 11) [Added January 2009].	(NOTE: See WQ.90.2.WV. for applicability.) Verify that, during the progress of work, water wells are protected from tampering with the well or entrance of foreign materials. Verify that, once well drilling is complete and prior to departure of the drilling equipment from the well site, a WSC approved vector proof cap is securely installed. Verify that vents are part of the well cap or attached to the well cap. Verify that toxic or flammable gasses are vented from a well to the outside above roof level or a point where they do not produce a hazard. Verify that wells installed in flood prone areas are watertight to prevent intrusion of floodwaters. Verify that well houses, if constructed, are not built directly over the water well. Verify that pump controls for water wells are installed in accordance with manufacturer's recommendations and include a pressure relief valve. Verify that all components of a pumping system are in compliance with NSF Standard 61.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
	Verify that pressure tanks and switches are located above ground unless the pressure tank and switch are designed for installation below ground.
WQ.90.7.WV. Water wells must be disinfected (WVCSR 64-46-8) [Added January 2009].	(NOTE: See WQ.90.2.WV. for applicability.) Verify that new potable water wells and existing potable water wells being placed into service or that have been disrupted for service or repair, such as new pump installation or reinstallation of an existing pump, are disinfected. Verify that the following standard disinfection procedure are followed: - calcium hypochlorite, sodium hypochlorite, or other materials approved by the Commissioner is used - disinfectant is placed in the well in quantities that produce a minimum concentration of at least 50 mg/1 or parts per million (ppm) - the disinfectant remains in the well for a period of at least 12 hours. (NOTE: When working with disinfectants in ventilated places, the powder or strong liquid should not come in contact with skin or clothing. Solutions are best handled in wood, plastic or crockery containers because metals are corroded by strong disinfectant solutions.)
WQ.90.8.WV. Abandonment of water wells must meet specific requirements (WVCSR 64-46-12) [Added January 2009].	(NOTE: See WQ.90.2.WV. for applicability.) Verify that, when a water well is abandoned, the work is performed by a West Virginia Certified Water Well Driller. Verify that all wells are completely filled with grout to prevent contamination from entering the subsurface water bearing formations and ground water mixing with one aquifer to another. (NOTE: If the well is so large that, the use of these materials is not practical, the Commissioner shall determine a proper plugging process.) Verify that all abandonment procedures prevent groundwater contamination.
WQ.90.9.WV. Dewatering and dug wells must be approved by the Commissioner (WVCSR 64-46-11) [Added January 2009].	(NOTE: See WQ.90.2.WV. for applicability.) Verify that plans for dewatering wells are submitted plans to the Commissioner for approval. Verify that dewatering wells are immediately sealed using methods described in section 12 of this rule after dewatering has ceased.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS:** **January 2010**
	(NOTE: Dewatering wells generally withdraw shallow ground water for construction purposes; grouting of the annular space may be minimized. Each dewatering well is unique.) Verify that plans are submitted to the Commissioner for each hand dug well.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WQ.100. **MISCELLANEOUS WELLS**	
WQ.100.1.WV. A certified monitoring well driller is required to be on site in charge of actively drilling, constructing, altering, testing or abandoning a monitoring well (WVCSR 47-59-4.1).	Verify that a certified monitoring well driller is onsite during active drilling, constructing, altering, testing or abandoning of a monitoring well.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
INJECTION CONTROL WELLS **WQ.109.** **All Wells** **WQ.109.1.WV.** Underground injection is prohibited unless authorized by permit or rule (WVCSR 47-13-13.1).	(NOTE: Moved from WQ.110.1.WV., January 2005.) Determine monitoring and reporting requirements and compliance points identified in the permit. Verify that underground injection wells comply with permit, or permit by rule, requirements.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
INJECTION CONTROL WELLS **WQ.110.** **Class 1 Wells**	
WQ.110.1.WV. [Moved January 2005].	(NOTE: Moved to WQ.109.1.WV., January 2005.))
WQ.110.2.WV. The owner or operator of any Class 1 well that is used to inject hazardous wastes must comply with the Hazardous Waste Management Regulations (WVCSR 47-13-7.3).	Verify that the owner or operator of any Class 1 well that is used to inject hazardous wastes is in compliance with the Hazardous Waste Management Regulations (see chapter 4, *Hazardous Waste Management,* of this document).
WQ.110.3.WV. [Moved January 2005]	(NOTE: Moved to WQ.114.1.WV., January 2005.)

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
INJECTION CONTROL WELLS **WQ.114.** **Class V Wells**	
WQ.114.1.WV. The owners/operators of Class 5 wells are required to notify the Director of the existence of a Class 5 underground injection well (WVCSR 47-13-12.2) [Revised January 2003].	(NOTE: Moved from WQ.110.3.WV., January 2005.) Verify that the owners and operators of Class 5 wells have notified the Director of the existence of the well. Verify that the following information was provided: - the construction features of the well - the nature and volume of injected fluids - the alternative means of disposal available to the operator - the environmental and economic consequences of well disposal and its alternatives - facility name and location - name and address of legal contact - ownership of facility - nature and type of injection wells - operating status of injection wells.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT West Virginia Supplement	
REGULATORY REQUIREMENTS:	**REVIEWER CHECKS: January 2010**
WQ.115. **WATER QUALITY STANDARDS**	
WQ.115.1.WV. Discharges must meet certain water quality criteria unless a variance has been obtained (WVCSR 47-2-7.2.b and 47-2-8) [Revised February 1998; Citation Revised January 2008; Citation Revised January 2009].	Verify that discharges meet the water quality criteria established for that water use category unless a specific variance has been obtained. (NOTE: Water quality criteria are listed in Appendix 13-2, and water use categories are listed in Appendix 13-3.) (NOTE: In the absence of any special application or contrary provision, water quality standards will apply at all times when flows are equal to or greater than the minimum mean seven consecutive day drought flow with a 10 yr. return frequency (7Q10).)
WQ.115.2.WV. The State of West Virginia prohibits certain general conditions from being present in the waters of the state (WVCSR 47-2-3) [Added January 2003; Citation Revised January 2007; Citation Revised January 2008].	Verify that there are no activities or discharges that cause or contribute to any of the following conditions: - distinctly visible floating or settleable solids, suspended solids, scum, foam or oily slicks - deposits or sludge banks on the bottom - odors in the vicinity of the waters - taste or odor that would adversely affect the designated uses of the affected waters - materials in concentrations which are harmful, hazardous or toxic to man, animal or aquatic life - distinctly visible color - concentrations of bacteria which may impair or interfere with the designated uses of the affected waters - requiring an unreasonable degree of treatment for the production of potable water by modern water treatment processes as commonly employed - any other condition, including radiological exposure, which adversely alters the integrity of the waters of the State including wetlands - significant adverse impact to the chemical, physical, hydrologic, or biological components of aquatic ecosystems.

Appendix 13-1

Average Acceptable Range of Fluoride
(Source: WVCSR 64-3, Table 64-3)
[Revised February 2000; Revised January 2006; Citation Revised January 2010]

Annual Average Maximum Daily Air Temperature	Fluoride Concentration in Milligrams Per Liter		
	Lower	Optimum	Upper
53.8 - 58.3 degree F 12.1 - 14.6 degree C	0.8	1.1	1.5
58.4 - 63.8 degree F 14.7 - 17.7 degree C	0.8	1.0	1.3
63.9 - 70.6 degree F 17.7 - 21.4 degree C	0.7	0.9	1.2

Appendix 13-2

Water Quality Criteria
(Source: WVCSR 47-2-8 and Appendix E)
[Revised February 1998; Revised February 2000; Revised January 2002; Revised January 2009]

8.1. Charts of specific water quality criteria

8.1.a. Specific state (i.e. total, total recoverable, dissolved valence, etc.) of any parameter to be analyzed shall follow 40 CFR 136, Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act, as amended, June 15, 1990 and March 26, 2007. (See also Section 7.3 of 47 CSR 10, Section 7.3 -- National Pollutant Discharge Elimination System (NPDES) Program.)

8.1.b. Compliance with aquatic life water quality criteria expressed as dissolved metal shall be determined based on dissolved metals concentrations.

