



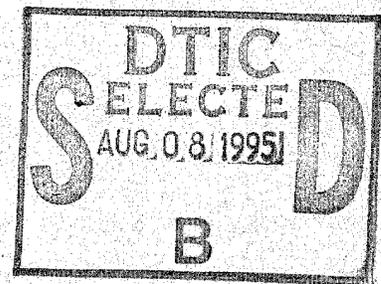
**US Army Corps
of Engineers**
Construction Engineering
Research Laboratories



The Environmental Compliance Assessment and Management Program (ECAMP) Supplement for The Environmental Assessment and Management (TEAM) Guide

The number of environmental laws and regulations have continued to grow in the United States, making compliance with these regulations increasingly difficult. Environmental assessments became a way to determine operational consistency and compliance with current environmental regulations.

Beginning in 1984, the U.S. Army Construction Engineering Research Laboratories (USACERL), in cooperation with the U.S. Air Force, began the research that led to the publication of the Environmental Compliance Assessment and Management Program (ECAMP). In Fiscal year 1994, the U.S. Air Force became a participant in the efforts to create a single compliance assessment manual for use by all members of the DOD. The resultant manual is The Environmental Assessment and Management (TEAM) Guide. To examine Air Force Instructions (AFIs), Air Force Manuals (AFMs), and Air Force Policies (AFPs), the ECAMP supplement was developed to use in conjunction with the TEAM Guide.



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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave Blank)	2. REPORT DATE January 1995	3. REPORT TYPE AND DATES COVERED Final	
4. TITLE AND SUBTITLE The Environmental Compliance Assessment and Management Program (ECAMP) Supplement for The Environmental Assessment and Management (TEAM) Guide		5. FUNDING NUMBERS MIPR PRJORD94004	
6. AUTHOR(S) Donna J. Schell			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Construction Engineering Research Laboratories (USACERL) P.O. Box 9005 Champaign, IL 61826-9005		8. PERFORMING ORGANIZATION REPORT NUMBER SR EC-95/12	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Air Force, Director of Engineering and Services, Environmental Division ATTN: AFCEE-EP 8106 Chennault Road Brooks AFB, TX 78235-5318		10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES Copies are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.			
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.		12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) The number of environmental laws and regulations have continued to grow in the United States, making compliance with these regulations increasingly difficult. Environmental assessments became a way to determine operational consistency and compliance with current environmental regulations. Beginning in 1984, the U.S. Army Construction Engineering Research Laboratories (USACERL), in cooperation with the U.S. Air Force, began the research that led to the publication of the Environmental Compliance Assessment and Management Program (ECAMP). In Fiscal year 1994, the U.S. Air Force became a participant in the efforts to create a single compliance assessment manual for use by all members of the DOD. The resultant manual is The Environmental Assessment and Management (TEAM) Guide. To examine Air Force Instructions (AFIs), Air Force Manuals (AFMs), and Air Force Policies (AFPs), the ECAMP supplement was developed to use in conjunction with the TEAM Guide.			
14. SUBJECT TERMS Environmental Compliance Assessment Management Program Environmental Compliance Laws and Regulations Environmental Compliance Checklists Environmental Assessment and Management (TEAM) Guide, The		15. NUMBER OF PAGES 440	16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT SAR

FOREWORD

The work was performed for the U.S. Air Force (USAF), Director of Engineering and Services, Environmental Division, under Military Interdepartmental Purchase Request (MIPR) number PRJORD94004, dated 27 May 1994. The USAF technical monitor was Nancy Carper, AFCEE-EP.

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LTC David J. Rehbein is Commander and Acting Director, USACERL. Dr. Michael J. O'Connor is Technical Director.

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NOTICE

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SUPPLEMENT OBJECTIVES AND ORGANIZATION

This supplement provides the Environmental Compliance Assessment and Management Program (ECAMP) assessment supplement checklists to be used with The Environmental Assessment and Management (TEAM) Guide during an ECAMP assessment. These environmental assessment checklists are based on Air Force and Department of Defense (DOD) regulations.

This supplement is divided into 13 sections. General ECAMP guidance and information applicable to all 13 compliance assessment checklists in the ECAMP can be found in the Main Introduction. Sections 1 through 13 contain the specific environmental compliance guidelines and checklists for each of the 13 compliance categories:

- Air Emissions Management
- Cultural Resources Management
- Hazardous Materials Management
- Hazardous Waste Management
- Natural Resources Management
- Other Environmental Issues
- Pesticide Management
- Petroleum, Oil, and Lubricant (POL) Management
- Solid Waste Management
- Storage Tank Management
- Toxic Substances Management
- Wastewater Management
- Water Quality Management.

This supplement contains references to Air Force Instructions (AFIs), Air Force Manuals (AFMs), and Air Force Pamphlets (AFPs). This ECAMP Supplement contains references to a combination of the above. HQ USAF/CEV will issue interim guidance as the new policies and regulations are approved.

(NOTE: The regulations in all of the volumes have been promulgated through 01 November 1994.)



PROGRAM BACKGROUND

ECAMP is explained in AFI 32-7045, *Environmental Compliance Assessment and Management Program (ECAMP)*. The primary objectives of ECAMP are to:

1. improve Air Force environmental management
2. improve Air Force environmental compliance and compliance management in the United States and its possessions
3. build supporting financial programs and budgets for environmental compliance requirements
4. ensure that Major Commands (MAJCOMs) are effectively addressing past, present, and future environmental concerns.

Air Force installations, support sites, and government owned, contractor operated (GOCO) facilities are required to receive an external environmental compliance assessment at least once every 3 yr. This 3 yr cycle was reaffirmed as a minimum in HQ USAF/CEV policy letter dated 15 September 1994. Each installation and support site must conduct an internal assessment each calendar year, except in years when external assessments are conducted.

AFI 32-7045, para 1.1.2 allows for the exclusion of a site from ECAMP. Each MAJCOM must develop and maintain a list of excluded sites and the activities that take place on those sites, and the justification for exclusion. The MAJCOM must review this list annually. Additionally, facilities can be exempted from the ECAMP if their inclusion in the program will significantly interfere with their military effectiveness or if it is otherwise in the national interest. The MAJCOM commander is the approval authority for either exemption.

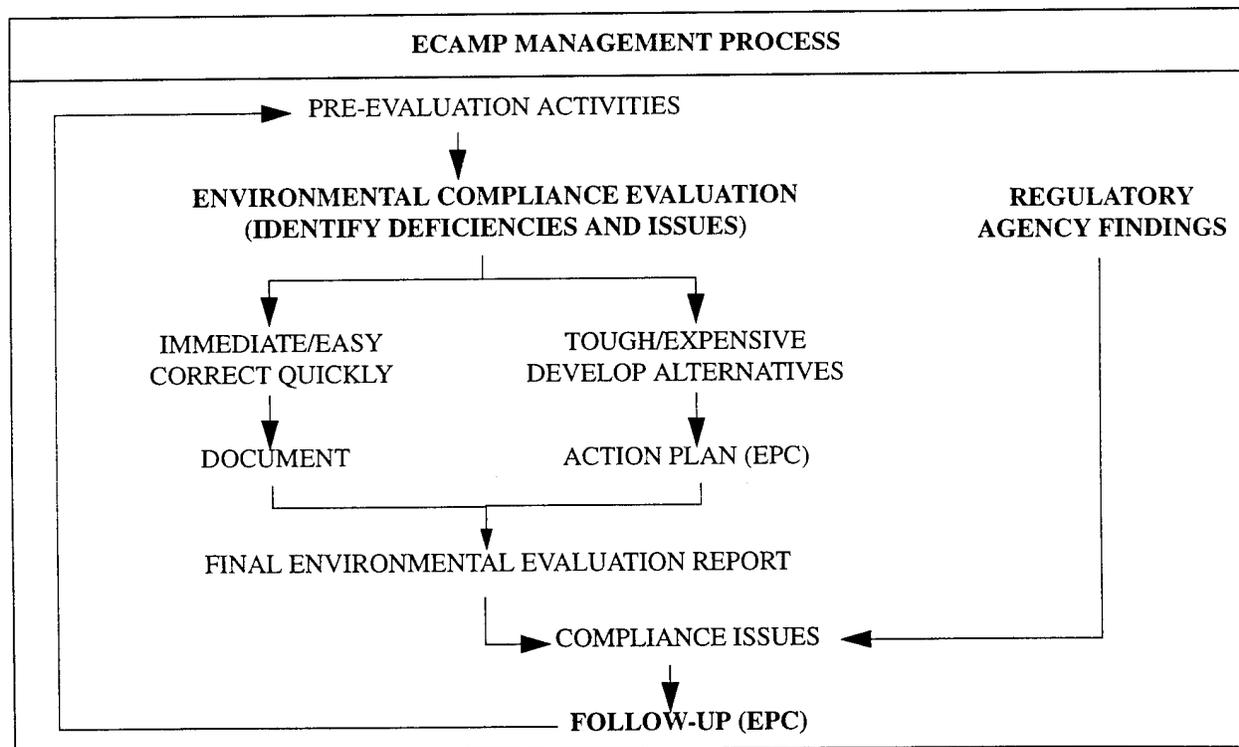
ECAMP PROGRAM MANAGEMENT PROCESS

The ECAMP program management process begins with the environmental compliance assessment and written report that identifies compliance and management issues. The Commander, through the Environmental Protection Committee (EPC), then assigns appropriate staff to work each issue.

ECAMP Action Summary - The path illustrated on the far left of the flowchart represents the process the installation follows in resolving most issues. Immediate hazards should, of course, be addressed as quickly as possible. The procedural, easy-to-fix issues, are corrected during the assessment process and documented in the report.

The path in the center, for the tough and expensive issues, includes preparing a management action plan describing how these problems will be addressed.

Formal notices of noncompliance issued by regulatory agencies are represented by the path on the far right. Open notices of noncompliance at the time of the assessment are included in the ECAMP assessment and report. Notices of noncompliance issued after the date of the ECAMP assessment do not appear in the report, but are managed by the installation EPC along with ECAMP issues.





ENVIRONMENTAL COMPLIANCE ASSESSMENT PROCESS

The ECAMP program management process described above can be divided into three distinct phases:

1. Preassessment activities
2. Site assessment activities
3. Post-assessment activities.

Preassessment Activities - There are five key activities that should be completed before an assessment team begins the site assessment.

1. **Previsit Questionnaire** - The purpose of the previsit questionnaire is to collect information that will familiarize the assessment team with the installation and its operations so that its assessment team is able to review the applicable regulations and prepare a detailed assessment schedule. The previsit questionnaire is essential as part of the preassessment activities for an external assessment. It is also an excellent tool for ensuring internal assessment team members are starting from the same base of information. Table 1 contains a sample previsit questionnaire (see page liii).
2. **Define Assessment Scope and Team Responsibilities** - The installation or MAJCOM may wish to place special emphasis on certain compliance categories or to review additional areas not covered in the volumes. These goals should be clearly stated so the assessment can be properly planned. Additionally, the duration of the assessment, appointment of team members by the EPC, and handling of tenants and offbase sites should be addressed. Typical teams may include personnel from: Environmental Coordinator (EC), Bioenvironmental Engineering (BEE), Judge Advocate (JA), Ground Supply Officer, Supply, Maintenance, Transportation, Defense Reutilization and Marketing Organization (DRMO), Base Civil Engineer (BCE), Water and Waste Superintendent, BCE (Contract Management), BCE (Natural Resources Manager), BCE (Fire Department), BCE (Engineering Design); or, if contracted, people with equivalent varied experience may be chosen. Assessors should possess a good working knowledge of the various environmental pollution statutes and regulations. Collectively, the team must have the knowledge and background required to efficiently and effectively conduct all aspects of an installation assessment. Team members should also understand appropriate techniques for collecting information and interviewing installation personnel. Team members should have received formal training or received oversight from someone who has received formal training. Finally, responsibilities for each of the checklists should be assigned to the team members as appropriate.

Table 2 (see page lxxi) lists the major environmental operations and activities at typical Air Force installations and the sections within which they are addressed. As shown, many activities and operations cause environmental impacts in more than one area, and are, therefore, addressed in more than one section.

3. **Review Relevant Regulations** - Once the assessment scope and responsibilities are known, the assessors should undertake a thorough review of the relevant Federal, state, and local regulations affecting the installation. One online data source of state regulations that is available to Air Force installations is DENIX. The applicable environmental regulations must be determined before the assessment begins. If not already available, checklist items for state and local requirements must be added to the checklists in these volumes.

4. Develop Assessment Schedule - The team should develop a detailed assessment schedule that includes the activities planned for each day.
5. Review Assessment Protocols - Each assessor should know the regulatory requirements and be familiar with the assessment checklists that will be used.

Site Assessment Activities - Onsite, the assessors will conduct record searches, interviews, and site surveys to determine the compliance status of the installation. Operations are compared with environmental standards and any deficiencies are written up as findings. The data collected should be sufficient, reliable, and relevant to provide a sound basis for assessment findings and recommendations. Figure 1 (see page xiii), the ECAMP Finding Form is available to assist assessors in compiling needed information during an ECAMP assessment. A Finding Form should be completed for each finding during the assessment. These forms comprise the basis of the ECAMP report. Figure 1 is based on the future version of the finding screen layout on Work Information Management System (WIMS).

The "Details" portion of the Finding Form is a factual statement describing the status of the process, permit, or situation under investigation. Optional inputs include: the reason the condition exists; causes can include staffing problems, incorrect or lack of training, procedures that are not followed, inadequate equipment or facilities, and impact on the installation if the finding goes uncorrected. This can be actual or potential; effects can include health and safety, environmental damage, cost, effectiveness of operation, legal consequences, and mission impact. Further instructions for completing the Finding Form start on page xv.

For example, a team member assigned to assess the installation's hazardous waste management program visited the accumulation point at building 5000. The installation is a small quantity generator (SQG). The assessor noticed some drums were damaged and took a count of the total number of drums and the number of damaged drums to get an accurate description for the finding. Three of the eight drums were rusted and bulging. Item HW.30.2 in Section 4 (in TEAM) states that 40 CFR 262.34(d)(2) and 40 CFR 265.171 require containers to be in good condition and not leaking. The damaged drums were behind the others, so the accumulation point manager may have overlooked them during his regular inspections. The accumulation point manager immediately put overpack drums on order. The assessor is now ready to fill out a Finding Form for this finding. A completed sample form for this finding is at Figure 2 (see page xxiii).

(NOTE: Any findings discovered through the use of this guidance supplement by the internal assessment should be validated by the environmental coordinator and Judge Advocate. The findings and corrective actions should be recorded in the EPC minutes.)

Post-Assessment Activities. The first step in the post-assessment activities is the creation of the draft report. The MAJCOM EPC will ensure that each installation reviews and comments on the Preliminary Environmental Findings, develops a management action plan that addresses all unresolved findings; and tracks significant, major, and minor noncompliance findings. The MAJCOM EPC will coordinate the development of a management action plan, the Draft Final Environmental Compliance Assessment Report, and the Final Environmental Compliance Assessment Report within 120 days of the site assessment. Upon approval, the MAJCOM will forward the final report to HQ USAF/CEV and AFCEE/ESP via the WIMS-ES.

ECAMP Finding Form (continued)

Question Number _____

A-106 Media _____

Responsible Organization _____

Org Type _____

CFR Citation _____

Other Criteria _____

Root Cause _____ Explain _____

Violation Type _____ Finding ID _____ Finding Type _____ Source _____

Owning Org POC _____ Off Sym _____ Phone _____ Ext _____

Env Mgt Org POC _____ Off Sym _____ Phone _____ Ext _____

Suggested Solution _____

A-106 Proj # _____ Est Cost \$ _____

Definitions for Finding Form

(NOTE: The following fields which are included on the form are not in the current version of the software, but this form can be used to assist with data entry in the current version: Repeat Finding; Grid Coordinates; Street Address; Organization Type; CFR Citation; Other Criteria; Root Cause; additional two entries for Violation Type; additional two entries for Finding ID; Suggested Solution.)

1. **Date of Finding:** Enter the date the finding was discovered. This is the exact date the finding was discovered. Try to avoid using the same date for all findings. YYYY MM DD (Convert Finding Date)
2. **Protocol:** Using the selector, choose the protocol for this finding.
 - Air Emissions Management
 - Cultural Resources Management
 - Hazardous Materials Management
 - Hazardous Waste Management
 - Natural Resources Management
 - Other Environmental Issues
 - Pesticide Management
 - POL Management
 - Solid Waste Management
 - Storage Tank Management
 - Toxic Substances Management
 - Wastewater Management
 - Water Quality Management
3. **Finding Number:** This field indicates the placement of this finding in the report. It may not have something to do with it's priority or status depending on the philosophy of the program manager. Each protocol has it's own set of numbers. In other words, you can have a HW. 1 and an A.1.
4. **Rating:**
 - Significant
 - Major
 - Minor
 - Management Practice
 - Positive
5. **Repeat?:** Identify with a "Y" if this finding is a repeat finding. Has there been a finding documented in a prior ECAMP identical to this finding? If not, enter "N".
6. **Estimated Compliance Date (ECD):** What is the YY MM DD that this finding will be brought into compliance?
7. **Actual Compliance:** If the finding is brought into compliance during the evaluation, enter that date.
8. At least one of the following three must be completed. If more information is known, it should be entered.
 - a. **Street Address:** Enter the street/ mailing address for the location of this finding.
 - b. **Facility Number:** Enter the facility number for the location of the finding.

9. **Location Description:** Use this field if facility number or street address is not applicable. Briefly describe the location of the finding. You can use grid coordinates.

10. **Finding Title:** Enter a brief, descriptive title for the finding (up to 51 characters).

11. **Details:** Enter a detailed description of the finding. State what is wrong, how the process or procedures are being done now, and how long it has been under way. State exactly how the AF is out of compliance. Be concise, objective, and strictly factual. Do not be subjective. Do not make inflammatory remarks (up to 726 characters).

12. **Question #:** This is the question number from the ECAMP supplement or TEAM Guide. The first 3-characters are entered automatically by the system. Enter the question number from the supplement or TEAM Guide (enter the main paragraph number only, no periods or dashes required).

13. **A-106 Media:** Choose the A-106 media that best matches the finding condition.

- AT Atomic Energy
- CA Clean Air Act
- CW Clean Water Act
- ES Endangered Species Act
- FF Fed Insect/Fungicide/Rodent Act
- HP Historic Preservation
- MU Multi-Media
- NC Noise Control
- NE National Environment Policy Act
- RC Resources Conservation and Recovery Act
- SD Safe Drinking Water Act
- SF Comprehensive Environmental Response Compliance and Liability Act
- TS Toxic Substance Control Act

14. **Responsible Organization:** Enter the organizations that "caused" the finding. You can enter up to 3 organizations. This is the "who done it" data field that can be used for trend analysis to find organizations that need additional training, equipment, manpower, etc.

15. **Organization Type:** For each organization, identify the appropriate type code.

- | | |
|------------|---------------------------------------|
| Academic | Academic |
| AC Maint | Aircraft Maintenance |
| AC Clean | Cleaning/degreasing aircraft parts |
| AC Storage | Aircraft storage, ramp, parking, etc. |
| AC Wash | Aircraft washrack |
| AGE Repair | AGE Storage and/or Repair |
| Alert | Transient Alert |
| Arts | Arts and Crafts |
| Auto Body | Auto Hobby |
| Audio | Audiovisual Services |
| Avionics | Aircraft Avionics Maintenance |
| Base Svc | Base Service Station |
| Bio | Bioenvironmental Engineering |
| Bulk Fuels | Bulk Fuels Management |
| BX | Base Exchange |
| Childcare | Childcare center |

Clean/Deg	Cleaning and degreasing (not aircraft)
CE Maint	Civil Engineering Maintenance Shop
CE Mat	Civil Engineering Material Control
CE Self	Civil Engineering Self-Help Store
Cmmssry	Commissary
Comm Maint	Communications Maintenance
Dental	Dental Clinic
DRMO	DRMO TSD Facility
Elect/Env	Electro/Environmental
Entomology	Entomology Shop
EOD	Explosive Ordinance Disposal
Env Mgt	Environmental Management
Fire Dept	Fire Department
Golf	Golf Course
Heat Plnt	Heat Plant
Hvy Equip	Heavy Equipment Maintenance/Storage
Hospital	Hospital/Clinic
Housing	Housing Maintenance
Hyd/Pneu	Hydraulics/Pneudraulics
IWTP	Industrial Wastewater Treatment Plant
Landfill	Landfill
Off Bldg	Business Offices (CBPO, banks, etc.)
Other	Other, any other not listed
Photo	Photo lab
Rsrch Lab	Research Laboratory
Supply	Base Supply
Swim	Swimming Pool
Test Cell	Engine Test Cell
TSD	Base TSD Facility
Veh Maint	Vehicle Maintenance/storage
Veh Wash	Vehicle Washrack
Vet Clinic	Veterinary Clinic
WWTP	Wastewater Treatment Plant

16. **CFR Citation:** Enter the CFR citation for the finding.

17. **Other Criteria:** Enter all the laws, regulations, statutes, etc., other than the CFR citation, defining the out-of-compliance condition. You may also enter a brief description of that criteria (up to 192 characters).

18. **Root Cause:** Select the root cause that best reflects the basic reason for the out-of-compliance condition.

Materials:

M1 Supply

M2 Poor Quality

Personnel:

P1 Awareness of Requirement

P2 Understanding

- P3 Not conscientious (deals with attitude of personnel)
- P4 Result vs. Action (The result did not equal the action taken. Procedures were followed which should have produced a favorable result but did not.)
- P5 Accountability not assigned
- P6 Action vs. Procedure (correct procedure(s) in place but incorrect action taken)
- P7 Insufficient skills
- P8 Inexperience (not an attitude of personnel)

Equipment:

- E1 Controls failure
- E2 Inadequate facility design
- E3 Monitoring equipment failure
- E4 Poor maintenance

Techniques:

- T1 Time to do the job
- T2 No procedures in place
- T3 Priority conflict
- T4 Inadequate procedures
- T5 Procedures not available

19. Explain the reason for your selection of Root Cause. Be specific and stick to the facts (up to 119 characters).

20. **Violation Type:** Choose the appropriate code(s) that best describe(s) the situation. You can enter up to three.

Potential Discharge

- P1 Operational Practices
- P2 Inadequate Facility
- P3 Inadequate Equipment/Containers
- P4 Other
- P5 No Testing/Verification
- P6 Containment

Administrative

- A1 Records
- A2 Labels
- A3 Reports
- A4 Manifests
- A5 Lack of a Permit
- A6 Inadequate/Missing Plan
- A7 Public Notification
- A8 Operator Certification
- A9 Fire Standard
- A10 Program Planning
- A11 Sampling
- A12 Training
- A13 Other
- A14 Registration
- A15 Uncharacterized
- A16 Lacking or Incomplete Inventory/Survey

Discharge

- D1 Excess Chemical Parameter
- D2 Excess Physical Parameter
- D3 Groundwater Contamination
- D4 Spills/Leaks
- D5 Other

21. **Finding ID Codes:** Choose the appropriate code(s). You can enter up to three.

Air Emissions

- 1A Fuel Burners
- 1B Incinerators
- 1C Volatile Organics
- 1D Others
- 1E Ozone Depl Chems
- 1F Particulates/Bead Blast
- 1G Air Toxics, Metals
- 1H General Requirements

Cultural Resources Management

- 2A Management Plans
- 2B Land
- 2C Facilities/Buildings
- 2D Historical
- 2E Native American
- 2F Others

Hazardous Material Mgt

- 3A Storage Structures
- 3B Operations/Management
- 3C Others

Hazardous Waste

- 4A Accumulation Points
- 4B TSD Facilities
- 4C Training
- 4D Waste Minimization
- 4E Oil/Water Separators
- 4F Satellite Accum Points
- 4G Operational Procedures
- 4H Other

Natural Resources Management

- 5A Management Plans
- 5B Wildlife/Recreation/Forestry
- 5C Wetlands/Floodplains
- 5D Land/Agriculture
- 5E Others

Other Environmental Issues

- 6A AICUZ
- 6B Procedures
- 6C IRP
- 6D EIAP
- 6E A-106
- 6F ECAMP
- 6G WIMS-ES
- 6H Pollution Prev. Mgt Plans
- 6I ODCs
- 6J EPA17
- 6K Haz Waste Minimization
- 6L Recycling
- 6M Affirmative Procurement
- 6N Energy Conservation
- 6O PP Education and Training
- 6P Haz Materials Control
- 6Q Other

Pesticide Management

- 7A Facilities/Equipment
- 7B Procedures (Noise)
- 7C Other

POL

- 8A Operations/Management
- 8B Drum Storage
- 8C Piping Systems
- 8D Pipelines
- 8E Tank Car
- 8F Oil/Water Separators
- 8G Other

Solid Waste

- 9A Landfills
- 9B Receptacles
- 9C Recycling
- 9D Medical Wastes
- 9E Regulated Materials
- 9F Other

Storage Tank Management

- 10A Aboveground Tanks
- 10B Underground Storage Tanks
- 10C Piping Systems
- 10D Operations and Management
- 10E Other

Toxic Substances Management

- 11A PCBs
- 11B Asbestos
- 11C Radon Mitigation
- 11D Lead Based Paint
- 11E Other

Wastewater Management

- 12A Sanitary
- 12B Industrial
- 12C Stormwater
- 12D Nonpoint Source
- 12E Point Source
- 12F Facilities/Equipment
- 12G Oil/Water Separators
- 12H Operations
- 12I Other

Water Quality

- 13A Operations
- 13B Facilities/Equipment
- 13C Drinking Water
- 13D Public Water System
- 13E Community Water System
- 13F Noncommunity Water system
- 13G Transient
- 13H Sole Source Aquifer
- 13I Wells
- 13J Other

22. **Finding Type:** Choose the appropriate code.

Regulatory REG
Procedural PRO
Host Nation HON

23. **Source:** Choose the appropriate source for the definition of the noncompliance.

U.S. Protocols
Worldwide Manual/Overseas Manual
Installation Supplement to ECAMP Manual
Command Supplement to ECAMP Manual
Country Manual
Country Supplement
State Supplement
Local Law/Ordinance

24. **Owning Organization POC:** Enter the name of the POC of the organization handling the fix.

