



**US Army Corps  
of Engineers**  
Construction Engineering  
Research Laboratories



# **The Environmental Assessment and Management (TEAM) Guide**

*South Carolina Supplement*  
*Revised November 1997*

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 Laboratories, 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 South Carolina Supplement was developed to be used in conjunction with the TEAM Guide, using existing South Carolina state environmental legislation and regulations as well as suggested management practices.

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## FOREWORD

This is USACERL Special Report 95/48. The report is based on the information available on Enflex Federal and State Regulations of October 1997.

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## NOTICE

This manual is intended as general guidance for personnel at Department of Defense (DOD) installations/ CW 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.



## SOUTH CAROLINA SUPPLEMENT

This South Carolina U.S. TEAM Supplement contains the protocols necessary for determining compliance with South Carolina environmental rules and regulations. This manual is a supplement to the U.S. TEAM Guide; the Supplement does not replace the Guide.

The following South Carolina agencies have responsibility in the areas indicated:

- Health and Environmental Control Department has several specific program offices. They are:
  - Air Quality Control Bureau - the state has full authority to manage all Federal air programs.
  - Water Supply and Special Programs Bureau - oversees the state's drinking water programs.
  - Water Pollution Control Bureau - the state has full authority to manage the Federal Pollutant Discharge Elimination System permit program. This Bureau manages the surface and groundwater programs. The Groundwater Protection Division administers underground storage tanks.
  - Solid and Hazardous Waste Management Bureau - administers the solid waste, hazardous waste, and infectious waste management programs.
- Emergency Response Commission (Division of Public Safety Programs) - accidental spills reported under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) are reported to (803) 734-0428; any spill is reported to (803) 253-6488.
- Fertilizer and Pesticide Control Department (Clemson University, College of Agriculture Sciences) - oversees the state's pesticide management program.
- Historic Preservation Division (South Carolina Department of Archives and History) - oversees historic and archaeological preservation program.
- South Carolina Coastal Council - oversees the state's coastal zone management program. The council may review all state and Federal permit applications in the critical coastal counties (Beaufort, Jasper, Colleton, Berkeley, Charleston, Dorchester, Horry, and Georgetown).
- Water Resources Commission - oversees the management of the state's oil and gas exploration program and Class II underground injection wells.
- Wildlife and Marine Resources Department - oversees the endangered species program.



## ACRONYMS

ASA	Air Stagnation Advisory
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BACT	best available control technology
BAQC	Bureau of Air Quality Control
BAT	best available technology
BOD	biological oxygen demand
CAA	Clean Air Act
CAS	Chemical Abstract Service
C.E.	combustion efficiency
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CLSC	Code of Laws of South Carolina
CWA	Clean Water Act
DHEC	South Carolina Department of Health and Environmental Control
DOD	Department of Defense
DOT	Department of Transportation
EDB	Ethylene Dibromide
EPM	Environmental Program Management
FAA	Federal Aviation Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
HID	high intensity discharge
HPC	heterotrophic plate count
MCL	maximum contamination level
MCLG	maximum contamination level goal
MF	membrane filter
MPN	most probable number
MSWLF	municipal solid waste landfill
MTF	multiple tube fermentation
MTP	maximum total trihalomethane potential
NACE	National Association of Corrosion Engineers
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NPR	NPDES Permits, Regulation 61-9
NT	Natural (trout waters)
ORW	outstanding resource waters
OSHA	Occupational Safety and Health Administration
P-A	presence-absence
PCB	polychlorinated biphenyls
PFRP	process to further reduce pathogens
POE	point of entry treatment device
POU	point of use treatment device
PSD	prevention of significant deterioration
PSRP	process to significantly reduce pathogens
RCRA	Resource Conservation and Recovery Act
RCRA-C	Resource Conservation and Recovery Act, Subtitle C
RCRA-D	Resource Conservation and Recovery Act, Subtitle D
RCRA-I	Resource Conservation and Recovery Act, Subtitle I

## ACRONYMS

Rfc	verified reference concentration
RR	Rules and Regulations for the Enforcement of the South Carolina Pesticide Control Act
SARA	Superfund Amendment and Reauthorization Act
SC	South Carolina
SCAPCR	South Carolina Air Pollution Control Regulation
SCCC	South Carolina Coastal Council
SCHWR	South Carolina Hazardous Waste Regulations
SCWSR	South Carolina Well Standards and Regulations
SDWA	Safe Drinking Water Act
SFH	Shellfish Harvesting Waters
SLI	start lighting ignition
SMCL	secondary maximum contaminant level
THM	trihalomethanes
TNTC	too numerous to count
TPGT	Put, Grow, and Take (Trout waters)
TSCA	Toxic Substance Control Act
TSDF	treatment, storage, and disposal facility
TSP	total suspended particulate
TTHM	total trihalomethanes
UICR	underground injection control
USACE	U. S. Army Corps of Engineers
USDW	underground source of drinking water
USEPA	U. S. Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound
WCS	Water Classifications and Standards
WRC	Water Resources Commission

## 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 <sup>2</sup>	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 <sup>2</sup>	square feet	NTU	nephelometric turbidity unit
ft <sup>3</sup>	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	sdcn	standard dry cubic meter
lb	pound	TU	turbidity unit
m	meter	V	volt
m <sup>3</sup>	cubic meter	yd	yard
MBtu	million British thermal units	yd <sup>2</sup>	square yard
meq	milligram equivalent	yr	year
CO	carbon monoxide	NO <sub>2</sub>	nitrogen dioxide
CO <sub>2</sub>	carbon dioxide	NO <sub>x</sub>	nitrogen oxides
Hg	mercury	SO <sub>2</sub>	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 <sup>2</sup>	=	0.093 m <sup>2</sup>
1 ft <sup>3</sup>	=	0.028 m <sup>3</sup>
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 <sup>2</sup>
1 acre	=	0.405 hectare

## SECTION 1

### AIR EMISSIONS MANAGEMENT

#### South Carolina Supplement, November 1997

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.

#### Definitions

These definitions were obtained from the South Carolina Department of Health and Environmental Control (DHEC), Air Pollution Control Regulations (SC R): 62.1(I), 62.3(I), 62.4(A), 62.5(5)(I)(A and D).

- *Acid Mist* - mist or droplets of sulfuric or other acids. Sulfuric acid mist includes sulfur trioxide and sulfuric acid vapor as well as liquid mist.
- *Add* - additions to a process which will increase size, scope, or emissions from a process.
- *Afterburner* - an auxiliary burner for destroying unburned or partially burned combustion gases after they have passed from the combustion chamber.
- *Air Curtain Incinerator* - a lined or unlined pit for combusting landclearing waste and/or nontreated or unfinished woodwaste utilizing a high velocity air curtain for limiting emissions.
- *Air Dried Coatings* - coatings that are dried by the use of air temperatures up to 90 °C (194 °F).
- *Air Pollution Episode* - exists whenever the Commissioner of the DHEC determines that the accumulation of air pollutants in any place is attaining or has attained levels that could, if such levels are sustained or exceeded, lead to substantial threat to the health of persons.
- *Alert of Pollution Episode* - this level indicates that air quality is continuing to deteriorate and that additional control actions are necessary. An alert is declared when monitoring indicates that one of the following pollutant concentrations has been reached, and when meteorological conditions are such that pollutant concentrations can be expected to remain at the above levels for 12 h or more, or increase, or in the case of ozone, the situation is likely to recur within the next 24 h unless control actions are taken:
  1. particulate material 10 micrometers or smaller in diameter (PM<sub>10</sub>) - 420 micrograms/m<sup>3</sup>, 24-h average
  2. SO<sub>2</sub> - 800 micrograms/m<sup>3</sup> (0.3 ppm), 24-h average
  3. ozone (O<sub>3</sub>) - 800 micrograms/m<sup>3</sup> (0.4 ppm), 1-h average.
- *Alter* - modification or change in a process or processes that would affect emissions to the atmosphere.
- *Ambient Air Quality Standards* - that standard for the quality of ambient air at or beyond a property line on which a source of pollution is emitting.
- *Bead Dipping* - the dipping of an assembled tire bead into a solvent-based cement.
- *Board* - the Board of Health and Environmental Control.

- *Boiler* - an enclosed device using controlled flame combustion and having specific characteristics including the following:
  1. The combustion chamber and primary energy recovery section must be of integral design (i.e., waste heat recovery boilers attached to incinerators are not boilers).
  2. At least 75 percent of recovered energy must be exported (i.e., not used for internal uses like preheating of combustion air or fuel, or driving combustion air fans or feedwater pumps).
- *Bulk Gasoline Terminal* - a gasoline storage plant that receives gasoline from refineries primarily by pipeline, ship, or barge, and delivers gasoline to bulk plants or to commercial or retail accounts primarily by tank truck, and has a daily throughput of more than 20,000 gal of gasoline.
- *Capture System* - the equipment (including hoods, ducts, fans, etc.) used to contain, capture, or transport a pollutant to a control device.
- *Chemotherapeutic Waste* - all waste resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells. Chemotherapeutic waste does not include any waste listed in South Carolina Hazardous Waste Management Regulation R. 61-79.261.
- *Clear Coat* - a coating that lacks color and opacity or is transparent and uses the undercoat as a reflectant base of undertone color.
- *Cold Cleaner* - the batch process of cleaning and removing soils from metal surfaces by spraying, brushing, flushing, or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.
- *Commissioner* - the Commissioner of the DHEC.
- *Condenser* - a device that cools a gas stream to a temperature that removes specific organic compounds by condensation.
- *Construction* - onsite fabrication, erection, or installation of an emission source, air pollution control equipment, or a plant.
- *Continuous Program of Physical Onsite Construction* - significant and continuous site preparation work such as major clearing or excavation followed by placement of footings, pilings, and other materials of construction, assembly, or installation of unique facilities or equipment at the site of the source. With respect to a change in the method of operating, this term refers to those onsite activities other than preparatory activities that mark the initiation of the change.
- *Control Device* - equipment used to destroy, contain, or remove air pollutants prior to discharge.
- *Control System* - any number of control devices and associated equipment designed and operated to reduce the quantity of volatile organic compounds (VOCs) emitted.
- *Conveyorized Degreasing* - the continuous process of cleaning metal surfaces by using either cold or vaporized solvents.
- *Crematory Incinerator* - any incinerator designed and used solely for the burning of human remains or animal remains.
- *Cutback Asphalt* - asphalt cement that has been liquefied by blending with petroleum solvents remains (diluent).

- *Date of Notification* - as it refers to VOCs, the date that a source is notified in writing that it is subject to one of the VOC regulations.
- *Department* - the Department of Health and Environmental Control (DHEC).
- *Emergency* - if this level is reached the most stringent control actions are necessary. An emergency is declared when monitoring indicates that one of the following pollutant concentrations has been reached, and when meteorological conditions are such that this condition can be expected to continue for 12 h or more, or increase, or in the case of ozone, the situation is likely to recur within the next 24 h unless control actions are taken:
  1. particulate material 10 micrometers or smaller in diameter (PM<sub>10</sub>) - 500 micrograms/m<sup>3</sup>, 24-h average
  2. SO<sub>2</sub> - 1600 micrograms/m<sup>3</sup> (0.6 ppm), 24-h average
  3. O<sub>3</sub> - 1000 micrograms/m<sup>3</sup> (0.5 ppm), 1-h average.
- *Emission* - the release or discharge, directly or indirectly, of any air pollutant from any source.
- *Emission Limitation (and Emission Standard)* - a requirement established by the state or by the Administrator of the South Carolina Environmental Agency which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe operation or maintenance procedures for a source to assure continuous emission reduction.
- *External Floating Roof* - a storage tank cover in an open top tank that consists of a double deck or pontoon single deck that rests on and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof and the tank shell.
- *Extreme Environmental Conditions* - constant exposure to the weather, exposure to temperatures consistently above 95 °C (203 °F), detergents, scouring, solvents, corrosive atmospheres, or similar environmental conditions.
- *Flexographic Printing* - the application of words, designs, and pictures to a substrate by means of 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 rubber-like synthetic materials.
- *Forecast of Air Pollution Episode* - a level normally activated when an Air Stagnation Advisory (ASA) is issued for any part of South Carolina by the Columbia Forecast Office of the National Weather Service.
- *Freeboard Height* - the distance from the top of the vapor zone to the top of the degreaser tank.
- *Freeboard Ratio* - the freeboard height divided by the width of the degreaser.
- *Fuel Burning Operation* - use of furnace, boiler, device or mechanism used principally, but not exclusively, to burn any fuel for the purpose of indirect heating in which the material being heated is not contacted by and adds no substance to the products of combustion.
- *Fugitive Dust* - a type of particulate emission that becomes airborne by forces of wind, man's activity, or both, including, but not limited to, construction sites, tilled land, materials storage piles, and materials handling.
- *Fugitive Emissions* - air contaminants which escape to the air not through an exhaust system but through other means, including but not limited to, windows, vents, doors, ill-fitting closures, or poorly maintained equipment.
- *Garbage* - animal and vegetable waste resulting from the handling, preparation, cooking, and serving of foods.

- *Gasoline* - a petroleum distillate that has a Reid vapor pressure of 4 psi or greater and is used as fuel for internal combustion engines.
- *Gasoline Tank Truck* - tank truck (or trailer equipped with a storage tank) used for the transport of gasoline to or from bulk gasoline terminals.
- *Hazardous Air Pollutant* - a pollutant that is the subject of National Emission Standards for Hazardous Air Pollutants promulgated by the U. S. Environmental Protection Agency (USEPA) by publication in the Federal Register.
- *Hazardous Conditions (or Hazardous Levels)* - conditions created by the release or discharge into the ambient air of one or more air contaminants that, because of the characteristics and/or quantity of material involved, may pose an imminent threat to the health of anyone who might come in contact with the material through this release as well as involving substantial risk of injury, to include the injury of property or plant and animal life. This includes the indirect threat to human life and property by the creation of traffic hazards.
- *Hazardous Waste* - any waste identified as such by South Carolina Hazardous Waste Management Regulation 61-79.
- *Hazardous Waste Fuel* - hazardous waste that has a heat value greater than 5000 British thermal units per pound (Btu/lb) and is burned in an industrial or utility boiler or industrial furnace for energy recovery, except for exempted hazardous wastes.
- *Hazardous Waste Incinerator* - an incinerator whose primary function is to combust hazardous waste, except for exempted devices.
- *Incinerator* - any engineered device used in the process of controlled combustion of waste for the purpose of reducing the volume and/or hazardous potential of the waste charged by destroying combustible matter leaving the noncombustible ashes or residue and which meets neither the criteria nor classification as a boiler, nor is listed as an industrial furnace.
- *In Existence* - the owner or operator has obtained all necessary construction permits required and has either of the following:
  1. begun a continuous program of physical onsite construction of the source
  2. entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the source to be completed in a reasonable time, or that the owner or operator possesses a valid operating permit for the source prior to the effective date of a regulation or standard.
- *Infectious Waste* - any solid or liquid wastes that contain or is believed to contain pathogens with sufficient virulence and quantity that significant exposure to the waste by susceptible host could result in an infectious disease or its infectious characteristics may:
  1. cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating or reversible illness
  2. pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed (for specific kinds of infectious waste, see Appendix 1-1).
- *Internal Floating Roof* - a cover or roof in a fixed roof tank that rests on or is floated on the petroleum liquid being contained, and that is equipped with a closure seal or seals to close the space between the roof edge and the tank shell.

- *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.
- *Major Plant* - except as otherwise provided, this term refers to any plant that directly emits, or has the potential to emit, 100 tons/yr or more of any regulated air pollutant.
- *Mass Emission Rate* - the mass of pollutant discharged per unit of time.
- *Medical Waste* - wastes generated in any hospital or any health care facility or any pathological wastes (except for human and animal remains burned in a crematory incinerator), chemotherapeutic wastes, or infectious wastes generated in any facility except private residences.
- *Medical Waste Incinerator* - an incinerator designed and operated to burn medical waste.
- *Medical Waste Incinerator Facility* - any combination of medical waste incinerators located on one or more contiguous or adjacent properties and owned or operated by the same person or by persons under common control.
- *Multiple-Chamber Incinerator* - an incinerator consisting of at least two refractory lined combustion chambers (primary and secondary) in series, physically separated by refractory walls, interconnected by gas passage ports or ducts.
- *Municipal Waste* - wastes collected by a public or private hauler from more than one waste generator, but excluding industrial types 5 and 6, material approved for an air curtain incinerator, medical, sewage sludge, radioactive contaminated, and hazardous wastes.
- *Nonattainment County* - a county that is determined by the DHEC to exceed any National Ambient Air Quality Standard.
- *Nondesignated County* - any county that has neither been exempted nor listed as a nonattainment county.
- *Opacity* - the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.
- *Open Burning* - any fire or smoke-producing process that is not conducted in any boiler plant, furnace, high temperature process unit, incinerator or flare, or in any other such equipment primarily designed for the combustion of fuel or waste material.
- *Open Top Vapor Degreasing* - the batch process of cleaning metal surfaces by condensing hot solvent vapor on the colder metal parts.
- *Organic Material* - a chemical compound of carbon, excluding CO, CO<sub>2</sub>, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.
- *Overall Emission Reduction Efficiency* - the weight (per unit of time) of VOCs removed by a control device divided by the weight (per identical unit of time) of VOC emissions generated by a source, expressed as a percentage.
- *Packaging Rotogravure Printing* - rotogravure printing upon paper, paper board, metal foil, plastic film, and other substrates, that are, in subsequent operations, formed into containers and/or labels for articles to be sold.
- *Particulate Matter* - any material, except uncombined water, that exists in a finely divided form as a liquid or solid at standard conditions.

- *Particulate Matter Emissions* - all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air.
- *Petroleum Liquids* - petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery but does not mean Number 2 through Number 6 fuel oils as specified in American Society for Testing and Materials (ASTM) D396-80, gas turbine fuel oils Numbers 2-GT through 4-GT as specified in ASTM D2880-82, or diesel fuel oils Numbers 2-D and 4-D as specified in ASTM D975-82.
- *Plant* - except as otherwise provided, any stationary source or combination of stationary sources, which is located on one or more contiguous or adjacent properties and owned or operated by the same person(s) under common control.
- *PM<sub>10</sub>* - particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
- *PM<sub>10</sub> Emissions* - finely divided solid or liquid material with an aerodynamic diameter less than or equal to a nominal 10 micrometers emitted to the ambient air as measured by a reference method approved by the DHEC, with concurrence of the USEPA.
- *Potential To Emit* - the maximum capacity of a plant to emit a regulated pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the plant to emit a regulated pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed is treated as part of its design only if the limitation or the effect it would have on emissions is Federally enforceable. Secondary emissions do not count in determining the potential of a plant to emit.
- *Process Weight* - the total weight of all materials introduced into a source operation, including air and water where these materials become an integral part of the product, and solids used as fuels but excluding liquids and gases used solely as fuels.
- *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.

(NOTE: 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 applies.)
- *Production Equipment Exhaust System* - a device for collecting and directing out of the work area VOC fugitive emissions from reactor openings, centrifuge openings, and other vessel openings for the purpose of protecting workers from excessive VOC exposure.
- *Publication Rotogravure Printing* - printing upon paper that is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, or similar types of printed materials.
- *Reactor* - a vat or vessel, that may be jacketed to permit temperature control, designed to contain chemical reactions.
- *Refuse* - garbage, rubbish, and/or trade waste.

- *Roll Printing* - the application of words, designs, and pictures to a substrate by means of hard rubber or steel rolls, each with only partial coverage.
- *Rubbish* - solid wastes from residences and dwellings, commercial establishments, and institutions.
- *Salvage Operations* - any operation of a business, trade, or industry engaged in whole or in part in salvaging or reclaiming any product or material including, but not limited to, metals, chemicals, shipping containers, drums, or automobiles.
- *Secondary Emissions* - emissions that would occur as a result of the construction or operation of a major modification, but do not come from the major plant or major modification itself. Secondary emissions must be specific, well defined, and quantifiable and must impact the same general area as the plant or modification that causes the secondary emissions. Secondary emissions may include, but are not limited to:
  1. emissions from ships or trains moving to or from the new or modified plant
  2. emissions from any offsite support operation that would not otherwise be constructed or increase its emissions as a result of the construction or operation of the major plant or major modification.
- *Separation Operation* - a process that separates a mixture of compounds and solvents into two or more components. Specific mechanisms include extraction, centrifugation, filtration, and crystallization.
- *Sludge Incinerator* - an incinerator that combusts wastes containing more than 10 percent (dry weight basis) sewage produced by municipal or industrial sewage treatment plants.
- *Smoke* - small gasborne and airborne particles arising from a process of combustion in sufficient number to be observable by a person of normal vision under normal conditions.
- *Solid Fuel* - a fuel that is fired as a solid such as coal, lignite, and wood.
- *Solvent* - organic materials that are liquid at standard conditions and are used as dissolvers, viscosity reducers, or cleaning agents.
- *Solvent Metal Cleaning* - the process of cleaning soils from metal surfaces by cold cleaning or open top vapor degreasing or conveyorized degreasing.
- *Source* - see Stationary Source.
- *Specification Oil (or Spec. Oil)* - see Used Oil.
- *Stack* - any flue, conduit, chimney, or opening arranged to conduct an effluent into the open air.
- *Stack Height* - the vertical distance measured in feet between the point of discharge from the stack or chimney into the outdoor atmosphere and the elevation of the land thereunder.
- *Standard Conditions* - 760 mm Hg at 25 °C (77 °F).
- *Stationary Source* - any building, structure, installation/CW facility, or process that emits or may emit an air pollutant subject to regulation by any nation or state. Use of the term source is to be construed to mean stationary source.
- *Substantial Loss* - generally, a loss that would equal or exceed 10 percent of the total initial project cost.



- *Termination of Air Pollution Episode* - once declared, any level reached by application of episode criteria for that level are in effect until the criteria for that level are no longer met. At such time, the next lower level is assumed.
- *Total Potential Emissions* - the maximum capacity of a plant or portion of a plant to emit a pollutant under its physical or operational design, in the absence of air pollution control equipment. Any physical or operational limitations that affect the capacity of the plant to emit a pollutant, including restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, is treated as part of its design if the limitation or the effect it would have on emissions is enforceable.
- *Total Suspended Particulate (TSP)* - particulate matter as measured by the method described in Appendix B, 40 CFR 50, 1 July 1987.
- *Trade Waste* - all solid, liquid, or gaseous material or rubbish resulting from construction, building operations, or the prosecution of any business, trade or industry including, but not limited to, plastic products, cartons, paint, grease, oil and other petroleum products, chemicals, and cinders.
- *Traffic Hazards* - impairment of visibility whenever the concentration of dust, fumes, condensed vapor, or any other substance is such that the horizontal visibility at or near ground level is reduced to 2400 ft or less.
- *True Vapor Pressure* - the equilibrium partial pressure exerted by a petroleum liquid.
- *Used Oil* - any oil that has been refined from used crude oil, and, as a result of such use, has been contaminated by physical or chemical impurities. Two types of used oil are defined as follows:
  1. *Specification Oil (or Spec. Oil)* - used oil that meets the following specifications:\*
    - a. arsenic - 5 ppm maximum
    - b. cadmium - 2 ppm maximum
    - c. chromium - 10 ppm maximum
    - d. lead - 100 ppm maximum
    - e. nickel - 120 ppm maximum
    - f. total halogens - 4000 ppm maximum\*\*
    - g. flash point - 37.4 °C (100 °F) minimum

\* This does not apply to used oil fuel mixed with a hazardous waste.

\*\*Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste. The burden of proof that this is not true rests with the user.
  2. *Nonspec. Oil (Offspec. Oil)* - used oil that does not meet the definition of specification oil.
- *Utility Boiler* - a boiler that produces steam, heated air, or other heated fluids for sale or for use in producing electric power for sale.
- *Vapor Collection System* - a vapor transport system that uses direct displacement by the gasoline being transferred to force vapors from the vessels being loaded into either a vessel being unloaded or a vapor control system or vapor holding tank.
- *Vapor Control System* - a system that prevents release to the atmosphere of at least 90 percent by weight of organic compounds in the vapors displaced from a vessel during transfer of gasoline.
- *Vapor-Mounted Seal* - any primary seal mounted so there is an annular 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.
- *Virgin Fuel* - unused solid, liquid, or gaseous commercial fuel. Also, wood chips or bark that have not been processed other than for size reduction.

- *Volatile Organic Compound (VOC)* - any organic compound that participates in atmospheric photochemical reactions or that is measured by a reference method (as specified in 40 CFR 60, as of 1 July 1990), an equivalent method, an alternative method, or which is determined by procedures specified under any subpart of 40 CFR 60. This includes compounds other than the following compounds:
  1. methane
  2. ethane
  3. methyl chloroform (1,1,1-trichloroethane)
  4. Chloroflourocarbon(CFC)-113 (trichlorotrifluoroethane) methylene chloride
  5. CFC-11 (trichlorofluoromethane)
  6. CFC-12 (dichlorodifluoromethane)
  7. CFC-22 (chlorodifluoromethane)
  8. CFC-115 (chloropentafluoroethane)
  9. Hydrochloroflourocarbon(HCFC)-123 (dichlorotrifluoroethane)
  10. HCFC-124 (2-chloro-1,1,1,2-tetrafluoroethane)
  11. HCFC-134a (tetrafluoroethane)
  12. HCFC-141b (dichlorofluoroethane)
  13. HCFC-125 (pentafluoroethane)
  14. HFC-134 (1,1,2,2,-tetrafluoroethane)
  15. Flourocarbon(FC)-23 (trifluoromethane)
  16. CFC-114 (dichlorotetraafluoroethane)
  17. HFC-143a (1,1,1-trifluoroethane)
  18. HFC-152a (1,1-difluoroethane).
- *Waste* - used oil, hazardous waste fuel, hazardous waste, medical waste, waste fuel, and waste classification Types 0 through 6 (see Appendix 1-2).
- *Waste Fuel* - waste that does not meet hazardous waste criteria nor any other waste criteria but has a heat value greater than 5000 Btu/lb.
- *Watch of Air Pollution Episodes* - the level activated when continuous air quality monitoring indicates that one of the following pollutant concentrations has been reached, and when meteorological conditions are such that this condition can be expected to continue for 12 h or more, or increase, or in the case of ozone, the situation is likely to recur within the next 24 h unless control actions are taken:
  1. particulate material 10 micrometers or smaller in diameter ( $PM_{10}$ ) - 350 micrograms/ $m^3$ , 24-h average
  2.  $SO_2$  - 400 micrograms/ $m^3$  (0.15 ppm), 24-h average
  3.  $O_3$  - 400 micrograms/ $m^3$  (0.2 ppm), 1-h average.



**AIR EMISSIONS MANAGEMENT  
GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS**

**REFER TO  
CHECKLIST ITEMS:**

State Specific Air Requirements	AE.5.1.SC. through AE.5.12.SC.
Steam Generators	AE.10.1.SC. and AE.10.2.SC.
Fuel Burning Equipment	AE.15.1.SC. through AE.15.5.SC.
Miscellaneous Incinerators	AE.25.1.SC. through AE.25.8.SC.
Medical Waste Incinerators	AE.30.1.SC. through AE.30.7.SC.
Municipal Solid Waste Incinerators	AE.40.1.SC.
Sewage Sludge Incinerators	AE.45.1.SC.
Printing Presses and Graphic Arts	AE.60.1.SC.
Fugitive Emissions	AE.65.1.SC. through AE.65.3.SC.
Degreasing Operations	
General	AE.115.1.SC. and AE.115.2.SC.
Cold Cleaning	AE.116.1.SC. and AE.116.2.SC.
Vapor Cleaning	AE.117.1.SC. through AE.117.3.SC.
Miscellaneous VOC Operations	AE.125.1.SC.
Open Burning	AE.130.1.SC.
Asphalt Paving Materials/Operations	AE.145.1.SC.

**GUIDANCE FOR APPENDIX USERS**

**REFER TO                      REFER TO APPENDIX TITLES:  
APPENDIX NUMBERS:**

1-1	South Carolina Infectious Wastes
1-2	South Carolina Waste Classification
1-3	South Carolina Exemptions from Permit Requirements
1-4	South Carolina Standard for Ambient Air Quality
1-5	Limits of Toxic Air Pollutants
1-6	South Carolina Compliance Schedule for Sources of VOC
1-7	Allowable Discharge Particulate Matter
1-8	South Carolina Limits of Emissions of Sulfur Dioxide
1-9	South Carolina Other Emissions Limitations for Hazardous Waste Incinerators
1-10	South Carolina Exemptions from the Requirements for Open Burning



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<p><b>AE.5. STATE-SPECIFIC AIR REQUIREMENTS</b></p> <p><b>AE.5.1.SC.</b> Installations/ CW facilities are exempt from obtaining permits for specific sources of air con- taminants (SC R62.1(II)(F))</p> <p><b>AE.5.2.SC.</b> Construction, alteration, or addition of sources of air contaminants and of devices to control air contaminant discharges must be permitted (SC R62.1 (II)(A) and (B)).</p> <p><b>AE.5.3.SC.</b> Sources not required to have continuous emission monitors must meet reporting requirements (SC R62.1(II)(C) (3)).</p> <p><b>AE.5.4.SC.</b> The Department must be notified of transferral of ownership or operation of a source of air contaminants (SC R62.1(II)(E)).</p> <p><b>AE.5.5.SC.</b> Emissions from all major sources of air</p>	<p>Determine whether the installation/CW facility has constructed or operates any of the sources exempt from permit requirements (see Appendix 1-3).</p> <p>Verify that the Department has issued a permit to construct, alter, or add to any sources of air contaminants, including air contaminant control devices.</p> <p>Verify that the installation/CW facility has requested operating permits from the Department for any new, increased, or altered source no later than 15 days prior to the commencement of operation.</p> <p>Verify that, for a source not required to have continuous emission monitors, any equipment failure resulting in a discharge of air contaminants in excess of the source's permit limit for a duration of 1 h or more are reported to the Department.</p> <p>Verify that the following reports are submitted to the Department:</p> <ul style="list-style-type: none"> <li>- an initial report within 24 h of the equipment failure</li> <li>- a written report within 30 days of the equipment failure.</li> </ul> <p>Verify that the Department is notified within 30 days of transferral of ownership or operation of a source of air contaminants.</p> <p>Verify that the annual inventory of emissions from all major sources of air</p>

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contaminants must be inventoried annually (SC R62.1(III)).	contaminants includes: <ul style="list-style-type: none"> <li>- information on fuel burning equipment</li> <li>- types and quantities of fuel used</li> <li>- fuel analysis</li> <li>- exhaust parameters</li> <li>- control equipment information</li> <li>- raw process materials and quantities used</li> <li>- design and normal process rates</li> <li>- hours of operation</li> <li>- significant emission generating points or processes</li> <li>- any desired information listed in 40 CFR 51, Appendix E (1 July 1986).</li> </ul> <p>Verify that the completed emissions inventory is submitted to the Department by 31 March.</p>
<b>AE.5.6.SC.</b> Emission reduction requirements must be met during air pollution episodes (SC R62.3 (II)) [Revised November 1996].	<p>Verify that, where 100 tons or more per year of a single pollutant are emitted by an installation/CW facility, a plan is submitted to the Department for meeting the required reductions of any pollutants for which the county is in nonattainment.</p> <p>Verify that the plans identify:</p> <ul style="list-style-type: none"> <li>- the air pollutant source</li> <li>- the approximate amount of reduction of pollutants</li> <li>- a brief description of the manner in which the reduction is achieved during each level of an air pollution episode.</li> </ul>
<b>AE.5.7.SC.</b> General requirements for hazardous air pollution conditions must be met (SC R62.4(B)).	<p>Verify that all necessary steps are taken to protect human health and welfare and otherwise minimize the effects of unintended, short-term, or other releases of air contaminants and other substances that produce unintended hazardous conditions.</p>
<b>AE.5.8.SC.</b> Emissions must not create or intensify traffic hazards (SC R62.4(C)).	<p>Verify that the installation/CW facility does not allow the emission of the following to create or intensify a traffic hazard on public roads by impairment of visibility:</p> <ul style="list-style-type: none"> <li>- smoke</li> <li>- dust</li> <li>- fumes</li> <li>- condensed vapor</li> <li>- other substances.</li> </ul>

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<p><b>AE.5.9.SC.</b> Installations/ CW facilities must meet specific requirements for emergency actions (SC R62.4 (D)).</p> <p><b>AE.5.10.SC.</b> Spillage that has contributed to air contamination must be cleaned (SC R62.4(E)).</p> <p><b>AE.5.11.SC.</b> Emissions must not contribute to the exceedence of ambient air quality standards (SC R62.5(2)).</p> <p><b>AE.5.12.SC.</b> Existing sources must meet specific emissions requirements for toxic air pollutants (SC R62.5(8)(I)(A) and (II)(B)) [Revised November 1996].</p>	<p>Verify that, if imminently hazardous levels of air pollution are created by the release of dust, fumes, smoke, gases, mists, vapors, or other substances, the installation/CW facility takes all of the following actions:</p> <ul style="list-style-type: none"> <li>- all necessary emergency acts to cease the releases</li> <li>- notifies nearby residents and occupants of the hazardous levels</li> <li>- assists in evacuation, if necessary</li> <li>- immediately notifies the Department of the hazardous levels.</li> </ul> <p>Verify that the installation/CW facility begins cleanup as soon as possible after any spill.</p> <p>Verify that cleanup is completed to the satisfaction of the Commissioner.</p> <p>Verify that the standards for ambient air quality are met (see Appendix 1-4).</p> <p>(NOTE: This standard does not apply to fuel burning sources that burn only virgin fuel or specification used oil.)</p> <p>Verify that an operating permit is obtained for any source of toxic air pollutants that has a potential emission of 1000 lb/mo or greater for any single pollutant.</p> <p>Verify that the allowable ambient air concentrations for toxic air pollutants are not exceeded at the property line in any 24-h period (see Appendix 1-5).</p> <p>Verify that records are maintained documenting emissions.</p> <p>Verify that the Department is provided with data on toxic emissions.</p>





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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>AE.10. STEAM GENERATORS</b></p> <p><b>AE.10.1.SC.</b> Bulk gasoline terminals and the appurtenant equipment necessary to load or unload gasoline tank trucks must meet general VOC requirements (SC R62.5(5)(II) (T)(3)).</p> <p><b>AE.10.2.SC.</b> Bulk gasoline terminals and the appurtenant equipment must meet specific VOC requirements during the loading or unloading of gasoline tank trucks (SC R62.5(5)(II)(T) (1 and 2)).</p>	<p>Verify that bulk gasoline terminals and the appurtenant equipment necessary to load or unload gasoline trucks meet the requirements of the compliance schedule for sources of VOC (see Appendix 1-6).</p> <p>Verify that the installation/CW facility with a source subject to compliance schedule for sources of VOC has certified to the Department, within 5 days after the deadline for each increment of progress, whether the required increment of progress has been met.</p> <p>Verify that bulk gasoline terminals are equipped with a vapor control system, properly installed, in good working order, in operation, and consisting of one of the following:</p> <ul style="list-style-type: none"> <li>- an absorber or condensation system that does not allow mass emissions of VOC to exceed 4.7 gr/gal of gasoline loaded</li> <li>- a vapor collection system that directs all vapors to a fuel gas system</li> <li>- alternative controls approved by the Department.</li> </ul> <p>Verify that displaced vapors are vented only to the vapor control system.</p> <p>Verify that means are provided to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected.</p> <p>Verify that loading and vapor lines are equipped with fittings that make vapor-tight connections and that close automatically when disconnected.</p> <p>Verify that gasoline is managed according with the following requirements:</p> <ul style="list-style-type: none"> <li>- avoidable visible liquid leaks during loading or unloading operations are prevented</li> <li>- pressure in the vapor collection system does not exceed the gasoline tank truck pressure relief settings</li> <li>- gasoline is not discarded in sewers</li> <li>- gasoline is not stored in open containers</li> <li>- gasoline is not handled in any manner that would result in evaporation.</li> </ul>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>AE.15. FUEL BURNING EQUIPMENT</b></p> <p><b>AE.15.1.SC.</b> Existing fuel burning operations must meet specific visible emissions requirements (SC R62.5(1)(I)(A and C)).</p> <p><b>AE.15.2.SC.</b> New fuel burning operations must meet specific visible emissions requirements (SC R62.5(1)(I)(B and C)).</p>	<p>(NOTE: Existing sources are those constructed prior to 11 February 1971.)</p> <p>Verify that smoke that exceeds an opacity of 40 percent is not emitted from an existing source</p> <p>(NOTE: This opacity standard does not apply during startup or shutdown.)</p> <p>(NOTE: Forty percent opacity may be exceeded for soot blowing for a total of 6 min in 1 h, or 24 min in a 24-h period, but it must not exceed an opacity of 60 percent.)</p> <p>Verify that existing sources and their associated air pollution control equipment are maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions.</p> <p>Verify that a log is maintained of the time, magnitude, duration, and any other pertinent information to determine periods of startup and shutdown of existing sources.</p> <p>(NOTE: New sources are those constructed after 11 February 1971.)</p> <p>Verify that a new source does not emit smoke that exceeds an opacity of 20 percent.</p> <p>(NOTE: This opacity standard does not apply during startup or shutdown.)</p> <p>(NOTE: Twenty percent opacity may be exceeded for soot blowing for a total of 6 min in 1 h, or 24 min in a 24-h period, but it must not exceed an opacity of 60 percent.)</p> <p>Verify that new sources and their associated air pollution control equipment are maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions.</p> <p>Verify that a log is maintained of the time, magnitude, duration, and any other pertinent information to document periods of startup and shutdown of new sources.</p>

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<b>AE.15.3.SC.</b> Fuel burning operations must meet specific particulate matter emission requirements (SC R62.5(1)(II)).	Verify that particulate matter emissions limitations are not exceeded (see Appendix 1-7).
<b>AE.15.4.SC.</b> Fuel burning operations must meet specific SO <sub>2</sub> emissions requirements (SC R62.5 (1)(III)).	(NOTE: If a boiler is fired on more than one fuel, the total capacity determines the applicability of the requirements for SO <sub>2</sub> emitted from fuel burning operations.)  Verify that SO <sub>2</sub> emissions limitations are not exceeded (see Appendix 1-8).
<b>AE.15.5.SC.</b> Fuel burning operations must meet specific SO <sub>2</sub> emissions requirements (SC R62.5 (1)(IV)).	(NOTE: The following kinds of fossil fuel fired steam generators of more than 250 MBtu/h heat input capacity are exempt from these SO <sub>2</sub> requirements: <ul style="list-style-type: none"> <li>- those in which gaseous fuel is the only fuel burned</li> <li>- those in which oil or a mixture of oil and gas are the only fuels burned and meet the requirements for visible and particulate matter emissions</li> <li>- those whose steam generator operates with an annual average capacity factor of 30 percent or less, as reported to the Federal Power Commission for calendar year 1974, or otherwise adequately demonstrated to the Department and has not subsequently increased this factor to more than 30 percent.)</li> </ul> Verify that continuous monitoring systems are installed, calibrated, operated, and maintained on fossil fuel fired generators of more than 250 MBtu/h heat input capacity.  Verify that a continuous monitoring systems is installed, calibrated, operated, and maintained on any woodwaste boilers which is not equipped with a wet scrubber and meets one of the following criteria:  <ul style="list-style-type: none"> <li>- it is of at least 100 by 10<sup>6</sup> Btu/h rated heat input</li> <li>- regardless of size, it has been operating in noncompliance with any applicable state air pollution control regulations and standards.</li> </ul>

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<b>AE.25. MISCELLANEOUS INCINERATORS</b>	<p>(NOTE: These requirements apply to any source that burns a fuel other than virgin fuel for any purpose, regardless of equipment type or construction date. When a source engages in activities that can be construed as being in more than one classification, the more restrictive requirements apply.)</p> <p>(NOTE: Space heaters engineered to burn used oil are exempt from the requirements of this section if the following requirements are met</p> <ul style="list-style-type: none"> <li>- the used oil is generated onsite or originates from do-it-yourself oil changes</li> <li>- burners are rated at no more than 0.5 by 10<sup>6</sup> Btu/h heat input</li> <li>- the exhaust is vented to the ambient air.)</li> </ul> <p>(NOTE: Exempt equipment requires no construction or operating permits.)</p>
<b>AE.25.1.SC.</b> Retail business incinerators must meet specific requirements for opacity of emissions (SC R62.5(3)(III)(B)).	Verify that the opacity of emissions from retail business incinerators does not exceed 20 percent.
<b>AE.25.2.SC.</b> Crematory incinerators must meet specific requirements for opacity of emissions (SC R62.5(3)(III)(C)).	Verify that the opacity of emissions from crematory incinerators does not exceed 10 percent.
<b>AE.25.3.SC.</b> Sludge incinerators must meet specific emission requirements (SC R62.5(3)(III)(D)).	Verify that emissions from sludge incinerators meet the following requirements: <ul style="list-style-type: none"> <li>- opacity does not exceed 20 percent</li> <li>- particulate matter emissions do not exceed 1.3 lb/ton of dry sludge</li> <li>- mercury emissions do not exceed 3200 g/day.</li> </ul>
<b>AE.25.4.SC.</b> Hazardous waste incinerators must meet specific emissions requirements (SC R62.5(3)(III)(E)).	Verify that emissions from hazardous waste incinerators meet the following requirements: <ul style="list-style-type: none"> <li>- opacity does not exceed 10 percent</li> <li>- hydrochloric acid emissions do not exceed 4 lb/h</li> <li>- particulate matter emissions do not exceed 0.08 gr/dscf corrected to 7 percent oxygen (O<sub>2</sub>)</li> </ul>

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<p><b>AE.25.5.SC.</b> Industrial incinerators must meet specific emissions requirements (SC R62.5(3)(III)(H)).</p> <p><b>AE.25.6.SC.</b> Nonindustrial boilers and furnaces must use only virgin fuels and/or specification oil (SC R62.5(3)(III)(J) and (L)).</p> <p><b>AE.25.7.SC.</b> Air curtain incinerators must meet specific requirements (SC R62.5(3)(III)(G)).</p>	<ul style="list-style-type: none"> <li>- other emissions do not exceed specified limits (see Appendix 1-9)</li> <li>- all hazardous organic compounds are destroyed with an efficiency of at least 99.99 percent</li> <li>- dioxin containing wastes are destroyed with an efficiency of at least 99.9999 percent.</li> </ul> <p>(NOTE: Hydrochloric acid emissions may exceed 4 lb/h only if they are controlled with an efficiency of at least 99 percent.)</p> <p>Verify that industrial incinerators meet the following emissions requirements:</p> <ul style="list-style-type: none"> <li>- opacity does not exceed 20 percent</li> <li>- particulate matter emissions do not exceed 0.5 lb/10<sup>6</sup> Btu heat input excluding auxiliary fuel.</li> </ul> <p>Verify that, regardless of size, nonindustrial boilers and furnaces use only virgin fuels and/or specification oil.</p> <p>Verify that the following requirements for air curtain incinerators are met:</p> <ul style="list-style-type: none"> <li>- opacity does not exceed 20 percent</li> <li>- refractory lined pits are used</li> <li>- the amount of material incinerated does not exceed 105 tons/day without a prevention of significant deterioration (PSD) review</li> <li>- records are kept (in tons per day) of the amount incinerated and maintained for at least 2 yr</li> <li>- onsite storage of debris to be incinerated is kept to a minimum</li> <li>- materials to be incinerated are incinerated within 1 week of storage</li> <li>- air curtain incinerators are used for the burning of land clearing waste and nontreated or unfinished construction woodwaste that do not occur on the premises on which it originates</li> <li>- land clearing waste consisting of only untreated natural wood debris and nontreated or unfinished woodwaste is burned</li> <li>- an operation and maintenance program is followed</li> <li>- ash is wetted prior to its removal from an incinerator</li> <li>- winds during the time of burning or ash removal are away from any area in which the ambient air may be significantly affected (not defined) by the smoke or ash from this operation if the area contains a public roadway or a residential, commercial, or industrial site</li> </ul>

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<p><b>AE.25.8.SC.</b> Incinerator operators must be trained prior to startup of the facility (SC R62.5(3)(X)).</p>	<ul style="list-style-type: none"> <li>- no ash is stored</li> <li>- ash is landfilled immediately after removal from the incinerator</li> <li>- burning does not occur if the air curtain is not operating properly or at its design air flow</li> <li>- the air curtain is used at all times that the pit contains burning wood debris, except during start up to get the fire ignited</li> <li>- the incinerator is located to minimize the distance to business and residential areas and is located at least 500 ft from any business or residence near or adjacent to the installation/CW facility</li> <li>- access roads and loader work areas are maintained so as to minimize fugitive emissions by the use of one or more of the following: water sprays, dust controlling chemicals other than VOCs, or other approved dust suppression systems</li> <li>- stacking rakes or similar devices are used on loader equipment when loaders are used to charge the pit in to minimize dirt on the material to be burned</li> <li>- changes in incinerator location have the prior written approval of the Bureau.</li> </ul> <p>Verify that, prior to startup of new facilities, incinerator operators are trained either by a representative from the incinerator manufacturer or by another qualified person or organization.</p> <p>Verify that the content of the training is submitted to the Department for its approval.</p> <p>Verify that trainees submit a copy of a certificate that verifies the satisfactory completion of training.</p>





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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
<b>A.30. MEDICAL WASTE INCINERATORS</b>	<p>(NOTE: The following medical-related sources are exempt from medical waste incineration requirements:</p> <ul style="list-style-type: none"> <li>- crematory incinerators</li> <li>- incinerators located in any hospital/and or medical care facility that are used to incinerate only general refuse and not to incinerate infectious, hazardous, or chemotherapeutic wastes.)</li> </ul>
<p><b>AE.30.1SC.</b> Medical waste must be incinerated in accordance with general requirements (SC R62.5(3.1)(I)(E), 62.5(3.1)(II), and 62.5(3.1)(XI)).</p>	<p>Verify that medical waste incinerators capable of burning municipal wastes at rates greater than or equal to 50 tons/day meet the permit requirements for municipal waste incineration and resource recovery facilities.</p> <p>Verify that medical waste is burned only in multiple-chamber incinerators with solid hearths or in devices found to be equally effective for the purpose of air contaminant control.</p> <p>Verify that operating, startup, and shutdown procedures for medical waste incinerators are approved by the BAQC and posted onsite at or near the incinerators.</p> <p>Verify that inspection and maintenance schedules for incinerators are posted or kept onsite at or near the medical waste incinerators.</p> <p>Verify that the installation/CW facility has a plan of action, approved by BAQC, that identifies the steps and procedures the operator should follow to avoid exceeding the emission limitations and specified operating conditions.</p> <p>Verify that this plan includes descriptions of startup and shutdown procedures as well as actions to be taken to correct nonstandard operating conditions and to train plant operators.</p> <p>Verify that all medical waste incinerator operators have operating permits for the incinerators they operate.</p>
<p><b>AE.30.2.SC.</b> Existing medical waste incinerators that have a capacity of less than 500 lb/h must meet emissions limitations (SC R62.5(3.1) (III)(A)).</p>	<p>(NOTE: Existing medical waste incinerators are those in existence before 1 October 1991.)</p> <p>Verify that existing medical waste incinerators with a capacity of less than 500 lb/h meet the following requirements:</p> <ul style="list-style-type: none"> <li>- particulate matter emissions do not exceed 0.15 gr/dscf of exhaust gas corrected to 7 percent O<sub>2</sub></li> <li>- the hydrogen chloride limits specified on the construction and/or operating</li> </ul>

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<p><b>AE.30.3.SC.</b> Existing medical waste incinerators that have a capacity of 500 to 1999 lb/h must meet emissions limitations (SC R62.5(3.1) (III)(A)).</p>	<p>permits are not exceeded</p> <ul style="list-style-type: none"> <li>- gases are not discharged that exhibit greater than 10 percent opacity (6-min average) or equal to or greater than 30 percent at any time.</li> </ul> <p>(NOTE: This opacity standard does not apply to burner startups when only firing auxiliary fuel without waste being burned.)</p> <p>Verify that existing medical waste incinerators with a capacity of 500 to 1999 lb/h (inclusive) meet following requirements:</p> <ul style="list-style-type: none"> <li>- particulate matter emissions do not exceed 0.1 gr/dscf of exhaust gas corrected to 7 percent O<sub>2</sub> on a dry basis</li> <li>- CO emissions do not exceed 100 ppmv, hourly average, corrected to 7 percent O<sub>2</sub> on a dry basis</li> <li>- the hydrogen chloride limits specified on the construction and/or operating permits are not exceeded</li> <li>- gases that exhibit greater than 10 percent opacity (6-min average) or equal to or greater than 30 percent at any time are not discharged.</li> </ul> <p>(NOTE: This opacity standard does not apply to burner startups when only firing auxiliary fuel without waste being burned.)</p>
<p><b>AE.30.4.SC.</b> Existing medical waste incinerators that have a capacity of 2000 lb/h or greater must meet specific emissions limitations (SC R62.5 (3.1)(III)(A)).</p>	<p>Verify that existing medical waste incinerators with a capacity of 2000 lb/h or greater meet the following requirements:</p> <ul style="list-style-type: none"> <li>- particulate matter emissions do not exceed 0.08 gr/dscf of exhaust gas corrected to 7 percent O<sub>2</sub></li> <li>- CO emissions do not exceed 100 ppmv, hourly average, corrected to 7 percent O<sub>2</sub> on a dry basis</li> <li>- hydrochloric acid emissions do not exceed 30 ppmv, hourly average, corrected to 7 percent O<sub>2</sub> on a dry basis, or are reduced by 90 percent by weight on an hourly basis</li> <li>- combustion efficiency is at least 99.9 percent on an hourly basis</li> <li>- gases that exhibit greater than 10 percent opacity (6-min average) or equal to or greater than 30 percent at any time are not discharged into the atmosphere.</li> </ul> <p>(NOTE: This opacity standard does not apply to burner startups when only firing auxiliary fuel without waste being burned.)</p>
<p><b>AE.30.5.SC.</b> New or modified medical waste</p>	<p>(NOTE: New or modified medical waste incinerators are those for which</p>

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<p>incinerators with a capacity of less than 500 lb/h must meet specific emissions limitations (SC R62.5(3.1)(III) (B)).</p> <p><b>AE.30.6.SC.</b> New or modified medical waste incinerators with a capacity of 500 to 1999 lb/h must meet emissions requirements (SC R62.5 (3.1)(III)(B))</p>	<p>construction has occurred since 1 October 1991.)</p> <p>Verify that new or modified medical waste incinerators with a capacity of less than 500lb/h meet the following requirements:</p> <ul style="list-style-type: none"> <li>- particulate matter emissions do not exceed 0.1 gr/dscf of exhaust gas corrected to 7 percent oxygen</li> <li>- CO emissions do not exceed 100 ppmv, hourly average, corrected to 7 percent O<sub>2</sub> on a dry basis</li> <li>- hydrochloric acid emissions do not exceed 4 lb/h or are reduced by 90 percent by weight on an hourly basis</li> <li>- gases that exhibit greater than 10 percent opacity for a period or periods aggregating more than 6 min in any 1 h, or equal to or greater than 30 percent at any time are not discharged into the atmosphere.</li> </ul> <p>Verify that new or modified medical waste incinerators with a capacity of 500 to 1999 lb/h (inclusively) meet the following requirements:</p> <ul style="list-style-type: none"> <li>- particulate matter emissions do not exceed 0.08 gr/dscf of exhaust gas corrected to 7 percent O<sub>2</sub></li> <li>- CO emissions do not exceed 100 ppmv, hourly average, corrected to 7 percent O<sub>2</sub> on a dry basis</li> <li>- hydrochloric acid emissions do not exceed 30 ppmv, hourly average, corrected to 7 percent on a dry basis or are reduced by 90 percent by weight on an hourly basis</li> <li>- gases that exhibit greater than 10 percent opacity for a period or periods aggregating more than 6 min in any 1 h, or equal to or greater than 30 percent at any time are not discharged into the atmosphere.</li> </ul>
<p><b>AE.30.7.SC.</b> New or modified medical waste incinerators with a capacity of 2000 lb/h or greater must meet emissions limitations (SC R62.5(3.1) (III)(B)).</p>	<p>Verify that new or modified medical waste incinerators with a capacity of 2000 lb/h or greater meet the following requirements:</p> <ul style="list-style-type: none"> <li>- particulate matter emissions do not exceed 0.03 gr/dscf of exhaust gas corrected to 7 percent O<sub>2</sub></li> <li>- CO emissions do not exceed 100 ppmv, hourly average, corrected to 7 percent O<sub>2</sub> on a dry basis</li> <li>- hydrochloric acid emissions do not exceed 30 ppmv, hourly average, corrected to 7 percent O<sub>2</sub> on a dry basis or are reduced by 90 percent by weight on an hourly basis</li> <li>- SO<sub>2</sub> emissions do not exceed 30 ppmv, hourly average, corrected to 7 percent O<sub>2</sub> on a dry basis or are reduced by 75 percent by weight on an 8-h basis</li> <li>- combustion efficiency is at least 99.9 percent on an hourly basis</li> <li>- gases that exhibit greater than 10 percent opacity for a period or periods</li> </ul>

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	aggregating more than 6 min in any 1 h, or equal to or greater than 30 percent at any time are not discharged into the atmosphere.

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<p><b>AE.40. MUNICIPAL SOLID WASTE INCINERATORS</b></p> <p><b>AE.40.1.SC.</b> Municipal waste incinerators must meet specific requirements (SC R62.5(3) (I and III)).</p>	<p>Verify that the installation/CW facility meets the following requirements for municipal waste incinerators:</p> <ul style="list-style-type: none"> <li>- opacity does not exceed 20 percent</li> <li>- particulate matter emissions do not exceed 0.08 gr/dscf corrected to 12 percent CO<sub>2</sub> for existing sources, and the best available control technology (BACT) for new sources</li> <li>- CO emissions do not exceed 100 ppmv, hourly average, corrected to 7 percent O<sub>2</sub> on a dry basis</li> <li>- either hydrochloric acid emissions do not exceed 30 ppmv, hourly average corrected to 7 percent O<sub>2</sub> on a dry basis, or emission controls are installed that, on the date of the permit to construct, meet the criteria of BACT</li> <li>- combustion efficiency (C.E.) is at least 99.9 percent on an hourly basis</li> <li>- combustion gases are maintained at a temperature greater than 1800 °F for at least 2 s</li> <li>- automatically controlled auxiliary fuel burners are installed and in working order</li> <li>- 1800 °F is reached before the introduction of waste into the incinerator</li> <li>- a thermocouple is appropriately located to confirm the temperature</li> <li>- the auxiliary (i.e., secondary and/or tertiary) burners are designed so, without the aid of the heat content of the waste, a minimum of 2000 °F can be maintained for at least 2 s</li> <li>- the firing of the burners and the combustion air is modulated automatically to maintain a secondary chamber exit temperature of at least 1800 °F</li> <li>- large, bulky noncombustibles (e.g., water heaters, refrigerators) and difficult to burn, bulky combustible materials (e.g., mattresses, sofas) are not burned in the incinerator</li> <li>- the tipping area is totally enclosed and operated at a negative pressure to prevent the escape of malodors</li> <li>- the air is used as primary combustion air in the incinerator</li> <li>- municipal waste and ash are not stored openly</li> <li>- ash is loaded in an enclosed area or handled wet in enclosed containers</li> <li>- an automatic loader is used and equipped with interlocks.</li> </ul> <p>(NOTE: Existing sources are those that were in operation before or on 25 May 1990. New sources are those that were constructed, altered, added to, or in operation after 25 May 1990.)</p> <p>Verify that, for municipal waste incinerators, the charging of waste to an</p>

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	<p>incinerator automatically ceases through the use of an interlock system if the following occur:</p> <ul style="list-style-type: none"> <li>- the incinerator temperature drops below 972.4 °C (1800 °F) for a 15-min period</li> <li>- the CO emissions are equal to or greater than 150 ppmv, corrected to 7 percent O<sub>2</sub> on a dry basis for a 15-min period</li> <li>- the flue gas oxygen level drops below 3 percent (wet basis) for a 15-min period</li> <li>- the opacity of the visible emissions is equal to or greater than 20 percent for a period of 15 min</li> <li>- the combustion efficiency drops below 99.5 percent for a 15-min period</li> <li>- the required monitoring equipment is not functioning.</li> </ul> <p>(NOTE: The Department may alter the requirements for temperature, flue gas oxygen, and CO limits for units utilizing advanced combustion technologies or burning specially prepared municipal wastes.)</p> <p>Verify that municipal waste incinerators meet the following startup and shutdown requirements:</p> <ul style="list-style-type: none"> <li>- no waste is charged to the incinerator until equilibrium at the required temperature has been attained in the chambers</li> <li>- control equipment is operational and functioning properly prior to the introduction of waste into the incinerator and until all the wastes are incinerated</li> <li>- during shutdowns, required temperatures are maintained in the chambers by using auxiliary burners until the wastes are completely combusted.</li> </ul>

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<p><b>AE.45. SEWAGE SLUDGE INCINERATORS</b></p> <p><b>AE.45.1.SC.</b> Sludge incinerators must meet specific requirements for opacity of emissions (SC R62.5(3)(I and III)).</p>	<p>Verify that the installation/CW facility meets the following requirements for sludge incinerators:</p> <ul style="list-style-type: none"> <li>- opacity does not exceed 20 percent</li> <li>- particulate matter emissions do not exceed 1.3 lb/ton of dry sludge</li> <li>- mercury emissions do not exceed 3200 g/day.</li> </ul>





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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>AE.60. PRINTING PRESSES AND GRAPHIC ARTS</b></p> <p><b>AE.60.1.SC.</b> VOCs emitted from graphic arts activities must meet specific requirements (SC R62.5(5)(II)(H)).</p>	<p>Verify that the installation/CW facility does not discharge any VOCs from graphic arts activities, unless the following conditions are met:</p> <ul style="list-style-type: none"> <li>- the volatile fraction of waterborne inks, as applied to the substrate, contains 25 percent by volume or less of organic solvent and 75 percent by volume or more of water for heavy coverage</li> <li>- the source achieves a 70 percent by volume overall reduction of solvent usage as compared to all solventborne ink usage for light coverage</li> <li>- the source prints with high solids ink that contains, less water, 60 percent by volume or more nonvolatile materials.</li> </ul> <p>Verify that the installation/CW facility uses the following methods of achieving emissions limitations for graphic arts activities:</p> <ul style="list-style-type: none"> <li>- the application of low solvent content coating technology</li> <li>- a carbon adsorption system</li> <li>- incineration</li> <li>- an alternative VOC emission reduction system</li> <li>- a capture system that is used in conjunction with the control equipment systems</li> <li>- alternative controls that are approved by the Department.</li> </ul> <p>Verify that capture systems, used in conjunction with the control equipment systems, provide for an overall VOC emission reduction of at least:</p> <ul style="list-style-type: none"> <li>- 75 percent where a publication rotogravure process is employed</li> <li>- 65 percent where a packaging rotogravure process is employed</li> <li>- 60 percent where a flexographic printing process is employed.</li> </ul> <p>Verify that graphic arts activities meet the requirements of the compliance schedule for sources of VOCs (see Appendix 1-6).</p> <p>Verify that the installation/CW facility, with a source subject to Compliance Schedule 1, has certified to the Department, within 5 days after the deadline for each increment of progress, that the required increment of progress has been met.</p>



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<p><b>AE.65. FUGITIVE EMISSIONS</b></p> <p><b>AE.65.1.SC.</b> Fugitive particulate matter in nonattainment areas must meet specific requirements (SC R62.6(I)).</p> <p><b>AE.65.2.SC.</b> Fugitive particulate matter in problem areas must meet specific requirements (SC R62.6(II)).</p>	<p>Verify that fugitive particulate matter does not go beyond property boundaries below a height of 150 ft.</p> <p>Verify that the following means are used to control fugitive particulate matter:</p> <ul style="list-style-type: none"> <li>- where possible, water or chemicals for the control of dust in demolition or construction operations, the grading of roads, or the clearing of land</li> <li>- application of asphalt, water, or suitable chemicals on dirt roads, material stockpiles, and other surfaces that can give rise to airborne dust</li> <li>- hoods, scrubbers, fabric filters, or other dust cleaning devices, where feasible and effective, to capture and contain fugitive particulate matter while handling dusty materials</li> <li>- adequate containment methods during sandblasting and similar operations</li> <li>- paving of roadways and the prompt removal of earth or other materials from paved streets that have been deposited by vehicular traffic, earth moving equipment, water erosion or other means</li> <li>- stabilization of long-term storage piles by vegetation or appropriate chemicals and reclamation of mined areas</li> <li>- modifying the process or materials handling system</li> <li>- slurry to move material if feasible</li> <li>- traveling booms, telescopic chutes, rotary stackers, and adequate shrouding of openings in containers to be filled</li> <li>- avoidance of front-end loading in the handling of dry, dusty materials</li> <li>- imposition of strict slow speed limits for vehicular traffic on the installation/CW facility or construction/destruction sites</li> <li>- ensuring proper loading of trucks, trailers, front-end loaders, etc., to prevent spillage on paved roadways.</li> </ul> <p>(NOTE: Cutback asphalt is prohibited.)</p> <p>Verify that visible dust in excess of 10 percent opacity is not emitted from transfer points of any conveyor system for raw material or finished product, unless it has been demonstrated to the Department that such control is not feasible.</p> <p>(NOTE: "Problem areas" refers to areas in which ambient levels of particulate matter are at or near primary standards, an undesirable level of air pollution exists, excessive levels of fugitive particulate matter result in complaints from the general public, and fugitive particulate matter is determined to be having an</p>

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<p><b>AE.65.3.SC.</b> Installations/ CW facilities must meet specific requirements to control fugitive particulate matter statewide (SC R62.6(III)).</p>	<p>impact upon a nonattainment area.)</p> <p>Verify that fugitive particulate matter that can be reasonably controlled is not allowed to escape into the ambient air</p> <p>Verify that dust-generating processes are enclosed to prevent fugitive emissions and dust.</p> <p>Verify that the handling of materials is modified or reduced to minimize the generation of dust.</p> <p>Verify that fugitive particulate matter is controlled in a manner and to the degree that it does not create an undesirable level of air pollution.</p> <p>Verify that methods of material handling that generate fugitive particulate matter which are not fully described in a source's permit application are not used.</p> <p>Verify that neither VOCs nor oil treatments are used for dust control.</p>

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<p><b>DEGREASING OPERATIONS AE.115.</b></p> <p><b>General</b></p> <p><b>AE.115.1.SC.</b> Solvent metal cleaning operations must meet general requirements for VOC emissions (SC R62.5(5)(II) (N)(5)(a and b)).</p> <p><b>AE.115.2.SC.</b> VOCs emitted from solvent metal cleaning activities in nonattainment counties must meet specific requirements (SC R62.5(5)(II)(N)).</p>	<p>Verify that regulated solvent metal cleaning operations meet the requirements of the compliance schedule for sources of VOC (see Appendix 1-6).</p> <p>Verify that the installation/CW facility with a source subject to Compliance Schedule 1 has certified to the Department, within 5 days after the deadline for each increment of progress, that the required increment of progress has been met.</p> <p>(NOTE: Nonattainment counties are all counties other than Anderson, Bamberg, Barnwell, Chesterfield, Darlington, and Hampton.)</p> <p>Verify that conveyORIZED degreasers meet the following requirements:</p> <ul style="list-style-type: none"> <li>- the cleaner operates with equipment, such as a drying tunnel or rotating (tumbling) basket, that prevents cleaned parts from carrying out solvent liquid or vapor</li> <li>- openings are minimized during operation so entrance and exit silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than 10 cm or less than 10 percent of the width of the opening</li> <li>- downtime covers are provided for closing off the entrance and exit during shutdown hours</li> <li>- workplace fans are not used near the degreaser opening</li> <li>- exhaust ventilation does not exceed 20 m<sup>3</sup>/min/m<sup>2</sup> of degreaser opening, unless necessary to meet Occupational Safety and Health Administration(OSHA) requirements</li> <li>- carryout emissions are minimized by racking parts for best drainage and by maintaining the vertical conveyor speed at less than 3.3 m/min</li> <li>- waste solvent is stored only in covered containers</li> <li>- waste solvent is not disposed of nor transferred to another party in a manner that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere</li> <li>- solvent leaks are repaired immediately or degreaser is shutdown</li> <li>- the cleaner is not operated so as to allow water to be visually detectable in solvent exiting the water separator</li> <li>- downtime covers are placed over entrances and exits of conveyORIZED degreasers immediately after the conveyors and exhausts are shut down</li> <li>- downtime covers are not removed from entrances and exits until just before</li> </ul>

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	<p>startup of conveyORIZED degreaser.</p> <p>Verify that one of the following control devices is installed on every conveyORIZED degreaser:</p> <ul style="list-style-type: none"> <li>- refrigerated chiller</li> <li>- carbon adsorption system with ventilation greater than or equal to 15 m<sup>3</sup>/min/m<sup>2</sup> of air/vapor are (when cover is open), and exhausting less than 25 ppm of solvent averaged over one complete adsorption cycle</li> <li>- a control system approved by the Department.</li> </ul> <p>Verify that one of the following control devices is installed on every open-top vapor degreaser:</p> <ul style="list-style-type: none"> <li>- powered cover, if the freeboard ratio is greater than or equal to 0.75, and if the degreaser opening is greater than 1 m<sup>2</sup></li> <li>- refrigerated chiller</li> <li>- enclosed design, so the cover or door opens only when the dry part is actually entering or exiting the degreaser</li> <li>- carbon adsorption system with ventilation greater than or equal to 15 m<sup>3</sup>/min/m<sup>2</sup> of air/vapor area (when cover is open), and exhausting less than 25 ppm of solvent averaged over one complete adsorption cycle</li> <li>- a control system approved by the Department.</li> </ul> <p>Verify that, for open-top vapor degreasers, solvent carryout is minimized by the following methods:</p> <ul style="list-style-type: none"> <li>- racking parts to allow complete drainage</li> <li>- moving parts in and out of the degreaser at less than 3.3 m/min</li> <li>- holding the parts in the vapor zone at least 30 s, or until condensation ceases</li> <li>- tipping out any pools of solvent on the cleaned parts before removal from the vapor zone</li> <li>- allowing parts to dry within the degreaser for at least 15 s, or until visually dry.</li> </ul> <p>Verify that the installation/CW facility provides the following safety switches for conveyORIZED degreasers:</p> <ul style="list-style-type: none"> <li>- a condenser flow switch and thermostat that shut off the pump heat if the condenser coolant is not circulating or too warm</li> <li>- a spray safety switch that shuts off the spray pump if the vapor level drops more than 10 cm</li> <li>- a vapor level control thermostat that shuts off the pump heat when the vapor level rises too high.</li> </ul> <p>(NOTE: ConveyORIZED degreasers with an air/vapor interface smaller than 2.0</p>

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	m <sup>2</sup> are exempt from the requirements for safety switches.)





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<p><b>DEGREASING OPERATIONS</b></p> <p><b>AE.116. Cold Cleaning</b></p> <p><b>AE.116.1.SC.</b> Cold cleaning operations must meet specific requirements (SC R62.5(5)(II)(N)).</p> <p><b>AE.116.2.SC.</b> Installations/ CW facilities must meet specific requirements for VOCs emitted from cold cleaning activities in nonattainment counties (SC R62.5(5)(II)(N)).</p>	<p>Verify that cold cleaning operations meet the following requirements:</p> <ul style="list-style-type: none"> <li>- the cleaner is equipped with a cover</li> <li>- the cleaner is equipped with some means of draining cleaned parts</li> <li>- a permanent, conspicuous label that summarizes the operating requirements is displayed on the cleaner</li> <li>- the cleaned parts are drained for at least 15 s, or until dripping ceases</li> <li>- the degreaser cover is closed whenever parts are not handled in the cleaner</li> <li>- waste solvent is stored only in covered containers</li> <li>- waste solvent is neither disposed of nor transferred to another party, in a manner which allows more than 20 percent of the waste (by weight) to evaporate into the atmosphere.</li> </ul> <p>Verify that cold cleaning operations which use more than 100 tons/yr of solvents facility-wide meet the following requirements:</p> <ul style="list-style-type: none"> <li>- the cleaner is equipped with a cover that meets the required design specifications</li> <li>- the cleaner is equipped with some means of draining cleaned parts</li> <li>- a permanent, conspicuous label that summarizes the operating requirements is located on the cleaner</li> <li>- waste solvent is stored only in covered containers</li> <li>- waste solvent is not disposed of or transferred to another party in a manner that allows more than 20 percent of the waste solvent (by weight) to evaporate into the atmosphere</li> <li>- the cover is closed whenever parts are not being handled in the cleaner</li> <li>- the cleaned parts are drained for at least 15 s, or until dripping ceases</li> <li>- if solvent spray is used, the spray is a solid fluid stream that does not cause excessive splashing, not a fine, atomized or shower-type spray.</li> </ul> <p>Verify that, for cold cleaners, one of the following control devices is installed if the solvent volatility is greater than 4.3 kPa (33 mm Hg or 0.6 psi) measured at 38 °C (100.4 °F), or if the solvent is heated above 50 °C (122 °F):</p> <ul style="list-style-type: none"> <li>- freeboard that gives a freeboard ratio greater than or equal to 0.7</li> <li>- water cover</li> <li>- other systems of equivalent control, such as refrigerated chiller or carbon</li> </ul>

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	<p>adsorption, approved by the Department.</p> <p>Verify that the solvent is insoluble in water and heavier than water.</p> <p>Verify that cold cleaner covers are designed so they can be easily operated with one hand if one of the following occurs:</p> <ul style="list-style-type: none"><li>- the solvent volatility is greater than 2 kPa (15 mm Hg or 0.3 psi) measured and 38 °C (100 °F)</li><li>- the solvent is agitated</li><li>- the solvent is heated.</li></ul>

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**DEGREASING  
OPERATIONS**

**AE.117.  
Vapor Cleaning**

**AE.117.1.SC.** Vapor degreasers must meet specific requirements (SC R62.5 (5)(II)(N)).

Verify that vapor degreasers meet the following requirements:

- it is equipped with a cover that can be opened and closed easily without disturbing the vapor zone
- the cover is kept closed at all times, except when processing work loads through the degreaser
- solvent carryout is minimized by prescribed methods
- porous or absorbent materials, such as cloth, leather, wood, or rope are not degreased
- workload does not occupy more than half of the degreaser's open top area
- the degreaser is not loaded to the point where the vapor level drops more than 10 cm when the workload is removed from the vapor zone
- spraying always occurs below the vapor level
- either solvent leaks are repaired immediately or degreaser is shutdown
- waste solvent is stored only in covered containers
- ventilation fans are not used near the degreaser opening
- waste solvent is not disposed of or transferred to another party, in a manner that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere
- the cleaner is not operated in a manner that allows water to be visually detectable in solvent exiting the water separator
- exhaust ventilation is not allowed to exceed 20 m<sup>3</sup>/min/m<sup>2</sup> of degreaser open area, unless necessary to meet Occupational Safety and Health Administration (OSHA) requirements.