8.1.b.1. The aquatic life criteria for all metals listed in Appendix E, Table 2 shall be converted to a dissolved concentration by multiplying each numerical value or criterion equation from Appendix E, Table 1 by the appropriate conversion factor (CF) from Appendix E, Table 2.

8.1.b.2. Permit limits based on dissolved metal water quality criteria shall be prepared in accordance with the U.S. EPA document "The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion, EPA 823-B-96-007 June 1996.

8.1.b.3. NPDES permit applicants may petition the Secretary to develop a site-specific translator consistent with the provisions in this section. The Secretary may, on a case-by-case basis require an applicant applying for a translator to conduct appropriate sediment monitoring through SEM/AVS ratio, bioassay or other approved methods to evaluate effluent limits that prevent toxicity to aquatic life.

8.1.c. An "X" or numerical value in the use columns of Appendix E, Table 1 shall represent the applicable criteria.

8.1.d. Charts of water quality criteria in Appendix E, Table 1 shall be applied in accordance with major stream and use applications, sections 6 and 7, herein.

8.2. Criteria for Toxicants.

8.2.a. Toxicants which are carcinogenic have human health criteria (Water Use Categories A and C) based upon an estimated risk level of one additional cancer case per one million persons (10^{-6}) and are indicated in Appendix E, Table 1 with an endnote ([b]).

8.2.b. A final determination on the critical design flow for carcinogens is not made in this rule, in order to permit further review and study of that issue. Following the conclusion of such review and study, the Legislature may again take up the authorization of this rule for purposes of addressing the critical design flow for carcinogens: Provided, That until such time as the review and study of the issue is concluded or until such time as the Legislature may again take up the authorization of this rule, the regulatory requirements for determining effluent limits for carcinogens shall remain as they were on the date this rule was proposed

8.3. Criteria for Nutrients in Lakes

8.3.a. This subsection establishes nutrient criteria designed to protect Water Use Categories B and C. The following cool water nutrient criteria shall apply to cool water lakes. (See Appendix 13-3 for a representative list.) The following warm water nutrient criteria shall apply to all other lakes with a summer residence time greater than 14 days.

8.3.b. Total phosphorus shall not exceed 50 µg/l for warm water lakes and 30 µg/1 for cool water lakes based on an average of four or more samples collected during the period May 1--October 31. In lieu of such sampling, impairment may be evidenced at any time by noncompliance with section 3.2, as determined by the Secretary. Chlorophyll-a shall not exceed 30 µg/1 for warm water lakes and 15 µg/1 for cool water lakes based on an average of four or more samples collected during the period May 1--October 31. In lieu of such sampling, impairment may be evidenced at any time by noncompliance with section 3.2, as determined by the Secretary.

8.4. Variances from Specific Water Quality Criteria. A variance from numeric criteria may be granted to a discharger if it can be demonstrated that the conditions outlined in subsections 6.1.b b.1 through 6.1.b.6 limit the attainment of one or more specific water quality criteria. Variances shall apply only to the discharger to whom they

are granted and shall be reviewed by the Board at least every three years. In granting a variance, the requirements for revision of water quality standards in 46 CSR Series 6 shall be followed.

8.4. Site-specific numeric criteria. The Secretary may establish numeric criteria different from those set forth in Appendix E, Table 1 for a stream or stream segment upon a demonstration that existing numeric criteria are either over-protective or under-protective of the aquatic life residing in the stream or stream segment. A site-specific numeric criterion will be established only where the numeric criterion will be fully protective of the aquatic life and the existing and designated uses in the stream or stream segment. The site-specific numeric criterion may be established by conducting a Water Effect Ratio study pursuant to the procedures outlined in US EPA's "Interim Guidance on the Determination and Use of Water-Effect Ratios for Metals" (February 1994); other methods may be used with prior approval by the Secretary. In adopting site-specific numeric criteria, the requirements for revision of water quality standards set forth in 46 CSR 6 shall be followed

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.1 Dissolved Aluminum (ug/l)	750xCF[5]	750xCF[5]	750xCF[5]	87xCF[5]			
8.2. Acute and chronic aquatic life criteria for ammonia shall be determined using the National Criterion for Ammonia in Fresh Water[d] from USEPA's 1999 Update of Ambient Water Quality Criteria for Ammonia (EPA-822-R-99-014, December 1999)	X	X	X	X			
8.3 Antimony (ug/l)					4300	14	
8.4 Arsenic (ug/l)					10	10	100
8.4.1 Dissolved Trivalent Arsenic (ug/l)	340	150	340	150			
8.5 Barium (mg/l)						1.0	
8.6 Beryllium (ug/l)	130		130			.0077	
8.7 Cadmium (ug/l) Hardness Soluble Cd (mg/l $CaCO_3$) 0 - 351.0 36 - 752.0 76 - 1505.0 > 15010.0						X	
8.7.1 10 ug/l in the Ohio River (O Zone 1) main stem (see section 7.1.d, herein)						X	
8.7.2 The four-day average concentration of dissolved cadmium determined by the following equation: $Cd = e^{(0.7409[\ln(hardness)]-4.719)} \times CF^5$		X		X			
8.7.3 The one-hour average concentration of dissolved cadmium determined by the following equation: $Cd = e^{(1.0166[\ln(hardness)]-3.924)} \times CF^5$	X		X				
8.8 Chloride (mg/l)	860	230	860	230	250	250	
8.9.1 Chromium, dissolved hexavalent (ug/l):	16	11	16	7.2		50	
8.9.2 Chromium, trivalent (ug/l) The one-hour average concentration of dissolved trivalent chromium	X		X				

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
determined by the following equation: $CrIII = e^{(0.8190[\ln(hardness)]+3.7256)} \times CF^5$							
8.9.3 The four-day average concentration of dissolved trivalent chromium determined by the following concentration: $CrIII = e^{(0.8190[\ln(hardness)]+0.6848)} \times CF^5$		X		X			
8.10 Copper (ug/l)						1000	
8.10.1 The four-day average concentration of dissolved copper determined by the following equation[a]: $Cu = e^{(0.8545[\ln(hardness)]-1.702)} \times CF^5$		X		X			
8.10.2 The one-hour average concentration of dissolved copper determined by the following equation[a]: $Cu = e^{(0.9422[\ln(hardness)]-1.700)} \times CF^5$	X		X				
8.11 Cyanide (ug/l) (As free cyanide $HCN+CN^-$)	22	5.0	22	5.0	5.0	5.0	
8.12 Dissolved Oxygen[c]: not less than 5 mg/l at any time.	X				X	X	X
8.12.1 Kanawha River main stem, Zone 1 - Not less than 4.0 mg/l at any time.	X						
8.12.2 Ohio River main stem - the average concentration shall not be less than 5.0 mg/l per calendar day and shall not be less than 4.0 mg/l at any time or place outside any established mixing zone - provided that a minimum of 5.0 mg/l at any time is maintained during the April 15-June 15 spawning season.	X						
8.12.3 Not less than 7.0 mg/l in spawning areas and in no case less than 6.0 mg/l at any time.			X				
8.13 Fecal Coliform: Maximum allowable level of fecal coliform content for Water Contact Recreation (either MPN or MF)					X	X	

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
shall not exceed 200/100 ml as a monthly geometric mean based on not less than 5 samples per month; nor to exceed 400/100 ml in more than ten percent of all samples taken during the month.							
8.13.1 Ohio River main stem (zone 1) - During the non-recreational season (November through April only) the maximum allowable level of fecal coliform for the Ohio River (either MPN or MF) shall not exceed 2000/100 ml as a monthly geometric mean based on not less than 5 samples per month.					X	X	
8.14 Fluoride (mg/l)						1.4	
8.14.1 Not to exceed 2.0 for category D1 uses.							X
8.15 Iron[c] (mg/l)		1.5		0.5		1.5	
8.16 Lead (ug/l)						50	
8.16.1 The four-day average concentration of dissolved lead determined by the following equation[a]: $Pb = e^{(1.273[\ln(hardness)]-4.705)} \times CF^{5}$		X		X			
8.16.2 The one-hour average concentration of dissolved lead determined by the following equation[a]: $Pb = e^{(1.273[\ln(hardness)]-1.46)} \times CF^{5}$	X		X				
8.17 Manganese (mg/l) (see §6.2.d)						1.0	
8.18 Mercury The total organism body burden of any aquatic species shall not exceed 0.5 ug/g as methylmercury.					0.5	0.5	
8.18.1 Total mercury in any unfiltered water sample (ug/l):	2.4		2.4		0.15	0.14	
8.18.2 Methylmercury (water column) (ug/l):		.012		.012			
Nickel (ug/l)					4600	510	