25. **Office Symbol:** Enter the office symbol for the POC.

26. **Phone and Extension:** Enter the phone and extension for the POC.

27. **Environmental Management POC:** Enter the name of the POC within EM who is responsible for tracking this finding.

28. **Office Symbol:** Enter the office symbol for the POC.

29. **Phone and Extension:** Enter the phone and extension for the POC.

30. **Evaluator's Suggested Solution:** Enter the suggested solution for the evaluator. After validation, this is nonmodifiable (up to 308 characters).

31. **A-106 Project #:** If there is funding already programmed for the fix, enter the A-106 project number if available.

32. **Estimated Cost:** If the information is available, enter the estimated cost of the project.

ECAMP Finding Form (continued)

Question Number HW.30.2

A-106 Media RC

Responsible Organization Hill Facility

Org Type Veh Maint

CFR Citation 40 CFR 262.34(d)(2) and 265.171

Other Criteria _____

Root Cause P1 Explain Personnel have not been trained in this issue.

Violation Type P3 Finding ID 4A Finding Type REG Source US

Owning Org POC Fred Smith Off Sym ABC Phone 7845 Ext ----

Env Mgt Org POC Bob Jones Off Sym CE Phone 7967 Ext ----

Suggested Solution _____

A-106 Proj # _____ Est Cost \$ _____

USING THE ECAMP SUPPLEMENT

Air Force installations engage in many operations and activities that can cause environmental impacts on public health and the environment if not controlled or properly managed. Many of these activities and operations are regulated by Federal, state, and local regulations, and by Air Force regulations/policies. After a review of these activities at Air Force it is apparent that there are major categories of environmental compliance into which most environmental regulations and Agency activities could be grouped. This supplement is divided into 13 sections that correspond to major compliance categories.

1. Air Emissions Management
2. Cultural Resources Management
3. Hazardous Materials Management
4. Hazardous Waste Management
5. Natural Resource Management
6. Other Environmental Issues
7. Pesticide Management
8. Petroleum, Oils, and Lubricants (POL) Management
9. Solid Waste Management
10. Storage Tank Management
11. Toxic Substances Management (includes asbestos, PCBs, radon, and lead-based paint)
12. Wastewater Management
13. Water Quality Management.

Each section is organized in the following format:

- A. **Air Force Instructions (AFIs) and Policies.** This identifies, in summary form, the key AFRs, AFIs, and AFPDs that mandate requirements in the compliance category.
- B. **Department of Defense (DOD) Directives and Instructions.** This identifies DOD Directives and Instructions which have not yet been implemented by an AFI.
- C. **Using the TEAM Guide For ECAMP.** This portion identifies any portions of the Team Guide checklist that requires special information or guidance for use in ECAMP.
- D. **Key Air Force/DOD Compliance Requirements.** This summarizes the significant compliance requirements associated with the regulations included in the checklist. It is a brief abstract summarizing the overall thrust of the regulations for that particular compliance category.
- E. **Key Compliance Personnel.** This identifies the personnel on the installation who have compliance responsibilities for the compliance category.
- F. **Key Air Force/DOD Compliance Definitions.** This presents definitions taken from the CFRs and pertinent AFRs and AFIs for those key terms associated with each compliance category.
- G. **Additional Records to Review.** This is a list of records unique to an Air Force installation that need to be inspected in addition to the records listed in TEAM Guide.

- H. Additional Physical Features to Inspect.** This is a list of physical features unique to an Air Force installation that need to be inspected in addition to the physical features listed in TEAM Guide.
- I. People to Interview.** This is a list of Air Force personnel which should be interviewed in order to determine compliance with the checklist items in a particular section.
- J. Compliance Assessment Checklists.** The final portion of each section and its tables contain checklists composed of requirements or guidelines that serve as indicators to point out possible compliance problems, as well as practices, conditions, and situations that could indicate potential problems. They are intended to focus attention on the key compliance issues that should be investigated. Instructions are provided to direct the assessor to the appropriate action, references, or activity that corresponds to the specific requirement or guide.

USING THE CHECKLISTS

Understanding the layout and structure of the checklists facilitates their use during the assessment. Please see Table 3 (page lxxv) for a sample of a portion of a checklist.

- **Explanation of Layout/Content.** The checklist portion of assessment section is divided into two columns. The first of these is a statement of a requirement. This may be a strict regulatory requirement, in which case the citation is given, or it may be a requirement that is considered to be a management practice to maintain compliance, but which is not specifically mandated by regulation.

The second column gives instructions to help conduct the compliance assessment. These instructions are intended to be specific action items that should be accomplished by the investigator. Some of the instructions may be a simple documentation check taking a few minutes; others may require physical inspection of a facility.

- **Standard Checklist Items.** The first checklist item in each section of the supplement is standardized. It is a list of the Federal regulations that are required to be at the installation. It also includes a list of the Air Force documents that the installation should have on hand. Table 3 provides an example of this checklist item as found in the section titled Solid Waste Management.

The assessment procedures are designed as an aid and should not be considered exhaustive. Use of the checklist requires the assessor's judgement to play a role in determining the focus and extent of further investigation. A review of appropriate state regulations should be conducted so additional review checklist items that reflect the substantive requirements of state/local regulations pertinent to individual facilities can be included on the checklists.

CUSTOMIZING THE CHECKLISTS FOR YOUR INSTALLATION

Creating Shop-Specific and Self-Inspection Checklists - The ECAMP checklists in this supplement and the TEAM Guide are a useful tool for creating self-inspection checklists for individual shops. These shop-specific checklists, can be used by shop supervisors and workers to ensure correct practices and procedures are being followed on a routine basis. Thus, good self-inspection checklists are an excellent supplement to annual ECAMP assessments. A customized checklist can be created in five steps:

1. review the shop's activities to determine which sections apply
2. select broad portions of the applicable sections for closer review by using the guidance page found before the checklist in each section
3. review the individual checklist items selected for application to the shop being assessed
4. edit the applicable checklist items to make them shop-specific
5. compile the checklist items.

Customized Checklist - For example, using these five steps, a customized checklist for a paint shop is derived as follows:

1. A paint shop has many environmental concerns - emissions from painting activities; proper storage of flammable and combustible liquids; hazardous waste accumulation point requirements; management of the solid waste receptacles at the shop; and discharge of solvents, stripping compounds and paint solids into the storm or sanitary systems. Protocols that apply are Air Emissions Management, Hazardous Materials Management, Hazardous Waste Management, Pollution Prevention Management, Solid Waste Management, and Water Quality Management.
2. Referring to the guidance pages in this supplement and the TEAM Guide, the following sections may apply to the paint shop: in Air Emissions Management, spray painting or surface coating operations (checklist item A.1.3); in Hazardous Materials Management, storage of flammable or combustible liquids (checklist items HM.35.1 through HM.40.3); in Hazardous Waste Management, small quantity generator requirements (checklist items HW.10.1 and HW.10.2, and HW.20.1 through HW.45.5); in Solid Waste Management, management of solid waste receptacles (checklist items SW.10.1 and SW.10.6); in Wastewater Management, discharge to treatment works (checklist items WA.25.1 through WA.25.7). See Table 4 (page lxxvii) for the applicable hazardous waste checklist items.
3. Most of these applicable checklist items can be easily rewritten to specifically address paint shop concerns. Using Hazardous Waste Management as an example, checklist items HW.20.1 through HW.45.5 are edited to delete interviews and inspections not applicable to this shop since it does not have hazardous waste storage tanks and it does not generate restricted wastes.
4. Finally, the edited checklist items are compiled. An example of edited checklist items is shown in Table 5 (see page xci).



WRITING THE ECAMP REPORT

All ECAMP documents prepared prior to the Final Environmental Report are internal working documents until the time that the Final Environmental Report is executed. They will be marked "For Official Use Only" and handled accordingly. The Air Force has determined that their premature release would jeopardize the Air Force's interest in preserving the free flow, analysis, and comment on internal information regarding environmental compliance. Therefore, except as otherwise required by law, ECAMP documents will not be released to the public sector prior to the execution of the Final Environmental Evaluation Report. As a matter of policy, the Final Environmental Evaluation Report will be made available for release to the public, upon request, as soon as it is executed. The formats found in AFI 32-7045 or in ECAMP Policy letter dated 23 June 1994 (see page xli) can be used for the report. If the format suggested by the policy letter is chosen, it can be generated automatically in WIMS-ES.

AFI 32-7045 Report Format

Final assessment reports will consist of five chapters and subheadings for each chapter as follows:

Chapter 1.0 Executive Summary

- 1.1 Background
- 1.2 Summary of Findings

Chapter 2.0 Background and Scope

- 2.1 Background
- 2.2 Scope

Chapter 3.0 Environmental Compliance Status

- 3.1 Air Emissions Management
- 3.2 Hazardous Materials Management
- 3.3 Hazardous Waste Management
- 3.4 Natural/Cultural Resources Management
- 3.5 Environmental Noise Management
- 3.6 Pesticide Management
- 3.7 Petroleum, Oil, and Lubricant (POL) Management
- 3.8 Solid Waste Management
- 3.9 Special Programs Management
- 3.10 Water Quality Management
- 3.11 Pollution Prevention Management

Chapter 4.0 Environmental Practices Issues

- 4.1 Air Emissions Management
- 4.2 Hazardous Materials Management
- 4.3 Hazardous Waste Management
- 4.4 Natural/Cultural Resources Management
- 4.5 Environmental Noise Management
- 4.6 Pesticide Management
- 4.7 Petroleum, Oil, and Lubricant (POL) Management
- 4.8 Solid Waste Management
- 4.9 Special Programs Management
- 4.10 Water Quality Management
- 4.11 Pollution Prevention Management

Chapter 5.0 Management Plan

- 5.1 Corrected Environmental Compliance Findings
- 5.2 Open environmental Compliance Findings
- 5.3 Closed Environmental Practice Issues
- 5.4 Open Environmental Practice Issues

Each chapter of the assessment report should follow the described format:

Chapter 1.0. Executive Summary - The executive summary should contain background information and a summary of findings, as follows:

- 1. Background
 - a. Date and location of the assessment and identification of the assessment team
 - b. Overall assessment purpose.
- 2. Summary of Findings
 - a. Narrative summary of compliance status by section and major environmental issues. To provide balanced tone, consider placing positive comments first, followed by a summary of negative comments, if applicable
 - b. The Environmental Compliance Summary (see Figure 3 for format, page xxxiii)
 - c. The Detailed Environmental Compliance Status (see Figure 4, page xxxiv)
 - d. The Environmental Compliance Status (see Figure 5, page xxxix) which is a summary of findings by violation type.

Chapter 2.0. Background and Scope. The background and scope section is reserved for information needed to make a complete report but which does not fit into the executive summary or compliance findings section.

- 1. Background
 - a. ECAMP Objectives. A statement of the ECAMP objectives as stated in this supplement and individual objectives unique to each specific assessment.
 - b. Installation Description. Describe the major attributes of the installation.
 - c. Environmental Management Structure. Describe in general how the installation's environmental management organization is structured.
- 2. Scope
 - a. Activity Review. Describe the base activities that were inspected (this is the appropriate section for positive statements). Comment on the state and local or host nation regulations that were considered. Identify any permits or licenses (by number and issuing agency) that were reviewed.
 - b. Summary of Evaluation Procedures. A statement that the assessment included a review of documentation, inspection of facilities, interviews of personnel, and that samples were or were not collected.

Figure 3

Environmental Compliance Summary

Compliance Area	Summary			TOTAL
	Sig	Major	Minor	
1. Air Emissions	_____	_____	_____	_____
2. Cultural Resources	_____	_____	_____	_____
3. Hazardous Materials	_____	_____	_____	_____
4. Hazardous Wastes	_____	_____	_____	_____
5. Natural Resources	_____	_____	_____	_____
6. Other Environmental Issues	_____	_____	_____	_____
7. Pesticides	_____	_____	_____	_____
8. POL	_____	_____	_____	_____
9. Solid Waste	_____	_____	_____	_____
10. Storage Tanks	_____	_____	_____	_____
11. Toxic Substances	_____	_____	_____	_____
12. Wastewater	_____	_____	_____	_____
13. Water Quality	_____	_____	_____	_____
TOTAL	_____	_____	_____	_____

Figure 4

Detailed Environmental Compliance Status

Compliance Area	FINDINGS			
	Sig	Major	Minor	TOTAL
Air Emissions				
Fuel Burners	—	—	—	—
Incinerators	—	—	—	—
Volatile Organics	—	—	—	—
Other	—	—	—	—
Ozone Depleting Chemicals	—	—	—	—
Particulates, Bead Blast	—	—	—	—
Air Toxics, Metals	—	—	—	—
General Requirements	—	—	—	—
TOTAL	—	—	—	—
Cultural Resources				
Management Plans	—	—	—	—
Land	—	—	—	—
Facilities/Buildings	—	—	—	—
Historical	—	—	—	—
Native American	—	—	—	—
Others	—	—	—	—
TOTAL	—	—	—	—
Hazardous Materials				
Storage Structures	—	—	—	—
Operations/Management	—	—	—	—
TOTAL	—	—	—	—

Detailed Environmental Compliance Status

Compliance Area	FINDINGS			
	Sig	Major	Minor	TOTAL
Hazardous Waste				
Accumulation Points	___	___	___	___
TSDFs	___	___	___	___
Training	___	___	___	___
Waste Minimization	___	___	___	___
Oil/Water Separators	___	___	___	___
Satellite Accumulation Points	___	___	___	___
Operational Procedures	___	___	___	___
Other	___	___	___	___
TOTAL	___	___	___	___
Natural Resources				
Management Plans	___	___	___	___
Wildlife/Recreation/Forestry	___	___	___	___
Wetlands/Floodplains	___	___	___	___
Land/Agriculture	___	___	___	___
Other	___	___	___	___
TOTAL	___	___	___	___
Other Environmental Issues				
AICUZ	___	___	___	___
Procedures (noise)	___	___	___	___
IRP	___	___	___	___
EIAP	___	___	___	___
A-106	___	___	___	___
ECAMP	___	___	___	___
WIMS-ES	___	___	___	___
Pollution Prev. Mgt. Plans	___	___	___	___

Detailed Environmental Compliance Status

FINDINGS

Compliance Area	Sig	Major	Minor	TOTAL
Other Environmental Issues (cont.)				
ODCs	_____	_____	_____	_____
EPA17	_____	_____	_____	_____
Haz Waste Minimization	_____	_____	_____	_____
Recycling	_____	_____	_____	_____
Affirmative Procurement	_____	_____	_____	_____
Energy Conservation	_____	_____	_____	_____
PP Education and Training	_____	_____	_____	_____
Haz Materials Control	_____	_____	_____	_____
Other	_____	_____	_____	_____
TOTAL	_____	_____	_____	_____
Pesticides Management				
Facilities/Equipment	_____	_____	_____	_____
Operations/Management	_____	_____	_____	_____
Other	_____	_____	_____	_____
TOTAL	_____	_____	_____	_____
POL				
Operations/Management	_____	_____	_____	_____
Drum Storage	_____	_____	_____	_____
Piping Systems	_____	_____	_____	_____
Pipelines	_____	_____	_____	_____
Tank Car	_____	_____	_____	_____
Oil/Water Separators	_____	_____	_____	_____
Other	_____	_____	_____	_____
TOTAL	_____	_____	_____	_____

Detailed Environmental Compliance Status

Compliance Area	FINDINGS			
	Sig	Major	Minor	TOTAL
Solid Waste				
Landfills	---	---	---	---
Receptacles	---	---	---	---
Recycling	---	---	---	---
Medical Waste	---	---	---	---
Regulated Materials	---	---	---	---
Other	---	---	---	---
TOTAL	---	---	---	---
Storage Tank Management				
Aboveground Tanks	---	---	---	---
Underground Storage Tanks	---	---	---	---
Piping Systems	---	---	---	---
Operations and Management	---	---	---	---
Other	---	---	---	---
TOTAL	---	---	---	---
Toxic Substances				
PCB	---	---	---	---
Asbestos	---	---	---	---
Radon Mitigation	---	---	---	---
Lead-Based Paint	---	---	---	---
Other	---	---	---	---
TOTAL	---	---	---	---
Wastewater Management				
Sanitary	---	---	---	---
Industrial	---	---	---	---

Detailed Environmental Compliance Status

FINDINGS

Compliance Area	Sig	Major	Minor	TOTAL
Wastewater Management (cont.)				
Stormwater	---	---	---	---
Nonpoint Source	---	---	---	---
Point Source	---	---	---	---
Facilities/Equipment	---	---	---	---
Oil/Water Separators	---	---	---	---
Operations	---	---	---	---
Other	---	---	---	---
TOTAL	---	---	---	---
Water Quality				
Operations	---	---	---	---
Facilities/Equipment	---	---	---	---
Drinking Water	---	---	---	---
Public Water Systems	---	---	---	---
Community Water Systems	---	---	---	---
Noncommunity Water Systems	---	---	---	---
Transient	---	---	---	---
Sole Source Aquifer	---	---	---	---
Wells	---	---	---	---
Other	---	---	---	---
TOTAL	---	---	---	---
TOTAL FINDINGS	---	---	---	---

Figure 5

Environmental Compliance Status

	Findings			
Totals Identified	Sig	Major	Minor	TOTAL
Administrative	—	—	—	—
Potential Discharge	—	—	—	—
Discharge	—	—	—	—
TOTAL FINDINGS	—	—	—	—

Chapter 3.0. Environmental Compliance Status. The regulatory compliance section of the report should contain a separate subsection for each assessed checklist. The information presented in Figure 5 pertains to each compliance section. Each compliance finding may consist of two parts: a findings paragraph and a separate observations and comments paragraph as follows:

1. Findings. Findings may be positive or negative. Positive findings (descriptions of exemplary activities and procedures) should be stated concisely. Negative findings will be limited to noncompliance issues involving Federal, state, local, DOD, host nation, or Air Force regulations and should briefly summarize the permit conditions or other restrictions, note the deficiency, and cite the specific regulation (be specific). Where applicable, describe the total sample universe, the number of items sampled, and how many were out of compliance:
 - a. Ensure each negative finding is clearly identified as regulatory, host country, or procedural.
 - b. Negative findings that were closed since the last ECAMP and have occurred again must be identified as repeat findings.
 - c. Negative findings that remain open since the last external ECAMP must be identified as carryover findings.
 - d. Ensure each finding paragraph is concise, factual (conditions clearly in noncompliance with criteria), and free of the assessor's opinions and recommendations. If there is uncertainty over the regulations that apply, their meaning, or the actual conditions on the installation, place such comments in the Environmental Practice Issues Section of the report.
 - d. Negative findings will be separately labelled and numbered. All negative findings will include finding identification codes for summarizing ECAMP results. See the explanation of how to fill out the findings summary for a listing of codes.
2. Observations and Comments on Compliance Findings. Since the finding paragraphs are reserved for strictly factual compliance criteria and conditions, all comments and recommendations on a compliance finding will be placed in a separate comments paragraph immediately following the finding. No new findings will be introduced in the comments paragraphs. Information in the comments paragraphs may include background information on a finding if necessary, statements on causes and effects, and a recommendation to correct the deficiency. Assessment teams are under no obligation to make recommendations. Where recommendations are made, they should be aimed at resolving root causes. Often, the onsite portion of the assessment does not permit time to identify root causes. Recommendations made under these conditions usually address symptoms rather than providing permanent solutions.

Chapter 4.0. Environmental Practice Issues. The assessment team may include recommendations for reducing environmental risks and improving environmental management practices as well as suggesting areas requiring additional study. Recommendations placed in this chapter are not based on environmental regulations and do not involve noncompliance. Instead, they are management practices that will help keep an installation in compliance. Items appropriate for this chapter include:

1. environmental risk reduction issues not associated with noncompliance
2. potential noncompliance based on final regulations with a future compliance deadline
3. management practice recommendations based on items in the ECAMP checklist
4. other management practice recommendations.

Chapter 5.0. Management Action Plan. The management action plan states how each compliance finding was resolved or contains the installation's EPC's plan for resolving the compliance finding. The Management Action Plan also states how each environmental practice issue is being addressed. Since environmental practice issues do not involve noncompliance, they should be carefully reviewed by the installation EPC, but may be closed without action. After the installation approves the Management Action Plan, it should be included in the Draft Final Environmental Assessment Report as Chapter 5. The Management Action Plan tracks each compliance finding or environmental issue.

23 Jun 1994 Policy Letter Report Format

Final assessment reports will consist of three sections and subheadings for each section as follows:

Section 1.0 Executive Summary

- 1.1 Evaluation Purpose
- 1.2 Team Members
- 1.3 Definitions
- 1.4 Summary of Findings
- 1.5 Summary and Status Tables

Section 2.0 Findings

Section 3.0 Abbreviations and Acronyms

Each section of the assessment report should follow the described format:

Section 1.0. Executive Summary - The executive summary should contain background information and a summary of findings, as follows:

- 1. Evaluation Purpose
 - a. Date and location of the assessment
 - b. Overall assessment purpose.
- 2. Team Members
 - a. A list of the Team members.
- 3. Definitions
 - a. Definitions of the terms Significant, Major, and Minor.
- 4. Summary of Findings
 - a. Narrative summary of compliance status by section and major environmental issues. To provide balanced tone, consider placing positive comments first, followed by a summary of negative comments, if applicable
- 5. Summary and Status Tables
 - a. The Environmental Compliance Summary (see Figure 3 for format, page xxxiii).
 - b. The Detailed Environmental Compliance Status (see Figure 4, page xxxiv)
 - c. The Environmental Compliance Status (see Figure 5, page xxxix) which is a summary of findings by violation type.

Section 2 2.0. Findings.

- a. Assessment findings and management action plan organized according to Protocol chapter

Section 3.0. Abbreviations and Acronyms.

- a. List of abbreviations and acronyms used in the report



Glossary of Acronyms

ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ACMI	air combat maneuvering instrumentation
AF	Air Force
AFBCA	Air Force Base Conversion Agency
AFCEE	Air Force Centers for Environmental Excellence
AFCESA	Air Force Civil Engineering Support Agency
AFI	Air Force Instruction
AFIT	Air Force Institute of Technology
AFM	Air Force Manual
AFO	Accounting and Finance Office
AFP	Air Force Pamphlet
AFPD	Air Force Policy Directive
AFR	Air Force Regulation
AFTO	Air Force Technical Order
AGE	aerospace ground equipment
AHERA	<i>Asbestos Hazard Emergency Response Act</i>
AICUZ	Air Installation Compatible Use Zone Program
ANSI	American National Standards Institute
AQCR	Air Quality Control Regions
ARPA	<i>Archeological Resources Protection Act</i>
ASME	American Society of Mechanical Engineers
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
AU	Animal Unit
BACT	best available control technology
BASH	bird aircraft strike hazard
BAT	best available technology
BCE	Base Civil Engineer
BCP	Base Comprehensive Plan
BDPO	Base Disaster Preparedness Officer

BEE	Bioenvironmental Engineer
BES	Base Environmental Services
BFMO	Base Fuels Management Officer
BOD	biochemical oxygen demand
BPAT	best practically available treatment
BRAC	Base Realignment and Closure
Btu	British thermal units
C	compliance
CAA	<i>Clean Air Act</i>
CAS	chemical abstract service
CATEX	categorical exclusion
CDC	Child Development Centers
CECORS	Civil Engineer Contract Reporting System
CEQ	Council on Environmental Quality
CERCLA	<i>Comprehensive Environmental Response Compensation & Liability Act</i>
CESQG	conditionally exempt small quantity generator
CFC	chlorofluorocarbons
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
CLC	corrected lead concentration
CPSC	Consumer Product Safety Council
CRMP	Cultural Resources Management Plan
CSO	combined sewer overflow
CW	Civil Works
CWA	<i>Clean Water Act</i>
DCM	Deputy Commander for Maintenance
DERA	Defense Environmental Restoration Account
DFR	Defense Fuel Region
DFSC	Defense Fuel Supply Center
DLA	Defense Logistics Agency
DMR	Discharge Monitoring Report
DNL	day night average sound level

DOD	Department of Defense
DODD	DOD Directive
DODM	DOD Manual
DODR	DOD Regulation
DOE	Department of Energy
DOI	Department of the Interior
DOPPA	description of the proposed action and alternatives
DOT	Department of Transportation
DRMO	Defense Reutilization and Marketing Organization
DRMS	Defense Reutilization and Marketing Service
EA	environmental assessment
EBS	Environmental Baseline Survey
EC	Environmental Coordinator
ECAMP	Environmental Compliance Assessment and Management Program
ECD	estimated compliance date
EHO	Environmental Health Officer
EHS	extremely hazardous substance
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EMO	Environmental Management Office
EO	Executive Order
EOD	explosive ordnance
EPC	Environmental Protection Committee
EPCRA	<i>Emergency Planning & Community Right-to-Know Act</i>
EPF	environmental planning functions
FAA	Federal Aviation Administration
FIFRA	<i>Federal Insecticide, Fungicide, and Rodenticide Act</i>
FOF	finding of fact
FONPA	finding of no practicable alternative
FONSI	finding of no significant impact
FOTW	Federally owned treatment works
FPO	Federal Preservation Officer

FS	feasibility study
FWS	Fish and Wildlife Service
GIS	Geographic Information System
GOCO	government owned, contractor operated
GSA	General Services Administration
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCFC	hydrogenated chlorofluorocarbons
HHF	health hazard flag
HSWA	Hazardous and Solid Waste Amendment
HUD	Housing and Urbana Development (and Interim Guidelines)
IARC	International Agency for Research on Cancer Monographs
IEX	issue exception code
IG	Inspector General
INRMP	Integrated Natural Resources Management Plan
IRP	Installation Restoration Program
ISCP	Installation Spill Contingency Plan
ISS	Interim Status Standards
ITP	industrial toxics project
JA	judge advocate
LAER	lowest achievable emission rate
LBP	lead-based paint
LCCA	<i>Lead Contamination Control Act</i>
LD	lethal dose
LDR	land disposal restriction
LEPC	Local Environmental Protection Committee
LFM	liquid fuels maintenance
LGS	logistics
LPG	liquefied petroleum gas
LTI	lead toxicity investigation
MAJCOM	Major Command
MAP	Management Action Plan
MBtu	million British thermal units