Verify that solvent carryout in vapor degreasers is minimized by the following methods:

- racking parts to allow complete drainage
- moving parts in and out of the degreaser at less than 3.3 m/min
- holding the parts in the vapor zone at least 30 s or until condensation ceases
- tipping out any pools of solvent on the cleaned parts before removal from the vapor zone
- allowing parts to dry within the degreaser for at least 15 s, or until visually dry.

**AE.117.2.SC.** Converyorized

Verify that the installation/CW facility meets the following requirements for

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>South Carolina Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
degreasers must meet specific requirements (SC R62.5 (5)(II)(N)).	conveyorized degreasers: <ul style="list-style-type: none"> <li>- ventilation fans are not used near the degreaser opening</li> <li>- exhaust ventilation is not allowed to exceed 20 m<sup>3</sup>/min/m<sup>2</sup> of degreaser open area, unless necessary to meet OSHA requirements</li> <li>- carryout emissions are minimized by racking parts for best drainage and by maintaining the vertical conveyor speed at less than 3.3 m/min</li> <li>- waste solvent is stored only in covered containers</li> <li>- waste solvent is not disposed of nor transferred to another party in a manner which allows more than 20 percent of the waste solvent (by weight) to evaporate into the atmosphere</li> <li>- solvent leaks are repaired immediately or degreaser is shutdown</li> <li>- the cleaner is not operated in a manner that allows water to be visually detectable in solvent exiting the water separator.</li> </ul>
<b>AE.117.3.SC.</b> VOCs emitted from solvent metal cleaning activities in nonattainment counties must meet specific requirements (SC R62.5(5)(II)(N)).	Verify that open-top vapor degreasers meet the following requirements: <ul style="list-style-type: none"> <li>- the vapor degreaser is equipped with a cover that can be operated easily without disturbing the vapor zone</li> <li>- a permanent, conspicuous label that summarizes operating procedures is located on the degreaser</li> <li>- the cover is kept closed at all times except when workloads are being processed</li> <li>- porous or absorbent materials, such as cloth, leather, wood, or rope, are not degreased</li> <li>- workload does not occupy more than half of the degreaser's open top area</li> <li>- the degreaser is not loaded to the point where the vapor level drops more than 10 cm when the work load is removed from the vapor zone</li> <li>- spraying always occurs below the vapor level</li> <li>- solvent leaks are repaired immediately or degreaser is shutdown</li> <li>- waste solvent is stored only in covered containers</li> <li>- waste solvent is not disposed of or transferred to another party in a manner which allows more than 20 percent of the waste solvent (by weight) to evaporate into the atmosphere</li> <li>- the cleaner is not operated in a manner that allows water to be visually detectable in solvent exiting the water separator</li> <li>- ventilation fans are not used near the degreaser opening</li> <li>- exhaust ventilation is not allowed to exceed 20 m<sup>3</sup>/min/m<sup>2</sup> of degreaser open area, unless necessary to meet OSHA requirements.</li> </ul> Verify that open-top vapor degreasers have the following safety switches: <ul style="list-style-type: none"> <li>- a condenser flow switch and thermostat that shut off the pump heat, if the condenser coolant is not circulating or is too warm</li> <li>- a spray safety switch that shuts off the spray pump if the vapor level drops more than 10 cm.</li> </ul>

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(NOTE: Open-top vapor degreasers with an open area smaller than 1 m<sup>2</sup> must not use refrigerated chillers or carbon adsorption systems.)



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>AE.125. MISCELLANEOUS VOC OPERATIONS</b></p> <p><b>AE.125.1.SC.</b> Sources emitting VOCs must meet recordkeeping requirements (SC R62.5(5)(I)(B, C, and F)).</p>	<p>(NOTE: Anderson, Bamberg, Barnwell, Chesterfield, Darlington, and Hampton counties are exempt from VOC source requirements.)</p> <p>(NOTE: A facility with an existing source that is not required to be regulated due to the size of the source is subject to the specified requirements when the source increases emissions sufficiently to meet the applicability requirements regardless of the time frame. Conversely, a source subject to the specified requirements, but that decreases emissions sufficiently so the total potential emissions are below the specified limit, may petition the Department for relief from the emissions limits.)</p> <p>Verify that, for any VOC source or control equipment, records are maintained that detail all activities related to any compliance schedule, testing, and monitoring.</p> <p>Verify that, for any VOC source or control equipment located in an ozone nonattainment area.,</p>





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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
<b>AE.130.</b> <b>OPEN BURNING</b>  <b>AE.130.1.SC.</b> Installations/ CW facilities must not allow open burning (SC R62.2).	Verify that open burning does not occur.  (NOTE: See Appendix 1-10 for allowable types of open burning.)



**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>AE.145. ASPHALT PAVING MATERIALS/ OPERATIONS</b></p> <p><b>AE.145.1.SC.</b> VOC emissions from the application of cutback asphalt must meet specific requirements (SC R62.5(5)(II)(S)).</p>	<p>Verify that cutback asphalt is not applied unless the following conditions have been met:</p> <ul style="list-style-type: none"> <li>- cutback asphalt is used solely as a penetrating prime coat</li> <li>- long-life asphalt mix stockpile storage is maintained</li> <li>- application is made during the months of January, February, or December.</li> </ul> <p>Verify that applications of cutback asphalt meet the requirements of compliance schedule for sources of VOCs (see Appendix 1-6).</p> <p>Verify that the installation/CW facility with a VOC source subject to the compliance schedule reports progress to the Department within 5 days after the deadline for each increment of progress.</p>



## Appendix 1-1

### South Carolina Infectious Wastes (Source: SC R62.1(I)(30))

**Infectious wastes include, but are not limited to, the following:**

- a. *Sharps* - any discarded article that may cause punctures or cuts (e.g., needles, syringes, pasteur pipettes, lancets, broken glass, and scalpel blades used in patient care or in medical, research, or laboratories applications).
- b. *Microbiologicals* (Cultures and Stocks of Infectious Agents and Associated Biologicals) - specimen cultures from medical and pathological laboratories, including, but not limited to, cultures and stocks of infectious agents from research, clinical, and industrial laboratories; wastes from the production of biologicals, and discarded live and attenuated vaccines; and culture dishes/devices used to transfer, inoculate, and mix cultures.
- c. *Blood/Blood Products and Body Fluids to Which Universal Precautions Apply* - all waste bulk unabsorbed human blood, blood products (that is, serum, plasma, and other blood components) and visibly bloody body fluids such as suctioned fluids, excretions, and secretions. Body fluids to which universal precautions apply are cerebrospinal fluids, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid, semen, and vaginal secretions.
- d. *Pathological Wastes* - including, but not limited to, fetuses, tissues, organs, limbs, and other body parts removed during surgery or autopsy, and excluding tissue treated or preserved with formaldehyde or other preserving agents.
- e. *Contaminated Animal Carcasses, Body Parts, and Bedding* - those exposed to pathogens in research or in the production of biologicals or in vivo testing of pharmaceuticals.
- f. *Isolation Waste from Communicable Disease* - wastes contaminated with known or potentially infectious matter from patients with diseases considered communicable and requiring isolation, regardless of the health care delivery site, that is, patient's room, surgery, dialysis, or other site.
- g. *Miscellaneous Contaminated Wastes* - materials designated by written facility policy as infectious; other materials designated by written Department policy as requiring special handling, or as a potential public health threat.



## Appendix 1-2

### South Carolina Waste Classification

(Source: SC R62.1(I))

#### Waste Types 0 through 6

a. Type 0: Trash - a mixture of highly combustible waste such as paper, cardboard, wood boxes, and combustible floor sweepings from commercial and industrial activities. The mixture contains up to 10 percent by weight of plastic bags, coated paper, laminated paper, treated corrugated cardboard, oily rags, and plastic or rubber scraps. Typical composition: 10 percent moisture, 5 percent incombustible solids, and a heating value of approximately 8500 Btu/lb as fired.

b. Type 1: Rubbish - a mixture of combustible waste such as paper cardboard cartons, wood scrap, foliage, and combustible floor sweepings from domestic, commercial, and industrial activities. The mixture contains up to 20 percent by weight of restaurant or cafeteria waste, but contains little or no treated papers plastic, or rubber wastes. Typical composition: 25 percent moisture, 10 percent incombustible solids and a heating value of approximately 6500 Btu/lb as fired.

c. Type 2: Refuse - consists of an approximately even mixture of rubbish and garbage by weight. This type of waste is common to apartment and residential occupancy. Typical composition: up to 50 percent moisture, 7 percent incombustible solids, and a heating value of approximately 4300 Btu/lb as fired.

d. Type 3: Garbage - consists of animal and vegetable wastes from restaurants, cafeterias, hotels, hospitals, markets, and like facilities. Typical composition: up to 70 percent moisture, up to 5 percent incombustible solids and has a heating value of approximately 2500 Btu/lb as fired.

e. Type 4: Human and animal remains - consisting of carcasses, organs, and solid organic wastes from hospitals, laboratories, abattoirs, animal pounds, and similar sources.

Typical composition: up to 85 percent moisture, 5 percent incombustible solids, and a heating value of approximately 1000 Btu/lb as fired.

f. Type 5: Byproduct waste - gaseous, liquid, or semiliquid, such as tar, paints, solvents, sludge, fumes, etc., from industrial operations. British thermal unit values must be determined by the individual materials to be destroyed.

g. Type 6: Solid byproduct waste - rubber, plastics, wood waste, etc., from industrial operations. British thermal unit values must be determined by the individual materials to be destroyed.





### Appendix 1-3

#### South Carolina Exemptions from Permit Requirements (Source: SC R62.1(II)(F)) [Revised November 1996]

##### Exemptions from Permit Requirements

1. No permits are required for the following sources that burn virgin fuel, were constructed prior to 11 February 1971, and are not located at a plant that is considered a major source:
  - a. natural gas boilers
  - b. oil-fired boilers of 50 by  $10^6$  Btu/h rated input capacity
  - c. coal-fired boilers of 20 by  $10^6$  Btu/h rated input capacity or smaller.
2. No permits are required for the following sources:
  - a. boilers and space heaters of less than 1.5 by  $10^6$  Btu/h rated input capacity that burn virgin fuel
  - b. comfort air-conditioning or ventilation systems
  - c. motor vehicles
  - d. laboratory hoods
  - e. emergency power generators of less than 150 kW rated capacity, or those which operate 250 h/yr or less and have a method to record the actual hours of use such as an hour meter
  - f. sources emitting only steam, air, nitrogen, oxygen, carbon,  $\text{CO}_2$ , or any physical combination of these
  - g. sources with an uncontrolled particulate matter emission rate of less than 1 lb/mo and/or uncontrolled VOC emission rate of less than 1000 lb/mo may not require permits; however, source information needs to be submitted to the Department and a determination on the need for permits is then made
  - h. sources from which only emissions are fugitive must submit source information, and the need for a permit is determined by the Departments on a case-by-case basis.



# Appendix 1-4

## South Carolina Standard for Ambient Air Quality (Source: SC R62.5(2))

Pollutant	Measuring Interval	Micrograms per cubic meter <sup>(1,2)</sup>
SO <sub>2</sub>	3 h	1300 <sup>(4)</sup>
	24 h	365 <sup>(4)</sup>
	Annual	80
Total suspended particulates	Annual geometric mean	75
PM <sub>10</sub>	24 h	150 <sup>(3)</sup>
	Annual	50 <sup>(3)</sup>
CO	1 h	40 mg/m <sup>3</sup>
	8 h	10 mg/m <sup>3</sup>
O <sub>3</sub>	1 h	0.12 ppm <sup>(3)</sup>
Gaseous fluorides (as HF)	12-h average	3.7
	24-h average	2.9
	1-week average	1.6
	1-mo average	0.8
NO <sub>2</sub>	Annual	100
Lead	Calendar quarterly mean	1.5

<sup>(1)</sup> Arithmetic Average except in case of total suspended particulate matter.

<sup>(2)</sup> At 25 °C and 760 mm Hg.

<sup>(3)</sup> Attainment determinations are made based on the criteria contained in Appendices H and K, 40 CFR 50 (1 July 1987).

<sup>(4)</sup> Not to be exceeded more than once a year.



## Appendix 1-5

### Limits of Toxic Air Pollutants (Source: SC R62.5(8)(II)(B))

The allowable ambient air concentrations of toxic air pollutants are limited to the following:

CHEMICAL NAME	CAS NO.	MAXIMUM ALLOWABLE CONCENTRATION (micrograms/m <sup>3</sup> )*
<b>Category I: Low Toxicity</b>		
Acetic Anhydride	108247	500.00
Acetonitrile	75058	1750.00
Ammonium Chloride	12125029	250.00
Antimony Compounds	>	2.50
Caprolactam, vapor	105602	500.00
Caprolactam, dust	105602	25.00
Chlorine	7782505	75.00
2 -Chloroacetophenone	532274	7.50
Cyanamide	420042	50.00
Cyanic Acid	420053	500.00
Cyanide	57125	125.00
Cyanide compounds <sup>1</sup>	>	+
Cyanoacetamide	107915	125.00
Cyanogen	460195	500.00
Ethanolamine	141435	200.00
Formamide	75127	750.00
Formic Acid	64186	225.00
Furfural	98011	200.00
Hydrochloric Acid	7647010	175.00
Hydrogen Cyanide	74908	250.00
Isopropylamine	75310	300.00
Methyl Ethyl Ketone (2-Butone)	78933	14750.00
Methyl Methacrylate	80626	10250.00
Methylamine	74895	300.00
Methylene Chloride	75092	8750.00
Methyl-t-butyl Ether	1634044	+
Naphthalene	91203	1250.00
Nitric Acid	7697372	125.00
l-Nitropropane	108032	2250.00
Phosphoric Acid	7664382	25.00
Propionaldehyde	123386	+
Styrene	100425	5325.00
Titanlure Tetrachloride	7550450	2500.00
Trichloroethylene	79016	6750.00
Trimethylpentane (2,2,4 -)	540841	8750.00
<b>Category II: Moderate Toxicity</b>		
Acetaldehyde	75070	1800.00
Acrylamide	79061	0.30

CHEMICAL NAME	CAS NO.	MAXIMUM ALLOWABLE CONCENTRATION (micrograms/m <sup>3</sup> )*
Aldicarb	116063	6.00
Allyl Chloride	107051	30.00
Butanethiol	109795	15.00
Cresol	1319773	220.00
Cumene	98828	9.00#
p- Dichlorobenzene	106467	4500.00
Diethanolamine	111422	129.00
Diethylaniline (N, N-)	121697	250.00
Diisocetyl Phthalate	2671400	50.00
m-Dinitrobenzene	99650	10.00
Dinitro-o-cresol (4,6-) and salts	534521	2.00
Dioctyl Phthalate	117840	50.00
Ethanethiol	75081	10.00
Ethyl Benzene	100414	4350.00
Ethyl Chloride	75003	26400.00
Ethylene Dibromide	106934	770.00
Furfuryl Alcohol	98000	400.00
Hexachlorocyclohexane (multiple isomers)	608731	5.00
Hexamethylene-1, 6-diisocyanate	822060	0.34
Hydrogen Sulfide	7783064	140.00
Hydroquinone	123319	20.00
Isophorone	78591	250.00
Malathion	121755	100.00
Maleic Anhydride	108316	10.00
Methyl Mercaptan	74931	10.00
Methylene Biphenyl Isocyanate	101688	2.00
Methyl-Isobutyl. Ketone	108101	2050.00
Nitroglycerin	55630	5.00
Oxalic Acid	144627	10.00
Pentachlorophenol	87865	5.00
Phenol	108952	190.00
p-Phenylenediamine	106503	1.00
Phenylhydrazine	100630	200.00
Phosgene (Carbonyl Chloride)	75445	4.00
Phosphorus	7723140	0.50
Picric Acid	88891	1.00
Pyrethrum	8003347	50.00
Rotenone	83794	50.00
Sodium Hydroxide	1310732	20.00
Sulfuric Acid	7664939	10.00
Tetrachloroethylene (Perchloroethylene)	127184	3350.00
Toluene Diisocynate	584840	0.40
Toluene-2, 4-diisocyanate	584849	0.40
1,2,4-Trichlorobenzene	120821	400.00
Urethane (Carbamic Acid Ethyl Ester)	51796	5000.00
Vinyl Fluoride	75025	19.00

CHEMICAL NAME	CAS NO.	MAXIMUM ALLOWABLE CONCENTRATION (micrograms/m <sup>3</sup> )*
Xylene	1330207	4350.00
m-Xylene	108383	4350.00
o-Xylene	95476	4350.00
p-Xylene	106423	4350.00
<i>Category III: High Toxicity</i>		
Acetamide	60355	+
Acetophenone	98862	+
Acetylaminofluorine (2-)	53963	+
Acrolein	107028	1.25
Acrylic Acid	79107	147.50
Acrylonitrile	107131	22.50
p-Aminodiphenyl	92671	0.00
Aniline	62533	50.00
Anisidine (o-)	90040	2.50
p-Anisidine	04949	2.50
Arsenic Pentoxide	13282	1.00
Arsenic	7440382	1.00
Benzene	71432	150.00
Benzidine	92875	0.00
Benzotrichloride	98077	300.00
Benzyl Chloride	100447	25.00
Beryllium Oxide	1304569	0.01
Beryllium Sulfate	13510491	0.01
Beryllium	7440417	0.01
Biphenyl	92524	6.00
Bis (Chloromethyl) Ether	542881	0.03
Bis- (2-ethylhexyl) phthalate	117817	25.00
Bromoform	75252	25.85
Butadiene (1,3 -)	106990	110.50
n-Butylamine	109739	75.00
Cadmium Oxide	1306190	0.25
Cadmium Sulfate	10124364	0.20
Cadmium	7440439	0.25
Calcium Cyanamide.	156627	2.50
Captan	133062	25.00
Carbaryl	63252	25.00
Carbon Disulfide	75150	150.00
Carbon Tetrachloride	56235	150.00
Carbonyl Sulfide	463581	12250.00
Catechol	120809	297.00
Chloramben	133904	+
Chlordane	57749	2.50
Chloroacetic Acid	79118	900.00
Chlorobenzene	108907	1725.00
Chlorobenzylate	510156	+
Chloroform	67663	250.00



CHEMICAL NAME	CAS NO.	MAXIMUM ALLOWABLE CONCENTRATION (micrograms/m <sup>3</sup> )*
Chloromethyl Methyl Ether	107302	+
p-Chloronitrobenzene	100005	5.00
Chloroprene	126998	175.00
Chromium (+6) Compounds	>	2.50
Cobalt Compounds	>	0.25
Coke Oven Emissions	>	+
Cresols/cresylic acid and mixture	1319773	220.00
Cresol (m-)	108394	110.50
Cresol (o-)	95487	110.50
Cresol (p-)	106445	110.50
D(2,4-), salts and esters	94757	50.00
DDE	3547044	+
Diazomethane	334883	2.00
Dibenzofuran	132649	+
Dibromo-3-chloropropane (1,2-)	96128	0.05
Dibutylphthalate	84742	25.00
3,3 -Dichlorobenzidine	91941	0.15
Dichloropropene (1,3-)	542756	7.00#
Dichlorvos	62737	4.52
Diethyl Phthalate	84662	25.00
Diethyl Sulfate	64675	+
3,3 -Dimethoxybenzidine	119904	0.30
Dimethyl Benzidine(3,3'-)	119937	+
Dimethyl Carbamoyl Chloride	79447	+
Dimethyl Formamide	68122	149.50
1,1 Dimethyl Hydrazine	57147	5.00
1,2 Dimethyl Hydrazine	540738	5.00
Dimethyl Phthalate	131113	25.00
Dimethyl Sulfate	77781	2.50
4-Dimethylaminoazobenzene	60117	125.00
Dinitrophenol (2,4-)	51285	+
Dinitrotoluene (2,4-)	121142	1.50
Dioxane	123911	450.00
Diphenylhydrazine(1,2-)	122667	+
Epichlorohydrin	106898	50.00
Epoxybutane (1,2-)	106887	+
Ethyl Acrylate	140885	102.50
Ethylene Dichloride	107062	200.00
Ethylene Glycol	107211	650.00
Ethylene Oxide	75218	10.00
Ethylene Thiourea	96457	+
Ethylenimine	151564	5.00
Ethylidene Dichloride	75343	2025.00
Formaldehyde	50000	7.50
Glycidaldehyde	7654344	75.00
Glycol Ethers <sup>2</sup>	>	+

CHEMICAL NAME	CAS NO.	MAXIMUM ALLOWABLE CONCENTRATION (micrograms/m <sup>3</sup> )*
Heptachlor	76448	2.50
Hexachlorobenzene	118741	+
Hexachlorobutadiene	87683	1.20
Hexachlorocyclopentadiene	77474	0.50
Hexachloroethane	67721	48.50
Hexachloronaphthalene	1335871	1.00
Hexamethylphosphoramide	680319	14.50
Hexane	110543	200.00#
Hydrazine	302012	0.50
Kepone	143500	0.00
Ketene	46314	4.50
Lead Arsenate	7645252	0.75
Lead (+2) Arsenate	7784409	0.75
Lindane	58899	2.50
Manganese Compounds	>	25.00
Mercury	7439976	0.25
Methanol	67561	1310.00
Methoxychlor	72435	50.00
Methyl Bromide	74839	100.00
Methyl Chloride	74873	515.00
Methyl Chloroform	71556	9550.00
Methyl Hydrazine	60344	1.75
Methyl Iodide	74884	58.00
Methyl Isocyanate	624839	0.23
Methylene Bis-2-chloroaniline (4,4-)	101144	1.10
4,4-Methylenedianiline	101779	4.00
Mineral Fibers, Fine <sup>3</sup>	>	+
Mineral Oil Mist (paraffinic)	8012951	25.00
Mirex	2385855	4500.00
a-Naphthylamine	134327	0.00
b-Naphthylamine	91598	0.00
Nickel Carbonyl	13463393	1.75
Nickel Oxide	1313991	5.00
Nickel Sulfate	7786814	5.00
Nickel	7440020	0.50
p-Nitroaniline	100016	15.00
Nitrobenzene	98953	25.00
4 -Nitrobiphenyl	92933	0.00
Nitrogen Mustard	51752	0.00
p-Nitrophenol	100027	0.00
Nitropropane (2 -)	79469	182.00
Nitrosodimethylamine	62759	0.00
Nitrosomorpholine	59892	5000.00
p-Nitrosophenol	104916	0.00
Nitroso-N-methylurea (N-)	684935	+
p-Nitrotoluene	99990	5.50

CHEMICAL NAME	CAS NO.	MAXIMUM ALLOWABLE CONCENTRATION (micrograms/m <sup>3</sup> )*
Octachloronaphthalene	2234131	0.50
Octadecanoic Acid (n-)	57114	+
Paraquat	1910425	0.50
Parathion	56382	0.50
Pentachloronitrobenzene	82688	+
Phosphine	7803512	2.09
Phthalic Anhydride	85449	30.30
Polychlorinated Biphenyls (PCB) (multiple compounds)	>	2.50
Polycyclic Organic Matter <sup>4</sup>	>	160.00
Propane Sultone (1,3-)	1120714	+
b-Propiolactone	57578	7.50
Propoxur	114261	2.50
Propylene Dichloride	78875	1750.00
1,2 Propylene Oxide	75569	250.00
Propylenimine (1,2-)	75558	23.35
Pyrethrin I	121211	25.00
Pyrethrin II	121299	25.00
Quinoline	91255	+
Quinone	106514	2.00
Selenium Compounds	>	1.00
Styrene Oxide	96093	+
Tetrachlorinated Dibenzo-p-dioxins	1746016	0.00
1,1,2,2-Tetrachloroethane (Acetylene tetrachloride)	79345	35.00
Toluene	108883	2000.00
Toluenediamine (2,4-)	95807	+
Toluidine (0-)	95534	43.85
Toxaphene	8001352	2.50
Trichloroethane (1,1,2-)	79005	273.00
Trichlorophenol(2,4,5-)	95954	+
Trichlorophenol(2,4,6-)	88062	+
Triethylamine	121448	207.00
Trifluralin	1582098	+
Vinyl Acetate	108054	176.00
Vinyl Bromide	593602	100.00
Vinyl Chloride	75014	50.00
Vinylidene chloride	75354	99.00
Xylidine	1300738	50.00

\* These values are rounded to the nearest hundredth of a (micrograms/m<sup>3</sup>).

+ These numbers are to be determined.

> There is no Chemical Abstract Service (CAS) number.

# The verified reference concentration (Rfc) is established by the USEPA.

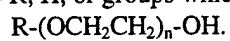
<sup>1</sup> XCN where X = H<sup>+</sup> or any other group where a formal dissociation may occur. For example KCN or Ca(CN)<sub>2</sub>.

<sup>2</sup> Includes mono- and di- ethers of ethylene glycol, diethylene glycol; and triethylene glycol R-(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>-OR', where:

n = 1, 2, or 3

R = Alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the structure:



Polymers are excluded from the glycol category.

- <sup>3</sup> Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, and slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.
- <sup>4</sup> Includes organic compounds with more than one benzene ring and which have a boiling point greater than or equal to 100 °C.



## **Appendix 1-6**

### **South Carolina Compliance Schedule for Sources of VOC** (Source: SC R62.5(5)(I)(D)(Schedule 1))

#### **Compliance Schedule for Sources of VOC**

1. Submit to the Department construction permit applications and final plans for the emission control system and/or new process equipment and/or modification of existing process equipment within 2 mo from the date of notification.
2. Issue purchase orders and contracts for the emission control systems and/or process equipment and/or modification of existing process equipment to accomplish emission control within 5 mo from the date of notification.
3. Initiate onsite construction or installation of the emission control and/or process equipment and/or modification of existing process equipment within 8 mo from the date of notification.
4. Complete onsite construction or installation of the emission control and/or process equipment and/or modification of existing process equipment within 16 mo from the date of notification.
5. Achieve final compliance within 18 mo from the date of notification.



## Appendix 1-7

### Allowable Discharge Particulate Matter (Source: SCDHEC 62.5, Standard No. 1, II(A and B))

#### A. Allowable Discharge

The allowable discharge of particulate matter resulting from fuel burning operations are limited to the values obtained by use of Figure 1 and/or Part B. (For the purpose of determining heat input, total equipment capacity refers to total equipment capacity discharging through each stack. If a boiler has more than one stack, the total rated capacity will be the boiler rated capacity discharging to these stacks.) Interpolation of Figure 1 for fuel burning operations of 1300 MBtu/h heat input and larger shall be accomplished by using the following equation:

$$E = 57.84 P^{-0.637}$$

where E = the allowable emission rate in pounds per million-British thermal units heat input, and P = million British thermal units heat input per hour.

#### B. Special Provisions

All fuel burning operations of 10 MBtu/h heat input and smaller constructed prior to 11 February 1971 are allowed 0.8 lb/MBtu input.

#### Figure 1

For a copy of Figure 1, please call the ENFLEX Hotline at (800) 544-3118.





# **Appendix 1-8**

## **South Carolina Limits of Emissions of Sulfur Dioxide** (Source: SC R62.5(1)(III)(B.3 and C))

<b>Class</b>	<b>Rated Source Size</b>	<b>Maximum Allowable Emissions (pounds of SO<sub>2</sub> /Mbtu input)</b>
Class I Charleston County	10 MBtu/h or less	3.5
	greater than 10 MBtu/h	2.3
Class II Aiken and Anderson Counties	1000 MBtu/h or less	3.5
	greater than 1000 MBtu/h	2.3
Class III all other counties	all sizes	3.5



## Appendix 1-9

### South Carolina Other Emissions Limitations for Hazardous Waste Incinerators (Source: SC R62.5(3)(III)(E)(4))

Material	Emissions Limit (Pounds per 10 <sup>3</sup> gal of liquid waste or waste fuel being burned)
Nickel	0.91
Cadmium	0.015
Chromium	0.075
Arsenic	0.038
Lead	0.75
The values in this table may be adjusted if the British thermal unit content and density of the waste material vary from 150,000 Btu/gal content and 7.55 lb/gal density.	



## Appendix 1-10

### South Carolina Exemptions from the Requirements for Open Burning (Source: SC R62.2(A through K))

The following sources are exempt from the requirements for open burning:

- A. Open burning of leaves, tree branches, or yard trimmings originating on the premises of private residences and burned on those premises.
- B. Open burning in connection with the preparation of food for immediate consumption.
- C. Campfires and fires used solely for recreational purposes, ceremonial occasions, or human warmth.
- D. Fires purposely set to forest lands for specific management practices in accordance with guidelines acceptable to the Department and as administered by the South Carolina Forestry Commission. These management practices include:
  - prescribed burning under existing standards for various management objectives
  - site preparation burning for purposes of clearing an area for regeneration.
- E. Fires purposely set for agricultural control of diseases, weeds, pests, and other specific agricultural purposes in accordance with practices acceptable to the Department.
- F. Open burning of trees, brush, grass, and other vegetable matter for game management purposes in accordance with practices acceptable to the Department.
- G. Open burning in areas other than predominantly residential for the purpose of land clearing or right-of-way maintenance. This is exempt only if the following minimum conditions are followed:
  - the location of the burning is a sufficient distance, but not less than 1000 ft, from public roadways and all residential, commercial, and industrial sites not a part of the contiguous property on which the burning is conducted
  - winds during the time of the burning are away from any area in which the ambient air may be significantly affected by smoke from the burning if that area contains a public roadway or a residential, commercial, or industrial site- the amount of dirt on the material being burned is minimized
  - no heavy oils, asphalt materials, items containing natural or synthetic rubber, or any materials other than plant growth are burned
  - the initial burning is started only between 9:00 a.m. and 3:00 p.m.; no combustible material may be added to the fire between 3:00 p.m. of one day and 9:00 a.m. the following day
  - no more than two piles 30 ft by 30 ft or equivalent are burned within a 6-acre area at one time
  - in the case of land clearing, all salvageable timber and pulpwood are removed.
- H. Fires set for the purposes of training public fire-fighting personnel when authorized by the appropriate governmental entity, and fires set by a private industry as a part of an organized program of drills for the training of fire-fighting personnel. These are exempt only if the drills are solely for the purpose of fire-fighting training, and the duration of the burning is held to the minimum required for such purposes. Prior approval is required only for sites which are not established training sites.
- I. Open burning of household trash on the premises of and originating from private residences where services for the disposal of such materials are not available. The location of such burning must be at least 500 ft from any inhabited building.
- J. Open burning, on the property where it occurs, of construction waste from building and construction operations are exempt only if the following conditions are met:
  - the location of the building is at least 500 ft from any occupied structure other than a dwelling or structure located on the property on which the burning is conducted
  - heavy oils, asphalt materials, items containing natural or synthetic rubber, or any other trade wastes that produce smoke in excess of 40 percent opacity are not burned
  - burning is conducted only between the hours of 9:00 a.m. and 3:00 p.m.
- K. Open burning, in remote or specified areas:
  - of trade waste provided the burning is conducted in accordance with letter "G" of these exemptions such burning must be of a nonrecurring nature
  - for nonrecurring unusual circumstances
  - for experimental burning for purposes of data gathering and research.

(NOTE: Prior approval for the types of burning listed in letter K must be obtained from the Department.)

## SECTION 2

### CULTURAL RESOURCES MANAGEMENT

South Carolina Supplement, November 1997

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.

#### Definitions

These definitions were obtained from Title 60, Code of Laws of South Carolina, Chapter 12, Section 60-12-10 and the South Carolina *Underwater Antiquities Act* of 1991.

- *Adverse Effect* - an effect on a historic property, including alteration, destruction, or demolition, that diminishes the property's historic integrity.
- *Artifact* - any object or assemblage of objects found in an archaeological context, that yields or is likely to yield information of significance to the scientific study of human prehistory, history, or culture, and which have remained unclaimed for more than 50 yr.
- *Building* - a construction created to shelter any form of human activity, including a house, barn, church, or hotel.
- *Department* - the Department of Archives and History.
- *Institute* - the South Carolina Institute of Archaeology and Anthropology.
- *National Register* - the National Register of Historic Places.
- *Paleontological Property* - paleontological (fossil) material or any site that contains paleontological material.
- *Submerged* - beneath or substantially beneath the territorial waters of the state or submerged at mean low tide.
- *Submerged Archaeological Historic Property* - any site, vessel, structure, object, or remains that:
  1. yields or is likely to yield information of significance to scientific study of human prehistory, history, or culture
  2. is embedded in or on submerged lands and has remained unclaimed for 50 yr or longer
  3. is included in, or is eligible for, listing in the National Register.





<b>CULTURAL RESOURCES MANAGEMENT GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS</b>
<b>REFER TO CHECKLIST ITEMS:</b>
Archaeological/Indian Sites                      CR.15.1.SC. through CR.15.3.SC.



**COMPLIANCE CATEGORY:  
CULTURAL RESOURCES MANAGEMENT  
South Carolina Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>CR.15. ARCHAEOLOGICAL/ INDIAN SITES</b></p> <p><b>CR.15.1.SC.</b> The Department must be consulted prior to any undertaking that may adversely affect property listed on the Historic Register (SC R 60-12-30).</p> <p><b>CR.15.2.SC.</b> Discoveries of burial material must be reported to the State Archaeologist (South Carolina Institute of Archaeology and Anthropology Policy on Human Burial Remains).</p> <p><b>CR.15.3.SC.</b> Submerged archaeological historic property or paleontological property must not be disturbed without a license (South Carolina <i>Underwater Antiquities Act</i> of 1991 Section 54-7-650 and 660) [Revised November 1996].</p>	<p>Determine whether the installation/CW facility has properties that are either eligible for listing or are listed on the National Register of Historic Places.</p> <p>Verify that, when planning projects which may adversely affect properties eligible for or listed on the National Register, the Department is consulted so that adverse effects on the property are minimized.</p> <p>Verify that any discovery of human remains or burial materials is reported to the Deputy State Archaeologist.</p> <p>Verify that activity at the site of the discovery is suspended until permitted by the State Archaeologist.</p> <p>Verify that no artifacts or human remains are removed from a discovered burial site.</p> <p>Verify that a license is obtained from the Institute of Archaeology and Anthropology before removal, displacement, or destruction of any submerged archaeological or historic property or paleontological property.</p> <p>(NOTE: A license is not required to inspect, study, explore, photograph, measure, record, conduct a reconnaissance survey, use magnetic or acoustic detection devices, or otherwise use and enjoy such property as long as the activity does not:</p> <ul style="list-style-type: none"> <li>- involve excavation, destruction, substantive injury, or disturbance of the historic property, a paleontological site, or its immediate environment</li> <li>- endanger other persons or property</li> <li>- violate other regulations or provisions of Federal, state, or local law or ordinance.)</li> </ul>

## **SECTION 3**

### **HAZARDOUS MATERIALS MANAGEMENT**

**South Carolina Supplement, November 1997**

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.



**HAZARDOUS MATERIALS MANAGEMENT  
GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS**

**State-Specific Hazardous Materials Requirements**

The state has adopted the National Fire Protection Association (NFPA) Pamphlet No. 30, 1987 Edition, and all referenced publications in this pamphlet.

**Hazardous Materials Transportation**

The state has adopted Title 49 of the Code of Federal Regulations (CFR) 383, 390 through 399, and 171 through 179 as they relate to commercial vehicle safety including hazardous material transportation.

## SECTION 4

### HAZARDOUS WASTE MANAGEMENT

#### South Carolina Supplement, November 1997

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.

#### Definitions

- *Active Portion* - that portion of a facility where treatment, storage, or disposal operations are being or have been conducted since 19 November 1980, and that is not a closed portion (SC R 61-79-260.10).
- *Administrator* - the Administrator of the USEPA, or an authorized representative (SC R 61-79-260.10).
- *Ancillary Equipment* - any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), to a point of disposal onsite, or to a point of shipment for disposal offsite (SC R 61-79-260.10).
- *Board* - the South Carolina Board of Health and Environmental Control (SC R 61-79-260.10).
- *Certification* - a statement of professional opinion based upon knowledge and belief (SC R 61-79-260.10).
- *Conditionally Exempt Small Quantity Generator (CESQG)* - a hazardous waste generator that generates less than 100 kg of hazardous waste in a calendar month (SC R 61-79-260.10).
- *Container* - any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled (SC R 61-79-260.10).
- *Contingency Plan* - a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents that could threaten human health or the environment (SC R 61-79-260.10).
- *Department* - the Department of Health and Environmental Control (DHEC) (SC R 61-79-260.10).
- *Dike* - an embankment or ridge of either natural or manmade materials used to prevent the movement of liquids, sludges, solids, or other materials (SC R 61-79-260.10).
- *Discharge* - the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water (SC R 61-79-260.10).
- *Disposal* - the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituents thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwaters (SC R 61-79-260.10).
- *Disposal Facility* - a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which the waste will remain after closure (SC R 61-79-260.10).



- *Existing Facility* - a facility that was in operation or for which construction commenced on or before 19 November 1980 (SC R 61-79-260.10).
- *Facility* - any hazardous waste management facility that is subject to regulation under the *Resource Conservation and Recovery Act* (RCRA) program and the *Pollution Control Act* (SC R 61-79-260.10).
- *Free Liquids* - liquids that readily separate from the solid portion of a waste under ambient temperature and pressure (SC R 61-79-260.10).
- *Freeboard* - the vertical distance between the top of a surface impoundment dike and the surface of the waste contained therein (SC R 61-79-260.10).
- *Incompatible Wastes* - hazardous waste that is unsuitable for either of the following:
  1. placement in a particular device or facility because it may cause corrosion or decay of containment materials
  2. commingling with another waste or material under uncontrolled conditions because that commingling may produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, gases, or flammable fumes or gases (SC R 61-79-260.10).
- *Individual Generation Site* - the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous (SC R 61-79-260.10).
- *Landfill* - a disposal facility or part of a facility where hazardous waste is placed in or on land and that is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, or a cave (SC R 61-79-260.10).
- *Leachate* - any liquid, including suspended components in the liquid, that has percolated through or drained from hazardous waste (SC R 61-79-260.10).
- *Miscellaneous Unit* - a hazardous waste management unit where hazardous waste is treated, stored, or disposed of that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, or injection well (SC R 61-79-260.10).
- *Person* - an individual, association, partnership, corporation, municipality, state, Federal, or tribal agency, or an agency or employee thereof (SC R 61-79-260.10).
- *Site* - the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity (SC R 61-79-260.10).

HAZARDOUS WASTE MANAGEMENT GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS	
REFER TO CHECKLIST ITEMS:	
All Sizes of Generators	HW.10.1.SC. through HW.10.3.SC.
Small Quantity Generators (SQGs)	
General	HW.20.1.SC.
Generators	
General	HW.55.1.SC. and HW.55.2.SC.
Containers	HW.70.1.SC.
Satellite Accumulation Points	HW.75.1.SC.
Transportation of Hazardous Waste	HW.100.1.SC. through HW.100.5.SC.
All TSDFs	
General	HW.105.1.SC. and HW.105.2.SC.
Containers	HW.115.1.SC.
Documentation Requirements	HW.145.1.SC and HW.145.2.SC

GUIDANCE FOR APPENDIX USERS	
REFER TO APPENDIX NUMBERS:	REFER TO APPENDIX TITLES:
4-1	Wastes Designated as Hazardous



**COMPLIANCE CATEGORY:  
HAZARDOUS WASTE MANAGEMENT  
South Carolina Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>HW.10. ALL SIZES OF GENERATORS</b></p> <p><b>HW.10.1.SC.</b> Installations/CW facilities must determine if the solid waste is hazardous (SC R 61-79-262.11) [Revised November 1996].</p> <p><b>HW.10.2.SC.</b> Hazardous waste discharges must be cleaned (SC R 61-79-262.80).</p> <p><b>HW.10.3.SC.</b> Hazardous waste generators must meet specific notification requirements (SC R 61-79-262.13) [Revised November 1997].</p>	<p>Verify that all generators use appropriate hazardous waste designations, including the additional ones provided by the Department (see Appendix 4-1).</p> <p>Verify that hazardous waste discharges that occur during generation, processing, or storage are cleaned up according to Federal, state, or local requirements so the hazardous waste discharge no longer presents a hazard to human health or the environment.</p> <p>Verify that generators within the state that have not previously done so file with the Department a notification form for wastes generated.</p> <p>Verify that generators within the state who produce a new hazardous waste file with the Department a revised or new notification form for that waste within 30 days after such waste is first produced.</p> <p>Verify that generators within the state who produce a hazardous waste that is classified or listed for the first time file with the Department a revised or new notification form for the newly listed waste within 90 days after the waste is listed.</p> <p>Verify that the notification includes the following:</p> <ul style="list-style-type: none"> <li>- location and general description of the waste production</li> <li>- the identified or listed hazardous wastes handled by such person</li> <li>- if applicable, a description of the production of energy recovery activity carried out at the facility and such other information as the Department deems necessary.</li> </ul> <p>Verify that generators file a revised or new notification form whenever the information previously provided becomes outdated or inaccurate.</p> <p>Verify that persons engaged in the following activities make a separate</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
	<p>notification:</p> <ul style="list-style-type: none"><li>- producers of fuel from any hazardous waste identified or listed by the Department</li><li>- burners (other than a single or two-family residence) for the purposes of energy recovery any fuel composed of hazardous waste</li><li>- distributors or marketers of any fuel composed of hazardous waste.</li></ul> <p>Verify that every generator within the state who no longer produces any hazardous waste files one subsequent notification form.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> November 1997
<p><b>SMALL QUANTITY GENERATORS (SQGs)</b></p> <p><b>HW.20. General</b></p> <p><b>HW.20.1.SC.</b> Generators of greater than 100 kg but less than 1000 kg of hazardous waste in a calendar month are subject to specific reporting requirements (SC R 61-79-262.44) [Revised November 1996].</p>	<p>Verify that SQGs make an annual declaration of hazardous waste generating activities.</p> <p>(NOTE: SQGs must declare status annually on or before 31 January by submission of a completed form as designated by the Department on which the installation/CW facility certifies that they are a SQG and provisionally exempt from full regulation and that, should their status change during the calendar year, they will comply fully with all requirements, including quarterly reporting.)</p>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>GENERATORS</b></p> <p><b>HW.55. General</b></p> <p><b>HW.55.1.SC.</b> Hazardous waste generators must meet specific recordkeeping requirements (SC R 61-79-262.40).</p> <p><b>HW.55.2.SC.</b> Hazardous waste generators must report to the Department quarterly (SC R 61-79-262.41 and 262.43) [Revised November 1997].</p>	<p>Verify that the following requirements are met:</p> <ul style="list-style-type: none"> <li>- a copy of each completed manifest is kept onsite for a period of 3 yr from the date of shipment or a signed copy from the designated facility that received the waste is received</li> <li>- a copy of each manifest returned by the designated facility is kept onsite for a period of 3 yr from the date of receipt of the manifest</li> <li>- a copy of each quarterly report and each exception report is kept onsite for a period of 3 yr from the due date of the report</li> <li>- the records of any test results, waste analyses, or other determinations for a period of 3 yr from the date that the waste was sent to onsite or offsite treatment, storage, or disposal.</li> </ul> <p>Verify that generators of more than 1000 kg/mo of hazardous waste who ship any hazardous waste offsite to a treatment, storage or disposal facility (TSDF) within the United States prepares and, no later than 30 days after the end of each calendar quarter, submits a written report to the Department which includes the following information:</p> <ul style="list-style-type: none"> <li>- the EPA identification number, name, and address of the generator</li> <li>- the calendar quarter covered by the report</li> <li>- the EPA identification number, name, and address for each offsite TSDF in the United States to which waste was shipped during the quarter</li> <li>- the name and EPA identification number of each transporter used during the reporting quarter for shipments to a TSDF within the United States</li> <li>- a description, the EPA hazardous waste number, DOT hazardous class, and quantity of each hazardous waste shipped offsite to a TSDF within the United States, broken down by receiving TSDF</li> <li>- the types and quantities of such wastes shipped for offsite treatment and disposal</li> <li>- the types and quantities of such wastes remaining in storage at the end of the reporting period</li> <li>- certification of information signed by the generator or his authorized representative.</li> </ul> <p>Verify that the fourth quarter report includes the following additional information:</p>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
	<ul style="list-style-type: none"><li>- a description of the efforts undertaken during the year to reduce the volume and toxicity of wastes generated</li><li>- a description of the changes in volume and toxicity of wastes actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984.</li></ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>GENERATORS</b></p> <p><b>HW.70.</b> <b>Containers</b></p> <p><b>HW.70.1.SC.</b> Hazardous waste generators must not stack containers more than two high (SC R 61-79-262.34) [Added November 1996].</p>	<p>Verify that generators do not stack containers of hazardous waste more than two containers high without Department permission.</p>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>GENERATORS</b></p> <p><b>HW.75.</b> <b>Satellite Accumulation Points</b></p> <p><b>HW.75.1.SC.</b> Generators must meet specific labeling requirements for containers at satellite accumulation points (SAPs) (SC R 61-79-262.34) [Added November 1996].</p>	<p>Verify that generators mark containers with the following legend:</p> <p><b>HAZARDOUS WASTE</b> -- State and Federal law prohibit improper storage or disposal. If found, contact nearest police or public safety authority or the S.C. Department of Health and Environmental Control.</p>



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South Carolina Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>HW.100. TRANSPORTATION OF HAZARDOUS WASTE</b></p> <p><b>HW.100.1.SC.</b> Transporters of hazardous waste must meet specific requirements (SC R 61-79-263.10).</p> <p><b>HW.100.2.SC.</b> Hazardous waste transporters must take immediate action upon a discharge of hazardous waste (SC R 61-79-263.30).</p>	<p>Verify that transporters of hazardous waste have permit issued by the Department.</p> <p>(NOTE: Onsite transportation of hazardous waste by generators, owners, or operators of permitted hazardous waste management facilities is exempt from the permit requirement.)</p> <p>Verify that all equipment, such as tankers, vans, dumpsters, and roll-off containers, are leakproof and properly secured prior to their being used for transporting hazardous waste.</p> <p>Verify that transporters complete a training program that is acceptable to the Department.</p> <p>Verify that, in the event of a discharge of hazardous waste during transportation, the transporter takes appropriate immediate action to protect human health and the environment (e.g., notify local authorities, dike the discharge area).</p> <p>Verify that an air, rail, highway, or water transporter who has discharged hazardous waste:</p> <ul style="list-style-type: none"> <li>- immediately telephones the Department's 24-h emergency telephone number 803-253-6488, giving all requested information</li> <li>- gives notice to the National Response Center (NRC), 800-424-8802 or 202-246-2675</li> <li>- submits a written report to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, D.C. 20590.</li> </ul> <p>Verify that a water (bulk shipment) transporter immediately notifies the NRC as soon as they have knowledge of any discharge of oil or a hazardous substance.</p> <p>(NOTE: If direct reporting to the NRC is not practicable, reports may be made to the Coast Guard or EPA predesignated OSC for the geographic area where the discharge occurs. If it is not possible to notify the NRC or the predesignated OSC immediately, reports may be made immediately to the nearest Coast Guard unit, provided that the person in charge of the vessel or onshore or offshore facility notifies the NRC as soon as possible.)</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>HW.100.3.SC.</b> Hazardous waste transporters must be permitted and meet operational requirements (SC R 61-79-263.10 and 262.13) [Added November 1996].</p>	<p>(NOTE: These regulations do not apply to onsite transportation of hazardous waste by generators, owners, or operators of permitted hazardous waste management facilities.)</p> <p>Verify that hazardous wastes transported within the state are permitted by the Department unless specifically exempted.</p> <p>Verify that every transporter ensures that all equipment, such as tankers, vans, dumpsters, and roll-off containers, are leakproof and properly secured prior to their being used for transporting hazardous waste within the state.</p> <p>Verify that transporters ensure that personnel have completed a training program that is acceptable to the Department.</p> <p>Verify that the transporter notifies the Department of his hazardous waste activity.</p> <p>Verify that installations/CW facilities that transport hazardous waste within the state and have not previously done so notify the Department.</p> <p>Verify that installations/CW facilities that transport or accept for transportation within the state a hazardous waste that is classified or listed for the first time file a revised or new notification form with the Department within 90 days after it is listed.</p> <p>Verify that the notification includes the following:</p> <ul style="list-style-type: none"> <li>- location and general description of the activity</li> <li>- identified or listed hazardous wastes handled by the transporter.</li> </ul>
<p><b>HW.100.4.SC.</b> Hazardous waste transporters must comply with manifest requirements (SC R 61-79-263.21) [Revised November 1997].</p>	<p>Verify that hazardous waste transporters deliver only to the following entities:</p> <ul style="list-style-type: none"> <li>- the designated facility listed on the manifest</li> <li>- the alternate designated facility, if the hazardous waste cannot be delivered to the designated facility because an emergency prevents delivery</li> <li>- the next designated transporter.</li> </ul> <p>Verify that, if the hazardous waste cannot be delivered in accordance with the above requirements, the transporter contacts the generator for further directions and revises the manifest according to the generator's instructions.</p> <p>Verify that the transporter delivers the entire manifested quantity of hazardous waste.</p>

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**REGULATORY  
REQUIREMENTS:**

**HW.100.5.SC.** Hazardous waste transporters that store or treat waste must comply with specific requirements (SC R 61-79-263.23) [Added November 1996].

**REVIEWER CHECKS:**  
**November 1997**

Verify that transporters removing a hazardous waste from a transport vehicle for the purpose of blending, mixing, treating, or storing do so at a permitted facility.

Verify that transporters do not allow hazardous wastes from different generators or separate wastes from the same generator to become mixed during transport, unless the transporter has received approval from the Department.





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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>ALL TSDFs</b></p> <p><b>HW.105. General</b></p> <p><b>HW.105.1.SC.</b> Generators, transporters, or operators of hazardous waste TSDFs must notify the Department of that activity (SC R 61-79-270.1 and 265.5) [Revised November 1996].</p> <p><b>HW.105.2.SC.</b> Hazardous waste TSDFs must follow emergency procedures (SC R 61-79-264.56) [Added November 1996].</p>	<p>Verify that a facility that generates, transports, treats, stores, or disposes of hazardous waste files a notification with the Department</p> <p>Verify that a notification form is filed with the Department as part of the permit application for construction a new facility to treat, store or dispose of hazardous waste.</p> <p>Verify that installations/CW facilities operating a facility which treats, stores, or disposes of a hazardous waste that has been newly listed files a revised or new notification form for the waste within 90 days of the listing.</p> <p>Verify that notification includes the following:</p> <ul style="list-style-type: none"> <li>- the location and general description of the treatment, storage, or disposal</li> <li>- the identified or listed hazardous waste handled</li> <li>- if applicable, a description of the production or energy recovery activity carried out at the facility.</li> </ul> <p>Verify that TSDFs immediately notify the Department (using its 24-h number 803-253-6488), the government official designated as the on-scene coordinator for that geographical area, and the NRC (using their 24-h toll free number 800-424-8802):</p> <ul style="list-style-type: none"> <li>- if the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate</li> <li>- immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.</li> </ul>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>ALL TSDFs</b></p> <p><b>HW.115. Containers</b></p> <p><b>HW.115.1.SC.</b> Hazardous waste residues in empty containers must be handled in accordance with certain requirements (SC R 61-79-261.7)</p>	<p>Verify that containers that held hazardous waste are handled in the following manner:</p> <ul style="list-style-type: none"> <li>- all wastes have been removed that can be removed using practices commonly employed to remove materials from that type of container (e.g., pouring, pumping, or aspirating)</li> <li>- no more than 2.5 cm (1 in.) or no more than 3 percent by weight of the total capacity of the container, if the container is less than or equal to 110 gal in size, of residue remain on the bottom of the container or inner liner</li> <li>- a container that has held a hazardous waste that is a compressed gas is at a pressure approaching atmospheric.</li> </ul> <p>Verify that a container or inner liner from a container that has held an acutely hazardous waste is handled in one of the following ways:</p> <ul style="list-style-type: none"> <li>- the container, or inner liner is triple rinsed using a solvent capable of removing the chemical product or chemical intermediate</li> <li>- the container or inner liner is cleaned by a method shown in the scientific literature, or by tests conducted by the generator, to achieve the equivalent of removal</li> <li>- in the case of a container, the inner liner is removed.</li> </ul>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> November 1997
<p><b>ALL TSDFs</b></p> <p><b>HW.145.</b> <b>Documentation Requirements</b></p> <p><b>HW.145.1.SC.</b> Hazardous waste TSDFs must submit a quarterly report (SC R 61-79-264.75, 265.75 and 265.77) [Revised November 1996].</p>	<p>Verify that the following information is submitted to the Department no later than 30 days after the end of each calendar quarter:</p> <ul style="list-style-type: none"> <li>- the types and quantities of hazardous waste generated giving the EPA hazardous waste number and the DOT hazardous class</li> <li>- the types and quantities of hazardous waste received at the facility during the reporting period</li> <li>- the types and quantities of hazardous wastes treated, stored, disposed of, and otherwise handled during the reporting period</li> <li>- the EPA identification number, name, and address of the facility</li> <li>- the calendar quarter covered by the report</li> <li>- for offsite facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the report must give the name and address of the foreign generator</li> <li>- a description and the quantity of each hazardous waste the facility received during the year</li> <li>- for offsite facilities, a description and the quantity of each hazardous waste the facility received during the year must be listed by EPA identification number of each generator</li> <li>- the most recent closure cost estimate and, for disposal facilities, the most recent postclosure cost estimate</li> <li>- certification from any out-of-state generator who shipped waste to the facility during the reporting period that he has a program in place to reduce the volume or quantity and toxicity of such waste to the degree determined to be economically practicable and that the proposed method of handling the waste is that practicable method currently available which minimizes the present and future threat to human health and the environment</li> <li>- the method of treatment, storage, or disposal for each hazardous waste</li> <li>- certification of information signed by the owner or operator of the facility or his authorized representative.</li> </ul> <p>Verify that the fourth quarter report includes the following additional information:</p> <ul style="list-style-type: none"> <li>- a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated</li> <li>- a description of the changes in the volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>HW.145.2.SC.</b> Hazardous waste TSDFs must meet notification requirements (SC R 61-79-264.12) [Added November 1996].</p>	<p>information is available for the years prior to 1984 is included in the report.</p> <p>Verify that these reports are maintained for 3 yr.</p> <p>Verify that the Department is notified in writing at least 4 weeks in advance of the arrival of hazardous waste from a foreign source.</p> <p>(NOTE: Notice of subsequent shipments of the same waste from the same foreign source is not required.)</p> <p>Verify that off-site generators of hazardous waste are provided a written and signed assurance that the installation/CW facility has the appropriate permit(s) and will accept the waste the generator is shipping.</p> <p>Verify that either an authorization request form or other Departmentally-approved form is used for the written notice.</p> <p>Verify that the written notice is maintained as follows:</p> <ul style="list-style-type: none"> <li>- a copy is retained by the installation/CW facility as part of the operating record</li> <li>- the installation/CW facility submits sections I-IV (the first page) of the authorization request form to the Departments within 3 working days of the assignment of an authorization number.</li> </ul>

#### Appendix 4-1

##### Wastes Designated as Hazardous

(Source: SC R 61-79-261, Appendix XI [Added November 1996])

Hazardous Waste Number	Substance
5555	Any solid waste the Department determines constitutes a hazard and requires greater control.
6666	Any waste that is declared hazardous by those who generate, transport, treat, store, or dispose of such waste.
7777	Nonhazardous waste received by a hazardous waste facility.
8888	Waste lubricating, hydraulic and cutting oil (Deleted June 23, 1989).
9999	Waste batteries (Deleted 24 January 1986).



## SECTION 5

### NATURAL RESOURCES MANAGEMENT

#### South Carolina Supplement, November 1997

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.

#### Definitions

- *Appropriate Plan Approval Agency* - the Commission, Local Government, or Conservation District that is responsible in a jurisdiction for review and approval of stormwater management and sediment control plans (South Carolina Regulation 72-301 (South Carolina Regulations, Chapter 72, Section 301 (SC R.72-301))).
- *Coastal Waters* - the navigable waters of the United States subject to the ebb and flood of the tide and which are saline waters, shoreward to their mean high-water mark (SC R. 30-1.C).
- *Coastal Zone* - all coastal waters and submerged lands seaward to the state's jurisdictional limits and all lands and waters in the counties of the state which contain any one or more of the critical areas. These counties are Beaufort, Berkeley, Charleston, Colleton, Dorchester, Horry, Jasper, and Georgetown (SC R. 30-1.C).
- *Critical Areas* - any one of the following: coastal waters, tidelands, beach/dune systems (SC R. 30-1.C).
- *Dam* - any artificial barrier, together with appurtenant works, including but not limited to dams, levees, dikes, or floodwalls for the impoundment or diversion of water or other fluids where failure may cause danger to life or property.
- *Department* - the South Carolina Department of Health and Environmental Control (also referred to as SCDHEC) (SC R. 30-1.C).
- *Emergency Orders* - orders issued by an appointed official of a county or municipality or of the state acting to protect the public health and safety, upon written notification to the Coastal Council. However, with regard to the beach/dune critical area, only the use of sand bags, sand scraping, or renourishment, or a combination of them, is allowed pursuant to emergency orders (SC R. 30-1.C).
- *Endangered Species* - The term includes any species or subspecies of fish or wildlife appearing on the United States' List of Endangered Native Fish and Wildlife as well as any species or subspecies of fish and wildlife appearing the United States' List of Endangered Foreign Fish and Wildlife. In addition it includes any species or subspecies of wildlife whose prospects of survival or recruitment within the state are in jeopardy or are likely within the foreseeable future to become so due to any of the following factors:
  1. the destruction, drastic modification, or severe curtailment of its habitat
  2. its over utilization for scientific, commercial, or sporting purposes
  3. the effect on the species of disease, pollution, or predation
  4. other natural or manmade factors affecting the species' prospects of survival or recruitment within the state
  5. any combination of the foregoing factors.
- *Erosion Control Structures and Beach Nourishment* - (SC R. 30-1.C):
  1. *Seawall* - a special type of retaining wall that is specifically designed to withstand wave forces.
  2. *Bulkhead* - a retaining wall designed to retain fill material but not to withstand wave forces on an exposed shoreline.

3. *Revetment* - a sloping structure built along an escarpment or in front of a bulkhead to protect the shoreline or bulkhead from erosion.
  4. *Minor Development Activity* - the construction, maintenance, repair or alteration of any private pier or erosion control structure, the construction of which does not involve dredging.
  5. *Beach Nourishment* - the artificial establishment and periodic renourishment of a beach with sand that is compatible with the beach in such a way as to create a dry sand beach at all stages of the tide.
- *Land Disturbing Activity* - any use of the land by any person that results in a change in the natural cover or topography which may cause erosion and contribute to sediment and alter the quality and quantity of stormwater runoff (SC R.72-301).
  - *Marinas* - a marina is any of the following (SC R. 30-1.C):
    1. locked harbor facility
    2. any facility that provides fueling, pump-out maintenance, or repair services (regardless of length)
    3. any facility that has permanent docking space of greater than 200 ft.
  - *Normal Maintenance and Repair* - work performed on any structure within the critical area as part of a routine and ongoing program to maintain the integrity of the structure provided that the structure is still generally intact and functional in its present condition and the work only extends to the original dimensions of the structure (SC R. 30-1.C).
  - *OCRM* - the South Carolina Department of Health and Environmental Control's Office of Ocean and Coastal Resource Management (SC R. 30-1.C).
  - *Tidelands* - all areas at or below mean high tide and coastal wetlands, mudflats, and similar areas contiguous or adjacent to coastal waters and are an integral part of the estuarine systems involved. Coastal wetlands include marshes, mudflats, and shallows and means those areas periodically inundated by saline waters whether or not the saline waters reach the area naturally or through artificial water courses and those areas normally characterized by the prevalence of saline water vegetation capable of growth and reproduction. Tidelands does not apply to wetland areas that are not an integral part of an estuarine system (SC R. 30-1.C).

NATURAL RESOURCES MANAGEMENT GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS	
REFER TO CHECKLIST ITEMS:	
Water Resource Management Wildlife	NR.15.1.SC. through NR.15.5.SC. NR.20.1.SC.

GUIDANCE FOR APPENDIX USERS	
REFER TO APPENDIX NUMBERS:	REFER TO APPENDIX TITLES:
5-1	South Carolina Threatened and Endangered Animal Species
5-2	South Carolina Threatened and Endangered Plant Species



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**REGULATORY REQUIREMENTS:**

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**NR.15.**  
**WATER RESOURCE**  
**MANAGEMENT**

**NR.15.1.SC.** Alteration of a critical area requires a valid permit from the Coastal Council (SC R 30-2.B, 30-5.A, and 30-15.A) [Revised November 1997].

**NR.15.1.SC.** Alteration of a critical area requires a valid permit from the Coastal Council (SC R 30-2.B, 30-5.A, and 30-15.A) [Revised November 1997].

Verify that the installation/CW facility has a valid SCDHEC-OCRM permit prior to altering any critical areas.

(NOTE: The following activities in a critical area are exempt from the permitting requirement:

- the accomplishment of emergency orders of an appointed official of a county or municipality or of the state acting to protect the public health and safety upon written notification to the Coastal Council (see NR.15.2.SC. below for notification requirements)
- hunting, erecting duckblinds, fishing, shellfishing, and trapping when and where otherwise permitted
- the conservation, replenishment, and research activities of state agencies and educational institutions
- boating or other recreation provided that flora, fauna, or the physical or aesthetic resources of the area are not harmed
- the discharge of treated effluent
- dredge and fill performed by the U. S. Army Corps of Engineers (USACE) for the maintenance of harbor channels and the collection and disposal of the materials dredged
- the construction of walkways over sand dunes
- emergency repairs to an existing bank, dike, fishing pier, or structure other than oceanfront erosion control structures or devices
- maintenance and repair of drainage and sewer facilities or any utility or railroad
- normal maintenance or repair to any pier or walkway provided that it does not involve dredge or fill
- construction or maintenance of a major utility facility
- repair of habitable structures and pools determined to be damaged less than 66.67 percent, with approval from the Coastal Council
- repair of erosion control structures or devices, determined to be damaged less than 66.67 percent above grade (or 50 percent above grade after 30 June 2005), with approval from the Coastal Council.)

(NOTE: Wooden walkways no larger in width than six feet are the only structures allowed seaward of the baseline that do not require a permit.)

(NOTE: The following activities in a critical area are exempt from the permitting requirement:

- the accomplishment of emergency orders of an appointed official of a county or municipality or of the state acting to protect the public health and safety upon written notification to the Coastal Council (see NR.15.2.SC. below for notification requirements)
- hunting, erecting duckblinds, fishing, shellfishing, and trapping when and where otherwise permitted
- the conservation, replenishment, and research activities of state agencies and educational institutions
- boating or other recreation provided that flora, fauna, or the physical or aesthetic resources of the area are not harmed
- the discharge of treated effluent
- dredge and fill performed by the U. S. Army Corps of Engineers (USACE) for the maintenance of harbor channels and the collection and disposal of the materials dredged
- the construction of walkways over sand dunes
- emergency repairs to an existing bank, dike, fishing pier, or structure other than oceanfront erosion control structures or devices
- maintenance and repair of drainage and sewer facilities or any utility or railroad
- normal maintenance or repair to any pier or walkway provided that it does not involve dredge or fill
- construction or maintenance of a major utility facility
- repair of habitable structures and pools determined to be damaged less than 66.67 percent, with approval from the Coastal Council
- repair of erosion control structures or devices, determined to be damaged less than 66.67 percent above grade (or 50 percent above grade after 30 June 2005), with approval from the Coastal Council.)

(NOTE: Wooden walkways no larger in width than six feet are the only structures allowed seaward of the baseline that do not require a permit.)

- the accomplishment of emergency orders of an appointed official of a county or municipality or of the state acting to protect the public health and safety upon written notification to the Coastal Council (see NR.15.2.SC. below for notification requirements)
  - hunting, erecting duckblinds, fishing, shellfishing, and trapping when and where otherwise permitted
  - the conservation, replenishment, and research activities of state agencies and educational institutions
  - boating or other recreation provided that flora, fauna, or the physical or aesthetic resources of the area are not harmed
  - the discharge of treated effluent
  - dredge and fill performed by the U. S. Army Corps of Engineers (USACE) for the maintenance of harbor channels and the collection and disposal of the materials dredged
  - the construction of walkways over sand dunes
  - emergency repairs to an existing bank, dike, fishing pier, or structure other than oceanfront erosion control structures or devices
  - maintenance and repair of drainage and sewer facilities or any utility or railroad
  - normal maintenance or repair to any pier or walkway provided that it does not involve dredge or fill
  - construction or maintenance of a major utility facility
  - repair of habitable structures and pools determined to be damaged less than 66.67 percent, with approval from the Coastal Council
  - repair of erosion control structures or devices, determined to be damaged less than 66.67 percent above grade (or 50 percent above grade after 30 June 2005), with approval from the Coastal Council.)
- (NOTE: Wooden walkways no larger in width than six feet are the only structures allowed seaward of the baseline that do not require a permit.)

(NOTE: Wooden walkways no larger in width than six feet are the only structures allowed seaward of the baseline that do not require a permit.)