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.19.1 The four-day average concentration of dissolved nickel determined by the following equation[a]: $Ni = e^{(0.846[ln(hardness)]+0.0584)} \times CF^5$		X		X			
8.19.2 The one-hour average concentration of dissolved nickel determined by the following equation[a]: $Ni = e^{(0.846[ln(hardness)]+2.255)} \times CF^5$	X		X				
8.20 Nitrate (as Nitrate-N) (mg/l)						10	
8.21 Nitrite (as Nitrite-N) (mg/l)	1.0		.060				
8.22 Nutrients							
Chlorophyll –a (µg/l) (see §47-2-8.3)							
Total Phosphorus (µg/l) (see §47-2-8.3)							
8.23 Organics							
Chlordane[b] (ng/l)	2400	4.3	2400	4.3	0.46	0.46	0.46
DDT[b] (ng/l)	1100	1.0	1100	1.0	0.024	0.024	0.024
Aldrin[b] (ng/l)	3.0		3.0		0.071	0.071	0.071
Dieldrin[b] (ng/l)	2500	1.9	2500	1.9	0.071	0.071	0.071
Endrin (ng/l)	180	2.3	180	2.3	2.3	2.3	2.3
Toxaphene[b] (ng/l)	730	0.2	730	0.2	0.73	0.73	0.73
PCB[b] (ng/l)		14.0		14.0	0.045	0.044	0.045
Methoxychlor (ug/l)		0.03		0.03	0.03	0.03	0.03
Dioxin (2,3,7,8- TCDD)[b] (pg/l)					0.014	0.013	0.014
Acrylonitrile[b] (ug/l)					0.66	0.059	
Benzene[b] (ug/l)					51	0.66	
1,2-dichlorobenzene (mg/l)					17	2.7	
1,3-dichlorobenzene (mg/l)					2.6	0.4	
1,4-dichlorobenzene (mg/l)					2.6	0.4	
2,4-dinitrotoluene[b] (ug/l)					9.1	0.11	

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
Hexachlorobenzene[b] (ng/l)					0.77	0.72	
Carbon tetrachloride[b] (ug/l)					4.4	0.25	
Chloroform[b] (ug/l)					470	5.7	
Bromoform[b] (ug/l)					140	4.3	
Dichlorobromomethane[b] (ug/l)					17	0.55	
Methyl Bromide (ug/l)					1500	47	
Methylene Chloride[b] (ug/l)					590	4.6	
1,2-dichloroethane[b] (ug/l)					99	0.035	
1,1,1- trichloroethane[b] (mg/l)						12	
1,1,2,2-tetrachloroethane (ug/l)					11	0.17	
1,1-dichloroethylene[b] (ug/l)					3.2	0.03	
Trichloroethylene[b] (ug/l)					81	2.7	
Tetrachloroethylene[b] (ug/l)					8.85	0.8	
Toluene[b] (mg/l)					200	6.8	
Acenaphthene (ug/l)					990	670	
Anthracene (ug/l)					40,000	8,300	
Benzo(a) Anthracene[b] (ug/l)					0.018	0.0038	
Benzo(a) Pyrene[b] (ug/l)					0.018	0.0038	
Benzo(b) Fluoranthene[b] (ug/l)					0.018	0.0038	
Benzo(k) Fluoranthene[b] (ug/l)					0.018	0.0038	
Chrysene[b] (ug/l)					0.018	0.0038	
Dibenzo(a,h)Anthracene[b] (ug/l)					0.018	0.0038	
Fluorene (ug/l)					5300	1100	
Ideno(1,2,3-cd)Pyrene[b] (ug/l)					0.018	0.0038	
Pyrene (ug/l)					4000	830	
2-Chloronaphthalene (ug/l)					1600	1000	
Phthalate esters[6] (ug/l)		3.0		3.0			
Vinyl chloride[b] (chloroethene) (ug/l)					525	2.0	
alpa-BHC (alpha- Hexachloro-cyclohexane)[b] (ug/l)					0.013	.0039	

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
beta-BHC(beta- Hexachloro-cyclohexane)[b] (ug/l)					0.046	0.014	
gamma-BHC (gamma- Hexachloro-cyclohexane)[b] (ug/l)	2.0	0.08	2.0	0.08	0.063	0.019	
Chlorobenzene (mg/l)					21	0.68	
Ethylbenzene (mg/l)					29	3.1	
Heptachlor[b] (ng/l)	520	3.8	520	3.8	0.21	0.21	
2-methyl-4,6-Dinitrophenol (ug/l)					765	13.4	
Fluoranthene (ug/l)					370	300	
8.23.1 When the specified criteria for organic chemicals listed in §8.23 are less than the practical laboratory quantification level, instream values will be calculated from discharge concentrations and flow rates, where applicable.							
8.24 pH[c] No values below 6.0 nor above 9.0. Higher values due to photosynthetic activity may be tolerated.	X	X	X	X	X	X	X
8.25 Phenolic Materials							
8.25.1 Phenol (ug/l)					4,600,000	21,000	
8.25.2 2-Chlorophenol (ug/l)					400	120	
8.25.3 2,4-Dichlorophenol (ug/l)					790	93	
8.25.4 2,4-Dimethylphenol (ug/l)					2300	540	
8.25.5 2,4-Dinitrophenol (ug/l)					14,000	70	
8.25.6 Pentachlorophenol[b] (ug/l)					8.2	0.28	
8.25.6.a The one-hour average concentration of pentachlorophenol determined by the following equation: exp(1.005(pH)-4.869)	X		X				
8.25.6.b The 4-day average concentration of pentachlorophenol determined by the following equation: exp(1.005(pH)-5.134).		X		X			

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.25.7 2,4,6-Trichlorophenol[b] (ug/l)					6.5	2.1	
8.26 Radioactivity: Gross Beta activity not to exceed 1000 picocuries per liter (pCi/l), nor shall activity from dissolved strontium-90 exceed 10 pCi/l, nor shall activity from dissolved alpha emitters exceed 3 pCi/l.	X		X		X	X	X
8.26.1 Gross total alpha particle activity (including radium-226 but excluding radon and uranium shall not exceed 15 pCi/l and combined radium-226 and radium-228 shall not exceed 5pCi/l; provided that the specific determination of radium-226 and radium-228 are not required if dissolved particle activity does not exceed 5pCi/l; the concentration of tritium shall not exceed 20,000 pCi/l; the concentration of total strontium-90 shall not exceed 8 pCi/l in the Ohio River main stem.	X		X		X	X	X
8.27 Selenium (ug/l)	20	5	20	5		50	
8.28 Silver (ug/l) HardnessSilver 0-501 51-1004 101-20012 >20124				X		X	
8.28.1 0-501 51-1004 101-20012 201-40024 401-50030 501-60043		X					
8.28.2 The one-hour average concentration of dissolved silver determined by the following equation: $Ag=e^{(1.72[ln(hardness)]-6.59)}$ x CF^5	X		X				

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
8.29 Temperature Temperature rise shall be limited to no more than 5°F above natural temperature, not to exceed 87°F at any time during months of May through November and not to exceed 73°F at any time during the months of December through April. During any month of the year, heat should not be added to a stream in excess of the amount that will raise the temperature of the water more than 5°F above natural temperature. In lakes and reservoirs, the temperature of the epilimnion should not be raised more than 3°F by the addition of heat of artificial origin. The normal daily and seasonable temperature fluctuations that existed before the addition of heat due to other natural causes should be maintained.	X						
8.29.1 For the Kanawha River Main Stem (K-1): Temperature rise shall be limited to no more than 5°F above natural temperature, not to exceed 90°F in any case.	X						
8.29.2 For the Bluestone R (KNB), Bluestone Lake (KN-60) East River (KNE), New River (KN), Gauley R. (KG) and Greenbrier River (KNG): Temperature rise shall be limited to no more than 5°F above natural temperature, not to exceed 81°F at any time during the months of May through November and not to exceed 73°F at any time during December through April.			X				
8.29.3 No heated effluents will be discharged in the vicinity of spawning areas. The maximum temperatures for cold waters are expressed in the following table: DailyHourly			X				