MCL	maximum contaminant level
MFH	military family housing
MIPR	military interdepartmental purchase request
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MP	management practice
MPH	military public health
MSD	marine sanitation device
MSDS	material safety data sheets
MSWLF	municipal solid waste landfill
MTR	military training route
MWR	morale, welfare, and recreation
N/A	not applicable
NAA	nonattainment areas
NAAQS	National Ambient Air Quality Standards
NACE	National Association of Corrosion Engineers
NEPA	<i>National Environmental Policy Act</i>
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NHPA	<i>National Historic Preservation Act</i>
NIOSH	National Institute of Occupational Safety and Health
NOI	notice of intent (to file an EIS)
NOV	notice of violation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NPS	National Park Service
NRC	National Response Center
NSPS	New Source Performance Standards
NTP	National Toxicology Program
O&M	Operations and Management
ODC	ozone depleting chemical
OHSPC	Oil and Hazardous Substance Pollution Contingency (Plan)

OMB	Office of Management and Budget
OPR	Office of Primary Responsibility
ORV	off-road vehicle
OSHA	<i>Occupational Safety and Health Act</i>
PAO	Public Affairs Officer
PCB	polychlorinated biphenyl
PCMS	Project by Contract Management System
PDC	programming design and construction
PE	programs and evaluation
PL	Public Law
POC	point of contact
POL	petroleum, oil, and lubricant
POTW	publicly owned treatment works
PPE	personal protective equipment
PPMP	Pollution Prevention Management Plan
PSD	prevention of significant deterioration
PVC	polyvinyl chloride
QAE	Quality Assurance Evaluator
QRP	Qualifying Recycling Program
QC&I	Quality Control and Inspection
RAC	risk assessment code
RACT	reasonably available control technology
RAMP	Radon Assessment and Mitigation Program
RCRA	<i>Resource Conservation and Recovery Act</i>
RCS	report control symbol
RI	remedial investigation
RMA	requires management action
ROD	record of decision
RPM	Remedial Project Manager
RQ	reportable quantity
RVP	Reid vapor pressure
SAF	Secretary of the Air Force

SARA	<i>Superfund Amendments and Reauthorization Act</i>
SDWA	<i>Safe Drinking Water Act</i>
SEL	substrate equivalent lead
SGOT	serum glutamic oxaloacetic transaminase
SGPT	serum glutamic pyruvic transaminase
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SOI	Secretary of the Interior
SOP	Standard operating procedure
SPCC	Spill Prevention Control and Countermeasure (Plan)
SPDES	State Pollution Discharge Elimination System
SPR	Spill Prevention and Response (plan)
SQG	small quantity generator
SWDA	<i>Solid Waste Disposal Act</i>
TDY	temporary duty
TEAM	The Environmental Assessment and Management (Guide)
THM	trihalomethane
TIM	Technical Information Memorandum
TM	Technical Manual
TPQ	threshold planning quantity
TSCA	<i>Toxic Substances Control Act</i>
TSDf	treatment, storage, and disposal facility
TSS	total suspended solids
TU	Turbidity Unit
UIC	Underground Injection Control
UL	Underwriters Laboratory
ULV	ultra low volume
UPC	Uniform Plumbing Code
USACE	United States Army Corps of Engineers
USACERL	Construction Engineering Research Laboratories
USAF	United States Air Force
USC	U.S. Code

USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound
WIMS-ES	Working Information Management System - Environmental Subsystem
WQA	<i>Water Quality Act</i>
XRF	x-ray fluorescence

Commonly Used Abbreviations

bbl	barrel	mg	microgram
C	Celsius	mm	micrometer
cm	centimeter	min	minute
cm ²	square centimeter	MJ	Megajoule
F	Fahrenheit	mo	month
ft	foot	mm	millimeter
ft ²	square feet	mrem	millirem
ft ³	cubic feet	MW	Megawatt
g	gram	ng	nanogram
		NM	nautical miles
gal	gallon	NTU	nephelometric turbidity unit
gJ	gigajoule	oz	ounce
h	hour	pCi	picoCurie
hp	horsepower	ppm	part per million
in.	inch	psi	pound per square inch
J	Joule	psia	pounds per square inch absolute
kg	kilogram	psig	pounds per square inch gauge
km	kilometer	s	second
kPa	kilopascals	scf	standard cubic foot
L	Liter	scm	standard cubic meter
lb	pound	V	volt
m	meter	yd	yard
m ³	cubic meter	yd ²	square yard
mg	milligram	yr	year
mi	mile		

Chemicals

CO	carbon monoxide	NO ₂	nitrogen dioxide
CO ₂	carbon dioxide	NO _x	nitrogen oxides
Hg	mercury	SO ₂	sulfur dioxide



Table 1 (continued)

Table 1: Sample Previsit Environmental Management Questionnaire		OPR	DATE		
ITEM		YES	NO	N/A	
8. Does the installation have a:					
a. Spray painting operation?		—	—		—
b. Surface coating operation?		—	—		—
Attach list of locations if answered yes to either.					
9. Have installation emissions resulted in complaints from the public due to:					
a. Odors?		—	—		—
b. Fugitive dusts?		—	—		—
c. Other? _____		—	—		—
10. Does the installation use air pollution control equipment?		—	—		—
If yes, please list and explain:					

11. Does installation operate a motor vehicle station?		—	—		—
12. Does the installation dispense fuel to motor vehicles?		—	—		—
13. List each fuel storage area and the fuel type.					
Fuel type	Quantity	Fuel type	Quantity		
_____	_____	_____	_____		
_____	_____	_____	_____		
14. Does the installation have active aircraft operations?		—	—		—
15. Does the installation have active aircraft maintenance operations?		—	—		—
16. Does the installation have aerospace ground equipment (AGE) operations?		—	—		—
17. Does the installation recycle/reclaim CFCs or Halons? Where?		—	—		—
18. Please list any additional shop activities that generate any form of air pollution:					

(continued)

Table 1 (continued)

Table 1: Sample Previsit Environmental Management Questionnaire		OPR	DATE	
ITEM		YES	NO	N/A
Cultural Resources Management				
1. Does the installation have a plan in place for managing the preservation of Native American and Hawaiian human remains and cultural artifacts?		—	—	—
2. Does the installation have an area which is designated as any of the following? (If so, please have maps indicating locations available for team on arrival):				
a. Cultural resource?		—	—	—
b. Archaeological resource?		—	—	—
c. Historic structure?		—	—	—
Hazardous Materials Management				
1. Does the installation store any flammable materials?		—	—	—
2. Does the installation transport any hazardous materials off-installation?		—	—	—
3. Does the installation have a procedure to ensure the proper labeling, packaging, and spill response for hazardous materials?		—	—	—
4. Does the installation store:				
a. Acids?		—	—	—
b. Caustics?		—	—	—
c. Flammables?		—	—	—
d. Combustibles?		—	—	—
e. Compressed gases?		—	—	—
f. Oxidizers?		—	—	—
Hazardous Waste Management				
1. Does the installation produce any wastes classified as:				
a. Ignitable?		—	—	—
b. Corrosive?		—	—	—
c. Reactive?		—	—	—
d. Toxic?		—	—	—
2. Which of the following classifications does the installation fall under?				
Conditionally Exempt Small Quantity Generator (generates less than 100 kg/mo)				
Small Quantity Generator (generates 100-1000 kg/mo)				

(continued)

Table 1 (continued)

Table 1: Sample Previsit Environmental Management Questionnaire	OPR		DATE	
	ITEM	YES	NO	N/A
2. Which of the following classifications does the installation fall under?				
Conditionally Exempt Small Quantity Generator (generates less than 100 kg/mo)				
Small Quantity Generator (generates 100 - 1000 kg /mo)				
Generator (generates more than 1000 kg/mo)				
3. Does the installation operate a TSDF onsite?				
Permitted?_____				
Unpermitted?_____				
4. Does the installation treat or dispose of hazardous wastes onsite?				
If so, please specify waste type and treatment method:				

5. Does the installation accept wastes from other installations for treatment, storage, or disposal?				
6. Does the installation engage in the transportation of hazardous wastes:				
a. Onbase?				
b. Off base?				
c. Central transport (transportation squadron)?				
d. Individual unit transport?				
7. Does the installation have a hazardous waste management (contingency) plan?				
8. Does the installation have a spill, prevention, and response (contingency) plan?				
9. Does the installation utilize other locations for the treatment, storage, or disposal of hazardous waste?				
Please specify:				

10. Does the installation use any nonhazardous solid waste (including used oil) as a supplemental fuel source?				
11. Does the installation have a contractor dispose of its hazardous waste?				
Which office monitors this contract?				

(continued)

Table 1 (continued)

Table 1: Sample Previsit Environmental Management Questionnaire	OPR		DATE	
ITEM	YES	NO	N/A	
Natural Resources Management				
1. Does the installation have an area designated as a natural resource, including highly protected and more generally protected?	—	—	—	
2. Does the installation have a plan for managing its natural resources?	—	—	—	
3. Are there any areas on the installation which have any of the following? (If so, please have maps indicating locations available for team on arrival.):				
a. Wetlands?	—	—	—	
b. Floodplains?	—	—	—	
c. Federally listed endangered or threatened species?	—	—	—	
Other Environmental Issues				
Environmental Impact Analysis Process (EIAP)				
1. Does the base civil engineering office perform Environmental Planning functions?	—	—	—	
2. Do they maintain copies of AF Form 813, <i>Request for Environmental Analysis</i> ?	—	—	—	
3. Does the Environmental Protection Committee review, and approve or disapprove environmental documents during the EIAP?	—	—	—	
Environmental Noise				
4. Does the installation have an active runway?	—	—	—	
5. Does the installation have any operations or maneuvers that produce environmental noise (i.e., target ranges, skeet range, helicopter pad)?	—	—	—	
Installation Restoration Program				
6. Is the installation currently on the National Priority List (NPL)?	—	—	—	
7. Does the installation currently have any designated IRP sites?	—	—	—	
8. If IRP sites are present, does the installation maintain documentation of all interim and final remedial actions or decisions in the IRP program?	—	—	—	
Location of documents				
<hr/>				
9. For installations with IRP sites, does the installation maintain the Administrative Record which details the physical situation at the installation?	—	—	—	
a. Is the location of the Record easily accessible to the public?	—	—	—	

(continued)

Table 1 (continued)

Table 1: Sample Previsit Environmental Management Questionnaire	OPR	DATE			
ITEM	YES	NO	N/A		
b. Does the installation periodically advertize location of Records and Procedures for assessments?	—	—	—		
Pollution Prevention Management					
10. Has the installation developed a pollution prevention management plan?	—	—	—		
11. Are hazardous materials for the installation purchased centrally?	—	—	—		
12. Does the installation purchase recycled products? If yes, what?	—	—	—		

Program Management					
13. Does the installation include all environmental projects listed in the Civil Engineering Contract Reporting System (CECORS) in the A-106 report?	—	—	—		
14. Does the installation have a single Point of Contact (POC) for the A-106 Pollution Abatement Plan?	—	—	—		
15. Who is responsible for the quality and dating of the automated A-106 (WIMS-ES)?					

16. Does the installation have a mechanism in place to ensure that the automated A-106 accurately reflects the project and requirement data maintained in other databases (CECORS, Programming Design and Construction (PDC), etc.)?	—	—	—		
17. Does the installation accurately reflect financial data (obligations, expenditures) in the A-106 systems?	—	—	—		
Pesticide Management					
1. Does the installation use pesticides in regulated quantities?	—	—	—		
2. Do installation personnel apply pesticides?	—	—	—		
3. Does the installation hire contractors to apply pesticides?	—	—	—		
4. Are pesticide wastes disposed of at the installation?	—	—	—		
5. Are pesticides stored on the installation?	—	—	—		
Please list locations:					

(continued)

Table 1 (continued)

Table 1: Sample Previsit Environmental Management Questionnaire	OPR		DATE	
ITEM	YES	NO	N/A	
6. Are medical records kept for individuals involved in the management of pesticides?	—	—	—	
7. Where are pesticides prepared at the installation? _____				
Petroleum, Oil, and Lubricant (POL)				
1. Does the installation have a motor pool?	—	—	—	
a. How many? _____				
b. Locations _____				
2. Does the installation store oil in large volumes?	—	—	—	
3. Does the installation have a spill prevention and response plan?	—	—	—	
4. Does the installation's spill plan include provisions pertaining to hazardous substances or hazardous wastes?	—	—	—	
5. Does the installation conduct spill response training?	—	—	—	
6. Does the installation use fuel bladders during field exercises?	—	—	—	
7. Does the installation have any oil/water separators? (Please have a map available for the team showing locations.)	—	—	—	
8. Does the installation use a hydrant system for aircraft fueling?	—	—	—	
9. Does the installation use fuel trucks for aircraft fueling?	—	—	—	
Solid Waste Management				
1. Does the installation have a solid waste management facility onsite?	—	—	—	
2. Does the installation have a:				
a. Resource Recovery Facility (DRMO) on the installation?	—	—	—	
b. Resource Recovery Facility (DRMO) off the installation?	—	—	—	
c. Sanitary Landfill?	—	—	—	
d. Construction Debris Landfill?	—	—	—	
e. Municipal Solid Waste Landfill?	—	—	—	
f. Solid waste incinerator?	—	—	—	
g. Solid waste recycling program?	—	—	—	
3. Does the installation have any unofficial landfill sites that are no longer in use?	—	—	—	

(continued)

Table 1 (continued)

Table 1: Sample Previsit Environmental Management Questionnaire	OPR DATE		
ITEM	YES	NO	N/A
4. Is waste transported off-installation for disposal:			
a. In landfills?	—	—	—
b. In incinerators?	—	—	—
c. Others (specify): _____	—	—	—
5. Does the installation dispose of ash residues or sludge:			
a. Onbase?	—	—	—
b. Offbase?	—	—	—
6. Is the installation monitored for:			
a. Leachate?	—	—	—
b. Groundwater?	—	—	—
7. Does the installation currently dispose of, or has it been used for the disposal of asbestos?	—	—	—
8. Does the installation generate pathological wastes?	—	—	—
9. Does the installation dispose of pathological wastes on base by incineration?	—	—	—
Storage Tank Management			
1. Does the installation have an aircraft fuel storage area?	—	—	—
If yes, do storage tanks have properly sized and constructed containment dikes equipped with drains?	—	—	—
2. Does the installation have an AAFES-run or other type of gas station located on the base?	—	—	—
If yes, how many USTs are located at the gas station and what size are they?			

3. Does the base have any other USTs used to store petroleum products or hazardous materials?	—	—	—
If yes, where are they located, how many are there, and what size are they?			

4. Does the installation have any USTs used for storing heating fuel located at individual buildings?	—	—	—
If yes, how many USTs are located at the gas station and what size are they?			

(continued)

Table 1 (continued)

Table 1: Sample Previsit Environmental Management Questionnaire		OPR	DATE	
ITEM		YES	NO	N/A
5. Does the installation have any underground tanks out of service?		—	—	—
If yes, provide locations.				

6. Does the installation have any storage tanks containing hazardous waste?		—	—	—
7. Does the installation have any storage tanks for used oil?		—	—	—
Toxic Substances Management				
PCBs				
1. Are PCB (polychlorinated biphenyl) or PCB-contaminated fluids in use or stored on the installation:				
a. Transformers?		—	—	—
b. Capacitors?		—	—	—
c. Switch gear?		—	—	—
d. Circuit Breakers?		—	—	—
e. Other? _____		—	—	—
2. Are there any PCB items in storage for disposal?		—	—	—
Item	Concentration			
_____	_____			
_____	_____			
_____	_____			
_____	_____			
3. Does installation dispose of PCBs or PCB-contaminated equipment on or offbase?		—	—	—
Asbestos				
4. Does the installation have Air Force-owned primary or secondary schools?		—	—	—
5. Has the installation conducted a complete base-wide asbestos facility survey?		—	—	—
6. Does the installation have a written Asbestos Management Plan?		—	—	—
7. Does the installation have a written Asbestos Operating Plan?		—	—	—
8. Does the installation operate an in-house asbestos removal team?		—	—	—

(continued)

Table 1 (continued)

Table 1: Sample Previsit Environmental Management Questionnaire	OPR		DATE		
ITEM	YES	NO	N/A		
9. Has the installation undergone any asbestos removal projects in the past?	—	—	—		
10. Is there any asbestos on the installation that has been removed and is awaiting disposal at this time?	—	—	—		
11. Will the installation have any demolition, remodeling or renovation projects underway at the time of the ECAMP assessment?	—	—	—		
Please identify those projects and buildings:					

12. Does the installation maintain training records for asbestos workers?	—	—	—		
Location of records					

13. Does the installation dispose of asbestos on the installation?	—	—	—		
Radon					
14. Is the installation located in a geographic area where high levels of radon are typically found?	—	—	—		
15. Has the installation been monitored for radon?	—	—	—		
Location of records					

Wastewater Management					
1. Does the installation have any discharges of the following:					
a. Stormwater runoff from operational or storage area?	—	—	—		
b. Stormwater runoff from undeveloped area?	—	—	—		
c. Dredge and fill solids drainage water?	—	—	—		
d. Wastewater treatment installation effluent?	—	—	—		
e. Process wastewater?	—	—	—		
f. Heat or Power production cooling water?	—	—	—		
g. Other? _____	—	—	—		

(continued)

Table 1 (continued)

Table 1: Sample Previsit Environmental Management Questionnaire	OPR	DATE		
ITEM	YES	NO	N/A	
2. Does the installation discharge into a publicly owned treatment works (POTW)?	—	—	—	
If yes, please specify types of discharge: (i.e., process wastewater, sanitary wastewater, etc.)				

3. Does the installation make use of an onsite wastewater treatment system prior to effluent discharge?	—	—	—	
4. Does the installation conduct any effluent monitoring?	—	—	—	
5. Are monitoring samples analyzed by:				
a. Installation personnel?	—	—	—	
b. Offsite contractor?	—	—	—	
6. Does the installation have a separate storm water runoff system?	—	—	—	
7. Does the installation have vehicle/aircraft washracks (or other designated vehicle/aircraft wash areas)?	—	—	—	
Water Quality				
1. Does installation operate a public water system?	—	—	—	
2. Does the installation operate a community water system?	—	—	—	
3. Does the installation operate a noncommunity water system?	—	—	—	
4. Does the installation operate a nontransient, noncommunity water system?	—	—	—	
5. Does any portion of the installation's drinking water supply come from onsite wells or surface water sources?	—	—	—	
6. Does the installation monitor onsite drinking water sources?	—	—	—	
7. Does the installation provide filtration of its drinking water?	—	—	—	
If yes, what type of treatment? _____				

(continued)

Table 1 (continued)

Table 1: Sample Previsit Environmental Management Questionnaire	OPR	DATE			
ITEM	YES	NO	N/A		

General Information

- | | | | | | |
|--|---|---|---|--|--|
| 1. Does the installation contain water protection areas? | — | — | — | | |
| 2. Is the installation suspected of contributing to a groundwater contamination problem? | — | — | — | | |

(continued)



Table 1 (continued)

ATTENTION: The following records should be available for review by the assessment team either prior to the assessment or immediately upon arrival at the installation.

(NOTE: Not all installations will have, or are even required to have, all of the following documents.)

General

1. Detailed maps of the installation indicating street names and building numbers. Enough for one for every member of the assessment team.
2. A phone list.
3. Copies of Enforcement Actions issued to the installation in any of these areas.

Air Emissions Management

1. Air emissions inventory.
2. All air related permits.
3. A list of steam generating units and boilers and their size, fuel used, and locations.

Cultural Resources Management

1. Any cultural or archaeological resources surveys.
2. Management plans for cultural and archaeological resources.
3. A list of properties nominated for the National Register.

Hazardous Materials Management.

1. A list of hazardous material storage/use areas.
2. A waste minimization plan.
3. MSDSs.
4. Documentation of personnel training.
5. The OHSPC plan.
6. A copy of any reports of spills.
7. Copies of the Tier I or Tier II reports.
8. Documentation on contaminated sites.

Hazardous Waste Management

1. The Hazardous Waste Management Plan.
2. A list of hazardous wastes generated at the installation.
3. A list of waste generation/storage areas.
4. USEPA identification number.
5. Manifests.
6. Any permits.
7. The biennial report.
8. Personnel training records.

(continued)

Table 1 (continued)

Natural Resources Management

1. The endangered species survey.
2. The Natural Resources Management Plan.
3. Any land management plans.
4. Recent EAs, EISs, FONSI, or NOIs.

Other Environmental Issues

1. Current EAs, FONSI, and EISs.
2. The AICUZ Study.
3. Noise complaints.
4. Pollution Prevention Management Plan.
5. Purchase orders for recycled materials.
6. CFC Halon purchase request.
7. The A-106.

Pesticide Management

1. The Pesticide Management Plan.
2. A list of pesticide storage sites.
3. Application records.
4. MSDSs for pesticides.
5. Personnel certifications for applicators.
6. Contracts for pesticide application.

POL Management

1. The SPCC plan.
2. A list of POL storage areas.
3. Upgrading and/or closure plans.

Solid Waste Management

1. Any contracts with waste haulers.
2. Any recycling plans.
3. All documentation pertaining to landfill operation or closure.
4. Records on groundwater sampling resulting from monitoring wells.

Storage Tank Management

1. A list of all USTs/ASTs and their locations.
2. Release detection documentation.
3. UST integrity test results.
4. Site contamination reports after tank removals.

Toxic Substances Management

1. The PCB inventory.
2. The PCB annual report.
3. The results of the asbestos survey.
4. The Asbestos Management Plan.
5. Radon survey results.
6. Lead Based Paint survey.

Wastewater Management

1. All NPDES/SPDES permits.
2. Maps of the storm, sanitary, and industrial sewers.
3. A copy of pretreatment standards imposed on the installation.
4. A list of maintenance shops/operations to include wash facilities.
5. Locations of holding ponds, sedimentation pits, and open/end-of-pipe discharge points.

Water Quality Management

1. Copies of drinking water test results.
2. Copies of reports to the state.
3. Backflow devices inventory.



Table 2				
Major Activities/Operations	Sections			
	Air Emissions Management 1	Cultural Resources Management 2	Hazardous Materials Management 3	Hazardous Waste Management 4
1. Incinerators	•			•
2. Heat/Power Production	•			•
3. AGE Operation	•		•	•
4. Aircraft Operations	•		•	
5. Aircraft Maintenance	•		•	•
6. Fuel Storage	•		•	
7. Surface Casting Operations	•			•
8. Sanitary Wastewater				•
9. Stormwater Runoff			•	
10. Sludge Disposal	•			
11. POL Dispensing	•		•	
12. Wastewater Treatment			•	•
13. Vehicle Maintenance	•		•	•
14. Shop Activities	•		•	•
15. Solid Waste Generation				
16. Water Supply			•	
17. Toxic/hazardous Materials Use			•	•
18. Firefighting Training	•			
19. PCB Electrical Equipment				
20. Pesticide/Herbicide Use			•	
21. Environmental Noise				
22. Emergency Planning			•	
23. Asbestos Removal				
24. Underground Storage Tanks			•	
25. Remodeling Activities		•	•	•
26. Construction Activities	•	•	•	
27. Soil Removal		•		

Table 2

Major Activities/Operations	Sections				
	Natural Resources Management	Other Environmental Issues	Pesticide Management	POL Management	Solid Waste Management
	5	6	7	8	9
1. Incinerators					•
2. Heat/Power Production				•	•
3. AGE Operation				•	
4. Aircraft Operations		•		•	
5. Aircraft Maintenance				•	
6. Fuel Storage				•	
7. Surface Casting Operations					
8. Sanitary Wastewater					
9. Stormwater Runoff	•		•		
10. Sludge Disposal					
11. POL Dispensing				•	
12. Wastewater Treatment			•		
13. Vehicle Maintenance				•	
14. Shop Activities			•	•	•
15. Solid Waste Generation					•
16. Water Supply					
17. Toxic/hazardous Materials Use		•	•		
18. Firefighting Training	•			•	
19. PCB Electrical Equipment		•			
20. Pesticide/Herbicide Use		•	•		
21. Environmental Noise		•			
22. Emergency Planning			•	•	
23. Asbestos Removal					
24. Underground Storage Tanks					
25. Remodeling Activities	•	•			
26. Construction Activities	•	•			
27. Soil Removal	•				

Table 2				
Major Activities/Operations	Storage Tank Management 10	Toxic Substances Management 11	Wastewater Management 12	Water Quality Management 13
1. Incinerators				
2. Heat/Power Production	•	•	•	•
3. AGE Operation	•		•	•
4. Aircraft Operations				•
5. Aircraft Maintenance	•		•	•
6. Fuel Storage	•			
7. Surface Casting Operations	•		•	•
8. Sanitary Wastewater	•		•	
9. Stormwater Runoff			•	
10. Sludge Disposal			•	
11. POL Dispensing	•			
12. Wastewater Treatment	•		•	
13. Vehicle Maintenance	•		•	
14. Shop Activities	•	•	•	•
15. Solid Waste Generation				
16. Water Supply			•	•
17. Toxic/hazardous Materials Use	•	•	•	
18. Firefighting Training			•	
19. PCB Electrical Equipment		•		
20. Pesticide/Herbicide Use			•	
21. Environmental Noise				
22. Emergency Planning	•			
23. Asbestos Removal		•		
24. Underground Storage Tanks	•			
25. Remodeling Activities	•	•		
26. Construction Activities		•	•	
27. Soil Removal				