**NR.15.2.SC.** Installations/CW facilities acting under emergency orders must

Verify that, if the installation/CW facility receives emergency orders to perform an activity that normally requires a permit, the Coastal Council is notified in

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<p>meet specific notification standards (SC R.30-5.B and C).</p> <p><b>NR.15.3.SC.</b> Activities conducted between the setback line and baseline must meet specific notification requirements (SC R 30-16) [Added November 1997].</p>	<p>writing prior before commencement of the activity.</p> <p>Verify that the notification includes the following:</p> <ul style="list-style-type: none"> <li>- the nature of the emergency order</li> <li>- the substance of the emergency order</li> <li>- the time the order will be issued or when the order was issued</li> <li>- the name of the local official executing the order and the authority under which that person was acting</li> <li>- the location of the activity ordered</li> <li>- an estimate of when such orders will be withdrawn.</li> </ul> <p>Verify that the Coastal Council is notified of emergency repairs to any existing bank, dike, or fishing pier according to the following schedule:</p> <ul style="list-style-type: none"> <li>- by telephone, telegram, or radio; within 72 h of commencement of the repairs</li> <li>- in writing; within 5 days of commencement of repairs.</li> </ul> <p>(NOTE: The following activities require written notification to and written response from the Department:</p> <ul style="list-style-type: none"> <li>- construction of new habitable structures at least partially seaward of the 40-yr setback line</li> <li>- additions to habitable structures</li> <li>- replacement of habitable structures</li> <li>- construction of new pools between the baseline and the setback line and landward of an erosion control device which existed 25 June 1990</li> <li>- replacement of pools.)</li> </ul> <p>Verify that the Department is notified and issues a written response prior to beginning activities between the setback line.</p> <p>Verify that the notification includes the following:</p> <ul style="list-style-type: none"> <li>- for new habitable structures and additions to habitable structures: <ul style="list-style-type: none"> <li>- heated square footage of the proposed habitable structure or proposed addition</li> <li>- plat showing footprint and cross section showing foundation of new structure as located on lot; also, all property lines, setback lines and any parking requirements which may be in effect must be shown (the structure or addition must be located as far landward on the property as practicable as determined by the Department)</li> </ul> </li> <li>- for additions, the plat must clearly differentiate, between the original structure and proposed additions</li> <li>- for replacement structures: <ul style="list-style-type: none"> <li>- heated square footage of original and proposed replacement structure</li> </ul> </li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
<p><b>NR.15.4.SC.</b> Construction, repair, alteration, or removal of an existing dam must be permitted (CLSC 49-11-200) [Revised November 1996].</p>	<ul style="list-style-type: none"> <li>- linear footage along the coast of proposed replacement and original structure</li> <li>- plat showing footprint and cross section showing foundation of proposed replacement structure</li> <li>- for replacement of destroyed pools, a plat showing footprint and cross section of the original and replacement pool.</li> </ul> <p>Verify that installations/CW facilities which construct a new dam or repair, alter, or remove an existing dam have written approval from the Commission.</p>
<p><b>NR.15.5.SC.</b> Land disturbing activities must have an approved stormwater management and sediment control plan (SC R 72-300, 72-302, and 72-305 [Revised November 1997]).</p>	<p>(NOTE: The following activities are exempt from these requirements:</p> <ul style="list-style-type: none"> <li>- activities on agricultural land for production of plants and animals useful to humans</li> <li>- activities undertaken on forest land for the production and harvesting of timber and timber products</li> <li>- construction or improvement of single family residences or their accessory buildings that are separately built and not part of multiple construction in a subdivision development</li> <li>- activities permitted under another state or Federal regulation</li> <li>- activities undertaken to provide gas, electrification, or communications services subject to the jurisdiction of the South Carolina Public Service Commission</li> <li>- activities related to the routine maintenance and/or repair or rebuilding of the tracks, rights-of-way, bridges, communication facilities, and other related structures and facilities of a railroad company.)</li> </ul> <p>Verify that installations/CW facilities which conduct land disturbing activities have a stormwater management and sediment control plan approved by the appropriate plan approval agency.</p> <p>Verify that stormwater management and sediment control plans are approved prior to any land disturbing activity</p> <p>(NOTE: Land disturbing activities involving 2 acres or less of actual land disturbance that are not part of a larger common plan of development or sale must also submit a stormwater management and sediment control plan, but approval for the plan is not required.)</p>





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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> November 1997
<p><b>NR.20. WILDLIFE</b></p> <p><b>NR.20.1.SC.</b> Installations/CW facilities must not take, possess, transport, export, process, sell or offer for sale, or ship endangered species (South Carolina <i>Nongame and Endangered Species Conservation Act</i>, Section 50-15-30).</p>	<p>Determine whether the installation/CW facility has any of the endangered or threatened species listed in Appendix 5-1 or 5-2.</p> <p>Verify that no endangered or threatened species are taken, possessed, transported, exported, processed, sold or offered for sale, or shipped.</p>



## Appendix 5-1

### South Carolina Threatened and Endangered Animal Species (Source: The Heritage Trust, Elements of Concern: Animals)

Status	Common Name	Scientific Name
E	Shortnose Sturgeon	<i>Acipenser brevirostrum</i>
T	American Alligator	<i>Alligator mississippiensis</i>
E	Flatwoods Salamander	<i>Ambystoma cingulatum</i>
T	Loggerhead Turtle	<i>Caretta caretta</i>
T	Bog Turtle	<i>Clemmys muhlenbergii</i>
E	American Swallow-tailed Kite	<i>Elanoides forficatus</i>
T	Carolina Darter	<i>Etheostoma collis collis</i>
T	Southern Coal Skink	<i>Eumeces anthracinus pluvialis</i>
E	Eastern Cougar	<i>Felis concolor cougar</i>
E	Gopher Tortoise	<i>Gopherus polyphemus</i>
E	Bald Eagle	<i>Haliaeetus leucocephalus</i>
T	Pin Barrens Treefrog	<i>Hyla andersonii</i>
E	Wood Stork	<i>Mycteria americana</i>
T	Small-footed bat	<i>Myotis Leibii</i>
E	Red-cockaded Woodpecker	<i>Picoides borealis</i>
E	Rafinesque's Big-eared Bat	<i>Plecotus Rafinesquii</i>
E	Webster's Salamander	<i>Plethodon websteri</i>
T	Broad-striped Dwarf Siren	<i>Pseudobranchius striatus striatus</i>
T	Sandhills Chub	<i>Semotilus lumbee</i>
E	Bachman's Warbler	<i>Vermivora bachmanii</i>

E = endangered

T = threatened



## Appendix 5-2

### South Carolina Threatened and Endangered Plant Species

(Source: The Heritage Trust, Elements of Concern: Plants)

Status	Common Name	Scientific Name
E	Black-spored Quillwort	<i>Isoetes melanospora</i>
E	Small Whorled Pogonia	<i>Isotria medeoloides</i>
E	n.a.	<i>Sisyrinchium dichotomum</i>
E	Persistent Trillium	<i>Trillium persistens</i>
E	Relict Trillium	<i>Trillium reliquum</i>
E	Schweinitz's Sunflower	<i>Helianthus schweinitzii</i>
T	Dwarf-flowered Heartleaf	<i>Hexastylis naniflora</i>
E	Pondberry	<i>Lindera Melissifolia</i>
E	Rough-leaved Loosestrife	<i>Lysimachia asperulifolia</i>
E	Canby's Dropwort	<i>Oxypolis canbyi</i>
E	Harperella	<i>Ptilimnium nosdosum</i>
E	Michaux's Sumac	<i>Rhus michauxii</i>
E	Miccosukee Gooseberry	<i>Ribes echinellum</i>
E	Mountain Sweet Pitcher-plant	<i>Sarracenia rubra</i> ssp. <i>jonesii</i>
E	Chaffseed	<i>Schwalbea americana</i>

E = endangered

T = threatened

## **SECTION 6**

### **OTHER ENVIRONMENTAL ISSUES**

**South Carolina Supplement, November 1997**

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.



<b>OTHER ENVIRONMENTAL ISSUES GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS</b>
<b>REFER TO CHECKLIST ITEMS:</b>
<p>The NEPA Process Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.</p> <p>Environmental Noise State-Specific Requirements                      OO.2.5.1.SC.</p> <p>IRP Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.</p> <p>Pollution Prevention Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.</p> <p>Program Management Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.</p>





**COMPLIANCE CATEGORY:  
OTHER ENVIRONMENTAL ISSUES MANAGEMENT  
South Carolina Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>ENVIRONMENTAL NOISE</b></p> <p><b>OO.2.5. State-Specific Requirements</b></p> <p><b>OO.2.5.1.SC.</b> Motor vehicles must be equipped with noise abatement equipment (South Carolina Traffic Regulation 56-5-5020).</p>	<p>Verify that motor vehicles are equipped with a muffler in good working order and in constant operation to prevent excessive or unusual noise and annoying smoke.</p> <p>Verify that no muffler cutouts, bypasses, or similar devices are used on a motor vehicle used on a highway.</p>

## SECTION 7

### PESTICIDE MANAGEMENT

South Carolina Supplement, November 1997

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.

#### Definitions

- *Bulk* - means in nonpackaged form (South Carolina Regulations, Chapter 27, Section 182 (SC R. 27-182)).
- *Check Valve* - a device effectively designed and constructed to provide an absolute closure which prohibits, when operation of the irrigation system pump ceases, the flow of material past the closure point of the valve in the opposite direction of the pumping of water (SC R. 27-1090).
- *Department of Fertilizer and Pesticide Control* - a department within the Division of Regulatory and Public Service Programs, Clemson University (SC R.27-1070).
- *Director* - the Director of the Division of Regulatory and Public Service Programs, College of Agricultural Sciences, Clemson University (SC R.27-1070).
- *Distribute* - to import, consign, manufacture, produce, compound, mix, or blend soil amendments, or offer for sale, sell, barter, or otherwise supply soil amendments in this state (SC R. 27-182).
- *Irrigation System* - any device or combination of devices that convey water from any source of ground or surface water through hoses, pipes, or other such methods to agricultural crops, nursery, turf, golf course, greenhouse sites, or land (SC R. 27-1090).
- *Vacuum Breaker* - a device designed and constructed to automatically relieve the vacuum in an irrigation pipeline (SC R. 27-1090).



<b>PESTICIDE MANAGEMENT GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS</b>	
<b>REFER TO CHECKLIST ITEMS:</b>	
Pesticide Applicators	PM.5.1.SC.
Pesticide Application	
General	PM.10.1.SC. and PM.10.2.SC.
Aerial	PM.25.1.SC.
Other	PM.35.1.SC.
Documentation	PM.40.1.SC.
Storage, Mixing, Preparation	PM.45.1.SC.



<b>COMPLIANCE CATEGORY:</b> <b>PESTICIDE MANAGEMENT</b> <b>South Carolina Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
<p><b>PM.5.</b> <b>PESTICIDE</b> <b>APPLICATORS</b></p> <p><b>PM.5.1.SC.</b> Restricted use pesticide applicators must meet certain qualifications (SC R 27-1077.C, 27-1078.C, 27-1079.C, and 27-1080) [Added November 1997].</p>	<p>(NOTE: See Appendix 7-1 for a list of state restricted use pesticides.)</p> <p>Verify that persons applying restricted use pesticides hold one of the following:</p> <ul style="list-style-type: none"> <li>- a private applicator's license</li> <li>- a commercial applicator's license</li> <li>- a non-commercial applicator's license.</li> </ul> <p>Verify that a person holding a private applicator's license uses or supervises the use of a pesticide which is classified for restricted use only for purposes of producing an agricultural commodity, including forestry products, on property owned or rented by him or his employer or (if applied without compensation other than trading of personal services between producers of agricultural commodities) on the property of another person.</p> <p>Verify that a person holding a commercial applicator's license uses restricted use pesticides, but only for work in the specific categories in which the commercial applicator has demonstrated competence.</p> <p>(NOTE: Commercial applicator's licenses will be issued for the following eleven specific categories of commercial pesticide operations:</p> <ul style="list-style-type: none"> <li>- agricultural pest control (either for plants or animals)</li> <li>- forest pest control</li> <li>- ornamental and turf pest control</li> <li>- seed treatment</li> <li>- aquatic pest control</li> <li>- right-of-way pest control</li> <li>- industrial, institutional, structural and health related pest control (either for general purposes or for fumigation)</li> <li>- public health pest control</li> <li>- regulatory pest control</li> <li>- demonstration and research pest control</li> <li>- aerial applicator.)</li> </ul> <p>Verify that persons holding a noncommercial applicator's license use restricted use pesticides only for work in the specific categories, as outlined for commercial applicators above, in which the applicator has demonstrated competence.</p> <p>(NOTE: Noncommercial applicator's licenses are issued to permit various qualified governmental employees to perform their official duties on the job</p>

<b>COMPLIANCE CATEGORY:</b> <b>PESTICIDE MANAGEMENT</b> <b>South Carolina Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
	without payment of a fee.)  (NOTE: Doctors and veterinarians are exempt from this licensing requirement when they apply pesticides in the normal course of their professional duties.)



<b>COMPLIANCE CATEGORY:</b> <b>PESTICIDE MANAGEMENT</b> <b>South Carolina Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
<b>PESTICIDE APPLICATION</b>  <b>PM.10. General</b>  <b>PM.10.1.SC.</b> Pesticides must be safely and properly used (SC R 27-1084.A.1 and 2) [Revised November 1997].  <b>PM.10.2.SC.</b> Personnel who hold Federal experimental-use permits must notify the Director (SC R 27-1071.B).	<p>Verify that personnel do not engage in the following activities:</p> <ul style="list-style-type: none"> <li>- application, mixing, loading, storage, or disposal of a pesticide inconsistent with its labeling of the USEPA or the state registration</li> <li>- making false or fraudulent records, invoices, or reports.</li> </ul> <p>Verify that personnel who hold Federal experimental-use permits for experiments in the state notify the Director regarding the pesticides to be used and the locations within the state where the product will be used.</p>



<b>COMPLIANCE CATEGORY:</b> <b>PESTICIDE MANAGEMENT</b> <b>South Carolina Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
<b>PESTICIDE APPLICATION</b>  <b>PM.25.</b> <b>Aerial</b>  <b>PM.25.1.SC.</b> Aircraft loading zones must be delimited and posted (SC R 27-1083.E)      [Added November 1997].	<p>Verify that all aircraft pesticide loading zones are adequately delimited and posted as a general warning to the public that toxic and dangerous pesticides (or the empty containers) may be stored in the area, and especially that pesticides may have been spilled on the ground in the area.</p> <p>(NOTE: Conformance with these requirements does not relieve any person from liability for injury or damage to another person caused by the pesticides, either while being stored or after spillage on the ground.)</p>



COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT South Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: November 1997
<b>PESTICIDE APPLICATION</b>  <b>PM.35.</b> <b>Other</b>	<p>(NOTE: Chemigation means any process whereby chemicals are applied to land and or agricultural commodities including, but not limited to: agricultural crops, nursery, turf, golf course or greenhouse sites, through an irrigation system. Irrigation systems connected to public water supplies are regulated under the South Carolina Department of Health and Environmental Control's State Safe Drinking Water Act and State Primary Drinking Water Regulations and must meet the requirements in these statutes in lieu of the Chemigation law or regulations.)</p>
<b>PM.35.1.SC.</b> Chemigation operations must meet backflow prevention requirements (SC R 27-1092.A through E) [Added November 1997].	<p>Verify that anti-siphon devices are not altered in any way that negates their effectiveness, that they are constructed of materials resistant to chemicals and maintained functionally free of corrosion or other build up, and that they remain operative at all times when chemigating.</p> <p>Verify that the low pressure drain and the vacuum breaker are placed between the check valve and the water source.</p> <p>(NOTE: The relative position of the vacuum breaker and the low pressure drain to each other is unimportant.)</p> <p>Verify that Regulatory Programs is notified of any actual or suspected contamination of the water source resulting from chemigation.</p> <p>Verify that records of chemigation applications are maintained for a period of two years, are shown to Regulatory Programs agent upon request, and include: type chemical applied, date, rate of chemical applied, site, and water source.</p> <p>(NOTE: These records can be met as notations on the chemical purchase invoice or production logs.)</p> <p>Verify that all chemical label requirements for chemigation are followed when chemigating.</p>



<b>COMPLIANCE CATEGORY:</b> <b>PESTICIDE MANAGEMENT</b> <b>South Carolina Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
<b>PESTICIDE APPLICATION</b>  <b>PM.40.</b> <b>Documentation</b>  <b>PM.40.1.SC.</b> Records of the use of restricted-use pesticides must be maintained (SC R 27-1083.C.1 through 3) [Revised November 1997].	<p>Verify that records are maintained of all applications of restricted-use pesticides, including the following:</p> <ul style="list-style-type: none"> <li>- the quantity of each pesticide used</li> <li>- the chemical or common name of the active pesticidal ingredient(s) (not the product name)</li> <li>- the pest or purpose for which the pesticide was applied</li> <li>- the date and place of application.</li> </ul> <p>(NOTE: It is not necessary to list the pests involved for general household insect control or for general insect control measures in commercial and industrial establishments.)</p> <p>Verify that the records for restricted-use pesticides are maintained for 2 yr.</p> <p>(NOTE: See Appendix 7-1 for a list of state restricted-use pesticides.)</p>





**COMPLIANCE CATEGORY:  
PESTICIDE MANAGEMENT  
South Carolina Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>PM.45. STORAGE, MIXING, PREPARATION</b></p> <p><b>PM.45.1.SC.</b> Storage and display of pesticides by wholesalers, dealers, and retailers must meet specific requirements (SC R 27-1081.B through D) [Revised November 1997].</p>	<p>Verify that storage of pesticides in quantity (both general use and restricted use items) by wholesalers, dealers and retailers, meets the following requirements.</p> <ul style="list-style-type: none"> <li>- all pesticides stored in quantity are stored in well ventilated rooms, well away from all food or feed items, and in such manner as to prevent fumes from contaminating food or feed</li> <li>- pesticides are separated during storage, preferably in bins, depending upon the type of pesticide (i.e., herbicides, insecticides, fungicides, et cetera, should be stored separately from each other)</li> <li>- herbicides are not stored in a bin on top of, or located above, any other type of pesticide, to preclude accidental contamination of other pesticides by leakage or spillage.</li> </ul> <p>Verify that the display of pesticides (both general use and restricted use items) by dealers and retailers meets the following requirements:</p> <ul style="list-style-type: none"> <li>- all pesticides offered for sale are in the registrant's original container</li> <li>- all restricted use pesticides are separated from general use pesticides in displays of pesticides offered for sale to the general public</li> <li>- herbicides are separated from all other types of pesticides when displayed for sale to the general public</li> <li>- herbicides are not displayed in a position above other types of pesticides, to preclude accidental contamination of other pesticides by leakage or spillage</li> <li>- all pesticides on display to the general public, are displayed at a minimum distance of 25 ft from all fresh, soft, loosely packaged or other types of food or feed items that can or may absorb odors from the pesticides (examples of such food items would be bread, pastries, potatoes, fresh meats, cheese, macaroni and candy)</li> <li>- all pesticides are displayed at a minimum distance of 4 ft from canned foods or any other type of food or edible item.</li> </ul> <p>(NOTE: The following types of pesticides are exempt (unless classified as restricted use pesticides) from storage and display requirements above; they must still be in the original containers:</p> <ul style="list-style-type: none"> <li>- bleach products</li> <li>- disinfectant products</li> <li>- pet animal and tropical fish treatment products</li> <li>- sink drain and toilet bowl products</li> <li>- paint products.)</li> </ul>



## Appendix 7-1

### State Restricted Use Pesticides (Source: SC R 27-1075B, Appendix A)

Active Ingredient	Formulations	Use Pattern
chlordane	All	All uses
aldrin	All	All uses
endrin	All	All uses
heptachlor	All	All uses
dieldrin	All	All uses

## SECTION 8

### PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT

South Carolina Supplement, November 1997

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.

#### Definition

- *Used Oil* - any oil which has been refined from crude or synthetic oil and, as a result of use, storage, or handling, has become unsuitable for its original purpose due to the presence of impurities or loss of original properties, but which may be suitable for further use and may be economically recyclable (SC R. 61-107.279.1).



<b>PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS</b>
<b>REFER TO CHECKLIST ITEMS:</b>
Used Oil Generators PO.65.1.SC. Dust Suppression With Used Oil PO.90.1.SC.



**COMPLIANCE CATEGORY:**  
**PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT**  
**South Carolina Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> November 1997
<p><b>PO.65.</b>  <b>USED OIL GENERATORS</b></p> <p><b>PO.65.1.SC.</b> Used oil must be managed in accordance with specific prohibitions (SC R 61-107.279.12.a and d through k) [Added November 1997].</p>	<p>Verify that used oil is not managed in surface impoundments or waste piles unless the units are subject to regulation as hazardous waste facilities.</p> <p>Verify that no person knowingly mixes or commingles used oil with municipal solid waste that is to be disposed in a municipal solid waste landfill, or discards or otherwise disposes of used oil, except by delivery to a used oil collection facility, used oil energy recovery facility, oil recycling facility.</p> <p>Verify that no person knowingly disposes of used oil in a solid waste disposal facility unless the disposal is approved by the Department.</p> <p>Verify that no person knowingly places in a solid waste disposal facility wipers (shop towels, rags and industrial wipers) or sorptive materials (clays and diatomaceous earth) which are capable of releasing free flowing used oil.</p> <p>(NOTE: For the purposes of this regulation, free flowing used oil means any material 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).)</p> <p>Verify that no person knowingly collects, transports, stores, recycles, uses or disposes of used oil in any manner which endangers public health or welfare or the environment.</p> <p>Verify that no person knowingly discharges used oil into sewers, drainage systems, septic tanks, surface water or groundwater, or any other waters of this State, or onto the ground.</p> <p>Verify that no person knowingly mixes or commingles used oil with hazardous substances that make it unsuitable for recycling or beneficial use.</p> <p>Verify that no person knowingly disposes of any used oil which has not been properly segregated or separated from other solid wastes by the generator.</p>





**COMPLIANCE CATEGORY:**  
**PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT**  
**South Carolina Supplement**

**REGULATORY  
REQUIREMENTS:**

**REVIEWER CHECKS:**  
**November 1997**

**PO.90.**  
**DUST SUPPRESSION**  
**WITH USED OIL**

**PO.90.1.SC.** Used oil must not be used for dust suppression or related purposes (SC R 61-79.279.12.b) [Added November 1997].

Verify that no person utilizes used oil for road oiling, dust control, weed abatement, or other similar uses which have potential to cause harm to the environment.

## SECTION 9

### SOLID WASTE MANAGEMENT

#### South Carolina Supplement, November 1997

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.

#### Definitions

The definitions were taken from the following regulations: South Carolina *Solid Waste Policy and Management Act* of 1991, Regulations 61-107.10, 61-105, 61-107.5, 61-107.258.2, 61-107.7(B), 61-107.3(B), 61-107.4(B), 61-107-9 (B), 61-107.5(B), 61-107.8(B), and 61-107.258.28.

- *Active Life* - the period of municipal solid waste landfill (MSWLF) operation beginning with the initial receipt of solid waste and ending at completion of closure activities.
- *Active Portion* - that part of a MSWLF facility or unit that has received or is receiving wastes and has not been closed.
- *Ash* - the solid residue from the incineration of solid waste.
- *Backyard Composting* - the onsite composting of yard waste from residential, commercial, or industrial property by the owner or tenant for nonrevenue-generating use when all materials are generated and composted onsite.
- *Biodegradable* - capable of being decomposed by natural biological processes.
- *Board* - the South Carolina Board of Health and Environmental Control, charged with implementing the *Infectious Waste Management Act*.
- *Buffer* - the space between two entities reserved for nonactivity.
- *Certification* - a statement of professional opinion based upon knowledge and belief.
- *Closure* - the discontinuance of operation by ceasing to accept, treat, store, or dispose of solid waste so that the need for further maintenance is minimized and human health and the environment are protected. The term applies to solid waste processing facilities, solid waste transfer stations, municipal solid waste incineration, or municipal solid waste pyrolysis facilities and construction, demolition, and landclearing debris landfills.
- *Collection* - the act of picking up solid waste materials from homes, businesses, governmental agencies, institutions, or industrial sites.
- *Commercial Solid Waste* - all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.
- *Compost* - the humus-like end product of the process of composting waste.
- *Composting* - the process of making compost.

- *Composting Facility* - any facility used to provide aerobic, thermophilic decomposition of the solid organic constituents of solid waste to produce a stable, humus-like material.
- *Composting Pad* - a surface, whether soil or manufactured, at which the process of composting takes place and raw and finished materials are stored.
- *Construction* - any physical modification to the site where a potential or proposed solid waste management facility is to be located, including, but not limited to, site preparation.
- *Construction and Demolition Debris* - discarded solid wastes resulting from construction, remodeling, repair and demolition of structures, road building, and landclearing. The wastes include, but are not limited to, bricks, concrete and other masonry materials, soil, rock, lumber, road spoils, paving material, and tree and brush stumps but does not include solid waste from agricultural or silvicultural operations.
- *Container* - any portable device where a material is stored, transported, treated, disposed of, or otherwise managed.
- *Containment* - the packaging of infectious waste or the containers in which infectious waste is placed.
- *Contingency Plan* - a document setting out an organized, planned, and coordinated course of action to be followed in case of fire, explosion, release of infectious waste or infectious waste constituents, or interruption of normal procedures of infectious waste management. For solid waste processing facilities, a document acceptable to the Department setting out an organized, planned, and coordinated course of action to be followed at or by the facility in case of a fire, explosions, or other incidents that could threaten human health and safety or the environment.
- *Cover* - soil or other suitable material acceptable to the Department, or both, used to cover compacted solid waste in a land disposal site.
- *Degradable* - with respect to any material, means that the material, after being discarded, is capable of decomposing to components other than heavy metals or other toxic substances after exposure to bacteria, light, or outdoor elements.
- *Department* - for state infectious waste requirements, the South Carolina Department of Health and Environmental Control (DHEC), including personnel of the Department authorized by the Board to act on behalf of the Department or Board.
- *Destination Facility* - an infectious waste treatment facility that has received a permit from the Department or an appropriate out-of-state facility and is the facility designated by the generator as the place where waste will be transported.
- *Discharge* - for infectious waste, the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of infectious waste into or onto any land or waters of the state, including groundwater. For solid waste, the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of solid waste, including leachate, into or on any land or water.
- *Disposal* - the discharge, deposition, injection, dumping, spilling, or placing of any solid waste into or on any land or water so the substance or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters.
- *Dispose* - to discharge, deposit, inject, dump, spill, leak, or place any waste into or on any land or water, including groundwater, so the substance may enter the environment, or be emitted into the air, or discharged into any waters, including groundwater.

- *Existing Municipal Solid Waste Landfill (MSWLF) Unit* - any MSWLF unit that is receiving solid waste as of 9 October 1993. Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management.
- *Expand* - an increase in the capacity of the facility or an increase in the quantity of infectious waste received by a facility that exceeds a permit condition.
- *Expansion* - the process of increasing existing capacity of operations at an existing solid waste transfer station site, when such an increase is in conformity with the area served and the scope of operations of the original permit.
- *Facility* -
  1. for infectious waste requirements, a location or site where infectious waste is treated, stored and/ or disposed of
  2. for solid waste municipal landfill requirements, all contiguous land and structures, other appurtenances and improvements on the land used for the disposal of solid waste
  3. for construction, demolition, and landclearing debris landfills, all contiguous land, structures, other appurtenances and improvements on the land used for treating, storing, or disposing of solid waste. A facility may consist of several treatment, storage, or disposal operational units, including, but not limited to, one or more landfills, surface impoundments, or a combination thereof.
- *Floodplain* - the lowland and relatively flat areas adjoining inland and coastal areas of the mainland and offshore islands, including, at a minimum, areas subject to a 1 percent or greater chance of flooding in any given year.
- *Gas Condensate* - the liquid generated as a result of gas recovery processes at the MSWLF unit.
- *Generator* - the person producing infectious waste, except waste produced in a private residence.
- *Generator Facility* - a facility that treats infectious waste and is owned or operated by a combination or association of generators, a nonprofit professional association representing generators, or a nonprofit corporation controlled by generators, nonprofit foundation of hospitals, or nonprofit corporations wholly owned by hospitals, if the waste is generated in South Carolina and treatment is provided on a nonprofit basis.
- *Groundwater* - for MSWLF requirements, water below the land surface in a zone of saturation.
- *Hazardous Waste* - a hazardous waste as defined in R 61-79.261 Subpart A, Section 261.3 of the South Carolina Hazardous Waste Management Regulations. For solid waste transfer stations and construction, demolition, and landclearing debris landfills, the meaning provided in Section 44-56-20 of the South Carolina *Hazardous Waste Management Act*.
- *High Water Table* - the highest water levels measured in onsite monitoring wells for a period consisting of four consecutive quarters.
- *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.
- *Hygienically* - promoting health; sanitary.
- *Incineration* - the use of controlled flame combustion to thermally break down solid, liquid, or gaseous combustible wastes, producing residue that contains little or no combustible materials.

- **Incinerator** - any engineered device used in the process of controlled combustion of waste for the purpose of reducing the volume of the waste by destroying the combustible matter, leaving the noncombustible ashes or residue.
- **Industrial Solid Waste** - solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of the *Resource Conservation and Recovery Act (SC RCRA)*. The term does not include mining waste or oil and gas waste. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes:
  1. electric power generation
  2. fertilizer/agricultural chemicals
  3. food and related products/byproducts
  4. inorganic chemicals
  5. iron and steel manufacturing
  6. leather and leather products
  7. nonferrous metals manufacturing/foundries
  8. organic chemicals
  9. plastics and resins manufacturing
  10. pulp and paper industry
  11. rubber and miscellaneous plastic products
  12. stone, glass, clay, and concrete products
  13. textile manufacturing
  14. transportation equipment
  15. water treatment.
- **Infectious Waste** - any used material generated in the health care community in the diagnosis, treatment, immunization, or care of human beings. It is used material generated in autopsy or necropsy or in research pertaining to the production of biologicals that have been exposed to human pathogens. It also is used material generated in research using human pathogens and includes all the following:
  1. sharps, defined as any discarded article that may cause punctures or cuts, including but not limited to needles, syringes, Pasteur pipettes, lancets, broken glass, and scalpel blades
  2. specimens, cultures, and stocks of etiological agents, including but not limited to waste that has been exposed to human pathogens in the production of biologicals, discarded live and attenuated vaccines, culture dishes/devices used to transfer, inoculate, and mix cultures
  3. all waste unabsorbed human blood, blood products, or absorbed blood when the absorbent is supersaturated, including but not limited to serum, plasma, and other components of blood and visibly bloody body fluids such as suctioned fluids, excretions, and secretions
  4. all tissues, organs, limbs, and other body parts removed from the whole body, excluding tissues that have been preserved with formaldehyde or other approved preserving agents, and the body fluids that universal precautions apply to:
    - a. cerebrospinal fluids
    - b. synovial fluid
    - c. pleural fluid
    - d. peritoneal fluid
    - e. pericardial fluid
    - f. amniotic fluid
    - g. semen
    - h. vaginal secretions
  5. animal carcasses, body parts, and bedding when the animal has been intentionally exposed to human pathogens in research or the production of biologicals
  6. all waste generated from communicable disease isolation of the Class Four, highly communicable diseases, pursuant to the *Guidelines for Isolation Precautions in Hospitals*, published by the Centers for Disease Control and Prevention

7. any other material designated by written generator policy as infectious, or any other material designated by a generator as infectious by placing the material into a container labeled infectious
8. any solid waste that is mixed with infectious waste becomes designated as infectious, unless excluded
9. any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill of any infectious waste.

The following are not infectious waste:

1. hazardous waste that is to be managed pursuant to the Hazardous Waste Management Regulations, R 61-79, as amended
  2. radioactive waste that is managed pursuant to the Department Regulation 61-63, *Radioactive Material* (Title A)
  3. mixed waste containing regulated quantities of either or both hazardous or radioactive waste are to be managed pursuant to all applicable regulations
  4. infectious wastes generated in a private residence, except when determined by the Commissioner of the Department or his authorized agent to be an imminent or substantial hazard to public health or the environment
  5. etiologic agents or specimens being transported for purposes other than disposal to a laboratory consistent with shipping and handling requirements of the U.S. Department of Transportation, the U.S. Department of Health and Human Services, and all other applicable requirements
  6. human corpses, remains, and anatomical parts that are intended to be interred, cremated, or donated for medical research
  7. teeth returned to a patient
  8. infectious waste samples transported offsite by the USEPA or the Department for possible enforcement actions, or transportation of materials from other governmental response actions.
- *Infectious Waste Management* - the systematic control of the collection, source separation, storage, transportation, treatment, and disposal of infectious waste.
  - *Intermediate Handling Facility* - any transportation-related facility, including loading docks, parking areas, storage areas, and other similar areas where shipments of infectious waste are held and/or handled for storage during the normal course of transportation and where they may be off loaded and on loaded.
  - *Landclearing Debris* - solid waste that is generated solely from landclearing activities but does not include solid waste from agricultural or silvicultural operations.
  - *Landfill* - a disposal facility or part of a facility where solid waste is placed in or on land and that is not a land treatment facility, a surface impoundment, or an injection well.
  - *Lateral Expansion* - a horizontal expansion of the waste boundaries of an existing MSWLF unit.
  - *Leachate* - the liquid that has percolated through or drained from solid waste or other man-emplaced materials and contains soluble, partially soluble, or miscible components removed from such waste. For MSWLF requirements, a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.
  - *Lead Acid Battery* - any battery that consists of lead and sulfuric acid, is used as a power source and has a capacity of 6 V or more, except that this term does not include a small, sealed lead acid battery that means a lead acid battery weighing 25 lb or less, used in nonvehicular, non-SLI (start lighting ignition) applications.
  - *Lead Acid Battery Collection Facility* - a facility authorized by the Department to accept lead acid batteries from the public for temporary storage before recycling.
  - *Liquid Waste* - any waste material determined to contain free liquids.

- *Manifest* - the shipping document originated and signed by the generator that contains required information.
- *Materials Recovery Facility* - a solid waste management facility that provides for the extraction from solid waste of recoverable materials, materials suitable for use as a fuel or soil amendment, or any combination of such materials.
- *Mesophyllic Stage* - a biological stage in the composting process characterized by active microorganisms that favor a moderate temperature range of 20 to 45 °C (68 to 113 °F). It occurs later in compost processing after the thermophilic stage and is associated with a moderate rate of decomposition.
- *Motor Vehicle* - an automobile, motorcycle, truck, trailer, semi-trailer, truck tractor and semi-trailer combination, or any other vehicle operated on the roads of this state, used to transport persons or property, and propelled by power other than muscular power, but not including traction engines, road rollers, vehicles run only upon a track, bicycles, mopeds, farm tractors, and trailers.
- *Mulch* - wood chips, leaves, straw, etc., spread on the ground around plants to prevent evaporation of water from soil, freezing of roots, etc.
- *Municipal Solid Waste* - any solid waste, such as garbage 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, generated by commercial establishments such as stores, offices, restaurants, warehouses, and other nonmanufacturing activities except industrial facilities, and nonhazardous sludge.
- *Municipal Solid Waste Incinerator* - any solid waste incinerator, publicly or privately owned, that receives household waste. The incinerator may receive other types of solid waste, such as commercial or industrial solid waste.
- *Municipal Solid Waste Landfill (MSWLF)* - for yard trash, landclearing debris, and compost requirements, any sanitary landfill or landfill unit, publicly or privately owned, that receives household waste. The landfill may also receive other types of solid waste, such as commercial waste, nonhazardous sludge, and industrial solid waste.
- *Municipal Solid Waste Landfill (MSWLF) Unit* - a discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile. An MSWLF unit also may receive other types of RCRA subtitle D wastes, such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator (SQG) waste, and industrial solid waste. This landfill may be publicly or privately owned. An MSWLF unit may be a new MSWLF unit, an existing MSWLF unit, or a lateral expansion.
- *New Municipal Solid Waste Landfill (MSWLF) Unit* - any MSWLF unit that has not received waste prior to 9 October 1993.
- *Nonputrescible* - solid waste that contains no putrescible waste.
- *Offsite* - not onsite.
- *Onsite* - the same or geographically contiguous property that may be divided by 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.



- *Open Burning* - the combustion of solid waste without control of combustion air to maintain adequate temperature for efficient combustion, without containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and without control of the emission of the combustion products.
- *Open Dumping* - any unpermitted solid waste disposal activity.
- *Operator* -
  1. for solid waste processing facility, composting, and/or wood-chipping facility and transfer stations requirements, the person responsible for the overall operation of the facility
  2. for MSWLF requirements, any person who is principally engaged in, or is in charge of, the actual operation, supervision, and maintenance of a solid waste management facility, including the person in charge of a shift or period during any part of the day.
- *Permit* - the process the Department uses to ensure cognizance of, as well as control over, the management of solid wastes.
- *Person* - an individual, corporation, company, association, partnership, unit of local government, state agency, Federal agency, or other legal entity.
- *Processed Tire* - a waste tire that has been cut, shredded, burned, or otherwise altered so it is no longer whole.
- *Putrescible* - solid waste composed of items, such as foods, that will decompose and rot to produce a foul-smelling odor.
- *Pyrolysis* - the chemical decomposition of a material by heat in the absence of oxygen.
- *Quantity* - means either volume or actual number of tires. For purposes of the waste tire requirements, assume there are 100 tires/ton and 10 whole tires/yd<sup>3</sup>.
- *Recovered Materials* - materials that have known use, reuse, or recycling potential; can be feasibly used, reused, or recycled; and have been diverted or removed from the solid waste stream for sale, use, reuse, or recycling, whether or not requiring subsequent separation and processing; does not include materials when recycled or transferred to a different site for recycling in an amount that does not equal at least 75 percent by weight of materials received during the previous calendar year.
- *Recovered Materials Processing Facility* - a facility engaged solely in the recycling, storage, processing and resale, or reuse of recovered materials. The term does not include a solid waste handling facility. However, any solid waste generated by such a facility is subject to solid waste requirements.
- *Residual* - any liquid, sludge, metal, fabric, or byproduct resulting from the processing or storage of tires. Residual does not include processed tires held for recycling or disposal.
- *Resource Recovery* - the process of obtaining material or energy resources from solid waste that no longer has any useful life in its present form and preparing the waste for recycling.
- *Resource Recovery Facility* - a combination of structures, machinery, or devices used to separate, process, modify, convert, treat, or prepare collected solid waste so component materials, substances, or recoverable resources may be used as a raw material or energy source.
- *Runoff* - any rainwater, leachate, or other liquid that drains over land from any part of a facility.
- *Run-On* - any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

- *Saturated Zone* - that part of the earth's crust where all voids are filled with water.
- *Silviculture Waste* - waste materials produced from the care and cultivation of forest trees, including bark and wood chips.
- *Sludge* - any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.
- *Small Quantity Generator (SQG)* - in-state generators that produce less than 50 lb of infectious waste per calendar month.
- *Solid Waste* -
  1. any garbage, refuse, or sludge from a waste treatment facility, water supply plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agriculture operations and from community activities. This term does not include solid or dissolved material in domestic sewage, solid or dissolved materials in irrigation return flows, industrial discharges that are point sources subject to Federal permits, or source, special nuclear, or byproduct material as defined by the *Atomic Energy Act* of 1954, as amended.
  2. for collection, temporary storage and transportation of municipal solid waste, solid waste processing facilities, transfer stations, municipal solid waste incineration and municipal solid waste pyrolysis facilities, and composting and/or wood-chipping facilities, solid waste does not include recovered materials or application of fertilizer and animal manure during normal agricultural operations or refuse as defined and regulated pursuant to the *South Carolina Mining Act*, including processed mineral waste, that will not have a significant adverse impact on the environment
  3. for composting and/or wood-chipping facilities and collection, temporary storage, and transportation of municipal solid waste requirements, the term does not include dissolved materials in irrigation return flows or industrial discharges that are point sources subject to state permits.
- *Solid Waste Handling Facility* - any facility engaged in the handling of solid waste.
- *Solid Waste Management* - for municipal solid waste incineration and municipal solid waste pyrolysis facilities and solid waste research, development, and demonstration facilities, systematic control of the generation, collection, source separation, storage, transportation, treatment, recovery, and disposal of solid waste.
- *Solid Waste Management Facility* - any solid waste disposal area, volume reduction plant, transfer station, or other facility that has the purpose of storage, collection, transportation, treatment, utilization, processing, recycling, disposal, or any combination thereof, of solid waste. The term does not include a recovered materials processing facility or facilities that use or ship recovered materials, except the portion of the facilities managing solid waste. Applies to municipal solid waste incineration and municipal solid waste pyrolysis facilities; solid waste research, development, and demonstration facilities; solid waste processing facilities; composting and wood-chipping facilities; and solid waste transfer stations.
- *Solid Waste Processing Facility* - a combination of structures, machinery, or devices used to reduce or alter the volume, chemical, or physical characteristics of solid waste through processes such as baling or shredding before delivery of such waste to a recycling or resource recovery facility or to a solid waste treatment, storage, or disposal facility, and excludes collection vehicles.
- *Solid Waste Storage Container* - large receptacles such as green boxes or dumpsters used as a central collection point for the temporary storage of solid waste. This term does not include storage containers used by a single family unit or to regulated litter receptacles. Any solid waste storage container used at a food service facility,

regardless of size, is subject to collection, temporary storage, and transportation of municipal solid waste container requirements.

- *Special Waste* - nonresidential or commercial solid wastes, other than regulated hazardous wastes, that are either difficult or dangerous to handle and require unusual management at MSWLFs including, but not limited to:
  1. pesticide wastes
  2. liquid wastes and bulk liquid wastes
  3. sludges
  4. wastes generated as a direct or indirect result of the manufacture of a product or the performance of a service, including, but not limited to, spent pickling liquors, cutting oils, chemical catalysts, distillation bottoms, etching acids, equipment cleanings, point sludges, core sands, metallic dust sweepings, asbestos dust, and off-specification, contaminated, or recalled wholesale or retail products; but excluding uncontaminated packaging materials, uncontaminated machinery components, landscape waste and construction, or demolition debris
  5. wastes from a pollution control process
  6. residue or debris from the cleanup of a spill or release of chemical substances, commercial products, or wastes listed in this definition
  7. soil, water, residue, debris, or articles that are contaminated from the cleanup of a facility or site formerly used for the generation, storage, treatment, recycling, reclamation, or disposal of wastes listed in this definition
  8. containers and drums.
- *State* - the State of South Carolina.
- *Storage* - the actual or intended holding of infectious wastes, either on a temporary basis or for a period of time, in a manner as not to constitute disposing of the wastes.
- *Structural Integrity* - the ability of a unit to withstand physical forces exerted upon designed components, appurtenances, and containment structures, such as liners and dikes, of the unit.
- *Supersaturated* - the condition when any absorbent material contains enough fluid so it freely drips that fluid or, if lightly squeezed, that fluid would drip from it.
- *Surface Water* - lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within territorial limits, and all other bodies of surface water, natural or artificial, inland or coastal, fresh, or salt, public or private.
- *Temporarily* - for the purposes of the requirements for waste tires, a time period of less than 30 days.
- *Temporary Storage* - the containment of solid waste for a period of not more than 7 days before the ultimate disposal of the waste, such as green boxes for temporary storage of solid waste.
- *Thermophilic Stage* - a biological stage in the composting process characterized by active microorganisms that favor a high temperature range of 45 to 75 °C (113 to 167 °F). It occurs early in a composting process before the mesophyllic stage and is associated with a high rate of decomposition.
- *Tire* - a continuous solid or pneumatic rubber covering encircling the wheel of a motor vehicle, trailer, or motorcycle. It does not include an industrial press-on tire, with a metal or solid compound rim, that may be retooled.
- *Tire Disposal* - to deposit, dump, spill, or place any waste tire, processed tire, or residuals into or upon any land or water.

- *Tire Recycling* - any process where waste tires, processed tires, or residuals are reused or returned to use in the form of products or raw materials.
- *Transfer Facility* - any transportation-related facility at which shipments of infectious waste are held during the normal course of transportation, but are not off loaded or on loaded into fixed storage areas.
- *Transfer Station* - a combination of structures, machinery, or devices at a place or facility where solid waste is taken from collection vehicles and placed in other transportation units, with or without reduction of volume, for movement to another solid waste management facility.
- *Transport* - the movement of infectious waste from the generation site to a treatment facility or site for intermediate storage and/or disposal. For solid waste transfer stations, the movement of solid waste from the point of generation to any intermediate point, and then to the point of ultimate processing, treatment, storage, or disposal.
- *Transport Vehicle* - a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body, such as a trailer or railroad freight car, is a separate transport vehicle.
- *Transporter* - a person engaged in the offsite transportation of infectious waste by air, rail, highway, or water.
- *Treatment* - a method, technique, or process designed to change the physical, chemical, or biological character or composition of infectious waste to sufficiently reduce or eliminate the infectious nature of the waste.
- *Treatment Facility* - a facility that treats infectious waste to sufficiently reduce or eliminate the infectious nature of the waste.
- *Untreated Wood Waste* - wood that has not undergone any type of treatment for preservation, etc.
- *Universal Biohazard Symbol* - the symbol design that conforms to the design shown in 29 Code of Federal Regulations (CFR) 1910.145(f)(8)(ii).
- *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 property boundary.
- *Used Lead Acid Battery* - a battery that is of no use in its present state. This includes batteries that are regulated as spent lead acid batteries being reclaimed.
- *Vector* - a carrier capable of transmitting a pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds, and vermin. For yard trash, landclearing debris and compost requirements, an animal or insect that may transmit disease-producing organisms from one host to another.
- *Vehicle* - any motor vehicle, water vessel, railroad car, airplane, or other means of transporting solid waste.
- *Vertical Expansion* - an expansion of an existing waste management unit above previously permitted elevations to gain additional capacity.
- *Waste Tire* - a whole tire no longer suitable for its originally intended purpose because of wear, damage, or defect.
- *Waste Tires for Agricultural Purposes* - waste tires generated during the normal production of plants and livestock and are kept onsite for beneficial re-use.

- *Waste Tire Collection Site* - a permitted site, or a site exempted from the permit requirement, used for the temporary storage of waste tires before treatment or recycling.
- *Waste Tire Disposal Facility* - a site at which waste tires are disposed of by burial or are recycled.
- *Waste Tire Hauler* - whoever is engaged in the picking up or transporting of greater than 120 waste tires per year for the purpose of storage, processing, or disposal.
- *Waste Tire Processing Facility* - a site at which equipment is used to recapture reusable byproducts from waste tires or to cut, burn, or otherwise alter whole waste tires so they are no longer whole. The term includes mobile waste tire processing equipment.
- *Waste Tire Site* - an establishment, site, or place of business, without a collector or processor permit, that is maintained, operated, used, or allowed to be used for the disposal, storing, or depositing of unprocessed used tires but does not include a truck service facility that meets the following requirements:
  1. all vehicles serviced are owned or leased by the owner or operator of the service facility
  2. no more than 200 waste tires are accumulated for a period of not more than 30 days at a time
  3. the facility does not accept any tires from other sources
  4. all waste tires are stored under a covered structure.
- *Waters of the State* - lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within the territorial limits and all other bodies of surface or underground water, including natural or artificial, public or private, inland or coastal, fresh or salt, that are wholly or partially within or bordering the state, or within its jurisdiction.
- *Wetlands* - areas delineated and defined specifically as wetlands, according to the methodology accepted by the U.S. Army Corps of Engineers (USACE) and the USEPA.
- *White Goods* - refrigerators, ranges, water heaters, freezers, dishwashers, trash compactors, washers, dryers, air conditioners, and commercial large appliances.
- *Windrow* - an elongated compost pile.
- *Yard Trash* - also known as yard waste, means solid waste consisting solely of vegetative matter resulting from landscaping maintenance.



**SOLID WASTE MANAGEMENT  
GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS**

<b>REFER TO CHECKLIST ITEMS:</b>	
State-Specific Solid Waste Requirements	SO.5.1.SC. through SO.5.10.SC.
Storage/Collection of Solid Waste	SO.10.1.SC. through SO.10.8.SC.
Transfer Facilities	SO.15.1.SC. through SO.15.11.SC.
Transportation	SO.20.1.SC. and SO.20.2.SC.
Municipal Solid Waste Landfills	
Permits	SO.50.1.SC.
Location Restrictions	SO.55.1.SC. and SO.55.2.SC.
Design Criteria	SO.60.1.SC. through SO.60.5.SC.
Operating Criteria	SO.65.1.SC. through SO.65.16.SC.
Groundwater Monitoring Criteria	SO.70.1.SC.
Closure Criteria	SO.75.1.SC. through SO.75.4.SC.
Postclosure Care Requirements	SO.80.1.SC. and SO.80.2.SC.
Documentation	SO.85.1.SC. and SO.85.2.SC.
Medical Waste	
Generators	SO.105.1.SC. through SO.105.10.SC.
Containers/Labeling/Storage Areas	SO.110.1.SC. through SO.110.12.SC.
Transportation	SO.115.1.SC. through SO.115.20.SC.
Treatment/Disposal	SO.120.1.SC. through SO.120.19.SC.
Documentation	SO.125.1.SC. through SO.125.5.SC.
Construction/Demolition Landfills	
Short Term	SO.140.1.SC. through SO.140.11.SC.
Long Term	SO.140.12.SC. through SO.140.22.SC.
Incinerators	SO.145.1.SC.
Industrial Waste Units	SO.150.1.SC.
Waste Tire Facilities	SO.160.1.SC. through SO.160.12.SC.
Yard Waste/Composting	SO.165.1.SC. through SO.165.12.SC.
Other Disposal Units	SO.170.1.SC.
Other Treatment Units	SO.175.1.SC. through SO.175.3.SC.

**GUIDANCE FOR APPENDIX USERS**

<b>REFER TO APPENDIX NUMBERS:</b>	<b>REFER TO APPENDIX TITLES:</b>
9-1	Acceptable Waste for Construction, Demolition, and Landclearing Debris Landfills
9-2	Unacceptable Waste





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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>SO.5. STATE-SPECIFIC SOLID WASTE REQUIREMENTS</b></p> <p><b>SO.5.1.SC.</b> Disposal of white goods must meet specific requirements (SC R 61-107-9(C)(1) and (2)).</p> <p><b>SO.5.2.SC.</b> White goods must be prepared for recycling or disposal in accordance with specific requirements (SC R 61-107-9(C)(3)).</p> <p><b>SO.5.3.SC.</b> Storage of white goods must meet specific requirements (SC R 61-107-9(C)(4)).</p> <p><b>SO.5.4.SC.</b> Collection, recycling, and recovered material processing facilities must register with the Department to accept lead acid batteries (SC R 61-107.8 (E)(1)).</p> <p><b>SO.5.5.SC.</b> Disposal of lead</p>	<p>Verify that, after 27 May 1994, no person knowingly includes white goods with other municipal solid waste intended for collection or disposal at an MSWLF.</p> <p>Verify that, after 27 May 1994, no MSWLF operator knowingly accepts white goods for disposal at the landfill.</p> <p>(NOTE: The MSWLF operator may accept white goods for temporary storage before shipment to a recycling facility.)</p> <p>Verify that, before white goods are recycled or disposed of, all the following conditions are met:</p> <ul style="list-style-type: none"> <li>- all ozone-depleting compounds, such as chlorofluorocarbons, used as refrigerants are recovered in accordance with applicable state and local requirements</li> <li>- all electrical components are removed and disposed in a manner consistent with state and local requirements.</li> </ul> <p>Verify that white goods are stored so human health and safety and the environment are protected, in accordance with state and local requirements.</p> <p>Verify that collection, recycling, and recovered material processing facilities register with the Department to accept lead acid batteries and renew registrations by 1 March of each calendar year.</p> <p>(NOTE: Persons selling lead acid batteries or offering lead acid batteries for retail sale or wholesale, and who accept lead acid batteries at the point of transfer only from customers, do not have to register.)</p> <p>Verify that used lead acid batteries are not knowingly placed in mixed municipal</p>

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**REGULATORY REQUIREMENTS:**

<p align="center"><b>REVIEWER CHECKS:</b> <b>November 1997</b></p>	
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acid batteries must meet specific requirements (SC R 61-107.8(C)(1)).

solid waste or discards.

Verify that lead acid batteries are not disposed of except by delivery to one of the following:

- a lead acid battery retailer or wholesaler
- a collection, recycling, or recovered material processing facility registered by the Department to accept lead acid batteries
- a permitted secondary lead smelter.

- Verify that a lead acid battery collection, recycling, or recovered material processing facility is operated in a manner protecting public health, safety, and the environment.
- Verify that leaking lead acid batteries are stored in heavy duty plastic bags or other suitable containers capable of preventing discharge of acid.

**SO.5.6.SC.** Lead acid battery collection, recycling, or recovered material processing facilities must meet specific requirements (SC R 61-107.8(C)(6)).

Verify that a lead acid battery collection, recycling, or recovered material processing facility is operated in a manner protecting public health, safety, and the environment.

Verify that leaking lead acid batteries are stored in heavy duty plastic bags or other suitable containers capable of preventing discharge of acid.

Verify that leaking lead acid batteries are stored in heavy duty plastic bags or other suitable containers capable of preventing discharge of acid.

**SO.5.7.SC.** Solid waste disposal areas must meet specific closure requirements (SC R 61-61).

Verify that solid waste disposal areas are closed or abandoned according to the following procedures:

- the installation/CW facility gives 30 days of formal written notice to the South Carolina State Board of Health
- no open burning is allowed in the disposal area to be closed
- no salvaging or scavenging is allowed in the area to be closed
- public notice must be given in the following manner:
  - a published notice at least three times during the 30-day period in a publi-

- posted notices in at least three public places in said jurisdiction, one of which must be at the County Seat(s) being served by the site, advising the same information as above
- at least one sign must be posted at the site advising all persons of the closing activity, prohibiting dumping, and giving the location of the replacement facility in red letters on white background, said letters to be not less than 6-in. high. The sign shall be made of permanent material, as opposed to paper, cardboard or similar material with rapid deterioration probabilities.
- the site to be closed shall be properly baited for rodent and vector control and sufficient observation shall be maintained to prevent new waste from being deposited
- the closed site must be spread and compacted in 2 ft cells and covered with suitable soil, compacted to a minimum of 2 ft
- the site must be graded to prevent ponding, and sown in a suitable grass or

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<p><b>SO.5.8.SC.</b> Solid waste disposal facilities must be permitted (SC R 61-70(III)).</p> <p><b>SO.5.9.SC.</b> Open dumping at solid waste disposal sites must be prohibited (SC R 61-70(IV)).</p> <p><b>SO.5.10.SC.</b> Installations/CW facilities must meet specific site location requirements for solid waste disposal sites (SC R 61-70(V)(A)).</p>	<p>other cover</p> <ul style="list-style-type: none"> <li>- a minimum of one monitor well at the lowest point of the fill will be maintained if deemed necessary by the State Board of Health. Monitor well readings will be taken at least every 3 mo and sent to the Solid Waste Division, State Board of Health</li> <li>- any evidence of erosion will be observed and corrective action taken. Such inspections will be maintained for a sufficient period necessary to assure satisfactory land recovery and prevention of health nuisances and aesthetic problems</li> <li>- when final cover is applied, the equipment must remain until a satisfactory inspection is completed by an authorized representative of the State Board of Health.</li> </ul> <p>Verify that installations/CW facilities with systems for the disposal of solid waste receive a permit from the State Board of Health.</p> <p>Verify that installations/CW facilities prohibit open dumping at solid waste disposal sites.</p> <p>Verify that the installation/CW facility meets the following site location requirements for solid waste disposal sites:</p> <ul style="list-style-type: none"> <li>- the site is easily accessible to collection vehicles, private autos, and where applicable, transfer vehicles</li> <li>- the site prevents water pollution originating from the disposal of refuse (solid waste)</li> <li>- the site has an adequate quantity of acceptable earth cover and that the cover material is easily workable and compactible, is free of large objects that would hinder compaction, and does not contain organic matter conducive to the harborage and/or breeding of vectors or nuisance animals</li> <li>- the site conforms with the surrounding environment</li> <li>- the site conforms with future development of the area.</li> </ul>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>SO.10. STORAGE/ COLLECTION OF SOLID WASTE</b></p> <p><b>SO.10.1.SC.</b> Collection, temporary storage, and transportation of municipal solid waste must meet specific requirements (SC R 61-107.5 (C)(1) and (A)(1) and (2)).</p> <p><b>SO.10.2.SC.</b> Solid waste mixed with putrescible waste must be treated as putrescible waste (SC R 61-107.5 (C)(3)).</p> <p><b>SO.10.3.SC.</b> Collection of putrescible municipal solid waste must meet specific requirements (SC R 61-107.5 (D)(1))</p> <p><b>SO.10.4.SC.</b> Collection of</p>	<p>Verify that the collection, temporary storage, and transportation of municipal solid waste is conducted in a manner meeting all of the following conditions:</p> <ul style="list-style-type: none"> <li>- inhibits the harborage of flies, rodents, and other vectors</li> <li>- prevents conditions for disease transmission to man or animals</li> <li>- prevents blowing debris and particulates so human health and the environment are not injured</li> <li>- prevents water pollution and prevents the escape of solid waste or leachate to waters of the state</li> <li>- minimizes objectionable odors, dust, unsightliness, and aesthetically objectionable conditions</li> <li>- prevents the accumulation of materials in a tidy and unsafe manner that might present a fire hazard.</li> </ul> <p>Verify that, when putrescible waste is mingled with other solid waste, the entire load of solid waste is considered putrescible waste.</p> <p>Verify that organized collection, such as drop-off centers and curbside collection, of putrescible solid waste is at a frequency which prevents hazards and nuisances to health and the environment.</p> <p>Verify that curbside collection of putrescible waste from residences is not less than 1 day per week.</p> <p>Verify that collection from solid waste storage containers from residences and food service facilities is not less than 2 days a week.</p> <p>(NOTE: The Department may grant an extension of require more frequent collection.)</p> <p>Verify that organized collection of nonputrescible municipal solid waste is at a</p>

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<p>nonputrescible municipal waste must meet specific requirements (SC R 61-107.5 (D)(2)).</p> <p><b>SO.10.5.SC.</b> Municipal solid waste collectors must meet specific requirements (SC R 61-107.5 (D) (3)).</p> <p><b>SO.10.6.SC.</b> Municipal solid waste storage containers must meet specific requirements (SC R 61-107.5 (E)).</p> <p><b>SO.10.7.SC.</b> Municipal solid waste collection and transportation vehicles must meet specific requirements</p>	<p>frequency which prevents hazards and nuisances to health and the environment.</p> <p>Verify that organized collection of nonputrescible municipal solid waste is not less than 1 day a week, unless the Department grants an extension.</p> <p>(NOTE: The weekly collection requirement does not apply to construction and demolition debris.)</p> <p>Verify that collectors of municipal solid waste ultimately dispose of solid waste at facilities and/or sites permitted or registered by the Department for processing or disposal of that waste stream.</p> <p>Verify that municipal solid waste storage containers are properly maintained to inhibit the harborage of vectors and to minimize objectionable odors.</p> <p>Verify that municipal solid waste storage containers are constructed so they are readily cleanable, with proper drainage to prevent pooling of water.</p> <p>Verify that residents, businesses, and industries maintain areas around municipal solid waste storage containers so health and environmental hazards are prevented.</p> <p>Verify that collectors cleanup refuse spilled during collection.</p> <p>Verify that municipal solid waste storage containers are not closer than 50 ft horizontal distance from the normal high water mark of any waters of the state, unless special provision is made that prevents wastes or waste drainage from entering waters of the state.</p> <p>Verify that, whenever possible, municipal solid waste storage containers are not located in a 100-yr floodplain, unless they demonstrate they will not restrict the flow of a 100-yr flood.</p> <p>Verify that municipal solid waste storage containers are not located within 100 ft of a groundwater well.</p> <p>Verify that all vehicles used to collect and/or transport municipal solid waste are constructed and maintained to prevent dropping, sifting, blowing, or other escape of solid waste from the vehicle.</p> <p>Verify that precautions are taken to prevent spillage or leakage during transport</p>

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(SC R 61-107.5 (F)).	<p>from all vehicles used to collect and/or transport municipal solid wastes that produce leachate.</p> <p>Verify that all vehicles used to collect and/or transport putrescible solid wastes are emptied on a daily basis, unless exempted by the Department.</p> <p>Verify that collection and transportation vehicles, or other devices used in transporting putrescible solid waste, are cleaned and maintained as often as necessary to prevent odors, insects, rodents, or other nuisance conditions.</p> <p>Verify that approval from the Department or the appropriate sewer system is obtained before disposal of wastewater from the routine cleaning of municipal solid waste collection and transportation vehicle areas coming into contact with solid waste.</p> <p>(NOTE: Vehicles used only for collection of inert waste, yard trash, and landclearing debris are exempt from the disposal of wastewater requirement.)</p>
<b>SO.10.8.SC.</b> Collectors of refuse must be permitted by the State Board of Health (SC R 61-60(III)(a)).	<p>Verify that all collectors storing, collecting, transporting and/or disposing of refuse (solid waste) are permitted by the State Board of Health or its authorized representatives.</p>





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<p><b>SO.15. TRANSFER FACILITIES</b></p> <p><b>SO.15.1.SC.</b> A solid waste transfer station must have a permit (SC R 61-107.7(A)(2) and (3), (D)(1), (I), and (C)(6)).</p> <p><b>SO.15.2.SC.</b> Transfer stations must meet specific spillage and leakage containment requirements (SC R 61-107.7(C)(2)).</p> <p><b>SO.15.3.SC.</b> Transfer stations must not accept sludges (SC R 61-107.7(C)(3)).</p> <p><b>SO.15.4.SC.</b> Transfer stations must not handle hazardous wastes (SC R 61-107.7(C)(4)).</p>	<p>(NOTE: All transfer stations must meet these transfer station requirements within 12 mo of 28 May 1993).</p> <p>Verify that a permit is obtained from the Department before construction, operation, expansion, or modification of a solid waste transfer station.</p> <p>Verify that all permit conditions and additional Departmental requirements are met.</p> <p>(NOTE: Solid waste management facilities commonly referred to as drop-off centers or convenience centers, designed for the receipt of solid waste from personal, noncommercial vehicles and destined for delivery to another solid waste management facility, such as recycling, processing, treatment, or ultimate disposal, are not transfer stations and do not have to meet these solid waste transfer requirements. Also exempt are facilities that handle only recovered materials and facilities transferring solid waste generated in the course of normal operations on property under the same ownership or control as the waste transfer facility.)</p> <p>Verify that any spillage or leakage of solid waste at a transfer station is contained on the storage site, and no unpermitted discharges to the environment are made.</p> <p>Verify that sludges are not accepted at transfer stations.</p> <p>(NOTE: Sludges should be transported directly to the disposal facility, disposal site, or processing operation.)</p> <p>Verify that the transfer station operator does not cause, suffer, allow, or permit the handling of regulated hazardous waste or regulated infectious waste at the transfer station.</p>

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<p><b>SO.15.5.SC.</b> Solid waste transfer stations must meet specific design requirements (SC R 61-107.7(E)(1) through (8), (10), and (11)).</p>	<p>Verify that active waste handling areas are not sited within:</p> <ul style="list-style-type: none"> <li>- 100 ft of any property line</li> <li>- 200 ft of any surface water, excluding drainage ditches and sedimentation ponds</li> <li>- 200 ft of any residence, school, hospital, or recreational park area</li> <li>- 100 ft of a drinking water well.</li> </ul> <p>Verify that active waste handling areas are not located within any wetlands as delineated and defined specifically as wetlands according to the methodology accepted by the USACE and the USEPA.</p> <p>Verify that onsite roads and unloading areas are adequate in size and design to facilitate efficient unloading and loading of the collection and transportation vehicles and the unobstructed movement of vehicles.</p> <p>Verify that the unloading, storage, and loading surface areas are:</p> <ul style="list-style-type: none"> <li>- constructed of low permeability materials, such as asphalt or concrete</li> <li>- provided with a water supply for cleaning purposes</li> <li>- equipped with drains or pumps or equivalent means to facilitate the removal of water for proper disposal.</li> </ul> <p>Verify that tipping areas are located within an enclosed building or covered area and all waste is contained in the tipping area.</p> <p>Verify that exhaust removal systems are installed in enclosed areas and operated to provide adequate ventilation.</p>
<p><b>SO.15.6.SC.</b> Solid waste transfer stations must restrict access (SC R 61-107.7(E)(12) and (13)).</p>	<p>Verify that access to a solid waste transfer facility is controlled through the use of fences, gates, berms, natural barriers, or other means approved by the Department.</p> <p>Verify that at least one sign is posted at each access point listing the hours of operation and types of solid waste accepted.</p>
<p><b>SO.15.7.SC.</b> Solid waste transfer stations must meet specific requirements for fire fighting (SC R 61-107.7 (E) (15)).</p>	<p>Verify that arrangements are made with a local fire department to provide fire-fighting services or that fire-fighting equipment is maintained onsite.</p>

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<p><b>SO.15.8.SC.</b> Solid waste transfer stations must meet specific operation requirements (SC R 61-107.7 (F)(2) through (7))</p>	<p>Verify that solid waste transfer stations maintain a neat and orderly appearance.</p> <p>Verify that the facility and the transportation vehicle interiors where waste is held are cleaned as often as necessary to control litter, odors, rats, insects, and other vectors.</p> <p>Verify that floors are free from standing water and that all drainage areas are discharged to a sanitary sewer or other management method acceptable to the Department.</p> <p>Verify that transfer stations with permanent operating mechanical equipment have an attendant on duty at all times the facility is open.</p> <p>Verify that solid wastes that are oversized, bulky, or untreatable solid wastes or nonputrescible recyclables or are not stored out of doors for more than 1 week.</p> <p>(NOTE: Solid wastes and nonputrescible recyclables may be stored out of doors for longer than one week only if an exemption is granted by the Department and the storage is not a nuisance, unsanitary, or an environmental problem.)</p> <p>Verify that solid wastes which are not transferred within 24 h are stored in a manner promoting vector and odor control.</p> <p>Verify that putrescible wastes are removed for proper disposal within 24 h of receipt, unless an exemption is approved by the Department.</p>
<p><b>SO.15.9.SC.</b> Solid waste transfer stations must meet specific monitoring requirements (SC R 61-107.7(G) (1)).</p>	<p>Verify that any groundwater, surface water, or air quality monitoring required by the Department is performed.</p>
<p><b>SO.15.10.SC.</b> Solid waste transfer stations must meet specific recordkeeping requirements (SC R 61-107.7(G) (2)).</p>	<p>Verify that transfer stations maintain records of the amount of all solid waste accepted at the facility each day and where all wastes are disposed.</p> <p>(NOTE: Recordkeeping information may be maintained in a summary format.)</p> <p>Verify that these records are maintained for no less than 5 yr and are available to the Department upon request.</p>

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<b>SO.15.11.SC.</b> Solid waste transfer stations must meet specific closure and postclosure requirements (SC R 61-107.7(H)(1), (2), (3), and (5)).	<p>Verify that at least 60 days before closure, the operator provides the Department with a written notice of intent to close and a proposed closure date.</p> <p>Verify that, upon closing, the operator:</p> <ul style="list-style-type: none"><li>- immediately posts signs at the facility which state that the facility is no longer in operation</li><li>- removes all waste from the facility.</li></ul> <p>Verify that, within 30 days of closure, the operator either removes or treats all waste residues, contaminated soils, and equipment in accordance with the approved closure plan and notifies the Department upon completion.</p> <p>Verify that, if the operator cannot demonstrate that all contaminated soils can be practicably removed or treated, a postclosure care plan is submitted to the Department for approval.</p>

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<p><b>SO.20. TRANSPORTATION</b></p> <p><b>SO.20.1.SC.</b> Collection, temporary storage, and transportation of municipal solid waste must meet specific requirements (SC R 61-107.5 (C)(1) and (A)(1) and (2)).</p> <p><b>SO.20.2.SC.</b> Municipal solid waste collection and transportation vehicles must meet specific requirements (SC R 61-107.5(F)).</p>	<p>Verify that the collection, temporary storage, and transportation of municipal solid waste is conducted in a manner meeting all of the following conditions:</p> <ul style="list-style-type: none"> <li>- inhibits the harborage of flies, rodents, and other vectors</li> <li>- prevents conditions for disease transmission to man or animals</li> <li>- prevents blowing debris and particulates so human health and the environment are not injured</li> <li>- prevents water pollution and prevents the escape of solid waste or leachate to waters of the state</li> <li>- minimizes objectionable odors, dust, unsightliness, and aesthetically objectionable conditions</li> <li>- prevents the accumulation of materials in a tidy and unsafe manner that might present a fire hazard.</li> </ul> <p>Verify that all vehicles used to collect and/or transport municipal solid waste are constructed and maintained to prevent dropping, sifting, blowing, or other escape of solid waste from the vehicle.</p> <p>Verify that precautions are taken to prevent spillage or leakage during transport from all vehicles used to collect and/or transport municipal solid wastes that produce leachate.</p> <p>Verify that all vehicles used to collect and/or transport putrescible solid wastes are emptied on a daily basis, unless exempted by the Department.</p> <p>Verify that collection and transportation vehicles or other devices used in transporting putrescible solid waste are cleaned and maintained as often as necessary to prevent odors, insects, rodents, or other nuisance conditions.</p> <p>Verify that approval from the Department or the appropriate sewer system is obtained before disposal of wastewater from the routine cleaning of municipal solid waste collection and transportation vehicle areas coming into contact with solid waste.</p> <p>(NOTE: Vehicles used only for collection of inert waste, yard trash, and landclearing debris are exempt from the disposal of wastewater requirement.)</p>



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<b>MUNICIPAL SOLID WASTE LANDFILLS (MSWLFs)</b>  <b>SO.50. Permits</b>  <b>SO.50.1.SC.</b> MSWLF units must meet specific requirements for permits (SC R 61-107.258.1(g)).	<p>(NOTE: MSWLF units that received waste after October 9, 1991, but stopped receiving waste before October 9, 1993, are exempt from all MSWLF requirements, with the exception of the closure and post-closure requirements (see SO.75. and SO.80.) (SC R 61-107.258.1(c)) [Added November 1997].</p> <p>Verify that a permit is obtained before construction and operation of a new MSWLF unit or a lateral expansion of an existing MSWLF unit.</p> <p>Verify that all permit conditions, including the groundwater monitoring plan, are met.</p>