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
Mean °FMax °F Oct-Apr5055 Sep-May5862 Jun-Aug6670							
8.29.4 For Ohio River Main Stem (01) (see section 7.1.d, herein): PeriodInst. DatesAve.Max. Jan 1-3145°F50°F February4550 March 1-155156 March 16-315459 April 1-155864 April 16-306469 May 1-156873 May 16-317580 June 1-158085 June 16-308387 July 1-318489 August 1-318489 Sept 1-158487 Sept 16-308286 Oct 1-157782 Oct 16-317277 Nov 1-306772 Dec 1-315257	X						
8.30 Thallium (ug/l)					6.3	1.7	
8.31 Threshold odor[c] Not to exceed a threshold odor number of 8 at 104°F as a daily average.		X		X	X	X	
8.32 Total Residual Chlorine (ug/l - measured by amperometric or equivalent method)	19	11					
8.32.1 No chlorinated discharge allowed			X				
8.33 Turbidity No point or non-point source to West Virginia's waters shall contribute a net load of suspended matter such that the turbidity exceeds 10 NTU's over background turbidity when the background is 50 NTU or less, or have more than a 10 percent increase in turbidity (plus		X		X	X	X	

PARAMETER	USE DESIGNATION						
	AQUATIC LIFE				HUMAN HEALTH		ALL OTHER USES
	B1, B4		B2		C[3]	A[4]	
	ACUTE[1]	CHRON[2]	ACUTE[1]	CHRON[2]			
10 NTU minimum) when the background turbidity is more than 50 NTUs. This limitation shall apply to all earth disturbance activities and shall be determined by measuring stream quality directly above and below the area where drainage from such activity enters the affected stream. Any earth disturbing activity continuously or intermittently carried on by the same or associated persons on the same stream or tributary segment shall be allowed a single net loading increase.							
8.33.1 This rule shall not apply to those activities at which Best Management Practices in accordance with the State's adopted 208 Water Quality Management Plan are being utilized, maintained and completed on a site-specific basis as determined by the appropriate 208 cooperative or an approved Federal or State Surface Mining Permit is in effect. This exemption shall not apply to Trout Waters.		X			X	X	
8.34 Zinc (ug/l) The four-day average concentration of dissolved zinc determined by the following equation[a]: $Zn = e^{(0.8473[\ln(hardness)]+0.884)} \times CF^{5}$		X		X			
8.34.1 The one-hour average concentration of dissolved zinc determined by the following equation[a]: $Zn = e^{(0.8473[\ln(hardness)]+0.884)} \times CF^{5}$	X		X				

Note:
pg/L = picograms per liter
ng/L = nanograms per liter

{1}One hour average concentration not to be exceeded more than once every three years on the average, unless otherwise noted.
{2} Four-day average concentration not to be exceeded more than once every three years on the average, unless otherwise noted.
{3} These criteria have been calculated to protect human health from toxic effects through fish consumption, unless otherwise noted.
{4} These criteria have been calculated to protect human health from toxic effects through drinking water and fish consumption, unless otherwise noted.
{5} The appropriate Conversion Factor(CF) is a value used as a multiplier to derive the dissolved aquatic life criterion is found in Appendix E, Table .2.
{a} Hardness as calcium carbonate (mg/L). The minimum hardness allowed for use is this equation shall not be less than 25 mg/L, even if the actual ambient hardness is less than 25 mg/L. The maximum hardness value for use in this equation shall not exceed 400 mg/L even if the actual hardness is greater than 400 mg/L.
{b} Known or suspected carcinogen. Human health standards are for a risk level of 10-6
{c} May not be applicable to wetlands (B4) site-specific criteria are desirable.
{d} The early life state equation in the National Criterion shall be used to establish chronic criteria throughout the state unless the applicant demonstrates that no early life stages of fish occur in the affected water(s).
{e} Until July 4, 2007, the aluminum criteria will be implemented as follows: the chronic aluminum criterion shall be 87 ug/l

Table 2. Conversion Factors.

Metal	Acute	Chronic
Aluminum	1.000	1.000
Arsenic (III)	1.000	1.000
Cadmium	1.136672-[(In hardness) (0.041838)	1.101672-[(In hardness) 0.041838)]
Chromium (III)	0.316	0.860
Chromium (VI)	0.982	0.962
Copper	0.960	0.960
Lead	1.46203-[(In hardness) (0.145712)	1.46203-[(In hardness) (0.145712)
Nickel	0.998	0.997
Silver	0.85	N/A
Zinc	0.978	0.986

Appendix 13-3

Water Use Categories and Listings
(Source: WVCSR 47-2-6, and Appendices A, B, C, D, and F of 47)
[Added February 1998; Revised January 2001; Citation Revised January 2008; Revised January 2009]

6.2. Category A -- Water Supply, Public. -- This category is used to describe waters which, after conventional treatment, are used for human consumption. This category includes streams on which the following are located:

a. All community domestic water supply systems;
b. All non-community domestic water supply systems, (i.e. hospitals, schools, etc.);
c. All private domestic water systems; and
d. All other surface water intakes where the water is used for human consumption. (See Appendix B for partial listing of category A waters; see section 7.2.a.B. for additional requirements for category A waters.) The manganese human health criteria shall not apply where the discharge point of the manganese is located more than five miles upstream from a known drinking water source.

6.3. Category B -- Propagation and maintenance of fish and other aquatic life. -- This category includes:

a. Category B1 -- Warm water fishery streams. -- Streams or stream segments which contain a fish population composed overwhelmingly of warm water species. (These are primarily sport fisheries and may be stocked with trout seasonally.)
b. Category B2 -- Trout Waters. -- As defined in Section 2.16 (See Appendix A for a representative list.)
c. Category B4 -- Wetlands. -- As defined in section 2.19; certain numeric stream criteria may not be appropriate for application to wetlands (see Appendix E).

6.4. Category C -- Water contact recreation. -- This category includes swimming, fishing, water skiing and certain types of pleasure boating such as sailing in very small craft and outboard motor boats. See Appendix D for a representative list of category C waters.

6.5. Category D. -- Agriculture and wildlife uses.

a. Category D1 -- Irrigation. -- This category includes all stream segments used for irrigation.
b. Category D2 -- Livestock watering. -- This category includes all stream segments used for livestock watering.
c. Category D3 -- Wildlife. -- This category includes all stream segments and wetlands used by wildlife.

6.6. Category E -- Water supply industrial, water transport, cooling and power. -- This category includes cooling water, industrial water supply, power production, commercial and pleasure vessel activity, except those small craft included in Category C.

a. Category E1 -- Water Transport. -- This category includes all stream segments modified for water transport and having permanently maintained navigation aides.
b. Category E2 -- Cooling Water. -- This category includes all stream segments having one (1) or more users for industrial cooling.
c. Category E3 -- Power production. -- This category includes all stream segments extending from a point 500 feet upstream from the intake to a point one half (1/2) mile below the wastewater discharge point. (See Appendix C for representative list.)
d. Category E4 -- Industrial. -- This category is used to describe all stream segments with one (1) or more industrial users. It does not include water for cooling.