**Table 4
HAZARDOUS WASTE MANAGEMENT
U.S. TEAM GUIDE**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SMALL QUANTITY GENERATORS (SQGs)</p> <p>HW.20 General</p> <p>HW.20.1. Generators of more than 100 kg [220.46 lb] but less than 1000 kg [2204.62 lb] of hazardous waste per month may qualify as an SQG that can accumulate hazardous waste onsite for 180 days without a permit if specific conditions are met (40 CFR 262.34 (d)(1), 262.34(d)(4), 262.34(e), and 262.34(f)).</p> <p>HW.20.2. SQGs that generate, transport, or handle hazardous wastes must obtain an USEPA identification number (40 CFR 262.12(a), 262.1 (b), and 265.11).</p>	<p>Inspect containers, storage, and records.</p> <p>Verify that no more than 1000 kg [2204.62 lb] of hazardous waste is generated in any month.</p> <p>Verify that the onsite accumulation time does not exceed 180 days.</p> <p>(NOTE: For an SQG, the accumulation start date begins when the first waste is poured/placed into the waste container, except for at satellite accumulation points.)</p> <p>(NOTE: The 180-day time period is extended to 270 days if the waste must be transported more than 200 mi to a TSDF. This extension does not apply if a TSDF is available within 200 mi and the installation/CW facility chooses to transport the waste to a farther away TSDF.)</p> <p>Verify that no more than 6000 kg [13,227.73 lb] is allowed to accumulate at the installation/CW facility.</p> <p>Verify that containers are marked with the date accumulation began and the words HAZARDOUS WASTE.</p> <p>Verify that the containers and the areas at which containers are stored meet the requirements outlined in the subsections pertaining to SQGs.</p> <p>(NOTE: When an SQG exceeds the quantity generation or amount accumulation, it becomes subject to either Generator or TSDF requirements. When an SQG exceeds the storage time limitation, the SQG becomes subject to all storage facility and permitting requirements.)</p> <p>Examine documentation from USEPA for the installation/CW facility's generator identification number.</p> <p>Verify that, correct identification number is used on all appropriate documentation (i.e., manifests).</p>

**Table 4
HAZARDOUS WASTE MANAGEMENT
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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>HW.20.3. An SQG must not offer its hazardous waste to transporters or to TSDFs that have not received an USEPA identification number (40 CFR 262.12(c)).</p>	<p>Verify that all transporters of hazardous waste of TSDFs have an USEPA identification number by examining records pertaining to disposal contract awards.</p>
<p>HW.20.4. SQGs of hazardous waste are required to use manifests and keep records of hazardous waste activity (40 CFR 262.20, 262.40(a), 262.40(c), 262.40(d), 262.42(b), 262.43, and 262.44).</p>	<p>Verify that signed copies of returned manifests are kept for 3 yr.</p> <p>Verify that exception reports were submitted to the USEPA regional administrator when a signed manifest copy was not received within 60 days of the waste being accepted by the initial transporter.</p> <p>Verify that exception reports are kept for at least 3 yr.</p> <p>Verify that records of test results, waste analyses, and determinations are kept for 3 yr.</p> <p>(NOTE: The requirement to prepare a manifest does not apply if:</p> <ul style="list-style-type: none"> - the waste is reclaimed under contractual agreement and: - the type of waste and frequency of shipments are specified in the agreement - the vehicle used to transport the waste to the recycling facility and to deliver regenerated material back to the generator is owned and operated by the reclaimer - the generator maintains a copy of the reclamation agreement for at least 3 yr after termination of the agreement.) <p>(NOTE: Period of retention of records is extended automatically during the course of any unresolved enforcement action or as requested by the USEPA administrator.)</p>
<p>HW.20.5. SQGs are required to have an emergency coordinator and emergency response planning (40 CFR 262.34(d)(5)).</p>	<p>Verify that the installation/CW facility has an emergency coordinator.</p> <p>Verify that the following emergency information is posted next to the telephone:</p> <ul style="list-style-type: none"> - name and telephone number of emergency coordinator - location of fire extinguishers and spill control materials - location of fire alarms (if present) - telephone number of fire department. <p>Verify that waste handlers are familiar with waste handling and emergency procedures.</p>

**Table 4
HAZARDOUS WASTE MANAGEMENT
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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SQGs</p> <p>HW.25 Personnel Training</p> <p>HW.25.1. All SQG personnel who handle hazardous waste should meet certain training requirements (MP).</p> <p>HW.25.2. Training records must be maintained for all SQG staff who manage hazardous waste (MP).</p>	<p>Verify that the training program is directed by a person trained in hazardous waste management procedures.</p> <p>Verify that the training program includes the following:</p> <ul style="list-style-type: none"> - response to fire or explosion - response to leaks or spills - waste turn-in procedures - identification of hazardous wastes - container use, marking, labeling, and onsite transportation. <p>Verify that new employee training is completed within 6 mo of employment.</p> <p>Verify that an annual review of initial training is provided.</p> <p>Verify that employees do not work unsupervised until training is completed.</p> <p>Verify specifically that accumulation point managers and hazardous waste handlers have been trained.</p> <p>Examine training records and verify they include the following:</p> <ul style="list-style-type: none"> - job title and description for each employee by name - written description of how much training each position will obtain - documentation of training received by name. <p>Determine if training records are retained for 3 yr after employment at the installation/CW facility terminates or until closure of the facility.</p>



**Table 4
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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SQGs</p> <p>HW.30 Containers</p> <p>HW.30.1. Empty containers at SQGs previously holding hazardous wastes must meet the regulatory definition of empty before they are exempted from hazardous waste requirements (40 CFR 261.7).</p> <p>HW.30.2. Containers used to store hazardous waste at SQGs must be in good condition and not leaking (40 CFR 262.34 (d)(2) and 265.171).</p> <p>HW.30.3. Containers used at SQGs must be made of or lined with materials compatible with the waste stored in them (40 CFR 262.34(d) (2) and 265.172).</p>	<p>Verify that, for containers or inner liners holding hazardous waste:</p> <ul style="list-style-type: none"> - wastes are removed that can be removed using common practices and no more than 2.5 cm [1 in.] of residue remains - if the container is less than or equal to 110 gal [416.40 L], no more than 3 percent by weight of total container capacity remains - when the container is greater than 110 gal [416.40 L], no more than 0.3 percent by weight of the total container capacity remains. <p>Verify that, for containers which held a compressed gas, the pressure in the container approaches atmosphere.</p> <p>Verify that, for containers or inner liners which held an acute hazardous waste listed in Appendix 4-5, one of the following is done:</p> <ul style="list-style-type: none"> - it is triple rinsed - it is cleaned by another method identified through the literature or testing as achieving equivalent removal - the inner liner is removed. <p>Verify that containers are not leaking, bulging, rusting, damaged, or dented.</p> <p>Verify that waste is transferred to a new container or managed in another appropriate manner when necessary.</p> <p>Verify that containers are compatible with waste, in particular, check that strong caustics and acids are not stored in metal drums.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>HW.30.4. Containers of hazardous waste at SQGs must be closed during storage and handled in a safe manner (40 CFR 262.34(d)(2) and 265.173).</p>	<p>Verify that containers are closed, except when it is necessary to add or remove waste (check bungs on drums).</p> <p>Verify that handling and storage practices do not cause damage to the containers or cause them to leak.</p>
<p>HW.30.5. The handling of incompatible wastes, or incompatible wastes and materials in containers at SQGs, must comply with safe management practices (40 CFR 262.34(d)(2) and 265.177).</p>	<p>Verify that incompatible wastes or incompatible wastes and materials are not placed in the same containers unless it is done so that it does not:</p> <ul style="list-style-type: none"> - generate extreme heat or pressure, fire, or explosion, or violent reaction - produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health - produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions - damage the structural integrity of the device or facility - by any other like means threaten human health. <p>(NOTE: Incompatible wastes as listed in Appendix 4-6 should not be placed in the same drum.)</p> <p>Verify that hazardous wastes are not placed in an unwashed container that previously held an incompatible waste or material.</p> <p>Verify that containers holding hazardous wastes incompatible with wastes stored nearby in other containers, open tanks, piles, or surface impoundments are separated or protected from each other by a dike, berm, wall, or other device.</p>
<p>HW.30.6. Containers of hazardous waste at SQGs should be managed in accordance with specific management practices (MP).</p>	<p>Determine the following by inspecting containers and storage areas:</p> <ul style="list-style-type: none"> - containers are not stored more than two high and have pallets between them - containers of ignitable wastes are electrically grounded (check for clips and wires and make sure wires lead to ground rod or system) - at least 3 ft [0.91 m] of aisle space is provided between rows of containers.

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SQGs</p> <p>HW.35 Satellite Accumulation Points</p> <p>HW.35.1. All SQGs may accumulate as much as 55 gal [208.20 L] of hazardous waste or 1 qt [0.95 L] of acutely hazardous waste in containers at or near any point of initial generation without complying with the requirements for onsite storage if specific standards are met (40 CFR 262.34(c)).</p>	<p>(NOTE: This type of storage is often referred to as a satellite accumulation point.)</p> <p>Verify that the satellite accumulation point is at or near the point of generation and is under the control of the operator of the waste generating process.</p> <p>Verify that the containers are in good condition and are compatible with the waste stored in them and that the containers are kept closed except when waste is being added or removed.</p> <p>Verify that the containers are marked HAZARDOUS WASTE or other words that identify contents.</p> <p>(NOTE: See Appendices 4-1, 4-2, 4-3, 4-4, and 4-5 for guidance on characteristic and listed hazardous wastes.)</p> <p>Verify that, when waste is accumulated in excess of quantity limitations, the following actions are taken by interviewing the shop managers:</p> <ul style="list-style-type: none"> - the excess container is marked with the date the excess amount began accumulating - the excess waste is transferred to a 180-day or permitted storage area within 3 days.

**Table 4
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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SQGs</p> <p>HW.40 Container Storage Areas</p> <p>HW.40.1. Containers of hazardous waste at SQGs should be kept in storage areas designated in the management plan (MP).</p> <p>HW.40.2. SQG storage areas for hazardous waste must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned release of hazardous waste (40 CFR 262.34 (d)(4) and 265.30 through 265.37).</p>	<p>Verify that all containers are identified and stored in appropriate areas.</p> <p>(NOTE: Any unidentified contents of solid waste containers and/or containers not in designated storage areas must be tested to determine if solid or hazardous waste requirements apply.)</p> <p>Determine if the following required equipment is easily accessible and in working condition by inspecting the SQG storage areas:</p> <ul style="list-style-type: none"> - internal communications or alarm system capable of providing immediate emergency instruction to installation/CW facility personnel - a telephone or hand-held two-way radio - portable fire extinguishers and special extinguishing equipment (foam, inert gas, or dry chemicals) - spill control equipment - decontamination equipment - fire hydrants or other source of water (reservoir, storage tank, etc.) with adequate volume and pressure, foam-producing equipment, automatic sprinklers, or water spray systems. <p>Determine if equipment is tested and maintained as necessary to ensure proper operation in an emergency.</p> <p>Verify that sufficient aisle space is maintained to allow unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the operation.</p> <p>Verify that police, fire departments, and emergency response teams are familiar with the layout of the installation/CW facility, properties of the waste being handled, and general operations as appropriate for the type of waste and potential need for such services.</p> <p>Verify that the hospital is familiar with the site and the types of injuries that could result in an emergency as appropriate for the type of waste and potential need for such services.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>HW.40.3. SOGs must conduct weekly inspections of container storage areas (40 CFR 262.34(d)(2) and 265.174).</p>	<p>Verify that inspections are conducted at least weekly to look for leaking containers and signs of deterioration of containers.</p>

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**Table 4
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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SQGs</p> <p>HW.45 Disposal of Restricted Wastes</p> <p>HW.45.1. SQGs must test their wastes or use process knowledge to determine if they are restricted from land disposal (40 CFR 268.7(a)).</p> <p>HW.45.2. When an SQG is managing a restricted waste a notice must be issued to the TSDf in writing of the appropriate treatment standards and prohibition levels (40 CFR 268.7(a)(1) through 268.7(a)(3) and 268.7(a)(10)).</p>	<p>(NOTE: See Appendix 4-7 for a summary of recordkeeping and notification requirements.)</p> <p>Determine whether the generator tests for restricted wastes.</p> <p>Determine if the installation/CW facility generates land disposal restricted wastes by reviewing test results (see Appendix 4-8).</p> <p>Verify that, for restricted waste which does not meet the applicable treatment standards or exceeds the applicable prohibition levels, the notice is issued and includes:</p> <ul style="list-style-type: none"> - the USEPA hazardous waste number - waste constituents that the treater will monitor, if monitoring will not include all regulated constituents, for wastes F001 - F005, F039, D001, D002, and D012 - D043 - whether the waste is a nonwastewater or wastewater - the subcategory of the waste - for hazardous debris, the contaminants subject to treatment, and indication that the contaminants are being treated plus: <ul style="list-style-type: none"> - the USEPA hazardous waste number - waste constituents that the treater will monitor, if monitoring will not include all regulated constituents, for wastes F001 - F005, F039, D001, D002, and D012 - D043 - whether the waste is a nonwastewater or wastewater - the subcategory of the waste. <p>Verify that, for restricted waste which can be land disposed without further treatment (this does not include debris that does not contain hazardous waste) the notice includes:</p> <ul style="list-style-type: none"> - the USEPA hazardous waste number - waste constituents that the treater will monitor, if monitoring will not include all regulated constituents, for wastes F001 - F005, F039, D001, D002, and D012 - D043 - whether the waste is a nonwastewater or wastewater - the subcategory of the waste - the manifest number associated with the shipment - the waste analysis data, when available - the signature of an authorized representative certifying that the waste complies with the treatment standards of 40 CFR 268.

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>HW.45.2. (continued)</p>	<p>Verify that, for restricted waste which is subject to an exemption from a prohibition of the type of land disposal used, the notice states that the waste is not prohibited from land disposal and includes:</p> <ul style="list-style-type: none"> - the USEPA hazardous waste number - waste constituents that the treater will monitor, if monitoring will not include all regulated constituents, for wastes F001 - F005, F039, D001, D002, and D012 - D043 - whether the waste is a nonwastewater or wastewater - the subcategory of the waste - the manifest number associated with the shipment - the waste analysis data, when available - for hazardous debris, the contaminants subject to treatment, and indication that the contaminants are being treated plus: <ul style="list-style-type: none"> - the USEPA hazardous waste number - waste constituents that the treater will monitor, if monitoring will not include all regulated constituents, for wastes F001 - F005, F039, D001, D002, and D012 - D043 - whether the waste is a nonwastewater or wastewater - the subcategory of the waste. <p>(NOTE: SQGs with tolling agreements are required to comply with notification and certification requirements for the initial shipment of waste subject to the agreement. The SQG will retain an onsite copy of the notification and certification along with the tolling agreement for at least 3 yr after the termination or expiration of the agreement.)</p>
<p>HW.45.3. SQGs that are managing hazardous wastes in tanks, containers, or containment buildings and treating the waste to meet applicable treatment standards must develop and follow a written waste analysis plan (40 CFR 268.7(a)(4) and 268.7(a)(10)).</p>	<p>Verify that the plan describes the procedures the generator will carry out to comply with treatment standards.</p> <p>(NOTE: SQGs treating hazardous debris under the alternative treatment standards in Table 1 of 40 CFR 268.7(a)(4) are not required to conduct waste analysis.)</p> <p>Verify that the plan is kept onsite and:</p> <ul style="list-style-type: none"> - the plan is based on a detailed chemical and physical analysis of representative sample of the prohibited waste being treated - contains all information necessary to treat the wastes in accordance with regulatory requirements, including the selected testing frequency - the plan is filed with the USEPA regional administrator or state authorized official at least 30 days prior to the treatment activity, with delivery verified.

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>HW.45.3. (continued)</p>	<p>(NOTE: SQGs with tolling agreements are required to comply with notification and certification requirements for the initial shipment of waste subject to the agreement. The SQG will retain an onsite copy of the notification and certification along with the tolling agreement for at least 3 yr after the termination or expiration of the agreement.)</p>
<p>HW.45.4. SQGs are required to keep specific documents pertaining to restricted wastes onsite (40 CFR 268.7(a)(5) through 268.7(a)(7) and 268.7(a)(10)).</p>	<p>Verify that, if the installation/CW facility is using generator knowledge to determine whether a waste meets land disposal restriction requirements, the supporting data used in making this determination is retained onsite in the installation/CW facility operating files.</p> <p>Verify that, if the installation/CW facility has determined whether a waste is restricted using appropriate test methods, the waste analysis data is retained onsite in the files.</p> <p>Verify that, if the installation/CW facility has determined it is managing a restricted waste which is excluded from the definition of a hazardous waste or solid waste or exempt from RCRA Subtitle C, a one-time notice is placed in the installations/CW facilities files stating that the generated waste is excluded.</p> <p>Verify that a copy of all notices, certifications, demonstrations, waste analysis data, and other documentation is kept for at least 5 yr from the date the waste was last sent to onsite or offsite treatment, storage, or disposal.</p> <p>Verify that SQGs with a tolling agreement retain the agreement and copies of notification and certification for at least 3 yr after the agreement expires.</p>
<p>HW.45.5. The storage of hazardous waste that is restricted from land disposal is not allowed unless specific conditions are met (40 CFR 268.50).</p>	<p>Verify that land disposal restricted waste is not stored at the installation/CW facility unless: the SQG is storing the wastes in tanks, containers, or containment buildings onsite only for the purpose of accumulating enough quantity of hazardous waste to facilitate proper recovery, treatment, or disposal and all appropriate standards for containers, tanks, and containment buildings are met.</p> <p>Verify that transporters do not store manifested shipments of land disposal restricted wastes for more than 10 days.</p> <p>(NOTE: The prohibition on storage does not apply to hazardous wastes that have met treatment standards.)</p> <p>Verify that liquid hazardous wastes containing PCBs at concentrations greater than 50 ppm are stored at a site that meets the requirements of 40 CFR 761.65(b) (see the section titled Toxic Substances Management) and is removed from storage within 1 yr of the date it was first placed into storage.</p>



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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SMALL QUANTITY GENERATORS (SQGs)</p> <p>HW.20 General</p> <p>HW.20.1. Generators of more than 100 kg [220.46 lb] but less than 1000 kg [2204.62 lb] of hazardous waste per month may qualify as an SQG that can accumulate hazardous waste onsite for 180 days without a permit if specific conditions are met (40 CFR 262.34(d)(1), 262.34(d)(4), 262.34(e), and 262.34(f)).</p> <p>HW.20.4. SQGs of hazardous waste are required to use manifests and keep records of hazardous waste activity (40 CFR 262.20, 262.40(a), 262.40(c), 262.40(d), 262.42(b), 262.43, and 262.44).</p>	<p>Inspect containers, storage, and records.</p> <p>Verify that no more than 1000 kg [2204.62 lb] of hazardous waste is generated in any month.</p> <p>Verify that the onsite accumulation time does not exceed 180 days.</p> <p>(NOTE: For an SQG, the accumulation start date begins when the first waste is poured/placed into the waste container, except for at satellite accumulation points.)</p> <p>(NOTE: The 180-day time period is extended to 270 days if the waste must be transported more than 200 mi to a TSDF. This extension does not apply if a TSDF is available within 200 mi and the installation/CW facility chooses to transport the waste to a farther away TSDF.)</p> <p>Verify that no more than 6000 kg [13,227.73 lb] is allowed to accumulate at the installation/CW facility.</p> <p>Verify that containers are marked with the date accumulation began and the words HAZARDOUS WASTE.</p> <p>Verify that the containers and the areas at which containers are stored meet the requirements outlined in the subsections pertaining to SQGs.</p> <p>(NOTE: When an SQG exceeds the quantity generation or amount accumulation, it becomes subject to either Generator or TSDF requirements. When an SQG exceeds the storage time limitation, the SQG becomes subject to all storage facility and permitting requirements.)</p> <p>Verify that signed copies of returned manifests are kept for 3 yr.</p> <p>Verify that exception reports were submitted to the USEPA regional administrator when a signed manifest copy was not received within 60 days of the waste being accepted by the initial transporter.</p> <p>Verify that exception reports are kept for at least 3 yr.</p> <p>Verify that records of test results, waste analyses, and determinations are kept for 3 yr.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SQGs</p> <p>HW.25 Personnel Training</p> <p>HW.25.1. All SQG personnel who handle hazardous waste should meet certain training requirements (MP).</p> <p>HW.25.2. Training records must be maintained for all SQG staff who manage hazardous waste (MP).</p>	<p>Verify that the training program is directed by a person trained in hazardous waste management procedures.</p> <p>Verify that the training program includes the following:</p> <ul style="list-style-type: none"> - response to fire or explosion - response to leaks or spills - waste turn-in procedures - identification of hazardous wastes - container use, marking, labeling, and onsite transportation. <p>Verify that new employee training is completed within 6 mo of employment.</p> <p>Verify that an annual review of initial training is provided.</p> <p>Verify that employees do not work unsupervised until training is completed.</p> <p>Verify specifically that accumulation point managers and hazardous waste handlers have been trained.</p> <p>Examine training records and verify they include the following:</p> <ul style="list-style-type: none"> - job title and description for each employee by name - written description of how much training each position will obtain - documentation of training received by name. <p>Determine if training records are retained for 3 yr after employment at the installation/CW facility terminates or until closure of the facility.</p>



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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SQGs</p> <p>HW.30 Containers</p> <p>HW.30.1. Empty containers at SQGs previously holding hazardous wastes must meet the regulatory definition of empty before they are exempted from hazardous waste requirements (40 CFR 261.7).</p> <p>HW.30.2. Containers used to store hazardous waste at SQGs must be in good condition and not leaking (40 CFR 262.34 (d)(2) and 265.171).</p> <p>HW.30.3. Containers used at SQGs must be made of or lined with materials compatible with the waste stored in them (40 CFR 262.34(d) (2) and 265.172).</p>	<p>Verify that, for containers or inner liners holding hazardous waste:</p> <ul style="list-style-type: none"> - wastes are removed that can be removed using common practices and no more than 2.5 cm [1 in.] of residue remains - if the container is less than or equal to 110 gal [416.40 L], no more than 3 percent by weight of total container capacity remains - when the container is greater than 110 gal [416.40 L], no more than 0.3 percent by weight of the total container capacity remains. <p>Verify that, for containers which held a compressed gas, the pressure in the container approaches atmosphere.</p> <p>Verify that, for containers or inner liners which held an acute hazardous waste listed in Appendix 4-5, one of the following is done:</p> <ul style="list-style-type: none"> - it is triple rinsed - it is cleaned by another method identified through the literature or testing as achieving equivalent removal - the inner liner is removed. <p>Verify that containers are not leaking, bulging, rusting, damaged, or dented.</p> <p>Verify that waste is transferred to a new container or managed in another appropriate manner when necessary.</p> <p>Verify that containers are compatible with waste, in particular, check that strong caustics and acids are not stored in metal drums.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>HW.30.4. Containers of hazardous waste at SQGs must be closed during storage and handled in a safe manner (40 CFR 262.34(d)(2) and 265.173).</p> <p>HW.30.5. The handling of incompatible wastes, or incompatible wastes and materials in containers at SQGs, must comply with safe management practices (40 CFR 262.34(d)(2) and 265.177).</p> <p>HW.30.6. Containers of hazardous waste at SQGs should be managed in accordance with specific management practices (MP).</p>	<p>Verify that containers are closed, except when it is necessary to add or remove waste (check bungs on drums).</p> <p>Verify that handling and storage practices do not cause damage to the containers or cause them to leak.</p> <p>Verify that incompatible wastes or incompatible wastes and materials are not placed in the same containers unless it is done so that it does not:</p> <ul style="list-style-type: none"> - generate extreme heat or pressure, fire, or explosion, or violent reaction - produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health - produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions - damage the structural integrity of the device or facility - by any other like means threaten human health. <p>(NOTE: Incompatible wastes as listed in Appendix 4-6 should not be placed in the same drum.)</p> <p>Verify that hazardous wastes are not placed in an unwashed container that previously held an incompatible waste or material.</p> <p>Verify that containers holding hazardous wastes incompatible with wastes stored nearby in other containers, open tanks, piles, or surface impoundments are separated or protected from each other by a dike, berm, wall, or other device.</p> <p>Determine the following by inspecting containers and storage areas:</p> <ul style="list-style-type: none"> - containers are not stored more than two high and have pallets between them - containers of ignitable wastes are electrically grounded (check for clips and wires and make sure wires lead to ground rod or system) - at least 3 ft [0.91 m] of aisle space is provided between rows of containers.

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SQGs</p> <p>HW.35 Satellite Accumulation Points</p> <p>HW.35.1. All SQGs may accumulate as much as 55 gal [208.20 L] of hazardous waste or 1 qt [0.95 L] of acutely hazardous waste in containers at or near any point of initial generation without complying with the requirements for onsite storage if specific standards are met (40 CFR 262.34(c)).</p>	<p>(NOTE: This type of storage is often referred to as a satellite accumulation point.)</p> <p>Verify that the satellite accumulation point is at or near the point of generation and is under the control of the operator of the waste generating process.</p> <p>Verify that the containers are in good condition and are compatible with the waste stored in them and that the containers are kept closed except when waste is being added or removed.</p> <p>Verify that the containers are marked HAZARDOUS WASTE or other words that identify contents.</p> <p>(NOTE: See Appendices 4-1, 4-2, 4-3, 4-4, and 4-5 for guidance on characteristic and listed hazardous wastes.)</p> <p>Verify that, when waste is accumulated in excess of quantity limitations, the following actions are taken by interviewing the shop managers:</p> <ul style="list-style-type: none"> - the excess container is marked with the date the excess amount began accumulating - the excess waste is transferred to a 180-day or permitted storage area within 3 days.