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<p><b>MUNICIPAL SOLID WASTE LANDFILLS (MSWLFs)</b></p> <p><b>SO.55. Location Restrictions</b></p> <p><b>SO.55.1.SC.</b> MSWLFs must not pose a bird hazard to aircraft (SC R 61-107.258.10).</p> <p><b>SO.55.2.SC.</b> Existing MSWLFs that cannot meet specific requirements must close by 9 October 1996 (SC R 61-107.258.16).</p>	<p>(NOTE: MSWLF units that received waste after October 9, 1991, but stopped receiving waste before October 9, 1993, are exempt from all MSWLF requirements, with the exception of the closure and post-closure requirements (see SO.75. and SO.80.) (SC R 61-107.258.1(c)) [Added November 1997].</p> <p>Verify that operators of new or existing MSWLF units and lateral expansions located within 10,000 ft of the end of any airport runway used by turbojet aircraft or within 5000 ft of the end of any airport runway used by only piston-type aircraft demonstrate that the unit does not pose a bird hazard to aircraft.</p> <p>Verify that the demonstration is placed in the operating record.</p> <p>(NOTE: Operators proposing to site new MSWLF units and lateral expansions within a 5-mi radius of the end of any airport runway used by turbojet or piston-type aircraft must notify the affected airport and the Federal Aviation Administration (FAA).)</p> <p>(NOTE: Airport means public use airport open to the public without prior permission and without restrictions. Bird hazard means an increase in the likelihood of bird/ aircraft collisions that may cause damage to the aircraft or injury to its occupants.)</p> <p>Verify that existing MSWLFs meet the following requirements or close by 9 October 1996:</p> <ul style="list-style-type: none"> <li>- demonstrate that the existing unit which is located within 10,000 ft of the end of any airport runway used by turbojet aircraft or within 5000 ft of the end of any airport runway used by only piston-type aircraft is designed and operated so the unit does not pose a bird hazard to aircraft</li> <li>- demonstrate that the unit located in a 100-yr floodplain will not restrict the flow of the 100-yr flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste that would pose a hazard to human health and the environment</li> <li>- demonstrate that engineering measures have been incorporated into the unit's design to ensure that the integrity of the structural components of the unit located in an unstable area are not disrupted.</li> </ul> <p>(NOTE: The deadline for closure may be extended up to 2 yr.)</p>



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<p><b>MUNICIPAL SOLID WASTE LANDFILL (MSWLFs)</b></p> <p><b>SO.60. Design Criteria</b></p> <p><b>SO.60.1.SC.</b> Vertical expansions of MSWLFs must meet specific requirements (SC R 61-107.258.1(f)).</p> <p><b>SO.60.2.SC.</b> New MSWLFs and lateral expansions must meet specific construction requirements (SC R 61-107.258.40(a), (c), (d), (e), (f), (k), and (q)).</p> <p><b>SO.60.3.SC.</b> MSWLFs must have a permanent survey benchmark of known elevation (SC R 61-107.258.40 (j)).</p> <p><b>SO.60.4.SC.</b> The soil component for an MSWLF liner</p>	<p>(NOTE: MSWLF units that received waste after October 9, 1991, but stopped receiving waste before October 9, 1993, are exempt from all MSWLF requirements, with the exception of the closure and post-closure requirements (see SO.75. and SO.80.) (SC R 61-107.258.1(c)) [Added November 1997].</p> <p>Verify that any vertical expansion of an MSWLF involves only those portions of the unit that received waste before 9 October 1993 and have received waste consistent with past operating practices.</p> <p>(NOTE: The Department had the discretion to allow vertical expansion of existing MSWLFs for up to 2 yr after 9 October 1993.)</p> <p>Verify that new MSWLF units and lateral expansions are constructed in accordance with a Department-approved design.</p> <p>Verify that the total thickness of the drainage and protective layers above the liner material are a minimum of 2-ft thick and are composed of material with a minimum hydraulic conductivity of <math>1 \times 10^{-4}</math> cm/s.</p> <p>Verify that all material used in the leachate collection and removal system of the landfill are designed to ensure that the hydraulic leachate head on the liner system does not exceed 1 ft as a result of a 24-h, 25-yr storm event during the active life and postclosure period of the landfill facility.</p> <p>Verify that a separation of 3 ft is maintained between the base of the constructed liner system and the high water table as it exists naturally.</p> <p>(NOTE: The Department may approve other landfill designs.)</p> <p>Verify that one permanent survey benchmark of known elevation measured from a U.S. Geological Survey benchmark is established and maintained at the MSWLF unit site, and that this benchmark is used as the reference point for establishing horizontal and vertical elevation control.</p> <p>Verify that the soil component of the liner system meets all the following</p>

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<p><b>MUNICIPAL SOLID WASTE LANDFILLS (MSWLFs)</b></p> <p><b>SO.65. Operating Criteria</b></p> <p><b>SO.65.1.SC.</b> MSWLFs must have a program for detecting and preventing disposal of regulated hazardous wastes and polychlorinated biphenyls (PCBs) wastes (SC R 61-107.258.20(a) and (b)).</p> <p><b>SO.65.2.SC.</b> MSWLFs must regulate the receipt of special wastes (SC R 61-107.258.20(c)).</p> <p><b>SO.65.3.SC.</b> MSWLFs must have written approval from the Department to accept special waste for disposal (South Carolina <i>Solid Waste Policy and Management Act</i> of 1991, Section 44-96-390(B) and (C)).</p> <p><b>SO.65.4.SC.</b> MSWLFs must submit a special wastes analysis plan to the Department (South Carolina <i>Solid Waste Policy and Management Act</i></p>	<p>(NOTE: MSWLF units that received waste after October 9, 1991, but stopped receiving waste before October 9, 1993, are exempt from all MSWLF requirements, with the exception of the closure and post-closure requirements (see SO.75. and SO.80.) (SC R 61-107.258.1(c)) [Added November 1997].</p> <p>Verify that the facility operator implements a program for detecting and preventing the disposal of regulated hazardous wastes and PCB wastes that includes all the following:</p> <ul style="list-style-type: none"> <li>- random inspections of incoming loads unless the operator takes other steps to ensure that incoming loads do not contain regulated hazardous wastes or PCB wastes</li> <li>- records of inspections</li> <li>- training of facility personnel to recognize regulated hazardous wastes and PCB wastes</li> <li>- notification of the Department if a regulated hazardous waste or PCB waste is discovered at the facility.</li> </ul> <p>Verify that the facility has a program for regulating the receipt of special wastes.</p> <p>Verify that special waste is not disposed of or accepted for disposal at a MSWLF without prior written approval from the Department.</p> <p>(NOTE: A facility may apply to the Department at any time for modifications or additions to the types of special waste disposed of or methods for disposal.)</p> <p>Verify that the MSWLF unit operator has submitted a special wastes analysis plan to the Department, or will do so not later than 6 mo after the initial receipt of wastes.</p>

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<p>of 1991, Section 44-96-390(D)).</p> <p><b>SO.65.5.SC.</b> MSWLFs must meet specific cover material requirements (SC R 61-107.258.21).</p> <p><b>SO.65.6.SC.</b> MSWLF units must meet specific disease vector control requirements (SC R 61-107.258.22).</p> <p><b>SO.65.7.SC.</b> MSWLFs must meet specific explosive gas requirements (SC R 61-107.258.23).</p>	<p>Verify that disposed solid waste is covered with 6 in. of earthen 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.</p> <p>(NOTE: Materials of an alternative thickness may be approved by the Department.)</p> <p>Verify that the facility has an adequate quantity of acceptable earth cover material for routine operations that meets all the following conditions:</p> <ul style="list-style-type: none"> <li>- is easily workable and compactible</li> <li>- is free of large objects that could hinder compaction</li> <li>- does not contain organic matter conducive to the harborage and/or breeding of vectors or nuisance animals.</li> </ul> <p>Verify that the facility prevents or controls onsite populations of the following disease vectors using techniques appropriate for the protection of human health and the environment:</p> <ul style="list-style-type: none"> <li>- rodents</li> <li>- flies</li> <li>- mosquitoes</li> <li>- other animals capable of transmitting disease to humans</li> <li>- insects capable of transmitting disease to humans.</li> </ul> <p>Verify that the concentration of methane gas generated by the MSWLF unit does not exceed 25 percent of the lower explosive limit for methane in the unit's structures, excluding gas control or recovery system components.</p> <p>Verify that the concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary.</p> <p>(NOTE: Lower explosive limit is the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25 °C and atmospheric pressure.)</p> <p>Verify that a routine methane monitoring program is implemented with a minimum frequency of quarterly monitoring.</p>

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	<p>Verify that, if methane gas levels exceed concentration limits, all the following requirements are met:</p> <ul style="list-style-type: none"> <li>- all necessary steps are taken immediately to ensure protection of human health</li> <li>- the Department is notified</li> <li>- the methane gas levels detected and a description of the steps taken to protect human health are placed in the operating record within 7 days of detection</li> <li>- a remediation plan is implemented and placed in the operating record.</li> </ul>
<p><b>SO.65.8.SC.</b> MSWLFs must meet specific air criteria (SC R 61-107.258.24).</p>	<p>Verify that the facility does not violate any applicable requirements developed under a State Implementation Plan.</p> <p>Verify that no open burning occurs at a MSWLF.</p> <p>Verify that Departmental approval is obtained before burning of any of the following:</p> <ul style="list-style-type: none"> <li>- agricultural wastes</li> <li>- silvicultural wastes</li> <li>- landclearing debris</li> <li>- diseased trees</li> <li>- debris from emergency cleanup operations.</li> </ul> <p>Verify that blowing litter is controlled at a MSWLF, and the facility is policed as necessary to remove any accumulations of blown litter.</p>
<p><b>SO.65.9.SC.</b> MSWLF units must meet restrict access (SC R 61-107.258.25).</p>	<p>Verify that public access is controlled and unauthorized vehicular traffic and illegal dumping is prevented.</p> <p>Verify that an all-weather access road to the site is provided.</p> <p>Verify that salvaging and scavenging are not allowed at the unit's working face at any time.</p>
<p><b>SO.65.10.SC.</b> MSWLFs must have run-on and runoff control systems (SC R 61-107.258.26).</p>	<p>Verify that the facility has a run-on control system to prevent flow onto the active portion of the landfill during the peak discharge from a 25-yr storm.</p> <p>Verify that the facility has a runoff control system from the active portion of the landfill to collect and control at least the water volume resulting from a 24-h, 25-</p>

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<p><b>SO.65.11.SC.</b> MSWLFs must meet specific surface water requirements (SC R 61-107.258.27).</p> <p><b>SO.65.12.SC.</b> MSWLFs must meet liquid waste disposal requirements (SC R 61-107. 258.28).</p> <p><b>SO.65.13.SC.</b> MSWLFs must install and/or maintain scales for incoming waste (SC R 61-107.258.30).</p> <p><b>SO.65.14.SC.</b> MSWLF supervision and inspection must meet specific requirements (SC R 61-107.258.32(a) and (c)).</p> <p><b>SO.65.15.SC.</b> MSWLF</p>	<p>yr storm.</p> <p>Verify that runoff from the active portion of the landfill meets surface water requirements for MSWLF units.</p> <p>Verify that MSWLF units do not cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area wide or statewide water quality management plan.</p> <p>Verify that the only liquid waste placed in the unit is liquid household waste other than septic waste.</p> <p>Verify that containers holding liquid waste which are placed in a MSWLF meet one of the following conditions:</p> <ul style="list-style-type: none"> <li>- the container is small and similar in size to that normally found in household waste</li> <li>- the container is designed to hold liquids for use other than storage</li> <li>- the waste is household waste.</li> </ul> <p>(NOTE: Leachate and gas condensate derived from the facility may be disposed of on a temporary basis with Department approval.)</p> <p>Verify that the facility maintains scales capable of accurately determining the weight of incoming waste streams.</p> <p>(NOTE: Existing facilities that can demonstrate a legitimate financial hardship may be exempted from the requirement to install scales.)</p> <p>Verify that MSWLF supervision is the responsibility of a qualified individual who has MSWLF operation experience and has completed Department-approved operator training courses.</p> <p>Verify that any necessary corrective work identified in a Department inspection of a MSWLF unit project is performed.</p>
<p>Verify that the municipal solid waste operator makes his/her best effort to make sure the leachate head above the liner system does not exceed 1 ft, except for</p>	



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<p>operators must use their best efforts to make sure the leachate head above the liner system does not exceed 1 ft (SC R 61-107.258.34).</p> <p><b>SO.65.16.SC.</b> Managers or supervisors of MSWLFs must meet certification requirements (SC R 61-107.13(C)).</p>	<p>brief periods not to exceed 1 week.</p> <p>Verify that the manager or supervisor of an MSWLF is certified by the State of South Carolina as a landfill operator.</p>



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<b>MUNICIPAL SOLID WASTE LANDFILLS (MSWLFs)</b>  <b>SO.70. Groundwater Monitoring Criteria</b>  <b>SO.70.1.SC.</b> New and existing MSWLFs and lateral expansions must meet groundwater monitoring requirements (SC R 61-107.258.50 and 258.51).	<p>(NOTE: MSWLF units that received waste after October 9, 1991, but stopped receiving waste before October 9, 1993, are exempt from all MSWLF requirements, with the exception of the closure and post-closure requirements (see SO.75. and SO.80.) (SC R 61-107.258.1(c)) [Added November 1997].</p> <p>Verify that all existing MSWLF units and lateral expansions meet the groundwater monitoring requirements by 9 October 1994.</p> <p>Verify that the installation/CW facility meets Department-approved requirements for groundwater sampling and analysis.</p>



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<p><b>MUNICIPAL SOLID WASTE LANDFILLS (MSWLFs)</b></p> <p><b>SO.75. Closure Criteria</b></p> <p><b>SO.75.1.SC.</b> MSWLF operators must prepare a written closure plan (SC R 61-107.258.60(c) through (e)) [Revised November 1997].</p> <p><b>SO.75.2.SC.</b> MSWLFs must begin closure activities in accordance with specific requirements (SC R 61-107.258. 60(f)) [Revised November 1997].</p> <p><b>SO.75.3.SC.</b> MSWLFs must complete closure activities in</p>	<p>Verify that the MSWLF operator has prepared a written closure plan describing the steps necessary to close each unit at any point during its active life.</p> <p>Verify that the closure plan includes all of the following information:</p> <ul style="list-style-type: none"> <li>- a description of the final cover and the methods and procedures to be used to install the cover</li> <li>- an estimate of the largest area of the MSWLF unit ever requiring a final cover at any time during the active life</li> <li>- an estimate of the maximum inventory of wastes ever on-site over the active life of the landfill facility</li> <li>- a schedule for completing all activities necessary to satisfy the closure criteria.</li> </ul> <p>Verify that the Department was notified by 23 June 1995 or prior to permit issuance, whichever is later, that the closure plan was completed and placed in the operating record.</p> <p>Verify that, closure activities are initiated according to the following timeframe:</p> <ul style="list-style-type: none"> <li>- no later than 30 days after the date on which the MSWLF unit receives the known final receipt of wastes</li> <li>- as of 23 June 1995, if the MSWLF unit had remaining capacity and there was a reasonable likelihood that the MSWLF unit would receive additional wastes, no later than one year after the most recent receipt of wastes.</li> </ul> <p>(NOTE: Extensions beyond the one-year deadline for beginning closure may be granted by the Department if the owner or operator demonstrates that the MSWLF unit has the capacity to receive additional wastes and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed MSWLF unit.)</p> <p>Verify that all closure activities specified in the closure plane were completed</p>

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<p>accordance with specific requirements (SC R 61-107.258. 60(f)) [Revised November 1997].</p> <p><b>SO.75.4.SC.</b> MSWLFs must meet specific requirements for the installation of final cover (SC R 61-107.258.1(c)) [Added November 1997].</p>	<p>within 180 days following the beginning of closure.</p> <p>(NOTE: Extensions of the closure period may be granted by the Department if the owner or operator demonstrates that closure will, of necessity, take longer than 180 days and they have taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed MSWLF unit.)</p> <p>Verify that final cover is installed within 6 mo of the last receipt of wastes.</p> <p>(NOTE: Owners or operators of MSWLFs that fail to complete cover installation within this 6 mo period will be subject to all MSWLF requirements.)</p>

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<p><b>MUNICIPAL SOLID WASTE LANDFILLS (MSWLFs)</b></p> <p><b>SO.80. Postclosure Care Requirements</b></p> <p><b>SO.80.1.SC.</b> MSWLFs must meet specific postclosure requirements (SC R 61-107.258.60(h), (i) and (j)).</p> <p><b>SO.80.2.SC.</b> MSWLFs must prepare a postclosure plan (SC R 61-107.258.61(c) through (e)).</p>	<p>Verify that the operator notifies the Department when a certification, signed by an independent registered professional engineer and verifying that closure is complete, has been placed in the operating record.</p> <p>Verify that the operator records a notation on the landfill facility property deed or other instrument normally examined during a title search and notifies the Department that the notation has been recorded and a copy placed in the operating record.</p> <p>(NOTE: The landfill owner or operator may request permission from the Department to remove the notation from the deed if all facility wastes are removed.)</p> <p>Verify that the facility has a postclosure plan.</p> <p>Verify that the unit operator notified the Department that a postclosure plan had been prepared and placed in the operating record no later than 23 June 1995 or before permit issuance, whichever is later.</p> <p>Verify that, after the postclosure care period is completed for each MSWLF unit, the operator places in the operating record a certification that the conditions of the postclosure plan were met and notifies the Department of this certification.</p>





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<p><b>MUNICIPAL SOLID WASTE LANDFILLS (MSWLFs)</b></p> <p><b>SO.85. Documentation</b></p> <p><b>SO.85.1.SC.</b> MSWLF units must meet specific record-keeping requirements (SC R 61-107.258.29) [Revised November 1996].</p> <p><b>SO.85.2.SC.</b> A legal document or permit must be obtained before initial receipt of MSWLF leachate at a wastewater treatment facility (SC R 61-107.258.33).</p>	<p>Verify that the operating record contains the following information:</p> <ul style="list-style-type: none"> <li>- any required location restriction demonstrations</li> <li>- inspection records, training procedures, and notification procedures that pertain to regulated hazardous wastes and special wastes</li> <li>- gas monitoring results and any remediation plans</li> <li>- any demonstration, certification, finding, monitoring, testing, or analytical data required under permit conditions for groundwater monitoring and corrective action</li> <li>- closure and postclosure care plans and any monitoring, testing, or analytical data</li> <li>- results of any environmental monitoring or testing.</li> </ul> <p>(NOTE: The Department may set alternative schedules for recordkeeping and notification requirements.)</p> <p>Verify that the operating record is maintained near the facility or in a Department-approved location.</p> <p>Verify that the operating record includes information concerning the source or type (e.g. residential route, commercial, industrial, transfer station identity, special); weight (tons); county and State of origin of each load of waste delivered to the facility.</p> <p>(NOTE: The information preceding this note must be submitted to the Department no later than 15 October of each year, for that previous fiscal year, on a form approved by the Department.)</p> <p>Verify that either a legal document certifying acceptance of leachate by a wastewater treatment facility or a state pollutant discharge elimination system permit is obtained before initial receipt of waste at the facility.</p>



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<p><b>MEDICAL WASTE</b></p> <p><b>SO.105. Generators</b></p> <p><b>SO.105.1.SC.</b> Generators must register with the Department (SC R 61-105(F)(1), (2) and (3)).</p> <p><b>SO.105.2.SC.</b> Generators must meet specific requirements for designated infection control committees (SC R 61-105(F)(5)).</p> <p><b>SO.105.3.SC.</b> Generators must meet specific requirements for infectious waste management (SC R 61-105 (F)(6)).</p> <p><b>SO.105.4.SC.</b> Generators must receive Departmental authorization before shipping infectious waste offsite to a destination facility (SC R 61-105(F)(7)).</p>	<p>Verify that all in-state generators of infectious waste register with the Department.</p> <p>Verify that the Department is notified within 30 days of any changes in the information required for registration.</p> <p>Verify that the generator has a designated infection control committee with the authority and responsibility for infectious waste management.</p> <p>Verify that the infection control committee develops or adopts a written protocol to manage the infectious waste stream from generation to disposal.</p> <p>Verify that the written protocol includes contingency plans and a quality assurance program to monitor their onsite treatment procedures.</p> <p>(NOTE: SQGs are not required to have an infection control committee or a written protocol.)</p> <p>Verify that each generator segregates infectious waste from other waste at the point of generation.</p> <p>Verify that the generator meets the requirements for packaging, labeling, and storage of containers.</p> <p>Verify that generators treat microbiological cultures and etiological agents onsite</p> <p>Verify that any in-state or out-of-state generators receive Departmental authorization annually before shipping infectious waste offsite to a destination facility in South Carolina.</p>

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<p><b>SO.105.5.SC.</b> SQGs must meet specific requirements for segregating infectious waste from other waste (SC R 61-105(G)(1)(a)).</p>	<p>Verify that SQGs segregate infectious waste from other waste at the point of generation.</p>
<p><b>SO.105.6.SC.</b> SQGs must meet specific requirements for packaging and labeling (SC R 61-105(G)(1)(a)).</p>	<p>Verify that SQGs meet labeling and packaging requirements.</p>
<p><b>SO.105.7.SC.</b> SQGs must meet specific requirements for offering infectious waste for offsite transport (SC R 61-105(G)(1)(a)).</p>	<p>Verify that SQGs offer infectious waste for offsite transport only to a transporter with a current Departmental registration.</p>
<p><b>SO.105.8.SC.</b> SQGs must meet specific requirements for the packaging of sharps (SC R 61-105(G)(1)(b)(i)).</p>	<p>Verify that SQGs place sharps in rigid, puncture-resistant containers.</p> <p>(NOTE: Sharps placed in puncture-resistant containers may be disposed of as other solid waste. See the definition of infectious waste for a definition of sharps.)</p>
<p><b>SO.105.9.SC.</b> SQGs must meet the infectious waste treatment requirements when managing cultures, human blood, and blood products (SC R 61-105(G)(1)(b)(ii) and (iii)).</p>	<p>Verify that management of cultures, human blood, and blood products at SQGs meets the infectious waste treatment requirements for larger generators.</p> <p>(NOTE: All other infectious waste may be disposed of as other solid waste after being properly packaged to prevent exposure to solid waste workers and the public.)</p>
	<p><b>SO.105.10.SC.</b> SQGs transporting their own infectious waste must meet specific requirements (SC R 61-105 (G)(2)).</p> <p>Determine whether the SQG transports its own infectious waste.</p> <p>Verify that no more than 50 lb of infectious waste is transported at one time.</p> <p>Verify that infectious waste is not transported in the passenger compartment of</p>

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	the vehicle.



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<p><b>MEDICAL WASTE</b></p> <p><b>SO.110.</b></p> <p><b>Containers/Labeling/ Storage Areas</b></p> <p><b>SO.110.1.SC.</b> Generators and SQGs must make sure that infectious waste is properly packaged before transporting it or offering it for transport offsite (SC R 61-105(I)(1) and (2)).</p> <p><b>SO.110.2.SC.</b> Infectious waste must be packaged in containers meeting specific requirements before and during transport (SC R 61-105(I)(3) and (7)).</p> <p><b>SO.110.3.SC.</b> Containers for infectious waste must meet specific requirements (SC R 61-105(I)(4), (8) and (10)).</p> <p><b>SO.110.4.SC.</b> Containers of infectious waste must be sealed (SC R 61-105 (I)(5)).</p>	<p>Verify that infectious waste packaging meets the packaging requirements before it is transported or offered for transportation offsite.</p> <p>Verify that generators place and maintain all sharps in rigid, leak-resistant, and puncture-resistant containers that are secured tightly to preclude loss of the contents and that are designed for the safe containment of sharps.</p> <p>Verify that all types of infectious waste, other than sharps, are placed, stored, and maintained before and during transport in a rigid or semirigid, leakproof container that is impervious to moisture.</p> <p>(NOTE: Dumpsters, roll-off containers, truck bodies, or other vehicle containment areas do not constitute a rigid containment system.)</p> <p>Verify that infectious waste containers meet all the following conditions:</p> <ul style="list-style-type: none"> <li>- have sufficient strength to prevent bursting and tearing during handling, storage, or transportation</li> <li>- are disposable or reusable containers appropriate for the type and quantity of waste</li> <li>- can withstand handling, transfer, and transportation without impairing the integrity of the container</li> <li>- are closed tightly and securely</li> <li>- reusable containers are disinfected after each use</li> <li>- are compatible with selected storage and treatment processes.</li> </ul> <p>Verify that containers with infectious waste are sealed to prevent any discharge of the contents at any time until the container enters the treatment system.</p>

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<p><b>SO.110.5.SC.</b> Plastic bags used inside of infectious waste containers must meet specific requirements (SC R 61-105(I)(6)).</p>	<p>Verify that plastic bags used inside of infectious waste containers are red or orange in color and have enough strength to prevent tearing.</p>
<p><b>SO.110.6.SC.</b> Generators must meet specific requirements for the packaging of exempt or excluded waste (SC R 61-105(I)(12)).</p>	<p>Verify that exempt or excluded waste is not packaged as infectious waste or, if the waste was once infectious, it has a label indicating that it is not infectious and an explanation of why it is not infectious.</p>
<p><b>SO.110.7.SC.</b> Labeling of containers must meet specific requirements (SC R 61-105(J)(1) and (2)).</p>	<p>Containers of infectious waste, offered for transport offsite, are to be labeled on outside surfaces so all the following are readily visible:</p> <ul style="list-style-type: none"> <li>- the universal biohazard symbol</li> <li>- name and Department-issued number of the in-state generator</li> <li>- name, address, and phone number of the generator, if the waste is generated outside the state</li> <li>- a labeling process that is water-resistant and indelible</li> <li>- the date the container was placed in storage</li> <li>- the words <b>INFECTIOUS WASTE, BIOHAZARDOUS WASTE, or MEDICAL WASTE.</b></li> </ul> <p>Verify that containers are labeled in English.</p>
<p><b>SO.110.8.SC.</b> Bags used to line infectious waste containers must meet specific requirements for labeling (SC R 61-105(J)(3)).</p>	<p>Verify that each bag used to line the inside of an outer container is labeled with indelible ink in a water-resistant labeling process or imprinted with the universal biohazard symbol.</p>
<p><b>SO.110.9.SC.</b> Transporters must meet specific requirements for labeling (SC R 61-105(J)(4) and (5)).</p>	<p>Verify that transporters label each outer container at the time it is accepted.</p> <p>Verify that transporters affix required labels so no other required markings or labels are obscured.</p>



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<p><b>SO.110.10.SC.</b> Abbreviations used in labeling on containers of infectious waste must meet specific requirements (SC R 61-105(J)(6)).</p> <p><b>SO.110.11.SC.</b> Storage of infectious waste must meet specific requirements (SC R 61-105(K)(1), (2), (3), and (4)).</p>	<p>Verify that abbreviations used in required labeling on infectious waste containers are common dictionary, standard abbreviations.</p> <p>Verify that storage of infectious waste is done in a way and at a location which protects the waste from animals, vectors, and weather conditions and minimizes the exposure to the public.</p> <p>Verify that infectious waste does not provide a food source or breeding place for insects or rodents.</p> <p>Verify that infectious waste is protected to maintain the integrity of the packaging.</p> <p>Verify that infectious waste is stored so releases or discharges of contents are prevented.</p> <p>Verify that outdoor storage areas for infectious waste, such as dumpsters or trailers, are locked.</p> <p>Verify that access to storage areas for infectious waste is limited to authorized personnel only.</p> <p>Verify that storage areas for infectious waste are labeled with the universal biohazard symbol sign and the words INFECTIOUS WASTE, MEDICAL WASTE, or BIOHAZARDOUS WASTE.</p>
<p><b>SO.110.12.SC.</b> Storage of infectious waste must meet specific refrigeration requirements (SC R 61-105(K)(5)).</p>	<p>Verify that infectious waste is maintained in a nonputrescent state, and refrigeration is used when necessary.</p> <p>Verify that onsite storage by the generator for quantities of 50 lb or less of waste do not exceed 14 days without refrigeration and 30 days if maintained at or below 42 °F.</p> <p>Verify that multi-practice offices meet the quantity limits cumulatively if using the same outside storage area.</p> <p>Verify that onsite storage by the generator for quantities of more than 50 lb does not exceed 96 h without refrigeration and 30 days if maintained at or below 42</p>

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	<p>°F.</p> <p>Verify that once infectious waste leaves the generator site, the waste is not kept for more than 24 h at ambient temperature or 96 h below 42 °F before delivery to a permitted treatment facility.</p> <p>Verify that, after infectious waste is stored in a refrigerated or frozen state by a generator, an intermediate handling facility operator, a transfer facility operator, or a transporter, the waste is maintained in a refrigerated or frozen state until treatment at a permitted treatment facility.</p> <p>Verify that treatment facilities store infectious waste below 42 °F and do not store waste for more than 48 h.</p>

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<p><b>MEDICAL WASTE</b></p> <p><b>SO.115. Transportation</b></p> <p><b>SO.115.1.SC.</b> Infectious waste offered by SQGs for transport offsite for treatment at a destination facility must meet specific requirements (SC R 61-105(G)(3)).</p> <p><b>SO.115.2.SC.</b> Generators that transport, or offer for transport, infectious waste for offsite treatment, storage, or disposal must prepare a manifest (SC R 61-105 (M)(1), (3), (4), and (5)).</p> <p><b>SO.115.3.SC.</b> Infectious waste transporters or transfer facility operators in South Carolina must be registered with the Department (SC R</p>	<p>Verify that infectious waste offered by a SQG for transport offsite for treatment at a destination facility meets the requirements for segregation of infectious wastes and all of the generator requirements.</p> <p>Determine whether the generator transports, or offers for transport, infectious waste for offsite treatment, storage, or disposal.</p> <p>Verify that the generator prepares a manifest.</p> <p>Verify that the manifest form accompanies the waste at all times after leaving the generator's facility.</p> <p>Verify that the generator hand signs all of the following certifications contained within the manifest:</p> <ul style="list-style-type: none"> <li>- certification that the waste packaging and labeling meets requirements and that the waste description is accurate</li> <li>- certification that the shipment does not contain regulated quantities of hazardous waste</li> <li>- certification that the shipment does not contain radioactive waste.</li> </ul> <p>Verify that the generator keeps one copy of the manifest after the transporter has signed accepting the shipment.</p> <p>Verify that generators notify the Department in writing if they do not receive a completed manifest appropriately signed from the destination facility within 30 days after offering for transport.</p> <p>Verify that transporters of infectious wastes generated, stored, transferred, transported, treated, or disposed of in South Carolina have valid registration from the Department whenever transporting waste.</p> <p>(NOTE: There may be exemptions to the registration requirement. Generators</p>

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61-105(N)(1) and (2); (O)(1)).	who transport their own infectious waste offsite, except for SQGs, must meet all applicable transporter requirements.)
<b>SO.115.4.SC.</b> Transporters of infectious waste must meet specific requirements for repacking defective boxes of infectious wastes (SC R 61-105(N)(4)).	Verify that transfer facility operators are registered with the Department.  Verify that infectious waste transporters meet packaging and labeling requirements when repacking defective boxes of infectious wastes.
<b>SO.115.5.SC.</b> Transporters must meet specific requirements when transporting infectious waste (SC R 61-105(N)(5)).	Verify that transporters meet all applicable infectious waste requirements when storing infectious waste.  Verify that transporters meet storage requirements in the course of transport.  Verify that transporters meet all infectious waste requirements when removing infectious waste from reusable containers.  Verify that transporters meet all infectious waste requirements when repackaging or modifying packaging of infectious waste.
<b>SO.115.6.SC.</b> Transporters must develop and follow an infectious waste management plan (SC R 61-105 (N)(6)).	Verify that transporters develop and adhere to a written infectious waste management plan approved by the Department.
<b>SO.115.7.SC.</b> Transporters must meet specific requirements for discharges of infectious waste (SC R 61-105(N)(8), (9), and (10)).	Verify that transporters prevent discharges of infectious waste from a transport vehicle into the environment.  Verify that, when an infectious waste discharge occurs during transportation or storage, the transporter takes appropriate and immediate action to prevent potential effects to human health or the environment, calls the Department's 24-h emergency number, 803-253-6488, and gives the information requested.
<b>SO.115.8.SC.</b> Transport vehicles carrying infectious	Verify that no transport vehicle containing infectious waste is left unattended for more than 1 h unless it is in a secured area not accessible to the general public.

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waste which are left unattended must meet specific requirements (SC R 61-105 (N) (11)).	
<b>SO.115.9.SC.</b> Transporters must screen all boxes of infectious waste for radioactive material (SC R 61-105(N) (12)).	<p>Verify that transporters screen all boxes of infectious waste for the presence of radioactive material before accepting the waste for transport.</p> <p>Verify that, when radioactive material is detected, the material is managed according to state and Federal requirements.</p>
<b>SO.115.10.SC.</b> Transporters must meet specific requirements when accepting infectious waste for transport (SC R 61-105(P)(1)).	<p>Verify that transporters accept for transport only infectious waste that meets all packaging and labeling requirements.</p>
<b>SO.115.11.SC.</b> Transporters must attach a waterproof identification label to the outside of each container of infectious waste accepted for transport (SC R 61-105 (P)(2)).	<p>Verify that transporters attach a waterproof identification label to the outside of each container of infectious waste accepted for transport.</p> <p>Verify that the label is affixed so it does not cover any other required labels or markings.</p>
<b>SO.115.12.SC.</b> Vehicles used to transport infectious waste must meet specific requirements (SC R 61-105 (Q)(1)(a) through (g)).	<p>Verify that a vehicle used to transport infectious waste meets the following conditions:</p> <ul style="list-style-type: none"> <li>- has a fully enclosed, leakproof, cargo-carrying body that protects the waste from animals, vectors, and weather conditions</li> <li>- the containers of waste are loaded and unloaded so no compaction or mechanical stress of the waste occurs during handling or transit</li> <li>- the cargo-carrying body is maintained in a sanitary condition and disinfected immediately after each unloading and as spills are detected</li> <li>- the cargo-carrying body is designed to prevent discharges of infectious waste, especially fluids, into the environment</li> <li>- the cargo-carrying body is decontaminated of visible debris after each unloading</li> <li>- the cargo-carrying body is sealed with a tamper-resistant seal or otherwise secured if left unattended while carrying infectious waste</li> </ul>

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<p><b>SO.115.13.SC.</b> Transport vehicles used to transport, store, or manage infectious waste must only be used for waste transport (SC R 61-105(Q)(1)(h)).</p> <p><b>SO.115.14.SC.</b> Transporters who transport or store infectious waste and other solid waste in the same cargo-carrying body must meet specific requirements (SC R 61.105(Q)(2)).</p> <p><b>SO.115.15.SC.</b> Transporters using transport vehicles to store infectious waste must meet specific requirements (SC R 61.105(Q)(3)).</p> <p><b>SO.115.16.SC.</b> Drainage from a transport vehicle's cargo-carrying body must meet specific requirements when the body carried infectious waste (SC R 61.105</p>	<ul style="list-style-type: none"> <li>- identification is permanently affixed to the cargo-carrying body on two sides and the back in letters a minimum of 3 in. in height that state:               <ul style="list-style-type: none"> <li>- the transporter's name</li> <li>- Department-issued registration number</li> <li>- <b>INFECTIOUS WASTE, MEDICAL WASTE, or BIOHAZARDOUS WASTE.</b></li> </ul> </li> </ul> <p>Verify that vehicles used to transport, store, or manage infectious waste are only used for infectious waste transport and not for any other purpose than storing materials used in conjunction with infectious waste transportation.</p> <p>Verify that transporters who transport or store infectious waste and other solid waste in the same cargo-carrying vehicle body manage both types of wastes as infectious waste.</p> <p>Verify that one of the following conditions is met when transport vehicles are used to store infectious waste:</p> <ul style="list-style-type: none"> <li>- storage is in a location inside a building with limited access and is locked when unattended</li> <li>- storage is in a location outside that is secured by a barrier which limits access and is locked when unattended.</li> </ul> <p>Verify that transport vehicles used to store infectious waste meet storage requirements.</p> <p>Verify that all drainage from the transport vehicle's cargo-carrying body discharge directly or through a holding tank to a Department-approved sanitary sewer system or approved container for appropriate treatment.</p>

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<p>(Q)(4)).</p> <p><b>SO.115.17.SC.</b> Transporters must meet specific requirements before accepting infectious waste for transport (SC R 61.105(SC R)(2)).</p> <p><b>SO.115.18.SC.</b> The transporter, transfer facility operator, and/or intermediate handling facility operator must make sure that the manifest form accompanies the infectious waste (SC R 61.105 (SC R)(3)).</p> <p><b>SO.115.19.SC.</b> Transporters must deliver the entire quantity stated on the manifest accepted from the generator or another transporter (SC R 61.105(SC R)(6) and (7)).</p> <p><b>SO.115.20.SC.</b> Transporters must submit an infectious waste transporter annual report each year to the Department (SC R</p>	<p>Verify that transporters do all the following before accepting infectious waste for transport:</p> <ul style="list-style-type: none"> <li>- visually inspect the containers to assure proper packaging, if the waste is loaded by the transporter</li> <li>- certify that the manifest accurately reflects the number and total weight of the containers being transported by signing and dating the manifest</li> <li>- return a signed and dated copy of the manifest to the generator before leaving the site.</li> </ul> <p>Verify that the transporter, transfer facility operator, and/or intermediate handling facility operator make sure that the manifest form accompanies the infectious waste at all times until the waste is unloaded for treatment.</p> <p>Verify that the transporter delivers the entire quantity stated on the manifest and accepted from the generator or another transporter to the next transporter or the destination facility listed on the manifest.</p> <p>Verify that, if the transporter cannot deliver the entire quantity stated on the manifest, the transporter takes all the following steps:</p> <ul style="list-style-type: none"> <li>- contacts the generator for further instructions</li> <li>- revises the manifest in accordance with the generator's instructions</li> <li>- delivers the entire quantity of infectious waste for that generator according to the generator's instructions.</li> </ul> <p>(NOTE: The generator's instructions must be within the law.)</p> <p>Verify that transporters accepting waste to be stored, transferred, transported, treated, disposed of, or managed in South Carolina, submit an infectious waste transporter annual report each calendar year to the Department by 15 March of the following year.</p>

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<p><b>MEDICAL WASTE</b></p> <p><b>SO.120. Treatment/Disposal</b></p> <p><b>SO.120.1.SC.</b> An infectious waste treatment facility must meet specific requirements in order to operate under a permit-by-rule (SC R 61-105(W)(1), (2) and (3)).</p> <p><b>SO.120.2.SC.</b> Generators must segregate infectious waste from solid waste as close to the point of generation as practical (SC R 61-105(H) and (E)(2)(c)).</p> <p><b>SO.120.3.SC.</b> Materials or surfaces coming into contact with infectious waste must be disinfected before reuse (SC R 61-105(L)(1) and (2)).</p>	<p>Verify that infectious waste treatment facilities with a permit-by-rule meet all the following conditions:</p> <ul style="list-style-type: none"> <li>- meet all state infectious waste requirements</li> <li>- demonstrate that more than 75 percent of the total weight of all infectious waste stored, treated, or disposed of by the facility is generated onsite</li> <li>- assure that no facility activities involve the placing of infectious waste directly into the environment</li> <li>- notify the Department that the facility is operating under a permit-by-rule.</li> </ul> <p>Verify that the Department is notified within 30 days of any changes in the information required for registration.</p> <p>Verify that generators segregate infectious waste from solid waste as close to the point of generation as practical to avoid commingling of these wastes.</p> <p>Verify that, when infectious waste is put in the same container as other waste or when solid waste is put in a container labeled infectious waste, the entire contents are managed as infectious waste, unless hazardous and/or radioactive waste requirements apply.</p> <p>(NOTE: When hazardous and/or radioactive waste regulations apply to waste that includes infectious waste, the most stringent of the regulations is to be followed.)</p> <p>Verify that materials or surfaces which came into contact with infectious waste are disinfected before reuse.</p> <p>Verify that reusable containers which contained infectious waste are disinfected immediately after being emptied or are treated along with the waste.</p> <p>Verify that vehicle bodies used to store or transport infectious waste are disinfected immediately after unloading.</p> <p>Verify that surfaces on which there was spillage of infectious waste are</p>

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<p><b>SO.120.4.SC.</b> Drainage from decontamination processes must meet specific requirements (SC R 61-105 (L)(3)).</p> <p><b>SO.120.5.SC.</b> Generators must not compact infectious waste (SC R 61-105(I)(11)).</p> <p><b>SO.120.6.SC.</b> Infectious waste must be treated before being disposed of in sanitary landfills (SC R 61.105(T)(1) and (5)).</p> <p><b>SO.120.7.SC.</b> Infectious waste treatment must meet specific requirements (SC R 61.105(T)(2), (4), (6), (9) and (10)).</p>	<p>disinfected immediately.</p> <p>Verify that disinfection is done through appropriate use of a Department-approved disinfectant.</p> <p>Verify that drainage from decontamination processes meets one of the following conditions:</p> <ul style="list-style-type: none"> <li>- discharged to a Department-approved sanitary sewer system</li> <li>- transported to a Department-approved sewerage treatment facility or permitted infectious waste treatment facility.</li> </ul> <p>Verify that generators do not compact infectious waste by any means before the waste enters the containment of the treatment process.</p> <p>Verify that infectious waste is treated before being disposed of in sanitary landfills.</p> <p>(NOTE: SQGs may treat infectious waste onsite by an approved method without being permitted as a treatment facility. An approved liquid or semiliquid infectious waste may, before treatment, be discharged directly into a Department-approved wastewater treatment disposal system. Recognizable human anatomical remains may be disposed of, before treatment, by interment or donated for medical research.)</p> <p>Verify that infectious waste treatment is by one of the following treatment methods and meets applicable state and Federal laws and regulations:</p> <ul style="list-style-type: none"> <li>- incineration</li> <li>- steam sterilization</li> <li>- chemical disinfection</li> <li>- any Department-approved method.</li> </ul> <p>Verify that, after adequate treatment, the waste residue is disposed of in accordance with state and Federal solid waste requirements.</p> <p>Verify that storage of infectious waste before treatment meets storage requirements.</p>

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<p><b>SO.120.8.SC.</b> Permitted infectious waste treatment facilities must not knowingly accept untreated microbiological cultures and stocks of etiological agents (SC R 61.105 (T)(10)).</p> <p><b>SO.120.9.SC.</b> Infectious waste or treated infectious waste must not be discharged to the environment (SC R 61.105(T)(7)).</p> <p><b>SO.120.10.SC.</b> Infectious waste disposal must meet specific requirements (SC R 61.105(U)(3)).</p> <p><b>SO.120.11.SC.</b> Infectious waste treatment facility and intermediate handling facility personnel must meet specific requirements when an accidental spill of infectious waste occurs (SC R 61.105(U) (7) and (15)).</p>	<p>Verify that treatment of infectious waste is monitored by use of biological indicators or laboratory culture of the treatment residue to ensure that pathogens have been adequately treated.</p> <p>(NOTE: The frequency of monitoring may be determined by the Department.)</p> <p>Verify that microbiological cultures and stocks of etiological agents are treated on the generator's site and are not sent offsite for treatment.</p> <p>Verify that permitted treatment facilities do not knowingly accept untreated microbiological cultures and stocks of etiological agents.</p> <p>Verify that no infectious waste or treated infectious waste is discharged into the environment.</p> <p>Verify that infectious waste is not disposed of until or unless Department-approved monitoring methods confirm effectiveness of the treatment process.</p> <p>Verify that a spill is contained to the area immediately affected.</p> <p>Verify that facility personnel immediately disinfect the contaminated area.</p> <p>Verify that personnel record the spill incident in a bound log book, including all of the following information:</p> <ul style="list-style-type: none"> <li>- quantity spilled</li> <li>- personnel involved</li> <li>- nature and consequences of the event.</li> </ul>

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	<p>Verify that the Department is immediately notified of a spill greater than 1 gal or 1 ft<sup>3</sup> of dry waste by calling the 24-h Emergency Spill Telephone Number, 803-253-6488.</p> <p>Verify that personnel pick up, repackage as required, or otherwise remove the spilled material and ensure its treatment.</p>
<p><b>SO.120.12.SC.</b> Infectious waste treatment facilities and intermediate handling facilities must meet specific requirements for personnel training (SC R 61.105(U)(8) and (15)).</p>	<p>Verify that all employees involved with handling and managing waste are trained for their responsibilities and duties.</p> <p>Verify that training documentation for employees is submitted to the Department within 30 days of completion.</p>
<p><b>SO.120.13.SC.</b> Infectious waste treatment facilities receiving waste generated in a hospital or other generator that uses radioactive material must meet specific requirements (SC R 61.105(U)(10)).</p>	<p>Determine whether the infectious waste treatment facility receives waste generated in a hospital or from a generator that uses radioactive material.</p> <p>Verify that incoming waste is screened for radioactivity.</p> <p>Verify that the instrumentation used for radioactivity screening is approved by the Bureau of Radiological Health for this screening.</p> <p>Verify that the operator is properly trained to run the screening equipment.</p> <p>Verify that the screening equipment is calibrated once annually by an authorized calibrator.</p> <p>Verify that a log of quality assurance testing and calibration of the instrumentation is maintained.</p> <p>Verify that any and all incidents in which radioactive materials are detected are reported to the Bureau of Radiological Health for guidance in dealing with the radioactive materials.</p>
<p><b>SO.120.14.SC.</b> Infectious waste treatment facilities and intermediate handling facilities must meet specific requirements for vehicle management (SC R 61.105(U)(11), (U)(12), and</p>	<p>Verify that facilities schedule shipments of waste to prevent a backlog of loaded transportation vehicles at the facility or offsite.</p> <p>(NOTE: The number of loaded and unloaded vehicles stored onsite is controlled by permit conditions.)</p> <p>Verify that facilities receiving waste generated offsite log in transport vehicles as</p>

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<p>(U)(15)).</p> <p><b>SO.120.15.SC.</b> Infectious waste incinerators must meet specific requirements (SC R 61.105(U)(13)).</p> <p><b>SO.120.16.SC.</b> Steam sterilizers must meet specific requirements (SC R 61.105 (U)(14)).</p> <p><b>SO.120.17.SC.</b> Infectious waste treatment facilities must not exceed specific limits on the amount of waste they can treat (SC R 61-105 (V)(2)).</p>	<p>they arrive at the facility, using a bound log book, and add notes to this book for every rejected shipment.</p> <p>Verify that incinerators provide complete combustion of the infectious waste to carbonized or mineralized ash and that they receive Departmental authorization for disposal of treatment residue before disposition into a South Carolina landfill.</p> <p>(NOTE: Authorization may be incorporated into a landfill permit.)</p> <p>Verify that steam sterilizers meet all of the following conditions:</p> <ul style="list-style-type: none"> <li>- Department-approved indicator organisms are used in test runs to assure proper treatment of wastes</li> <li>- use indicator organisms daily at a commercial facility and weekly at a generator facility in each steam sterilizer</li> <li>- record the temperature and time during each complete cycle to ensure the attainment of a temperature of 250 °F for 45 min or longer at 15 lb pressure, depending on quantity and density of the load, in order to achieve sterilization of the entire load, and keep records of these procedures for 3 yr</li> <li>- thermometers are checked for calibration at least annually</li> <li>- have a gauge that indicates the pressure of each cycle</li> <li>- use heat-sensitive tape or another device for each container processed to indicate that the steam sterilization temperature has been reached</li> <li>- use the biological indicator <i>Bacillus stearothermophilus</i> placed at the center of a load process under standard operating conditions to confirm the attainment of adequate sterilization conditions, and keep records of these procedures for 3 yr</li> <li>- receive Departmental authorization for disposal of treatment residue before treatment residue disposal into a sanitary landfill.</li> </ul> <p>(NOTE: Waste is not considered appropriately treated if the heat-sensitive tape or other device indicates that the steam sterilization temperature has not been reached.)</p> <p>Verify that no infectious waste treatment facility treats or disposes of more than the least of the following during any calendar month:</p> <ul style="list-style-type: none"> <li>- 1500 tons</li> <li>- one-twelfth of the Department's most recent annual estimate of the amount of infectious waste generated in South Carolina.</li> </ul>

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<p><b>SO.120.18.SC.</b> Infectious waste treatment facilities must meet specific requirements when accepting a manifested shipment (SC R 61-105(X)(2)).</p>	<p>Verify that the infectious waste treatment facility operator or his authorized agent meets all the following conditions when accepting a manifested shipment:</p> <ul style="list-style-type: none"> <li>- signs and dates each manifest copy to certify that the infectious waste was accepted</li> <li>- writes on the manifest the number of containers accepted and their total weight</li> <li>- notes any discrepancies greater than 1 percent of the container count or weight on the manifest</li> <li>- gives the transporter at least one signed manifest copy</li> <li>- certifies that there were no discrepancies greater than 1 percent or completes and submits a discrepancy report</li> <li>- signs and dates each manifest copy certifying when the waste was adequately treated</li> <li>- sends a completed manifest copy to the generator within 10 days of delivery</li> <li>- retains a completed manifest form copy for 3 yr.</li> </ul>
<p><b>SO.120.19.SC.</b> Treatment facility operators must meet specific requirements when discrepancies are discovered on manifest forms (SC R 61-105(X)(4)).</p>	<p>Verify that, when discrepancies are discovered, the operator meets all the following:</p> <ul style="list-style-type: none"> <li>- attempts to resolve the discrepancy with the waste generator or transporter</li> <li>- if the discrepancy remains unresolved, the operator submits a letter to the Department within 5 days of receipt of the waste describing the nature of the discrepancy and the attempts the operator has made to reconcile it</li> <li>- includes a legible copy of the manifest in question in any letter to the Department.</li> </ul>

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<p><b>MEDICAL WASTE</b></p> <p><b>SO.125. Documentation</b></p> <p><b>SO.125.1.SC.</b> Construction or expansion of an infectious waste facility requires a permit (SC R 61-105(V)(1), (6), (8) and (9); (BB)(1)).</p> <p><b>SO.125.2.SC.</b> An intermediate handling facility must have a permit from the Department to manage infectious waste (SC R 61-105(V)(6), (8), (9), and (15)).</p> <p><b>SO.125.3.SC.</b> An infectious waste treatment or disposal facility or generator facility must have a permit (SC R 61.105(U)(1) and (9)).</p>	<p>Verify that an installation/CW facility planning to construct or expand an infectious waste facility has a permit.</p> <p>Verify that any changes in the standard operating procedure manual required for a permit are submitted to the Department for approval.</p> <p>Verify that the standard operating procedure manual is adhered to.</p> <p>Verify that the Department is notified within 30 days of any changes in the information required for the permit or changes that would require permit modification.</p> <p>Verify that all permit conditions are met.</p> <p>(NOTE: The Department may grant a variance from state infectious waste requirements upon written petition.)</p> <p>Verify that intermediate handling facilities have a permit to manage infectious waste.</p> <p>Verify that any changes in the standard operating procedure manual required for a permit are submitted to the Department for approval.</p> <p>Verify that all permit conditions are met.</p> <p>Verify that the Department is notified within 30 days of any changes in the information required for the permit or changes that would require permit modification.</p> <p>Verify that any infectious waste treatment or disposal facility or generator facility has a permit.</p> <p>(NOTE: A separate permit is required for each site or facility, although the Department may include one or more different types of facilities in a single permit, if the facilities are located on the same site.)</p>

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<p><b>SO.125.4.SC.</b> Treatment facility operators must meet specific requirements when receiving infectious waste from offsite not accompanied by a manifest (SC R 61-105(X)(5)).</p> <p><b>SO.125.5.SC.</b> Treatment facilities must submit an annual report to the Department (SC R 61-105(Y)(2)).</p>	<p>Verify that a treatment facility operator receiving infectious waste from offsite that is not accompanied by a manifest submits an unmanifested waste report to the Department within 15 days after receiving the waste.</p> <p>Verify that treatment facilities submit an annual report to the Department for each calendar year by 15 February of the subsequent year.</p>



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<b>CONSTRUCTION/DEMOLITION LANDFILLS</b>  <b>SO.140.</b> <b>Short Term</b>	<p>(NOTE: Landfills for the disposal only of trees, stumps, wood chips, and yard trash when generation and disposal of such waste occurs on properties under the same ownership or control are exempt from the following requirements. Landfills used solely for the disposal of industrial process waste generated in the course of normal operations on property under the same ownership or control as the landfill are also exempt.)</p> <p>(NOTE: Land-clearing debris generated from agricultural or silvicultural operations generated and disposed on site are also exempt. When only hardened concrete, brick, and block, that have not been in direct contact with hazardous constituents (e.g., pesticides, etc.), petroleum products, or painted with lead-based paint, are used for structural fill in the construction of a foundation for a building project in progress, the activity is exempt.)</p> <p>Determine whether the construction/demolition landfill is a short-term landfill.</p> <p>(NOTE: A landfill is short-term if it has a proposed life of 6 mo or less and occupies 1 acre or less.)</p> <p>Verify that a permit is obtained from the Department before construction, operation, expansion, or modification of a short-term landfill.</p> <p>Verify that all permit conditions and Departmental requirements are met.</p>
<b>SO.140.1.SC.</b> A short-term construction, demolition, and land-clearing debris landfill must have a permit (SC R 61-107.11, Part I, (A)(1), (B)(1) [Revised November 1996].	<p>Verify that landfills located in a 100-yr floodplain demonstrate that the landfill will not restrict the flow of the 100-yr flood.</p> <p>Verify that the landfill is in compliance with the U.S. Army Corps of Engineers and the USEPA requirements concerning wetlands.</p> <p>Verify that access to the landfill is controlled through use of fences, gates, natural barriers, or other means to prevent promiscuous dumping and unauthorized access.</p> <p>Verify that the landfill's waste disposal boundary is not within the following distances of any of the following:</p> <ul style="list-style-type: none"> <li>- 100 ft of any property line</li> <li>- 200 ft of any residence, school, day care center, hospital, or recreational park</li> <li>- 200 ft of any surface water source or wetlands</li> </ul>
<b>SO.140.2.SC.</b> Short-term construction, demolition, and land-clearing debris landfills must meet design requirements (SC R 61-107.11 Part I, (C)(1)) [Revised November 1996].	

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<p><b>SO.140.3.SC.</b> Short-term construction, demolition, and land-clearing debris landfills must meet drainage-control requirements (SC R 61-107.11, Part I, (C)(2)) [Revised November 1996].</p> <p><b>SO.140.4.SC.</b> Short-term construction, demolition, and land-clearing landfills must meet insect and rodent control requirements (SC R 61-107.11, Part I, (C)(3)) [Revised November 1996].</p> <p><b>SO.140.5.SC.</b> Short-term construction, demolition, and land-clearing debris landfills must meet specific requirements for waste acceptability (SC R 61-107.11(D)(1)) [Revised November 1996].</p>	<p>- 100 ft of any drinking water well.</p> <p>Verify that waste material is not placed on or within 50 ft of underground or aboveground utility equipment or structures, i.e., water lines, sewer lines, storm drains, telephone lines, electric lines, etc., without the written approval of the impacted utility.</p> <p>Verify that the bottom elevation of the landfill trench is a minimum of 2 ft above the seasonal high water table as it exists before construction of the disposal area.</p> <p>Verify that construction, demolition, and landclearing debris landfills are adjacent to, or have direct access to, roads of all-weather construction and capable of withstanding anticipated load limits.</p> <p>(NOTE: The Department may approve other design requirements.)</p> <p>Verify that the disposal site is graded with a minimum of 1 percent slope so all the following occur:</p> <ul style="list-style-type: none"> <li>- runoff is minimized and diverted into the fill area of the landfill</li> <li>- erosion and ponding within the fill area are prevented</li> <li>- water is drained from the surface of the landfill.</li> </ul> <p>(NOTE: A permit from the Department may be required to discharge stormwaters to surface waters.)</p> <p>Verify that procedures are established for maintaining conditions unfavorable for the habitation and production of insects and rodents.</p> <p>Verify that only wastes listed below are accepted in short-term construction, demolition, and landclearing debris landfills:</p> <ul style="list-style-type: none"> <li>- land-clearing debris</li> <li>- hardened concrete</li> <li>- hardened/cured asphalt</li> <li>- bricks</li> <li>- blocks.</li> </ul>

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<p><b>SO.140.6.SC.</b> Short-term construction, demolition, and land-clearing debris landfills must meet specific operations requirements (SC R 61-107.11, Part I, (D)(1) through (9)) [Revised November 1996].</p>	<p>Verify that the wastes above which have been in direct contact with or may contain any hazardous constituents, lead-based paint, or petroleum products are not accepted for disposal at construction, demolition, and landclearing debris landfills.</p> <p>Verify that unauthorized prohibited wastes received at the landfill are taken to an approved facility within 48 h, unless specifically approved by the Department.</p> <p>Verify that the disposal area is staked prior to receipt of wastes, and the stakes must remain for the life of the facility.</p> <p>Verify that the unloading of solid waste intended for structural fill is restricted to the landfill's working face.</p> <p>Verify that the landfill's working face is confined to as small an area as the equipment can safely and efficiently operate in, with the slope not exceeding 33 percent.</p> <p>Verify that solid waste is spread in uniform layers and compacted to its smallest practical volume.</p> <p>Verify that a uniform compacted layer of earth cover or other suitable cover material acceptable to the Department that is at least 6 in. deep is placed over all exposed waste material at least monthly, unless otherwise approved by the Department.</p> <p>(NOTE: The Department may require more frequent cover.)</p> <p>Verify that no open burning is done at construction, demolition, and landclearing debris landfills.</p> <p>Verify that a landfill attendant is on duty at all times the facility is open.</p> <p>Verify that the facility is maintained and operated in a manner that will protect the established water quality standards of the surface waters and groundwaters.</p>
<p><b>SO.140.7.SC.</b> Short-term construction, demolition, and land-clearing debris landfills must prevent nuisances and hazards (SC R 61-107.11, Part I, (D) (10)) [Revised</p>	<p>Verify that all dust, odors, fire hazards, litter, and vectors are effectively controlled so they do not constitute nuisances or hazards.</p>

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<p>November 1996].</p> <p><b>SO.140.8.SC.</b> Short-term construction, demolition, and landclearing debris landfills must meet closure requirements (SC R 61-107.11, Part I, (E)) [Revised November 1996].</p> <p><b>Long Term</b></p> <p><b>SO.140.9.SC.</b> Long-term construction, demolition, and landclearing debris landfills must receive a permit (SC R 61-107.11, Part IV, (A)(7), (B)(1)) [Added November 1996].</p> <p><b>SO.140.10.SC.</b> Long-term construction, demolition, or landclearing debris landfills must meet design requirements (SC R 61-107.11, Part IV, (C)(1)) [Added November 1996].</p>	<p>Verify that within 5 days of closure of the entire landfill, the installation/CW facility posts signs at the landfill that state the landfill is no longer in operation.</p> <p>Verify that a 2 ft thick final earth cover with at least a 1 percent but not greater than 4 percent surface slope, graded to promote positive drainage, is applied.</p> <p>Verify that the side slope cover does not exceed 3 horizontal feet to 1 vertical foot.</p> <p>Verify that the application of the cover is completed within 6 mo, unless the Department allows otherwise.</p> <p>Verify that the finished surface of the disposal area is seeded with native grasses or other suitable ground cover within 5 days of the completion of that portion of the landfill.</p> <p>Verify that within 10 days of grading and seeding, a professional engineer licensed by the state submits a verification to the Department stated that the landfill has been properly closed.</p> <p>Determine whether the landfill is a long-term construction or demolition landfill.</p> <p>(NOTE: Long-term landfills are those in operation for longer than 6 mo or larger than 1 acre.)</p> <p>Verify that prior to construction, operation, expansion or modification of a landfill, a permit is obtained from the Department.</p> <p>Verify that landfills located in a 100-yr floodplain demonstrate that the landfill will not restrict the flow of the 100-yr flood.</p> <p>Verify that the landfill is in compliance with the U.S. Army Corps of Engineers and the USEPA requirements concerning wetlands.</p> <p>Verify that access to the landfill is controlled through use of fences, gates, natural barriers, or other means to prevent promiscuous dumping and unauthorized access.</p>

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<p><b>SO.140.11.SC.</b> Long-term construction, demolition, and landclearing debris landfills must meet drainage-control requirements (SC R 61-107.11, Part IV, (C)(2)) [Added November 1996].</p>	<p>Verify that the landfill's waste disposal boundary is not within the following distances of any of the following:</p> <ul style="list-style-type: none"> <li>- 100 ft of any property line</li> <li>- 1000 ft of any residence, school, day care center, hospital, or recreational park</li> <li>- 200 ft of any surface water source or wetlands</li> <li>- 100 ft of any drinking water well.</li> </ul> <p>Verify that the bottom elevation of the landfill trench is a minimum of 2 ft above the seasonal high water table as it exists before construction of the disposal area.</p> <p>Verify that construction, demolition, and landclearing debris landfills are adjacent to, or have direct access to, roads of all-weather construction and capable of withstanding anticipated load limits.</p> <p>(NOTE: The Department may approve other design requirements.)</p> <p>Verify that the disposal site is graded with a minimum of 1 percent slope so all the following occur:</p> <ul style="list-style-type: none"> <li>- runoff is minimized and diverted into the fill area of the landfill</li> <li>- erosion and ponding within the fill area are prevented</li> <li>- water is drained from the surface of the landfill.</li> </ul> <p>Verify that installations/CW facilities design, construct, and maintain:</p> <ul style="list-style-type: none"> <li>- a run-on control system to prevent flow onto the active portion of the landfill during peak discharge from a 25-yr storm</li> <li>- a runoff control system from the active portion of the landfill to collect and control at least the water volume resulting from a 24-h, 25-yr storm.</li> </ul> <p>(NOTE: A permit from the Department may be required to discharge stormwaters to surface waters.)</p> <p><b>SO.140.12.SC.</b> Long-term construction, demolition, and landclearing debris landfills must have access to fire equipment add fire-fighting services (SC R 61-107.11, Subpart IV, (C)(3)) [Added November 1996].</p> <p>Verify that long-term construction, demolition, and landclearing debris landfills have access to fire equipment and fire-fighting services.</p>

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<p><b>SO.140.13.SC.</b> Long-term construction, demolition, and landclearing debris landfills must meet insect and rodent control requirements (SC R 61-107.11, Part IV, (C)(4)) [Added November 1996].</p>	<p>Verify that procedures are established for maintaining conditions unfavorable for the habitation and production of insects and rodents.</p>
<p><b>SO.140.14.SC.</b> Long-term construction, demolition, and landclearing debris landfills must meet specific requirements for waste acceptability (SC R 61-107.11, Part IV, (D)) [Added November 1996].</p>	<p>Verify that only wastes listed in Appendix 9-1 are accepted in construction, demolition, and landclearing landfills.</p> <p>Verify that wastes listed in Appendix 9-2, and items listed in Appendix 9-1 that have been in direct contact with or may contain petroleum products, lead-based paint, or any hazardous constituents are not placed in the landfill.</p>
<p><b>SO.140.15.SC.</b> Long-term construction, demolition, and landclearing debris landfills must meet specific operations requirements (SC R 61-107.11, Part IV, (E)(1) through (8)) [Added November 1996].</p>	<p>Verify that unauthorized prohibited wastes received at the landfill are taken to an approved facility within 48 h, unless specifically approved by the Department.</p> <p>Verify that the unloading of solid waste intended for structural fill is restricted to the landfill's working face.</p> <p>Verify that the landfill's working face is confined to as small an area as the equipment can safely and efficiently operate in, with the slope not exceeding 33 percent.</p> <p>Verify that solid waste is spread in uniform layers and compacted to its smallest practical volume.</p> <p>Verify that a uniform compacted layer of earth cover or other suitable cover material acceptable to the Department that is at least 6 in. deep is placed over all exposed waste material at least monthly, unless otherwise approved by the Department.</p> <p>(NOTE: The Department may require more frequent cover.)</p> <p>Verify that no open burning is done at construction, demolition, and landclearing debris landfills.</p> <p>Verify that a landfill attendant is on duty at all times the facility is open.</p>

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<p><b>SO.140.16.SC.</b> Long-term construction, demolition, and landclearing debris landfills must prevent nuisances and hazards (SC R 61-107.11, Part IV, (E)(10)) [Added November 1996].</p>	<p>Verify that the facility is maintained and operated in a manner which will protect the established water quality standards of the surface waters and groundwaters.</p> <p>Verify that all dust, odors, fire hazards, and vectors are effectively controlled so they do not constitute nuisances or hazards.</p>
<p><b>SO.140.17.SC.</b> Long-term construction, demolition, and landclearing debris landfills must meet specific signage requirements (SC R 61-107.11, Part IV, (E)(12)) [Added November 1996].</p>	<p>Verify that signs that meet all the following conditions are posted and maintained in conspicuous places:</p> <ul style="list-style-type: none"> <li>- identify the operator or a contact person and telephone number in case of emergencies</li> <li>- note the hours the landfill is open for use</li> <li>- state the types of solid waste the landfill is permitted to receive.</li> </ul>
<p><b>SO.140.18.SC.</b> Long-term construction, demolition, and landclearing debris landfills must meet specific reporting requirements (SC R 61-107.11, Part IV, (E)(13) and (F)) [Added November 1996].</p>	<p>Verify that the Department is notified immediately by telephone upon implementation of the contingency plan, followed by a written confirmation.</p> <p>Verify that construction, demolition, and landclearing debris landfills maintain daily records of all the following:</p> <ul style="list-style-type: none"> <li>- type and actual or estimated weight of solid waste received</li> <li>- particular grid location of the area currently being used for disposal of solid waste.</li> </ul>
	<p>Verify that construction, demolition, and landclearing debris landfills submit to the Department by 15 October a fiscal annual report for the period of 1 July through 30 June of each year.</p> <p>Verify that the fiscal annual report information is maintained by the operator for at least 5 yr.</p> <p>Verify that 6 mo before the Department review of the facility's permit, the construction, demolition, and landclearing debris facility submits a topographic survey map of the site to the Department that shows the contours at the beginning and the end of the period since the last permit review.</p>

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<p><b>SO.140.19.SC.</b> Long-term construction, demolition, and landclearing debris landfills must meet closure requirements (SC R 61-107.11, Part IV, (G)) [Added November 1996].</p>	<p>Verify that prior to accepting any materials containing nonfriable asbestos for disposal at the landfill, the operator must include in its landfill records a copy of a "permission for disposal" letter from the Department.</p> <p>Verify that the landfill retain these letters for a period of not less than 5 yr.</p> <p>Verify that within 1 mo following the last receipt of waste at the site the application of the final cover begins.</p> <p>Verify that a 2 ft thick final earth cover with at least a 1 percent but not greater than 4 percent surface slope, graded to promote positive drainage is applied.</p> <p>Verify that the side slope cover does not exceed 3 horizontal feet to 1 vertical foot.</p> <p>Verify that the application of the cover is completed within 6 mo, unless the Department allows otherwise.</p> <p>Verify that the finished surface of the disposal area is seeded with native grasses or other suitable ground cover within 5 days of the completion of that portion of the landfill.</p> <p>Verify that within 10 days of grading and seeding, a professional engineer licensed by the state submits a verification to the Department stated that the landfill has been properly closed.</p>



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<b>SO.145.</b> <b>INCINERATORS</b>  <b>SO.145.1.SC.</b> Municipal solid waste incineration facilities must have a permit for construction, modification, or operation (SC R 61-107.12(A)(2), (C)(13), (D)(1), (L), and (K)).	<p>Verify that a permit is obtained from the Department before construction, modification, or operation of a municipal solid waste incineration facility.</p> <p>Verify that all permit conditions and Departmental orders and requirements are met.</p> <p>(NOTE: Facilities incinerating solid waste generated in the course of normal operations on property under the same ownership or control as the solid waste incineration facility are exempt from R 61-1-7.12, <i>Solid Waste Management: Municipal Solid Waste Incineration and Municipal Solid Waste Pyrolysis Facilities</i>. Facilities are required to meet applicable South Carolina Air Pollution Control regulations. Facilities with a valid permit for managing hazardous or infectious waste may be exempted from some of these requirements.)</p>



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<b>SO.150. INDUSTRIAL WASTE UNITS</b>  <b>SO.150.1.SC.</b> Industrial solid waste disposal requires a permit (SC R 61-66(II)).	Verify that installations/CW facilities, with systems for the disposal of industrial solid waste, receive a permit from the Pollution Control Authority.