Appendix A -- Category B-2 -- Trout Waters

River Basin	County	Stream
James River		
J	Monroe	South Fork Potts Creek
Potomac River		
P	Jefferson	Town Run
P	"	Rocky Marsh Run
P	Berkeley	Opequon Creek
P	"	Tuscarora Creek (Above Martinsburg)
P	"	Middle Creek (Above Route 30 Bridge)
P	"	Mill Creek
P	"	Hartland Run
P	"	Mill Run
P	"	Tillance Creek
P	Morgan	Meadow Branch
PS	Jefferson	Flowing Springs Run (Above Halltown)
PS	"	Cattail Run
PS	"	Evitt's Run
PS	"	Big Bullskin Run
PS	"	Long Marsh Run
PC	Hampshire	Cold Stream
PC	"	Edwards Run and Impoundment
PC	"	Dillons Run
PC	Hardy	Lost River
PC	"	Camp Branch
PC	"	Lower Cove Run
PC	"	Moores Run
PC	"	North River (Above Rio)
PC	"	Waites Run
PC	"	Trout Run
PC	"	Trout Pond (Impoundment)
PC	"	Warden Lake (Impoundment)
PC	"	Rock Cliff Lake (Impoundment)
PSB	Hampshire	Mill Creek
PSB	"	Mill Run
PSB	Hardy	Dumpling Creek
PSB	Grant-Pendleton	North Fork South Branch
PSB	Grant	North Fork Lunice Creek
PSB	"	South Fork Lunice Creek
PSB	"	South Mill Creek (Above Hiser)
PSB	"	Spring Run
PSB	Pendleton	Hawes Run (Impoundment)
PSB	"	Little Fork
PSB	"	South Branch (Above North Fork)
PSB	"	Senena Creek
PSB	"	Laurel Fork
PSB	"	Big Run
PNB	Mineral	North Fork Patterson Creek
PNB	"	Fort Ashby (Impoundment)
PNB	"	New Creek
PNB	"	New Creek Dam 14 (Impoundment)
PNB	"	Mill Creek (Above Markwood)
Monongahela River		
M	Monongalia-Marion	Whiteday Creek (Above Smithtown)
MC	Monongalia	Morgan Run

Appendix A -- Category B-2 -- Trout Waters

River Basin	County	Stream
MC	"	Coopers Rock (Impoundment)
MC	"	Blaney Hollow
MC	Preston	Laurel Run
MC	"	Elsey Run
MC	"	Saltlick Creek
MC	"	Buffalo Creek
MC	"	Wolf Creek
MC	Tucker	Clover Run
MC	"	Elklick Run
MC	"	Horseshoe Run
MC	"	Maxwell Run
MC	"	Red Creek
MC	"	Slip Hill Mill Branch
MC	"	Thomas Park (Impoundment)
MC	"	Blackwater River (Above Davis)
MC	Randolph	Camp Five Run
MC	"	Dry Fork (Above Otter Creek)
MC	"	Glady Fork
MC	"	Laurel Fork
MC	"	Gandy Creek (Above Whitmer)
MC	"	East Fork Glady Fork (Above C & P Compressor Station)
MC	Randolph	Shavers Fork (Above Little Black Fork)
MC	"	Three Spring Run
MC	"	Spruce Knob Lake (Impoundment)
MW	Harrison	Dog Run (Pond)
MW	Lewis	Stonecoal
MT	Barbour	Brushy Fork (Above Valley Furnace)
MT	"	Teter Creek Lake (Impoundment)
MT	"	Mill Run
MT	Taylor-Barbour	Tygart Lake Tailwaters (Above Route 119 Bridge)
MT	Preston	Roaring Creek (Above Little Lick Branch)
MT	Randolph	Tygart River (Above Huttonsville)
MT	"	Elkwater Fork
MT	"	Big Run
MTB	Upshur-Randolph-Lewis	Right Fork Buckhannon River
MTB	Upshur	Buckhannon River (Above Beans Mill)
MTB	Upshur	French Creek
MTB	Upshur-Randolph	Left Fork Right Fork
MTN	Upshur	Right Fork Middle Fork River
MTM	Randolph	Middle Fork River (Above Cassity)
MY	Preston	Rhine Creek
Little Kanawha River		
LK	Upshur	Left Fork -- Right Fork Little Kanawha River
LK	Upshur-Lewis	Left Fork -- Right Fork Little Kanawha River
Kanawha River		
KE	Braxton	Sutton Reservoir
KE	"	Sutton Lake Tailwaters (Above Route 38/5 Bridge)
KE	Webster	Back Fork
KE	"	Desert Fork
KE	"	Fall Run
KE	"	Laurel Fork
KE	"	Left Fork Holly River

Appendix A -- Category B-2 -- Trout Waters

River Basin	County	Stream
KE	"	Sugar Creek
KE	"	Elk River (Above Webster Springs)
KC	Raleigh	Stephens Lake (Impoundment)
KC	"	Marsh Fork (Above Sundial)
KG	Nicholas	Summersville Reservoir (Impoundment)
KG	"	Summersville Tailwaters (Above Collison Creek)
KG	Nicholas	Deer Creek
KG	Randolph-Webster	Gauley River (Above Moust Coal Tipple)
KG	Fayette	Glade Creek
KG	Nicholas	Hominy Creek
KG	"	Anglins Creek
KG	Greenbrier	Big Clear Creek
KG	"	Little Clear Creek and Laurel Run
KG	"	Meadow Creek
KG	Fayette	Wolf Creek
KG	Nicholas	Cherry River
KG	Greenbrier-Nicholas	Laurel Creek
KG	"	North Fork Cherry River
KG	Greenbrier	Summit Lake (Impoundment)
KG	Greenbrier-Nicholas	South Fork Cherry River
KGC	Pocahontas-Webster-Nicholas	Cranberry River
KGC	Pocahontas	South Fork Cranberry River
KGW	Pocahontas	Tea Creek
KGW	Pocahontas-Webster	Williams River (Above Dyer)
KN	Raleigh	Glade Creek
KN	Summers	Meadow Creek
KN	Fayette	Mill Creek
KN	"	Laurel Creek (Above Cotton Hill)
KN	Raleigh	Pinch Creek
KN	Monroe	Rich Creek
KN	"	Turkey Creek
KN	Fayette	Dunloup Creek (Downstream from Harvey Sewage Treatment Plant)
KN	Mercer	East River (Above Kelleysville)
KN	"	Pigeon Creek
KN	Monroe	Laurel Creek
KNG	Monroe	Kitchen Creek (Above Gap Mills)
KNG	Greenbrier	Culverson Creek
KNG	"	Milligan Creek
KNG	Greenbrier-Monroe	Second Creek (Rt. 219 Bridge to Nickell's Mill)
KNG	Greenbrier	North Fork Anthony Creek
KNG	"	Spring Creek
KNG	"	Anthony Creek (Above Big Draft)
KNG	Pocahontas	Watoga Lake
KNG	"	Beaver Creek
KNG	"	Knave’s Creek
KNG	"	Hills Creek
KNG	"	North Fork Deer Creek (Above Route 28/5)
KNG	"	Deer Creek
KNG	"	Sitlington Creek
KNG	"	Stoney Creek
KNG	"	Swago Creek
KNG	"	Buffalo Fork (Impoundment)

Appendix A -- Category B-2 -- Trout Waters

River Basin	County	Stream
KNG	"	Seneca (Impoundment)
KNG	"	Greenbrier River (Above Hosterman)
KNG	"	West Fork -- Greenbrier River (Above the impoundment at the tannery)
KNG	"	Little River -- East Fork
KNG	"	Little River -- West Fork
KNG	"	Five Mile Run
KNG	"	Mullenax Run
KNG	"	Abes Run
KNB	Mercer	Marsh Fork
KNB	"	Camp Creek
OG	Wyoming	Pinnacle Creek
BST	McDowell	Dry Fork (Above Canebrake)

* This list contains known trout waters and is not intended to exclude any waters which meet the definition in Section 2.16.