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SQGs</p> <p>HW.40 Container Storage Areas</p> <p>HW.40.1. Containers of hazardous waste at SQGs should be kept in storage areas designated in the management plan (MP).</p> <p>HW.40.2. SQG storage areas for hazardous waste must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned release of hazardous waste (40 CFR 262.34 (d)(4) and 265.30 through 265.37).</p>	<p>Verify that all containers are identified and stored in appropriate areas.</p> <p>(NOTE: Any unidentified contents of solid waste containers and/or containers not in designated storage areas must be tested to determine if solid or hazardous waste requirements apply.)</p> <p>Determine if the following required equipment is easily accessible and in working condition by inspecting the SQG storage areas:</p> <ul style="list-style-type: none"> - internal communications or alarm system capable of providing immediate emergency instruction to installation/CW facility personnel - a telephone or hand-held two-way radio - portable fire extinguishers and special extinguishing equipment (foam, inert gas, or dry chemicals) - spill control equipment - decontamination equipment - fire hydrants or other source of water (reservoir, storage tank, etc.) with adequate volume and pressure, foam-producing equipment, automatic sprinklers, or water spray systems. <p>Determine if equipment is tested and maintained as necessary to ensure proper operation in an emergency.</p> <p>Verify that sufficient aisle space is maintained to allow unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the operation.</p> <p>Verify that police, fire departments, and emergency response teams are familiar with the layout of the installation/CW facility, properties of the waste being handled, and general operations as appropriate for the type of waste and potential need for such services.</p> <p>Verify that the hospital is familiar with the site and the types of injuries that could result in an emergency as appropriate for the type of waste and potential need for such services.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>HW.40.3. SQGs must conduct weekly inspections of container storage areas (40 CFR 262.34(d)(2) and 265.174).</p>	<p>Verify that inspections are conducted at least weekly to look for leaking containers and signs of deterioration of containers.</p>

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Section 1
(Air Force Supplement)

Air Emissions Management

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SECTION 1

AIR EMISSIONS MANAGEMENT

A. U.S. Air Force Instructions (AFIs) and Policies

- Air Force Instruction (AFI) 32-7040, *Air Quality Compliance*. This instruction, dated 30 March 1994, identifies the requirements for an air quality compliance program.
- AFI 48-119, *Medical Service Environmental Quality Program*. This instruction, dated 25 July 1994, identifies Medical Services roles and responsibilities. Included are responsibilities in cleanup, compliance, conservation, and pollution prevention.
- Air Force Technical Order (AFTO) 00-20B-5, *USAF Motor Vehicle and Vehicular Equipment Inspections*. This TO establishes procedures for vehicle inspection and reporting on vehicle emissions.

B. Department of Defense (DOD) Regulations and Instructions

- None that have not been implemented/superseded by AFIs.

C. Using the TEAM Guide For ECAMP

- No additional instructions.

D. Key Air Force/DOD Compliance Requirements

- Emissions Inventory - Installations are required to prepare and periodically update a comprehensive base air emissions inventory (AFI 32-7040, para 2.8).
- Motor Vehicles - All Air Force vehicles will be tested with an infrared exhaust tester (for gasoline engines) or an opacity meter (for diesel engines) to certify exhaust emissions if required by state or local laws (AFTO 00-20B-5, Section 2-6).

E. Key Compliance Personnel

- The Installation Commander. The Installation Commander is usually the person responsible for compliance and signs all permits.
- The Base Civil Engineer (BCE). The BCE is responsible for the maintenance of incinerators, fuel handling, and storage equipment, as well as the operation and maintenance of all fuel burners (including boilers). The heating and boiler plants are responsible for the operation of fuel burners and are a part of the Operations Branch of Base Civil Engineering.

- The Environmental Manager. The Environmental Manager is responsible for the preparation of all air pollution emission source permit applications.
- The Regional Hospital or Base Clinic. The regional hospital or base clinic is responsible for the operation of any pathological incinerators located in their facility.
- The Fuels Management Branch. The Fuels Management Branch of Base Supply is responsible for the operation of all fuel handling, transportation (tanks and or pipelines), and storage facilities on base. They are also responsible for making sure that all fuels satisfy specifications, including state mandated sulfur content. The fuels management branch is also responsible for the operations of the military service station that dispenses leaded or unleaded fuel.
- The Vehicle Maintenance Branch. The Automotive Maintenance Branch of Base Transportation is responsible for the emission testing and vehicle maintenance required by state and AFIs.
- The Maintenance Squadrons. The various maintenance squadrons at the base are responsible for the operation of degreasers and other industrial processes that are regulated or may require operating permits.
- The Base Exchange. The base exchange operates a service station that dispenses leaded fuels and is subject to the Federal requirements. The service station is normally operated by a contractor, but the labeling and nozzle size regulations still apply. The Government is responsible for compliance, but the contractor may also be responsible, depending on the contract wording.
- The Bioenvironmental Engineer (BEE). The BEE is responsible for monitoring ambient air quality and preparing the installation air emission inventory.

F. Key Air Force/DOD Compliance Definitions

- None

G. Additional Records To Review

- Agency air pollution control regulations
- Plans and procedures applicable to air pollution control

H. Additional Physical Features To Inspect

- Aerospace coating

I. People To Interview

- BCE (Environmental Planning)
- BEE
- Air Pollution Source Operators
- Fuels Management Branch
- Transportation and Maintenance Branch
- Base Supply (LGS)



J. Guidance for Air Emissions Management Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
All Installations	A.1 and A.2	1-7
Motor Vehicles	A.3	1-9



**COMPLIANCE CATEGORY:
AIR EMISSIONS MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>ALL INSTALLATIONS</p> <p>A.1. Copies of all relevant Federal, state, and local regulations on air emissions should be maintained at the installation (MP).</p> <p>A.2. Installations are required to prepare and periodically update a comprehensive base air emissions inventory (AFI 32-7040, para 2.8 and 48-119, para 9.5.1.2).</p>	<p>Verify that copies of the following regulations are maintained and kept current at the installation:</p> <ul style="list-style-type: none"> - 40 CFR 60, <i>Standards of Performance for New Stationary Sources.</i> - 40 CFR 61, <i>National Emission Standards for Hazardous Air Pollutants.</i> - 40 CFR 80, <i>Regulation of Fuels and Fuel Additives.</i> - 40 CFR 82, <i>Protection of Stratospheric Ozone.</i> - 40 CFR 240, <i>Guidelines for the Thermal Processing of Solid Waste.</i> - AFI 32-7040, <i>Air Quality Compliance.</i> - AFI 48-119, <i>Medical Services Environmental Quality Programs.</i> - AFTO 00-20B-5, <i>Motor Vehicles and Vehicular Equipment Inspection.</i> - Air Force Policy Letter 7 January 1993, <i>Air Force Ban on Purchases of Ozone Depleting Chemicals (ODCs).</i> - applicable state and local regulations. <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that affect ongoing and proposed activities and keeps the Environmental Protection Committee (EPC) informed as necessary.</p> <p>Verify that the installation has done an air emissions inventory and it is periodically updated.</p> <p>Verify that a copy of the inventory is maintained at Base Environmental Services (BES).</p>



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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>MOTOR VEHICLES</p> <p>A.3. All Air Force vehicles will be tested with an infrared exhaust tester (for gasoline engines) or an opacity meter (for diesel engines) to certify exhaust emissions if required by state or local laws (AFTO 00-20B-5, Section 2-6).</p>	<p>Verify that the required testing is performed annually in conjunction with the annual safety inspection, or more often if required by local laws by interviewing the transportation maintenance chief.</p> <p>Verify by inspection that the exhaust gas analyzer it is operable.</p> <p>Determine schedule for calibration of the equipment, and verify that the schedule is met.</p> <p>Verify that civilian and military mechanics know how to operate the infrared exhaust analyzer and/or opacity meter.</p> <p>Verify that the testing is performed by a mechanic thoroughly trained in the operation of the specific engine analyzing equipment.</p> <p>Verify that inspection results are properly recorded for Air Force vehicles by reviewing the Emission Test Records.</p>

Section 2

Cultural Resources Management (Air Force Supplement)

A. U.S. Air Force Instructions (AFIs) and Policies	1
B. Department of Defense (DOD) Directives and Instructions	1
C. Using the TEAM Guide for ECAMP	1
D. Key Air Force/DOD Compliance Requirements	1
E. Key Compliance Personnel	1
F. Key Air Force/DOD Compliance Definitions	2
G. Additional Records To Review	2
H. Additional Physical Features To Inspect	2
I. People To Interview	3
J. Guidance for Cultural Resources Management Checklist Users	5

SECTION 2

CULTURAL RESOURCES MANAGEMENT

A. U.S. Air Force Instructions (AFI) and Policies

- AFI 32-7065, *Cultural Resources Management*. This AFI, dated 13 June 1994, provide guidance for protecting and managing cultural resources. It outlines the requirements for the Cultural Resources Management Plan (CRMP), training, and the nomination process. See Appendix 2-1 for a flowchart of the Section 106 process within the Air Force.

B. Department of Defense (DOD) Directives and Instructions

- None which have not been previously implemented by AFIs.

C. Using the TEAM Guide for ECAMP

- Use Version 1 of the TEAM Guide checklist.

D. Key Air Force/DOD Compliance Requirements

- Training - Air Force personnel are required to be trained about cultural resources as appropriate to their responsibilities (AFI 32-7065, para 9.1).
- CRMP - The CRMP must include specific information such as assigned responsibilities, standard operating procedures, an inventory of all known cultural resources, and other information needed for management of cultural and historic resources.
- Surveys - A field survey of the installation must be done according to the Secretary of the Interior's (SOI) standards. This inventory must also be placed on the Work Information Management System - Environmental Subsystem (WIMS-ES).

E. Key Compliance Personnel

- Base Civil Engineering (BCE)/Environmental Management. The BCE is responsible for funding, supervising, controlling, and managing the installations historic preservation program.
- Base Historic Preservation Officer. The Base Historic Preservation Officer is responsible for implementing the historic preservation program, and locates, inventories, and evaluates installation cultural resources. This is usually an additional duty assignment within BCE.

F. Key Air Force/DOD Compliance Definitions

- *Adverse Effect* - changes that may diminish a historic property's integrity in terms of location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to (AFI 32-7065, Attachment 1):
 1. physical destruction, damage, or alteration of all or a part of the property
 2. isolation of the property from or altering the character of the property's setting when that character helps qualify the property for the National Register
 3. introducing visual, audible, or atmospheric elements out of character with the property or that alters its setting
 4. neglect of a property that results in its deterioration or destruction
 5. transfer, lease, or sale of the property.
- *Archaeological Permit* - A legal authorization from ARPA to conduct an archaeological survey or investigation including surface collecting or subsurface testing on Federal land. The Air Force issues such permits for archaeological activities that take place on air force controlled land. Federal employees or contractors do not need the permit because the statement of work provides the same information as the permit (AFI 32-7065, Attachment 1).
- *Assessment of Effect* - A process to determine if an undertaking may affect the qualities of a property that make it eligible for the National Register. Installation commanders make the assessment in consultation with the SHPO (AFI 32-7065, Attachment 1).
- *Consultation* - a process initiated by the installation commander in which the Commander confers with the SHPO to reduce or avoid adverse effects on historic properties. The ACHP and certain interested persons may participate as consulting parties (AFI 32-7065, Attachment 1).
- *Federal Historic Preservation Officer (FPO)* - The person who coordinates the agency's activities under *National Historic Preservation Act* (NHPA) and EO 11593, including nominating agency properties for the National Register. SAF/MIQ is the Air Force FPO (AFI 32-7065, Attachment 1).
- *Significance* - attributes or characteristics of a property that qualify it for the National Register (AFI 32-7065, Attachment 1).

G. Additional Records To Review

- Cultural Resources Inventory/Survey
- CRMP
- Master Plan
- Reports of MAJCOM and HQ USAF Staff Assistance Visits

H. Additional Physical Features To Inspect

- Military training areas

I. People To Interview

- Historic Preservation Officer
- Environmental Coordinator



J. Guidance for Cultural Resources Management Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
All Installations	C.1 through C.3	2-7
Plans	C.4 through C.6	2-9
Identification and Protection	C.7 and C.8	2-11
Archaeological/Indian Sites	C.9	2-13



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REGULATORY REQUIREMENTS	REVIEWER CHECKS: January 1995
<p>ALL INSTALLATIONS</p> <p>C.1. Copies of all relevant Federal, state, and local regulations on natural and cultural resources should be maintained at the installation (MP).</p> <p>C.2. Air Force personnel are required to be trained about cultural resources as appropriate to their responsibilities (AFI 32-7065, para 9.1, 9.3, and 9.4).</p> <p>C.3. The Installations Historic Preservation Officer should be included in the coordination process for all actions that may impact the installations cultural resources (MP).</p>	<p>Determine whether copies of the following cultural resource regulations are maintained and kept current at the installation:</p> <ul style="list-style-type: none"> - 32 CFR 229, <i>Archeological Resources Protection Act of 1979; Final Uniform Regulations.</i> - 36 CFR 79, <i>Curation of Federally Owned and Administered Archeological Collections.</i> - 36 CFR 800, <i>Protection of Historic and Cultural Properties.</i> - AFI 32-7065, <i>Cultural Resources Management.</i> - applicable state and local requirements. <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing and proposed activities and keeps the Environmental Protection Committee (EPC) informed as needed.</p> <p>Verify that basic information on cultural resources is incorporated into newcomer orientation briefings.</p> <p>Verify that training emphasizes information on:</p> <ul style="list-style-type: none"> - building structure - site and object maintenance - penalties for disturbing cultural resources. <p>Verify that personnel housed in historic quarters of historical significance are informed of any special management needs.</p> <p>Verify that Cultural Resources Managers attend training to maintain professional knowledge of changes in programs, legislative amendments, and policies affecting installation Cultural Resource Management.</p> <p>Verify that the Cultural Resource Manager coordinates training for building maintenance personnel to address the maintenance and repair procedures and how their jobs are impacted by the Cultural Resources Management program.</p> <p>Determine if the Historic Preservation Officer is included in the coordination process for all actions that may impact the installation's cultural resources.</p>



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REGULATORY REQUIREMENTS	REVIEWER CHECKS: January 1995
<p>PLANS</p> <p>C.4. Installations with cultural resources are required to have a CRMP (AFI 32-7065, para 2.2).</p>	<p>Determine if the installation has any cultural resources.</p> <p>Verify that the installation has a CRMP that contains the following:</p> <ul style="list-style-type: none"> - assignment of responsibilities for recognizing and maintaining cultural resources - an inventory and evaluation of all known cultural resources - identification of the likelihood of the presence of other significant unknown cultural resources - a description of installation strategies for maintaining cultural resources and for achieving compliance - standard operating procedures and action plans that include budget, staffing, and scheduling of activities - coordination with the installations mission and identification of the impacts on cultural resources of ongoing mission functions and the resolutions to those impacts. <p>Verify that the CRMP conforms to local, state, and Federal preservation programs.</p> <p>Verify that the installation consulted the SHPO during the development of the CRMP.</p> <p>Verify that the CRMP is updated annually, integrated into the Base Comprehensive Plan (BCP) and approved by the MAJCOM every 5 yr.</p> <p>(NOTE: The following suggested format is explained in detail in Attachment 3 of AFI 32-7065:</p> <ul style="list-style-type: none"> - Executive Summary - General Information <ul style="list-style-type: none"> - Mission Statement - Historical Perspective - Organizational Listing and Roles - Goals and Objectives - Program Responsibilities - Cultural Resources Inventory <ul style="list-style-type: none"> - Prehistoric Resources <ul style="list-style-type: none"> - Prehistoric Framework - Literature Review - Resource Inventory - Areas of Concern

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REGULATORY REQUIREMENTS	REVIEWER CHECKS: January 1995
<p>C.4. (continued)</p>	<ul style="list-style-type: none"> - Historic Resources <ul style="list-style-type: none"> - Historic Overview - Literature Review - Resource Inventory - Areas of Concern - Mapping - Compliance Procedures <ul style="list-style-type: none"> - Issues - Preservation and Mitigation Strategies <ul style="list-style-type: none"> - Archeological Resources - Historic Resources - Other Cultural Resources - Consultation Procedures - Standard Operating Procedures - Attachments.)
<p>C.5. Installations with no known cultural resources are required to have a contingency CRMP (AFI 32-7065, para 2.2.5).</p>	<p>Verify that the contingency CRMP describes:</p> <ul style="list-style-type: none"> - what cultural surveys were performed - contingency plans for undiscovered archaeological resources - structures whose historic significance will become clearer through future evaluations.
<p>C.6. Installations are required to establish a cultural resources management and inventory database to track program progress and maintain current maps showing locating of cultural resources (AFI 32-7065, para 8.1 and 8.2).</p>	<p>Verify that the installation has established and is maintaining a cultural resources management and inventory database using the Planning Module of WIMS-ES.</p> <p>Verify that current maps with a scale of 1 in. [2.54 cm] = 400 ft [121.92 m] are maintained with the locations of all current cultural resources assets.</p> <p>Verify that maps are reviewed and updated annually.</p>

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<p>IDENTIFICATION AND PROTECTION</p> <p>C.7. Installations are required to conduct field surveys according to the SOI's <i>Standards for Identification</i> (AFI 32-7065, para 2.3.2).</p> <p>C.8. Installations are required to protect cultural resources through specific activities (AFI 32-7065, para 2.4.1 and para 2.5.4).</p>	<p>Verify that once a cultural resource has been identified and determined eligible nomination for listing in the Register occurs within 24 mo.</p> <p>Verify that results of the surveys are incorporated into the CRMP and forwarded to the SHPO.</p> <p>Verify that the inventory information is added to the existing installation inventory database.</p> <p>Verify that the installation:</p> <ul style="list-style-type: none"> - avoids adverse effects from Air Force undertakings - maintains and prevents deterioration of structures - illustrates, photographs, or otherwise establishes a historical record in accordance with Department of Interior (DOI) standards for structures that must be significantly altered or destroyed - recovers data of archeological significance - limits public access to prevent destruction or other harm to historic properties and sites - limits publication of the location of archeological sites - implement education and public awareness programs - uses the guidelines for rehabilitations and maintaining historic properties published by the SOI.



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**REGULATORY
REQUIREMENTS**

**REVIEWER CHECKS:
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**ARCHAEOLOGICAL/
INDIAN SITES**

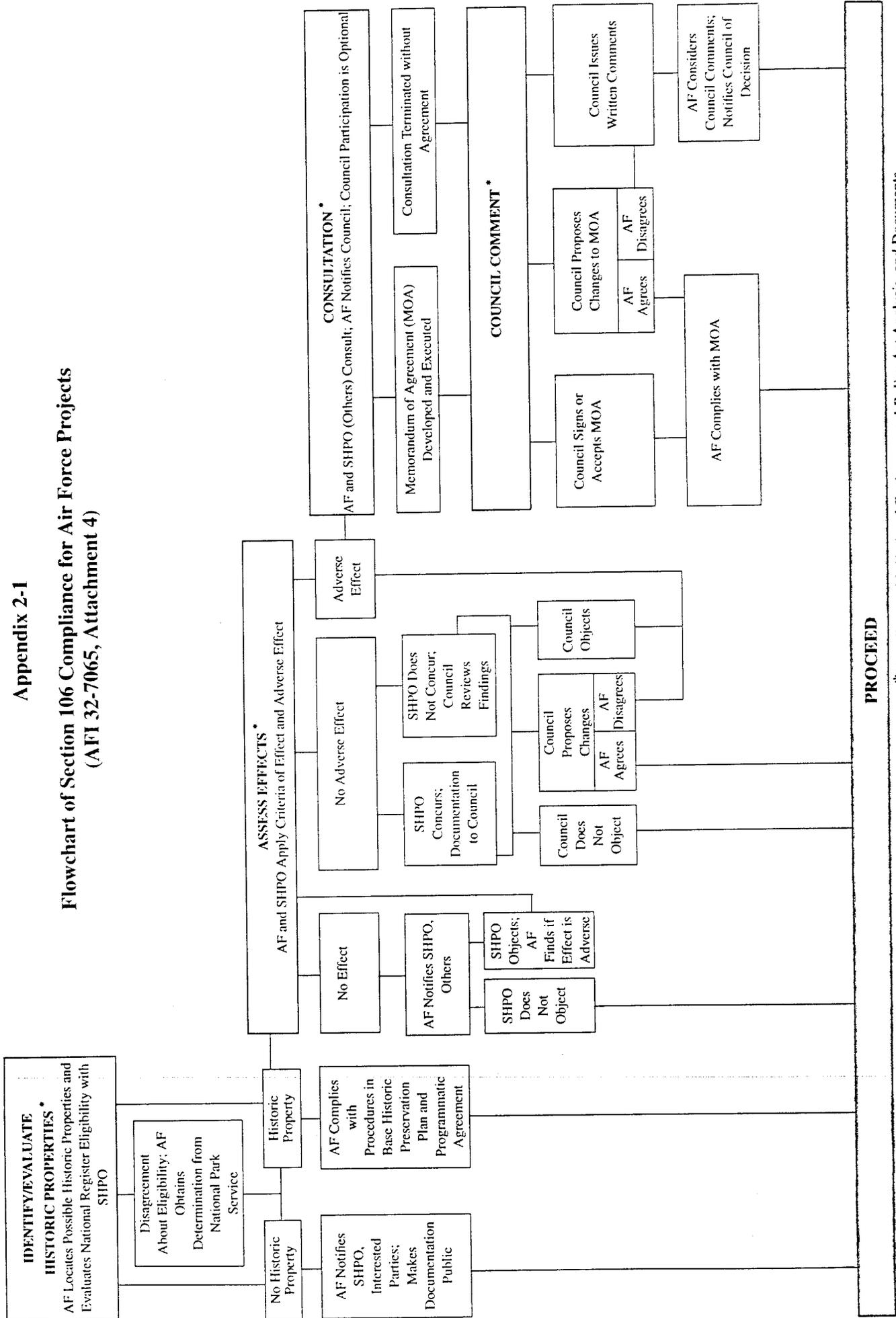
C.9. When an archaeological find is made during construction activities, the installation is required to notify the FPO, HQ USAFE/CE in addition to notifications required under Federal law (AFI 32-7065, para 2.8.2).

Verify that when an archaeological find is made during construction activities, the installation notifies the FPO, HQ USAFE/CE.



Appendix 2-1

Flowchart of Section 106 Compliance for Air Force Projects
(AFI 32-7065, Attachment 4)



*Coordinate with National Environmental Policy Act Analysis and Documents.



Section 3

Hazardous Materials Management (Air Force Supplement)

A. U.S. Air Force Instructions (AFIs) and Policies	1
B. Department of Defense (DOD) Directives and Instructions	1
C. Using the TEAM Guide for ECAMP	1
D. Key Air Force/DOD Compliance Requirements	1
E. Key Compliance Personnel	2
F. Key Air Force/DOD Compliance Definitions	3
G. Additional Records To Review	3
H. Additional Physical Features To Inspect	3
I. People To Interview	3
J. Guidance for Hazardous Materials Management Checklist Users	5

SECTION 3

HAZARDOUS MATERIALS MANAGEMENT

A. U.S. Air Force Instructions (AFIs) and Policies

- AFI 32-4002, *Hazardous Material Emergency Planning and Response Compliance*. This instruction, dated 1994, helps users plan for and respond to Federal, state, local, and DOD emergencies involving hazardous materials (HAZMAT).
- Air Force Regulation (AFR) 75-2, *Defense Traffic Management Regulation*. This regulation, dated 31 July 1986, addresses the transportation of HAZMAT. This AFR is scheduled to be replaced by Air Force Joint (AFJ) 124-211.
- Air Force Manual (AFM) 67-1, *Storage and Related Operations*. This manual requires the installation to have a comprehensive list of all chemicals used or generated on the installation.

B. Department of Defense (DOD) Directives and Instructions

- DOD Regulations (DODR) 4145-19-1, *Storage and Materials Handling*. Chapter 5, Section 4, *Hazardous Commodities*, dated September 1979, addresses the storage and handling of compressed gases and other hazardous commodities.
- DOD Directive (DODD) 6050.8, *Storage and Disposal of Non-DOD Owned Hazardous or Toxic Materials on DOD Installations*. This directive, dated 27 February 1986, does not allow the storage of non-DOD owned toxic or hazardous material onsite.

C. Using TEAM Guide for ECAMP

- No additional instructions.

D. Key Air Force/DOD Compliance Requirements

- Planning and Documentation - Installations are required to maintain a master listing of HAZMAT storage sites. When the facility needs outside fire protection help, it should tell the local fire department the types of hazardous chemicals it uses, the areas where it uses them, what it uses them for, and the amount it uses. They are also required to have a written HAZMAT Plan.
- Hazardous Materials Storage - Installations may not allow the storage of non-DOD owned toxic or hazardous materials onsite.
- Training - Military and civilian personnel with HAZMAT emergency response roles are required to be trained.
- Spill Response - Major installations are required to have a HAZMAT response team and each installation is required to have a HAZMAT post-emergency response team or capability.

- Compressed Gas Storage - The storage of compressed gas is required to be done in structures that meet specific parameters depending on whether it is an open sided or three sided structure.

E. Key Compliance Personnel

- Base Civil Engineering (BCE)/Environmental Management (EM). The BCE is responsible for the storage and handling of all HAZMAT used by the civil engineering shops in properly designated facilities. The BCE is also responsible for reporting releases of reportable quantities of hazardous substance to the National Response Center (NRC) and/or U.S. Environmental Protection Agency (USEPA) and appropriate state authorities.
- The Director of Base Medical Services. The Director of Base Medical Services, through the Bioenvironmental Engineering (BEE) Section, is responsible for reviewing potential hazardous commodities referred by base supply and directing the assignment of the appropriate issue exception code (IEX), IRMC, or health hazard flag (HHF). The BEE maintains material safety data sheets (MSDS) for all items used on the installation.
- Base Fire Department. The Base Fire Department provides support in emergency response spill events, exercises, and fire protection activities. In addition, the department is responsible for making periodic fire safety inspections of flammable/combustible storage and handling areas on the installation.
- Base Supply (LGS). LGS has primary responsibility to receive, store, and issue all hazardous items ordered through the Standard Base Supply System. LGS identifies inspected hazardous commodities by referencing the most current version of Federal Standard 313 and DODR 4145.19-1 and refers these commodities to the BEE Section for determination of the specific health hazard. LGS ensures the receipt of receiving documents and coordinates with the BEE to ensure their receipt of the MSDS. LGS ensures the proper maintenance and operation of flammable or combustible materials storage facilities, acid storage facilities, and compressed gas storage facilities. LGS ensures that all issues of HAZMAT are properly labeled.
- Base Safety Manager. The Base Safety Manager is responsible for conducting workplace safety evaluations and inspections of the handling and storage of HAZMAT. The Safety Manager provides the appropriate manager with a report of findings and recommended corrective actions, and is also responsible for ensuring the prompt and accurate investigation of any HAZMAT mishaps that result in injury or property damage.
- Hazardous Materials Pharmacy. When applicable, the Hazardous Materials Pharmacy is responsible for requisitioning, receiving, dispensing, issuing and storing HAZMAT for their customer organizations. The pharmacy manager is responsible for the maintenance of the compatible storage, spill containment, venting, and dispensation systems within the facility. The pharmacy is also responsible for receiving MSDSs and providing them to the HAZMAT user. The pharmacy manager shall ensure all pharmacy personnel are trained in the use, handling, and transportation of HAZMAT.