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>SO.160. WASTE TIRES FACILITIES</b></p> <p><b>SO.160.1.SC.</b> Waste tire collection sites, processing facilities, and disposal sites must have permits (SC R 61-107.3(E)(1)), (C)(2), (D)(4), and (5)).</p> <p><b>SO.160.2.SC.</b> Disposal of waste tires or processed tires must meet specific requirements (SC R 61-107.3(E)(3), (4), (5) and (6)); (C)(3)).</p> <p><b>SO.160.3.SC.</b> Waste tire haulers must meet specific requirements (SC R 61-107.3(F)(3), (5) and (6); (E)(2)).</p>	<p>Verify that any installation/CW facility operating a waste tire collection site, processing facility, or disposal site has a permit.</p> <p>Verify that no construction of proposed facilities or equipment begins until all required permits are final.</p> <p>Verify that the permit conditions are met.</p> <p>(NOTE: Waste tire requirements do not apply to permitted solid waste management facilities with less than 2500 waste tires temporarily stored on the premises. Facilities must be maintained so mosquitoes and other public nuisances are prevented and controlled.)</p> <p>Verify that waste tires or processed tires are not disposed of, except at a permitted solid waste management facility.</p> <p>Verify that all tires to be landfilled or stored on site for more than 30 days are cut into eighths, unless the Department has given an exemption.</p> <p>Verify that 6 mo after 23 April 1993, whole tires are not disposed of in a landfill.</p> <p>Verify that waste tires are not stored unless the waste tires are collected and stored at a permitted waste tire collection center, or collected and stored before processing and recycling or disposal in a permitted solid waste management facility.</p> <p>Verify that any contracting for the transportation, disposal, or processing of waste tires is only done with a permitted waste tire collector.</p> <p>Verify that a waste tire hauler is registered with the Department and renews the registration annually by 1 March.</p> <p>Verify that a waste tire hauler records and maintains for 3 yr the following information:</p> <ul style="list-style-type: none"> <li>- approximate quantity of waste tires or processed tires hauled</li> <li>- where and from whom the waste tires or processed tires were hauled</li> </ul>

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<p><b>SO.160.4.SC.</b> Waste tire disposal facilities must meet specific site requirements for land disposal of cut or chopped tires (SC R 61-107.3(I)(2)(a)).</p> <p><b>SO.160.5.SC.</b> Waste tire disposal facilities must meet specific requirements for operational features and appurtenances when doing land disposal of cut or chopped tires (SC R 61-107.3(I)(2)(c)).</p> <p><b>SO.160.6.SC.</b> Waste tire disposal facilities must meet specific requirements for staff and equipment when doing land disposal of cut or chopped tires (SC R 61-107.3(I)(2)(d)).</p>	<ul style="list-style-type: none"> <li>- where the waste tires or processed tires were deposited, including receipts or other written materials documenting where those tires were stored or disposed.</li> </ul> <p>Verify that waste tire haulers submit to the Department an annual report by 1 March.</p> <p>Verify that waste tires are transported under conditions and circumstances that control mosquitoes and prevent their spread.</p> <p>Verify that waste tire haulers deposit waste tires and processed tires for storage and disposal only in one of the following:</p> <ul style="list-style-type: none"> <li>- permitted waste tire processing or collection facility</li> <li>- permitted solid waste management facility</li> <li>- another Department-approved site.</li> </ul> <p>Verify that, when land disposal of cut or chopped tires is used, the disposal location site meets all of the following conditions:</p> <ul style="list-style-type: none"> <li>- easily accessible to collection vehicles</li> <li>- has an adequate quantity of acceptable earth or other approved cover material</li> <li>- meets local zoning restrictions.</li> </ul> <p>Verify that the disposal site is provided with operational features and appurtenances necessary to maintain a clean and orderly operation, including all the following:</p> <ul style="list-style-type: none"> <li>- operational plans to direct and control use of the site</li> <li>- fencing of the site to control access, as necessary</li> <li>- an all-weather access road to the site.</li> </ul> <p>Verify that all the following staff and equipment are provided to man and operate the site:</p> <ul style="list-style-type: none"> <li>- equipment or adequate contractual arrangements for equipment sufficient for excavating, earth moving, spreading, and covering operations</li> <li>- shelter for maintenance and storage of parts, equipment, and tools</li> <li>- reserve equipment available within 24 h following equipment breakdown.</li> </ul>

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<p><b>SO.160.7.SC.</b> Waste tire disposal facilities must meet specific requirements for operations when doing land disposal of cut or chopped tires (SC R 61-107.3(I)(2)(e)).</p>	<p>Verify that solid waste is disposed of in a manner in which materials are confined and will not have a detrimental effect on the environment.</p> <p>Verify that surface water is diverted from the tire disposal area.</p> <p>Verify that, within 1 mo after final termination of disposal operations at the site, or a major part of the site, the area is covered with at least 2 ft of compacted earth material adequately sloped to allow surface water runoff.</p> <p>Verify that, within 1 mo after final termination of disposal operations at the site, or a major part of the site, the area is covered with at least 2 ft of compacted earth material adequately sloped to allow surface water runoff.</p> <p>Verify that all tires are covered at least every 30 days with at least 6 in. of well-compacted soil.</p> <p>Verify that the disposal site's finished surface is seeded with native grasses or other suitable ground cover immediately upon completion of that disposal site portion.</p> <p>Verify that, if applicable, the tires are spread and compacted in thin layers, and each layer of tires is compacted when it reaches 2 ft in depth.</p> <p>Verify that each cell is no more than 8 to 10 ft deep.</p> <p>Verify that conditions unfavorable for the habitation and production of insects and rodents are maintained at all times.</p> <p>Verify that the operator prevents and controls mosquitoes and rodents so the public health and welfare are protected and to prevent public nuisances on or from the facility.</p> <p>Verify that records of all mosquito, rodent, or pest control activities are kept and made available to the Department upon request.</p> <p>Verify that the operator implements control and prevention measures for rodents, mosquitoes, or other pests as may be required by the Department, local health department, or mosquito control program.</p> <p>Verify that access to the site is controlled so unauthorized persons are not admitted.</p> <p>Verify that site access is limited to those times when attendants are on duty or only to those authorized to use the site for tire disposal.</p> <p>Verify that the base grade elevation of the actual disposal area is 2 ft above the</p>

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<p><b>SO.160.8.SC.</b> Waste tire disposal facilities must meet specific requirements when using methods of tire disposal other than land disposal (SC R 61-107.3(I)(3)).</p> <p><b>SO.160.9.SC.</b> Waste tire disposal facilities must meet specific recordkeeping requirements (SC R 61-107.3 (I)(5)).</p> <p><b>SO.160.10.SC.</b> Waste tire disposal facilities must submit an annual report to the Department (SC R 61-107.3 (I)(6)).</p> <p><b>SO.160.11.SC.</b> Permitted and waste tire sites must meet specific requirements for closure procedures (SC R 61-107.3(J)(2)).</p>	<p>seasonal high water table as it existed before disposal area construction.</p> <p>Verify that waste tire disposal facilities choosing another method of tire disposal than land disposal are at sites accessible to collection vehicles and that meet local zoning restrictions.</p> <p>Verify that the waste tire disposal facility operator records and maintains for 3 yr facility activity information, including the following information about waste tires and processed tires received at the facility:</p> <ul style="list-style-type: none"> <li>- the name and waste tire hauler registration number of the hauler who delivered the waste or processed tires to the facility</li> <li>- the quantity of waste or processed tires received from each hauler.</li> </ul> <p>Verify that all records are available at the site for Department inspection during normal business hours.</p> <p>Verify that waste tire disposal facility operators submit an annual report to the Department by 1 March.</p> <p>Determine if the waste tire site is permitted or exempt from permitting.</p> <p>Verify that operators of permitted and waste tire sites provide written notice of intent to close and a proposed closure date to the Department at least 60 days before closure.</p> <p>Verify that closure signs are posted at the facility upon its closing.</p> <p>Verify that the complete removal of waste tires and cleaning of the waste handling areas is done within 10 days of closure.</p> <p>Verify that a Department inspection and approval of closure are requested within 10 days of closure.</p>



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<p><b>SO.160.12.SC.</b> Nonpermitted existing tire disposal sites must meet specific requirements (SC R 61-107.3(K)(2)).</p>	<p>Verify that land is graded to promote positive drainage and seeded with native vegetation to prevent erosion within 60 days of closure.</p> <p>Verify that any existing waste tire site, which does not meet the requirements for permitted waste tire management, closes within 6 mo of 23 April 1993 or applies to upgrade the facility.</p> <p>Verify that a closure plan has been approved by the Department before closure activities begin.</p> <p>Verify that the operator, in closing the site, does all the following:</p> <ul style="list-style-type: none"> <li>- stops public access</li> <li>- posts a notice indicating the site is closed and the nearest site where waste tires can be deposited</li> <li>- notifies the Department and county government of the closing</li> <li>- removes all waste tires, processed tires, and residuals to a waste tire processing facility, solid waste management facility authorized to accept waste or processed tires, or a legitimate user of processed tires</li> <li>- removes any solid waste to a permitted solid waste management facility</li> <li>- notifies the Department when closure is complete.</li> </ul>



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<p><b>SO.165. YARD WASTE/ COMPOSTING</b></p> <p><b>SO.165.1.SC.</b> Composting and/or wood-chipping facilities must register with the Department (SC R 61-107.4 (C)(2) and (3)).</p> <p><b>SO.165.2.SC.</b> Stockpiled chipped/shredded woodwaste must meet specific requirements (SC R 61-107.4 (C)(3)(c)).</p> <p><b>SO.165.3.SC.</b> Yard trash and landclearing debris must not be disposed of in a MSWLF or a resource recovery facility.</p>	<p>Determine whether the facility is engaged in one of the following exempt activities:</p> <ul style="list-style-type: none"> <li>- backyard composting in which the compost is produced from materials grown onsite</li> <li>- farming operations in which the compost is produced from materials grown on the owner's land</li> <li>- mobile chipping/shredding equipment that chips/shreds wood waste and may spread the wood waste on rights-of-way after it has been chipped or shredded</li> <li>- temporary chipping/shredding and storage of wood waste for distribution to the public, as approved by the Department</li> <li>- shredding or chipping of untreated wooden pallets or other wooden packaging used by industry in its own operations that have not had direct contact with hazardous constituents, such as petroleum products.</li> </ul> <p>Verify that the exempt activities do not create a public nuisance or any condition adversely affecting the environment or public health.</p> <p>Verify that composting facilities using yard trash and landclearing debris and/or wood-chipping facilities which chip untreated woodwaste register with the Department before construction, operation, expansion, or modification.</p> <p>Verify that the Department is notified within 10 working days of the establishment of stockpiles of chipped/shredded woodwaste or storm debris.</p> <p>(NOTE: Inactive stockpiles of chipped/shredded woodwaste or storm debris are exempt from the requirements for yard trash, landclearing debris, and compost.)</p> <p>Verify that chipped/shredded woodwaste or storm debris, temporarily stockpiled in lieu of spreading after 23 April 1993 is removed within 90 days in order to be exempt from these yard trash, landclearing debris, and compost requirements.</p> <p>Verify that yard trash and landclearing debris are not disposed of in a MSWLF or a resource recovery facility, unless the landfill provides and maintains a separate yard trash and landclearing debris composting area, and the yard trash and</p>

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<p>ery facility (SC R 61-107.4 (C)(1) and (5)).</p>	<p>landclearing debris have been separated from other municipal solid waste.</p> <p>Verify that compost is not used in any manner to endanger the public health and welfare and the environment.</p>
<p><b>SO.165.4.SC.</b> Composting and wood-chipping facilities must meet specific design requirements (SC R 61-107.4 (E)).</p>	<p>Verify that facilities located over closed-out landfills have sufficient structural support for the operation, including total waste received, material processed, compost stored, equipment, and structures built onsite.</p> <p>Verify that the facility design follows acceptable management practices for composting methods that result in the aerobic, thermophilic decomposition of the solid organic constituents of solid waste to produce a stable, hygienically safe, humus-like material.</p> <p>Verify that the facility site meets the following conditions:</p> <ul style="list-style-type: none"> <li>- if in flood plain, does not restrict the flow of a 100-yr flood</li> <li>- is maintained and operated to protect the established water quality standards of the surface waters and groundwaters</li> <li>- has a 50-ft or greater buffer between all property lines and compost pad or storage area</li> <li>- has 200-ft or greater buffer between compost pad or storage area and residences or dwellings</li> <li>- has a 200-ft or greater buffer between streams and rivers and compost pad or storage area</li> <li>- has a 100-ft or greater buffer between all drinking water wells and the active composting area</li> <li>- bottom elevation of the compost pad and storage areas is a minimum of 2 ft above seasonal high water table as it exists before disposal area construction</li> <li>- site access is controlled through use of fences, gates, berms, natural barriers, or other means</li> <li>- is not located within any wetlands as delineated and defined specifically as wetlands according to the methodology accepted by the USACE and USEPA</li> <li>- has access to fire equipment and fire-fighting services.</li> </ul> <p>(NOTE: Alternative buffers for a covered facility may be approved by the Department.)</p>
<p><b>SO.165.5.SC.</b> Composting and/or wood-chipping facilities must meet specific operation requirements (SC R 61-</p>	<p>Determine whether the facility composts yard trash and landclearing debris and/or chips untreated wood waste.</p> <p>Verify that the facility is operated so vectors are controlled.</p>

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107.4(F)(1) through (6)).	<p>Verify that only yard trash and landclearing debris are accepted at the facility.</p> <p>Verify that odors and dust are controlled and minimized.</p> <p>Verify that, if solid waste other than yard trash or landclearing debris is left at the facility, it is separated and stored so vector problems are prevented and it is properly disposed of within 7 days of its receipt.</p> <p>Verify that waste with a low carbon to nitrogen ratio, such as grass clippings, is incorporated into piles within 48 h of onsite arrival.</p>
<b>SO.165.6.SC.</b> Composting and/or wood-chipping facilities must meet specific requirements for drainage control (SC R 61-107.4(7) and (8)).	<p>Verify that stormwater is diverted from the operational area.</p> <p>Verify that windrows are constructed parallel to topographical slopes.</p> <p>Verify that the site is graded to prevent ponding of water in the active composting areas.</p> <p>(NOTE: A National Pollutant Discharge Elimination System (NPDES) permit may be required before stormwaters can be discharged to surface waters.)</p>
<b>SO.165.7.SC.</b> Composting and/or wood-chipping facilities must meet specific requirements for access and security (SC R 61-107.4 (F)(9)).	<p>Verify that the site is secured by means of gates, chains, berms, fences, or other security measures to prevent unauthorized entry.</p> <p>Verify that an all-weather road to the site is maintained in good condition.</p>
<b>SO.165.8.SC.</b> Composting and/or wood-chipping facilities must meet specific signage requirements (SC R 61-107.4(F)(10)).	<p>Verify that signs are posted in conspicuous places to identify the operator or contact person, and his or her telephone number in case of emergency, and the hours when the site is open for use.</p> <p>Verify that traffic signs or markers are provided as necessary to promote an orderly traffic pattern to and from the discharge area and to maintain efficient operating conditions.</p> <p>Verify that signs are posted stating that only yard trash and landclearing debris can be accepted at the site, unless the site is also permitted by the Department for solid waste disposal.</p>

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<b>SO.165.9.SC.</b> Composting and/or wood-chipping facilities must meet specific safety requirements (SC R 61-107.4 (F)(11)).	<p>Verify that no open burning of solid waste occurs at a composting facility.</p> <p>Verify that equipment is provided to control accidental fires and/or arrangements are made with the local fire protection agency to immediately provide fire-fighting services when needed.</p> <p>Verify that space is provided between piles to allow access for vehicles, including fire equipment.</p>
<b>SO.165.10.SC.</b> Composting and/or wood-chipping facilities must meet monitoring requirements (SC R 61-107.4 (F)(12)(a)).	<p>Verify that any environmental monitoring required by the Department is done.</p>
<b>SO.165.11.SC.</b> Composting and/or wood-chipping facilities must submit an annual report (SC R 61-107.4(F)(12) (b)).	<p>Verify that an annual report is submitted by 15 October to the Department and the respective county or region where the facility is located.</p>
<b>SO.165.12.SC.</b> Composting and/or wood-chipping facilities must meet specific closure requirements (SC R 61-107.4 (G)(2)).	<p>Verify that all composting and wood-chipping facilities provide written notice of intent to close and a proposed closure date to the Department at least 60 days before closure.</p> <p>Verify that, upon closing, closure signs are immediately posted at the facility.</p> <p>Verify that complete removal of compost material and cleaning of the waste-handling areas is done within 10 days of closure and that Department inspection and approval of closure is requested.</p> <p>Verify that, within 60 days of closure, land is graded to promote positive drainage and seeded with native grasses to prevent erosion.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
<b>SO.170.</b> <b>OTHER</b> <b>DISPOSAL UNITS</b>  <b>SO.170.1.SC.</b> Municipal solid waste incinerator ash landfills require a permit (SC R 61-107.13).	<p>Verify that the installation/CW facility obtains a permit for municipal solid waste incinerator ash landfills from the South Carolina Department of Health and Environmental Control.</p> <p>Verify that the installation/CW facility complies with the requirements of the permit.</p>





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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>SO.175. OTHER TREATMENT UNITS</b></p> <p><b>SO.175.1.SC.</b> Existing solid waste processing facilities must meet specific requirements (SC R 61-107.5(C)(2) and (3))</p> <p><b>SO.175.2.SC.</b> Solid waste processing facilities must have a permit (SC R 61-107.5(C)(5) and (7), (D)(1), and (K)).</p> <p><b>SO.175.3.SC.</b> Leachate and washwater from a solid waste processing facility must not drain or discharge into waters of the state without a permit (SC R 61-107.5 (F)(3)(e)).</p>	<p>Verify that all installations with existing solid waste processing facilities submit to the Department as-built plans of the existing facility within 6 mo of 28 May 1993.</p> <p>Verify that existing facilities receiving solid waste for processing meet the requirements within 12 mo of 28 May 1993.</p> <p>Verify that a permit from the Department is obtained before construction, modification or operation of a solid waste processing facility.</p> <p>Verify that there is a permit for each solid waste processing site or facility.</p> <p>Verify that all conditions of permits and Departmental orders are met.</p> <p>(NOTE: The Department may include one or more different types of facilities in a single permit if the facilities are collocated on the same site.)</p> <p>Verify that the solid waste processing facility permittee notifies the Department before transferring ownership or operation of the facility during its operating life or the postclosure care period.</p> <p>Verify that a solid waste processing facility has an effluent disposal permit approved by the Department before draining or discharging leachate or washwater into waters of the state.</p> <p>Verify that records of any monitoring required by the Department are kept for 5 yr from the sample or measurement date, unless otherwise specified by the Department.</p>



## Appendix 9-1

### Acceptable Waste for Construction, Demolition, and Landclearing Debris Landfills (Source: R 61-107.11, Appendix I)

The Department has determined the following types of waste to be environmentally safe and may be accepted at construction, demolition, and landclearing debris landfills, unless specifically prohibited by the Department. However, any of the materials listed in this appendix that have been painted with lead-based paint and/or have been in direct contact with hazardous constituents (e.g., petroleum products, pesticides, etc.) are prohibited from disposal at a construction, demolition, and landclearing debris landfill.

<b>Acceptable landclearing debris such as:</b>		
earthen material (e.g., clays, sands, gravels, and silts)	top soil	root mats
logs	vegetation	brush and limbs
tree stumps	rock	
<b>Acceptable construction and demolition debris such as:</b>		
structural steel	hardened concrete	glass
bricks and blocks	lumber	mirrors
plaster and plasterboard	insulation material	tires <sup>2</sup>
shingles and roofing materials	floor, wall, and ceiling tile	other structural fabrics
hardened/cured asphalt <sup>1</sup>	hardened cement	floor coverings
pipes	glass wire (optical fiber)	wall coverings
poly fiberglass (highly polished, cured material used to build boats, etc.)	other items physically attached to the structure (e.g., signs, mail boxes, awnings, etc.)	nonfriable asbestos-containing material <sup>3</sup>

<sup>1</sup> Tar sealant material is not acceptable.

<sup>2</sup> Tires shall be reduced in size by a minimum of 1/8 the size of the original tire prior to landfill disposal. Any landfill that accepts tires shall be required to obtain a waste tire disposal facility permit from the Department in addition to its landfill permit.

<sup>3</sup> Nonfriable asbestos-containing material in good condition and not handled in a way to render it regulated material and thus subject to Bureau of Air Quality Control (BAQC) Regulation 61-86.1, *Standards of Performance for Asbestos Abatement Operations*, and the *National Emissions Standards for Hazardous Air Pollutants* (NESHAPs) (40 CFR 61 Subpart M). Prior to disposal of any asbestos-containing material, the generator of the asbestos waste must have a permission for disposal letter from the Department's BAQC.



## Appendix 9-2

### Unacceptable Waste (Source: R 61-107.11, Appendix II)

The following types of waste have been determined to pose a potential threat to the environment and may not be accepted at construction, demolition, and landclearing debris landfills.

<b><i>Any waste that has been in contact with lead-based paint such as:</i></b>	
plaster and plasterboard	metal poles
concrete	painting equipment
wall paper	mechanical parts
containers (cans, buckets, etc.)	lumber (siding, cabinets, shingles, etc.)
<b><i>Any waste that has been in contact with petroleum products such as:</i></b>	
storage tanks	containers
pipes	filters (oil, etc.)
concrete	absorbent (vermiculite)
soil	mechanical/machine parts
paper towels and rags	
<b><i>Any waste that has been in contact with friable asbestos material such as:</i></b>	
pipe insulation	broken/chipped floor tiles
asbestos-cement products that have been crumbled/ pulverized	friable asbestos containing material <sup>1</sup>
roofing material that has been cut with a saw	
<b><i>Any waste that has been in contact with PCBs such as:</i></b>	
transformers	capacitors
electrical components	lighting ballasts
any liquid containing PCBs	
<b><i>Any waste that has been in contact with solvents (industrial plants, chemical plants, laboratories, construction sites, etc.) such as:</i></b>	
caulking compounds	paint thinner
containers (packaging)	pipes
filters	vats
pumps	adhesives
mechanical/machine parts (valves)	cement
flooring (wood, carpet)	cabinets (shelves)
soil	tar
storage tanks	glazing compounds
absorbent	
<b><i>Any waste that has been in contact with preservatives (pentachlorophenol, creosote, arsenic/chromium) such as:</i></b>	
railroad ties	utility poles
soil	containers
any mechanical part used in a manufacturing process	
<b><i>Any waste that has been in contact with pesticides/herbicides such as:</i></b>	
containers (packaging)	vats
soil	concrete
mechanical/machine parts	wood (storage area)

any equipment used for application	
<b>Miscellaneous waste such as:</b>	
lamps (mercury) <sup>2</sup>	unpolished fiberglass (Bondo)
liquid waste (paint, paint thinner, etc.)	solid waste which may contain a waste or substance determined by the Department to be unacceptable

<sup>1</sup> Any waste containing friable asbestos material as defined by the BAQC Regulations 61-86.1 and NESHAPs shall be disposed of at a location approved by the BAQC.

<sup>2</sup> Fluorescent lamps and high intensity discharge (HID) lamps such as metal halide and mercury vapor lamps.

## SECTION 10

### STORAGE TANK MANAGEMENT

#### South Carolina Supplement, November 1997

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.

#### Definitions

These definitions were obtained from the South Carolina Hazardous Waste Regulations (SC R.), Sections R.61-79.124 through R.61-79.279 and from the Underground Storage Tank (UST) Control Regulations from the South Carolina Department of Health and Environmental Control (DHEC), Groundwater Protection Division, R. 61 - 92, Part 280.

- *Aboveground Release* - any release to the surface of the land or to surface water. This includes releases from the aboveground portion of an UST system and aboveground releases associated with overfills and transfer operations as the regulated substance moves to or from a UST system.
- *Ancillary Equipment* - any device, including devices such as piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from a UST.
- *Belowground Release* - any release to the subsurface of the land and to groundwater. This includes releases from the belowground portions of a UST system and belowground releases associated with overfills and transfer operations as the regulated substance moves to or from a UST.
- *CERCLA* - the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) of 1980, as amended.
- *Compatible* - the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the UST system under conditions likely to be encountered in the UST.
- *Consumptive Use* - with respect to heating oil, means consumed on the premises.
- *Corrosion Expert* - a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal UST. This person must be accredited or certified as being qualified by the National Association of Corrosion Engineers (NACE) or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal USTs.
- *Department* - the South Carolina DHEC.
- *Dielectric Material* - a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate UST systems from the surrounding soils. Dielectric bushings are used to electrically isolate portions of the UST system.

- *Excavation Zone* - the volume containing the UST system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the UST system is placed at the time of installation.
- *Existing Tank System* - a tank system or component that is used for storage or treatment of hazardous waste and that is in operation, or for which installation commenced on or prior to 14 July 1986.
- *Existing UST System* - a UST system used to contain a regulated substance or for which installation has commenced on or before 22 December 1988. Installation is considered to have commenced if both of the following requirements are met:
  1. the installation has obtained all Federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the UST system
  2. at least one of the following two requirements is met:
    - a. a continuous onsite physical construction or installation program has begun
    - b. the installation has entered into contractual obligations that cannot be cancelled or modified without substantial loss, for physical construction at the site or installation of the UST system to be completed within a reasonable time.
- *Farm Tank* - a tank located on a tract of land devoted to the production of crops or raising of animals, including fish, and associated residences and improvements. A farm tank must be located on farm property. *Farm* includes fish hatcheries, rangeland, and nurseries with growing operations.
- *Flow-Through Process Tank* - a tank that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction into the production process or for the storage of finished products or byproducts from the production process.
- *Freeboard* - the vertical distance between the top of a tank and the surface of the waste contained therein.
- *Free Product* - refers to a regulated substance that is present as a nonaqueous phase liquid.
- *Gathering Lines* - any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations.
- *Hazardous Substance UST System* - a UST system that contains a hazardous substance defined in *CERCLA*, except subtitle C, or any mixture of these substances and petroleum, and that is not a petroleum UST system.
- *Heating Oil* - petroleum that is any of the following:
  1. No. 1, No. 2, No. 4-light, No. 4-heavy, No. 5-light, No. 5-heavy, and No. 6 technical grades of fuel oil
  2. other residual fuel oils (including Navy Special Fuel Oil and Bunker C)
  3. other fuels when used as substitutes for one of these fuel oils.
 Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.
- *Hydraulic Lift Tank* - a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.
- *Liquid Trap* - sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations (including gas production plants) for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.
- *Maintenance* - the normal operational upkeep to prevent a UST system from releasing product.



- *Motor Fuel* - petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, and is typically used in the operation of a motor engine.
- *New UST System* - a UST system that will be used to contain an accumulation of regulated substances and for which installation has commenced after 22 December 1988.
- *Noncommercial Purposes* - with respect to motor fuel, means not for resale.
- *On the Premises Where Stored* - with respect to heating oil, means UST systems located on the same property where the stored heating oil is used.
- *Operational Life* - refers to the period beginning when installation of the UST system has commenced until the time the UST system is properly closed.
- *Operator* - any person in control of, or having responsibility for, the daily operation of the UST system.
- *Overfill Release* - a release that occurs when a UST is filled beyond its capacity, resulting in a discharge of the regulated substance to the environment.
- *Owner* - in the case of a UST system in use on 8 November 1984, or brought into use after that date, any person who owns an UST system used for storage, use, or dispensing of regulated substances; in the case of any UST system in use before 8 November 1984 but no longer in use on that date, any person who owned the UST immediately before the discontinuation of its use.
- *Person* - an individual, trust, firm, joint stock company, Federal agency, corporation, state, municipality, commission, political subdivision of a state, any interstate body, consortium, joint venture, commercial entity, and the U.S. Government.
- *Petroleum UST System* - a UST system that contains petroleum or a mixture of petroleum with de minimis quantities of other regulated substances. These systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.
- *Pipe or Piping* - a hollow cylinder or tubular conduit constructed of nonearthen materials.
- *Pipeline Facilities* (including *gathering lines*) - new and existing pipe rights-of-way and any associated equipment, facilities, or buildings.
- *Regulated Substance* - any substance defined in CERCLA, except hazardous wastes and petroleum, including crude oil or any fraction thereof that is liquid at standard conditions of temperature and pressure (60 °F (15.6 °C) and 14.7 psia). This includes petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons derived from crude oil through processes of separation, conversion, upgrading, and finishing, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.
- *Release* - any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from a UST into groundwater, surface water, or subsurface soils.
- *Release Detection* - determining whether a release of a regulated substance has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or secondary containment around it.
- *Repair* - to restore a UST or UST system component that has caused a release of product from the UST system.
- *Residential Tank* - a tank located on property used primarily for dwelling purposes.

- *Secondary Containment* - an impervious layer of materials installed around a UST system, so any volume of regulated substances that may be released from a UST will be prevented from contacting the environment outside the impervious layer for the period of time necessary to detect and recover released, regulated substances. Materials or devices used to provide a secondary containment may include concrete, impervious liners, double-wall UST or other materials or devices, singularly or in combination, approved by the Department.
- *Septic Tank* - a watertight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from the receptacle is distributed for disposal through the soil, and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.
- *Stormwater or Wastewater Collection System* - piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water runoff resulting from precipitation or domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of stormwater and wastewater does not include treatment except when incidental to conveyance.
- *Surface Impoundment* - a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials) that is not an injection well.
- *Tank* - a stationary device designed to contain an accumulation of regulated substances and constructed of nonearthen materials that provide structural support.
- *Tank System* - see UST System.
- *Underground Storage Tank or UST* - any one or combination of tanks (including underground pipes connected thereto) used to contain an accumulation of regulated substances, and the volume of which (including the volume of underground pipes connected thereto) is 10 percent or more beneath the surface of the ground. This term does not include any of the following:
  1. a farm or residential tank of 1100 gal or less capacity used for storing motor fuel for noncommercial purposes
  2. a tank used for storing heating oil for consumptive use on the premises where stored
  3. a septic tank
  4. a pipeline facility (including gathering lines) regulated under:
    - a. the *Natural Gas Pipeline Safety Act* of 1968
    - b. the *Hazardous Liquid Pipeline Safety Act* of 1979
    - c. that is an intrastate pipeline facility regulated under state laws comparable to the provisions of the *Natural Gas Pipeline Safety Act* or the *Hazardous Liquid Pipeline Safety Act*
  5. surface impoundment, pit, pond, or lagoon
  6. stormwater or wastewater collection system
  7. flow-through process tank
  8. liquid trap or associated gathering lines directly related to oil or gas production and gathering operations
  9. storage tank situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

The term excludes any pipes connected to any tank described in this definition.
- *Upgrade* - the addition or retrofit of some systems such as cathodic protection, lining, or spill and overfill controls to improve the ability of a UST system to prevent the release of product.
- *UST System* - a UST, connected underground piping, underground ancillary equipment, and containment system, if any.

- *Wastewater Treatment Tank* - a tank designed to receive and treat influent wastewater through physical, chemical, or biological methods.



<p align="center"><b>STORAGE TANK MANAGEMENT</b>  <b>GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS</b></p>	
<p align="center"><b>REFER TO CHECKLIST ITEMS:</b></p>	
Aboveground Storage Tanks (ASTs)	ST.5.1.SC. through ST.5.5.SC.
Emissions From Bulk Gasoline Terminals	ST.10.1.SC. and ST.10.2.SC.
Emissions From Petroleum, Oil, and Lubricant (POL) Storage Vessels	ST.15.1.SC. through ST.15.6.SC.
UST State Specific	ST.30.1.SC. through ST.30.5.SC.
New or Upgraded USTs	ST.35.1.SC. through ST.35.3.SC.
UST Releases	ST.80.1.SC.
<p>(NOTE: This chapter has been extensively revised for November 1997; several checklist items have been deleted without comment, including entire sections of the checklist.)</p>	



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>ST.5. ABOVEGROUND STORAGE TANKS (ASTs)</b></p> <p><b>ST.5.1.SC.</b> The aboveground storage of flammable and combustible liquids must meet specific tank design requirements (SC R 39-41-260 (A), (B), (D), (I), (J), and (P)).</p> <p><b>ST.5.2.SC.</b> The aboveground storage of flammable and combustible liquids must meet specific site design requirements (SC R 39-41-260 (C) and (D)).</p>	<p>(NOTE: Service stations with an existing AST of capacity in excess of 12,000 gal liquid on 12 June 1990 are exempt from all service station requirements.)</p> <p>Determine whether the installation/CW facility stores, handles, or uses flammable or combustible liquids.</p> <p>Verify that more than 32,000 gal aggregate capacity of flammable or combustible liquids, or both, is not stored aboveground at service stations.</p> <p>Verify that no single storage tank exceeds 12,000 gal capacity.</p> <p>Verify that service stations with 12,000 gal aggregate storage capacity <b>do not</b> have a storage tank in excess of 4000 gal liquid capacity.</p> <p>Verify that all horizontal tanks located at service stations are installed on steel supports welded to the tank and not to exceed 6 in. in height or are placed on concrete support cradles.</p> <p>Verify that all vertical tanks are installed on gravel with a minimum of 6 in. of reinforced concrete footing.</p> <p>Verify that all footing is larger than the diameter of the tank.</p> <p>(NOTE: Two single portable tanks of 660 gal capacity or less of Class II or Class III combustible liquid are allowed at service stations and are exempt from the these requirements.).</p> <p>Verify that all ASTs at service stations are enclosed by an 8-ft high industrial type chain link fence with barbed wire barricade with a minimum of two means of emergency access located at opposite ends of the enclosure.</p> <p>Verify that each access is at least 36-in. wide and is locked at all times, except when entering or exiting.</p> <p>Verify that there is a minimum working distance of at least 5 ft between the tank and the fence.</p> <p>(NOTE: Service stations existing on 12 June 1990 with ASTs that are enclosed with a fence constructed are allowed to continue operating with a substandard</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>ST.5.3.SC.</b> The aboveground storage of flammable and combustible liquids must meet specific piping and valve requirements (SC R 39-41-260 (G), (H), and (L) through (O)).</p>	<p>working distance between the tanks and the fence.)</p> <p>Verify that all ASTs located at service stations with 30,000 gal aggregate storage capacity are located at least 50 ft from a dispenser, at least 50 ft from the nearest side of a public way, and at least 100 ft from a property line that is or can be built upon, including the opposite side of a public way.</p> <p>Verify that all ASTs located at service stations with 12,000 gal aggregate storage capacity are located at least 37 ft from a dispenser, at least 37 ft from the nearest side of a public way, and at least 40 ft from a property line that is or can be built upon including the opposite side of a public way.</p> <p>Verify that all feeder lines from ASTs to dispensers located at service stations are located underground and are covered with at least 3 ft of earth cover or 18 in. of well tamped earth cover plus 6 in. of reinforced concrete or 8 in. of asphaltic concrete.</p> <p>Verify that piping is equipped with a 52 valve that cuts off the flow of liquid when the dispensing pump is not operating, as well as a quick shut-off device at the tank that will shut off the flow of product.</p> <p>Verify that a means is provided to enable determination of liquid level in ASTs located at service stations without requiring a person to climb atop the tank.</p> <p>Verify that provisions are made to either automatically shut off fuel delivery into the AST when the liquid level in the tank reaches 95 percent of capacity or to sound an audible alarm.</p> <p>(NOTE: The liquid level determination and automatic fuel shut off requirements do not apply to horizontal tanks of 4000 gal or less and vertical tanks of 2000 gal or less that must be filled with a hand-held hose.)</p> <p>Verify that regardless of whether a suction or submersible pump system is used, a listed emergency shut-off valve is installed in accordance with National Fire Protection Association (NFPA) Pamphlet No. 30A, 1987 Edition, at each dispenser connected to an AST located at a service station.</p> <p>Verify that fill connections at service stations for tank vehicle unloading operations are located at least 25 ft from ASTs, dispensers, building, and property lines.</p> <p>Verify that a check valve, gate valve, and quick connector or a dry break valve are installed in the piping at a point where connection and disconnection is made for remote tank vehicle unloading.</p>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>ST.5.4.SC.</b> The aboveground storage of flammable and combustible liquids must meet specific operational requirements (SC R, 39-41-260 (C) and (K)).</p> <p><b>ST.5.5.SC.</b> Renovation and construction of a service station with ASTs requires approval (SC R 39-41-260 (F)).</p>	<p>Verify that these devices are protected against tampering and physical damage.</p> <p>Verify that means are provided to prevent or contain spillage during fuel delivery operations.</p> <p>(NOTE: This requirement does not apply to horizontal tanks of 4000 gal or less and vertical tanks of 2000 gal or less.)</p> <p>Verify that fill connections at service stations existing on 12 June 1990 are exempt from the fill connection distance requirement.</p> <p>Verify that unattended service stations have a card lock or key lock dispensing device (in accordance with NFPA Pamphlet No. 30A, 1987 Edition).</p> <p>Verify that the area inside the fence and diked area is at all times clear of trash, combustible storage, and vegetation.</p> <p>Verify that all ASTs located at service stations are clearly labeled with appropriate placards as to the contents of volume and are kept free of scale and painted.</p> <p>Verify that the renovation and construction of service stations with ASTs to store flammable or combustible liquids, or both, are approved by the State Fire Marshall.</p>



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<p><b>ST.10. EMISSIONS FROM BULK GASOLINE TERMINALS</b></p> <p><b>ST.10.1.SC.</b> Bulk gasoline terminals must meet general emissions requirements for Volatile Organic Chemicals (VOCs) (SC R 61-62.5(5)(II)(T)(3)).</p> <p><b>ST.10.2.SC.</b> Bulk gasoline terminals must meet specific emissions requirements for VOCs (SC R 61-62.5(5)(II)(T) (1 and 2)).</p>	<p>Verify that bulk gasoline terminals and the appurtenant equipment necessary to load or unload gasoline trucks meet the requirements of the compliance schedule for sources of VOC.</p> <p>Verify that the installation/CW facility with a source subject to compliance schedule for sources of VOC has certified to the Department, within 5 days after the deadline for each increment of progress, whether the required increment of progress has been met.</p> <p>Verify that bulk gasoline terminals are equipped with a vapor control system, properly installed, in good working order, in operation, and consisting of one of the following:</p> <ul style="list-style-type: none"> <li>- an absorber or condensation system that does not allow mass emissions of VOC to exceed 4.7 gr/gal of gasoline loaded</li> <li>- a vapor collection system that directs all vapors to a fuel gas system</li> <li>- alternative controls approved by the Department.</li> </ul> <p>Verify that all displaced vapors are vented only to the vapor control system.</p> <p>Verify that means are provided to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected.</p> <p>Verify that all loading and vapor lines are equipped with fittings that make vaportight connections and that close automatically when disconnected.</p> <p>Verify that the installation/CW facility meets the following requirements for the management of gasoline:</p> <ul style="list-style-type: none"> <li>- avoidable visible liquid leaks during loading or unloading operations</li> <li>- pressure in the vapor collection system does not exceed the gasoline tank truck pressure relief settings</li> <li>- gasoline is not discarded in sewers</li> <li>- gasoline is not stored in open containers</li> <li>- gasoline is not handled in any manner that would result in evaporation.</li> </ul>



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<p><b>ST.15. EMISSIONS FROM POL STORAGE VESSELS</b></p> <p><b>ST.15.1.SC.</b> Fixed roof tanks must meet general requirements for VOC emissions from stored petroleum liquid (SC R 61-62.5(5)(II)(O) (3)(a) and (b)).</p> <p><b>ST.15.2.SC.</b> Fixed roof tanks must meet specific requirements for VOC emissions from stored petroleum liquid (SC R 61-62.5 (5)(II)(O)).</p> <p><b>ST.15.3.SC.</b> Openings of fixed-roof tanks storing petroleum liquid must meet specific requirements (SC R 61-62.5(5) (II)(O)(d)).</p>	<p>Verify that regulated petroleum liquid stored in fixed roof tanks meets the requirements of the compliance schedule for sources of VOC (see Appendix 1-6 in the <i>Air Emissions Management</i> chapter of this manual).</p> <p>Verify that the installation/CW facility with a VOC source subject to a compliance schedule reports progress to the Department, within 5 days after the deadline for each increment of progress.</p> <p>Determine whether the installation/CW facility operates any fixed-roof storage tanks with capacities of 40,000 gal or greater that contain VOCs with a true vapor pressure is greater than 1.52 psia.</p> <p>Verify that the installation/CW facility meets the following requirements for petroleum liquid stored in fixed roof tanks:</p> <ul style="list-style-type: none"> <li>- retrofitted with an internal floating roof equipped with a closure seal or seals to close the space between the roof edge and tank wall</li> <li>- the source has been retrofitted with an equally effective alternative control approved by the Department</li> <li>- maintained so that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials</li> <li>- inspections are conducted through roof hatches once per month, and a complete inspection of cover and seal is conducted whenever the tank is emptied for nonoperational reasons, or once per year.</li> </ul> <p>Verify that, for petroleum liquid stored in fixed roof tanks, all openings except stub drains are equipped with covers, lids, or seals so following requirements are met:</p> <ul style="list-style-type: none"> <li>- the cover, lid, or seal is in the closed position at all times, except when in actual use</li> <li>- automatic bleeder vents are closed at all times, except when the roof is floated off or landed on the roof leg supports</li> <li>- 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.</li> </ul>

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**ST.15.4.SC.** Fixed-roof tanks in which petroleum liquid is stored must meet specific recordkeeping requirements (SC R 61-62.5(5)(II) (O)(f)).

Verify that the following records are maintained for fixed-roof tanks:

- reports of results from inspections
- average monthly storage temperatures and true vapor pressures of petroleum liquids stored
- throughput quantities and types of petroleum liquids for each storage tank.

**ST.15.5.SC.** External floating-roof tanks must meet general requirements for petroleum liquid storage (SC R 61-62.5(5)(II) (P)(1) and (3)(a and b)).

(NOTE: The following petroleum liquid storage tanks are exempt from these requirements:

- tanks that contain a petroleum liquid with a true vapor pressure less than 27.6 kPa (4.0 psia) and are of welded construction presently possessing a metallic-type shoe seal, a liquid mounted foam seal, a liquid mounted and liquid filled type seal, or other closure device of demonstrated equivalence approved by the Department
- tanks that are of welded construction, are 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).)

Determine whether the installation/CW facility operates any petroleum liquid storage tanks with external floating roofs and capacities greater than 150,000 L.

Verify that regulated petroleum liquid stored in external floating roof tanks meet the requirements of the compliance schedule for sources of VOC (see Appendix 1-6 in the *Air Emissions Management* chapter of this manual).

Verify that the installation/CW facility with a VOC source subject to the compliance schedule reports progress to the Department within 5 days after the deadline for each increment of progress.

Verify that the installation/CW facility meets the specific requirements for petroleum liquid stored in external floating-roof tanks.

**ST.15.6.SC.** Installations/ CW facilities must meet specific requirements for VOCs emitted from petroleum liquid stored in external floating roof tanks (SC R 61-62.5(5)(II)(P)(2)).

Verify that these tanks have been fitted with a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal), or with a closure or other device approved by the Department.

Verify that all seal closure devices meet the following requirements:

- there are no visible holes, tears, or other openings in the seal or seal fabric
- seals are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall
- for vapor-mounted seals, the area of accumulated gaps between the

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	<p>secondary seal and the tank wall does not exceed 21.2 cm<sup>2</sup>/m of tank diameter.</p> <p>Verify that all openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, meet the following requirements:</p> <ul style="list-style-type: none"> <li>- are equipped with covers, seals, or lids in the closed position, except when openings are in actual use</li> <li>- are equipped with projections into the tank that remain below the liquid surface at all times.</li> </ul> <p>Verify that automatic bleeder vents are closed at all times, except when the roof is floated off or landed on the roof leg supports.</p> <p>Verify that rim vents are set to open only when the roof is being floated off the leg supports, or at the manufacturer's recommended setting.</p> <p>Verify that emergency roof drains are provided with slotted membrane fabric covers or equivalent covers at least 90 percent of the area of the opening.</p> <p>Verify that the installation/CW facility meets the following requirements:</p> <ul style="list-style-type: none"> <li>- annual inspections are performed on tanks, including a visual inspection of the secondary seal gap</li> <li>- the secondary seal gap is measured annually when the floating roof is equipped with a vapor-mounted seal</li> <li>- records of these inspections are maintained</li> <li>- records of the throughput quantities and types of petroleum liquids stored are maintained.</li> </ul>





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<b>ST.30.</b> <b>UST STATE SPECIFIC</b>	<p>(NOTE: The following are exempt from the State requirements for USTs:</p> <ul style="list-style-type: none"> <li>- any UST system holding hazardous wastes listed or identified under Subtitle C of the <i>Solid Waste Disposal Act</i>, or a mixture of those hazardous wastes and other regulated wastes</li> <li>- any wastewater treatment tank system that is part of a wastewater treatment facility regulated under the <i>Clean Water Act</i></li> <li>- equipment or machinery that contains regulated substances for operational purposes such as hydraulic lift tanks and electrical equipment tanks</li> <li>- any UST system with a capacity of 110 gal or less</li> <li>- any UST system that contains a <i>de minimis</i> concentration of regulated substance</li> <li>- any emergency spill or overflow containment system that is expeditiously emptied after use.)</li> </ul>
<b>ST.30.1.SC.</b> Owners/operators of USTs that store a regulated substance must hold a currently valid registration or permit (SC R 61-92.280.10(e)) [Revised November 1997].	<p>Verify that owners/operators of USTs storing regulated substances (see definitions) hold a currently valid registration or permit.</p>
<b>ST.30.2.SC.</b> Installations/CW facilities must meet notification requirements for USTs (SC R 61-92.280.22(a), (b) and (d)).	<p>Verify that the owner/operator of USTs storing regulated substances notify the Department of the existence of the UST within the following timeframes:</p> <ul style="list-style-type: none"> <li>- USTs brought into operation after 1 January 1986: notice given within 30 days of the start of operation</li> <li>- UST storing regulated substances on or before 1 January 1986: notice given by January 1986</li> <li>- UST taken out of operation after 1 January 1974: Notice given by 23 May 1998.</li> </ul>
<b>ST.30.3.SC.</b> Permits are required for the construction and operation of new USTs (SC R 61-92.280.23 (a) and (b)).	<p>Verify that the installation/CW facility holds a construction permit prior to the installation of a new UST.</p> <p>Verify that the installation/CW facility holds an operating permit prior to the operation of a new UST.</p> <p>Verify that the terms of these permits are met.</p>

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<p><b>ST.30.4.SC.</b> Spill and overfill control equipment must be operated according to specific requirements (SC R 61-92.280.30).</p>	<p>Verify that the owner/operator of the UST ensures that there is volume available in the UST greater than the volume of product to be transferred to the UST before the transfer is made, and that the transfer operation is monitored constantly to prevent overfilling and spilling.</p> <p>Verify that the installation/CW facility reports, investigates, and cleans up any spills and overfills.</p>
<p><b>ST.30.5.SC.</b> USTs near water supply wells, coastal zone critical areas, or state navigable waters must have secondary containment by 22 December 2018 (SC R 61-92.280.25) [Added November 1997].</p>	<p>Verify that installations/CW facilities have plans to close or provide secondary containment to USTs within 100 ft of:</p> <ul style="list-style-type: none"> <li>- an existing water supply well</li> <li>- a coastal zone critical area, or</li> <li>- state navigable waters.</li> </ul>

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<p><b>ST.35. NEW OR UPGRADED USTs</b></p> <p><b>ST.35.1.SC.</b> New USTs installed near water supply wells, coastal zone critical areas, or state navigable waters must have secondary containment (SC R 61-92.280.20(g)) [Revised November 1997].</p> <p><b>ST.35.2.SC.</b> All newly installed USTs must be tested (SC R 61-92.280.24 (a)).</p> <p><b>ST.35.3.SC.</b> All existing UST systems must be upgraded by 22 December 1998 (SC R 61-92.280.21 (a) through (c), (e) and (f)) [Revised November 1997].</p>	<p>Verify that all new UST installed within 100 ft of an existing water supply well install an approved method of secondary containment.</p> <p>Verify that during installation of tank systems, tanks and piping are pneumatically and/or hydrostatically tested according to accepted industry standards and the manufacturers' installation instructions.</p> <p>Verify that by 22 December 1998 all existing UST systems meet either the new UST system performance standards or the upgrading requirements, or the closure requirements.</p> <p>Verify that the upgrading of steel USTs is in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and is by one of the following methods:</p> <ul style="list-style-type: none"> <li>- interior lining</li> <li>- cathodic protection</li> <li>- a combination of interior lining and cathodic protection.</li> </ul> <p>Verify that USTs upgraded by internal lining meet the following requirements:</p> <ul style="list-style-type: none"> <li>- the lining is installed according to the requirements for repairs</li> <li>- within 10 yr after lining, and every 5 yr thereafter, the lined UST is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications.</li> </ul> <p>Verify that USTs upgraded by cathodic protection meet the following requirements:</p> <ul style="list-style-type: none"> <li>- field-installed cathodic protection systems are designed by a corrosion expert</li> </ul>

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	<ul style="list-style-type: none"> <li>- impressed current systems are designed to allow determination of current operating status</li> <li>- cathodic protection systems are operated and maintained.</li> </ul> <p>Verify that USTs upgraded by cathodic protection meet one of the following requirements to ensure the integrity of the UST:</p> <ul style="list-style-type: none"> <li>- the UST is internally inspected and assessed to ensure that the UST is structurally sound and free of corrosion holes prior to installing the cathodic protection system</li> <li>- the UST has been installed for less than 10 yr and is monitored monthly for releases</li> <li>- the UST has been installed for less than 10 yr and is assessed for corrosion holes by conducting two tightness tests according to the following requirements: <ul style="list-style-type: none"> <li>- the first tightness test is conducted prior to installing the cathodic protection system</li> <li>- the second tightness test is conducted between 3 and 6 mo following the first operation of the cathodic protection system</li> <li>- the UST is assessed for corrosion holes by a method approved by the Department.</li> </ul> </li> </ul> <p>Verify that USTs upgraded by both internal lining and cathodic protection meet the following requirements:</p> <ul style="list-style-type: none"> <li>- the lining is installed according to the requirements for repairs</li> <li>- field-installed cathodic protection systems are designed by a corrosion expert</li> <li>- impressed current systems are designed to allow determination of current operating status</li> <li>- cathodic protection systems are operated and maintained.</li> </ul> <p>Verify that, to decrease vapor emissions associated with product transfer to the UST system, all existing UST systems are upgraded to comply with product transfer equipment requirements as follows:</p> <ul style="list-style-type: none"> <li>- all UST systems upgraded after 22 December 1996, comply with the new UST system product transfer equipment requirements</li> <li>- all UST systems upgraded before or on 22 December 1996, are equipped with a drop tube that enters the top of the tank at the fill port and extends to within one foot of the tank bottom by 22 December 2001.</li> </ul> <p>(NOTE: UST systems used for the storage of used oils are not required to be equipped with a drop tube.)</p> <p>Verify that at least 30 days before beginning upgrading of existing UST systems, or within another reasonable time period determined by the Department, owners/operators notify the Department of their intent to upgrade the UST</p>

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	system.



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<p><b>ST.80. UST RELEASES</b></p> <p><b>ST.80.1.SC.</b> Corrective actions taken in response to UST releases must be approved by the Department (SC R 61-92.280.66 (c) and (d)) [Revised November 1997].</p>	<p>Verify that any corrective action taken by the installation/CW facility is approved by the Department.</p>

## SECTION 11

### TOXIC SUBSTANCES MANAGEMENT

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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.

#### Definitions

- *Abatement* - Procedures to control fiber release from regulated asbestos-containing materials. This includes removal, enclosure, encapsulation, repair, and any associated preparation, clean-up and disposal activities having the potential to disturb regulated asbestos-containing material (South Carolina Regulations, Chapter 61, Article 68.1, Section I (SC R. 61-68.1, Section I)).
- *Adequately Wet* - To sufficiently mix or penetrate with liquid to prevent the potential release of particulates. The absence of visible emissions is not sufficient evidence of being adequately wet (SC R. 61-68.1, Section I).
- *Aggressive Clearance Sampling* - A method of sampling which uses electric fan(s), electric leaf blower, and other devices to simulate vigorous activity in the abated area while air samples are being collected (SC R. 61-68.1, Section I).
- *Air Sampling* - A method such as NIOSH 7400 for PCM, the OSHA Reference Method, 40 CFR 763 Appendix A for TEM, or an equivalent method accepted by the Department used to determine the fiber content of a known volume of air during a specified period of time (SC R. 61-68.1, Section I).
- *Air Sampler* - A person licensed by the Department to implement air monitoring plans and analysis schemes during abatement (SC R. 61-68.1, Section I).
- *Area Air Sampling* - Any form of air sampling whereby the sampling device is placed at a stationary location either inside or outside the work area (SC R. 61-68.1, Section I).
- *Asbestos* - The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, and actinolite-tremolite (SC R. 61-68.1, Section I).
- *Asbestos Abatement Entity* - Any individual, partnership, firm, association, corporation, sole proprietorship or other business concern as well as an employee or member of any governmental, religious or social organization who is involved in asbestos abatement (SC R. 61-68.1, Section I).
- *Asbestos Project* - Any activity associated with abatement including inspection, design, air monitoring, in-place management or other disturbance of regulated asbestos-containing materials (RACM). This also includes demolition of a regulated facility (SC R. 61-68.1, Section I).
- *Asbestos Project Design* - A written or graphic plan prepared by an accredited project designer specifying how an asbestos abatement project will be performed, and which includes, but is not limited to, scope of work and technical specifications (SC R. 61-68.1, Section I).
- *Asbestos-containing Material (ACM)* - Material containing asbestos of any type, either alone or mixed with other materials, in an amount greater than 1 percent as determined by using the method specified in 40 CFR Part 763 Appendix A, Subpart F, Section 1, as amended, or an accepted equivalent (SC R. 61-68.1, Section I).



- *Asbestos-containing Waste Materials* - As applied to demolition and renovation operations, this term includes regulated asbestos-containing waste materials and materials contaminated with asbestos, including disposable equipment and clothing (SC R. 61-68.1, Section I).
- *Authorized Visitor* - The facility owner/operator, or any representative of a regulatory or other agency having jurisdiction over the project. This is limited to government project inspectors, police, paramedics, fire-safety personnel, and insurance loss prevention safety auditors (SC R. 61-68.1, Section I).
- *Background Monitoring* - Area sampling performed prior to abatement to obtain an index of existing air-borne fiber levels under typical activity (SC R. 61-68.1, Section I).
- *Building Inspection* - An activity undertaken at a facility to determine the presence and location of regulated and non-regulated asbestos-containing materials (ACM), and to assess the condition of materials identified as ACM. This includes visual or physical examination and bulk sample collection (SC R. 61-68.1, Section I).
- *Building Inspector* - A person licensed by the Department to examine a facility for the presence of ACM, to identify and assess the condition of the material, and to collect bulk samples (SC R. 61-68.1, Section I).
- *Category I Nonfriable Asbestos-containing Material (ACM)* - Nonfriable asbestos or nonfriable asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in 40 CFR Part 763, Appendix A, Subpart F, Section 1, or an accepted equivalent (SC R. 61-68.1, Section I).
- *Category II Nonfriable ACM* - Any material that cannot, when dry, be crumbled, pulverized, or reduced to powder by the forces expected to act upon it in the course of demolition or renovation operations, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in 40 CFR Part 763, Appendix A, Subpart F, Section 1, or an accepted equivalent (SC R. 61-68.1, Section I).
- *Clean Room* - An uncontaminated area or room which is a part of the decontamination enclosure system with provisions for storage of street clothing and protective equipment (SC R. 61-68.1, Section I).
- *Clearance Monitoring* - Area air sampling performed using Department accepted aggressive clearance sampling techniques to determine the airborne concentrations of residual fibers upon conclusion of asbestos abatement (SC R. 61-68.1, Section I).
- *Commercial Labor Provider* - Any individual, partnership, corporation or other business concern not engaged in an asbestos project but which provides temporary workers or supervisors to the owner/operator of the project (SC R. 61-68.1, Section I).
- *Consultant* - A person licensed by the Department to perform duties related to an asbestos project such as a building inspector, management planner, or project designer (SC R. 61-68.1, Section I).
- *Contractor* - Any individual, partnership, corporation or other business concern that performs asbestos abatement but who is not a permanent employee of the facility owner (SC R. 61-68.1, Section I).
- *Control Measure* - Use of amended water, negative pressure differential equipment, encapsulant, high efficiency particulate air filtration device, glovebag or other state-of-the-art equipment designed to prevent fiber release into the air (SC R. 61-68.1, Section I).
- *Critical Barrier* - A leak-tight seal applied from within the work area to isolate vents, windows, doors, and any other cavity or opening to the contaminated work area (SC R. 61-68.1, Section I).

- *Cut* - To penetrate with a sharp-edged instrument. This includes sawing, but may not include shearing, slicing, or punching (SC R. 61-68.1, Section I).
- *Decontamination Enclosure System* - An enclosed area adjacent and connected to the regulated work area consisting of an equipment room, shower area, and clean room, each separated by airlocks, which is used for the decontamination of employees, materials and equipment that are contaminated with asbestos (SC R. 61-68.1, Section I).
- *Demolition* - Wrecking or taking out any load-supporting structural member of a facility together with any related handling operations, or the intentional burning of any facility (SC R. 61-68.1, Section I).
- *Department* - The South Carolina Department of Health and Environmental Control (SC R. 61-68.1, Section I).
- *Emergency Renovation Operation* - A renovation operation that was not planned but results from a sudden, unexpected event that if not immediately attended to will present an imminent safety or public health hazard, will cause equipment damage, or will impose an unreasonable financial burden. This term specifically excludes routine equipment maintenance.
- *Encapsulation* - A form of abatement involving the treatment of regulated asbestos-containing material (RACM) with a liquid which covers the surface with a protective coating (bridging) or embeds fibers in an adhesive matrix (penetrating) to prevent the release of asbestos fibers (SC R. 61-68.1, Section I).
- *Enclosure* - A form of abatement involving placement of a leak-tight, impermeable, permanent barrier to prevent access to regulated asbestos-containing material and to prevent the release of asbestos fibers (SC R. 61-68.1, Section I).
- *Equipment Room* - A contaminated area or room which is part of the decontamination enclosure system with provisions for the storage of contaminated clothing and equipment (SC R. 61-68.1, Section I).
- *Facility* - Any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any bridge; any ship; and any active or inactive waste disposal site. For purposes of this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation or building that was previously subject to this requirement is included in this definition, regardless of its current use or function (SC R. 61-68.1, Section I).
- *Facility Component* - Any part of a facility including equipment (SC R. 61-68.1, Section I).
- *Friable* - Refers to ACM which may, when dry, be crumbled, pulverized, or reduced to powder by the forces expected to act upon it in the course of demolition or renovation operations. This also refers to previously non-friable ACM after such material becomes damaged to the extent that when dry, may be crumbled, pulverized, or reduced to powder (SC R. 61-68.1, Section I).
- *Friable Asbestos-Containing Material* - Any material that when dry can be or has been crumbled, pulverized, or reduced to powder, and which contains more than 1 percent asbestos as determined using the method specified in 40 CFR Part 763, Appendix A, Subpart F, Section 1, as amended, or an accepted equivalent. If the asbestos content is less than 10 percent as determined by a method other than point counting by Polarized Light Microscopy (PLM), verify the asbestos content by point counting using PLM (SC R. 61-68.1, Section I).
- *Glovebag* - A sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. Information on glove-bag installation, equipment and supplies, and work practices is contained in the Occupational Safety and Health Administration's (OSHA's) final rules on occupational exposure to asbestos, 29

CFR 1926.1101, (August 10, 1994) as amended, and any subsequent amendments or editions (SC R. 61-68.1, Section I).

- *Grind* - To reduce to powder or small fragments. Grinding includes mechanical chipping or drilling (SC R. 61-68.1, Section I).
- *HEPA Filter* - A high efficiency particulate air filter which will capture particles with an aerodynamic diameter of 0.3 micrometers with a minimum efficiency of 99.97 percent (SC R. 61-68.1, Section I).
- *HVAC* - Heating, ventilation and air conditioning (SC R. 61-68.1, Section I).
- *In Poor Condition* - Refers to any ACM where the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material (SC R. 61-68.1, Section I).
- *Installation* - Any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of a single owner or operator (or of owners or operators under common control) (SC R. 61-68.1, Section I).
- *Leaktight* - Dust, solids or liquids cannot escape or spill out (SC R. 61-68.1, Section I).
- *License* - A document issued by the Department which allows an asbestos abatement contractor, building inspector, project designer, management planner, air sampler, supervisor, worker or other consultant to engage in asbestos projects (SC R. 61-68.1, Section I).
- *Long-term, In-house Contractor* - A contractor having a long-term, often multi-year, contractual arrangement with an industrial manufacturing or electrical generating facility to provide construction and maintenance services, including asbestos abatement (SC R. 61-68.1, Section I).
- *Management Planner* - A person licensed in accordance with the requirements of this regulation who interprets inspection reports, conducts hazard assessments of asbestos-containing materials, determines appropriate response actions, develops a schedule for implementing response actions, and prepares written management plans (SC R. 61-68.1, Section I).
- *Minor Project* - A project where 25 or less square or linear feet of regulated asbestos-containing material (RACM) is removed, or where 10 or less cubic feet of RACM off a facility component is cleaned up (SC R. 61-68.1, Section I).
- *Movable Object* - A structure within the work area that can be easily removed, (e.g. chair, desk, etc.) (SC R. 61-68.1, Section I).
- *Negative Pressure Differential Equipment* - A portable exhaust system equipped with a HEPA filter (SC R. 61-68.1, Section I).
- *NESHAP* - National Emission Standards for Hazardous Air Pollutants, 40 CFR 61 Subpart M, February 3, 1994, as amended, and any subsequent amendments or editions (SC R. 61-68.1, Section I).
- *NESHAP Project* - An asbestos project which involves at least 160 square feet or 260 linear feet of RACM, or 35 or more cubic feet of RACM off a facility component such that the area or length could not be measured prior to abatement. If projects occur at different buildings under one contract (different schools, for example) then each building shall be considered a separate project. If several contemporaneous projects in the same area performed by the same contractor are smaller than 160 square or 260 linear feet individually but add up to that amount, then the combination of the smaller projects shall be considered one NESHAP project (SC R. 61-68.1, Section I).

- *NIOSH* - National Institute for Occupational Safety and Health (SC R. 61-68.1, Section I).
- *Operation And Maintenance Activity* - The disturbance of regulated asbestos-containing material only when required in the performance of an emergency or routine maintenance activity which is not intended solely as asbestos abatement. In no event shall the amount of RACM disturbed exceed that which can be contained in one glovebag or 6-mil polyethylene bag which shall not exceed 60 inches in length and width (SC R. 61-68.1, Section I).
- *OSHA* - Occupational Safety and Health Administration (SC R. 61-68.1, Section I).
- *Owner/Operator* - Any person or contractor who owns, leases, operates, controls, or supervises a facility being demolished or renovated, or any person who operates, controls, or supervises the demolition or renovation operation, or both (SC R. 61-68.1, Section I).
- *Owner's Representative* - A licensed consultant or air sampler designated by the facility owner to manage the asbestos project, and who serves to ensure that abatement work is completed according to specification and in compliance with all relevant statutes and regulations (SC R. 61-68.1, Section I).
- *Personal Air Sampling* - A method used to obtain an index of an employee's exposure to airborne fibers. Samples are collected outside the respirator in the worker's breathing zone (SC R. 61-68.1, Section I).
- *Planned Renovation Operations* - A renovation operation, or a number of such operations, in which some RACM will be disturbed, removed or stripped within a given period of time, and that can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience (SC R. 61-68.1, Section I).
- *Process Date* - The date a license is printed by the Department (SC R. 61-68.1, Section I).
- *Project Designer* - A person licensed in accordance with the requirements of this regulation who is directly responsible for planning all phases of an asbestos abatement project design from project site preparation through complete disassembly of all abatement area barriers (SC R. 61-68.1, Section I).
- *Regulated Asbestos-containing Material (RACM)* - (SC R. 61-68.1, Section I):
  1. Friable asbestos-containing material
  2. Category I nonfriable ACM that has become friable
  3. Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading
  4. Category II nonfriable ACM that is likely to become or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations subject to this regulation.
- *Removal* - Taking out RACM or facility components that contain or are covered with RACM from any facility (SC R. 61-68.1, Section I).
- *Renovation* - Altering a facility, or one or more facility components in any way, including the stripping or removal of RACM from a facility component. Operations in which load-supporting structural members are wrecked or taken out are demolitions (SC R. 61-68.1, Section I).
- *Repair* - Procedure used to patch, cover or otherwise restore damaged asbestos-containing material other than enclosure or encapsulation (SC R. 61-68.1, Section I).
- *Shower Room* - A room located between the clean room and the equipment room in the decontamination enclosure system containing a shower with hot and cold or warm running water controllable at the tap (SC R. 61-68.1, Section I).

- *Small Project* - A project where more than 25 but less than 160 square feet or more than 25 but less than 260 linear feet of RACM is abated, or where more than 10 but less than 35 cubic feet of RACM off a facility component is cleaned up (SC R. 61-68.1, Section I).
- *Start Date* - The date printed on the Departmental issued asbestos abatement project license which indicates when asbestos renovation or demolition operations, including any abatement activity having the potential to disturb RACM, will begin (SC R. 61-68.1, Section I).
- *Strip* - To remove RACM from any part of a facility or facility component (SC R. 61-68.1, Section I).
- *Structural Member* - Any load-supporting member of a facility, such as beams and load-supporting walls; or any non-load-supporting member, such as ceilings and nonload-supporting walls (SC R. 61-68.1, Section I).
- *Supervisor* - A person licensed by the Department and designated as the contractor's representative to provide direct on-site supervision and guidance to workers engaged in abatement of RACM (SC R. 61-68.1, Section I).
- *Visible Emissions* - Any emissions which are visually detectable without the aid of instruments, coming from RACM or asbestos-containing waste material or a regulated work area (SC R. 61-68.1, Section I).
- *Waste Generator* - Any owner/operator of an asbestos project covered by this regulation whose act or process produces asbestos-containing waste material (SC R. 61-68.1, Section I).
- *Waste Shipment Record* - The shipping document, required to be originated, prepared, and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material (SC R. 61-68.1, Section I).
- *Wet Cleaning* - The process of eliminating asbestos contamination from facility surfaces and objects by using cloths, mops or other cleaning tools which have been dampened with water (SC R. 61-68.1, Section I).
- *Work Area* - Designated rooms, spaces or areas in which asbestos abatement activities are to be undertaken, or which may be contaminated as a result of such abatement activities (SC R. 61-68.1, Section I).
- *Worker* - A person licensed by the Department to perform asbestos abatement under the direct guidance of an accredited and licensed supervisor. However, facility operation and maintenance workers are not required to work under a licensed supervisor (SC R. 61-68.1, Section I).
- *Working Day* - Monday through Friday, including holidays that fall on any of the days Monday through Friday (SC R. 61-68.1, Section I).

TOXIC SUBSTANCES MANAGEMENT	
GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS	
REFER TO CHECKLIST ITEMS:	
PCB Management	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.	
Asbestos Management	
Renovation and Demolition of Asbestos-Containing Structures	
General	TT.2.5.1.SC. through TT.2.5.3.SC.
Small Projects	TT.2.5.4.SC. through TT.2.5.6.SC.
Minor Projects	TT.2.5.7.SC. and TT.2.5.8.SC.
Operation and Maintenance Activities	TT.2.5.9.SC. through TT.2.5.11.SC.
Glovebag Operations	TT.2.5.12.SC. through TT.2.5.14.SC.
Outdoor Removals	TT.2.5.15.SC. through TT.2.5.17.SC.
Roofing Projects	TT.2.5.18.SC.
Encapsulation and Enclosure	TT.2.5.19.SC. through TT.2.5.21.SC.
Non-Friable Projects	TT.2.5.22.SC. and TT.2.5.23.SC.
Asbestos Personnel Training/ Certification	TT.2.10.1.SC. and TT.2.10.2.SC.
Asbestos Disposal	TT.2.15.1.SC. and TT.2.15.2.SC.
Radon Management	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.	
Lead-Based Paint Management	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.	