Appendix B -- Category A -- Water Supply Public

River Basin	County	Operating Company	Source
Shenandoah River			
S	Jefferson	Charlestown Water	Shenandoah River
Potomac River			
P	Jefferson	3-M Company	Turkey Run
P	"	Shepherdstown Water	Potomac River
P	"	Harpers Ferry Water	Elk Run
P	Berkeley	DuPont Potomac River	Potomac River Works
P	"	Berkeley County PSD	Le Feure Spring
P	"	Opequon PSD	Quarry Spring
P	"	Hedgesville PSD	Speck Spring
P	Morgan	Paw Paw Water	Potomac River
PSB	Hampshire	Romney Water	South Branch Potomac River
PSB	"	Peterkin Conference	Mill Run Center
PSB	Hardy	Moorefield Municipal	South Fork River Water
PSB	Pendleton	U.S. Naval Radio Sta.	South Fork River
PSB	"	Circleville Water Inc.	North Fork of South Branch, Potomac River
PSB	Grant	Mountain Top PSD	Mill Creek, Impoundment
PSB	"	Petersburg Municipal Water	South Branch, Potomac River
PNB	Grant	Island Creek Coal	Impoundment
PNB	Mineral	Piedmont Municipal Water	Savage River, Maryland
PNB	"	Keyser Water	New Creek
PNB	"	Fort Ashby PSD	Lake
Monongahela River			
M	Monongalia	Morgantown Water Comm.	Colburn Creek & Monongahela River
M	"	Morgantown Ordinance	Monongahela River Works
M	Preston	Preston County PSD	Deckers Creek
M	Monongalia	Blacksville # 1 Mine	Impoundment
M	"	Loveridge Mine	Impoundment
M	"	Consolidation Coal Co.	Impoundment
M	Preston	Mason Town Water	Block Run
MC	Preston	Fibair Inc.	Impoundment
MC	Monongalia	Cheat Neck PSD	Cheat Lake
MC	"	Lakeview County Club	Cheat Lake -- Lake Lynn

Appendix B -- Category A -- Water Supply Public

River Basin	County	Operating Company	Source
MC	"	Union District PSD	Cheat Lake -- Lake Lynn
MC	"	Cooper's Rock State	Impoundment Park
MC	Preston	Kingwood Water	Cheat River
MC	"	Hopemount State Hosp.	Snowy Creek
MC	"	Rowlesburg Water	Keyser Run & Cheat River
MC	"	Albright	Cheat River
MC	Tucker	Parsons Water	Shavers & Elk Lick Fork
MC	"	Thomas Municipal	Thomas Reservoir
MC	"	Hamrick PSD	Dry Fork
MC	"	Douglas Water System	Long Run
MC	Tucker	Davis Water	Blackwater River
MC	"	Hambleton Water System	Roaring Creek
MC	"	Canaan Valley State	Blackwater River Park
MC	Pocahontas	Cheat Mt. Sewer	Shavers Lake
MC	"	Snowshoe Co. Water	Shavers Fork
MC	Randolph	Womelsdorf Water	Yokum Run
MW	Harrison	Lumberport Water	Jones Run
MW	"	Clarksburg Water Bd.	West Fork River
MW	"	Bridgeport Mun. Water	Deecons & Hinkle Creek
MW	"	Salem Water Board	Dog Run
MW	"	West Milford Water	West Fork River
MW	Lewis	W.V. Water -- Weston	West Fork River District
MW	"	Jackson's Mill Camp	Impoundment
MW	"	West Fork River PSD	West Fork River
MW	"	Kennedy Compressor	West Fork River Station
MW	"	Jane Lew Water Comm.	Hackers Creek
MW	Harrison	Bel-Meadow Country	Lake Club
MW	"	Harrison Power Station	West Fork River
MW	"	Oakdale Portal	Impoundment
MW	"	Robinson Port	Impoundment
MT	Marion	Fairmont Water Comm.	Tygart River
MT	"	Mannington Water	Impoundment
MT	"	Monongah Water Works	Tygart River
MT	"	Eastern Assoc. Coal Corp.	Impoundment
MT	"	Four States Water	Impoundment
MT	Harrison	Shinnston Water Dept.	Tygart River
MT	Taylor	Grafton Water	Tygart River-Lake
MT	Barbour	Phillippi Water	Tygart River
MT	"	Bethlehem Mines Corp.	Impoundment
MT	"	Belington Water Works	Tygart River & Mill Run Lake
MT	Randolph	Elkins Municipal Water	Tygart River
MT	"	Beverly Water	Tygart river
MT	"	Valley Water	Tygart River
MT	"	Huttonsville Medium	Tygart River Security Prison
MT	"	Mill Creek Water	Mill Creek
MTB	Upshur	Buckhannon Water Board	Buckhannon River
Ohio River			
O	Zone 1 Hancock	Chester Water & Sewer	Ohio River
O	Zone 1 Brooke	City of Weirton	Ohio River
O	Zone 1 Brooke	Weirton Steel Division	Ohio River

Appendix B -- Category A -- Water Supply Public

River Basin	County	Operating Company	Source
O	Zone 1 Ohio	Wheeling Water	Ohio River
O	Zone 1 Tyler	Sistersville Mun. Water	Ohio River
O	Zone 1 Pleasants	Pleasants Power Station	Ohio River
O	Zone 1 Cabel	Huntington Water Corp.	Ohio River
O	Zone 1 Marshall	Mobay Chemical Co.	Ohio River
O	Zone 1 Wood	E. I. DuPont	Ohio River
O	Zone 2 Marshall	Cameron Water	Glass House Hollow
O	Zone 2 Marshall	New Urindahana Water	Wheeling Creek System
O	Zone 2 Wetzel	Pine Grove Water	North Fork, Fishing Creek
O	Zone 2 Marshall	Consolidated Coal Co.	Impoundment
O	Zone 2 Tyler	Middlebourne Water	Middle Island Creek
O	Zone 2 Doddridge	West Union Mun. Water	Middle Island Creek
O	Zone 2 Mason	Hidden Valley Country	Lake/Impoundment
O	Zone 2 Jackson	Ripley Water	Mill Creek
O	Zone 2 Wayne	Wayne Municipal Water	Twelve Pole Creek
O	Zone 2 Wayne	East Lynn Lake	East Lynn Lake
O	Zone 2 Wayne	Monterey Coal Co.	Impoundment
Little Kanawha			
LK	Wood	Claywood Park PSD	Little Kanawha River
LK	Calhoun	Grantsville Mun. Water	Little Kanawha River
LK	Gilmer	Glenville Utility	Little Kanawha River
LK	"	Consolidated Gas	Steer Creek Compressor
LK	Braxton	Burnsville Water Works	Little Kanawha river
LK	Roane	Spencer Water	Spring Creek & Mile Tree Reservoir
LK	Wirt	Elizabeth Water	Little Kanawha River
LKH	Ritchie	Cairo Water	North Fork Hughes River
LKH	"	Harrisville Water	North Fork Hughes River
LKH	"	Pennsboro Water	North Fork Hughes River
Kanawha River			
K	Putnam	Buffalo Water	Cross Creek
K	"	Winfield Water	Poplar Fork & Crooked Creek
K	"	South Putnam PSD	Poplar Fork & Crooked Creek
K	Kanawha	Cedar Grove Water	Kanawha River
K	"	Pratt Water	Kanawha River
K	Fayette	Armstrong PSD PO- K1-CO-EL	Kanawha River & Gum Hollow

Appendix B -- Category A -- Water Supply Public

River Basin	County	Operating Company	Source
K	Fayette	Kanawha Water Co.- Beards Fork	Unnamed Tributary Kanawha River
K	Kanawha	Midland Trail School	Impoundment
K	"	Cedar Coal Co.	Impoundment
K	Fayette	Elkem Metals Co.	Kanawha River
K	"	Deepwater PSD	Kanawha River
K	"	Kanawha Falls PSD	Kanawha River
K	"	W.V. Water -- Montgomery	Kanawha River
Pocatalico river			
KP	Kanawha	Sissonville PSD	Pocatalico River
KP	Roane	Walton PSD	Silcott Fork Dam
Coal River			
KC	Kanawha	St. Albans Water	Coal River
KC	"	Washington PSD	Coal River
KC	Lincoln	Lincoln PSD	Coal River
KC	Boone	Coal River PSD	Coal River
KC	"	Whitesville PSD	Coal River
KC	Raleigh	Armco Mine 10	Marsh Fork
KC	"	Armco Steel -- Montc. Stickney	Coal River
KC	Raleigh	Peabody Coal	Coal River
KC	"	Stephens Lake Park	Lake Stephens
KC	Boone	W.V. Water – Madison Dist.	Little Coal River
KC	"	Van PSD	Pond Fork
KC	Raleigh	Consol. Coal Co.	Workmans Creek
KC	Boone	Water Ways Park	Coal River
Elk River			
KE	Kanawha	Clendenin Water	Elk River
KE	"	W.V. Water -- Kanawha Valley District	Elk River
KE	Kanawha	Pinch PSD	Elk River
KE	Clay	Clay Waterworks	Elk River
KE	"	Procious PSD	Elk River
KE	Braxton	Flatwoods – Canoe Run PSD	Elk River
KE	"	Sugar Creek PSD	Elk River
KE	"	W.V. Water – Gassaway Dist.	Elk River
KE	"	W.V. Water -- Sutton Dist.	
KE	Webster	W.V. Water – Webster Springs	Elk River
KE	"	Holly River State Park	Holly River
Gauley River			
KG	Nicholas	Craigsville PSD	Gauley River
KG	"	Summersville Water	Impoundment/Muddlety Creek
KG	"	Nettie-Leivasy PSD	Jim Branch
KG	Webster	Cowen PSD	Gauley River
KG	Nicholas	Wilderness PSD	Anglins Creek & Meadow River
KG	"	Richwood Water	North Fork Cherry River
New River			
KN	Fayette	Ames Heights Water	Mill Creek
KN(Surfac	"	Mt. Hope Water	Impounded Mine