F. Key Air Force/DOD Compliance Definitions

- *Decontamination Crew* - determines and establishes the proper decontamination procedures prior to anyone entering a cordoned hazardous area. All decontamination activities are coordinated with the Hazard Group Supervisor, Safety and Health, and Information (AFI 32-4002, Attachment 1, Section C).
- *Disaster Control Group* - the disaster response force element that goes to the scene of a major accident or natural disaster to provide command and control under the direction of the on-scene commander (AFI 32-4002, Attachment 1, Section C).
- *Follow-on Element* - the nonemergency response elements of a disaster response force that deploy to the accident scene after the initial response element to expand command and control and perform support functions (AFI 32-4002, Attachment 1, Section C).
- *Hazardous Material (HAZMAT)* - All hazardous substances, petroleum, natural gas, synthetic gas, acutely toxic chemicals, and other toxic chemicals including hazardous wastes (AFI 32-4002, Attachment 1, Section C).
- *Incident Commander (IC)* - Normally the senior fire official on-scene responsible for all decisions relating to the management of the immediate incident scene. The IC reports to the on-scene coordinator (OSC) (AFI 32-4002, Attachment 1, Section C).

G. Additional Records To Review

- Emergency plan documents
- Shipping papers

H. Additional Physical Features To Inspect

- Shop activities
- Shipping and receiving area

I. People To Interview

- Base Civil Engineer
- Base Disaster Preparedness Officer (BDPO)
- Base Fire Department
- Base Supply
- Bioenvironmental Engineer
- Safety Officer
- Transportation Officer



J. Guidance for Hazardous Materials Management Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
All Installations	HM.1 through HM.8	3-7
Personnel Training	HM.9	3-11
Emergency Planning	HM.10 through HM.15	3-13
Flammable/Combustible Liquids Storage	HM.16 and HM.17	3-15
Compressed Gases Storage	HM.18 and HM.19	3-17
Transportation	HM.20 and HM.21	3-19



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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>HM.3. The installation should coordinate with the fire department concerning the types of hazardous chemicals used at the installation, the areas where they are used, what they are used for, and the quantities used in a given operation (MP).</p> <p>HM.4. Each installation is required to publish a HAZMAT Plan and a HAZMAT Appendix to Annex A to O Plan 32-1 (AFI 32-4002, para 2.5).</p> <p>HM.5. In specific circumstances installations are required to have a copy of the AF Multi-Product Emergency Response Plan (AFI 32-4002, para 2.5.7).</p>	<p>Verify that the fire department is aware of areas that are at high risk for chemical incidents.</p> <p>Verify that the HAZMAT Plan and HAZMAT Appendix provide guidance to base personnel on local procedures for handling of known and unknown HAZMAT.</p> <p>Verify that the plan:</p> <ul style="list-style-type: none"> - identifies the total resources needed (personnel and equipment) to remove, to the maximum extent practicable, a worst-case HAZMAT release (including releases resulting from fire or explosion) - identifies the resources necessary to reduce or prevent the substantial threat of a worst-case release - identifies the qualified individual having full authority to oversee the removal of HAZMAT from a site - is consistent with offbase plans such as the Federal Response Plan, the Regional Response Plan, the National Contingency Plan, the Regional Contingency Plans, and area local contingency plans. <p>Verify that the HAZMAT Plan and HAZMAT Appendix are reviewed and approved by the EPC at least annually.</p> <p>Verify that a professional engineer certifies the HAZMAT Plan at least every 3 yr.</p> <p>Verify that the installation has sent a copy of the current plan to the appropriate local and state emergency planning committees and to other non-Air Force agencies or organizations as necessary.</p> <p>(NOTE: See Appendix 3-1 for a list of the recommended contents.)</p> <p>Verify that AF installations along predesignated routes for the commercial shipment of nitrogen tetroxide and liquid fluorine have a copy of this plan.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>HM.6. Installations may not allow the storage of non-DOD owned toxic or HAZMAT onsite (DODD 6050.8, para D).</p>	<p>Verify that the installation does not allow the storage of non-DOD owned toxic or HAZMAT onsite.</p> <p>(NOTE: This does not apply to:</p> <ul style="list-style-type: none"> - agreements with General Services Administration (GSA) for the storage of strategic and critical materials in the National Stockpile Program - agreements between DOD components and other Federal agencies for temporary storage or disposal of explosives - emergency lifesaving assistance to civil authorities involving the temporary storage or disposal of explosives - excess explosives generated under a DOD contract - arrangements with the Department of Energy (DOE) for the temporary storage of nuclear materials, or nonnuclear classified materials - military resources used during peacetime civil emergencies - assistance and refuge for commercial carriers carrying material of other Federal agencies during transportation emergencies.)
<p>HM.7. Specific persons should be designated responsible for HAZMAT storage areas and the precise nature of their responsibilities should be specified (MP).</p>	<p>Verify that specific individuals have been designated responsible for HAZMAT storage areas.</p> <p>Verify that the individuals designated responsible for HAZMAT storage areas are aware of the precise nature of their responsibilities.</p>
<p>HM.8. Installations required to perform specific risk management activities relating to HAZMAT (AFI 32-4002, para 2.4).</p>	<p>Verify that the installation actively performs risk management activities such as the following:</p> <ul style="list-style-type: none"> - probability of a release is lessened by systems, equipment, or procedures already in place - probability or a releases or minimization of a release is achieved through operational or storage procedures - safer HAZMAT substitutes are used - methods are implemented to reduce the volumes of HAZMAT used.



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**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
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**PERSONNEL
TRAINING**

HM.9. Military and civilian personnel with HAZMAT emergency response roles are required to be trained (AFI 32-4002, para 3.5).

Verify that prior to taking part in a HAZMAT incident response, personnel are trained as indicated in Appendix 3-2.



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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>EMERGENCY PLANNING</p> <p>HM.10. Major installations are required to have a HAZMAT planning team (AFI 32-4002, para 2.1).</p> <p>HM.11. Major installations are required to have a HAZMAT response team or a HAZMAT response capability (AFI 32-4002, para 3.1).</p> <p>HM.12. Each AF installation is required to have a HAZMAT post-emergency response team or capability (AFI 32-4002, para 3.2).</p>	<p>Determine if the installation is a major installation.</p> <p>(NOTE: Major installation is defined as a self-supporting center of operations for actions of importance to AF combat, combat support, or training. It is operated by an active, reserve, or guard unit of group size or larger with all land, facilities, and organic support needed to accomplish the unit missions. It must have real property accountability through ownership, lease, permit, or other written agreement for all real estate and facilities. Agreements with foreign governments which give the AF jurisdiction over real property meet this requirements. Shared use agreements (as opposed to joint use agreements where the AF owns the runway) do not meet the criteria to be major installations. This category includes AF bases, AF Reserve bases, and Air National Guard bases.)</p> <p>Verify that if the installation is a major installation it has HAZMAT planning team and the installations HAZMAT program manager directs the planning team.</p> <p>(NOTE: The Installation Civil Engineering Readiness Flight Chief normally serves as the HAZMAT program manager but the Installation Commander may choose another individual to serve as program manager.)</p> <p>Verify that the fire department forms the core of the HAZMAT response team.</p> <p>Verify that the installation has identified the specific roles and responsibilities of each organization that responds to a HAZMAT incident.</p> <p>Verify that the team is able to effectively respond to and contain a HAZMAT release to prevent or reduce:</p> <ul style="list-style-type: none"> - human injury or death - property damage - product loss - environmental damage. <p>Verify that each AF installation has a HAZMAT post-emergency response team or capability.</p> <p>(NOTE: If the installation decides to contract all cleanup operations, they only need an advisory group.)</p>

**COMPLIANCE CATEGORY:
HAZARDOUS MATERIALS MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>HM.13. The installation HAZMAT planning team is required to conduct hazard analyses to identify the specific hazards that a HAZMAT release might bring to a base and local community (AFI 32-4002, para 2.2).</p>	<p>Verify that hazard analyses are done and include:</p> <ul style="list-style-type: none"> - identifying structures, equipment, and procedures to prevent releases and any related deficiencies - assessing the worst-case oil (fuel) discharge from all onbase and offbase AF facilities - identifying the type of hazard - determining the extent of hazard - determining the probability of injury from HAZMAT stored at or above the screening quantity identified in Appendix 3-3 - discussing HAZMAT incidents that the planning team has not assessed, such as transporting vehicles carrying HAZMAT, HAZMAT occurring below the specific screening quantity, and contractors using HAZMAT.
<p>HM.14. Installations are required to conduct a capability assessment in relation to emergency planning (AFI 32-4002, para 2.3).</p>	<p>Verify that the installation has done a capability assessment that:</p> <ul style="list-style-type: none"> - identifies base and local community resources available for responding to a HAZMAT release - determines whether the installation needs additional resources to respond effectively - assesses personnel, evacuation, personal protective equipment, monitoring, release control and containment, decontamination, laboratory support, cleanup, and recovery. <p>Verify that local community resources, including commercial resources, have been identified.</p> <p>Verify that identified HAZMAT capability deficiencies are tracked until a corrective action is implemented.</p>
<p>HM.15. The installation is required to have a mutual aid agreement when using local community HAZMAT capabilities (AFI 32-4002, para 2.3.2.1).</p>	<p>Determine if the installation uses local community HAZMAT capabilities.</p> <p>Verify that a mutual aid agreement has been set up, including HAZMAT emergency response provisions.</p>





**COMPLIANCE CATEGORY:
HAZARDOUS MATERIALS MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>TRANSPORTATION OF HAZARDOUS MATERIALS</p> <p>HM.20. Vehicles being used to transport explosive or extremely hazardous materials are required to be inspected (AFR 75-2, para 33-18).</p> <p>HM.21. The installation should ensure that transportation of HAZMAT between buildings is accomplished in accordance with good management practices to help ensure against spills, releases, and accidents (MP).</p>	<p>Determine if vehicles being used to transport explosive or extremely hazardous materials are being inspected.</p> <p>Determine if procedures exist to manage movement of HAZMAT throughout the base.</p> <p>Determine if drivers are trained in spill control procedures.</p> <p>Determine if provisions have been made for securing HAZMAT in vehicles when transporting.</p>



Appendix 3-1

Recommended HAZMAT Plan Format (AFI 32-4002, Attachment 5)

1. Introduction <ul style="list-style-type: none">a. Emergency Action Planb. Telephone Rosterc. Mission Statementd. Legal Authority and Responsibility for Respondinge. Abbreviations and Definitionsf. Assumptions/Environmental Settingg. Concept of Operations<ul style="list-style-type: none">1. Governing Principles2. Organizational Roles and Responsibilities3. Relationship to Other Plansh. Instruction on Plan Use<ul style="list-style-type: none">1. Purpose2. Plan Distributioni. Record of Amendments
2. Hazards Analysis <ul style="list-style-type: none">a. Hazards Identificationb. Vulnerability Analysisc. Risk Analysis
3. Capability Assessment <ul style="list-style-type: none">a. Base Researchb. Offbase Research
4. Response Functions <ul style="list-style-type: none">a. Initial Notification of Response Agenciesb. Direction and Controlc. Communication (among responders)d. Warning systems and Emergency Public Notificatione. Public Information/Community Relationsf. Resource Management (including training)g. Medical Supporth. Environmental Managementi. Decontamination Proceduresj. Personal Protection of Citizens<ul style="list-style-type: none">1. Indoor Protection2. Evacuation Procedures3. Other Public Protection Strategiesk. Fire and Rescue Supportl. Security Police Supportm. Civil Engineering Supportn. Other Support Services
5. Containment and Cleanup
6. Documentation and Investigative Followup
7. Procedures for Testing and Updating the Plan

(continued)

Appendix 3-1 (continued)

8. References

Recommended O Plan 32-1 Appendix Format
1. Purpose
2. Assumptions (Summary of Hazards Analysis) <ul style="list-style-type: none">a. Vulnerable Facilitiesb. Pre-Emergency Planning
3. Concept of Operations <ul style="list-style-type: none">a. Relationship of O Plan to HAZMAT Planb. Roles and Responsibilitiesc. Federal, State, and Local Relationship
4. Emergency Response Phase <ul style="list-style-type: none">a. Notification Proceduresb. Levels of Responsec. Site Management Practicesd. Evacuation Procedures
5. Recovery Phase <ul style="list-style-type: none">a. After Action Reportsb. Incident Review and Followup

HAZMAT EMERGENCY RESPONSE TRAINING REQUIREMENTS
(AFI 32-4002, Attachment 6)

Employee Category	Training Categories															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Security/Law enforcement	X							X								
On-scene Disaster Control Group	X							X				X				
Fire Protection		X						X			X	X				
Explosive Ordnance Personnel			X					X			X					
HAZMAT Response Team			X					X	X	X	X	X	X		X	
Bioenvironmental Engineering Technicians			X					X		X	X	X	X			
HAZMAT Response Team Leader(s)*				X	X			X	X	X	X	X	X	X		
Bioenvironmental Engineer				X			X	X		X	X	X	X	X	X	
Environmental Management (as assigned)				X				X		X	X	X	X	X	X	
Base Commander and Deputies					X			X	X		X	X	X	X	X	
Disaster Preparedness			X		X			X	X		X	X	X	X	X	
Senior Fire Officials					X			X	X	X	X	X	X	X	X	
Cleanup Team Personnel						X		X		X	X	X	X			
IRP Remedial Project Managers (as assigned)							X	X			X	X	X		X	
Personnel in Units Handling HAZMAT (as assigned)						X		X	X	X	X	X	X	X	X	X

TRAINING CATEGORIES:

1. First Responder Awareness (29 CFR 1910.120 and NFPA 472)
2. First Responder Operations (29 CFR 1910.120 and NFPA 472)
3. HAZMAT Technician (29 CFR 1910.120 and NFPA 472)
4. HAZMAT Specialist (29 CFR 1910.120)
5. On-Scene Commander (29 CFR 1910.120 and NFPA 472)
6. Post Emergency Response Operations (29 CFR 1910.120/134)
7. AF Installation Restoration Site Managers (29 CFR 1910.120)
8. Emergency Action Plans (29 CFR 1910.38)
9. Process Safety Management (29 CFR 1910.119)
10. Confined Space (29 CFR 1910.146)
11. HAZCOM & Lab Safety (29 CFR 1200/1450)
12. 40 CFR 109/112/125, HM-214, & PS-130)
13. Hazardous Waste (40 CFR 262/264/265)
14. NCP (40 CFR 300)
15. PCBs (40 CFR 761)
16. Training for Safe Transportation (49 CFR 171-178)

* HAZMAT Response Team Leader(s) are those persons responsible for the day-to-day administrative and training requirements of the HAZMAT Response Team. During a HAZMAT incident, they will fill the HAZARD Group Supervisor position.



Appendix 3-3

Quantities of Hazardous Materials That the HAZMAT Planning Team Identifies and Evaluates (AFI 32-4002, Table 2.1)

Category	Screening Quantity
Extremely Hazardous Substances (EHSs)	Greater than or equal to the threshold planning quantity (TPQ). (The sum of all containers of a specific EHS, no matter where they are located on an installation)
Hazardous Substance	Containers greater than or equal to 55 gal
Underground Storage Tanks (USTs)	Tanks containing more than 42,000 gal of oil
Aboveground Storage Tanks (ASTs)	Tanks containing more than 1320 gal or any container with a capacity in excess of 660 gal of oil
Hazardous Waste	Any amount
PCBs	Any quantity of a material containing a concentration of greater than or equal to 50 ppm



Section 4

Hazardous Waste Management (Air For Supplement)

A. U.S. Air Force Instructions (AFIs) and Policies	1
B. Department of Defense (DOD) Directives and Instructions	1
C. Using the TEAM Guide for ECAMP	1
D. Key Air Force/DOD Compliance Requirements	1
E. Key Compliance Personnel	2
F. Key Air Force/DOD Compliance Definitions	4
G. Additional Records To Review	4
H. Additional Physical Features To Inspect	4
I. People To Interview	4
J. Guidance for Hazardous Waste Management Checklist Users	5

SECTION 4

HAZARDOUS WASTE MANAGEMENT

A. U.S. Air Force Instructions (AFIs) and Policies

- AFI 32-7042, *Solid and Hazardous Waste Compliance*. This AFI, dated 12 May 1994, contains requirements for solid waste and hazardous waste management planning, training, collecting, and disposal.
- Air Force Policy Letter, 6 June 1991. This policy letter provides guidance on the management of hazardous waste, employee training, turn-in and disposal procedures, contracting, and pollution prevention.
- Air Force Policy Letter, 21 January 1994. This memorandum, *Air Force Policy on the Application of the Resources Conservation and Recovery Act to Conventional Explosive Ordnance Operations*, addresses the issue of when waste ordnance is to be handled as a hazardous waste.

B. Department of Defense (DOD) Directives and Instructions

- None that have not been implemented/superseded by AFIs.

C. Using the TEAM Guide for ECAMP

- No additional instructions.

D. Key Air Force/DOD Compliance Requirements

- Installation Hazardous Waste Management Plan. Each Installation Commander (IC) will ensure that a written hazardous waste management plan is maintained to provide installation personnel with procedures and responsibilities to manage hazardous wastes consistent with all applicable laws and regulations.
- Waste Characterization - Installations are required to use a waste analysis plan, a waste stream inventory, and hazardous waste profile sheets when characterizing their waste streams.
- Accumulation Point Management - Specific individuals have to be designated as responsible for an accumulation point.
- Ordnance - According to the AF policy letter issued 21 January 1994, conventional explosive ordnance becomes hazardous waste when:
 1. an authorized official records in writing a determination that the conventional explosive ordnance will be discarded
 2. custodians of the conventional explosive ordnance receive this written determination for the conventional explosive ordnance is to be discarded and, therefore subject to the *Resource Conservation and Recovery Act* (RCRA) regulation.

Prior written authorization is not required if safety or other considerations such as emergency response conducted by an Explosive Ordnance (EOD) unit or a response to mitigate an imminent hazard precludes obtaining prior written authorization.

E. Key Compliance Personnel

- The IC. The IC is responsible for establishing and maintaining an active program of surveillance of the users of hazardous materials; generators, transporters, and storers of hazardous wastes; the waste minimization program; and disposal activities. By DOD direction, the installation commander is responsible for compliance with RCRA and state regulations involving host and tenant organizations on the installation. The commander signs all permit applications and reports submitted to the U.S. Environmental Protection Agency (USEPA) or state agencies as part of this overall management responsibility. In the event that the IC is not a colonel or higher, permit applications must be referred up the chain of command to an official in the grade of colonel or higher for signature. In either case, operational responsibility for the hazardous waste program rests with the activities that generate, treat, store, transport, or dispose of the waste and the activities responsible for implementing health, safety, and environmental protection programs.
- The Installation Environmental Protection Committee (EPC). The EPC is responsible for reviewing summary data on waste generation, personnel training, and disposal practices.
- The Base Civil Engineer (BCE). The BCE or designated Environmental Management Office (EMO) develops installation-specific policy for all aspects of hazardous waste management for all activities on the installation including Air Force and non-Air Force tenants. The BCE/EMO also manages the hazardous waste program, reviews all hazardous waste storage, treatment, and disposal facilities and ensures their compatibility with hazardous waste regulations, serves as the Office of Primary Responsibility (OPR) for developing and implementing the hazardous waste management plan, identifies to the contracting office those hazardous wastes that the installation elects to dispose of by local contract with the necessary conditions the contractor is required to meet, and approves siting and design of all hazardous waste management facilities.
- Base Fire Department. This department provides support in emergency response, spill events, exercises, and fire protection activities. The department is responsible for making periodic fire safety inspections of hazardous waste storage areas and accumulation points on the installation.
- Civil Engineering Environmental Planning Function. The Environmental Planner is responsible for monitoring day-to-day hazardous waste management activities, maintaining hazardous waste files, permit applications, reports to USEPA and/or state regulatory agencies, and budgets for hazardous waste disposal, verifying that billings for hazardous waste disposal are accurate and certifying them for payment by Accounting and Finance, certifying that all hazardous waste is properly identified, labeled and packaged before transfer to the Defense Reutilization and Marketing Office (DRMO), assisting generating activities in preparing turn-in documentation, and establishing procedures for transfer of accountability and custody of hazardous waste from the generating activity to the DRMO.
- The Bioenvironmental Engineer (BEE). The BEE provides industrial hygiene and occupational health consultant services to all industrial shops and hazardous waste treatment, storage, and disposal facilities and monitors hazardous waste processes for worker health and safety. The BEE also provides installation technical expertise on hazardous waste identification and is the OPR for the installation hazardous waste stream inventory and waste analysis plan. At the request of the envi-

ronmental manager, the BEE may collect, prepare, and transport hazardous waste samples to an approved analytical laboratory for analysis. The BEE also reviews plans to build or modify facilities used to treat, store, or dispose of hazardous wastes, reviews all material requests for issues of stock classes listed in Federal Standard 313, direct assignment of installation exception codes (IEXs) or IRMCs to all items requiring medical oversight, and maintains a master file of material safety data sheets (MSDSs).

- The Environmental Health Officer (EHO). The EHO conducts the Hazardous Communication training for all supervisors who have personnel who handle hazardous materials.
- The Supply Officer. The Supply Officer processes paperwork transactions and maintains the computer transaction records for all hazardous waste disposal actions. Base Supply will not accept physical custody of hazardous waste.
- The Transportation Officer. The Transportation Officer ensures hazardous wastes are properly labeled, packaged, manifested, and transported in appropriate vehicles (contract or Air Force owned vehicles).
- The Deputy Commander for Maintenance (DCM) or Chief of Maintenance. The DCM ensures non-hazardous and nontoxic materials are used where possible, maintains a list of hazardous materials used in the work area by shop and maintenance related task, ensures personnel are properly trained in ordering, using, handling, controlling, and storing hazardous materials and wastes, and ensures hazardous waste is properly labeled.
- Hazardous Waste Generating Activities. Generating Activities manage hazardous waste in their custody including proper storage, inspection, recordkeeping, labeling of containers, and transfer for disposal. Proper transfer for disposal will include providing Base Supply all required information to establish hazardous waste stock numbers, preparing turn-in documentation, obtaining funding certification, and transporting hazardous waste to DRMO pickup points.
- Hazardous Waste Treatment, Storage, and Disposal Facility (TSDF) Operators. Each TSDF operator is responsible for ensuring compliance with hazardous waste regulations applicable to the facility including maintaining operational and training records.
- The DRMO. This organization may or may not be located on the installation. Regardless, it is the single agency designated by DOD to provide hazardous waste disposal service on a pay-for-services-rendered basis to the installation. The DRMO is responsible for compliance with all USEPA, state, and Air Force (including base guidance) regulations at its storage or disposal facility.
 1. In many cases, the BCE will assist the DRMO in filing the RCRA Part B application and in obtaining the required RCRA permit. The DRMO is responsible for operating the storage facility according to the RCRA regulations or permit and for arranging for the shipment off-base for disposal of the waste.
 2. In a few limited cases, the installation may own and operate a long-term storage facility. This is the case when there is not a DRMO facility onbase and waste must be accumulated more than ninety calendar days before shipment to an offbase DRMO. Normally, the BCE assumes responsibility for operating such a long-term storage facility.

F. Key Air Force/DOD Compliance Definitions

- Hazardous Waste Profile Sheet - A document (Defense Reutilization and Marketing Service (DRMS) Form 1930) that describes the physical and chemical properties of hazardous waste (AFI 32-7042, Attachment 1).