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>ASBESTOS MANAGEMENT</b></p> <p><b>TT.2.5. Renovation and Demolition of Asbestos-Containing Structures</b></p> <p><b>General</b></p> <p><b>TT.2.5.1.SC.</b> Owners/operators must inspect buildings and identify asbestos prior to renovations and demolitions (SC R. 61-86.1, Section IV.B and C(3)(c) through (e)) [Added November 1997].</p>	<p>(NOTE: The requirements of this section apply to the owner/operator, building inspector, management planner, project designer, air sampler, consultant, supervisor, or worker of any asbestos project involving the disturbance of regulated asbestos-containing or asbestos-contaminated materials.)</p> <p>Verify that, prior to beginning a renovation or demolition operation at a regulated facility, the owner/operator ensures that a building inspection is performed to identify the presence, location and estimated quantity of ACM which may be disturbed.</p> <p>Verify that the owner/operator ensures that the building inspection is performed by a person licensed as a building inspector or management planner.</p> <p>(NOTE: To be acceptable a building inspection must have been performed no more than 3 yr prior to the renovation or demolition, or if more than 3 yr the previous inspection must be confirmed and verified by a licensed building inspector.)</p> <p>Verify that a person licensed as an asbestos project designer prepares and implements the design for each abatement renovation project involving the removal of greater than 3000 ft<sup>2</sup>, 1500 linear ft, or 656 ft<sup>3</sup> of RACM in a facility to be reoccupied.</p> <p>Verify that the owner/operator obtains an asbestos project license from the Department prior to beginning any asbestos project subject to this regulation.</p> <p>Verify that, when air monitoring is required by this regulation, the facility owner ensures that all air monitoring is performed by a person licensed as an air sampler.</p> <p>Verify that the owner/operator notifies the Department by telephone and follows up in writing as soon as possible before, but not later than, the notified start date when a project has been canceled.</p>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>TT.2.5.2.SC.</b> Owners/operators must meet notification requirements for emergency renovations (SC R. 61-86.1, Section IV.E) [Added November 1997].</p>	<p>Verify that a means is available at all times during abatement at NESHAP and small abatement projects so that Department inspectors or authorized visitors can communicate with persons within the immediate contained work area in order to gain access.</p> <p>Verify that the contained work area is secured at all times to prevent access of unauthorized visitors or unprotected persons.</p> <p>Verify that legible copies of Departmental letters of approval for alternative work practices are at the project site for the duration of abatement.</p> <p>Verify that the owner/operator submits project notification as early as possible before but not later than the working day following the emergency renovation.</p> <p>Verify that the facility owner notifies the Department in writing of the date and hour that the emergency occurred, a description of the sudden, unexpected event, and an explanation of how the event caused an unsafe condition, public safety or health threat, equipment damage, or would impose an unreasonable financial burden.</p>
<p><b>TT.2.5.3.SC.</b> Owners/operators must meet notification requirements for emergency renovations (SC R. 61-86.1, Section IV.F) [Added November 1997].</p>	<p>Verify that area air sampling is performed by a licensed air sampler under direct contract with or employed by the facility owner.</p> <p>(NOTE: Area air sampling data collected by an air sampler under contract with or employed by the asbestos contractor is not acceptable to the Department.)</p>
<p><b>Small Projects</b></p>	<p>(NOTE: The notification, work practice, air sampling, clean-up, and disposal requirements of this section apply to each renovation asbestos project where the combined amount of RACM to be stripped, removed, dislodged, cut, drilled, or similarly disturbed is more than 25 but less than 260 linear ft on pipes, or more than 25 but less than 160 ft<sup>2</sup> on other facility components, or more than 10 but less than 35 cu ft of RACM off facility components such that area or length could not be measured prior to abatement.)</p> <p>Verify that in a facility being renovated during a small project, the owner/operator either:</p> <ul style="list-style-type: none"> <li>- provides the Department with written notification prior to any abatement and pays all applicable fees:</li> </ul>
<p><b>TT.2.5.4.SC.</b> Owners/operators must meet notification requirements for small projects (SC R. 61-86.1, Section VI.B) [Added</p>	

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<p>November 1997].</p> <p><b>TT.2.5.5.SC.</b> Owners/operators must ensure that clearance air sampling and analysis procedures are followed (SC R. 61-86.1, Section VI.C(1)) [Added November 1997].</p> <p><b>TT.2.5.6.SC.</b> Specific work practice and clean-up requirements must be met for small projects (SC R. 61-86.1, Section VI.D) [Added November 1997].</p>	<ul style="list-style-type: none"> <li>- delivers the notification by U.S. Postal Service or commercial delivery service, facsimile transmission, by hand or by other methods acceptable to the Department</li> <li>- postmarks or delivers the notice at least 5 calendar days before asbestos stripping or removal work or any other activity begins that would break up, dislodge or similarly disturb regulated asbestos-containing material</li> <li>- updates the notification when any previously notified information changes and pay additional project fees as necessary</li> <li>- notifies the Department by telephone and follows up in writing as soon as possible but no later than the originally notified start date when a project for which notification was sent has been canceled, or</li> <li>- maintains a log of all small projects performed during a quarter, reports them to the Department within 30 calendar days of the end of the quarter, and pays applicable project fees.</li> </ul> <p>Verify that the facility owner ensures that clearance air monitoring is performed.</p> <p>Verify that an owner/operator engaged in a small asbestos abatement project:</p> <ul style="list-style-type: none"> <li>- constructs critical barriers to prevent the potential release of asbestos fibers from within the work area</li> <li>- prevents contamination of carpet with asbestos-containing materials, or disposes of the carpet as asbestos-contaminated waste</li> <li>- thoroughly wets all regulated asbestos-containing materials prior to removal and keeps them wet until disposal</li> <li>- prevents track-out and leakage of RACM onto uncontaminated surfaces</li> <li>- uses HEPA-vacuum equipment and wet-cleaning techniques to clean up the work area following abatement until there is no visible residue</li> <li>- ensures that asbestos-containing material from within the work area is not permitted outside of the work area except in sealed leak-tight containers</li> <li>- ensures that porous surfaces which have been stripped or cleaned of RACM are encapsulated to secure any residual fibers that may be present (the encapsulant must be chosen to be compatible with subsequent coverings)</li> <li>- ensures that any person exiting or any equipment or machinery being removed from the contaminated work area is thoroughly decontaminated.</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>Minor Projects</b></p> <p><b>TT.2.5.7.SC.</b> Owners/operators must meet notification requirements for minor projects (SC R. 61-86.1, Section VII.B) [Added November 1997].</p>	<p>(NOTE: If equipment or machinery is not thoroughly decontaminated it shall be sealed in leak-tight containers. No visible residue shall appear on the outside surface of the container.)</p> <p>(NOTE: The notification, work practice, clean-up, and disposal requirements of this section apply to each renovation asbestos project where the combined amount of RACM to be stripped, removed, dislodged, cut, drilled, or similarly disturbed is equal to or less than 25 linear ft on pipes, or is equal to or less than 25 ft<sup>2</sup> on other facility components, or is equal to or less than 10 cu ft of RACM off facility components where the area or the length or area could not be measured prior to abatement.)</p> <p>Verify that, for minor projects, the owner/operator either:</p> <ul style="list-style-type: none"> <li>- provides the Department with written notification prior to any abatement and pays all applicable fees (acceptable delivery of the notification is by U.S. Postal Service, commercial delivery service, facsimile transmission, by hand or by other methods acceptable to the Department), and: <ul style="list-style-type: none"> <li>- updates the notification when any previously notified information changes</li> <li>- notifies the Department by telephone and follows up in writing as soon as possible but no later than the original start date when a project for which notification was made has been canceled, or</li> </ul> </li> <li>- maintains a log of all minor abatements performed during a quarter, reports them to the Department within 30 calendar days of the end of the quarter, and pays applicable project fees.</li> </ul>
<p><b>TT.2.5.8.SC.</b> Specific work practice and clean-up requirements must be met for minor projects (SC R. 61-86.1, Section VII.C and D) [Added November 1997].</p>	<p>Verify that an owner/operator engaged in a minor asbestos abatement project:</p> <ul style="list-style-type: none"> <li>- constructs adequate barriers to contain asbestos fibers released within the work area</li> <li>- wets all regulated asbestos-containing materials prior to removal and keeps them wet until disposal</li> <li>- prevents track-out and leakage of RACM onto uncontaminated surfaces</li> <li>- uses HEPA-vacuum equipment and wet-cleaning techniques to clean up the work area following abatement until there is no visible residue</li> <li>- ensures that asbestos-containing material from within the work area is not permitted outside of the work area except in sealed leak-tight containers</li> <li>- ensures that porous surfaces which have been stripped or cleaned of RACM are encapsulated to secure any residual fibers that may be present (the encapsulant must be chosen to be compatible with subsequent coverings)</li> <li>- containerizes waste in appropriately labeled impermeable containers (6-mil</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>Operation and Maintenance Activities</b></p> <p><b>TT.2.5.9.SC.</b> Owners/operators must meet notification requirements for operation and maintenance activities (SC R. 61-86.1, Section VIII.B) [Added November 1997].</p> <p><b>TT.2.5.10.SC.</b> Specific work practice and clean-up requirements must be met for</p>	<p>polyethylene sheeting, bags and/or fiber or metal drums), and stores in an area which is secured and locked</p> <ul style="list-style-type: none"> <li>- transports asbestos waste in a manner that does not release fibers into the air and disposes of it at a landfill permitted to accept asbestos waste</li> <li>- ensures that any person exiting or any equipment or machinery being removed from the contaminated work area is thoroughly decontaminated.</li> </ul> <p>(NOTE: If equipment or machinery is not thoroughly decontaminated, it shall be sealed in leak-tight containers. No visible residue shall appear on the outside surface of the container.)</p> <p>(NOTE: Owner/operators who wish to temporarily store regulated waste at any location other than the project site must request written authorization from the Department prior to transporting the waste from the project site.)</p> <p>(NOTE: Air monitoring is not required for minor projects.)</p> <p>(NOTE: The notification, work practice, clean-up, and disposal requirements of this section apply to the owner/operator of an operation and maintenance activity in which the amount of RACM disturbed does not exceed that which can be contained in one glovebag or one 6-mil polyethylene bag measuring no greater than 60 in. in length and width.)</p> <p>Verify that in a facility being abated during operations and maintenance activities, the owner/operator either:</p> <ul style="list-style-type: none"> <li>- provides the Department with written notification prior to any abatement and pays all applicable fees (acceptable delivery of the notification is by U.S. Postal Service, commercial delivery service, facsimile transmission, by hand, or by other methods acceptable to the Department), and: <ul style="list-style-type: none"> <li>- updates the notification when any previously notified information changes</li> <li>- notifies the Department by telephone and follows up in writing as soon as possible before but no later than the original start date when a project for which notification was sent has been canceled, or</li> </ul> </li> <li>- maintains a log of all operation and maintenance activities performed during a quarter, reports them to the Department within 30 calendar days of the end of the reporting quarter, and pays applicable project fees.</li> </ul> <p>Verify that an owner/operator engaged in an operation and maintenance activity:</p> <ul style="list-style-type: none"> <li>- constructs adequate barriers to prevent the potential release of asbestos</li> </ul>

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<p>operation and maintenance activities (SC R. 61-86.1, Section VIII.C(1) and (3)(b)) [Added November 1997].</p>	<p>fibers from within the work area</p> <ul style="list-style-type: none"> <li>- wets all regulated asbestos-containing materials prior to removal and keeps them wet until disposal</li> <li>- prevents track-out and leakage of RACM onto uncontaminated surfaces</li> <li>- uses HEPA-vacuum equipment and wet-cleaning techniques to clean up the work area following abatement until there is no visible residue</li> <li>- ensures that asbestos-containing material from within the work area is not permitted outside of the work area except in sealed leak-tight containers</li> <li>- containerizes waste in appropriately labeled impermeable containers (6-mil polyethylene sheeting, bags and/or fiber or metal drums), and stores in an area which is secured and locked</li> <li>- transports asbestos waste in a manner that does not release fibers into the air and disposes of it at a landfill permitted to accept asbestos waste.</li> </ul> <p>(NOTE: Owner/operators who wish to temporarily store regulated waste at any location other than the project site must request written authorization from the Department prior to transporting the waste from the project site.)</p>
<p><b>TT.2.5.11.SC.</b> Specific work practice and clean-up requirements must be met for operation and maintenance glovebag operations (SC R. 61-86.1, Section VIII.C(2)) [Added November 1997].</p>	<p>Verify that each owner/operator engaged in an operation and maintenance glovebag operation:</p> <ul style="list-style-type: none"> <li>- ensures that the glovebag procedure is being performed only by persons who have received training in the method and are licensed as a worker or supervisor in accordance with the requirements of this regulation</li> <li>- ensures that the glovebag is constructed and utilized in accordance with requirements of OSHA 29 CFR 1926.1101 as amended, and any subsequent amendments and editions</li> <li>- isolates the work area to prevent access by unprotected persons</li> <li>- displays danger signs in accordance with OSHA 29 CFR 1926.1101 as amended, and any subsequent amendments and editions, at all approaches to any asbestos abatement area</li> <li>- removes all polyethylene sheeting, tape, glovebags and other equipment, and inspects the area for visible residue following abatement</li> <li>- wet cleans the area using amended water and HEPA vacuum after surfaces have been allowed to dry (the sequence of wet cleaning and vacuuming must be repeated until no visible residue is observed in the work area)</li> <li>- ensures that porous surfaces which have been stripped or cleaned of RACM are encapsulated to secure any residual fibers that may be present (the encapsulant must be chosen to be compatible with subsequent coverings).</li> </ul> <p>(NOTE: The requirements of this section apply to the owner/operator of any NESHAP, Small, Minor, or Operation and Maintenance project when glovebag operations are implemented.)</p>

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<p><b>TT.2.5.12.SC.</b> Specific preparation measures must be undertaken glovebag operations (SC R. 61-86.1, Section IX.B) [Added November 1997].</p>	<p>Verify that the owner/operator ensures that:</p> <ul style="list-style-type: none"> <li>- the glovebag is constructed and utilized in accordance with the requirements of OSHA 29 CFR 1926.1101 as amended, and any subsequent amendments and editions</li> <li>- the work area is isolated to prevent access by unprotected person</li> <li>- danger signs are displayed at all approaches to any asbestos abatement area in accordance with OSHA 29 CFR 1926.1101 as amended, and any subsequent amendments and editions</li> <li>- the glovebag procedure is performed only by persons who have received training in the method and are licensed as workers or supervisors in accordance with the requirements of this regulation.</li> </ul>
<p><b>TT.2.5.13.SC.</b> Air sampling and analysis procedures must be followed during glovebag operations (SC R. 61-86.1, Section IX.C) [Added November 1997].</p>	<p>Verify that background, daily area, and clearance monitoring for NESHAP projects are performed.</p> <p>(NOTE: Personal air sampling in the worker's breathing zone may be used to satisfy the requirement for daily area monitoring.)</p> <p>Verify that, for small projects, clearance monitoring is performed.</p>
<p><b>TT.2.5.14.SC.</b> Specific work and clean-up practices must be followed during glovebag operations (SC R. 61-86.1, Section IX.D) [Added November 1997].</p>	<p>Verify that the owner/operator ensures that regulated asbestos-containing waste from glovebag operations is wet at all times during abatement, storage, and transportation, and is disposed of at a landfill approved or permitted to accept asbestos waste.</p> <p>Verify that the use of glovebag is terminated and full enclosure procedures are implemented if the owner/operator:</p> <ul style="list-style-type: none"> <li>- fails to keep RACM in the glovebag</li> <li>- fails to keep RACM adequately wet</li> <li>- disturbs or dislodges RACM outside of the glovebag</li> <li>- experiences glovebag failure.</li> </ul> <p>Verify that following removal the owner/operator ensures that:</p> <ul style="list-style-type: none"> <li>- all polyethylene sheeting, tape, glovebags and other equipment are removed and the area inspected for visible residue</li> <li>- wet-cleaning using amended water is performed, followed by HEPA-vacuuming after surfaces have been allowed to dry (the sequence of wet cleaning and vacuuming must be repeated until no visible residue is observed in the work area)</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>Outdoor Removals</b></p> <p><b>TT.2.5.15.SC.</b> Owners/operators must meet notification requirements for outdoor removals (SC R. 61-86.1, Section X.B(2) and (3)) [Added November 1997].</p> <p><b>TT.2.5.16.SC.</b> Owners/operators must ensure that clearance air sampling and analysis procedures are followed at outdoor removals</p>	<ul style="list-style-type: none"> <li>- porous surfaces which have been stripped or cleaned of RACM are encapsulated to secure any residual fibers that may be present (the encapsulant must be chosen to be compatible with subsequent coverings).</li> </ul> <p>(NOTE: The notification, work practice, clean-up, and disposal requirements of this section apply to each owner/operator of any regulated operation and maintenance or minor or small outdoor renovation.)</p> <p>Verify that in a facility being renovated under a small project, the owner/operator either:</p> <ul style="list-style-type: none"> <li>- provides the Department with advance written notification of intent to renovate and pay applicable fees (acceptable delivery of the notification is by U.S. Postal Service, commercial delivery service, by hand, facsimile transmission, or by other methods acceptable to the Department), and: <ul style="list-style-type: none"> <li>- postmarks or delivers the notice at least 5 calendar days before asbestos stripping or removal work or any other activity begins that would break up, dislodge or similarly disturb regulated asbestos-containing material</li> <li>- updates the notification when any previously notified information changes and pays additional project fees as necessary, or</li> </ul> </li> <li>- maintains a log of all small projects performed during a quarter, reports them to the Department within 30 calendar days of the end of the reporting quarter, and pays applicable project fees.</li> </ul> <p>Verify that in a facility being renovated under a minor project or as part of an operation or maintenance activity, the owner/operator either:</p> <ul style="list-style-type: none"> <li>- provides the Department with advance written notification of intention to renovate and pay appropriate fees (acceptable delivery of the notification is by U.S. Postal Service, commercial delivery service, by hand, facsimile transmission, or by other methods acceptable to the Department), and updates the notification when any previously notified information changes</li> <li>- maintains a log of all minor abatements performed during a quarter, reports them to the Department within 30 calendar days of the end of the quarter, and pays applicable project fees.</li> </ul> <p>Verify that the facility owner ensures that a licensed air sampler performs clearance air monitoring after abatement in areas to be reoccupied, including porticos and covered exterior walkways, and abatement on exterior portions of mechanical systems used to condition interior spaces.</p>

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<p>(SC R. 61-86.1, Section X.C) [Added November 1997].</p> <p><b>TT.2.5.17.SC.</b> Specific work and clean-up practices must be followed during outdoor removals (SC R. 61-86.1, Section X.D and E(2)) [Added November 1997].</p>	<p>(NOTE: No background or daily area air monitoring is required for outdoor projects.)</p> <p>Verify that the owner/operator minimizes to the extent reasonable and necessary the exposure to persons downwind of the project.</p> <p>Verify that wet removal methods are used.</p> <p>Verify that there is no release of visible emissions during preparation, removal or cleanup.</p> <p>Verify that, following removal, the owner/operator ensures that:</p> <ul style="list-style-type: none"> <li>- the abated area is thoroughly cleaned using wet methods and amended water and surfaces have been allowed to dry</li> <li>- once dry, the abated area is vacuumed using a vacuum equipped with HEPA cartridges or filters (the sequence of wet cleaning and vacuuming is repeated until no visible residue can be observed)</li> <li>- the work area is inspected for any remaining visible residue (evidence of contamination will necessitate additional cleaning by the contractor)</li> <li>- for porous surfaces which have been stripped or cleaned of RACM, a coat of encapsulant is applied to the abated surface to secure any residual fibers that may be present (the encapsulant must be chosen to be compatible with subsequent coverings).</li> </ul> <p>(NOTE: Contractors who wish to temporarily store regulated waste at any location other than the project site shall request written authorization from the Department prior to transporting the waste from the project site.)</p>
<p><b>Roofing Projects</b></p> <p><b>TT.2.5.18.SC.</b> Specific work and clean-up practices must be followed during outdoor</p>	<p>(NOTE: The requirements of this section apply to any owner/operator of a roofing project involving the removal of at least:</p> <ul style="list-style-type: none"> <li>- 5580 ft<sup>2</sup> of asbestos-containing bituminous roofing material, where a rotating blade, roof cutter, or similar equipment is used in the removal process</li> <li>- 160 ft<sup>2</sup> of asbestos cement shingle or other Category 11 roofing materials which are in poor condition or where the removal method will result in the material being crumbled, pulverized or reduced to a powder.)</li> </ul> <p>Verify that the owner/operator minimizes to the extent reasonable and necessary the exposure to persons downwind of the project.</p>



<p align="center"><b>COMPLIANCE CATEGORY:</b>  <b>TOXIC SUBSTANCES MANAGEMENT</b>  <b>South Carolina Supplement</b></p>	
<p align="center"><b>REGULATORY REQUIREMENTS:</b></p>	<p align="center"><b>REVIEWER CHECKS:</b>  <b>November 1997</b></p>
<p>removals (SC R. 61-86.1, Section XI.D) [Added November 1997].</p>	<p>Verify that wet removal methods are used.</p> <p>Verify that there is no release of visible emissions during preparation, removal or cleanup.</p> <p>Verify that, following removal, the owner/operator ensures that:</p> <ul style="list-style-type: none"> <li>- the abated area is thoroughly cleaned using wet methods and amended water and surfaces have been allowed to dry</li> <li>- once dry, the abated area is vacuumed using a vacuum equipped with HEPA cartridges or filters (the sequence of wet cleaning and vacuuming is repeated until no visible residue can be observed)</li> <li>- the work area is inspected for any remaining visible residue (evidence of contamination will necessitate additional cleaning by the contractor)</li> <li>- for porous surfaces which have been stripped or cleaned of RACM, a coat of encapsulant is applied to the abated surface to secure any residual fibers that may be present (the encapsulant must be chosen to be compatible with subsequent coverings).</li> </ul>
<p><b>Encapsulation and Enclosure</b></p>	<p>(NOTE: The notification, air sampling, work practice, clean-up, and disposal requirements of this section apply to each owner/operator engaged in an encapsulation or enclosure operation subject to the requirements of this regulation.)</p> <p>(NOTE: Surfaces which have been previously coated or treated with an encapsulant and which are not "in poor condition" are exempt from the requirements of this Section.)</p>
<p><b>TT.2.5.19.SC.</b> Owners/operators must meet notification requirements for enclosure and encapsulation projects (SC R. 61-86.1, Section XII.B) [Added November 1997].</p>	<p>Verify that in a facility with regulated asbestos being encapsulated the owner/operator:</p> <ul style="list-style-type: none"> <li>- provides the Department with written notification at least 10 working days prior to beginning any encapsulation activities where mechanical sprayers will be utilized and the potential to disturb RACM will involve amounts greater than 160 square or 260 linear feet of surfacing materials or thermal system insulation</li> <li>- notifies the Department as soon as possible by telephone and follows-up in writing when any previously notified information changes or when a previously notified project has been canceled.</li> </ul> <p>(NOTE: Acceptable delivery of notification will be by U. S. Postal Service, commercial delivery service or facsimile transmission, by hand, or by other methods acceptable to the Department.)</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>TT.2.5.20.SC.</b> Owners/operators must ensure that clearance air sampling and analysis procedures are followed at enclosure and encapsulation projects (SC R. 61-86.1, Section XII.C) [Added November 1997].</p>	<p>Verify that background ambient air sampling is performed for any encapsulation activities where mechanical sprayers will be utilized and the potential to disturb RACM will involve amounts greater than 160 square or 260 linear feet of surfacing materials or thermal system insulation.</p> <p>Verify that a sufficient number of air samples is collected prior to the start of abatement activities in order to obtain an index of background airborne fiber concentrations.</p> <p>Verify that representative samples are taken both inside and outside the work area within the facility to establish existing ambient air levels under normal activity conditions.</p> <p>Verify that the air sampler documents any variations and indicates the reasons for doing so, and provides the information to the Department upon request.</p> <p>Verify that the owner/operator ensures that non-aggressive clearance air monitoring is conducted prior to reoccupancy of any area that has been encapsulated.</p>
<p><b>TT.2.5.21.SC.</b> Specific work and clean-up practices must be followed during enclosure and encapsulation projects (SC R. 61-86.1, Section XII.D) [Added November 1997].</p>	<p>Verify that the owner/operator of an encapsulation or enclosure operation:</p> <ul style="list-style-type: none"> <li>- defines the work area using barrier tape and danger signs in accordance with OSHA 29 CFR 1926.1101 as amended, and any subsequent amendments and editions</li> <li>- shuts down, locks and tags out all HVAC equipment in or passing through the work area</li> <li>- removes existing filters and dispose of as asbestos-containing waste</li> <li>- securely seals all intake and exhaust openings and any seams in system components with 6-mil or thicker polyethylene sheeting and tape</li> <li>- securely seals each opening between the work area and uncontaminated areas, including but not limited to windows, doorways, elevator openings, corridor entrances, drains, ducts, electrical outlets, grills, grates, diffusers, and skylights, with a critical barrier consisting of at least one sheet of 6-mil or thicker polyethylene sheeting and tape</li> <li>- thoroughly cleans, and removes all movable objects from the work area</li> <li>- thoroughly clean, then covers and secures all non-movable objects in the work area with at least one layer of 4-mil or thicker polyethylene sheeting</li> <li>- covers and secures all surfaces not being encapsulated or enclosed with at least one layer of 4-mil polyethylene sheeting for walls or ceilings and 6-mil for floors.</li> </ul> <p>Verify that during any encapsulation of regulated asbestos-containing materials</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>Non-Friable Projects</b></p> <p><b>TT.2.5.22.SC.</b> Owners/operators must meet notification requirements for non-friable projects (SC R. 61-86.1, Section XIV.B) [Added November 1997].</p>	<p>the owner/operator ensures that:</p> <ul style="list-style-type: none"> <li>- the encapsulant chosen for use is compatible with the substrate to which it will be applied, and appropriate for the application intended</li> <li>- when airless sprayers are utilized, nozzle pressure will be adjusted between 400 and 1500 pounds per square inch (psi)</li> <li>- loose, damaged, or fallen RACM is cleaned immediately using wet methods and HEPA- vacuuming</li> <li>- RACM is not tracked from the work area onto uncontaminated surfaces</li> <li>- once all encapsulated surfaces have completely dried, each surface is wet wiped or HEPA-vacuumed.</li> </ul> <p>Verify that during any enclosure of regulated asbestos-containing materials the owner/operator ensures that:</p> <ul style="list-style-type: none"> <li>- the enclosure is constructed air-tight so as to prevent the escape of airborne asbestos fibers</li> <li>- loose, damaged, or fallen RACM is cleaned immediately using wet methods and HEPA-vacuuming and properly packaged for disposal</li> <li>- RACM is not tracked from the work area onto uncontaminated surfaces</li> <li>- wet methods and HEPA-vacuums are used to clean any fallen RACM immediately.</li> </ul> <p>(NOTE: The requirements of this section apply to the owner/operator of any renovation abatement project of a public or commercial facility where the ACM being removed is non-friable.)</p> <p>Verify that each owner/operator:</p> <ul style="list-style-type: none"> <li>- contacts the landfill to ensure acceptance of non-friable ACM waste</li> <li>- provides the Department with a written request for disposal prior to transporting waste from the facility site</li> <li>- provides the following information in the written request: <ul style="list-style-type: none"> <li>- name, address and telephone number of property/facility owner</li> <li>- street address of the property/facility where removal occurred</li> <li>- amount of non-friable ACM to be disposed of</li> <li>- description of material (for example cement-like tiles, asphaltic shingles, transite siding)</li> <li>- name and location (county, city, state) of the landfill which the owner/operator has contacted for disposal of ACM waste.</li> </ul> </li> </ul> <p>(NOTE: The written disposal permit issued by the Department acknowledges the landfill selected by the owner/operator and should accompany the non-friable</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>TT.2.5.23.SC.</b> Specific work practices must be followed during non-friable projects (SC R. 61-86.1, Section XIV.C) [Added November 1997].</p>	<p>ACM waste to the landfill.)</p> <p>Verify that the owner/operator prevents dust from being released during the removal of non-friable ACM to prevent exposure.</p> <p>Verify that Category I and Category II ACM which will be or has been subjected to grinding, sanding, cutting, chipping or abrading is considered regulated ACM and the owner/operator complies with all applicable requirements of this regulation.</p> <p>(NOTE: Category I and Category II ACM which will not be or has not been subjected to grinding, sanding, cutting, chipping or abrading shall be considered non-regulated ACM and the owner/operator must comply with all applicable requirements of OSHA 29 CFR 1926.1101 as amended, and any subsequent amendments or editions.)</p> <p>Verify that the owner/operator ensures that asbestos-containing materials and asbestos-contaminated waste is not intentionally burned or recycled.</p>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
<p><b>ASBESTOS MANAGEMENT</b></p> <p><b>TT.2.10. Asbestos Personnel Training/Certification</b></p> <p><b>TT.2.10.1.SC.</b> Persons working on asbestos projects must be licensed by the Department (SC R.61-86.1, Section III.A(1) through (3)) [Added November 1997].</p> <p><b>TT.2.10.2.SC.</b> Persons working on asbestos projects must have asbestos training certificates at the project site (SC R.61-86.1, Section IV.C) [Added November 1997].</p>	<p>Verify that no person or contractor engages in any asbestos project or abatement involving regulated asbestos-containing material unless licensed to do so by the Department.</p> <p>Verify that every contractor, supervisor, worker, air sampler, project designer, building inspector, or management planner who engages in any asbestos project has a current and valid license.</p> <p>Verify that when a person or contractor engaged in an asbestos project performs duties in more than one discipline, a separate license is obtained specific for each discipline.</p> <p>(NOTE: A management planner may perform the duties of a building inspector, and a supervisor may perform the duties of a worker without having to obtain separate licenses.)</p> <p>Verify that every asbestos abatement entity performing abatement work has, at the project site, an original, current initial or refresher training certificate issued by an approved training provider.</p> <p>Verify that every asbestos abatement entity performing abatement work has a clear, legible, valid license at the project site.</p> <p>Verify that for the duration of an abatement project, the asbestos owner/operator ensures that:</p> <ul style="list-style-type: none"> <li>- each worker and supervisor employed at the abatement project site meets the applicable training and licensing requirements</li> <li>- at all times while abatement (including preparation, removal and cleanup) of regulated asbestos-containing material (RACM) is being performed at NESHAP and Small projects, at least one licensed supervisor remains inside each contained work area supervising the work.</li> </ul>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>ASBESTOS MANAGEMENT</b></p> <p><b>TT.2.15. Asbestos Disposal</b></p> <p><b>TT.2.15.1.SC.</b> Owners/ operators engaged in reno- vation abatement projects must meet disposal requirements (SC R.61- 86.1.H(1)) [Added November 1997].</p>	<p>Verify that each owner/operator engaged in a renovation abatement project ensures that:</p> <ul style="list-style-type: none"> <li>- all containers (bags, drums, wrapped components) are labeled so that labels have the appearance of or are designed in accordance with OSHA 29 CFR 1926.1 101, August 10, 1994, as amended, and any subsequent amendments and editions, and EPA 40 CFR 61.150, November 20, 1990, as amended, and any subsequent amendments and editions</li> <li>- asbestos waste is disposed of at a landfill approved or permitted to accept asbestos waste</li> <li>- asbestos waste is transported and disposed of in a manner that will not permit the release of asbestos fibers into the air.</li> </ul> <p>Verify that asbestos waste is transported in accordance with the following procedures:</p> <ul style="list-style-type: none"> <li>- the cargo area of the transport vehicle is free of debris and lined with 6-mil polyethylene sheeting (if asbestos waste is transported exclusively in leak-tight clean drums, then polyethylene sheeting is not required): <ul style="list-style-type: none"> <li>- floor sheeting must be installed first and extend up the side walls at least 12 in. and taped securely into place</li> <li>- wall sheeting must overlap by at least 6 in. and be taped into place</li> <li>- ceiling sheeting must extend down the side of the walls at least 6 in. and be taped into place.</li> </ul> </li> <li>- any debris or residue observed on containers or surfaces outside of the work area resulting from abatement activities is immediately cleaned using wet methods and a vacuum equipped with a HEPA filter</li> <li>- containers are carefully placed and not thrown into the truck cargo area</li> <li>- drums are placed on a level surface in the cargo area and packed tightly or blocked and braced to prevent shifting and tipping</li> <li>- large structural components are secured to prevent shifting</li> <li>- asbestos waste is transported directly to an approved landfill and is not stored at a location other than the abatement site without prior written approval from the Department.</li> </ul> <p>Verify that metal dumpsters or containers in which asbestos waste is temporarily stored at the abatement site:</p> <ul style="list-style-type: none"> <li>- are lined with 6-mil polyethylene sheeting to prevent contamination</li> </ul>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>TT.2.15.2.SC.</b> Specific disposal practices must be followed during non-friable projects (SC R. 61-86.1, Section XIV.D) [Added November 1997].</p>	<ul style="list-style-type: none"> <li>- have doors and tops</li> <li>- the doors and tops are closed and locked except during loading or unloading asbestos waste.</li> </ul> <p>Verify that metal dumpsters or containers used for waste storage are labeled in accordance with OSHA 29 CFR 1926.1 101, August 10, 1994 as amended, and any subsequent amendments and editions.</p> <p>Verify that bags are free of splits, rips and tears, and are carefully placed, not thrown, into the transport vehicle.</p> <p>Verify that any equipment, materials, or supplies stored in the waste transport vehicle are isolated from the asbestos waste by a leak-tight barrier, and that all containers and wrappings are free of asbestos contamination.</p> <p>Verify that non-asbestos waste is not placed in waste containers or bags labeled as asbestos waste.</p> <p>Verify that the vehicle used to transport asbestos wastes is labeled in accordance with 40 CFR 61.149(d)(1)(i, ii, and iii) as amended, and any subsequent amendments and editions.</p> <p>Verify that transport and disposal occurs in a manner that will not permit the release of asbestos fibers into the air.</p> <p>Verify that disposal occurs at a landfill permitted or approved to accept asbestos waste.</p> <p>Verify that all containers are labeled with the following warning:</p> <p style="text-align: center;"><b>DANGER CONTAINS ASBESTOS FIBERS AVOID CREATING DUST CANCER AND LUNG DISEASE HAZARD.</b></p> <p>Verify that the owner/operator:</p> <ul style="list-style-type: none"> <li>- obtains a waste shipment record or other shipment manifest at the landfill to document disposal of all asbestos waste</li> <li>- ensures that a waste shipment record or other shipment manifest is signed by the landfill operator, and</li> <li>- submits a copy of the waste shipment record or other shipment manifest to the Department within 30 days of project completion.</li> </ul>



## SECTION 12

### WASTEWATER MANAGEMENT

South Carolina Supplement, November 1997

This section covers the state 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

- *Abandoned Well* - a well the use of which has been permanently discontinued or that is in a state of disrepair so it cannot be used for its intended purpose or for monitoring purposes.
- *Abandonment of a Waste Treatment Facility* - the cessation of daily visits to the waste treatment facility by the certified operator in charge for the purpose of ensuring proper operation and maintenance of a waste treatment facility.
- *Administrator* - the Administrator of the USEPA or any delegated employee of the USEPA.
- *Agricultural* - use of water for stock watering, irrigation, and other farm purposes.
- *Agricultural Water Use* - any using, withdrawing, obtaining, or diverting of any surface water, groundwater, or other water within the state for use primarily in the production of crops or husbandry of livestock.
- *Aquaculture* - the cultivation, production, or marketing of domestic aquatic organisms including any fish, aquatic invertebrates, or aquatic plants that are spawned, produced, or marketed as a cultivated crop in the waters of the state.
- *Bypass* - the intentional diversion of waste streams from any portion of a treatment facility.
- *Casing* - a pipe or tubing of appropriate material, of varying diameter and weight, lowered into a bore hole during or after drilling in order to support the sides of the hole and thus prevent the walls from caving in, to prevent loss of drilling mud into permeable strata, or to prevent fluids from entering or leaving the hole.
- *Certified Well Driller* - a drillers registered in South Carolina with the Board of Certification of the Environmental Systems Operators.
- *Cleaning* - the removal and transportation of septage from an onsite sewage treatment and disposal system or self-contained toilet to an approved disposal location (SC R 61-56.1, Section II).
- *Closeout* - the compliant cessation of waste treatment facility operations.
- *Commission* - the South Carolina Water Resources Commission.
- *Construct* - the installation or repair of an onsite sewage treatment and disposal system (SC R 61-56.1, Section II).
- *Consumptive Use* - any use of water withdrawn from the ground other than a nonconsumptive use.

- *Contaminant* - any substance or matter that degrades the quality of naturally occurring water either directly or indirectly as a result of man's activity.
- *Continuous Discharge* - a discharge that occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.
- *Daily Discharge* - the discharge of a pollutant measured during a calendar day or any 24-h period that reasonably represents the calendar day for the purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.
- *Department* - the South Carolina DHEC.
- *Dewatering Operation* - an operation that is withdrawing groundwater from an aquifer for the purpose of draining an excavation or preventing or retarding groundwater flow into an excavation.
- *Director* - the Director of the South Carolina DHEC.
- *Discharge* - any discharge or discharge of any sewage, industrial wastes or other wastes, whether treated or not, into any of the waters of the state.
- *Discharge of a Pollutant* - any addition of any pollutant or combination of pollutants to waters of the state from any point source, or any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean, from any point source other than a vessel or other floating craft used as a means of transportation. This definition includes additions of pollutants into waters of the state from all of the following:
  1. surface runoff that is collected or channeled by man
  2. discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other persons that do not lead to a treatment works
  3. discharges through pipes, sewers, or other conveyances that lead into privately owned treatment works.
 (NOTE: This term does not include an addition of pollutants by any indirect discharger.)
- *Disposal System* - a system for disposing of sewage, industrial waste, or other wastes, including sewerage systems and treatment works.
- *Effluent Limitation* - any restriction imposed by the Department on quantities, discharge rates, and concentrations of pollutants that are discharged from point sources into waters of the state, the waters of the contiguous zone, or the ocean.
- *Effluent Limitation Guidelines* - a regulation published by the Administrator under the *Clean Water Act* (CWA) to adopt or revise effluent limitations.
- *Existing Water User* - a withdrawer, obtainer, or utilizer of groundwater prior to 24 July 1981.
- *Flow Rate* - the volume per unit of time of a fluid that emerges from an orifice, pump, or turbine, or passes along a conduit or channel.
- *Fluid* - material or substance that flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.
- *Formation* - a body of rock characterized by a degree of lithologic homogeneity that is prevailing but not necessarily tabular, and is mappable on the earth's surface or traceable in the subsurface.

- *Formation Fluid* - fluid present in a formation under natural conditions as opposed to introduced fluids.
- *General Permit* - a state permit or a NPDES permit authorizing a category of discharges or activities.
- *Grease Trap* - a unit designed to remove grease and fat from commercial food preparation wastes (SC R 61-56, Section II).
- *Groundwater* -
  1. water below the land surface in a zone of saturation
  2. water of underground streams, channels, artesian basins, reservoirs, lakes, and other water under the surface of the earth whether percolating or otherwise, natural or artificial, that is contained within, flows through, or borders upon South Carolina or any portion of this state including those portions of the Atlantic Ocean that South Carolina has jurisdiction over.
- *Health Authority* - an authorized representative of the South Carolina Department of Health and Environmental Control (SC R 61-56, Section II).
- *Indirect Discharger* - a nondomestic discharge introducing pollutants to a publicly owned treatment works (POTW).
- *Individual Sewage Treatment and Disposal System* - a system designed for the treatment and disposal of sewage by means of the following (SC R 61-56, Section II):
  1. Initial Treatment.
    - a. *Septic Tank* - a water-tight, covered receptacle designed and constructed to receive the discharge of sewage from a building sewer, separate solids from the liquid, digest organic matter and store digested solids through a period of detention and biological conditioning of liquid waste, and allow the clarified liquid to discharge for final treatment and disposal.
    - b. *Alternate System* - any system for the initial treatment of sewage which deviates from the conventional system described herein and for which standards have been established by the Health Authority.
  2. Final Treatment and Disposal:
    - a. *Conventional Soil Absorption Trench* - a trench placed in the soil for the purpose of facilitating final treatment and disposal of sewage effluent.
    - b. *Alternate System* - any system for the final treatment and disposal of sewage which deviates from the conventional system described herein and for which standards have been established by the Health Authority.
- *Industrial Waste* - any liquid, gaseous, solid, or other waste substance or a combination thereof resulting from any process of industry, manufacturing, trade, or business, or from the development of any natural resources.
- *Industry* - a private person, corporation, firm, plant, or establishment that discharges sewage, industrial wastes, or other wastes into the waters of the state.
- *Injection* - the emplacement of fluid into the subsurface or groundwaters by an injection well, except fluids used in association with well construction, development, or abandonment.
- *Injection Well* - any well used or intended to be used for injection.
- *Injection Zone* - a geological formation, group of formations, or part of a formation that is receiving injection, has received injection, or is intended to receive injection.
- *Lagoon* - a relatively small body of water contained in an earthen basin or controlled shape that is designed for treatment or handling wastewater.

- *Large Municipal Separate Storm Sewer System* - municipal separate storm sewers that meet one of the following criteria:
  1. located in an incorporated place with a population of 250,000 or more as determined by the latest Decennial Census by the Bureau of Census
  2. located in counties with unincorporated urbanized areas with a population of 250,000 or more according to the latest Decennial Census by the Bureau of Census
  3. other systems determined by the Department.
- *Lint Trap* - a unit designed to remove lint from laundromat wastewater (SC R 61-56, Section II).
- *Maximum Daily Discharge Limitation* - the highest allowable daily discharge.
- *Medium Municipal Separate Storm Sewer System* - all municipal separate storm sewers that meet one of the following criteria:
  1. located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the latest Decennial Census by the Bureau of Census
  2. located in counties with unincorporated urbanized areas with a population greater than 100,000 but less than 250,000 according to the latest Decennial Census by the Bureau of Census
  3. other systems determined by the Department.
- *Mixing Zones* -
  1. for surface waters, a region of water below an outlet where the physical mixing of a discharge occurs in all directions until the constituents in the discharge have achieved uniform concentrations in the receiving water
  2. for groundwaters, a hydrogeologically controlled, three-dimensional flow path in the subsurface that constitutes the pathway for waste constituents to migrate from a source.
- *Monitoring Well* - any well used to obtain water samples for water quality analyses or to measure groundwater levels.
- *Municipal Separate Storm Sewer* - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that are:
  1. owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district, drainage district, or similar entity, an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency that discharges to the state
  2. designed or used for collecting or conveying stormwater
  3. not a combined sewer
  4. not part of a POTW.
- *Natural Conditions* - water quality conditions unaffected by point and nonpoint sources or other sources of pollution.
- *National Pollutant Discharge Elimination System (NPDES)* - the national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements.
- *New Discharger* - any building, structure, facility, or installation/CW facility that meets the following standards:
  1. from which there is or may be a discharge of pollutants
  2. that did not commence the discharge of pollutants at a particular site prior to 13 August 1979
  3. that is not a new source

4. that has never received a finally effective NPDES permit for discharges at that site.

The term includes an indirect discharger that commenced discharging into waters of the state after 13 August 1979.

- *New Source* - any building, structure, facility, or installation/CW facility that there is or may be a discharge of pollutants, the construction commenced at either of the following times:
  1. after the promulgation of standards of performance under the CWA that are applicable to the source
  2. after proposal of standards of performance in accordance with the CWA that are applicable to the source but only if the standards are promulgated within 120 days of their proposal.
- *Nonconsumptive Use* - the use of water withdrawn from a groundwater system or aquifer in such a manner that it is returned to the same groundwater system or aquifer without substantial diminution in quantity or impairment in quality at or near the point from which it was withdrawn.
- *Oil/Water Separator* - a unit designed to remove oil and grease from vehicle wash wastewater (SC R 61-56, Section II).
- *On-Site Sewage Treatment and Disposal System* - a system, or any part of a system, designed to treat and dispose of, or store sewage. Examples include septic tank systems, sewage holding systems, and similar devices (SC R 61-56.1, Section II).
- *Other Wastes* - garbage, refuse, decayed wood, sawdust, shavings, bark, sand, clay, lime, cinders, ashes, offal, oil, gasoline, other petroleum products or byproducts, tar, dye stuffs, acids, chemicals, dead animals, heated substances, and all other products, byproducts, or substances not sewage or industrial waste.
- *Outlet* - the terminus of a sewer system or the point of emergence of any waterborne sewage, industrial waste, or other wastes, or the effluent therefrom, into the waters of the state.
- *Outstanding Recreational or Ecological Resource Waters* - water that is of exceptional recreational or ecological importance or of unusual value. These waters may include, but are not limited to, waters in national or state parks or wildlife refuges, waters supporting threatened or endangered species, waters under the *National Wild and Scenic Rivers Act* or *South Carolina Scenic Rivers Act*, waters known to be significant nursery areas for commercially important species or known to contain significant commercial or public shellfish resources, or waters used for or having significant value for scientific research and study.
- *Package Plant* - prefabricated factory assembled units and other modular type units designed for the treatment of wastewater through activated sludge processes and modifications thereof. Imhoff tanks are considered package plants.
- *Permit* - a written statement issued by the Health Authority permitting the construction of an individual sewage treatment and disposal system under this regulation (SC R 61-56, Section II).
- *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, concentrated animal feeding operation or vessel, or other floating craft, from which pollutants are or may be discharged. This does not include return flows from irrigated agriculture.
- *Pollutant* - dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. It does not include the following:
  1. sewage from vessels

2. water, gas, or other material that is injected into a state approved well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well.
- *Pollution* -
    1. the presence in the environment of any substance, including, but not limited to, sewage, industrial waste, other waste, air contaminant, or any combination thereof in quantity, characteristics, and duration that may cause the environment of the state to become contaminated, unclean, noxious, odorous, impure, or degraded; or is injurious to human health or welfare; or damages property, plant, animal, marine life, or use of property
    2. the manmade or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.
  - *Potable Water Well* - any well designed and/or constructed to produce potable water for consumption by humans or animals.
  - *Primary Contact Recreation* - any activity with the intended purpose of direct water contact by the human body to the point of complete submergence, including, but not limited to, swimming, water skiing, and skin diving.
  - *Privately Owned Treatment Works* - any device or system that is both used to treat wastes from any facility and is not a POTW.
  - *Propagation* - the continuance of species through reproduction and growth in the natural environment as opposed to the maintenance of species by artificial culture and stocking.
  - *Publicly Owned Treatment Works (POTW)* - any device or system used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature that is owned and operated by the state, a municipality, or a regional entity composed of two or more municipalities or parts thereof. The term also means the municipality that has jurisdiction over the indirect discharges to and the discharges from the a treatment works. This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.
  - *Regional Administrator* - the Regional Administrator of Region IV of the USEPA or the authorized representative of the Regional Administrator.
  - *Secondary Contact Recreation* - any activity occurring in or near the water that does not have an intended purpose of direct water contact by the human body to the point of complete submergence, including, but not limited to, fishing, boating, canoeing, and wading.
  - *Self-Contained Toilet* - a single or multiple-unit toilet and holding tank combination (SC R 61-56.1, Section II).
  - *Septage* - the mixture of solids and liquids removed during cleaning of a septic tank, grease trap, or any other part of an onsite sewage treatment and disposal system, holding system, or self-contained toilet which receives domestic sewage; includes the liquid, solid and semi-solid materials which settle to the bottom of transport containers (SC R 61-56.1, Section II).
  - *Sewage* - water-carried human or animal waste discharged, transmitted, and collected from residences, buildings, industrial establishments, or other places, and combined with such groundwater infiltration and surface water as may be present. The admixture with sewage of industrial wastes or other wastes are also considered sewage.
  - *Sewage* - the liquid and solid human body waste and the liquids generated by water-using fixtures and appliances from any residence, place of business or place of public assembly. For the purpose of this regulation, sewage shall not be construed to include industrial process wastewater (SC R 61-56, Section II).



- *Sewage* - any liquid waste containing animal, vegetable, or chemical matter in suspension or solution from water closets, urinals, lavatories, bathtubs, laundry tubs or devices, floor drains, drinking fountains or other water-using fixtures (SC R 61-56.1, Section II).
- *Sewage Sludge* - any solid, semisolid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, septage, portable toilet pumpings, type III marine sanitation device pumpings, and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.
- *Sewage System or Sewerage System* - pipelines and conductors, pumping stations, force mains, and all other construction, devices and appliances appurtenant thereto used for conducting sewage, industrial waste, or other wastes to a point of ultimate discharge.
- *Shellfish Harvesting* - taking of bivalve mollusks, specifically clams, mussels, or oysters, for direct marketing or human consumption.
- *Source for Drinking Water Supply* - any source of surface water used for domestic consumption, or used in connection within the processing of milk, beverages, food, or for other purposes requiring finished water that meets the *Safe Drinking Water Act* (SDWA) requirements.
- *State* - the State of South Carolina.
- *Static Water Level* - the nonpumping water level in a well measured in feet below a fixed reference point, generally land surface.
- *Surface Water* - any water occurring on the surface of the earth, including water in rivers, streams, lakes, ponds, swamps, and other bodies of water.
- *Tidal Saltwaters* - waters with an elevation subject to changes due to oceanic tides and with a chloride ion content in excess of 250 mg/L (salinity = 0.48 parts per thousand).
- *Toxic Wastes* - wastes or combination of wastes including disease-causing agents that after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, may cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction), physical deformations, or restrict or impair growth in these organisms or their offspring.
- *Treatment Works* - any plant, disposal field, lagoon, constructed drainage ditch or surface water intercepting ditch, incinerator, area devoted to sanitary landfills, or other works installed for the purpose of treating, neutralizing, stabilizing, or disposing of sewage, industrial waste, or other wastes.
- *Underground Source of Drinking Water (USDW)* - an aquifer or its portion that either:
  1. supplies any public water system
  2. contains a sufficient quantity of groundwater to supply a public water system and meets one of the following criteria:
    - a. currently supplies drinking water for human consumption
    - b. contains water with fewer than 10,000 mg/L total dissolved solids.
- *Upset* - an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset

does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

- *Vessel* - any contrivance used or capable of being used for navigation upon water, whether or not capable of self-propulsion, including foreign and domestic vessels engaged in commerce upon the waters of this state, passenger or other cargo carrying vessels, privately owned recreational watercraft, or any other floating craft.
- *Waste* - sewage, industrial waste, and other wastes.
- *Water Table* - the level below the land surface that all the voids are filled with water at atmospheric pressure.
- *Water Well* - any well designed and/or constructed to yield appreciable quantities of water.
- *Waters of the State or Waters* - lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within the territorial limits of the state, and all other bodies of surface or underground water natural or artificial, public or private, inland or coastal, fresh or salt, that are wholly or partially within or bordering the state or within its jurisdiction.
- *Well* - any excavation that is cored, bored, drilled, jetted, dug, or otherwise constructed with a depth that is greater than its largest surface dimension.

**WASTEWATER MANAGEMENT  
GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS**

<b>REFER TO CHECKLIST ITEMS:</b>	
Discharges to the Environment	WA.5.1.SC. through WA.5.3.SC.
Permits	
NPDES	WA.10.1.SC. through WA.10.9.SC.
State Permits	WA.15.1.SC.
Treatment Works	WA.20.1.SC.
Discharges to a POTW/FOTW	
Pretreatment Standards	WA.30.1.SC. and WA.30.2.SC.
Industrial Users	WA.35.1.SC. through WA.35.7.SC.
Documentation/Reporting to the POTW	WA.40.1.SC. and WA.40.2.SC.
Individual Sewage Systems	
Other	WA.100.1.SC. through WA.100.4.SC.
Land Application of Sludge	
General	WA.105.1.SC. through WA.105.3.SC.



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**REGULATORY  
REQUIREMENTS:**

**REVIEWER CHECKS:  
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**WA.5.  
DISCHARGES TO THE  
ENVIRONMENT**

**WA.5.1.SC.** Discharges into the environment require approval and a written permit (SC Code of Laws, Section 48-1-90(a)) [Revised November 1997].

Verify that installations/CW facilities do not directly or indirectly throw, drain, run, allow to seep, or otherwise discharge into the environment of the state organic or inorganic matter, including sewage, industrial wastes, and other wastes, except in compliance with a permit issued by the Department.

**WA.5.2.SC.** Discharges of heated liquids must meet receiving surface water temperature standards (SC R 61-68.E.6).

Verify that the discharges of heated liquids to surface waters does not increase the temperature of free flowing waters classified as Freshwaters by more than 5 °F (2.8 °C) above natural temperature conditions or exceed a maximum of 90 °F (32.2 °C) unless otherwise approved.

Verify that the discharge does not increase the weekly average water temperature of Shellfish Harvesting, Class SA, and Class SB surface waters by either of the following amounts unless otherwise approved:

- more than 4 °F (2.2 °C) above natural conditions during the fall, winter, or spring
- 1.5 °F (0.8 °C) above natural conditions during the summer.

Verify that the discharge does not increase the weekly average water temperature of surface waters classified as Freshwaters that are lakes or reservoirs more than 5 °F (2.8 °C) above natural conditions or exceed 90 °F (32.3 °C) unless otherwise approved.

**WA.5.3.SC.** Installations/ CW facilities must provide facilities for the treatment and disposal of sewage (SC R 61-56.A and 61-56.B) [Added November 1997].

Verify that each dwelling unit, building, business or other structure occupied for more than 2 hr per day is provided with approved facilities for the treatment and disposal of sewage.

(NOTE: For businesses or facilities not otherwise producing sewage, such as, but not limited to, photo shops in shopping center parking lots, firework stands, etc., "provide" shall mean accessible to the occupants.)

(NOTE: It is the responsibility of the property owner to insure that a permit to construct an individual sewage disposal system is obtained from the Health Authority prior to construction of the system; see WA.100.3.SC.)

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<b>PERMITS</b>  <b>WA.10. NPDES</b>	<p>(NOTE: The following discharges are exempt from NPDES permit requirements:</p> <ul style="list-style-type: none"> <li>- 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, except for rubbish, trash, garbage, or other materials discharged overboard</li> <li>- any discharge of dredged or fill material into waters of the United States that are Federally regulated by the CWA</li> <li>- the introduction of sewage, industrial wastes, or other pollutants in publicly owned treatments by indirect dischargers</li> <li>- any discharge in compliance with the instruction of an on-scene coordinator</li> <li>- return flows from irrigated agriculture</li> <li>- discharges of pollutants into a privately-owned treatment works</li> <li>- any introduction of pollutants from nonpoint source agricultural and silvicultural activities, including runoff from orchards, cultivated crops, pastures, range lands, and forest lands, excluding discharges from any of the following:               <ul style="list-style-type: none"> <li>- concentrated animal feeding operations</li> <li>- discharges from concentrated aquatic animal production facilities</li> <li>- discharges to aquaculture projects</li> <li>- discharges from silvicultural point sources.)</li> </ul> </li> </ul>
<b>WA.10.1.SC.</b> Pollutants discharged from any point source into the waters of the state and waters of the United States must have a valid NPDES permit (SC R 61-9.122.3, 122.21(a), 122.22(a)(3) and (b), and 122.41(a)) [Revised November 1997].	<p>Verify that any installation/CW facility that discharges or proposes to discharge pollutants or wastes, or who owns or operates a "sludge only facility" and who does not have an effective permit, submits a complete application for a NPDES permit to the Department, and if necessary, applies for a valid State Construction Permit.</p> <p>(NOTE: Persons covered by general permits or users of a privately owned treatment works do not have to apply for a permit.)</p> <p>(NOTE: A person who has filed an application for a Refuse Act permit prior to the date of enactment of the Federal Act is not required to file an application for a NPDES permit pursuant to the State law or this regulation, unless otherwise determined necessary by the Department.)</p> <p>Verify that nonexempt installations/CW facilities discharging pollutants into the waters have a valid NPDES permit.</p> <p>(NOTE: The Department may issue a general permit. The Department may require a discharge authorized by a general permit to apply for and obtain an individual NPDES or state permit.)</p>

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<p><b>WA.10.2.SC.</b> Permitted discharges must meet recordkeeping standards (SC R 61-9.122.21(p) and 122.41(j)).</p>	<p>Verify that all permit applications and reports required by the permit are signed by either a principal executive officer, major, or other duly authorized employee or ranking elected official.</p> <p>Verify that all terms and conditions of the permit are met.</p> <p>Verify that NPDES permit holders keep records of all data used to complete permit applications and any supplemental information submitted for a period of at least 3 yr from the date the application was signed.</p> <p>Verify that records of monitoring information required by the permit related to sewage sludge use and disposal activities are retained for a period of at least 5 yr.</p> <p>Verify that the following records are kept for a period of at least 3 yr from the date of the sample, measurement, report, or application:</p> <ul style="list-style-type: none"> <li>- all monitoring information</li> <li>- all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation</li> <li>- copies of all reports required by the permit</li> <li>- records of all data used to complete the application for the permit.</li> </ul> <p>Verify that the records of monitoring information include the following:</p> <ul style="list-style-type: none"> <li>- the date, exact place, and time of sampling or measurements</li> <li>- the individual(s) who performed the sampling or measurements</li> <li>- the date(s) analyses were performed</li> <li>- the individual(s) who performed the analyses</li> <li>- the analytical techniques or methods used</li> <li>- the results of the analyses.</li> </ul>
<p><b>WA.10.3.SC.</b> Permitted discharges must meet operation and maintenance standards (SC R 61-9.122.41(e)).</p>	<p>Verify that all facilities and systems of treatment and control that are installed and used to achieve compliance are properly operated and maintained.</p>
<p><b>WA.10.4.SC.</b> Permitted discharges must meet notification standards (SC R</p>	<p>Verify that the Department is notified as soon as possible of any of the following types of planned physical alterations or additions to the permitted facilities:</p>



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61-9.122.41(l)(1), (l)(2), (l)(5), and 122.47 (d)(1)).	<ul style="list-style-type: none"> <li>- an alteration or addition that meets the criteria for a new source</li> <li>- an alteration or addition that could significantly change the nature or increase the quantity of pollutants discharged</li> <li>- an alteration or addition that results in a significant change in sludge use or disposal practices and the alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit.</li> </ul> <p>Verify that the Department is notified in advance of any planned change to the permitted facility or activity that may result in noncompliance.</p> <p>Verify that reports of compliance or noncompliance with any progress reports on interim and final requirements contained in a compliance schedule are submitted no later than 14 days following each schedule date.</p> <p>Verify that, if not in compliance with applicable effluent standards or other requirements, a report specifying compliance or noncompliance with the schedule is submitted within 10 days after an interim date or final date of compliance.</p>
<b>WA.10.5.SC.</b> Permitted discharges must meet reporting standards (SC R 61-9.122.41(l)(6) through (l)(8) and 122.44 (i)(5)).	<p>Verify that any noncompliance that may endanger health or the environment is reported within 24 h and a written report submitted within 5 days of becoming aware of the circumstances.</p> <p>Verify that the written report includes the following:</p> <ul style="list-style-type: none"> <li>- a description of the noncompliance and its cause</li> <li>- the period of noncompliance</li> <li>- if the noncompliance has not been corrected, the anticipated time the noncompliance is expected to continue</li> <li>- steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.</li> </ul> <p>Verify that the 24-h report includes the following:</p> <ul style="list-style-type: none"> <li>- any unanticipated bypass that exceeds effluent limitations in the permit</li> <li>- any upset that exceeds effluent limitations in the permit</li> <li>- violation of maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 h.</li> </ul> <p>Verify that any other noncompliance not reported otherwise is reported when monitoring reports are submitted.</p> <p>Verify that installations/CW facilities aware of a failure to submit relevant facts in a permit application or have submitted incorrect information, promptly submit</p>

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<p><b>WA.10.6.SC.</b> Installations/CW facilities with permitted discharges that experience a bypass or an upset must meet reporting standards (SC R 61-9.122.41(m) and (n)).</p> <p><b>WA.10.7.SC.</b> Permitted installations/CW facilities with existing manufacturing, commercial, mining, and silvicultural discharges and research facilities must meet additional notification standards (SC R 61-9.122.42(a)).</p> <p><b>WA.10.8.SC.</b> Installations/CW facilities with large</p>	<p>the relevant or corrected facts or information.</p> <p>Verify that installations/CW facilities with discharge permits not requiring annual submission of monitoring results report all instances of noncompliance at least annually.</p> <p>(NOTE: A bypass for essential maintenance, that does not violate effluent limitations is permissible. These types of bypasses are not subject to notification requirements.)</p> <p>Verify that the Director is notified at least 10 days prior to an anticipated bypass.</p> <p>Verify that 24-h reporting standards (see WA.10.5.SC.) are met for unanticipated bypasses.</p> <p>Verify that the Department is notified as soon as the installation/CW facility knows or has reason to believe that any activity has or will result in the discharge on a routine or frequent basis of any toxic pollutant not limited in the permit if the discharge will exceed the highest of the following notification levels:</p> <ul style="list-style-type: none"> <li>- 100 µg/L for any toxic pollutant not limited in the permit</li> <li>- 200 µg/L for acrolein and acrylonitrile</li> <li>- 500 µg/L for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol</li> <li>- 1 mg/L for antimony</li> <li>- five times the maximum concentration value reported for the pollutant on the permit application</li> <li>- a level established by the Department.</li> </ul> <p>Verify that the Department is notified as soon as the installation/CW facility knows or has reason to believe that any activity has or will result in the discharge on a nonroutine or infrequent basis of any toxic pollutant not limited in the permit if the discharge will exceed the highest of the following notification levels:</p> <ul style="list-style-type: none"> <li>- 500 µg/L for any toxic pollutant not limited in the permit</li> <li>- 1 mg/L for antimony</li> <li>- 10 times the maximum concentration value reported for the pollutant in the permit application</li> <li>- a level established by the Department.</li> </ul> <p>Verify that the following storm sewer systems submit an annual report on the</p>

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<p>or medium municipal separate storm sewer systems must meet reporting standards (SC R 61-9.122.42(c)).</p> <p><b>WA.10.9.SC.</b> Installations/CW facilities with specific types of stormwater discharges must meet permit standards (SC R 61-9.122.26(a)(1), (a)(3), 122.42(d), and 122.44(i)(3) and (i)(4)).</p>	<p>anniversary of the issue date of the permit:</p> <ul style="list-style-type: none"> <li>- large or medium municipal separate storm sewer systems</li> <li>- Department designated municipal separate storm sewer systems.</li> </ul> <p>Verify that the annual report includes the following information:</p> <ul style="list-style-type: none"> <li>- the status of implementing the components of the stormwater management program established as permit conditions</li> <li>- proposed changes to the stormwater management programs</li> <li>- a summary of data, including monitoring data accumulated through the reporting year</li> <li>- a summary describing the number and nature of enforcement actions, inspections, and public education programs</li> <li>- identification of water quality improvements or degradation.</li> </ul> <p>Verify that installations/CW facilities with any of the following discharges composed entirely of stormwater have a valid permit:</p> <ul style="list-style-type: none"> <li>- a discharge with a permit issued prior to 4 February 1987</li> <li>- discharges associated with industrial activity</li> <li>- discharges from a large or medium municipal separate storm sewer system</li> <li>- discharges determined by the Department or the USEPA Regional Administrator to require a NPDES permit.</li> </ul> <p>(NOTE: After 1 October 1994, a permit may be required for other types of discharges composed entirely of stormwater. Conveyances that discharge stormwater runoff combined with a NPDES permitted municipal sewage point source is not required to obtain a stormwater discharge permit.)</p> <p>Verify that installations/CW facilities with permitted discharges composed entirely of stormwater meet the conditions of the permit no later than 3 yr after the issue date of the permit.</p> <p>Verify that installations/CW facilities with permitted stormwater discharges associated with industrial activity subject to an effluent limitation guideline report monitoring results at least once a year.</p> <p>Verify that installations/CW facilities with permitted stormwater discharges associated with industrial activities not subject to an effluent limitation meet the following monitoring standards:</p> <ul style="list-style-type: none"> <li>- conduct an annual inspection and evaluation of the facility site to identify areas contributing to a stormwater discharge associated with industrial activity</li> <li>- maintain for a 3-yr period a record summarizing the results of the</li> </ul>

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	<p>inspection, a certification that the facility is in compliance, and identifying any incidents of noncompliance.</p> <p>Verify that installations/CW facilities with discharges from large or medium municipal separate stormwater systems have a valid permit.</p>

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<p><b>PERMITS</b></p> <p><b>WA.15.</b> <b>State Permits</b></p>	<p>(NOTE: The following discharges do not require Land Application permits or State permits:</p> <ul style="list-style-type: none"> <li>- the introduction of sewage, industrial wastes or other pollutants into publicly owned treatment works by indirect dischargers</li> <li>- any introduction of pollutants from non-point source agricultural and silvicultural activities, including storm water runoff from orchards, cultivated crops, pastures, range lands, and forest lands (but not discharges directly or indirectly to groundwaters of the State and any land surface of the State from both concentrated animal feeding operations and from silvicultural point sources)</li> <li>- return flows from irrigated agriculture</li> <li>- discharges permitted under Underground Injection Control, a South Carolina County Health Department or other Department program area</li> <li>- individual sewage treatment and disposal systems serving one piece of deeded property that are permitted under Regulation 61-56 (see WA.100.1.SC. below) (this includes but is not limited to any individual residence or single piece of deeded property using a septic tank system if a permit for the discharge is obtained).)</li> </ul>
<p><b>WA.15.1.SC.</b> Installations/CW facilities that discharge wastes or pollutants directly or indirectly to groundwaters of the State or to any land of the State must apply for a Land Application permit or a State permit (SC R 61-9.505.21(a) and 505.41(a)).</p>	<p>Verify that any person who discharges or proposes to discharge pollutants directly or indirectly to groundwaters of the State or to any land of the State, or who owns or operates a "sludge only facility" and who does not have an effective permit, submits a complete application to the Department.</p> <p>Verify that a person discharging or proposing to discharge wastes directly or indirectly to the groundwaters of the State or any land of the State applies for and obtains a valid Land Application permit or State Permit and, if required, a valid State Construction Permit.</p> <p>Verify that a person operating or proposing to operate a treatment works from which a discharge does not occur applies for and obtains a valid State Permit (or approval by the Department).</p> <p>(NOTE: These requirements do not apply to persons covered by general permits, or a user of a privately owned treatment works, unless the Department requires otherwise.)</p> <p>Verify that the installation/CW facility complies with all conditions of the permit.</p>



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<p><b>WA.20. TREATMENT WORKS</b></p> <p><b>WA.20.1.SC.</b> Installations/CW facilities with wastewater treatment facilities must meet closeout standards (SC R 61-82.II through 61-82.V).</p> <p><b>WA.20.2.SC.</b> Installations/CW must obtain construction permits for certain wastewater treatment facilities and related components (SC R 61-67.300.A) [Added November 1997].</p>	<p>Verify that installations/CW facilities obtain written permission from the DHEC prior to a lagoon closeout.</p> <p>Verify that a lagoon closeout meets the following requirements:</p> <ul style="list-style-type: none"> <li>- lagoons are drained from the surface</li> <li>- after treated sewage is drained from the lagoon, solid accumulation on the bottom is allowed to dry</li> <li>- dried solids mixed with soil and left on the bottom of the lagoon are removed for disposal in an approved landfill, or disposed of in some other approved manner.</li> </ul> <p>(NOTE: Waste treatment facilities not defined as lagoons or package plants must undergo closeout in accordance with guidelines issued by the DHEC on an individual basis.)</p> <p>Verify that installations/CW facilities which closeout waste treatment facilities have prior authorization from the DHEC.</p> <p>Verify that installations/CW facilities which complete the closeout of a waste treatment facility requested a DHEC inspection and receive a written approval.</p> <p>Verify that the installation/CW facility provides the following security arrangements:</p> <ul style="list-style-type: none"> <li>- for package plant closeouts until the electrical power is disconnected, the plant is removed from the premises, and the resulting depression is filled</li> <li>- for all other waste treatment facilities, all areas around the facilities are secured until closeout has been accomplished.</li> </ul> <p>Verify that the installation/CW facility obtains a construction permit prior to beginning construction of main sewers, wastewater collection and transmission systems, pump stations and force mains, wastewater treatment facilities, and components.</p> <p>(NOTE: Activities not requiring a construction permit include replacement of a component (same or similar), as long as there is no change in capacity, routine maintenance, and the construction of buildings. However, for all other modifications, including relocation of sewers and revisions to existing construction permits, the Department must be contacted for a decision on</p>

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	<p>whether or not a construction permit is required.)</p> <p>Verify that service connections which contribute more than 5 percent of the existing wastewater treatment facility's design capacity, or 50,000 gpd, are approved by the Department.</p> <p>(NOTE: This approval is for the additional flow and not for the physical work or materials.)</p>



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<p><b>DISCHARGES TO A POTW/FOTW</b></p> <p><b>WA.30. Pretreatment Standards</b></p> <p><b>WA.30.1.SC.</b> Installations/CW facilities with specific types of POTW are required to meet POTW pretreatment program standards (SC R 61-9.403.8(a) through (c), and 403.12(i)).</p> <p><b>WA.30.2.SC.</b> Installations/CW facilities with POTW must have Department approval prior to modifying their pretreatment program (SC R 61-9.403.1(b)(2)).</p>	<p>(NOTE: Approved pretreatment programs may be incorporated into NPDES permits. The Department may require POTW with a design flow of 5 mgd or less to have an approved POTW pretreatment program.)</p> <p>Determine whether the installations/CW facilities has a POTW that meets either of the following criteria:</p> <ul style="list-style-type: none"> <li>- a total design flow greater than 5 mgd and receives pollutants from industrial users that pass through or interfere with the operation of the POTW</li> <li>- are otherwise subject to pretreatment standards.</li> </ul> <p>Verify that the POTW establishes a POTW pretreatment program within 1 yr after a written request from the Department.</p> <p>Verify that the POTW receives approval of the POTW pretreatment program.</p> <p>Verify that the POTW with approved pretreatment programs submit an annual report to the Department briefly describing the POTW's program activities.</p> <p>Verify that POTW notifies the Department of any nonsubstantial modification to the pretreatment program at least 30 days prior to the modification.</p> <p>Verify that modifications to the POTW are not initiated prior to Department approval.</p>



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<p><b>DISCHARGES TO A POTW/FOTW</b></p> <p><b>WA.35. Industrial Users</b></p> <p><b>WA.35.1.SC.</b> Industrial users must meet specific pretreatment standards (SC R 61-9.403.5(e)).</p> <p><b>WA.35.2.SC.</b> Installations/CW facilities with industrial users must meet specific reporting standards (SC R 61-9.403.12(c)(3), (e)(1), and (h)).</p> <p><b>WA.35.3.SC.</b> Installations/CW facilities with industrial users must meet recordkeeping standards (SC R 61-9.403.12(o)(1) and (2)).</p>	<p>Verify that industrial users do not increase the use of process water or in any other way attempt to dilute a discharge as a partial or complete substitute for adequate treatment unless it is expressly authorized.</p> <p>(NOTE: Control Authority in these protocols refers to the POTW if the POTW has an approved pretreatment program, or the Department if the POTW does not have an approved pretreatment program.)</p> <p>Verify that industrial users with compliance schedules submit a progress report to the Control Authority within 14 days following each date in the schedule and the final compliance date.</p> <p>Verify that industrial users subject to categorical pretreatment standards submit to the Control Authority during the months of June and December a report indicating the nature and concentration of pollutants in the effluent that are limited by the categorical pretreatment standards unless more frequent reporting is required.</p> <p>Verify that significant noncategorical industrial users submit to the Control Authority at least once every 6 mo, a description of the nature, concentration, and flow of the pollutants required to be reported by the Control Authority.</p> <p>Verify that industrial users submit the required reports.</p> <p>Verify that the industrial user and the POTW maintain records of all information resulting from any monitoring activities required.</p> <p>Verify that the following monitoring records are maintained for a minimum of 3 yr:</p> <ul style="list-style-type: none"> <li>- the date, exact place, method, and time of sampling</li> <li>- the name of the person(s) taking samples</li> <li>- the date analyses were performed</li> <li>- the person performing the analyses</li> </ul>