Appendix B -- Category A -- Water Supply Public

River Basin	County	Operating Company	Source
e)			
KN	"	Ansted Municipal Water	Mill Creek
KN	"	Fayette Co. Park	Impoundment
KN	"	New River Gorge Campground	Impoundment
KN	"	Fayetteville Water	Wolfe Creek
KN	Raleigh	Beckley Water	Glade Creek
KN	"	Westmoreland Coal Co.	Farley Branch
Bluestone River			
KNB	Summers	Jumping Branch -- Nimitz	Mt. Valley Lake
KNB	"	Bluestone Conf. Center	Bluestone Lake
KNB	"	Pipestem State Park	Impoundment
KNB	Mercer	Town of Athens	Impoundment
KNB	"	Bluewell PSD	Impoundment
KNB	"	Bramwell Water	Impoundment
KNB	"	Green Valley – Glenwood PSD	Bailey Reservoir
KNB	"	Kelly's Tank	Spring
KNB	"	W.V. Water Princeton	Impoundment/Brusch Creek
KNB	"	Lashmeet PSD	Impoundment
KNB	"	Pinnacle Water Assoc.	Mine
KNB	"	W.V. Water Bluefield	Impoundment
Greenbrier River			
KNG	Summers	W.V. Water Hinton	Greenbrier River & New River
KNG	"	Big Bend PSD	Greenbrier River
KNG	Greenbrier	Alderson Water Dept.	Greenbrier River
KNG	"	Ronceverte Water	Greenbrier River
KNG	"	Lewisburg Water	Greenbrier river
KNG	Pocahontas	Denmar State Hospital Water	Greenbrier River
KNG	"	City of Marlinton Water	Knapp Creek
KNG	"	Cass Scenic Railroad	Leatherbark Creek
KNG	"	Upper Greenbrier PSD	Greenbrier River
KNG	"	The Hermitage	Greenbrier
Guyandotte River			
OG	Cabell	Salt Rock PSD	Guyandotte River
OG	Lincoln	West Hamlin Water	Guyandotte River
OG	Logan	Logan Water Board	Guyandotte River
OG	"	Man Water Works	Guyandotte River
OG	"	Buffalo Creek PSD	Buffalo Creek/Mine/Wells
OG	Logan	Chapmanville	Guyandotte River
OG	"	Logan PSD	Whitman Creek/Guyandotte River
OG	Mingo	Gilbert Water	Guyandotte River
OG	Wyoming	Oceana Water	Laurel Fork
OG	"	Glen Rogers PSD	Impoundment
OG	"	Pineville Water	Pinnacle Creek/Guyandotte River
OG	Raleigh	Raleigh Co. PSD -- Amigo	Tommy Creek
OMG	Cabell	Milton Water Works	Guyandotte River
OMG	"	Culloden PSD	Indian Fork Creek
OMG	Putnam	Hurricane Municipal Water	Impoundment
OMG	"	Lake Washington PSD	Lake Washington
Big Sandy River			
BS	Wayne	Kenova Municipal Water	Big Sandy River

Appendix B -- Category A -- Water Supply Public

River Basin	County	Operating Company	Source
BS	"	Fort Gay Water	Tug Fork
BST	Mingo	Kermit Water	Tug Fork
BST	"	Matewan Water	Tug Fork
BST	"	A & H Coal Co., Inc.	Impoundment
BST	"	Williamson Water	Impoundment
BST	McDowell	City of Welch	Impoundment/Wells
BST	"	City of Gary	Impoundment/Mine

***** This list contains known waters used as public water supplies and is not intended to exclude any waters as described in Section 6.2.

Appendix C -- Category E-3 -- Power Production

River Basin	County	Station Name	Operating Company
Monongahela River			
M	Monongalia	Fort Martin Power Station	Monongahela Power
M	Marion	Rivesville Station	Monongahela Power
MC	Preston	Albright Station	Monongahela Power
Potomac			
	Grant	Mt. Storm Power Station	Virginia Electric & Power Company
Ohio River			
O	Zone 1 Wetzel	Hannibal (Hydro)	Ohio Power
O	Zone 1 Marshall	Kamer	Ohio Power
O	Zone 1 Marshall	Mitchell	Ohio Power
O	Zone 1 Pleasants	Pleasants Station	Monongahela Power
O	Zone 1 Pleasants	Willow Island Station	Monongahela Power
O	Zone 1 Mason	Phillip Sporn Plant	Central Operating (AEP)
O	Zone 1 Mason	Racine (Hydro)	Ohio Power
O	Zone 1 Mason	Mountaineer	Appalachian Power Co.
K	Putnam	Winfield (Hydro)	Appalachian Power Co.
K	Kanawha	Marmet (Hydro)	Appalachian Power Co.
K	"	London (Hydro)	Appalachian Power Co.
K	"	Kanawha River	Appalachian Power Co.
K	"	John E. Amos	Appalachian Power Co.

***** This list contains known power production facilities and is not intended to exclude any waters as described in Section 6.6.c.

Appendix D -- Category C -- Water Contact Recreation

River Basin	Stream Code	Stream	County
Shenandoah	S	Shenandoah River	Jefferson
Potomac	P	Potomac River	Jefferson
	P	Potomac River	Hampshire
	P	Potomac River	Berkeley
	P	Potomac River	Morgan
	P	Sleepy Creek & Meadow Branch	Berkeley
	P-9-G-1	North Fork of Indian Run	Morgan
South Branch	PSB	South Branch of Potomac River	
	PSB	South Branch of Potomac River	Hampshire
	PSB	South Branch of Potomac River	Hardy
	PSB-21-X	Hawes Run	Grant
	PSB-25-C-2	Spring Run	Pendleton
	PSB-28	North Fork South Branch Potomac	Grant