G. Additional Records To Review

- Hazardous Waste Management Plan

H. Additional Physical Features To Inspect

- DRMOs

I. People To Interview

- Base Civil Engineering (Environmental Coordinator)
- DRMO
- Satellite Accumulation Point Managers or Operators
- Safety Manager
- Fire Department
- TSDF Operators
- Project Resource Manager
- Base Bioenvironmental Engineer
- Transportation
- Accumulation Point Managers and Operators

J. Guidance for Hazardous Waste Management Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
All Installations	HW.1	4-7
All Sizes of Generators		
General	HW.2 through HW.6	4-9
Personnel Training	HW.7 and HW.8	4-13



**COMPLIANCE CATEGORY:
HAZARDOUS WASTE MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>ALL INSTALLATIONS</p> <p>HW.1. Copies of all relevant Federal, state, and local regulations on hazardous waste should be maintained at the installation (MP).</p>	<p>(NOTE: States may obtain authorization to operate the RCRA program from USEPA, provided regulations at least as stringent as USEPA regulations have been passed and an agreement has been signed with USEPA.)</p> <p>Determine from interview if copies of the following regulations are maintained and kept current at the base:</p> <ul style="list-style-type: none"> - 40 CFR 260, <i>Hazardous Waste Management System: General.</i> - 40 CFR 261, <i>Identification and Listing of Hazardous Waste.</i> - 40 CFR 262, <i>Standards Applicable to Generators of Hazardous Waste.</i> - 40 CFR 263, <i>Standards Applicable to Transporters of Hazardous Waste.</i> - 40 CFR 264, <i>Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.</i> - 40 CFR 265, <i>Interim Status Standards for Owners and Operators of Hazardous Waste Treatment Storage and Disposal Facilities.</i> - 40 CFR 266, <i>Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities.</i> - 40 CFR 268, <i>Land Disposal Restrictions.</i> - 49 CFR 172-179, <i>Transportation Regulations.</i> - Air Force Hazardous Waste Management Policy, 6 June 1991. - <i>Air Force Policy on the Application of RCRA to Conventional Explosive Ordnance Operations</i>, 21 January 1994. - AFI 32-7042, <i>Solid and Hazardous Waste Compliance.</i> - Any MAJCOM Supplements to AFI 32-7042. - National Fire Protection Association (NFPA), <i>Fire Protection Guide of Hazardous Materials.</i> - applicable state and local regulations. <p>Determine if base environmental staff are familiar with and knowledgeable in regulatory requirements.</p> <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing and proposed activities and keeps the Environmental Protection Committee (EPC) informed as needed.</p>



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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>ALL SIZES OF GENERATORS</p> <p>General</p> <p>HW.2. Installations are required to characterize their hazardous waste streams through a waste analysis plan, a waste stream inventory, and hazardous waste profile sheets (AFI 32-7042, para 2.4.2, 2.4.3, and 2.4.4).</p>	<p>Verify that the installation has characterized hazardous waste by developing a waste analysis plan that includes the following:</p> <ul style="list-style-type: none"> - the wastes evaluated and analyzed - test methods used - hazardous waste sampling methods - sample analysis locations and frequency, descriptions of analytical methods used - sample documentation - sample quality assurance/quality control procedures - sample request procedures. <p>(NOTE: Waste analysis is to be conducted by using the waste generators knowledge of the waste or by analytical testing.)</p> <p>Verify that the waste streams are evaluated as necessary to ensure waste stream characteristics have not substantially changed.</p> <p>(NOTE: Appendix 4-1 contains recommended re-evaluation frequencies for chemical mixture waste streams.)</p> <p>(NOTE: Describe re-evaluations in the waste analysis plan.)</p> <p>Verify that chemical and physical analysis documentation is kept for each waste stream sampled for hazardous waste.</p> <p>Verify that the hazardous waste stream inventory describes all of the hazardous waste streams generated and includes the following information:</p> <ul style="list-style-type: none"> - identification of the generating activity - location of the generating activity - unique waste stream number - estimated annual quantity disposed - disposal location - disposal method - waste characteristics information (USEPA/state waste code, USEPA priority pollutant number etc.). <p>Verify that waste stream descriptions are documented on hazardous waste profile sheets, DRMS Form 1930.</p>

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U.S. TEAM Guide: ECAMP Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>HW.3. Installations that generate hazardous waste are required to have a Hazardous Waste Management Plan (AFI 32-7042, para 2.2 and Attachment 1).</p> <p>HW.4. Generating activities that generate hazardous wastes and use the DRMO for disposal of hazardous waste are required to follow established procedures (Air Force Hazardous Waste Management Policy, 6 June 1991, Appendix C, Section B).</p>	<p>Verify that the plan is reviewed annually by the EPC and updated as needed.</p> <p>Verify that the plan contains the following:</p> <ul style="list-style-type: none"> - a letter of instruction - information and emergency contacts - introductory materials - introduction - responsibilities - organizational chart - location maps - hazardous waste inventory - waste analysis plan - hazardous waste management procedures - reporting - training - contingency plan summary - preparedness and spill prevention summary - pollution prevention summary. <p>Determine, by examining records and interviewing generators, if:</p> <ul style="list-style-type: none"> - generators provide a Hazardous Waste Profile Sheet with the waste - generators hand-carry AF Form 2005 to Base Supply to initiate timely action - generators hand-carry DD Form 1348-1 when received from Base Supply to Environmental Planning for certification - generators hand-carry certified DD Form 1348-1 from Environmental Planning to DRMO. <p>Examine records and interview Base Supply (Customer Service Unit) to determine if:</p> <ul style="list-style-type: none"> - computer records of all hazardous waste transfer actions are maintained - a DD Form 1348-1 is processed for each transaction that includes the hazardous waste stock number, waste quantity, and applicable disposal cost and funding information.

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U.S. TEAM Guide: ECAMP Supplement**

**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
January 1995**

HW.6. Installations are required to designate an individual to be responsible for the proper management of each accumulation site (AFI 32-7042, para 2.5.1).

Verify that individuals are designated as responsible for each accumulation point.

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>ALL SIZES OF GENERATORS</p> <p>Personnel Training</p> <p>HW.7. All installation personnel who handle hazardous waste are required to meet certain training requirements (AFI 32-7042, para 2.3).</p>	<p>Verify that all personnel who work with hazardous waste, and their supervisors, receive, and successfully complete, hazardous waste training prior to working with hazardous waste.</p> <p>Verify that annual refresher training is completed.</p> <p>Verify that the training program includes the following:</p> <ul style="list-style-type: none"> - introduction to RCRA - identification of hazardous wastes - accumulation point management - container use, marking and labeling, an onsite transportation - waste turn-in procedures - manifesting and transportation of hazardous wastes - spill prevention and response to emergencies - waste minimization - personnel safety and health and fire safety. <p>Verify specifically that accumulation point managers and hazardous waste handlers have been trained.</p> <p>(NOTE: Hazardous Waste Operations and Emergency Response (HAZWOPER) training will fulfill this requirement.)</p>

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**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
January 1995**

HW.8. Training records are required to be maintained for all installation staff who manage hazardous waste (AFI 32-7042, para 2.3.3).

Verify that training records of former employees are kept for 3 yr from the last date the person worked.

Verify that for all others, training records are maintained permanently (until closure of the installation).

Verify by examination that training records include the following:

- students name
- job title
- job description
- previous hazardous waste training
- date training was received
- instructor
- test scores (optional)
- date of annual refresher training.

Verify that records accompany employees transferred within the Air Force.

Appendix 4-1

Re-evaluation Frequencies for Chemical Mixtures (AFI 32-7042, Table 2)

1. High Volume Hazardous Waste Streams. Sample and analyze each high volume waste stream (more than 3-55 gal drums per year) at least once a year, or whenever there are process, material, or material manufacturer changes.
2. Low Volume Hazardous Waste Streams. Sample and analyze each low volume waste stream (3-55 gal drums or less per year) at least every 3 yr, or whenever there are process, material, or material manufacturer changes.



Section 5

Natural Resources Management (Air Force Supplement)

A. U.S. Air Force Instructions (AFIs) and Policies	1
B. Department of Defense (DOD) Directives and Instructions	1
C. Using the TEAM Guide for ECAMP	1
D. Key Air Force/DOD Compliance Requirements	1
E. Key Compliance Personnel	2
F. Key Air Force/DOD Compliance Definitions	2
G. Additional Records To Review	3
H. Additional Physical Features To Inspect	4
I. People To Interview	4
J. Guidance for Natural Resources Management Checklist Users	5

SECTION 5

NATURAL RESOURCES MANAGEMENT

A. U.S. Air Force Instructions (AFIs) and Policies

- AFI 32-7064, *Integrated Natural Resources Management*. This AFI, dated 8 March 1994, identifies compliance requirements for integrated natural resources management.

B. Department of Defense (DOD) Directives and Instructions

- DOD Directive (DODD) 4700.4, *Natural Resources Management Program*. This directive prescribes DOD policies and established an integrated program for multiple-use management of the renewable natural resources on DOD lands. It directs installations to protect, conserve, and manage the watersheds and natural landscapes, the soil, the forest, timber growth, fish and wildlife, and endangered species as vital elements of the Air Force mission. It further stipulates that the natural resources will be used and cared for in the combination best serving the present and future needs of the United States and its people.

C. Using the TEAM Guide for ECAMP

- No additional instructions.

D. Key Air Force/DOD Compliance Requirements

- Personnel - Installations are required to have personnel designated for natural resources responsibilities. These people are required to undergo natural resources training.
- Management Plans - Air Force installations that have land and water areas that possess, or are capable of possessing natural resources will develop a program for restoring, improving, developing, and conserving natural resources. They will develop management plans for land (soil and water), grazing and croplands, forest, fish and wildlife, and outdoor recreation where there are resources to manage.
- Land Management - Installations are required to follow operational and maintenance procedures if they have grazing or croplands. Landscaping at the installation must be done to make maximum use of native and locally adapted plants. If there are forests at the installation they must be managed according to specific parameters, especially if timber harvesting is occurring.
- Floodplains and Wetlands - Installations are required to identify, classify, map, and protect floodplains and wetlands.
- Endangered/Threatened Species - A survey will be done to determine if the installations has any such species, and measures taken to maintain them.

- Outdoor Recreation Resources - Installations with outdoor recreation resources are required to consult with the National Park Service (NPS) for classifying areas. The use of off-road vehicles (ORV) is restricted to areas that will sustain use without damaging natural or cultural resources.
- Cooperative Agreements - Installations will maintain liaison with agencies through cooperative agreements. These agreements assist in developing and implementing well-coordinated, multiple-use natural resource programs. One example is the Memorandum of Understanding (MOU) between the Air Force and several private conservation organizations to develop the Watchable Wildlife Program.
- Coastal Zones - While coastal zones are regulated at the state level, the Air Force has entered into an agreement with the Coastal America National Implementation Team to coordinate and cooperate in the restoration and protection of coastal zones. This agreement has resulted in guidance being distributed to appropriate installations for implementation.

E. Key Compliance Personnel

- Base Civil Engineering (BCE)/Environmental Management. The BCE is responsible for funding, supervising, controlling, and managing the installations natural resources program.
- Natural Resources Manager. The Natural Resources Manager is responsible for preparing management plans and cooperative agreements, budgets, and the annual natural resources report. The natural resources manager also implements and controls all activities in furtherance of natural resources management. On installations without a full-time Natural Resources Manager, these duties would normally be assigned to the environmental coordinator or community planner.
- Air Force Civil Engineering Support Agency (AFCESA). AFCESA provides technical assistance on grounds maintenance, bird/aircraft strike hazard reduction, and integrated pest management.
- Air Force Center for Environmental Excellence (AFCEE). AFCEE provides expertise on land use planning and conservation of historical, archeological, and biological resources. These include wetlands, threatened and endangered species, and a variety of other areas.

F. Key Air Force/DOD Compliance Definitions

- *Agricultural Outleasing* - the use of DOD lands under a lease to an agency organization, or person for the purpose of growing crops or grazing animals (AFI 32-7064, Attachment 1).
- *Animal Unit (AU)* - a convenient denominator for use in calculating relative grazing impact of different kinds and classes of livestock and of common wildlife species. One AU equals a mature (1,000 lb) cow, or the equivalent, based upon average daily forage consumption of 26 lb [11.7 kg] of dry matter per day (AFI 32-7064, Attachment 1).
- *Commercial Forest Land* - land under management, capable of producing at least 20 ft³ [0.6 m³] of merchantable timber per acre a year. It must be accessible and programmed for silvicultural prescriptions. The smallest area for this classification is 5 acres [2 ha]. Roadside, streamside, and shelterbelt strips of timber must have or be capable of producing a crown width of at least 120 ft³ [3.6 m³] to be classified as a commercial forest (AFI 32-7064, Attachment 1).

- *Cropland* - land primarily suited for producing farm crops, including grain, hay, and truck crops (AFI 32-7064, Attachment 1).
- *Floodplains* - lowland or flat areas adjoining inland and coastal waters, including flood prone areas of offshore islands, that have a 1 percent or greater chance of flooding in any given year (AFI 32-7064, Attachment 1).
- *Forest Land* - land on which forest trees of various sizes comprise at least 10 percent of the area. This category include open land that is capable of supporting trees, though not currently developed for forest uses, but planned for forest regeneration and management (AFI 32-7064, Attachment 1).
- *Game* - any species of fish or wildlife for which state or Federal laws and regulations prescribe seasons and bag or creel limits (AFI 32-7064, Attachment 1).
- *Grazing Land* - land with vegetative cover that consists of grasses, forbs, and shrubs valuable as forage (AFI 32-7064, Attachment 1).
- *Improved Grounds* - grounds on which personnel annually planned and perform intensive maintenance activities. These are developed areas of an installation that have lawns and landscape planning that require intensive maintenance. These usually include the cantonment, parade grounds, drill fields, athletic areas, golf courses (excluding roughs), cemeteries, housing areas, etc. (AFI 32-7064, Attachment 1).
- *Outdoor Recreation* - recreation that relates directly to and occurs in natural, outdoor environments (AFI 32-7064, Attachment 1).
- *Semi-Improved Grounds* - grounds where personnel perform periodic maintenance primarily for operational and aesthetic reasons (such as erosion and dust control, bird control, and visual clear zones). These usually include grounds adjacent to runways, taxiways, and aprons; runway clear zones; lateral safety zones; rifle and pistol ranges; picnic areas; ammunition storage areas; antenna facilities; golf course roughs etc. (AFI 32-7064, Attachment 1).
- *Unimproved Grounds* - grounds not classified as improved or semi-improved and usually not mowed more than once per year. These include weapons ranges, forest lands; cropland and grazing lands; lakes, ponds, and wetlands; and areas in airfield beyond the safety zones (AFI 32-7064, Attachment 1).

G. Additional Records To Review

- Land Use Plan
- Land Management Plan
- Master Plan
- Fish and Wildlife Plan
- Fish and Wildlife Cooperative Agreements
- Outdoor Recreation Plan
- Outdoor Recreation Cooperative Agreement
- Cropland and Grazing Plan
- Forest Management Plan
- Grounds Maintenance Contracts

- Agricultural Outleasing Contracts
- Reports of MAJCOM and HQ USAF Staff Assistance Visits
- Integrated Natural Resources Management Plan

H. Additional Physical Features To Inspect

- Military training areas (condition)
- Ordnance storage and disposal areas (condition)
- Grounds Maintenance areas (beautification and condition)
- Forest Management areas (condition and management)
- Agricultural and Grazing lease areas (condition and management)
- Sensitive and critical habitat areas (condition and management)
- Wetlands and floodplains (condition and management)
- Unimproved areas (condition and management)

I. People To Interview

- Natural Resources Manager
- Environmental Coordinator
- Services Squadron (MWR)
- Outdoor Recreation POC
- BCE Community Planner

J. Guidance for Natural Resources Management Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
All Installations	NR.1 through NR.4	5-7
Plans	NR.5 and NR.6	5-9
Land Management	NR.7 through NR.12	5-11
Water Resources Management	NR.13 and NR.14	5-13
Wildlife Management	NR.15 through NR.21	5-15
Outdoor Recreation Resources	NR.22 and NR.23	5-17



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REGULATORY REQUIREMENTS	REVIEWER CHECKS: January 1995
<p>ALL INSTALLATIONS</p> <p>NR.1. Copies of all relevant Federal, state, and local regulations on natural resources should be maintained at the installation (MP).</p> <p>NR.2. Natural Resources Managers are required to be designated and trained for natural resources responsibilities (AFI 32-7064, para 14.4).</p> <p>NR.3. Air Force personnel are required to be trained about natural resources as appropriate to their responsibilities (AFI 32-7064, para 14.1 through 14.2).</p> <p>NR.4. The Installations Natural Resource Manager should be included in the coordination process for all actions that may impact the installations natural or cultural resources (MP).</p>	<p>Determine whether copies of the following natural resource regulations are maintained and kept current at the installation and are ready:</p> <ul style="list-style-type: none"> - EO 12088, <i>Compliance With Pollution Standards</i>. - 50 CFR 402, <i>Interagency Cooperation-Endangered Species Act 1973, as amended</i>. - DODD 4700.4, <i>Natural Resources Management Program</i>. - AFI 32-7064, <i>Integrated Natural Resources Management</i>. - applicable state and local regulations. <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing and proposed activities and keeps the Environmental Protection Committee (EPC) informed as needed.</p> <p>Verify that Natural Resources Managers have attended the <i>DOD Management of Cultural and Natural Resources: Air Force Training Module</i> course at least every 3 yr.</p> <p>(NOTE: Attendance may be onsite or through correspondence.)</p> <p>Verify that basic information on natural resources is incorporated into newcomer orientation briefings.</p> <p>(NOTE: Training materials are available from AFCEE and Air Force Institute of Technology (AFIT).)</p> <p>Determine if the Natural Resource Manager is included in the coordination process for all actions that may impact the installation's natural resources.</p>



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REGULATORY REQUIREMENTS	REVIEWER CHECKS: January 1995
<p>PLANS</p> <p>NR.5. The installation is required to have an Integrated Natural Resources Management Plan (INRMP) based on the ecosystems found at the installation (AFI 32-7064, para 2.1 and 2.2).</p>	<p>Determine if the installation contacted the following, as applicable, to determine if sufficient habitat warrants an INRMP:</p> <ul style="list-style-type: none"> - state forestry office - state game/natural resources department - Fish and Wildlife Service (FWS) - the Soil Conservation Service (SCS). <p>Verify that the INRMP is reviewed annually.</p> <p>Verify that the INRMP is prepared and revised with input from an interdisciplinary team.</p> <p>Verify that as a part of the INRMP, Short Term Operational Component Plans are developed for 2-yr periods in conjunction with the budget process.</p> <p>Verify that information from the INRMP is incorporated into the Base Comprehensive Plan.</p> <p>Verify that new INRMPs and substantive revisions are developed at least every 5 yr and coordinated with the appropriate officials.</p> <p>(NOTE: Attachment 1 of AFI 32-7064 contains detailed guidelines for the contents of the INRMP which include:</p> <ul style="list-style-type: none"> - purpose of the plan - management philosophy - authority - how the plan is used - approvals and revisions - definition of terms - environmental documentation - installation location and mission - mission impacts on the local environment - a description of the general physical environment - general biotic information - management issues and concerns - management goals and objectives - identification, classification, and mapping of installation natural resources management units - operational component plans for: <ul style="list-style-type: none"> - threatened and endangered species (protection and mitigation, population enhancement, FWS consultation process)

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REGULATORY REQUIREMENTS	REVIEWER CHECKS: January 1995
<p>LAND MANAGEMENT</p> <p>NR.7. Specific actions are required to be taken if the installation determines that proposed actions will take place in a floodplain (AFI 32-7064, para 4.1.2).</p> <p>NR.8. Landscape development, design, and maintenance is required to be done according to specific parameters (AFI 32-7064, para 11.1.1 and 11.7.1).</p> <p>NR.9. Forest management operational component plans are required to meet specific parameters (AFI 32-7064, para 8.1).</p>	<p>Verify that the installation evaluates and documents the potential effects of the action through the environmental impact analysis process (EIAP).</p> <p>Verify that alternatives are considered to avoid these effects and incompatible development.</p> <p>Verify that the installation has requested that SAF/MI or another designated official to sign a finding of no practicable alternative before taking any actions in a floodplain.</p> <p>Verify that if the only practicable alternative is to site in a floodplain, structures and facilities are built according to the following:</p> <ul style="list-style-type: none"> - The National Flood Insurance Program - state floodplain regulations - community or county floodplain protection laws and ordinances. <p>Verify that landscape development on improved grounds is informal in design and will make maximum use of native and locally adapted plant materials.</p> <p>Verify that, wherever possible, improved grounds are converted to semi-improved or unimproved grounds and semi-improved grounds are converted to unimproved grounds.</p> <p>Verify that maximum use is made of nonturf ground covers, wildflower plantings, and other means of landscape beautification requiring lower maintenance than lawns.</p> <p>Verify that irrigation is limited to improved grounds and outleased areas for agricultural purposes and is minimized through the use of native landscaping species and application of mulches around plantings.</p> <p>Verify that the plan includes the following objectives of forest management:</p> <ul style="list-style-type: none"> - maintenance of ecological integrity - maintenance of a biological balance in the forest community - protection of watersheds and wildlife habitat - planning and coordination of the multiple uses of forest land. <p>Verify that the plan covers a 2 yr period.</p>

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REGULATORY REQUIREMENTS	REVIEWER CHECKS: January 1995
<p>NR.10. All sales of forest products are required to comply with the forest management operational component of the INRMP and be done according to specific practices (AFI 32-7064, para 8.1).</p> <p>NR.11. Specific practices are required to be used to protect forests and manage fire hazards (AFI 32-7064, para 8.7).</p> <p>NR.12. Installations that permit agricultural crop production or livestock grazing on installation lands under agreements specified in agricultural outleases, service contracts, or special licenses are required to meet specific standards (AFI 32-7064, para 9.1 through 9.10).</p>	<p>Determine if the installation has a commercial forest.</p> <p>Verify that the practices being used in forest management are done as outlined in the forest management operational component of the INRMP.</p> <p>Verify that the forest management operational component is a 2-yr plan.</p> <p>Verify that a professional forester or trained personnel perform the following activities:</p> <ul style="list-style-type: none"> - marking of areas for harvesting - estimate timber volume for sale purposes - make periodic inspections of ongoing timber harvesting activities. <p>Verify that inspections are documented and reported to the contracting office.</p> <p>Verify that forests are protected by using planned silvicultural practices.</p> <p>(NOTE: Other practices may be used if both the risk and hazard of damage are great.)</p> <p>Verify that the installation has a plan for prescribed burns that has been developed by a professional forester and approved and coordinated by the installation fire department and civilian authorities, adjoining landowners, the state forestry commission, county air quality management offices, and the local air pollution control board.</p> <p>Verify that cropland and grazing suitability have been determined in consultation with the state or local offices if the U.S. Department of Agriculture (USDA), the SCS, state university agricultural extension service, or other technically qualified governmental agencies.</p> <p>Verify that if agricultural outleasing is done, it is addressed in the INRMP.</p> <p>Verify that outleased lands are monitored to ensure compliance with the agricultural outleasing component of the INRMP and with local land use regulations.</p> <p>Verify that grazing is not permitted in areas where soils are subject to excessive compaction or where forage plants are not developed sufficiently to support grazing.</p> <p>Verify that grazing is not permitted in hardwood forests.</p> <p>Verify that lessees obtain approval for all prescribed burns.</p>

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REGULATORY REQUIREMENTS	REVIEWER CHECKS: January 1995
<p>WATER RESOURCES MANAGEMENT</p> <p>NR.13. The INRMP at an installation with jurisdictional wetlands will include long-term monitoring of trends (AFI 32-7064, para 3.3.1).</p> <p>NR.14. The Major Command (MAJCOM) is required to survey all acreage under their control for potential wetlands and develop and maintain current inventories (AFI 32-7064, para 3.2.1).</p>	<p>Verify that the INRMP includes long-term monitoring of trends in habitat values and plans for reiteration and enhancement of wetlands.</p> <p>Verify that the MAJCOM has surveyed all property under the control of the installation.</p>



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REGULATORY REQUIREMENTS	REVIEWER CHECKS: January 1995
<p>WILDLIFE MANAGEMENT</p> <p>NR.15. Installations with threatened or endangered species are required to include specific information in the INRMP (AFI 32-7064, para 7.1.3).</p> <p>NR.16. All installations are required to prepare and maintain a current inventory of endangered species and critical habitat as a part of the base habitat inventory (AFI 32-7064, para 7.2).</p> <p>NR.17. Installations with game species of fish and wildlife are required to develop a fish and wildlife management operational component plan as a part of the INRMP (AFI 320-7064, para 6.1.1).</p>	<p>Verify that the plan includes the following information:</p> <ul style="list-style-type: none"> - coordinated protection and mitigation measures - appropriate affirmative methods and procedures necessary to enhance the population of endangered species - procedures and responsibilities for consulting with the FWS before funding or conducting any action likely to affect a listed species or its critical habitat - official FWS recovery plans for each threatened or endangered species. <p>Verify that surveys have been conducted and are regularly updated in coordination with the FWS and state fish and wildlife agency.</p> <p>Verify that the data from the most recent survey has been included in the INRMP and has been made available to the Nature Conservancy.</p> <p>Determine if the installation has game species for hunting, fishing, or trapping.</p> <p>(NOTE: Installation lacking game species for hunting, fishing, or trapping may still need to include the pan in the INRMP to address nongame species.)</p> <p>Verify that the component plan addresses:</p> <ul style="list-style-type: none"> - the cooperative agreements between the Air Force and FWS - management objectives and strategies for game and other species - regulations for hunting, fishing, and trapping programs (if implemented) - strategies to control bird aircraft strike hazard (BASH), disease outbreaks, and other hazards - regulations for enforcement of wildlife laws - access policy and user programs - State and FWS review procedures - responsibilities of cooperating agencies - allocation of personnel and equipment over the life of the INRMP.

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REGULATORY REQUIREMENTS	REVIEWER CHECKS: January 1995
<p>NR.18. The installation is required to have specific habitat information for determining habitat suitability (AFI 32-7064, para 6.3).</p>	<p>Verify that the installation has a current habitat inventory, description of habitat types, including structure and composition of the vegetation, if present.</p> <p>Verify that the inventory is updated at least every 5 yr or sooner if conditions warrant.</p>
<p>NR.19. The installation is required to follow specific reporting and documentation procedures depending on if they are a Category I or Category II installation (AFI 32-7064, para 6.2).</p>	<p>Verify that the installation has consulted with the USFWS and the state Fish and Wildlife Agency in order to obtain either a Category I or Category II classification.</p> <p>(NOTE: Category I installations have suitable habitat for conserving and managing fish and wildlife. Category II installation are unsuitable for conserving and managing fish and wildlife because of mission restrictions or resource limitations, or installations of limited size that so not have unimproved grounds.)</p> <p>Verify that Category II installations send a request through the parent MAJCOM to AFCEE/ES with documentation of FWS and state fish and wildlife agency documentation of their visits and opinions attached.</p> <p>Verify that Category I installations develop a 2-yr Fish and Wildlife Management Operational Component Plan.</p>
<p>NR.20. Air Force personnel which enforce wildlife laws are required to be trained by the FWS (AFI 32-7064, para 6.7.1).</p>	<p>Determine if installation personnel enforce wildlife laws.</p> <p>Verify that personnel are trained by the FWS.</p>
<p>NR.21. Specific actions are required if circumstances require controlling the wildlife population or removing nuisance species (AFI 32-7064, para 6.8).</p>	<p>Verify that MAJCOM approval is received for any program that exceeds normal base pest control procedures.</p> <p>(NOTE: Notification may be bypassed only if all the following conditions apply:</p> <ul style="list-style-type: none"> - an emergency situation exists - immediate action must be taken and there is no time for MAJCOM approval - the action is coordinated with the Animal and Plant Health Inspection Service, the FWS, and the state fish and wildlife agency - MAJCOM is notified the next day.)



Section 6

Other Environmental Issues (Air Force Supplement)

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SECTION 6

OTHER ENVIRONMENTAL ISSUES

A. U.S. Air Force Instructions (AFIs) and Policies

Environmental Impacts

- AFI 32-7061, *The Environmental Impact Analysis Process (EIAP)*. This instruction, dated 03 February 1994, describes specific tasks and procedures for the Air Force EIAP. As of the date of publication of this supplement, this AFI was not yet final. The Code of Federal Regulations (CFR) version of the AFI is due for publication in the Federal Register in January 1995.
- Air Force Policy Letter, *Environmental Impact Analysis Process (EIAP) and Related Compliance Documents*. This letter, dated 3 January 1994, lists documents which must be submitted to HQ USAF/CEV that are related to EIAP.
- Air Force Policy Letter, *Federal Register Publication Information*. This letter, dated 2 November 1993, requires that Notices of Intent (NOIs) for preparation of an environmental impact statement (EIS) be sent in draft to AF/CEVP.