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<b>WA.35.4.SC.</b> Installations/CW facilities with industrial users that experience an upset must take specific action (SC R 61-9.403.16(c)).	<ul style="list-style-type: none"> <li>- the analytical techniques/methods used</li> <li>- the results of the analyses.</li> </ul> <p>Verify that industrial users notify the POTW and Control Authority within 24 h of becoming aware of an upset.</p> <p>Verify that industrial users who verbally notify the POTW and Control Authority within 24 h also submit a written report within 5 days.</p> <p>Verify that upset notifications include the following:</p> <ul style="list-style-type: none"> <li>- a description of the indirect discharge and cause of noncompliance</li> <li>- the period of noncompliance</li> <li>- steps being taken and/or planned to reduce, eliminate, and prevent recurrence of the noncompliance.</li> </ul>
<b>WA.35.5.SC.</b> Installations/CW facilities with industrial users that experience a bypass must take specific action (SC R 61-9.403.17(c)).	<p>(NOTE: Industrial users may allow bypasses that do not cause a violation of pretreatment requirements provided it is essential for maintenance to assure efficient operation. These types of bypasses are exempt from notification requirements.)</p> <p>Verify that industrial users notify the Control Authority at least 10 days prior to the date of an anticipated bypass.</p> <p>Verify that industrial users submit the following notices of an unanticipated bypass that exceeds applicable pretreatment standards to the Control Authority:</p> <ul style="list-style-type: none"> <li>- verbal notification within 24 h of becoming aware of the bypass</li> <li>- written notification within 5 days of becoming aware of the bypass.</li> </ul> <p>Verify that the written notification includes the following:</p> <ul style="list-style-type: none"> <li>- a description of the bypass and its cause</li> <li>- the duration of the bypass</li> <li>- if the bypass has not been corrected, the anticipated time the bypass is expected to continue</li> <li>- steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.</li> </ul>
<b>WA.35.6.SC.</b> Installations/CW facilities with industrial users who discover	<p>Verify that the industrial user notified the Control Authority within 24 h of becoming aware of the violation.</p>

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a violation must take specific action (SC R 61-9.403.12 (g)(2)).	<p>Verify that the industrial user performed a repeat sample and analysis and submitted the results of the repeat analysis to the Control Authority within 30 days unless either of the following conditions exists:</p> <ul style="list-style-type: none"> <li>- the Control Authority performs sampling at the industrial users frequency of at least once per month</li> <li>- the Control Authority performs sampling between the time the user performs initial sampling and the time the user receives the results of the sampling.</li> </ul>
WA.35.7.SC. Installations/CW facilities with industrial users that discharge hazardous waste to a POTW must meet notification standards (SC R 61-9.403.12).	<p>Verify that the industrial user notifies the POTW, the USEPA Regional Waste Management Division Director, and state hazardous waste authorities in writing of any hazardous waste discharges into the POTW.</p> <p>Verify that the notification includes the name of the hazardous waste, the USEPA hazardous waste number, and the type of discharge.</p> <p>Verify that, if the industrial user discharges more than 100 kg of the hazardous waste per calendar month to the POTW, notification includes the following additional information:</p> <ul style="list-style-type: none"> <li>- an identification of the hazardous constituents contained in the wastes</li> <li>- an estimation of the mass and concentration of the constituents in the waste stream discharged during the calendar month</li> <li>- an estimate of the mass of constituents in the waste stream expected to be discharged during the following 12 mo.</li> </ul> <p>Verify that all notification takes place within 180 days of 23 April 1993 or within 180 days after the discharge.</p> <p>Verify that industrial users required to meet the notification requirements have a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it is economically practical.</p> <p>(NOTE: Dischargers are exempt during a calendar month in which they discharge no more than 15 kg of hazardous waste unless the wastes are acute hazardous wastes.)</p> <p>(NOTE: In the case of any new Federal regulations identifying additional characteristics or substances as hazardous waste, the industrial user must notify the POTW, the USEPA Regional Waste Management Waste Division Director, and state hazardous waste authorities of the discharge of the substance within 90 days of the effective date of the regulation.)</p>



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<p><b>DISCHARGES TO A POTW/FOTW</b></p> <p><b>WA.40.</b> <b>Documentation/ Reporting to the POTW</b></p> <p><b>WA.40.1.SC.</b>      Installa- tions/CW facilities with POTW must meet notification standards (SC R 61- 9.122.42(b)).</p> <p><b>WA.40.2.SC.</b>      Installa- tions/CW facilities with a POTW must meet reporting standards (SC R 61-9.403.12 (k)(3) and (o)(3)).</p>	<p>Verify that the POTW provides adequate notice for the following:</p> <ul style="list-style-type: none"> <li>- any new introduction of pollutants into the POTW from an indirect discharge that would be subject to Sections 301 or 306 CWA if it were directly discharging those pollutants</li> <li>- any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issue of the permit.</li> </ul> <p>Verify that adequate notice includes the following information:</p> <ul style="list-style-type: none"> <li>- the quality and quantity of effluent introduced into the POTW</li> <li>- any anticipated impact on the quantity or quality of effluent to be discharged from the POTW.</li> </ul> <p>Verify that the POTW receiving monitoring reports from an industrial user retains the reports for a minimum of 3 yr.</p> <p>Verify that POTWs with compliance schedules submit a progress report to the Department within 14 days following each date in the schedule and the final compliance date.</p>





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<p><b>INDIVIDUAL SEWAGE SYSTEMS</b></p> <p><b>WA.100. Other</b></p> <p><b>WA.100.1.SC.</b> Individual sewage treatment and disposal systems must meet general requirements (SC R 61-56.I) [Added November 1997].</p> <p><b>WA.100.2.SC.</b> Installations/CW facilities must obtain a permit to construct prior to constructing individual sewage treatment and disposal systems (SC R 61-56.III) [Added November 1997].</p> <p><b>WA.100.3.SC.</b> Installations/CW facilities must obtain a permit to construct prior to constructing individual sewage treatment and disposal systems (SC R</p>	<p>Verify that human wastes are disposed of so that:</p> <ul style="list-style-type: none"> <li>- they will not contaminate any drinking water supply</li> <li>- they will not give rise to a public health hazard by being accessible to insects, rodents, or other possible carriers which may come into contact with food or drinking water</li> <li>- they will not give rise to a public health hazard by being accessible to children</li> <li>- they will not violate laws or regulations governing water pollution or sewage disposal</li> <li>- they will not pollute or contaminate any drainage ditch or the waters of any bathing beach, shellfish breeding ground or stream used for public or domestic water supply purposes or for recreational purposes</li> <li>- they will not give rise to a nuisance due to odor or unsightly appearance.</li> </ul> <p>Verify that where the installation of an individual sewage disposal system is necessary, the basic principles of design, construction, installation and maintenance are followed.</p> <p>Verify that the installation/CW facility ensures that a permit to construct an individual sewage disposal system is obtained from the Health Authority prior to construction of the system.</p> <p>Verify that the general contractor (or prime contractor, or person constructing the building) does not begin construction of the building until a permit to construct an individual sewage treatment and disposal system is issued by the Health Authority, and that no mobile or modular structure intended for occupancy is moved onto the site until the permit to construct has been issued.</p> <p>Verify that no person engages in the construction, repair, or cleaning of onsite sewage treatment and disposal systems or the cleaning of self-contained toilets in South Carolina without applying for, receiving, and maintaining a valid license to conduct such activities.</p> <p>(NOTE: A person may construct or repair an onsite sewage treatment and</p>

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<p>61-56.1.III) [Added November 1997].</p> <p><b>WA.100.4.SC.</b> Installations/CW facilities must obtain a permit to construct prior to constructing individual sewage treatment and disposal systems (SC R 61-56.1.V) [Added November 1997].</p>	<p>disposal system for personal use at his residence without obtaining a license.)</p> <p>Verify that each person licensed to clean onsite sewage treatment and disposal systems and self-contained toilets maintains accurate, written records of cleaning and transporting activities.</p> <p>Verify that records are kept current and include at least the following information for each cleaning/transporting activity:</p> <ul style="list-style-type: none"> <li>- date and time of septage removal</li> <li>- name and address of residence or facility where septage was removed (where one or more self-contained toilets are cleaned at one location (construction site, special event, etc.), one recorded entry per location will be acceptable)</li> <li>- quantity and type of septage removed (i.e., grease trap, septic tank, self-contained toilet) (where one or more self-contained toilets are cleaned at one location, quantity may be expressed by the total number of units cleaned at that location)</li> <li>- date, time, and location of septage disposal.</li> </ul> <p>Verify that records are made available for inspection by the Department upon request, and retained for a minimum of 2 yrs.</p>

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<p><b>LAND APPLICATION OF SLUDGE</b></p> <p><b>WA.105. General</b></p> <p><b>WA.105.1.SC.</b> Installations/CW facilities that generate sewage sludge for disposal, or that dispose of sludge, must obtain a permit (SC R 61-9.503.1(b), and 503.3.) [Added November 1997].</p>	<p>(NOTE: South Carolina's sewage sludge regulations closely follow the Federal with a few notable exceptions:</p> <ul style="list-style-type: none"> <li>- a permit is required for all aspects of sludge generation, management and disposal; this permit may be a NPDES permit, a State Permit or Land Application Permit (see WA.15.1.SC.), or some other permit (see below for details)</li> <li>- South Carolina has adopted regulations for the disposal of sludge from industrial wastewater treatment plants that substantively identical to the State regulations for domestic sewage, including the requirement to apply for permits (see below)</li> <li>- the frequency of monitoring required for sewage sludge disposal sites has a minor change from the Federal (see WA.105.3.SC. below.)</li> </ul> <p>(NOTE: This requirement applies to:</p> <ul style="list-style-type: none"> <li>- any person who prepares sewage sludge, applies sewage sludge to the land, or fires sewage sludge in a sewage sludge incinerator and to the owner/operator of a surface disposal site</li> <li>- sewage sludge applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator</li> <li>- the exit gas from a sewage sludge incinerator stack</li> <li>- land where sewage sludge is applied, to a surface disposal site, and to a sewage sludge incinerator.)</li> </ul> <p>Verify that any installations/CW facilities engaging in a covered activity (see the NOTE above) have obtained one of the following permits:</p> <ul style="list-style-type: none"> <li>- a permit issued to a "treatment works treating domestic sewage"</li> <li>- a permit issued to any person who prepares, generates, or disposes of sewage sludge when the sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator, or</li> <li>- a permit issued under subtitle C of the Solid Waste Disposal Act, subpart C of the Safe Drinking Water Act, the Marine Protection, Research and Sanctuaries Act of 1972, or the Clean Air Act</li> <li>- a permits issued to land applicators (see WA.15.1.SC.).</li> </ul> <p>(NOTE: A person who derives a bulk or bag material from sewage sludge is not required to obtain a permit if:</p> <ul style="list-style-type: none"> <li>- the sewage sludge meets: <ul style="list-style-type: none"> <li>- one of the vector attraction reduction requirements for sewage sludge that is not injected under the surface of the ground (see the TEAM Guide, section WA.125), and</li> <li>- a Permit has been issued to either the preparer, generator and/or</li> </ul> </li> </ul>

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<p><b>WA.105.2.SC.</b> Installations/CW facilities that generate industrial sludge for disposal, or that dispose of industrial sludge, must obtain a permit (SC R 61-9.504.1(b), 504.3, and 504.6(g) through (l)) [Added November 1997].</p>	<p style="text-align: center;">applier.)</p> <p>(NOTE: This checklist item applies to:</p> <ul style="list-style-type: none"> <li>- any person who prepares industrial sludge or applies industrial sludge to the land</li> <li>- any person who sells, or gives away industrial sludge or materials derived from industrial sludge</li> <li>- industrial sludge applied to the land</li> <li>- land where industrial sludge is applied and land disposal sites.)</li> </ul> <p>Verify that any installations/CW facilities engaging in a covered activity (see the NOTE above) have obtained one of the following permits:</p> <ul style="list-style-type: none"> <li>- a permit issued to any person who prepares, generates, or disposes of industrial sludge when the industrial sludge is applied to land</li> <li>- a permit issued under subtitle C of the Solid Waste Disposal Act; subpart C of the Safe Drinking Water Act; the Marine Protection, Research, and Sanctuaries Act of 1972; or the Clean Air Act</li> <li>- a permit issued to land applicators (see WA.15.1.SC.).</li> </ul> <p>(NOTE: This checklist item does not establish requirements for:</p> <ul style="list-style-type: none"> <li>- the use or disposal of ash generated during the firing of industrial sludge in an industrial sludge incinerator</li> <li>- the use or disposal of grit (e.g., sand, gravel, cinders, or other materials with a high specific gravity) or screenings (e.g., relatively large materials such as rags) generated during preliminary treatment of industrial wastewater in a treatment works</li> <li>- the use or disposal of sludge generated during the treatment of either surface water or ground water used for drinking water</li> <li>- the use or disposal of coal ash</li> <li>- the use or disposal of grease removed from grease traps at restaurants or other similar establishments.)</li> </ul>
<p><b>WA.105.3.SC.</b> Installations/CW facilities that dispose of sewage sludge must monitor for pollutants, pathogen density, and vector attraction requirements according to specific State requirements (SC R 61-9.503.16(a)) [Added November 1997].</p>	<p>(NOTE: The State requirements for monitoring frequency differ from the Federal requirements found in the TEAM Guide (Appendix 12-10) in one minor respect: Facilities that apply less than 290 metric tons of sewage sludge per 365 calendar days must monitor quarterly in South Carolina, but would only be required to monitor annually by Federal regulations. However, the monitoring frequency for industrial sludge application sites is the same as the Federal for sewage sludge application sites.)</p> <p>Verify that installations/CW facilities monitor for pollutants, pathogen density, and vector attraction reduction requirements at the following frequencies:</p>

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	<ul style="list-style-type: none"> <li>- for facilities that apply less than 1500 metric tons per 365 calendar days: once per quarter (four times per year)</li> <li>- for facilities that apply less than 15,000 metric tons per 365 calendar days: once per every 60 days (six times per year)</li> <li>- for facilities that apply 15,000 or more metric tons per 365 calendar days: once per month (twelve times per year).</li> </ul> <p>(NOTE: The amount is based on either the amount of bulk sewage sludge applied to the land, or the amount of sewage sludge received by a person who prepares sewage sludge that is sold or given away in a bag or other container for application to the land (dry weight basis).)</p> <p>(NOTE: Facilities which generate less than 290 metric tons of sludge per year and dispose of the sludge once per year or less, may request a reduction in monitoring to a frequency of once per year. The Department will review these requests on a case-by-case basis.)</p> <p>(NOTE: After the sewage sludge has been monitored for two years at the frequency given above, the Department may reduce the frequency of monitoring for pollutant concentrations and for the pathogen density requirements, but in no case may the frequency of monitoring be less than once per year when sewage sludge is applied to the land.)</p>

## SECTION 13

### WATER QUALITY MANAGEMENT

#### South Carolina Supplement, November 1997

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.

#### Definitions

- *Backflow Prevention Device* - any device approved by the South Carolina DHEC for use in preventing backflow (SC R 61-58-B [Citation Revised November 1997].)
- *Best Available Technology or BAT* - the best technology, treatment techniques, or other means which the U.S. Environmental Protection Agency (USEPA) finds, after examination for efficiency under field conditions and not solely under laboratory conditions, are available (SC R 61-58-B [Citation Revised November 1997].)
- *CFR* - Code of Federal Regulations.
- *Coagulation* - a process using coagulant chemicals and mixing by which a colloid and suspended material are destabilized and agglomerated into a floc (SC R 61-58-B [Citation Revised November 1997].)
- *Coliform Bacteria Group* - a group of bacteria predominantly inhabiting man or animals. It includes all aerobic and facultative anaerobic gram negative, nonspore forming bacilli that ferment lactose with the production of gas. Also included are all bacteria that produce a dark, purplish-green colony with metallic sheen by membrane filter technique used for coliform detection purposes (SC R 61-58-B [Citation Revised November 1997].)
- *Commissioner* - the State Health Commissioner (SC R 61-58-B [Citation Revised November 1997].)
- *Community Water System* - a public water supply used by year-round residents (SC R 61-58-B [Citation Revised November 1997].)
- *Confluent Growth* - means a continuous growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete (SC R 61-58-B [Citation Revised November 1997].)
- *Contaminant* - any physical, chemical, biological, or radiological substance or matter in water (SC R 61-58-B [Citation Revised November 1997].)
- *Conventional Filtration Treatment* - a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal (SC R 61-58-B [Citation Revised November 1997].)
- *Corrosivity* - the tendency of water to form or dissolve calcium carbonate as a film or scale (SC R 61-79-261-22 [Citation Revised November 1997].)
- *CT* - the product of the residual disinfectant concentration "C" (measured in milligrams per liter) and the disinfectant contact time, "T" (measured in minutes) (SC R 61-58-B [Citation Revised November 1997].)
- *Department* - the South Carolina Department of Health and Environmental Control (SC R 61-58-B [Citation Revised November 1997].)

- *Diatomaceous Earth Filtration* - a process resulting in substantial particulate removal in which a precoat cake of diatomaceous earth filter media is deposited on a support membrane, and while the water is passing through the cake on the septum, additional filter media known as body feed is continuously added to the feed water to maintain the permeability of the filter cake (SC R 61-58-B [Citation Revised November 1997].)
- *Direct Filtration* - a series of processes, including coagulation and filtration, but excluding sedimentation, resulting in substantial particulate removal (SC R 61-58-B [Citation Revised November 1997].)
- *Disinfectant* - any oxidant (including chlorine) that is added to water in any part of the treatment or distribution process for the purpose of killing or deactivating pathogenic organisms (SC R 61-58-B [Citation Revised November 1997].)
- *Disinfection* - a process that inactivates pathogenic organisms in water by chemical oxidants or other equivalent agents (SC R 61-58-B [Citation Revised November 1997].)
- *Disinfectant Contact Time* - the time in minutes that it takes for water to move from the point of disinfectant application or the previous point of disinfection residual measurement to a point before or at the point where residual disinfectant concentration is measured (SC R 61-58-B [Citation Revised November 1997].)
- *Domestic or Other Nondistribution System Plumbing Problem* - a coliform contamination problem in a public water system with more than one service connection, that is limited to the specific service connection from which the coliform-positive sample was taken (SC R 61-58-B [Citation Revised November 1997].)
- *Filtration* - a process for removing particulate matter from water through porous media (SC R 61-58-B [Citation Revised November 1997].)
- *Flocculation* - a process to enhance agglomeration or collection of smaller particles into larger, more easily settleable particles through gentle stirring by hydraulic or mechanical means (SC R 61-58-B [Citation Revised November 1997].)
- *Gross Alpha Particle Activity* - the total radioactivity due to alpha particle emission as inferred from measurement on a dry sample (SC R 61-58-B [Citation Revised November 1997].)
- *Gross Beta Particle Activity* - the total radioactivity due to a beta particle emission as inferred from measurement on a dry sample (SC R 61-58-B [Citation Revised November 1997].)
- *Groundwater Under the Direct Influence of Surface Water* - any water beneath the surface of the ground with:
  1. significant occurrences of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia*
  2. significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlates to surface water conditions (SC R 61-58-B [Citation Revised November 1997].)
- *Halogen* - one of the chemical elements chlorine, bromine, fluorine, astatine, or iodine (SC R 61-58-B [Citation Revised November 1997].)
- *Lead Free* - when used with respect to solders and flux, all solders and flux containing not more than 0.2 percent lead, and when used with respect to pipes and fittings containing not more than 8.0 percent lead (SC R 61-58-B [Citation Revised November 1997].)
- *Legionella* - a genus of bacteria, some species of which have caused a type of pneumonia called legionnaires disease (SC R 61-58-B [Citation Revised November 1997].)

- *Manmade Beta Particle and Photon Emitters* - all radionuclides emitting beta particles and/or photons listed on *Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure*, NBS Handbook 69, except the daughter products of thorium-232, uranium-235, and uranium-238 (SC R 61-58-B [Citation Revised November 1997].)
- *Maximum Contamination Level (MCL)* - the maximum allowable level of a contaminant in water which is delivered to any user of a public water system (SC R 61-58-B [Revised November 1997].)
- *Maximum Total Trihalomethane Potential (MTP)* - the maximum trihalomethane (THM) concentration of total trihalomethanes (TTHM) produced in a given water containing excess free chlorine residuals after 7 days retention at a temperature of 25 °C (77 °F) or above (SC R 61-58-B [Citation Revised November 1997].)
- *Near the First Service Connection* - at one of the 20 percent of service connections in the entire system that are near the water supply treatment system, as measured by the water transport time within the distribution system (SC R 61-58-B [Citation Revised November 1997].)
- *Noncommunity Water System* - a public water supply that is not a community water system (SC R 61-58-B [Citation Revised November 1997].)
- *Nontransient Noncommunity Water System* - a public water supply that is not a community water system and that regularly serves at least 25 of the same persons over 6 mo of the year (SC R 61-58-B [Citation Revised November 1997].)
- *Operator* - a person certified by the South Carolina Board of Certification of Environmental Systems Operators as being qualified to conduct tests of the raw and treated water, adjust chemical feed rates, turn valves, and operate equipment so as to change the quality of surface water to meet established standards (SC R 61-58-B [Citation Revised November 1997].)
- *PicoCurie (pCi)* - the quantity of radioactive material producing 2.22 nuclear transformations per minute (SC R 61-58-B [Citation Revised November 1997].)
- *Point of Disinfection Application* - the point at where the disinfectant is applied and water downstream of that point is not subject to recontamination by surface water runoff (SC R 61-58-B [Citation Revised November 1997].)
- *Point of Entry Treatment Device (POE)* - is the treatment device applied to the drinking water entering a house or building for the purpose of reducing contaminants in the drinking water distributed throughout the house or building (SC R 61-58-B [Citation Revised November 1997].)
- *Point of Use Treatment Device (POU)* - a treatment device applied to a single tap used for the purpose of reducing contaminants in drinking water at that one tap (SC R 61-58-B [Citation Revised November 1997].)
- *Pollution* - the act of emitting pollutants into the air or water or onto the land (SC R 121-82 [Citation Revised November 1997].)
- *Public Health Hazard* - a condition, device, or practice that is conducive to the introduction of waterborne disease organisms or harmful chemical, physical, or radioactive substances into a public water system and that presents an unreasonable risk to health.
- *Public Water System* - any publicly or privately owned waterworks system which provides drinking water for human consumption, including the source of the supply (SC R 61-58-B [Citation Revised November 1997].)



- *rem* - the unit dose equivalent from ionizing radiation to the total body or any internal organ or organ system (SC R 61-58-B [Citation Revised November 1997].)
- *Residual Disinfectant Concentration* - the concentration of disinfectant measured in milligrams per liter in a representative sample of water (SC R 61-58-B [Citation Revised November 1997].)
- *Sanitary Survey* - an onsite review of the water source, watershed, facilities, equipment, operation, and maintenance of the water system to produce and distribute safe drinking water (40 CFR 141.2 [Citation Revised November 1997].)
- *Secondary Maximum Contaminant Level (SMCL)* - the level of a secondary contaminant that when exceeded, may adversely effect the aesthetic quality of the drinking water and thereby may deter public acceptance of drinking water provided by public water systems or may interfere with water treatment methods (SC R 61-58-B [Citation Revised November 1997].)
- *Sedimentation* - a process for removal of solids before filtration by gravity or separation.
- *Slow Sand Filtration* - a treatment process involving passage of raw water through a bed of sand at low velocity (generally less than 235 gal/ft<sup>2</sup>/day) resulting in substantial particulate removal by physical and biological mechanisms (SC R 61-58-B [Citation Revised November 1997].)
- *Standard Sample* - the aliquot of finished drinking water that is examined for the presence of coliform bacteria (SC R 61-58-B [Revised November 1997].)
- *Surface Water* - all water which is open to the atmosphere and subject to surface water runoff (SC R 61-58-B [Citation Revised November 1997].)
- *Total Trihalomethanes (TTHM)* - the arithmetic sum of the concentrations per liter of THM compounds (trichloromethane, dibromochloromethane, bromodichloromethane, and tribromomethane) rounded to two significant figures (SC R 61-58-B [Citation Revised November 1997].)
- *Too Numerous to Count (TNTC)* - that the total number of bacterial colonies exceeds 200 on a 47 mm diameter membrane filter used for coliform bacteria detection (SC R 61-58-B [Citation Revised November 1997].)
- *Trihalomethanes (THM)* - the family of organic halogen compounds resulting from the displacement of three of the four hydrogen atoms in methane with chlorine, bromide, or iodine atoms in the molecular structure (SC R 61-58-B [Citation Revised November 1997].)
- *Turbidity* - a measure of the cloudiness of water caused by suspended particles. These units of measure for turbidity are nephelometric turbidity units (SC R 61-58-B [Citation Revised November 1997].)
- *Virus* - a virus of fecal origin which is infectious to humans by waterborne transmission (SC R 61-58-B [Citation Revised November 1997].)
- *Waterborne Disease Outbreak* - the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a public water system that is deficient in treatment, as determined by the Department (SC R 61-58-B [Citation Revised November 1997].)

<b>WATER QUALITY MANAGEMENT</b>	
<b>GUIDANCE FOR SOUTH CAROLINA CHECKLIST USERS</b>	
<b>REFER TO CHECKLIST ITEMS:</b>	
Public Water Systems	
General	WQ.10.1.SC. through WQ.10.11.SC.
Monitoring/Sampling	WQ.15.1.SC. through WQ.15.3.SC.
Disinfection and Filtration	WQ.20.1.SC. through WQ.20.3.SC.
Lead and Copper	WQ.25.1.SC.
Notification and Reporting Requirements	WQ.30.1.SC. through WQ.30.4.SC.
Community Water Systems	
Standards	WQ.35.1.SC. through WQ.35.3.SC.
Monitoring/Sampling	WQ.40.1.SC. through WQ.40.15.SC.
Notification and Reporting Requirements	WQ.45.1.SC. and WQ.45.2.SC.
Noncommunity Water Systems	
Monitoring/Sampling	WQ.65.1.SC. through WQ.65.11.SC.
Notification and Reporting Requirements	WQ.75.1.SC. and WQ.75.2.SC.
State-Specific Categories of Water Systems	
Private/Other	WQ.85.1.SC.
Drinking Water Well	WQ.90.1.SC. through WQ.90.5.SC.
Injection Control Wells	WQ.110.1.SC. through WQ.110.8.SC.
Water Quality Standards	WQ.115.1.SC. through WQ.115.8.SC.
Water Use Permits	WQ.120.1.SC. through WQ.120.3.SC.

<b>GUIDANCE FOR APPENDIX USERS</b>	
<b>REFER TO APPENDIX NUMBERS:</b>	<b>REFER TO APPENDIX TITLES:</b>
13-1	Minimum Monitoring Frequency for Coliforms
13-2	Residual Sampling Frequency for Water Systems Serving Fewer than 3300 Persons
13-3	Maximum Contaminant Levels (MCLs) for Inorganic Chemicals
13-4	The Value "V"
13-5	Maximum Contaminant Levels (MCLs) for Organic Chemicals
13-6	Special Monitoring for Organic Chemicals
13-7	Total Coliform Sampling Frequency
13-8	Secondary Maximum Contaminants
13-9	Maximum Contamination Levels (MCLs) for Volatile Synthetic Organic Chemicals



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**REGULATORY REQUIREMENTS:**

<p align="center"><b>REVIEWER CHECKS:</b> <b>November 1997</b></p>	
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## PUBLIC WATER SYSTEMS

**WQ.10.**  
**General**

**WQ.10.1.SC.** Public water systems that use surface water or groundwater under the direct influence of surface water must meet specific requirements for source water quality (SC R 61-58.10(B) and (C)(1)).

Verify that public water systems using surface water or groundwater under the direct influence of surface water achieve the following disinfection standards:

- at least 99.9 percent (3-log) removal and/or inactivation of *Giardia lamblia* cysts between a point where the raw water is not subject to recontamination of surface water runoff and a point downstream before or at the first customer
- at least 99.99 percent (4-log) removal and/or inactivation of viruses between a point where the raw water is not subject to recontamination by surface water.

(NOTE: A public water system using surface water or groundwater under the direct influence of surface water is in compliance if it meets the requirements for avoiding filtration and disinfection.)

Verify that water systems using a surface water source meet the following requirements for source water quality:

- the fecal coliform concentration is equal to or less than 20/100 mL, or the total coliform concentration is equal to or less than 100/100 mL in representative samples of the source water immediately prior to the first or only point of disinfection in at least 90 percent of the measurements made for the six previous months that the system served water to the public on an ongoing basis
- the turbidity level does exceed 5 NTU in representative samples of the source water immediately prior to the first or only point of disinfectant application.

(NOTE: The turbidity level may be waived if the Department determines the event was caused by unusual and unpredictable circumstances, and as a result there have not been more than two events in the past 12 mo or five events in the past 120 mo.)

**WQ.10.2.SC.** Public water systems supplied by surface water sources must maintain a watershed control program

Verify that the water system maintains a watershed control program which minimizes the potential for contamination by *Giardia lamblia* cysts and viruses in the source water.

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>November 1997</b>
(SC R 61-58.10(C)(2)(b)).	<p>(NOTE: The Department will determine whether the watershed control program is adequate.)</p> <p>Verify that, at a minimum, the watershed control program:</p> <ul style="list-style-type: none"> <li>- characterizes the watershed hydrology and land ownership</li> <li>- identifies activities that may have an adverse effect on source water quality</li> <li>- monitors activities that may have an adverse effect on source water quality.</li> </ul> <p>Verify that the water system can demonstrate through ownership or written agreement with landowners that it can control all human activities that may have an adverse impact on the microbiological quality of the source water.</p>
<b>WQ.10.3.SC.</b> Water treatment plants must meet specific operation and maintenance standards (SC R 61-58.7(B)(1) through (B)(8), 58.7(B)(12) through (14), and (17) through (21)) [Revised November 1996].	<p>Verify that the treatment plant is operated and maintained in accordance with its permit.</p> <p>Verify that the following areas are inspected at the designated time:</p> <ul style="list-style-type: none"> <li>- the treatment plant itself, each shift</li> <li>- intake structures, once a day</li> <li>- wells and pneumatic tanks, once a week</li> <li>- pressure filters and enclosed aeration devices, once a year.</li> </ul> <p>Verify that each operator has a written manual of standard operating procedures for the treatment plant the operator is responsible for.</p> <p>Verify that the following are done on a daily basis:</p> <ul style="list-style-type: none"> <li>- inspect the chemical feed equipment to ensure proper operation</li> <li>- measure the amounts of chemicals used each day and calculate the dosages.</li> </ul> <p>(NOTE: If a combined phosphate or poly-phosphate chemical is used, total phosphate residual monitoring may be conducted once every 2 weeks in lieu of the daily monitoring requirement.)</p> <p>Verify that chemical feed equipment is kept clean and chemical spills are cleaned up promptly.</p> <p>Verify that the system has immediate access to parts for routine repairs and that all malfunctioning equipment is repaired as soon as possible.</p> <p>Verify that adequate safety equipment from handling of chemicals used in treatment is provided.</p>

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<p><b>WQ.10.4.SC.</b> Water treatment plants that use chlorine to disinfect the water must meet specific requirements (SC R 61-58.7(B)(9)) [Revised November 1996].</p>	<p>Verify that chemical dosages do not exceed the maximum dosage specified by the Department.</p> <p>Verify that all emergency power equipment is operated at least once per mo under load and records of this operation kept on file with the water system.</p> <p>Verify that all storage and de-watering facilities for water treatment plant residuals are maintained in good operating condition.</p> <p>Verify that security is provided and maintained for all intake, treatment, storage and pumping facilities so as to prevent the entrance of unauthorized persons.</p> <p>Verify that all required flow meters are maintained and operated in accordance with design criteria.</p> <p>Verify that secondary containment systems are maintained for all liquid chemical storage tanks and solution tanks capable of receiving and containing accidental spills or overflows.</p> <p>Verify that incompatible chemicals are not stored in the same secondary containment area.</p> <p>Verify that the following conditions are met at treatment plants that use gas chlorinators:</p> <ul style="list-style-type: none"> <li>- chlorine gas feed and storage rooms are maintained in a reasonably airtight condition</li> <li>- the louvers on the air inlet and on the discharge side of the ventilating fan are maintained to ensure proper closure when the fan is not in use</li> <li>- weather-stripping on the door is maintained in good condition and no opening is allowed to exist between the rooms and other parts of the treatment plant</li> <li>- if a floor drain is provided, a water seal or removable plug is maintained to prevent escaped gases from exiting throughout the building sewer</li> <li>- the door of the chlorination room is kept closed except for the entry and exit of personnel</li> <li>- all gas cylinders are secured to the wall or post by a chain, straps, or other proper restraint</li> <li>- the chlorine gas feed and storage rooms are well lighted</li> <li>- ammonia is not stored in the same room with chlorine gas cylinders or feed equipment</li> <li>- the ventilating fans for the chlorine gas feed and storage rooms work properly at all times, and are manually controlled only</li> <li>- the vents from the feeders and storage are maintained free of any debris</li> <li>- all cylinders (full or empty) are restrained</li> <li>- the chlorination room is heated to maintain proper temperature for</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>WQ.10.5.SC.</b> Surface water treatment plants must meet specific operation and maintenance standards (SC R 61-58.7(C)) [Revised November 1996].</p>	<p>operation</p> <ul style="list-style-type: none"> <li>- there is no equipment in the chlorination room except the chlorinator, the chlorine cylinders, weighing scales, heater, ventilation fan, light(s), chlorine gas leak detector(s), and chlorinator appurtenances</li> <li>- scales for weighing cylinders must be calibrated yearly and properly maintained</li> <li>- the chlorine feed system must be operated to ensure continuous feed of chlorine when the plant is operating</li> <li>- a chlorine leak detection and alarm system must be in service at all times</li> <li>- the facility must have an emergency action plan for addressing chlorine leaks.</li> </ul> <p>Verify that, if chlorine is added, a trace residual of the chlorine is found throughout the distribution system.</p> <p>Verify that, if ammonia and chlorine are added as the disinfectant, a free chlorine residual of 2 mg/L is carried in water through the treatment plant and a combined chlorine residual of 2 mg/L is carried in the water leaving the plant.</p> <p>Verify that, if sodium fluoride, sodium silico-fluoride, or fluoride are added in any form to a public water supply, Department approval has been obtained.</p> <p>Verify that, if fluoride is added to the water, the following conditions are met:</p> <ul style="list-style-type: none"> <li>- fluoride content is maintained at between 0.7 mg/L and 1.0 mg/L</li> <li>- tests to determine the fluoride concentration are made daily.</li> </ul> <p>Verify that, if phosphate is added to the water that a maximum concentration of 5 mg/L is not exceeded.</p> <p>Verify that color coding of all pipes is accomplished by 31 December 1995.</p> <p>Verify that the treatment plant is not operated at a flow that causes the filtration rate of the filters to be exceeded or the sedimentation basin retention time to be reduced beyond its capacity.</p> <p>Verify that algae growth is kept to a minimum and all chemicals used for its control are approved by the Department.</p> <p>Verify that all surface water treatment plants have an operator of the appropriate grade, in-charge, and present at the plant when the plant is operating and producing water for public consumption.</p> <p>Verify that all enclosed filters are opened and inspected per manufacturer's recommendation or as required to ensure proper operation.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>WQ.10.6.SC.</b> Groundwater treatment plants must meet specific operation and maintenance guidelines (SC R 61-58.7(D)) [Revised November 1996].</p>	<p>Verify that all water, chemical, and waste lines are labeled and color coded to identify line contents and direction of flow (if applicable).</p> <p>Verify that the treatment facility is operated at a rate of flow such that the Department approved filtration rate will not be exceeded or the pretreatment retention times not be reduced below the capacity approved by the Department.</p> <p>Verify that the use of chemicals for the control of aquatic weeds, algae and water born organisms in rivers, lakes, and reservoirs which are used as a source of water by a public water supply, is approved by the Department prior to their use.</p> <p>Verify that intake screens are cleaned as often as is necessary for the proper functioning of the intake station.</p> <p>Verify that the installation/CW facility has an onsite laboratory with the necessary equipment and methodology acceptable to the Department for process control monitoring.</p> <p>Verify that the following analyses are conducted as often as necessary, but not less than once a day, to ensure the treatment plant is functioning properly:</p> <ul style="list-style-type: none"> <li>- raw water must be analyzed for pH, alkalinity, temperature, turbidity and total or fecal coliform bacteria</li> <li>- the coagulated water must be analyzed for pH and alkalinity</li> <li>- the settled water must be analyzed for turbidity and disinfectant residual if a pre-disinfectant is used.</li> <li>- the filtered water must be analyzed for turbidity</li> <li>- the finished water must be analyzed for pH, alkalinity, temperature, disinfectant residual, calcium hardness and turbidity.</li> </ul> <p>Verify that the effluent weirs of the sedimentation basins are maintained so there is a uniform flow of water over the entire length of the weir.</p> <p>Verify that flocculation and sedimentation basins and clarifiers are cleaned as often as necessary to keep the settled material and algae growths to a minimum.</p> <p>Verify that the following operation and maintenance guidelines for groundwater treatment plants are in place:</p> <ul style="list-style-type: none"> <li>- well heads and associated piping are inspected at a minimum of once a week</li> <li>- stand-by wells are inspected at least once a month, and documentation of these inspections must be maintained</li> <li>- facilities are monitored at least once a day by an operator of the appropriate grade</li> <li>- pressure filters and enclosed aeration devices are opened and inspected per</li> </ul>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>WQ.10.7.SC.</b> Distribution systems and storage tanks must meet specific requirements (SC R 61-58.7(E)).</p>	<ul style="list-style-type: none"> <li>- manufacturer's recommendation or as required to ensure proper operation</li> <li>- valves provided for the isolation of each well are maintained to ensure proper operation</li> <li>- the check valve and blow-off on the well head piping are maintained</li> <li>- adequate freeze protection for the well head piping is maintained</li> <li>- a flow meter is maintained for each well serving a community water system and each well which is equipped with chemical treatment</li> <li>- the meter is periodically calibrated to ensure accuracy in accordance with the manufacturer's recommendations</li> <li>- calibration records are kept on file for a minimum of 3 yr</li> <li>- drainage systems are maintained so that surface water flows away from the well head</li> <li>- wells are maintained so the sanitary seal, the casing, the screened vent and the concrete pad are in good repair and can prevent the entrance of contamination into the well</li> <li>- if a well is no longer used, it is properly abandoned</li> <li>- the capacity of a public water system which uses groundwater as its only drinking water source, is based on all operable wells pumping 16 h/day or all operable wells minus the largest well pumping 24 h/day, which ever is less</li> <li>- if the system has an additional source (surface water plant or metered connection from another public water system), the additional capacity from that source is used in determining the total capacity of the system</li> <li>- if the capacity of the system is exceeded on a consistent basis during the peak water use months, the system submits a preliminary engineering report to the Department within 90 days addressing in detail any upgrade necessary to keep up with any growth in demand on the system</li> <li>- the public water system conducts monitoring when required by the Department to determine if the groundwater source is under the direct influence of surface water.</li> </ul> <p>Verify that the following requirements for distribution systems and storage tanks are met:</p> <ul style="list-style-type: none"> <li>- distribution treatment plants is monitored at least once a day by an operator of the appropriate grade</li> <li>- all elevated, hydropneumatic and ground storage tanks are inspected at a minimum of once a week for the purpose of checking on the security of the tank(s) and insuring that proper air/water ratios are being maintained in hydropneumatic storage tanks</li> <li>- the drainage system on any storage tank lot is maintained to channel water away from the tank foundations</li> <li>- valves provided for the isolation of each tank are maintained to ensure proper operation</li> <li>- screens are maintained on all storage tank vents</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>WQ.10.8.SC.</b> Cross connection controls must meet certain requirements (SC R 61.58.6 (F)) [Revised November 1996].</p>	<ul style="list-style-type: none"> <li>- screens or flap valves are maintained on all storage tank overflows</li> <li>- the minimum pressure in the distribution system under normal operating conditions is 25 psi at a customer's service connection</li> <li>- a minimum pressure of 20 psi is maintained at all service connections during unusually heavy flows (i.e., fire or flushing)</li> <li>- each public water system maintains a map of the distribution system which shows the location of water lines and their sizes as well as the location of all valves, hydrants and blowoffs</li> <li>- the location of all water sources and all pumping, treatment and storage facilities is also included on this map</li> <li>- valves and hydrants are exercised and maintained in accordance with the system's valve and hydrant maintenance program to ensure operability</li> <li>- any valves or hydrants that malfunction are repaired promptly</li> <li>- records are kept on this maintenance program</li> <li>- a flow test is conducted on all fire hydrants at a minimum of once every 3 yr</li> <li>- community water systems initiate and carry out a program aimed at detecting leaks in the distribution system</li> <li>- leaks found through this program or any leaks discovered through other means are repaired promptly</li> <li>- records are kept of the leaks detected and the repairs made</li> <li>- when a break occurs in a system's distribution line, the repairs to that line are made promptly and in accordance with good sanitary practices</li> <li>- public water systems develop and maintain a flushing program in order to prevent customer complaints caused by stagnant, discolored, and sediment laden water and maintain adequate disinfectant residuals throughout the distribution system</li> <li>- detailed instructions of this program are included in the system's manual of standard operating procedures</li> <li>- records of all flushing activities are maintained by the system</li> <li>- the Department is notified in writing at least 10 days prior to the repainting of the interior or exterior of any storage tank.</li> </ul> <p>Verify that cross connections are not installed, permitted, or maintained between the following unless an approved backflow prevention device is installed between the public water system and the source of the contamination:</p> <ul style="list-style-type: none"> <li>- a public water supply and any other nonpublic water supply</li> <li>- sewer or waste line</li> <li>- any containers of liquids or other substances</li> </ul> <p>Verify that a backflow prevention device is used if the connection is between an approved public water supply and a service or other water supply not hazardous to health but not meeting the standards of the proved public water supply and not cross connected within its system with a potentially dangerous waste or liquid.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>WQ.10.9.SC.</b> Construction at water treatment plants requires a permit (SC R 61-58.1).</p> <p><b>WQ.10.10.SC.</b> Ammonia gas disinfection of water must meet specific requirements (SC R 61-58.7(10)) [Added November 1996].</p>	<p>Verify that, if the connection is between an approved public water supply and a service or other water supply that has or may have any material in the water dangerous to health or be connected to any method dangerous to health, that is or may be handled under pressure or subject to negative pressure, protection is provided by an air gap separator.</p> <p>Verify that reduced pressure principal backflow prevention assemblies are not installed in any location subject to possible flooding.</p> <p>Verify that fire line sprinkler systems, except those in the high hazard category are protected by an approved double check valve assembly.</p> <p>Verify that the installation/CW facility has a permit before the construction, expansion, or modification of any public water supply.</p> <p>Verify that, if ammonia gas is used to disinfect water, the following requirements are met:</p> <ul style="list-style-type: none"> <li>- ammonia gas feed and storage rooms are maintained in a reasonably air tight condition</li> <li>- the louvers on the air inlet and on the discharge side of the ventilating fan are maintained to ensure proper closure when the fan is not in use</li> <li>- weather striping on the door is maintained in good condition and no opening is allowed to exist between the rooms and other parts of the treatment plant</li> <li>- the doors to the ammonia gas feed and storage rooms are kept closed except while occupied by authorized personnel</li> <li>- the ammonia gas feed and storage rooms are well lighted</li> <li>- the ventilating fans for the ammonia gas feed and storage rooms work properly at all times, and are manually controlled only</li> <li>- chlorine is not stored in the same room with ammonia gas cylinders or feed equipment</li> <li>- the vents from the feeders and storage are maintained free of any debris</li> <li>- all cylinders (full and empty) are restrained</li> <li>- the ammoniator room is heated to maintain proper temperature for operation</li> <li>- there must be no equipment housed in the ammonia feed room except ammoniators, ammonia cylinders, weighing scales, heater, ventilation fan, light(s), ammonia gas leak detector(s), and ammoniator appurtenances</li> <li>- scales for weighing cylinders are calibrated yearly and properly maintained</li> <li>- where bulk storage tanks are installed a pressure gauge is maintained</li> <li>- the ammonia feed system is maintained and operated to ensure continuous</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>WQ.10.11.SC.</b> Installations/ CW facilities that add fluo- ride to the water must meet specific guidelines (SC R 61- 58.7(11)) [Added November 1996].</p>	<p>feed of ammonia when the plant is operating</p> <ul style="list-style-type: none"> <li>- an ammonia leak detection and alarm system is in service at all times</li> <li>- the public water system has an emergency action plan for addressing ammonia leaks.</li> </ul> <p>Verify that installations/CW facilities applying fluoride to the water observe the following guidelines:</p> <ul style="list-style-type: none"> <li>- the fluoride content of the water is maintained between 0.80 and 1.20 mg/L</li> <li>- finished water is analyzed daily for fluoride content</li> <li>- if the installation/CW facility stops fluoridating the water for any reason the Department is notified immediately.</li> </ul>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>PUBLIC WATER SYSTEMS</b></p> <p><b>WQ.15.</b></p> <p><b>Monitoring/Sampling</b></p> <p><b>WQ.15.1.SC.</b> Installations/ CW facilities that do not pro- vide filtration must meet spe- cific monitoring requirements (SC R 61-58.10(F)(2)).</p>	<p>Verify that the water system samples for fecal or total coliform at the frequency listed in Appendix 13-1.</p> <p>Verify that fecal coliform or total coliform density measurements are performed on representative source water samples immediately prior to the first or only point of disinfectant application.</p> <p>Verify that one fecal or total coliform density measurement is made every day the water system serves water to the public and the turbidity of the source water exceeds 1 NTU.</p> <p>(NOTE: The Department may waive this standard or require more stringent monitoring.)</p> <p>Verify that turbidity measurements are performed on representative grab samples of source water immediately prior to the first or only point of disinfectant application every 4 h the water system serves water to the public.</p> <p>(NOTE: A public water system may substitute continuous turbidity monitoring for grab sample monitoring if approved by the Department.)</p> <p>Verify that the residual disinfectant concentration of the water entering the distribution system is monitored continuously and the lowest value is recorded each day.</p> <p>(NOTE: If there is a failure in the continuous monitoring equipment, grab sampling every 4 h may be substituted for no more than 5 working days following the failure.)</p> <p>Verify that the following parameters used in the CT determination are monitored as follows:</p> <ul style="list-style-type: none"> <li>- the temperature of the disinfected water is measured at least once a day at each disinfectant concentration sampling point</li> <li>- if the system uses chlorine, the pH of the disinfected water is measured at least once a day at each residual disinfectant concentration sampling point</li> <li>- the disinfectant contact time is determined for each day during the peak flow</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>WQ.15.2.SC.</b> Installations/ CW facilities that provide filtration must meet specific monitoring requirements (SC R 61-58.10(F)(3)).</p>	<p>- the residual disinfectant concentration of the water before or at the first customer is determined for each day during the peak flow.</p> <p>Verify that water systems serving 3300 or fewer persons that do not conduct continuous monitoring of residual disinfectant concentration take grab samples at the frequencies listed in Appendix 13-2.</p> <p>Verify that, if at any time the residual disinfectant concentration falls below 0.2 mg/L in a system using grab sampling, the water system samples every 4 h until the residual concentration is equal to or greater than 0.2 mg/L.</p> <p>Verify that the residual disinfectant concentration is measured at least at the same points and same times as total coliforms are sampled, unless the Department determines otherwise.</p> <p>(NOTE: The HPC may be measured in lieu of residual disinfectant concentration.)</p> <p>Verify that the turbidity measurements are performed on representative samples every 4 h the system serves water to the public.</p> <p>(NOTE: The Department may allow continuous monitoring or a reduced sampling frequency. If there is a failure in the continuous monitoring equipment, grab sampling every 4 h may be substituted for no more than 5 working days following the failure.)</p> <p>Verify that, if at any time the residual disinfectant concentration falls below 0.2 mg/L in a system using grab sampling, the water system samples every 4 h until the residual concentration is equal to or greater than 0.2 mg/L.</p> <p>Verify that water systems serving 3300 or fewer persons, which do not conduct continuous monitoring of residual disinfectant concentration, take grab samples at the frequencies listed in Appendix 13-2.</p> <p>Verify that the residual disinfectant concentration is measured at least at the same points and same times as total coliforms are sampled, unless the Department determines otherwise.</p> <p>(NOTE: A public water system that uses a surface water source or a groundwater source under the influence of surface water and provides filtration must monitor for microbiological contaminants beginning 29 June 1993 or when filtration is installed, whichever is later. HPC may be measured in lieu of residual disinfectant concentration.)</p>

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<p><b>WQ.15.3.SC.</b> Community and noncommunity water systems must monitor for inorganic chemical contamination (SC R 61-58.5(B)(1) through (B)(2) and SC R 61-58.5(C)(1) through (C)(4)).</p>	<p>Verify that the water system does not exceed the MCL for inorganic chemicals listed in Appendix 13-3.</p> <p>Verify that the following sampling frequencies for inorganic chemicals are met:</p> <ul style="list-style-type: none"> <li>- community water systems using surface water, annually</li> <li>- community water systems using only groundwater, every 3 yr</li> <li>- noncommunity water systems, at Department discretion.</li> </ul> <p>Verify that, when an MCL for inorganic chemicals (see Appendix 13-3) is exceeded, the Department is notified within 7 days and the water system initiates public notification.</p>





<p align="center"><b>COMPLIANCE CATEGORY:</b>  <b>WATER QUALITY MANAGEMENT</b>  <b>South Carolina Supplement</b></p>	
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<p><b>PUBLIC WATER SYSTEMS</b></p> <p><b>WQ.20.</b>  <b>Disinfection and Filtration</b></p> <p><b>WQ.20.1.SC.</b> Public water systems that provide disinfection and do not provide filtration must meet specific requirements (SC R 61-58.10(D)(1)).</p>	<p>Verify that public water systems that do not provide filtration maintain the following disinfection standards:</p> <ul style="list-style-type: none"> <li>- disinfection treatment sufficient to ensure at least 99.9 percent (3-log) inactivation of <i>Giardia lamblia</i> cysts every day the system serves water to the public, except for 1 day each month</li> <li>- disinfection treatment sufficient to ensure at least 99.99 percent (4-log) inactivation of viruses every day the system serves water to the public, except for 1 day each month.</li> </ul> <p>Verify that the disinfection system has one of the following:</p> <ul style="list-style-type: none"> <li>- redundant components, including an auxiliary power supply with automatic startup and alarm</li> <li>- automatic shut-off of delivery of water to the distribution system whenever there is less than 0.2 mg/L of residual disinfectant concentration in the water.</li> </ul> <p>Verify that the residual disinfection concentration in the water entering the distribution system is not less than 0.2 mg/L for more than 4 h.</p> <p>(NOTE: The residual disinfectant concentration is measured as total chlorine, combined chlorine, or chlorine dioxide. Water in the distribution system with a heterotrophic bacteria concentration less than or equal to 500/mL (measured as HPC) is deemed to have a detectable disinfectant residual.)</p> <p>Verify that the value V, as defined in Appendix 13-4, does not exceed 5 percent in 1 mo, for any two consecutive months.</p>
<p><b>WQ.20.2.SC.</b> Public water systems that provide filtration and disinfection must meet specific requirements (SC R 61-58.10(D)(2)) [Revised November 1996].</p>	<p>Verify that public water systems that provide filtration maintain the following disinfection standards:</p> <ul style="list-style-type: none"> <li>- disinfection treatment sufficient to ensure at least 99.9 percent (3-log) inactivation of <i>Giardia lamblia</i> cysts every day the system serves water to the public, except 1 day each month</li> <li>- disinfection treatment sufficient to ensure at least 99.99 percent (4-log) inactivation of viruses every day the system serves water to the public</li> </ul>

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<p><b>WQ.20.3.SC.</b> Public water systems must meet specific requirements for filtration (SC R 61-58.10(E)).</p>	<p>except 1 day each month</p> <ul style="list-style-type: none"> <li>- the residual disinfection concentration in the water entering the distribution system is not less than 0.2 mg/L for more than 4 h.</li> </ul> <p>(NOTE: The residual disinfectant concentration is measured as total chlorine, combined chlorine, or chlorine dioxide. Water in the distribution system with a heterotrophic bacteria concentration less than or equal to 500/mL (measured as HPC) is deemed to have a detectable disinfectant residual.)</p> <p>Verify that the value V, as defined in Appendix 13-4, does not exceed 5 percent in 1 mo, for any two consecutive months.</p> <p>Verify that the residual disinfectant concentration in the distribution system is not undetectable in more than 5 percent of the samples each month, for any two consecutive months that the water system serves water to the public.</p> <p>Verify that water systems using conventional or direct filtration maintain the following standards:</p> <ul style="list-style-type: none"> <li>- turbidity level less than or equal to 0.5 NTU in at least 95 percent of the measurements taken each month</li> <li>- at no time may the turbidity level of the samples exceed 5 NTU.</li> </ul> <p>(NOTE: If the Department determines that the system is capable of achieving at least 99.9 percent removal and/or inactivation of <i>Giardia lamblia</i> cysts at some turbidity level higher than 0.5 NTU in at least 95 percent of the measurements taken each month, the Department may substitute this higher turbidity limit for that system.)</p> <p>Verify that water systems using slow sand filtration maintain the following standards:</p> <ul style="list-style-type: none"> <li>- turbidity level less than or equal to 1 NTU in at least 95 percent of the measurements taken each month</li> <li>- at no time may the turbidity level of the samples exceed 5 NTU.</li> </ul> <p>Verify that water systems using diatomaceous earth filtration maintain the following standards:</p> <ul style="list-style-type: none"> <li>- turbidity level of representative samples less than or equal to 1 NTU in at least 95 percent of the measurements taken each month</li> <li>- at no time may the turbidity level of the samples exceed 5 NTU.</li> </ul> <p>(NOTE: A public water system may use a filtration technology not listed if it demonstrates that the combination of the alternative filtration and disinfection treatment meets the disinfection requirements and consistently achieves 99.9</p>

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	percent removal and/or inactivation of <i>Giardia lamblia</i> cysts and 99.99 percent removal and/or inactivation of viruses.)



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<p><b>PUBLIC WATER SYSTEMS</b></p> <p><b>WQ.25. Lead and Copper</b></p> <p><b>WQ.25.1.SC.</b> Installations/ CW facilities must meet spe- cific standards for lead in public water supplies (SC R 61-58.4(F)) [Revised November 1996].</p>	<p>Verify that any pipe, solder, or flux used in the installation or repair of the public water system is lead free.</p> <p>Verify that any pipe, solder, or flux, used in any plumbing in a residential or nonresidential facility that provides water for human consumption through a connection with a public water system is lead free.</p> <p>(NOTE: Leaded joints necessary for the repair of cast iron pipes are exempt from the lead free requirement.)</p>



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<p><b>PUBLIC WATER SYSTEMS</b></p> <p><b>WQ.30. Notification and Reporting Requirements</b></p> <p><b>WQ.30.1.SC.</b> Public water systems that use surface water sources and do not provide filtration must meet specific reporting requirements (SC R 61-58.10(G)(1)).</p>	<p>Verify that the water system submits monthly reports regarding source water quality to the Department within 10 days after the end of each month the system serves water to the public.</p> <p>Verify that the water system submits monthly reports regarding disinfection to the Department within 10 days after the end of each month the system serves water to the public.</p> <p>Verify that the monthly reports regarding source water quality includes the following information:</p> <ul style="list-style-type: none"> <li>- the cumulative number of months of reported results</li> <li>- the number of fecal and/or total coliform samples (if the system monitors for both, only fecal coliforms need be reported) analyzed during the month, dates of sample collection, and dates when the turbidity level exceeded 1 NTU</li> <li>- the number of samples during the month that had equal to or less than 20/100 mL fecal coliforms and/or equal to or less than 100/100 mL total coliforms, whichever are analyzed</li> <li>- the cumulative number of fecal or total coliform samples, whichever are analyzed, during the previous 6 mo the system served water to the public</li> <li>- the cumulative number of samples that had equal to or less than 20/100 mL fecal coliforms or equal to or less than 100/100 mL total coliforms, whichever are analyzed, during the previous 6 mo the system served water to the public</li> <li>- the percentage of samples that had equal to or less than 20/100 mL fecal coliforms or equal to or less than 100/100 mL total coliforms, whichever are analyzed, during the previous 6 mo the system served water to the public</li> <li>- the maximum turbidity level measured during the month, the date of occurrence for any measurements which exceeded 5 NTU, and the date the occurrence</li> <li>- was reported to the Department</li> <li>- for the first 12 mo of recordkeeping, the dates and cumulative number of events during which the turbidity exceeded 5 NTU.</li> </ul> <p>Verify that the monthly reports regarding disinfection include the following information:</p>



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	<ul style="list-style-type: none"> <li>- for each day, the lowest measurement of residual disinfectant concentration in milligrams per liter in water entering the distribution system</li> <li>- the date and duration of each period when the residual disinfectant concentration in water entering the distribution system fell below 0.2 mg/L, and when the Department was notified</li> <li>- the daily residual disinfectant concentration (in milligrams per liter) and disinfectant contact times (in minutes) used for calculating the CT calc value</li> <li>- if chlorine is used, the daily measurement of pH of disinfected water following each point of chlorine disinfection</li> <li>- the daily measurements of water temperature in Centigrade following each point of disinfection</li> <li>- the daily CT calc and CT calc/CT 99.9 values for each disinfectant measurement or sequence and the sum of all CT calc/CT 99.9 values before or at the first customer</li> <li>- the daily determination of whether disinfection achieves adequate <i>Giardia lamblia</i> cyst and virus inactivation (i.e., whether CT calc/CT 99.9 is at least 1.0 or, where disinfectants other than chlorine are used).</li> </ul> <p>Verify that the water system submits monthly reports regarding total coliform monitoring to the Department within 10 days after the end of each month the system serves water to the public.</p> <p>Verify that the monthly reports regarding total coliform monitoring includes the following information:</p> <ul style="list-style-type: none"> <li>- the number of instances in which the residual disinfectant concentration is measured</li> <li>- the number of instances in which the residual disinfectant concentration is not measured but the HPC is measured</li> <li>- the number of instances in which no residual disinfectant concentration is measured but not detected and no HPC is measured</li> <li>- the number of instances in which no residual disinfectant concentration is detected and the HPC is greater than 500/mL</li> <li>- the number of instances in which the residual disinfectant concentration is not measured and the HPC is greater than 500/mL</li> <li>- for the current and previous month the water system served water to the public, the value of V as defined by the formula listed in Appendix 13-4.</li> </ul> <p>Verify that the water system submits to the Department a summary of its compliance with all watershed control program requirements, as well as a report of the onsite inspection, unless it was conducted by the Department, no later than 10 October of each year.</p> <p>Verify that the Department is notified as soon as possible, but no later than by the end of the next business day, if any of the following occur:</p> <ul style="list-style-type: none"> <li>- a waterborne disease outbreak potentially attributable to the water system</li> </ul>

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<p><b>WQ.30.2.SC.</b> Installations/ CW facilities must meet specific recordkeeping requirements (SC R 61-58.5(C) and (D)).</p>	<ul style="list-style-type: none"> <li>- turbidity exceeding 5 NTU</li> <li>- the residual disinfectant concentration falling below 0.2 mg/L in the water entering the distribution system.</li> </ul> <p>(NOTE: The water system is required to notify the Department whether or not the residual was restored to at least 0.2 mg/L within 4 h.)</p> <p>Verify that public water systems using a surface water source or groundwater under the direct influence of surface water and do not provide filtration, submit monthly reports regarding turbidity and disinfection to the Department within 10 days after the end of each month the system serves water to the public.</p> <p>Verify that the monthly reports regarding turbidity and disinfection include the following information:</p> <ul style="list-style-type: none"> <li>- the total number of filtered water turbidity measurements taken during the month that are less than or equal to the turbidity limits</li> <li>- the number and percentage of filtered water turbidity measurements taken during the month that are less than or equal to the turbidity limits</li> <li>- the date and value of any turbidity measurements taken during the month that exceed 5 NTU</li> <li>- for each day, the lowest measurement of residual disinfectant concentration in milligrams per liter in water entering the distribution system</li> <li>- the date and duration of each period when the residual disinfectant concentration in water entering the distribution system fell below 0.2 mg/L, and when the Department was notified of the occurrence.</li> </ul> <p>Verify that measurements, or analyses required to be made on drinking water are reported to the Department within 10 days following the end of the monitoring period.</p> <p>(NOTE: A shorter time frame may be established by the Department.)</p> <p>Verify that, when the MCL are exceeded, the Department is notified within 7 days.</p> <p>Verify that, when any primary drinking water regulation is violated, the Department is notified within 48 h.</p> <p>(NOTE: The installation/CW facility is not required to report the analytical results to the Department when the state laboratory performs the analysis and reports to the Department.)</p> <p>Verify that the water system retains on its premises, or at a convenient location near its premises, all appropriate records and makes them available for inspection</p>

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<p><b>WQ.30.3.SC.</b> Installations/ CW facilities must meet specific reporting requirements (SC R 61-58.5 (C)).</p>	<p>by the Department and the public upon request.</p> <p>Verify that these records are kept for the appropriate time period and include the following:</p> <ul style="list-style-type: none"> <li>- records of turbidity, 1 yr</li> <li>- records of bacteriological, 5 yr</li> <li>- records of chemical analyses, 10 yr</li> <li>- records of action taken by the system to correct violations, 3 yr after the last action taken with respect to the particular violation involved</li> <li>- copies of any written reports, summaries, or communications relating to sanitary surveys of the system conducted by the system itself, by a private consultant, or by any local, state, or Federal agency, 10 yr after completion of the sanitary survey involved</li> <li>- records concerning a variance or exemption granted to the system, 5 yr following the expiration of the variance or exemption.</li> </ul> <p>Verify that, if the information from laboratory reports is kept in tabular summaries, the following information is included:</p> <ul style="list-style-type: none"> <li>- the date, place, and time of sampling and the name of the person who collected the sample</li> <li>- identification of the sample as to whether it was a routine distribution system sample, check sample, raw or process water sample, or other special purpose sample</li> <li>- date of analysis</li> <li>- laboratory and person responsible for performing analysis</li> <li>- the analytical technique or method used</li> <li>- the results of the analysis.</li> </ul>
	<p>Verify that installations/CW facilities with surface water treatment plants submit the following reports on an approved form to the Department by the 10th day of each month:</p> <ul style="list-style-type: none"> <li>- Surface Water Supply Monthly Operation Report</li> <li>- Bacteriological Summary Analysis Report</li> <li>- Turbidity Summary Analysis Input Report.</li> </ul> <p>Verify that installations/CW facilities with groundwater treatment plants, that provide water to a community water system serving at least 15 service connections or more than 25 persons, submit the following reports on an approved form to the Department by the tenth day of each month:</p> <ul style="list-style-type: none"> <li>- Groundwater Supply Monthly Operation Report</li> <li>- Bacteriological Summary Analysis Input Form.</li> </ul>

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**WQ.30.4.SC.** Public water systems must meet specific requirements for notifying the public (SC R 61-58.6(E)).

Verify that installations/CW facilities with treatment plants using wells as a sole source submit the following reports on an approved form to the Department by the tenth day of each month:

- Bacteriological Summary Analysis Input Form (if eight or more bacteriological samples are taken each month)
- Bacteriological Analysis Input Form (if seven or less bacteriological samples are taken each month)
- the total amount of water pumped from each well and the total volume delivered to the customers each month, if the information is available.

Verify that installations/CW facilities with treatment plants that obtain water from another public water system submit the following reports on an approved form to the Department by the tenth day of each month:

- Bacteriological Summary Analysis Report
- Bacteriological Analysis Input Form (if seven or less bacteriological samples are taken each month)
- the total amount of water pumped from each well and the total volume delivered to the customers each month, if the information is available.

Verify that installations/CW facilities with groundwater treatment plants, which use treatment processes other than the addition of chlorine or corrosion inhibitor or the adjustment of pH, and providing water to a noncommunity water system serving at least 15 service connections or more than 25 persons at least 60 days out of the year, submit the following reports on an approved form to the Department by the tenth day of each month:

- Groundwater Supply Monthly Operation Report
- Bacteriological Summary Analysis Input Form (if eight or more bacteriological samples are taken each month)
- Bacteriological Analysis Input Form (if seven or less bacteriological samples are taken each month).

Verify that, when the water system fails to comply with a MCL or treatment techniques, or fails to comply with the requirements of any schedule prescribed by the Department, or fails to perform required monitoring or testing procedures, persons served by the water system are notified.

Verify that the water system gives public notice to any new billing units.