Appendix D -- Category C -- Water Contact Recreation

River Basin	Stream Code	Stream	County
North Branch	PNB	North Branch of Potomac River	Mineral
	PNB-4-EE	North Fork Patterson Creek	Grant
	PNB-7-H	Linton Creek	Grant
	PNB-17	Stoney River/Mt. Storm Lake	Grant
	PC	Cacapon River	Hampshire
Monongalia Cheat	MC	Cheat Lake/Cheat river	Monongalia/Preston
	MC	Alpine Lake	Preston
	MC-6	Coopers Rock Lake/Quarry Run	Monongalia
	MC-12	Big Sandy Creek	Preston
	MSC	Shavers Fork	Randolph
	MTN	Middle Fork River	Barbour/Randolph/Upshur
	MW	West Fork River	Harrison
	MW-18	Stonecoal Creek/Stonecoal Lake	Lewis
Ohio	O	Ohio River	Brooke/Cabell/Hancock/Jackson /Marshall/Mason/Ohio/Pleasants /Tyler/Wayne/Wood/ Wetzel
	O-2-H	Beech Fork of Twelvepole Creek/Beech Fork Lake	Wayne
	O-2-Q	East Fork of Twelvepole Creek/East Lynn Lake	Wayne
	O-3	Fourpole Creek	Cabell
	O-21	Old Town Creek/ McClintic Ponds	Mason
	OMi	Middle Island Creek/ Crystal Lake	Doddridge
	OG	Guyandotte River	Cabell
	OG	Guyandotte River/ R. D. Bailey Lake	Wyoming
	OGM	Mud River	Cabell
Little Kanawha	LK	Little Kanawha River/ Burnsville Lake	Braxton
Kanawha	K	Kanawha River	Fayette/Kanawha/Mason/Putnam
	K-1	Unnamed Tributary Krodel Lake	Mason
	KC	Coal River	Kanawha
	KC-45-Q	Stephens Branch/ Lake Stephens	Raleigh
	KE	Elk River	Kanawha/Clay/Braxton/Webster / Randolph
	KE	Sutton lake	Braxton
	KN	New River	Fayette/Raleigh/Summers
	KN-26-F	Little Beaver Creek	Raleigh
	KNG	Greenbrier River	Greenbrier/Pocahontas/Summers
	KNG-23-E-1	Little Devil Creek/ Moncove Lake	Monroe
	KNG-28	Anthony Creek	Greenbrier
	KNG-28-P	Meadow Creek/ Lake Sherwood	Greenbrier
	KNB	Bluestone River/ Bluestone Lake	Summers
	KG	Gauley River	Webster
	KG	Gauley River/ Summersville Lake	Nicholas
	KGW	Williams River	Webster

***** This list contains waters known to be used for water contact recreation and is not intended to exclude any waters as described in Section 6.4.

Appendix F - Cool Water Lakes

This list contains lakes to be managed for cool water fisheries and is not intended to exclude any waters which meet the definition in Section 2.2.

River Basin	County	Lake
Potomac River		
PC	Hardy Lost River	Trout Pond (Impoundment)
PC	Hardy Lost River	Rock Cliff Lake (Impoundment)
PSB	Pendleton	Hawes Run (Impoundment)
PNB	Mineral	New Creek Dam 14(Impoundment)
Monongahela River		
MC	Monongalia	Coopers Rock (Impoundment)
MC	Monongalia	Cheat Lake
MC	Tucker	Thomas Park (Impoundment)
MC	Randolph	Spruce Knob Lake (Impoundment)
MT	Taylor	Tygart Lake
MW	Lewis	Stonecoal Lake
Kanawha River		
KC	Raleigh	Stephens Lake (Impoundment)
KG	Nicholas	Summersville Reservoir (Impoundment)
KG	Greenbrier	Summit Lake (Impoundment)
KNG	Pocahontas	Watoga Lake
KNG	Pocahontas	Buffalo Fork (Impoundment)
KNG	Pocahontas	Seneca (Impoundment)
KCG	Pocahontas	Handley Pond
Guyandotte River		
OG	Wyoming/Mingo	RD Bailey Lake

Appendix 13-4

Classification of Public Water Systems

(Source: WVCSR 64-4-4) [Added January 2008]

4.1. A public water system is classified on the basis of the complexity of water treatment processes.

4.1.a. Class 1D: All transient non-community water systems that have ground water only as a source, and do not use gaseous chlorine or chlorine dioxide as a means of disinfection, and do not treat for the removal of nitrate or nitrite, or both. Ground water sources that use gaseous chlorine, chlorine dioxide as a means of disinfection or have treatment for removal of nitrate or nitrite, or both, are considered a Class I public water system.

4.1.b. Class WD: A public water system that obtains all of its water from another public water system, and is not owned or operated by the supplying public water system. The system does not have any other source of water other than water from the supplying public water system. A WD system may apply chorine for supplemental disinfection.

4.1.c. Class I: Community and non-transient non-community public water systems that use ground water only, serve a population of less than 10,000 (including consecutive connection population), and do not treat for a primary contaminant.

4.1.d. Class II: All public water systems that use a surface source or a ground water under the direct influence of a surface water source, serve a population of less than 10,000 (including consecutive connection population), and do not have any additional treatment units within the treatment plant for identified primary contaminants in the source water. Treatment installed for removal of Cryptosporidium is considered an additional treatment unit. Class II also includes all public water systems that use ground water only, serve less than 10,000 population, use at least one radial water collector well as a source, or treat for at least one primary contaminant identified in the source water, or both.

4.1.e. Class III: All public water systems that use surface or a ground water under the direct influence of a surface water source, serve a population of at least 10,000 (including consecutive connection population), and do not have any additional treatment plant for identified primary contaminants in the source water. Class III also includes all public water systems that use ground water only, serve a population of at least 10,000 and use at least one radial water collector well as a source.

4.1.f. Class IV: A public water system that uses a surface or a ground water under the direct influence of a surface water source and serves a population of at least 20,000 (including consecutive connection population).

Appendix 13-5

Minimum Horizontal Distance Between a Groundwater Well and Source
(Source: WVCSR 64-46, Table A) [Added January 2009]

SOURCE	MINIMUM DISTANCE
Septic Tanks	50 feet (100 feet)*
Sewage Treatment Facilities	200 feet
Sewers and Drains (Watertight)	10 feet
Drains (Non-watertight)	50 feet (100 feet)
Sewage Holding Tanks and Privies (Vault)	50 feet (100 feet)
Barnyard/Feeding and Watering Areas	100 feet
Streams, Rivers, and Impoundments	25 feet
Sewage Absorption Fields	100 feet
Existing Building or Foundation	10 feet
Storage or Preparation Area for Fertilizers and Pesticides	150 feet
Buried Oil, Gasoline, Chemical Storage Tanks	50 feet (100 feet)
Cemetery	50 feet (100 feet)

*Note: The distance noted in parenthesis is required when a water well is lower in elevation than the source of pollution or contamination referenced.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

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1. REPORT DATE (DD-MM-YYYY)
January 2010

2. REPORT TYPE
Final

3. DATES COVERED (From - To)

4. TITLE AND SUBTITLE
The Environmental Assessment and Management (TEAM) Guide:
West Virginia Supplement

5. FUNDING NUMBERS

Forest Service: IAGs
06-1A-1102000-031
DHS: HSHQDC08X00456
DLA: MIPR SP10010800630
DOE: W81D4A42683832
USPS: MOA-05-CERL-01
State Department: IAG IA1091740014
NASA: NNH09AK571
Navy: N002509MP5023M
VHA: IAG VA-255-M-IAG-0116B

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U.S. Army Engineer Research and Development Center (ERDC)
Construction Engineering Research Laboratory (CERL)
PO Box 9005
Champaign, IL 61826-9005

8. PERFORMING ORGANIZATION REPORT NUMBER
ERDC/CERL SR-06-26
Revised January 2010

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12. DISTRIBUTION / AVAILABILITY STATEMENT
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13. SUPPLEMENTARY NOTES
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14. ABSTRACT

Environmental assessments help determine compliance with current environmental regulations. The U.S. Air Force, U.S. Army, Defense Logistics Agency (DLA), and Corps of Engineers (Civil Works) have adopted environmental compliance programs that identify compliance problems before they are cited as violations by the U.S. Environmental Protection Agency.

Since 1984, the U.S. Army Construction Engineering Research Laboratory, in cooperation with numerous Department of Defense (DOD) components, has developed environmental compliance assessment checklist manuals. The Environmental Assessment and Management (TEAM) Guide was developed for use by all DOD components. Currently there are five participating DOD components: the Air Force, Air National Guard, Army, Civil Works, and DLA. These agencies have agreed to share the development and maintenance of this Guide.

The Guide combines Code of Federal Regulations and management practices into a series of checklists that show legal requirements and the specific operations or items to review. TEAM Guide is supplemented by DOD component-specific manuals detailing DOD component regulations and policies. The West Virginia Supplement was developed to be used in conjunction with the TEAM Guide, using existing West Virginia state environmental legislation and regulations as well as suggested management practices.

15. SUBJECT TERMS
Environmental Compliance Assessment and Management Program, environmental compliance checklists, The Environmental Assessment and Management (TEAM) Guide, environmental compliance laws and regulations

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
					Carolyn O'Rourke
a. REPORT	b. ABSTRACT	c. THIS PAGE			19b. TELEPHONE NUMBER
Unclassified	Unclassified	Unclassified	SAR	493	217-398-5553