Verify that the water system gives the public notice in the following way:

- by publication in a newspaper of daily circulation in the area served by the

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	<p>water system no later than 14 days after the failure or violation</p> <ul style="list-style-type: none"> <li>- by mail or hand delivery no later than 45 days after the violation</li> <li>- for violations of MCLs of contaminants that may pose an acute health risk, by furnishing a copy of the notice to local radio and television stations serving the area served by the water system no later than 72 h after the violation.</li> </ul> <p>(NOTE: The Department may waive the 45-day time period.)</p> <p>Verify that the water system continues to give notice once every 3 mo by mail or hand delivery for as long as the violation occurs.</p> <p>Verify that the water system gives public for other violations, variances, and exceptions within 3 mo of the violation or granting of the exemption by publication in a daily newspaper of daily circulation in the area served by the water system.</p> <p>(NOTE: The Department may allow alternate forms of public notice if the water system is not served by a newspaper. Noncommunity water systems may give notice by hand delivery or continuous posting in conspicuous areas served by the system.)</p>

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<p><b>COMMUNITY WATER SYSTEMS</b></p> <p><b>WQ.35. Standards</b></p> <p><b>WQ.35.1.SC.</b> Community water systems must meet specific requirements for naturally occurring radionuclides (SC R 61-58.5(J) and (K)).</p>	<p>Verify that the following MCLs for naturally occurring radionuclides are not exceeded:</p> <ul style="list-style-type: none"> <li>- a combined radium-226 and radium-228 MCL of 5 pCi/L</li> <li>- a gross alpha particle activity (including radium-226 but excluding radon and uranium) MCL of 15 pCi/L.</li> </ul> <p>(NOTE: Monitoring requirements for naturally occurring radionuclides apply only to community water systems which serve at least 15 service connections used by year- round residents or systems which regularly serve at least 25 yr-round residents.)</p> <p>Verify that compliance with the MCL is based on the analysis of an annual composite for four consecutive quarterly samples or the average of the analyses of four samples obtained at quarterly intervals.</p> <p>(NOTE: A single yearly sample may be substituted for the quarterly sampling procedure at the discretion of the Department. The Department may require more frequent monitoring if the source of drinking water is in the vicinity of mining or other operations that may contribute to alpha particle activity.)</p> <p>(NOTE: The gross alpha particle activity measurement may be substituted for the required radium-226 and radium-228 analysis at the discretion of the Department.)</p> <p>Verify that, when the gross alpha particle exceeds 5 pCi/L, the same or equivalent sample is analyzed for radium-226.</p> <p>Verify that, when the concentration of radium-226 exceeds 3 pCi/L, the same or an equivalent sample is analyzed for radium-228.</p> <p>Verify that the water system monitors a new water source after introduction.</p> <p>(NOTE: Monitoring after the initial sample period need not include radium-228, except as required by the Department.)</p> <p>Verify that the installation/CW facility conducts annual monitoring of any public water supply in which the radium-226 concentration exceeds 3 pCi/L.</p>

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<p><b>WQ.35.2.SC.</b> Community water systems must meet specific requirements for manmade radionuclides contamination (SC R 61-58.5(L) and (M)).</p>	<p>Verify that, if the average annual MCL for gross alpha particle activity or total radium is exceeded, the installation/CW facility notifies the Department and the public.</p> <p>Verify that, when the average annual MCL for gross alpha particle activity or total radium is exceeded, monitoring continues at quarterly intervals until the annual average concentration no longer exceeds the MCL, or until a another monitoring schedule is established.</p> <p>Verify that the following MCLs for manmade radionuclides are not exceeded:</p> <ul style="list-style-type: none"> <li>- an average annual concentration of beta particle and photon radioactivity from manmade radionuclides in drinking water that produces an annual dose equivalent to the total body or any internal organ greater than 4 mrem/yr</li> <li>- when two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ less than 4 mrem/yr.</li> </ul> <p>(NOTE: The average annual concentration assumed to produce a total body organ dose of 4 mrem/yr for tritium is 20,000 pCi/L and for strontium-90 is 8 pCi/L.)</p> <p>Verify that public water systems using surface water sources and serving more than 100,000 persons, and other designated public water supplies, monitor for manmade radionuclides contamination by analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples.</p> <p>Verify that, if the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample is performed to identify the major radioactive constituents present.</p> <p>Verify that the installation/CW facility monitors for manmade radionuclides at least every 4 yr after the initial analysis.</p> <p>Verify that the quarterly analysis for gross beta particle activity is based on the analysis of monthly samples or a composite of three monthly samples.</p> <p>Verify that, if the gross beta particle activity in a sample exceeds 15 pCi/L, the same or equivalent sample is analyzed for strontium-89 and cesium-134.</p> <p>Verify that, if the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample is performed to identify the major radioactive constituents present and the appropriate organ and total body doses must be calculated to determine compliance.</p> <p>Verify that for iodine-131 a composite of five consecutive daily samples is</p>

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<p><b>WQ.35.3.SC.</b> Community water systems must meet specific standards for TTHM concentration (SC R 61-58.5(S)).</p>	<p>analyzed once each quarter.</p> <p>Verify that annual monitoring for strontium-90 and tritium is conducted by means of an analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples.</p> <p>Verify that, if the annual MCL for manmade radioactivity is exceeded, the installation/CW facility notifies the Department and the public.</p> <p>Verify that, if the annual MCL for manmade radioactivity is exceeded, monitoring at monthly intervals is continued until the concentration no longer exceeds the MCL, or until a new monitoring schedule becomes effective.</p> <p>Verify that community water systems serving 10,000 individuals or more that add a disinfectant to the water do not exceed the MCL of 0.10 mg/L for TTHMs.</p> <p>(NOTE: TTHM is a combination of bromodichloromethane, dibromochloromethane, tribromomethane (bromoform), and trichloromethane (chloroform).)</p>





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<p><b>COMMUNITY WATER SYSTEMS</b></p> <p><b>WQ.40.</b></p> <p><b>Monitoring/Sampling</b></p> <p><b>WQ.40.1.SC.</b> Community water systems must monitor for organic chemical contamination (SC R 61-58.5(D) and (E)) [Revised November 1996].</p>	<p>Verify that community water systems and nontransient noncommunity water systems do not exceed the MCLs for organic chemicals listed in Appendix 13-5.</p> <p>Verify that groundwater systems take a minimum of one sample at every entry point to the distribution system which is representative of each well after treatment.</p> <p>Verify that surface water systems take a minimum of one sample at points in the distribution system that are representative of each source or at each entry point to the distribution system after treatment.</p> <p>Verify that if the system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions (i.e., when water representative of all sources is being used).</p> <p>Verify that each water system takes four consecutive quarterly water samples for each contaminant listed in Appendix 13-5 during each compliance period beginning with the compliance period.</p> <p>(NOTE: Systems serving &gt; 3300 persons which do not detect a contaminant in the initial compliance period, may reduce the sampling frequency to a minimum of two quarterly samples in 1 yr during each repeat compliance period. Systems serving &lt; 3300 persons which do not detect a contaminant in the initial compliance period may reduce the sampling frequency to a minimum of one sample during each repeat compliance period.)</p> <p>Verify that, if an organic contaminant listed in Appendix 13-5 is detected, the system monitors quarterly at each sampling point that resulted in detection.</p> <p>(NOTE: If monitoring results in detection of one or more of certain related contaminants (aldicarb, aldicarb sulfone, aldicarb sulfoxide and heptachlor, heptachlor epoxide), then subsequent monitoring must analyze for all related contaminants.)</p> <p>Verify that, if the concentration in the composite sample detects 1 or more contaminants listed in Appendix 13-5, then a followup must be taken and analyzed within 14 days from each sampling point included in the composite,</p>

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<p><b>WQ.40.2.SC.</b> Community and nontransient, non-community water systems must conduct special monitoring for organic chemicals (SC R 61-58.5(CC)).</p>	<p>and be analyzed for that contaminant.</p> <p>Verify that installations/CW facilities with community and nontransient, noncommunity water systems monitor for the organic chemicals listed in Appendix 13-6.</p> <p>Verify that surface water systems sample at points representative of each source or at the entry point to the distribution system.</p> <p>Verify that surface water systems sample at least once every quarter.</p> <p>Verify that groundwater systems sample at points of entry to the distribution system representative of each well after any application of treatment.</p> <p>(NOTE: Systems will monitor for ethylene dibromide (EDB) and 1,2-dibromo-3-chloropropane (DBCP) only if the Department determines they are vulnerable to contamination by either or both of these substances.)</p> <p>Verify that the water system notifies the public in the first set of bills after receiving the results of the organic chemical testing.</p> <p>Verify that all community and nontransient, noncommunity water systems monitor for the organic chemicals listed in Appendix 13-6 at least once every 5 yr.</p>
<p><b>WQ.40.3.SC.</b> Community and noncommunity water systems must monitor for turbidity (SC R 61-58.5(F) and (G)).</p>	<p>Verify that community and noncommunity water systems using surface water sources, in whole or in part, do not exceed the following turbidity levels:</p> <ul style="list-style-type: none"> <li>- 1 NTU, as determined by a monthly average, except that 5 NTU or fewer may be allowed if the installation of water can demonstrate that the higher turbidity does interfere with disinfection or microbiological contaminant determinations</li> <li>- 5 NTU, based on an average for two consecutive days.</li> </ul> <p>(NOTE: Turbidity sampling and analytical requirements apply only to community and noncommunity water systems which serve at least 15 service connections or regularly serve an average of at least 25 individuals daily at least 60 days out of the year and which use water obtained in whole or in part from surface sources.)</p> <p>Verify that samples for turbidity analysis are taken at representative entry points to the water distribution system.</p>

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<p><b>WQ.40.4.SC.</b> Community and noncommunity water systems must meet specific standards for microbiological contamination (SC R 61-58.5(H)) [Revised November 1996].</p>	<p>Verify that samples for turbidity analysis are collected at least once a day.</p> <p>Verify that, when the result of a turbidity analysis indicates the maximum allowable limit for turbidity has been exceeded, the measurements are confirmed by resampling as soon as practicable, and preferably within 1 h.</p> <p>Verify that, when a repeat sample confirms the maximum allowable limit for turbidity has been exceeded, the water system reports to the Department within 48 h.</p> <p>(NOTE: The repeat sample must be the sample used for the purpose of calculating the monthly average. If the monthly average of the daily samples exceeds the maximum allowable limit, or if the average of two samples taken on consecutive days exceeds 5 NTU, the supplier of water must report this to the Department and notify the public.)</p> <p>Verify that the installation/CW facility does not violate the following MCL for microbiological contamination:</p> <ul style="list-style-type: none"> <li>- for a system that collects at least 40 samples per month, no more than 5.0 percent of the samples collected during a month are total coliform positive</li> <li>- for a system that collects fewer than 40 samples per month, no more than one sample collected during a month is total coliform positive.</li> </ul> <p>(NOTE: Any fecal coliform-positive repeat sample or <i>Escherichia coli</i> (<i>E. coli</i>)-positive repeat sample, or any total coliform-positive repeat samples following a fecal coliform positive or <i>E. coli</i>-positive routine sample constitutes a violation of the MCL for total coliforms. The MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.)</p> <p>Verify that water systems determine compliance with the MCL for total coliform for each month in which it is required to monitor for total coliforms.</p>
<p><b>WQ.40.5.SC.</b> Community and noncommunity water systems must meet specific requirements for microbiological sampling (SC R 61-58.5(I)(1)).</p>	<p>Verify that samples for total coliform contamination are collected according to a written sample siting plan that has been reviewed by the Department.</p> <p>Verify that community water systems meet the monitoring frequency for total coliforms contamination, based on the population served by the system (see Appendix 13-7).</p> <p>(NOTE: The Department may reduce the monitoring frequency for community water systems serving 25 to 1000 persons if certain conditions are met.)</p>

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<p><b>WQ.40.6.SC.</b> Community and noncommunity water</p>	<p>Verify that community water systems, using surface water in whole or in part, sample at a minimum rate of eight coliform samples per month.</p> <p>Verify that community water systems take a minimum of one fecal or total coliform density measurement each day from the raw water source, and one coliform density or presence/absence measurement from the finished water, if treating water.</p> <p>(NOTE: The Department may waive this requirement on a case-by-case basis.)</p> <p>Verify that noncommunity water systems monitor for total coliforms at the following frequency:</p> <ul style="list-style-type: none"> <li>- a water system using only groundwater (except groundwater under the direct influence of surface water) and serving 1000 or less persons, each calendar quarter the system serves water to the public</li> <li>- a system using only groundwater (except groundwater under the direct influence of surface water) and serving more than 1000 persons during any month, at the same frequency as a like-sized community water system (see Appendix 13-7)</li> <li>- a system using surface water in whole or in part, at the same frequency as a like- sized community water system (see Appendix 13-7)</li> <li>- a system using groundwater under the direct influence of surface water, at the same frequency as a like-sized community water system.</li> </ul> <p>(NOTE: The Department may reduce the sampling frequency.)</p> <p>Verify that community and noncommunity water systems collect samples for coliform contamination at regular intervals throughout the month.</p> <p>(NOTE: A system that uses groundwater not under the direct influence of surface water may collect all required samples on a single day if they are taken from different sites.)</p> <p>Verify that community and noncommunity water systems using surface water or groundwater under the direct influence of surface water, that do not practice filtration, collect at least one sample to be analyzed for the presence of total coliforms near the first service connection each day the turbidity level exceeds 1 NTU.</p> <p>(NOTE: The water system must collect this coliform sample within 24 h of the first exceedence when one or more turbidity measurements in any day exceed 1 NTU. These sampling results must be used to determine compliance.)</p> <p>Verify that, when a routine sample is total coliform positive, the water system</p>

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<p>systems must meet specific requirements for microbiological repeat sampling (SC R 61-58.5(I)(2)).</p>	<p>collects a set of repeat samples within 24 h of being notified of the positive result.</p> <p>(NOTE: The Department may extend the 24-h limit on a case-by-case basis.)</p> <p>Verify that water systems collecting more than one routine sample per month collect no fewer than three repeat samples for each total coliform positive sample found.</p> <p>Verify that water systems collecting one or fewer routine sample per month collect no fewer than four repeat samples for each total coliform positive sample found.</p> <p>Verify that at least one repeat sample is taken from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample is taken at a tap within five service connections downstream and within five service connections upstream of the original sampling site.</p> <p>Verify that all repeat samples for microbiological contamination are collected on the same day.</p> <p>Verify that, when one or more repeat samples in the set is total coliform positive, the water system collects an additional set of repeat samples within 24 h of being notified of the positive result.</p> <p>Verify that this process is repeated until either total coliforms are not detected in one complete set of repeat samples or the water system determines that the MCL for total coliforms has been met.</p> <p>(NOTE: The Department may waive this requirement if certain conditions are met.)</p>
<p><b>WQ.40.7.SC.</b> Community and noncommunity water systems must meet specific requirements for sanitary surveys (SC R 61-58.5(I)(4)).</p>	<p>Verify that public water systems which do not collect five or more routine samples per month undergo an initial sanitary survey by 29 June 1994 for community water systems and 29 June 1999 for noncommunity water systems.</p> <p>Verify that public water systems undergo a sanitary survey every 5 yr thereafter.</p> <p>(NOTE: Noncommunity water systems using only protected and disinfected water must undergo subsequent surveys every 10 yr.)</p> <p>Verify that the sanitary surveys are conducted by the Department or an approved agent.</p>
<p><b>WQ.40.8.SC.</b> Installations/</p>	<p>Verify that, when the water system has a routine or repeat sample that is total</p>

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CW facilities must meet specific requirements for coliform sampling (SC R 61-58.5(I)(5)).	coliform positive, that total coliform positive medium is analyzed to determine if fecal coliform are present.
<b>WQ.40.9.SC.</b> Installations/ CW facilities must meet specific requirements for coliform analysis techniques (SC R 61-58.5(I)(6)).	<p>Verify that the standard sample volume required for total coliform analysis regardless of the analytical method used is 100 mL.</p> <p>Verify that the water system conducts total coliform analysis in using one of the following methods:</p> <ul style="list-style-type: none"> <li>- multiple tube fermentation (MTF) technique</li> <li>- membrane filter (MF) technique</li> <li>- presence-absence (P-A) coliform test</li> <li>- minimum medium ONPG-MUG (MMO-MUG) test.</li> </ul>
<b>WQ.40.10.SC.</b> Community and noncommunity water systems must attempt to meet secondary MCLs (SC R 61-58.5(O) and (P)) [Revised November 1996].	<p>Verify that community and noncommunity water systems, which serve 15 or more service connections or regularly serve an average of at least 25 individuals daily at least 60 days a year, monitor for and attempt to meet the secondary MCLs listed in Appendix 13-8.</p> <p>Verify that community water systems that exceed the secondary MCL for fluoride send notice to the following:</p> <ul style="list-style-type: none"> <li>- all existing billing units</li> <li>- all new billing units at the time service begins</li> <li>- the Department.</li> </ul>
<b>WQ.40.11.SC.</b> Community water systems must monitor for sodium (SC R 61-58.5(Q)).	<p>Verify that water systems using surface water sources collect and analyze one sample per year at the entry point of the distribution system.</p> <p>(NOTE: Community public water systems that serve at least 15 service connections used by year-round residents or serve at least 25 yr-round residents must monitor and report sodium levels in the finished drinking water.)</p> <p>Verify that water systems using groundwater sources collect and analyze one sample from each well every 3 yr.</p> <p>(NOTE: The number of samples collected may be reduced if the installation/CW facility can demonstrate to the satisfaction of the Department that one or more of the wells to be monitored draw water from a single aquifer.)</p>

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<p><b>WQ.40.12.SC.</b> Community water systems must meet specific requirements for corrosivity (SC R 61-58.5(R)).</p>	<p>Verify that the installation/CW facility notifies the local public health officials of the sodium levels by direct mail within 3 mo after receiving the analyses.</p> <p>Verify that the written notice is forwarded to the Department within 10 days after notifying the local officials.</p> <p>Verify that community public water systems which serve at least 15 service connections or 25 yr-round residents monitor for corrosivity characteristics of the water from a representative entry point to the drinking water distribution system.</p> <p>Verify that at least two samples are collected for analyses per treatment plant using any surface water sources, one during mid-winter and one during mid summer.</p> <p>Verify that one sample per well is to be collected for treatment plants using groundwater sources.</p> <p>(NOTE: The number of samples required may be reduced for multiple wells drawing raw water from a single aquifer.)</p> <p>Verify that measurements for corrosivity characteristics include measurement of:</p> <ul style="list-style-type: none"> <li>- pH</li> <li>- calcium hardness</li> <li>- alkalinity</li> <li>- temperature</li> <li>- total dissolved solids (total filterable residue)</li> <li>- calculations of the Langelier index or the aggressive index, if approved.</li> </ul> <p>Verify that community water systems report to the state if any of the following construction materials are present in the distribution system:</p> <ul style="list-style-type: none"> <li>- lead from piping, solder, caulking, interior lining of distribution mains, alloys, and home plumbing</li> <li>- copper from piping and alloys, service lines, and home plumbing</li> <li>- galvanized piping, service lines, and home plumbing</li> <li>- ferrous piping materials such as cast iron and steel</li> <li>- vinyl-lined asbestos cement</li> <li>- coal tar lined pipes and tanks</li> <li>- asbestos cement pipe.</li> </ul> <p><b>WQ.40.13.SC.</b> Installations/ CW facilities must meet specific standards for TTHM</p>

(NOTE: These requirements apply to community water systems serving 10,000 individuals or more which add a disinfectant to the water, and community water



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monitoring and sampling (SC R 61-58.5(T)).	<p>systems serving 75,000 or more persons.)</p> <p>Verify that the minimum number of samples for TTHMs is based on the number of treatment plants.</p> <p>(NOTE: Multiple wells drawing raw water from one aquifer may be approved as one treatment plant.)</p> <p>Verify that community water systems using surface water sources or groundwater sources, not otherwise approved for reduction of monitoring frequency, analyze for TTHMs at quarterly intervals with at least four samples for each treatment plant.</p> <p>Verify that at least 25 percent of the samples are taken from locations reflecting the maximum residence time of the water in the system, and 75 percent are taken at representative locations.</p> <p>Verify that quarterly results are averaged and reported to the Department within 10 days of receipt.</p> <p>(NOTE: Compliance is determined based on a running average of quarterly samples collected.)</p> <p>Verify that, if the average of samples covering any 12-mo period exceeds the MCL, the installation/CW facility reports to the Department and gives public notice.</p> <p>Verify that water systems that violate the MCL for TTHMs monitor at a frequency designated by the Department and continue until a monitoring schedule has been established.</p> <p>(NOTE: Monitoring frequency may be reduced upon written request. For community water systems utilizing only groundwater sources, analyses may be reduced, by the Department, to a minimum of one sample per year.)</p> <p>Verify that, if at any time during the reduced monitoring frequency, the MCL is exceeded, the confirmed results are sent to the Department within 7 days and the regular monitoring frequency is resumed.</p> <p>Verify that, before a community water system makes any changes that would affect its disinfection system, a plan is approved by the Department.</p>
<b>WQ.40.14.SC.</b> Community and nontransient non-community water systems must meet specific standards	<p>Verify that the water system monitors for the volatile synthetic organic chemicals listed in Appendix 13-9.</p> <p>Verify that groundwater systems sample at points of entry to the distribution</p>

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for volatile synthetic organic chemicals (SC R 61-58.5 (AA) and (BB)) [Revised November 1996].	<p>system representative of each well after any application of treatment.</p> <p>Verify that groundwater systems sample at the same or more representative locations every 3 mo, unless a reduced monitoring frequency has been established by the Department.</p> <p>Verify that surface water systems sample at points in the distribution system representative of each source, or at entry points to the distribution system after any application of treatment.</p> <p>Verify that samples for surface water systems are taken from each source every 3 mo, unless a reduced monitoring frequency has been established by the Department.</p> <p>Verify that, if a public water system draws water from more than one source and the sources are combined prior to distribution, the water system samples at an entry point to the distribution system during periods of normal operating conditions.</p> <p>(NOTE: Analysis for vinyl chloride is required only for groundwater systems that have detected one or more of the following two-carbon compounds: trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, and 1,1-dichloroethylene. If the initial analysis does not detect vinyl chloride, the Department may reduce the monitoring frequency. Surface water systems may be required to monitor for vinyl chloride at the discretion of the Department.)</p> <p>Verify that water systems, which do not detect any Volatile Organic Chemicals (VOCs) in the first year of quarterly sampling or subsequent samples, and are considered vulnerable to VOC contamination by the Department, sample once every 3 yr for systems serving more than 500 connections and once every 5 yr for systems serving 500 or less connections.</p> <p>Verify that, if any VOCs are detected in the first or subsequent samples, regardless of vulnerability, monitoring is repeated every 3 mo.</p>
<b>WQ.40.15.SC.</b> Community water systems must meet specific monitoring requirements (SC R 61-58.6 (C)).	<p>Verify that community water systems serving more than 100 service connections monitor the operating pressure in the distribution system at least once a year.</p>



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<p><b>COMMUNITY WATER SYSTEMS</b></p> <p><b>WQ.45.</b>  <b>Notification and Reporting Requirements</b></p> <p><b>WQ.45.1.SC.</b> Community and noncommunity water systems must meet specific requirements for public notice for microbiological contamination violations (SC R 61-58.5(I)(7)).</p> <p><b>WQ.45.2.SC.</b> Community water systems must meet specific notice requirements (SC R 61-58.6(E)).</p>	<p>Verify that water systems, which have exceeded the MCL for total coliforms, report the violation to the Department no later than the end of the next business day after learning of the violation.</p> <p>Verify that water systems, which have exceeded the MCL for total coliforms, notify the public.</p> <p>Verify that water systems, which fail to comply with a coliform monitoring or sanitary survey requirement, report the violation to the Department within 10 days after discovery.</p> <p>Verify that community water systems give a copy of the most recent public notice for any outstanding violation of any MCL to any new billing units.</p>



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<p><b>NONCOMMUNITY WATER SYSTEMS</b></p> <p><b>WQ.65.</b></p> <p><b>Monitoring/Sampling</b></p> <p><b>WQ.65.1.SC.</b> Noncommunity water systems must meet standards for nitrate contamination (SC R 61-58.5(B)(3) and 61-58.5(C)(5), (10) and (12)(a)) [Revised November 1996].</p> <p><b>WQ.65.2.SC.</b> Community and nontransient, noncommunity water systems must conduct special monitoring for organic chemicals (SC R 61-58.5(CC)).</p>	<p>Verify that the water system does not exceed the MCL of 10 mg/L for nitrate.</p> <p>Verify that water systems served by surface water monitor each active source for nitrate levels at least once every 24 mo.</p> <p>Verify that water systems served by groundwater monitor quarterly.</p> <p>(NOTE: The Department may allow a groundwater system to reduce the sampling frequency to annually after four consecutive quarterly samples are reliably and consistently less than the MCL.)</p> <p>Verify that, when the MCL for nitrate is exceeded, the water system conducts a second analysis within 24 h.</p> <p>Verify that community and nontransient, noncommunity water systems monitor for the organic chemicals listed in Appendix 13-6.</p> <p>Verify that surface water systems sample at points representative of each source or at the entry point to the distribution system.</p> <p>Verify that surface water systems sample at least once every quarter.</p> <p>Verify that groundwater systems sample at points of entry to the distribution system representative of each well after any application of treatment.</p> <p>(NOTE: Systems will monitor for ethylene dibromide (EDB) and 1,2-dibromo-3-chloropropane (DBCP) only if the Department determines they are vulnerable to contamination by either or both of these substances.)</p> <p>Verify that the water system notifies the public in the first set of bills after receiving the results of the organic chemical testing.</p> <p>Verify that all community and nontransient, noncommunity water systems monitor for the organic chemicals listed in Appendix 13-6 at least once every 5 yr.</p>

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<p><b>WQ.65.3.SC.</b> Community and noncommunity water systems must monitor for turbidity (SC R 61-58.5(F) and (G)).</p>	<p>Verify that community and noncommunity water systems using surface water sources, in whole or in part, do not exceed the following turbidity levels:</p> <ul style="list-style-type: none"> <li>- 1 NTU, as determined by a monthly average, except that 5 NTU or fewer may be allowed if the installation of water can demonstrate that the higher turbidity does interfere with disinfection or microbiological contaminant determinations</li> <li>- 5 NTU, based on an average for two consecutive days.</li> </ul> <p>(NOTE: Turbidity sampling and analytical requirements apply only to community and noncommunity water systems that serve at least 15 service connections or regularly serve an average of a least 25 individuals daily at least 60 days out of the year and that use water obtained in whole or in part from surface sources.)</p> <p>Verify that samples for turbidity analysis are taken at representative entry points to the water distribution system.</p> <p>Verify that samples for turbidity analysis are collected at least once a day.</p> <p>Verify that, when the result of a turbidity analysis indicates the maximum allowable limit for turbidity has been exceeded, the measurements are confirmed by resampling as soon as practicable, and preferably within 1 h.</p> <p>Verify that, when a repeat sample confirms the maximum allowable limit for turbidity has been exceeded, the water system reports to the Department within 48 h.</p> <p>(NOTE: The repeat sample must be the sample used for the purpose of calculating the monthly average. If the monthly average of the daily samples exceeds the maximum allowable limit, or if the average of two samples taken on consecutive days exceeds 5 NTU, the supplier of water must report this to the Department and notify the public.)</p>
<p><b>WQ.65.4.SC.</b> Community and noncommunity water systems must meet specific standards for microbiological contamination (SC R 61-58.5(H)) [Revised November 1996].</p>	<p>Verify that the installation/CW facility does not violate the following MCL for microbiological contamination:</p> <ul style="list-style-type: none"> <li>- for a system that collects at least 40 samples per month, no more than 5.0 percent of the samples collected during a month are total coliform positive</li> <li>- for a system that collects fewer than 40 samples per month, no more than one sample collected during a month is total coliform positive.</li> </ul> <p>(NOTE: Any fecal coliform-positive repeat sample or <i>E. coli</i> positive repeat sample, or any total coliform-positive repeat samples following a fecal coliform</p>

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<p><b>WQ.65.5.SC.</b> Community and noncommunity water systems must meet specific requirements for microbiological sampling (SC R 61-58.5(I)(1)).</p>	<p>positive or <i>E. coli</i> positive routine sample constitutes a violation of the MCL for total coliforms. The MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.)</p> <p>Verify that water systems determine compliance with the MCL for total coliforms for each month in which it is required to monitor for total coliforms.</p> <p>Verify that samples for total coliform contamination are collected according to a written sample siting plan that has been reviewed by the Department.</p> <p>Verify that community water systems meet the monitoring frequency for total coliforms contamination, based on the population served by the system (see Appendix 13-7).</p> <p>(NOTE: The Department may reduce the monitoring frequency for community water systems serving 25 to 1000 persons if certain conditions are met.)</p> <p>Verify that community water systems using surface water in whole or in part sample at a minimum rate of eight coliform samples per month.</p> <p>Verify that community water systems take a minimum of one fecal or total coliform density measurement each day from the raw water source, and one coliform density or presence/absence measurement from the finished water, if treating water.</p> <p>(NOTE: The Department may waive this requirement on a case-by-case basis.)</p> <p>Verify that noncommunity water systems monitor for total coliforms at the following frequency:</p> <ul style="list-style-type: none"> <li>- a water system using only groundwater (except groundwater under the direct influence of surface water) and serving 1000 or less persons, each calendar quarter the system serves water to the public</li> <li>- a system using only groundwater (except groundwater under the direct influence of surface water) and serving more than 1000 persons during any month, at the same frequency as a like-sized community water system (see Appendix 13-7)</li> <li>- a system using surface water in whole or in part, at the same frequency as a like- sized community water system (see Appendix 13-7)</li> <li>- a system using groundwater under the direct influence of surface water, at the same frequency as a like-sized community water system.</li> </ul> <p>(NOTE: The Department may reduce the sampling frequency.)</p> <p>Verify that community and noncommunity water systems collect samples for</p>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>WQ.65.6.SC.</b> Community and noncommunity water systems must meet specific requirements for microbiological repeat sampling (SC R 61-58.5(I)(2)).</p>	<p>coliform contamination at regular intervals throughout the month.</p> <p>(NOTE: A system that uses groundwater not under the direct influence of surface water may collect all required samples on a single day if they are taken from different sites.)</p> <p>Verify that community and noncommunity water systems, using surface water or groundwater under the direct influence of surface water, that do not practice filtration, collect at least one sample to be analyzed for the presence of total coliforms near the first service connection each day the turbidity level exceeds 1 NTU.</p> <p>(NOTE: The water system must collect this coliform sample within 24 h of the first exceedence when one or more turbidity measurements in any day exceed 1 NTU. These sampling results must be used to determine compliance.)</p> <p>Verify that when a routine sample is total coliform positive, the water system collects a set of repeat samples within 24 h of being notified of the positive result.</p> <p>(NOTE: The Department may extend the 24-h limit on a case-by-case basis.)</p> <p>Verify that water systems collecting more than one routine sample per month collect no fewer than three repeat samples for each total coliform positive sample found.</p> <p>Verify that water systems collecting one or fewer routine sample per month collect no fewer than four repeat samples for each total coliform positive sample found.</p> <p>Verify that at least one repeat sample is taken from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample is taken at a tap within five service connections downstream and within five service connections upstream of the original sampling site.</p> <p>Verify that all repeat samples for microbiological contamination are collected on the same day.</p> <p>Verify that, when one or more repeat samples in the set is total coliform positive, the water system collects an additional set of repeat samples within 24 h of being notified of the positive result.</p> <p>Verify that this process is repeated until either total coliforms are not detected in one complete set of repeat samples or the water system determines that the MCL for total coliforms has been met.</p>

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<p><b>WQ.65.7.SC.</b> Community and noncommunity water systems must meet specific requirements for sanitary surveys (SC R 61-58.5(I)(4))</p> <p><b>WQ.65.8.SC.</b> Installations/ CW facilities must meet specific requirements for coliform sampling (SC R 61-58.5(I)(5)).</p> <p><b>WQ.65.9.SC.</b> Installations/ CW facilities must meet specific requirements for coliform analysis techniques (SC R 61-58.5(I)(6)).</p> <p><b>WQ.65.10.SC.</b> Community and noncommunity water systems must attempt to meet secondary MCLs (SC R 61-58.5(O) and (P)).</p>	<p>(NOTE: The Department may waive this requirement if certain conditions are met.)</p> <p>Verify that public water systems which do not collect five or more routine samples per month undergo an initial sanitary survey by 29 June 1994 for community water systems and 29 June 1999 for noncommunity water systems.</p> <p>Verify that public water systems undergo a sanitary survey every 5 yr thereafter.</p> <p>(NOTE: Noncommunity water systems using only protected and disinfected water must undergo subsequent surveys every 10 yr.)</p> <p>Verify that the sanitary surveys are conducted by the Department or an approved agent.</p> <p>Verify that, when the water system has a routine or repeat sample that is total coliform positive, that total coliform positive medium is analyzed to determine if fecal coliform are present.</p> <p>Verify that the standard sample volume required for total coliform analysis regardless of the analytical method used is 100 mL.</p> <p>Verify that the water system conducts total coliform analysis in using one of the following methods:</p> <ul style="list-style-type: none"> <li>- multiple tube fermentation (MTF) technique</li> <li>- membrane filter (MF) technique</li> <li>- presence-absence (P-A) coliform test</li> <li>- minimum medium ONPG-MUG (MMO-MUG) test.</li> </ul> <p>Verify that community and noncommunity water systems which serve 15 or more service connections or regularly serve an average of at least at least 25 individuals daily at least 60 days a year monitor for and attempt to meet the secondary MCLs listed in Appendix 13-8.</p>

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<p><b>WQ.65.11.SC.</b> Community and nontransient non-community water systems must meet specific standards for volatile synthetic organic chemicals (SC R 61-58.5 (AA) and (BB)) [Revised November 1996].</p>	<p>Verify that the water system monitors for the volatile synthetic organic chemicals listed in Appendix 13-9.</p> <p>Verify that groundwater systems sample at points of entry to the distribution system representative of each well after any application of treatment.</p> <p>Verify that groundwater systems sample at the same or more representative locations every 3 mo, unless a reduced monitoring frequency has been established by the Department.</p> <p>Verify that surface water systems sample at points in the distribution system representative of each source, or at entry points to the distribution system after any application of treatment.</p> <p>Verify that samples for surface water systems are taken from each source every 3 mo, unless a reduced monitoring frequency has been established by the Department.</p> <p>Verify that, if a public water system draws water from more than one source and the sources are combined prior to distribution, the water system samples at an entry point to the distribution system during periods of normal operating conditions.</p> <p>(NOTE: Analysis for vinyl chloride is required only for groundwater systems that have detected one or more of the following two-carbon compounds: trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, and 1,1-dichloroethylene. If the initial analysis does not detect vinyl chloride, the Department may reduce the monitoring frequency. Surface water systems may be required to monitor for vinyl chloride at the discretion of the Department.)</p> <p>Verify that water systems that do not detect any VOCs in the first year of quarterly sampling or subsequent samples, and are considered vulnerable to VOC contamination by the Department, sample once every 3 yr for systems serving more than 500 connections and once every 5 yr for systems serving 500 or less connections.</p> <p>Verify that, if any VOCs are detected in the first or subsequent samples, regardless of vulnerability, monitoring is repeated every 3 mo.</p>

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<p><b>NONCOMMUNITY WATER SYSTEMS</b></p> <p><b>WQ.75. Notification and Reporting Requirements</b></p> <p><b>WQ.75.1.SC.</b> Community and noncommunity water systems must meet specific requirements for public notice for microbiological contamination violations (SC R 61-58.5(I)(7)).</p> <p><b>WQ.75.2.SC.</b> Community water systems must meet specific notice requirements (SC R 61-58.6(E)).</p>	<p>Verify that water systems, which have exceeded the MCL for total coliforms, report the violation to the Department no later than the end of the next business day after learning of the violation.</p> <p>Verify that water systems, which have exceeded the MCL for total coliforms, notify the public.</p> <p>Verify that water systems, which fail to comply with a coliform monitoring or sanitary survey requirement, report the violation to the Department within 10 days after discovery.</p> <p>Verify that noncommunity water systems give a copy of the most recent public notice for any outstanding violation of any MCL to any new billing units.</p>



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<p><b>STATE-SPECIFIC CATEGORIES OF WATER SYSTEMS</b></p> <p><b>WQ.85. Private/Other</b></p> <p><b>WQ.85.1.SC.</b>      Drinking water vending machines or dispensing stations must follow operation and maintenance requirements (SC R 61-58.7) [Added November 1996].</p>	<p>Verify that all drinking water vending machines and dispensing stations are monitored by an operator of the appropriate grade, at a frequency to ensure proper operation.</p> <p>Verify that dispensing stations are inspected by the operator at least once a week.</p> <p>Verify that records are kept of each visit by the operator and any other maintenance personnel under the direct supervision of the operator.</p> <p>Verify that the records contain the following:</p> <ul style="list-style-type: none"> <li>- date and time of visit</li> <li>- any test performed</li> <li>- any maintenance performed</li> <li>- the signature of the operator or maintenance personnel.</li> </ul> <p>Verify that the records are kept by the owner of the vending machine or dispensing station for a minimum of 2 yr.</p> <p>Verify that a 24-h telephone number is clearly posted on the front of each machine or dispensing station for use in emergencies or for consumer complaints.</p> <p>Verify that a record of any consumer complaints is kept on file with the owner of the machine for a minimum of 3 yr.</p> <p>Verify that vending machines are operated and maintained in accordance with the manufacturer's recommendations.</p> <p>(NOTE: Each machine is considered a transient noncommunity water system and must comply with the monitoring requirements of SC R 61-58.5)</p>



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<p><b>WQ.90. DRINKING WATER WELL</b></p> <p><b>WQ.90.1.SC.</b> Water wells must meet specific safety standards (SC R 61-71.6(F) through (H) and SC R 61-71.9).</p> <p><b>WQ.90.2.SC.</b> Installations/CW facilities with water wells must meet reporting</p>	<p>Determine whether the installation/CW facility has any water wells.</p> <p>Verify that wells, which use a chemical feed system for any purpose other than water treatment, have an approved backflow prevention device.</p> <p>Verify that potable water wells upon completion of construction, maintenance, repair, pump installation, or testing are disinfected to achieve the following:</p> <ul style="list-style-type: none"> <li>- a chlorine residual of 50 ppm for a minimum of 4 h</li> <li>- chlorine is uniformly distributed in the well</li> <li>- the well is flushed sufficiently after disinfection to remove all traces of the disinfectant.</li> </ul> <p>Verify that wells are labeled with durable, weatherproof, rust-proof, metal, or equivalent material and secured to the well so that the label is readily visible.</p> <p>Verify that labels and wells contain the following information:</p> <ul style="list-style-type: none"> <li>- drilling contractor and driller certification</li> <li>- date well was completed</li> <li>- total depth</li> <li>- casing depth and inside diameter</li> <li>- screen intervals</li> <li>- yield expressed in gallons per minute or specific capacity expressed in gallons per minute per foot of drawdown</li> <li>- static water level and date measured.</li> </ul> <p>Verify that wells are operated and maintained at all times in a manner so as to protect underground sources of drinking water from contamination.</p> <p>Verify that, prior to putting in service, a well is sealed with a water-tight cap or seal.</p> <p>(NOTE: The installation/CW facility may be required to provide additional security against vandalism.)</p> <p>Verify that installations/CW facilities or contractors who construct water wells submit to the Department a water well record within 30 days of completion of</p>



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standards (SC R 61-71.8).	<p>any well.</p> <p>Verify that wells meeting the following criteria submit a water-well record:</p> <ul style="list-style-type: none"> <li>- wells that do not yield usable quantities of water</li> <li>- wells to be abandoned</li> <li>- test holes or exploratory holes for water as well as the method for abandonment</li> <li>- dewater wells that produce greater than 70 gpm.</li> </ul>
<p><b>WQ.90.3.SC.</b> Installations/CW facilities with water wells must meet abandonment standards (SC R 61-71.10).</p>	<p>Verify that any well temporarily removed from service is sealed with a water-tight cap or seal.</p> <p>Verify that the well is maintained so it is not a source or channel of contamination during temporary abandonment.</p> <p>Verify that wells permanently abandoned meet the following criteria:</p> <ul style="list-style-type: none"> <li>- any well that acts as a source of contamination is repaired or permanently abandoned immediately after receipt of notice from the Department</li> <li>- wells are filled with sand or gravel to within 20 ft of the surface and the remainder is filled with cement grout only</li> <li>- bored wells are filled with cement grout or compacted clay</li> <li>- abandonment procedure is by forced injection of grout or pouring through a tremie pipe starting at the bottom and proceeding to the surface in one continuous operation.</li> </ul>
<p><b>WQ.90.4.SC.</b> Monitoring wells must meet specific standards (SC R 61-71.11(C)(6), (C)(7), and (E) through (H)).</p>	<p>Verify that all monitoring wells have a locking cap or other security devices to prevent damage and/or vandalism.</p> <p>Verify that destroyed, unusable, or abandoned monitoring wells are reported to the Department and properly abandoned, revitalized, or replaced.</p> <p>Verify that installation/CW facility has obtained approval from the Department prior to the construction of a monitoring well.</p> <p>Verify that the installations/CW facilities submits a monitoring well record to the Department within 30 days after completion of the well.</p> <p>Verify that the monitoring well record includes the following:</p> <ul style="list-style-type: none"> <li>- name and address of facility</li> <li>- well location</li> <li>- driller and certification number</li> </ul>

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<p><b>WQ.90.5.SC.</b> Abandoned wells must meet specific standards (SC R 121-1.14 and 121.2.14).</p>	<ul style="list-style-type: none"> <li>- date drilled</li> <li>- driller's or geologist's log</li> <li>- total depth</li> <li>- screened interval</li> <li>- diameter and construction details</li> <li>- depth to water table and date and time measured</li> <li>- surveyed elevation of measuring point with respect to an established bench-mark.</li> </ul> <p>(NOTE: Monitoring wells that are constructed and submit reports to satisfy a permit or other regulatory requirements are not required to submit this additional monitoring well record.)</p> <p>Verify that monitoring wells are disinfected and abandoned according to water well standards.</p> <p>Determine whether the installation/CW facility has any existing wells for permitted groundwater use, test exploration, or observation wells that meet the following abandonment standards:</p> <ul style="list-style-type: none"> <li>- abandoned and no longer put to beneficial use</li> <li>- deemed by the Commission to have an unreasonable adverse or potentially unreasonable adverse effect on other water users or may result in physical or chemical impairment of the aquifer(s).</li> </ul> <p>Verify that the installation/CW facility fills, plugs, and seals the well.</p> <p>Verify that the Commission is notified by a certified statement within 30 days of the well being sealed.</p>



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<p><b>WQ.110. INJECTION CONTROL WELLS</b></p> <p><b>WQ.110.1.SC.</b> Installations/ CW facilities that inject fluids to the subsurface or groundwater must meet spe- cific standards (SC R 61- 87.4, 87.5, 87.13, 87.11(A)(2), and 87.11 (F)(2)).</p> <p><b>WQ.110.2.SC.</b> Installations/ CW facilities that have an authorization by rule to oper- ate a Class V.B. injection well must meet specific reporting standards (SC, R.61-87.11(F)(3)).</p> <p><b>WQ.110.3.SC.</b> Installations/ CW facilities with permitted Class II, III or V.A. injection</p>	<p>Verify that installations/CW facilities, which inject fluids to the subsurface or groundwater of the state by means of an injection well, have a valid authorization by a Department permit or rule.</p> <p>Verify that the movement of fluids containing wastes or contaminants into Underground Source of Drinking Water (USDW) as a result of injection is prohibited if the presence of the waste or contaminant:</p> <ul style="list-style-type: none"> <li>- may cause a violation of any drinking water standard</li> <li>- may otherwise adversely affect the health of persons.</li> </ul> <p>Verify that the installation/CW facility does not construct, operate, or use a Class I or IV well for injection.</p> <p>Verify that installations/CW facilities, which construct, operate or use a Class II, III, or V.A. well for injection, have a valid permit.</p> <p>(NOTE: Class V.B. injection wells do not require a permit but are authorized by rule.)</p> <p>Determine whether the installations/CW facilities has an authorization by rule to operate a Class V.B. injection well.</p> <p>Verify that installations/CW facilities with existing Class V.B. wells have submitted a report to the Department and new wells have submitted a report within 30 days.</p> <p>Verify that the submitted Class V.B. report includes the following information:</p> <ul style="list-style-type: none"> <li>- facility name and location</li> <li>- name and mailing address of facility</li> <li>- nature and type of injection facility and well</li> <li>- operating status of the injection facility and well.</li> </ul> <p>Verify that installations/CW facilities with permitted Class II injection wells meet the following minimum monitoring standards:</p>

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wells must meet minimum monitoring standards (SC R 61-87.9 and R.61-87.14(F) and (G)).	<ul style="list-style-type: none"> <li>- monitor the nature of injected fluids at time intervals sufficiently frequent to yield data representative of their characteristics</li> <li>- observe injection pressure, flow rate, and cumulative volume at the following frequencies: <ul style="list-style-type: none"> <li>- weekly for produced fluid disposal operations</li> <li>- monthly for enhanced recovery operations</li> <li>- daily during the injection of liquid hydrocarbons and injection for withdrawal of stored hydrocarbons</li> <li>- daily during the injection phase of cyclic steam operations; recording of one observation of injection pressure, flow rate and cumulative volume at reasonable intervals no greater than 30 days</li> <li>- demonstrate mechanical integrity once every 5 yr during the life of the injection wells</li> <li>- maintenance of the results of all monitoring.</li> </ul> </li> </ul> <p>Verify that installations/CW facilities with permitted Class III or V.A. injection wells meet the following minimum monitoring standards:</p> <ul style="list-style-type: none"> <li>- complete an appropriate number of monitoring wells in the injection zone and into any USDW that could be affected by the operation</li> <li>- monitor the nature of injected fluids with sufficient frequency to yield representative data on their characteristics</li> <li>- monitor injection pressure and either flow rate or volume semimonthly, or metering and daily recording of injected and produced fluid volumes as appropriate</li> <li>- demonstrate mechanical integrity once every 5 yr during the life of the well</li> <li>- monitor the fluid level in the injection zone semimonthly, where appropriate</li> <li>- monitor the parameters chosen to measure water quality in the monitoring wells semimonthly.</li> </ul> <p>(NOTE: The Department may allow monitoring on a field or project basis rather than on an individual well basis by manifold monitoring.)</p> <p>Verify that installations/CW facilities ensure the mechanical integrity of Class II and III injection wells by meeting the following monitoring standards:</p> <ul style="list-style-type: none"> <li>- determine the absence of any measurable leak in the casing, tubing, or packer by either monitoring of the annulus pressure or a pressure test with liquid or gas</li> <li>- determine the absence of any measurable fluid movement into USDW by maintaining a temperature or noise log.</li> </ul>
<b>WQ.110.4.SC.</b> Installations/CW facilities with permitted injection wells must meet	Verify that installations/CW facilities with permitted injection wells meet the following well operating standards:

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<p>well operating standards (SC R 61-87.14(E)).</p> <p><b>WQ.110.5.SC.</b> Installations/CW facilities with permitted injection wells must meet specific recordkeeping and notification standards (SC R 61-87.13(X)(3), (X)(4), (CC), and R61-87.14(D)).</p>	<ul style="list-style-type: none"> <li>- injection pressure at the well head does not initiate new fractures or propagate existing fractures in the confining zone adjacent to the USDW</li> <li>- injection pressure does not cause the movement of injection or formation fluids into an USDW</li> <li>- there are no injections between the outermost casing protecting USDW and the well bore.</li> </ul> <p>Verify that the installation/CW facility notifies the Department as soon as possible of any planned physical alterations or additions to the permitted injection well.</p> <p>Verify that installations/CW facilities with permitted injection wells give advance notice to the Department of any planned changes in the permitted facility or activity that may result in noncompliance.</p> <p>Verify that the installation/CW facility retains copies of the following records for a period of at least 3 yr from the date of the sample, measurement, report, or application:</p> <ul style="list-style-type: none"> <li>- all monitoring information, including all calibration and maintenance records</li> <li>- original strip chart recordings for continuous monitoring instrumentation</li> <li>- copies of all reports required by the permit.</li> </ul> <p>Verify that the records of monitoring information include the following:</p> <ul style="list-style-type: none"> <li>- the date, exact place, and time of sampling or measurements</li> <li>- the individual who performed the sampling or measurements</li> <li>- the date analyses were performed</li> <li>- the individual who performed the analyses</li> <li>- the analytical techniques or methods used</li> <li>- the results of sampling, measurements, and analyses.</li> </ul> <p>Verify that the records concerning the nature and composition of injected fluids are retained until 5 yr after the completion of any plugging and abandonment.</p> <p>Verify that the installation/CW facility determines or calculates the following concerning the injection formation:</p> <ul style="list-style-type: none"> <li>- fluid pressure</li> <li>- estimated fracture pressure</li> <li>- physical and chemical characteristics of the injection zone.</li> </ul>
<p><b>WQ.110.6.SC.</b> Installations/CW facilities with permitted</p>	<p>Verify that installations/CW facilities with permitted Class III and Class V.A.</p>

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<p>injection wells must meet reporting standards (SC R 61-87.14(H) and (I)).</p>	<p>injection wells meet the following reporting standards:</p> <ul style="list-style-type: none"> <li>- quarterly reporting on required monitoring</li> <li>- results of mechanical integrity and any other periodic test required by the Department reported in the first regular quarterly report after the completion of the test.</li> </ul> <p>Verify that installations/CW facilities with permitted Class II injection wells submit a quarterly report that summarizes the results of monitoring including:</p> <ul style="list-style-type: none"> <li>- monthly records of injected fluids</li> <li>- any major changes in characteristics or sources of injected fluid.</li> </ul> <p>Verify that the results of mechanical integrity tests conducted on Class II and III injection wells are reported to the Department.</p>
<p><b>WQ.110.7.SC.</b> Installations/CW facilities with permitted injection wells that may have fluid migration into or between USDW must take specific actions (SC R 61-87.13(E)).</p>	<p>Determine whether the installation/CW facility has any of the following:</p> <ul style="list-style-type: none"> <li>- monitoring or other information that indicates that any contaminant may cause an endangerment to an USDW</li> <li>- noncompliance or malfunction that may cause fluid migration into a USDW or between USDWs.</li> </ul> <p>Verify that the installation/CW facility has reported the occurrence to the Department orally within 8 h, followed by a written submission within 5 days of the discovery</p> <p>Verify that the installation/CW facility immediately stops injection upon the discovery that fluid may have migrated into or between underground sources of drinking water.</p> <p>Verify that the injection system is not restarted until the installation/CW facility has obtained written approval from the Department.</p>
<p><b>WQ.110.8.SC.</b> Installations/CW facilities with injection wells must met plugging and abandonment standards (SC R 61-87.15).</p>	<p>Verify that, prior to the plugging or abandonment of any injection well, the installation/CW facility does the following:</p> <ul style="list-style-type: none"> <li>- notifies the Department 180 days prior to the plugging or abandonment of an injection well</li> <li>- submits a revised plugging and abandonment plan to the Department.</li> </ul> <p>Verify that the well to be abandoned is in a state of static equilibrium with the mud weight equalized top to bottom by a method prescribed by the Department</p>

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	prior to the placement of the cement plug(s).





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<p><b>WQ.115. WATER QUALITY STANDARDS</b></p> <p><b>WQ.115.1.SC.</b> Groundwaters and surface waters of the state must meet general standards (Water Classification and Standards (SC R 61-68, Sections E(2), (4), and (5)).</p> <p><b>WQ.115.2.SC.</b> Freshwaters or saltwaters that constitute an ORW must meet specific water protection standards (SC R 61-68, Section G(1)) [Revised November 1996].</p>	<p>Verify that all groundwaters and surface waters of the state are at all times, regardless of flow, free from the following:</p> <ul style="list-style-type: none"> <li>- sewage, industrial waste, or other waste which settles to form sludge deposits that are unsightly, putrescent, or odorous that create a nuisance, or interference with classified water uses or existing water uses</li> <li>- floating debris, oil, grease, scum, and other floating material attributable to sewage, industrial waste, or other waste in unsightly amounts that create a nuisance, or interfere with classified water uses or existing water uses</li> <li>- sewage, industrial, or other waste that produce taste or odor or change the existing color or physical, chemical, or biological conditions in the receiving water or aquifers to the degree of creating a nuisance, or interference with existing uses or classified water uses (except within mixing zones)</li> <li>- high temperature, toxic, corrosive, or deleterious substances attributable to sewage, industrial waste, or other waste in concentrations or combinations that interfere with classified water uses (except within mixing zones), existing water uses, or is harmful to human, animal, plant, or aquatic life.</li> </ul> <p>Verify that, when fill is discharged into state waters, no significant degradation of the aquatic ecosystem or water quality results.</p> <p>Verify that waste treatment facilities do not discharge directly to lakes unless the nutrient level discharged does not adversely affect water quality conditions and maintains classified and existing uses.</p> <p>Determine whether the installation/CW facility has Freshwaters or saltwaters that constitute an outstanding recreational or ecological resource or those Freshwaters suitable as a source for drinking water and classified as ORW waters.</p> <p>Verify that the following are not discharged into Class ORW waters:</p> <ul style="list-style-type: none"> <li>- discharges from domestic, industrial, or agricultural waste treatment facilities</li> <li>- open water dredged spoil disposal</li> <li>- dumping or disposal of garbage, cinders, ashes, oils, sludge, or other refuse.</li> </ul> <p>Verify that stormwater and other nonpoint source runoff into Class ORW waters, including runoff from agricultural uses or permitted discharges from aquaculture</p>

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<p><b>WQ.115.3.SC.</b> Installations/CW facilities with Trout Waters must meet specific water protection standards (SC R 61-68, Section G(2)) [Revised November 1996].</p>	<p>facilities, maintain water quality necessary for the existing and classified uses.</p> <p>Verify that activities or discharges from waste treatment facilities in waters upstream or tributary to ORW waters maintain water quality necessary for existing and classified uses.</p> <p>Determine whether the installation/CW facility has any of the following trout waters:</p> <ul style="list-style-type: none"> <li>- Natural (Class TN)</li> <li>- Put, Grow, and Take (Class TPGT)</li> <li>- Put and Take.</li> </ul> <p>Verify that installations/CW facilities with Trout Waters classified as Put and Take Trout Waters meet the standards for Freshwaters.</p> <p>Verify that garbage, cinders, ashes, oils, sludge, or other refuse is not discharged into waters classified as TN and TPGT.</p> <p>Verify that treated wastes, toxic wastes, deleterious substances, colored, or other wastes alone or in combination with other substances or wastes in sufficient amounts to cause any of the following are not discharged:</p> <ul style="list-style-type: none"> <li>- injury to reproducing trout populations in Class TN waters or stocked populations in Class TPGT waters</li> <li>- adversely affect the taste, color, odor, or sanitary conditions</li> <li>- impair the waters for any other best usage as determined for the specific waters.</li> </ul> <p>Verify that the following standards for Class TN and TPGT waters are met:</p> <ul style="list-style-type: none"> <li>- dissolved oxygen is not less than 6 mg/L</li> <li>- fecal coliform does not exceed a geometric mean of 200/100 mL based on five consecutive samples during any 30-day period</li> <li>- no more than 10 percent of the total samples for fecal coliform during any 30-day period exceed 400/100 mL</li> <li>- pH is between 6.0 and 8.0</li> <li>- temperature does not vary from levels existing under natural conditions unless some other temperature will protect the classified uses</li> <li>- turbidity does not exceed 10 percent above natural conditions provided existing uses are maintained.</li> </ul> <p><b>WQ.115.4.SC.</b> Installations/CW facilities with Freshwaters must meet</p> <p>Determine whether the installation/CW facility has any waters classified as Freshwaters.</p>

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<p>specific water protection standards (SC R 61-68, Section G(3)) [Revised November 1996].</p>	<p>Verify that garbage, cinders, ashes, sludge, or other refuse is not discharged into waters classified as Freshwaters.</p> <p>Verify that treated wastes, toxic wastes, deleterious substances, or colored or other wastes alone or in combination with other substances or wastes in sufficient amounts to cause any of the following are not discharged:</p> <ul style="list-style-type: none"> <li>- waters that are unsafe or unsuitable for primary contact recreation</li> <li>- impairment of the waters for any other best usage as determined for the specific waters.</li> </ul> <p>Verify that the following standards for Freshwaters are met:</p> <ul style="list-style-type: none"> <li>- the dissolved oxygen daily average is not less than 5.0 mg/L with a low of 4.0 mg/L</li> <li>- fecal coliform does not to exceed a geometric mean of 200/100 mL based on five consecutive samples during any 30-day period</li> <li>- no more than 10 percent of the total samples for fecal coliform during any 30-day period exceed 400/100 mL</li> <li>- pH is between 6.0 and 8.5.</li> </ul>
<p><b>WQ.115.5.SC.</b> Installations/ CW facilities with Shellfish Harvesting (SFH) Waters must meet specific water protection standards (SC R 61-68, Section G(4)) [Revised November 1996].</p>	<p>Determine whether the installation/CW facility has any waters classified as SFH Waters.</p> <p>Verify that garbage, cinders, ashes, sludge, or other refuse is not discharged into SFH Waters.</p> <p>Verify that treated wastes, toxic wastes, deleterious substances, colored, or other wastes, alone or in combination with other substances, or wastes in sufficient amounts to cause any of the following are not discharged:</p> <ul style="list-style-type: none"> <li>- adversely affect the taste, color, odor, or sanitary conditions of clams, mussels, or oysters for human consumption</li> <li>- impairment of the waters for any other best usage as determined for the specific waters.</li> </ul> <p>Verify that the following standards for SFH waters are met:</p> <ul style="list-style-type: none"> <li>- the dissolved oxygen daily average is not less than 5.0 mg/L with a low of 4.0 mg/L</li> <li>- fecal coliform does not to exceed an Most Probable Number (MPN) median of 14/100 mL</li> <li>- no more than 10 percent of the samples for fecal coliform exceed an MPN of 43/ 100 mL where all tests are made using the five tube dilution method</li> <li>- the pH does not vary more than 0.3 of a pH unit above or below that of effluent-free waters in the same geological area having a similar total</li> </ul>

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<p><b>WQ.115.6.SC.</b> Installations/ CW facilities with waters classified as Tidal Saltwaters SA suitable for primary and secondary contact recreation must meet specific water protection standards (SC R 61-68, Section G(5)) [Revised November 1996].</p>	<p>salinity, alkalinity and temperature - the pH is not lower than 6.0 or above 8.5.</p> <p>Determine whether the installation/CW facility has any waters classified as Class SA.</p> <p>Verify that garbage, cinders, ashes, sludge, or other refuse are not discharged into SA Waters.</p> <p>Verify that treated wastes, toxic wastes, deleterious substances, colored, or other wastes alone or in combination with other substances or wastes are not discharged in sufficient amounts to cause any of the following:</p> <ul style="list-style-type: none"> <li>- waters that are unsafe or unsuitable for primary contact recreation</li> <li>- impairment of the waters for any other best usage as determined for the specific waters.</li> </ul> <p>Verify that the following standards for Class SA Waters are met:</p> <ul style="list-style-type: none"> <li>- the dissolved oxygen daily average is not less than 5.0 mg/L with a low of 4.0 mg/L</li> <li>- fecal coliform does not to exceed a geometric mean of 200/100 mL, based on five consecutive samples during any 30-day consecutive period</li> <li>- no more than 10 percent of the total samples for fecal coliform during any 30-day period exceed 400/100 mL</li> <li>- the pH does not vary more than 0.5 of a pH unit above or below that of effluent-free waters in the same geological area having a similar total salinity, alkalinity, and temperature</li> <li>- the pH is not lower than 6.5 or above 8.5.</li> </ul>
<p><b>WQ.115.7.SC.</b> Installations/ CW facilities with waters classified as Tidal Saltwaters SB waters must meet specific water protection standards (SC R 61-68, Section G(6)) [Revised November 1996].</p>	<p>Determine whether the installation/CW facility has any tidal saltwaters suitable for primary and secondary contact recreation, crabbing, and fishing, except harvesting of clams, mussels, or oysters for market purposes or human consumption classified as Class SB.</p> <p>Verify that garbage, cinders, ashes, sludge, or other refuse is not discharged into SB Waters.</p> <p>Verify that treated wastes, toxic wastes, deleterious substances, colored, or other wastes alone or in combination with other substances or wastes are not discharged in sufficient amounts to cause any of the following:</p> <ul style="list-style-type: none"> <li>- amounts harmful to the survival, culture, or propagation of marine fauna and flora</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<p><b>WQ.115.8.SC.</b> Installations/ CW facilities must meet specific groundwater protection standards (SC R 61-68, Section H) [Revised November 1996].</p>	<ul style="list-style-type: none"> <li>- adverse affects on the taste, color, odor, or sanitary condition of fish for human consumption</li> <li>- waters that are unsafe or unsuitable for primary contact recreation</li> <li>- impairment of the waters for any other best usage as determined for the specific water.</li> </ul> <p>Verify that the following standards for Class SB Waters are met:</p> <ul style="list-style-type: none"> <li>- dissolved oxygen is not less than 4.0 mg/L</li> <li>- fecal coliform does not to exceed a geometric mean of 200/100 mL, based on five consecutive samples during any 30-day consecutive period</li> <li>- no more than 10 percent of the total samples for fecal coliform during any 30-day period exceed 400/100 mL</li> <li>- the pH does not vary more than 0.5 of a pH unit above or below that of effluent-free waters in the same geological area having a similar total salinity, alkalinity, and temperature</li> <li>- the pH is not lower than 6.5 or above 8.5.</li> </ul> <p>Verify that treated wastes, toxic wastes, deleterious substances, or other constituents are not discharged into groundwater classified as GA.</p> <p>Verify that installations/CW facilities with groundwaters classified as GB meet the state Primary Drinking Water standards for inorganic and organic chemicals.</p> <p>Verify that installations/CW facilities, with groundwaters classified as GB, do not discharge any of the following in concentrations or amounts that interfere with use, actual or intended as determined by the Department:</p> <ul style="list-style-type: none"> <li>- manmade radionuclides</li> <li>- priority pollutant volatile organic compounds</li> <li>- pesticides and herbicides</li> <li>- PCB</li> <li>- any other synthetic organic compounds, treated wastes, thermal wastes, deleterious substances, or colored or other wastes or constituents.</li> </ul> <p>Verify that installations/CW facilities with groundwaters classified as GC do not discharge treated wastes, toxic wastes, deleterious substances, or other constituents that interfere with any existing use of an underground source of drinking water.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: November 1997</b>
<b>WQ.120. WATER USE PERMITS</b>	
<b>WQ.120.1.SC.</b> Installations/ CW facilities that use 100,000 gal or more of water per day on any day must sub- mit a water use report (SC R 121-10.3 and 121-10.5).	<p>Determine whether the installation/CW facility uses, diverts, withdraws, obtains, discharges, or returns 100,000 gal or more of water per day on any day.</p> <p>(NOTE: Mere diversions of surface water need not be reported if the diversion is in a channel, cut, or canal adjacent to and contiguous with the surface water source from which the diversion originates.)</p> <p>Verify that a water use report is submitted quarterly and no later than 30 April, 30 July, 30 October, and 30 January.</p> <p>(NOTE: This reporting requirement does not apply agricultural water use.)</p> <p>(NOTE: During periods of extremely low stream flow, the Commission may require monthly reports.)</p> <p>Verify that agricultural water use reports are submitted through the Clemson University Cooperative Extension Service no later than 30 January of the year next following the reporting period.</p> <p>Verify that the water use report contains the following information:</p> <ul style="list-style-type: none"> <li>- site or facility locations</li> <li>- number, depth, and locations of any wells or underground sources of water</li> <li>- source and location of any intake, withdrawal, diverted, or returned water</li> <li>- the capacity and locations of any intake, withdrawal, or diversion pumps or structures</li> <li>- water storage and treatment capacity</li> <li>- the total amount of water used during the reporting period and the maximum daily use within each month of the period</li> <li>- general nature of the use made of the water.</li> </ul> <p>Verify that installations/CW facilities which store or recycle water before return or discharge submit a quarterly report only for the initial withdrawal, diversion, or obtainment, and ultimate discharge.</p>
<b>WQ.120.2.SC.</b> Groundwater withdrawal from the boundaries of the Low Coun- try Capacity Use Area or the Waccamaw Capacity Use	<p>Determine whether the installation/CW facility withdraws, obtains, or utilizes groundwater within the boundaries of the Low Country Capacity Use Area or the Waccamaw Capacity Use Area.</p> <p>Verify that installations/CW facilities which use 100,000 gal or more of</p>

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<p>Area must meet specific permit and reporting standards (SC R 121-1.3, 121-1.8, 121-1.9, 121-2.3, 121-2.8, and 121-2.9).</p>	<p>groundwater per day have a valid groundwater use permit.</p> <p>Verify that installations/CW facilities which use less than 100,000 gal of groundwater per day submit the following:</p> <ul style="list-style-type: none"> <li>- a written notice of intent to drill a well 30 days prior to the start of drilling activities</li> <li>- a water well report within 30 days after completing the well.</li> </ul> <p>Verify that installations/CW facilities with water use permits submit a quarterly water use report which includes the following:</p> <ul style="list-style-type: none"> <li>- permit holder and number</li> <li>- groundwater use</li> <li>- source of groundwater</li> <li>- quantity of water used or withdrawn monthly from each well</li> <li>- the average hours pumped per day</li> <li>- the static pumping levels of each well utilized and the date the water levels were measured</li> <li>- for nonconsumptive use, the amount of water returned to the aquifer(s) from which the water is withdrawn.</li> </ul> <p>Verify that installations/CW facilities with water use permits measure water levels weekly during each month of the reporting period on days specified by the Commission.</p> <p>Verify that installations/CW facilities, which withdraw in excess of 100,000 gal of groundwater per day for the purpose of dewatering and are not required to obtain a permit, meet the following standards:</p> <ul style="list-style-type: none"> <li>- subsurface rock or sediments are dewatered to a depth of not more than 20 ft or a depth approved by the Commission</li> <li>- the Commission is notified in writing prior to dewatering</li> <li>- water withdrawn for a period of not more than 60 days unless otherwise approved by the Commission</li> <li>- area dewatered for the purpose of construction of trenches, for sewer or water pipes, or excavation for foundations or utility construction.</li> </ul>
<p><b>WQ.120.3.SC.</b> Test or exploration wells drilled in the Low Country Capacity Use Area or the Waccamaw Capacity Use Area must have a valid permit (SC R 121-1.13 and 121-2.13).</p>	<p>Determine whether the installation/CW facility has test or exploration wells for the purpose of obtaining geologic and/or hydrologic information in the Low Country Capacity Use Area or the Waccamaw Capacity Use Area.</p> <p>Verify that the installation/CW facility has a valid permit to drill a well.</p> <p>Verify that test and exploratory wells, drilled and not developed for groundwater use or observation wells, are filled, plugged, and sealed in compliance with well</p>



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	abandonment requirements.  Verify that wells without pumps, determined not to be abandoned, are covered with a secure cap when they are not being used as observation wells or for other purposes.

### Appendix 13-1

#### Minimum Monitoring Frequency for Coliforms (Source: SC R 61-58.10(F)(2))

Persons served	Samples/week*
< 500	1
501 to 3300	2
3301 to 10,000	3
10,001 to 25,000	4
> 25,000	5

\* Samples must be taken on separate days



## Appendix 13-2

### Residual Sampling Frequency for Water Systems Serving Fewer than 3300 Persons (Source: SC R 61-58.10(F)(3))

Persons served	Samples/week*
< 500	1
501 to 1000	2
1001 to 2500	3
2501 to 3300	4

\*The day's samples cannot be taken at the same time.  
The sampling intervals are subject to Department review and approval.



### Appendix 13-3

#### Maximum Contaminant Levels (MCLs) for Inorganic Chemicals (Source: SC R 61-58.5(B)) [Revised November 1996]

Contaminant	MCL (mg/L)
Arsenic (as As)	0.05
Asbestos	7 mil fiber/L
Barium (as Ba)	2.0
Cadmium (as Ca)	0.005
Chromium (as Cr)	0.1
Fluoride (as F)	4.0
Mercury (as Hg)	0.002
Nitrate (as N)	10.0
Nitrite (as N)	1.0
Selenium (as Se)	0.05
Antimony	0.0006
Beryllium	0.004
Cyanide (as free cyanide)	0.2
Nickel	0.1
Thallium	0.002



#### Appendix 13-4

##### The Value "V"

(Source: SC R 61-58.10(D))

**where:**

- a = number of instances in which the residual disinfectant concentration is measured.
- b = number of instances in which the residual disinfectant concentration is not measured but the HPC is measured.
- c = number of instances in which the residual disinfectant concentration is measured but not detected and no HPC is measured.
- d = number of instances in which no residual disinfectant concentration is detected and where HPC is  $> 500/\text{mL}$ .
- e = number of instances in which the residual disinfectant concentration is not measured and HPC is  $> 500/\text{mL}$ .





### Appendix 13-5

#### Maximum Contaminant Levels (MCLs) for Organic Chemicals (Source: SC R 61-58.5(D) and (E) [Revised November 1996])

Contaminant	mg/L
Alachor	0.002
Aldicarb	0.003
Aldicarb sulfoxide	0.004
Aldicarb sulfone	0.002
Atrazine	0.003
Carbofuran	0.04
Chlordane	0.002
Dibromochloropropane	0.0002
2,4-D	0.07
Ethylene dibromide (EDB)	0.00005
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Lindane	0.0002
Methoxychlor	0.04
Polychlorinated biphenyls (PCBs)	0.0005
Pentachlorophenol	0.001
Toxaphene	0.003
2,4,5-TP	0.05
Benzo[a]pyrene	0.0002
Dalapon	0.2
Di(2-ethylhexyl)adipate	0.4
Di(2-ethylhexyl)phthalate	0.006
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002
Glyphosate	0.7
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Oxamyl (vydate)	0.2
Picloram	0.5
Simazine	0.004
2,3,7,8-TCDD	3 X 10 <sup>-8</sup>



## Appendix 13-6

### Special Monitoring for Organic Chemicals

(Source: SC R 61-58.5(CC))

Chloroform  
Bromodichloromethane  
Chlorodibromomethane  
Bromoform  
trans-1,2-Dichloroethylene  
Chlorobenzene  
m-Dichlorobenzene  
Dichloromethane  
cis-1,2-Dichloroethylene  
o-Dichlorobenzene  
Dibromomethane  
1,1-Dichloropropene  
Tetrachloroethylene  
Toluene  
p-Xylene  
o-Xylene  
m-Xylene  
1,1-Dichloroethane  
1,2-Dibromo-3-chloropropane (DBCP)  
1,2-Dichloropropane  
1,1,2,2-Tetrachloroethane  
Ethylbenzene  
1,3-Dichloropropane  
Styrene  
Chloromethane  
Bromomethane  
1,2,3-Trichloropropane  
1,1,1,2-Tetrachloroethane  
Chloroethane  
1,1,2-Trichloroethane  
2,2-Dichloropropane  
o-Chlorotoluene  
p-Chlorotoluene  
Bromobenzene  
1,3-Dichloropropane  
Ethylene Dibromide (EDB)



# Appendix 13-7

## Total Coliform Sampling Frequency\* (Source: SC R 61-58.5(I))

Population Served	Minimum Number of Samples per Month
25 to 1000*	1
1001 to 2500	2
2501 to 3300	3
3301 to 4100	4
4101 to 4900	5
4901 to 5800	6
5801 to 6700	7
6701 to 7600	8
7601 to 8500	9
8501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,000 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

\* Includes systems that have at least 15 service connections, but serve fewer than 25 persons.



## Appendix 13-8

### Secondary Maximum Contaminants (Source: SC R 61-58.5(O)) [Revised November 1996]

Contaminant	Level
Aluminum	0.05 to 0.2 mg/L
Color	15 color units
Chloride	250 mg/L
Copper	1 mg/L
Corrosivity	noncorrosive
Fluoride	2.0 mg/L
Foaming agents	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Odor	3 threshold odor number
pH	6.5-8.5
Sulfate	250 mg/L
Total dissolved solids (TDSs)	500 mg/L
Zinc	5 mg/L





### Appendix 13-9

#### Maximum Contamination Levels (MCLs) for Volatile Synthetic Organic Chemicals (Source: SC R 61-58.5(AA)) [Revised November 1996]

Contaminant	Level (mg/L)
Benzene	0.005
Carbon Tetrachloride	0.005
1,2-Dichloroethane	0.005
Trichloroethylene	0.005
para-Dichlorobenzene	0.075
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.20
cis-1,2-Dichloropropane	0.005
Ethylbenzene	0.7
Monochlorobenzene	0.1
o-Dichlorobenzene	0.6
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1.0
trans-1,2-Dichloroethylene	0.1
Xylenes (total)	10.0
Dichloromethane	0.005
1,2,4-Trichlorobenzene	0.07
1,1,2-Trichloroethane	0.005
Vinyl Chloride	0.002