Environmental Noise

- Air Force Manual (AFM) 19-10, *Planning in the Noise Environment*. This manual gives procedures to aid in the development of acceptable noise environments for facilities on military installations, consistent with AICUZ Program.
- AFI 13-201, *Air Force Airspace Management*. This instruction, dated 1 August 1994, includes practices to decrease disturbances from flight operations.
- AFI 13-212, Volume 1, *Weapons Ranges*. This instruction, dated 28 July 1994, discuss the management of weapons ranges.
- AFI 32-7063, *Air Installation Compatible Use Zone (AICUZ) Program*. This AFI, dated 31 March 1994, applies to all Air Force installation with active runways located in the United States and its territories, including government owned, contractor operated (GOCO) facilities. An installation may be exempted from complying with the AFI by the Major Command/Civil Engineering (MAJCOM/CE).
- Air Force Policy Letter, *New Land Use Compatibility Policy for Shopping Malls and Shopping Centers for the AICUZ Program*. This letter, dated 9 July 1993, mandates the consideration of shopping malls and centers in the AICUZ land use compatibility analysis.

Installation Restoration Program

- AFI 32-7020, *The Environmental Restoration Program*. This AFI, dated 19 May 1994, provides guidance and procedures for executing the Air Force Environmental Restoration Program, also referred to as the cleanup program.
- HQ USAF/CEVR Letter. The letter titled *Fiscal Year XX Defense Environmental Restoration Account (DERA) Eligibility / Programming Guidance, United States Air Force* is issued yearly by HQ USAF/CEV and presents key guidelines and authorities for the Installation Restoration Program (IRP).
- Air Force IRP. A biannual publication, *Air Force Installation Restoration Program Management Guidance*, addresses the requirements of the laws, regulations, policies, and procedures concerning the Air Force IRP.

Pollution Prevention

- AFI 32-7080, *Pollution Prevention Program*. This AFI, dated 12 May 1994, outlines the requirements for the Air Force's Pollution Prevention Program. It provides instruction in the areas of program management, ozone depleting chemicals (ODCs) reductions, hazardous substance management and minimization, solid waste management, affirmative procurement, and energy conservation.

Air Force Pollution Prevention Program Action Memorandum. This outlines the steps that need to be taken by the Air Force personnel to prevent future pollution by reducing hazardous material use and releases of pollutants into the environment to as near to zero as possible. Air Force Policy on ODCs governs the purchase, use, and management of controlled ODCs. It outlines the ODCs and equipment that use them that cannot be purchased and it outlines the steps that should be taken to replace ODCs currently in use.

Program Management

- AFI 13-212, Volume 1, *Weapons Ranges*. This instruction, dated 28 July 1994, discusses the management of weapons ranges.
- AFI 32-7001, *Environmental Budgeting*. This AFI, dated 8 May 1994, provides guidance on identifying, developing, and processing requirements to meet environmental standards at Air Force installations.
- AFI 32-7002, *Environmental Information Management System*. This instruction, dated 31 May 1994, provides guidance and procedures to standardize the use of the Work Information Management System - Environmental Subsystems (WIMS-ES).
- AFI 32-7005, *Environmental Protection Committees*. This instruction, dated 25 February 1994, establishes the Environmental Protection Committee (EPC) to ensure a systematic, interdisciplinary approach to achieve and maintain environmental quality in the Air Force.

- AFI 32-7047, *Compliance Tracking and Reporting*. This AFI, dated 31 March 1994, identifies requirements for managing and reporting enforcement actions and compliance agreements.
- AFI 32-7066, *Environmental Baseline Survey In Real Estate Transactions*. This AFI, dated 25 April 1994, identifies the responsibilities and procedures for conducting an Environmental Baseline Survey (EBS) of the condition of real property subject to a real property transaction.

B. Department of Defense (DOD) Directives and Instructions

- DOD Directive (DODD) 4210.15, *Hazardous Material Pollution Prevention*. This DODD states the DOD policy that hazardous materials should be selected, used, and managed over their life cycle so that the DOD incurs the lowest cost required to protect human health and the environment. The preferred method of doing this is to avoid or reduce the use of hazardous material. Emphasis must be on less use of hazardous materials in processes and products, as distinguished from end-of-pipe management of these wastes.

C. Using the TEAM Guide for ECAMP

- No additional instructions.

D. Key Air Force/DOD Compliance Requirements

Environmental Impacts

- EIAP - The EIAP consists of the initial review of the proposed action to determine the magnitude and significance of the anticipated environmental impacts. This review determines whether a proposed action can be exempted from further review (categorical exclusion (CATEX)) or whether an environmental assessment (EA) or EIS must be prepared. AFR 19-2 lists those types of actions that may be a CATEX. An EA is prepared to determine whether the proposed action will have significant environmental impacts. If the analyses indicate that no significant impacts are anticipated, a Finding of No Significant Impact (FONSI) can be issued. If significant impacts are possible, an EIS must be prepared, filed with the USEPA, and made available to the public.

Environmental Noise

- AICUZ Noise Maps - Noise-zone contour maps are included in AICUZ studies or amendments that are completed. HQ USAF/CEVP approval is required before maps are publicly released.
- Range Plan - Each installation operating an air-to-ground test or training range is required to develop a range plan that comprehensively addresses all factors influencing the Air Force's operation of a range.

Installation Restoration Program

- IRP - The legal mandates for the Air Force Installation Restoration Program are the *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)* and the *Superfund Amend-*

ment and Reauthorization Act (SARA). Objectives of the program are to identify, investigate, cleanup, and close IRP sites. IRP sites may also be subject to corrective action requirements under the *Resource Conservation and Recovery Act (RCRA).*

Pollution Prevention

- Generator Requirements - The generator of hazardous waste who is issued any permit under RCRA for the treatment, storage, or disposal of hazardous waste on their premises, must certify at least annually, that they have a program in place to reduce the volume or quantity and toxicity of such waste to the degree determined to be economically practicable.
- Hazardous Substance Release Requirements - As part of spill contingency plans and procedures, all practical effort should be made to prevent pollution by:
 1. reducing or eliminating waste at the source
 2. considering potential pollution control problems when selecting chemical compounds and materials to be used in operations
 3. including pollution abatement in specifications.
- Pollution Prevention Management Plan - The preferred method for managing hazardous materials is to avoid or reduce their use. Installations must develop their own pollution prevention program plan following procedures outlined by the MAJCOMs. The plan should address:
 1. the process required to run a pollution prevention program at the installation
 2. the program required to fund pollution prevention projects
 3. the road map to achieve Air Force pollution prevention goals
 4. the actions required to execute the program.
- Hazardous Materials - Substances listed as hazardous need to be selected, used, and managed over their life-cycle so as to economically protect human health and the environment.
- Solid Waste - Substances that may generate materials considered to be solid waste also need to be selected, used, and managed over their life-cycle. In this case, the objective is to reduce the quantities of solid waste than are eventually disposed in landfills.

Program Management

- A-106 Report - The A-106 report is required for all Air Force installations and is maintained in WIMS-ES. The report should include all recurring and nonrecurring environmental requirements for the installation. The installation must budget for the requirements recorded in the report through the installation EPC and accounting and finance office. The installation must address environmental priorities that are outlined in USAF policy (OPs and Services, Level I, Level II, and Level III) and must ensure that each program year recorded in the A-106 is executable.
- Environmental Baseline Study (EBS) - An EBS has to be done for real property which has been identified for acquisition, disposal, out-grant, interagency transfer, or termination of temporary interests of the Air Force and non-Air Force parties.

E. Key Compliance Personnel

Environmental Impacts

- The Base Civil Engineering (BCE). The BCE provides Environmental Planning Functions (EPF), including managing and getting the technical analyses necessary to support the EIAP.
- The Bioenvironmental Engineer (BEE). The BEE provides technical assistance to EPF concerning environmental quality standards, effects, and monitoring capabilities relating to the action(s) being assessed.
- The EPC. The EPC reviews and approves or disapproves environmental documents prepared by the EPF during the EIAP.
- The Judge Advocate (JA). The JA advises EPF and EPC of legal issues regarding environmental documents, conducts public hearings, and advises EPF during the scoping process of issues to be addressed in EISs.
- The Public Affairs Officer (PAO). The PAO reviews environmental documents for public affair sufficiency and advises EPF on issues to be addressed in EISs.
- Proponent Activity. Proponent Activity is responsible for providing a complete description of the proposed action and alternatives (DOPAA) and for identifying key decision points and assisting in making sure that the EIAP is properly phased so that the environmental documents are available to the decisionmaker.
- Air Force Center for Environmental Excellence (AFCEE). AFCEE assists in the scoping process and in all phases of coordination with Federal, state, regional, and local government agencies.

Environmental Noise

- BCE/Environmental Management. The Environmental Planning Function within the BCE is responsible for carrying out the AICUZ program.
- Airspace Manager. The Airspace Manager within the Office of the Deputy Commander for Operations is responsible for managing special use airspace and military training routes (MTRs).
- PAO. The PAO is responsible for making all public releases of information about Air Force activities
- Range Management Agency. The Range Management Agency is responsible for activities at an air-to-ground range, including planning for the range.

Installation Restoration Program

- The BCE. The BCE normally is responsible for IRP execution. However, this responsibility may be assigned to the installation's Environmental Management Office if one has been established.

- The BEE. The BEE is responsible for providing technical support in remedial investigation/feasibility study (RI/FS), Risk Analysis, Quality Assurance/Quality Control (QA/QC), worker health and safety, and other areas.
- JA. The JA is responsible for providing legal and negotiation support.
- On-Scene Coordinator or Remedial Project Manager (OSC/RPM). The OSC/RPM is responsible for managing response actions and coordinating all other IRP efforts on the installation. Actual execution of these responsibilities can be performed by others (AF personnel, technical support center, contractors, etc.). However, the OSC/RPM must retain overall management oversight responsibility for IRP actions.
- PAO. The PAO is responsible for dissemination of reports providing information to the public and the media, and helping in the preparation of Community Relation Plans.

Pollution Prevention

- Installation Commander (IC). The IC must establish and maintain an active program to survey the use, generation, and disposal of hazardous and radioactive waste. The commander must identify requirements and execute the programs to comply with Air Force policy.
- Deputy Commander for Maintenance/Chief of Maintenance. The Deputy Commander for Maintenance (DCM) ensures nonhazardous/nontoxic materials are used where possible, maintains a list of hazardous materials used in the work area by shop and maintenance related task, ensures personnel are properly trained in ordering, using, handling, controlling, and storing hazardous materials and wastes, ensures hazardous waste is properly labeled, works with civil and bioenvironmental engineers to develop the installation's waste management plan, and notifies applicable headquarters when a nonhazardous substitute can be used.
- BCE. The BCE is responsible for the maintenance and operation of incinerators, fuel burners (boilers), and all installed petroleum storage and dispensing systems. The BCE is also responsible for the storage and handling of all hazardous materials and fuels used by civil engineering shops.
 1. The BCE or designated Environmental Management Office (EMO) develops installation-specific policy for all aspects of hazardous waste and pollution prevention management for all activities on the installation including Air Force and non-Air Force tenants. The BCE/EMO also manages the pollution prevention program and serves as the Office of Primary Responsibility (OPR) for developing and implementing the pollution prevention plan.
 2. The Water and Waste Shop within BCE has responsibility for operations and maintenance of treatment plants, pretreatment facilities, pump stations, oil/water separators, and other associated facilities around the installation.
- Bioenvironmental Engineering Services (BES). Bioenvironmental Engineering Services provides installation technical expertise on hazardous waste identification and, along with the Environmental Manager and the Environmental Protection Committee, establishes the baseline inventory of industrial toxics project (ITP) chemical quantities. The BES identifies pollution prevention opportunities based on workplace surveys and recommends substitute processes. The BES reviews all substitutions to ensure substituted materials do not introduce new hazards.

- **Supply Officer.** The Supply Officer has primary responsibility to receive, store, and issue all items ordered. It serves as the equipment approval authority, administers the supply improvement program, provides technical guidance and assistance on supply matters to agencies across the installation, and serves as the primary stock fund manager.
- **Environmental Manager (EM).** The Environmental Manager is responsible for managing the installation hazardous waste (HW) management program. The EM, along with the BES and the EPC, establishes the baseline inventory of ITP chemical quantities. The EM then tracks the issue of these chemicals and sends the information to the MAJCOM.
- **Environmental Protection Committee (EPC).** The EPC is comprised of representatives from all activities involved in pollution prevention management. It reviews and coordinates the installation commander's pollution prevention management program. The committee will review summary data on waste generation and personnel exposure. The EPC helps with establishing the baseline inventory of ITP chemical quantities. It should also adopt a policy recommending against the procurement of hazardous materials containing any USEPA ITP chemicals.
- **Hazardous Waste Generating Activities.** Generating Activities manage hazardous waste in their custody including proper storage, inspection, recordkeeping, labeling of containers, and transfer for disposal.

Program Management

- **Base Environmental Coordinator.** Base Environmental Coordinator is responsible for managing the A-106 program, including updating the current plan, inputting new projects, and coordinating with the Civil Engineering Programmer to ensure projects are included in the Civil Engineering Contract Reporting System (CECORS) or the Programming Design and Construction (PDC) System.
- **Civil Engineering Programmer.** Civil Engineering Programmer is responsible for getting projects into the CECORS or the PDC.
- **The EPC.** The EPC is responsible for coordinating and approving the A-106 plan.
- **The BCE.** The BCE or the Environmental Manager will coordinate the input of data into WIMSES.

F. Key Air Force/DOD Compliance Definitions

- **Acquisition** - any authorized methods of obtaining Air Force control of and responsibility for real property. An acquisition may be temporary or permanent interest in real property. Includes inter-agency transfers of real property accountability from other Federal government agencies. Methods include purchase, condemnation, donation, exchange, leasing, licenses, permits, revestments, and recapture (AFI 32-7066, Attachment 1).
- **Adjacent Properties** - not only those properties contiguous to the boundaries of the installation or subject property, but also those properties relatively nearby that could pose significant environmental impact or concern on the installation or subject property (AFI 32-7066, Attachment 1).

- *Affirmative Procurement* - required by RCRA Section 6002 and EO 12783. Federal agencies must establish programs to encourage purchase of products containing recycled materials. Affirmative procurement programs must establish preference for products containing recycled material, must include a promotion plan to place emphasis on buying recycled, and must have procedures for obtaining and verifying estimates and certifications of recycled content (AFI 32-7080, Attachment 1).
- *Airspace Management* - the coordination, integration, and regulation of the use of airspace of defined dimensions. The objective is to meet command requirements through the safe and efficient use of available navigable airspace in a peacetime environment while minimizing the impact on other aviation users and the public (AFI 13-201, Attachment 1).
- *Alternatives* - ways of reducing adverse effects of hazardous materials. Alternatives, as applied to hazardous material decision making, include, but are not limited to, such possibilities as substituting less hazardous or nonhazardous material; redesigning a component such that hazardous material is not needed in its manufacture, use, or maintenance; modifying processes or procedures; restricting users; consumptive use; on-demand supply; direct ordering; extending shelf life; regenerating spent material; downgrading and reuse of spent material; use of waste as raw material in other manufacturing and combinations of those factors. Alternatives are to be analyzed in a could-cost approach, considering what the lowest amount the decision could cost by overcoming barriers to getting the job done, while ensuring protection of human health and the environment (AFI 32-7080, Attachment 1).
- *Baseline* - quantified starting points from which progress is measured. For the purposes of this instruction, baselines are quantities of material purchased or generated over a specified period of time (AFI 32-7080, Attachment 1).
- *Compliance Agreement* - a formal agreement between an installation and a regulatory agency for correcting noncompliance. Such agreements usually define the actions to complete and the schedule for completing them (AFI 32-7047, Attachment 1).
- *Cost Factors* - the expense and cost avoidance associated with hazardous materials that may be reduced to monetary terms, which includes future liability. Cost factors refer to direct and indirect costs attributable to hazardous materials that are encountered in operations such as acquisition, manufacture, supply use, storage inventory control, treatment, recycling, emission control, training, work place safety, labeling, hazard assessments, engineering controls, personal protective equipment, medical monitoring, regulatory overhead, spill contingency, disposal, remedial action, and liability (AFI 32-7080, Attachment 1).
- *Disposal* - any authorized method of divesting the Air Force of control of and responsibility for real property. Includes fee conveyance and interagency transfers or other disposition (AFI 32-7066, Attachment 1).
- *Economic Analysis* - an evaluation of the costs associated with the use of hazardous materials and potential alternatives. An economic analysis is not a specific, step-by-step procedure that can be applied by rote to all cases of analyzing whether to use a hazardous material. Rather, organizations shall be guided by basic principles of economics and informed judgment (AFI 32-7080, Attachment 1).

- *Enforcement Action* - any written notice from Federal, state, district, county, or municipal regulatory agency indicating one or more violations of environmental statutes or regulations including, but not limited to, warning letters, notices of violation or noncompliance, administrative orders, and consent order (AFI 32-7047, Attachment 1).
- *Environmentally Preferable* - products or services that are less harmful to human health and the environment to use, reuse, operate and maintain, and dispose of in comparison with competing products or services of equal value (AFI 32-7080, Attachment 1).
- *Hazardous Materials* - any substances or materials that pose a threat to human health or the environment typically due to their toxic, corrosive, ignitable, explosive, or chemically reactive nature. More specific definitions may be found in various federal regulations which implement statutes (i.e., *Hazardous Material Transportation Act*, CERCLA) (AFI 32-7080, Attachment 1).
- *Hazardous Waste* - any waste by-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed; possess at least one of five characteristics (toxic, corrosive, ignitable, explosive, or chemically reactive) or are listed in Title 40 CFR 261.3 or applicable state or local waste management regulations (AFI 32-7080, Attachment 1).
- *Interagency Transfer* - transfer of Federal government property accountability to or from other Federal government agencies (AFI 32-7066, Attachment 1).
- *Life Cycle Costs* - an evaluation of the costs associated with the use of hazardous materials and potential alternatives over the life of the investment or hazardous material. The analysis is not a specific, step-by-step procedure that can be applied by rote to all cases. Analysis shall be guided by basic principles of economics and informed judgement (AFI 32-7080, Attachment 1).
- *Life Cycle of Hazardous Material* - the period starting when the use or potential use of hazardous material is first encountered and extending as long as the actual material or its after effects, such as a discarded residual in a landfill, have a bearing on cost. In the case of weapon system acquisition, the life cycle starts when the system is first envisioned. Effects of the use of hazardous material on later operations and maintenance are to be considered. This also holds true for a new use of a hazardous material. Where the hazardous material is already in general use, the life cycle starts when the material is first encountered by any organization that must deal with it (AFI 32-7080, Attachment 1).
- *Municipal Solid Waste (MSW)* - wastes generated by administrative and domestic activities. MSW does not include hazardous wastes (AFI 32-7080, Attachment 1).
- *Opportunity Assessment* - a systematic procedure to identify and assess ways to prevent pollution by reducing or eliminating wastes (AFI 32-7080, Attachment 1).
- *Out-Grant* - a temporary grant of an interest in or right to use Air Force real property by means of either a lease, license, easement, or permit (AFI 32-7066, Attachment 1).
- *Ozone Depleting Chemicals (ODCs)* - chlorofluorocarbons (CFC), halons, and other substances that deplete the stratospheric ozone layer as classified by the *Clean Air Act* Amendment of 1990 (CAAA90) (AFI 32-7080, Attachment 1).
- *Pollution Prevention* - all the actions necessary, to include use of processes, practices, products or management actions that eliminate or reduce undesirable impacts on human health and the environ-

ment. These actions are a hierarchy of source reduction, recycling, treatment, and disposal or means source reduction and other practices that reduce or eliminate the creation of pollutants through increased efficiency in the use of raw materials, energy, water, or other natural resources, and the protection of natural resources (AFI 32-7080, Attachment 1).

- *Range Classifications* - ranges are classified as follows (AFI 13-212, Volume I, Attachment 1):
 1. Class A. This range is manned, has a scoring capability from the ground, and has a Range Control Officer on the ground who controls aircraft using the range. An air combat maneuvering instrumentation (ACMI) system range is also considered a class A range.
 2. Class B. This range is either manned or unmanned and has a scoring capability from the ground but does not have a Range Control Officer on the ground at the range controlling aircraft. The Range Control Officer function may be performed by the flight lead, forward air controller, or other person as briefed.
 3. Class C. This range is unmanned with no scoring or aircraft control from the ground. The Range Control Officers function may be performed by the flight lead, forward air controller, or other person as briefed.
- *Real Property* - land and fixtures and other improvements affixed thereto (AFI 32-7066, Attachment 1).
- *Recycling* - the use, reclamation and reuse of a material. Use/reuse includes return of the recovered waste to the original process or when the waste is substituted for a raw material in another process. Waste reclamation includes processing of residual waste to recover a useful product and generation of waste material (AFI 32-7080, Attachment 1).
- *Source Reduction* - any practice which reduces or eliminates any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise residual waste generation at the source, usually within the generation process. The term includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, feedstock substitutions, improvements in feedstock purity, shipping and packaging modifications, improvements in housekeeping, maintenance, training, and management practices, increases in machinery efficiency, and recycling within a process (AFI 32-7080, Attachment 1).
- *Waste Minimization* - The reduction of the quantity or toxicity of a residual waste that is generated and subsequently processed, stored, or disposed, its reduction minimizes present and future threats to human health and the environment (AFI 32-7066, Attachment 1).

G. Additional Records To Review

- Installation Master Plan Document
- Compliance log from local community
- A-106 Report
- Inventory records
- Supply/distribution procedures
- Opportunity assessments
- Baseline records
- Pollution Prevention Management Plan
- Stormwater Pollution Prevention Plan
- Records of any waste reduction/pollution prevention programs

- Records of resource recovery practices including the sale of materials for the purpose of recycling
- Equipment maintenance and inspection records
- Records of waste recovery equipment (i.e., solvent distillation equipment)
- Plans and procedures applicable to air pollution control
- Air emission inventories
- National Pollutant Discharge Elimination System (NPDES) discharge monitoring reports
- WIMS Cleanup Modules

H. Additional Physical Features To Inspect

- Power generating or other energy source
- Emergency generators
- Shop activities
- Hazardous materials and wastes storage areas
- Firefighting equipment
- Vehicle maintenance areas/motor pool
- Supply area
- Waste recovery areas
- Reuse facility
- Volatile organic compound (VOC) sources
- Recycling area

I. People To Interview

- Base Civil Engineering (Environmental Planning)
- Deputy for Operations (Air Space Manager)
- Public Affairs Office (PAO)
- Range Operating Agency
- Defense Reutilization and Marketing Office (DRMO)
- On-Scene Coordinator (OSC) or Remedial Project Manager (OSC/RPM)
- Engineering Programmer (DEP)
- Base Environmental Coordinator
- Judge Advocate
- Accumulation Point Managers/Operators
- Bioenvironmental Engineering Services
- Chief of Maintenance
- Environmental Manager
- Hazardous Waste Generating Activities
- Supply Officer



J. Guidance for Other Environmental Issues Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
Environmental Impacts Analysis Process (EIAP) All Installations	O1.1 through O1.13	6-15
Environmental Noise		
All Installations	O2.1	6-21
AICUZ	O2.2 through O2.5	6-23
Noise Awareness	O2.6 and O2.7	6-27
Ranges	O2.8 and O2.9	6-29
Installation Restoration Program (IRP) All Installations	O3.1 through O3.10	6-31
Pollution Prevention		
All Installations	O4.1	6-35
Opportunity Assessments	O4.2	6-37
Management Plans	O4.3 and O4.4	6-39
Ozone Depleting Chemicals (ODCs)	O4.5 through O4.16	6-41
Hazardous Substances (Waste and Material)	O4.17 through O4.21	6-45
Solid Waste	O4.22 through O4.25	6-47
Program Management		
All Installations	O5.1	6-49
Weapons Ranges	O5.2	6-51
A-106 Pollution Abatement Plan	O5.3	6-53
Environmental Baseline Survey (EBS)	O5.4 through O5.8	6-55
Compliance Tracking and Reporting	O5.9	6-59
The EPC	O5.10	6-61
WIMS-ES Management	O5.11	6-63



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**ENVIRONMENTAL
IMPACT ANALYSIS
PROCESS (EIAP)**

All Installations

01.1. Copies of all relevant Federal, state, and local regulations on the EIAP process should be maintained at the installation (MP).

(NOTE: AFI 32-7061 is not final as of the publication of this supplement. Please consult with the final version of the AFI when issues of noncompliance arise.)

Verify that the following regulations are maintained:

- 32 CFR 989, *Environmental Impact Analysis Process.*
- 40 CFR 1500 - 1508, *Regulations for the Implementation of NEPA.*
- AFI 32-7061, *The Environmental Impact Analysis Process.*
- Air Force Policy Letter 2 November 1993, *Federal Register Publication Information.*
- Air Force Policy Letter 3 January 1994, *Environmental Impact Analysis Process (EIAP) and Related Compliance Documents.*
- applicable state and local regulations.

Verify that the Base Staff Judge Advocate reviews the documents annually for currency and completeness and submits the findings of the review to the Base EPC.

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O1.2. Installations are required to have an EPF which is an interdisciplinary staff, at any level of command, which is responsible for the EIAP (AFI 32-7061, para 1.3.6).

Determine who at the installation participates in the EPF.

Verify that the EPF:

- assists the proponent in preparing a DOPAA
- evaluates proposed actions and completes Sections II and III of AF Form 813, *Request for Environmental Impact Analysis*, subsequent to submissions by the proponent and makes CATEX determinations
- manages the EIAP, including preparation and approval of EA and FONSI's
- identifies and documents, with technical advice from the BEE and other staff members, environmental quality standards that relate to the action under evaluation
- prepares environmental documents, or obtains technical assistance through the Air Force channels or contract support, and adopts the documents as official Air Force papers when completed and approved
- ensures the EIAP is conducted on base and MAJCOM-level plans, including contingency plans for the training, movement, and operation of Air Force personnel and equipment
- prepares NOI to prepare an EIS with assistance from the proponent and the PAO
- ensures that the environmental documents submitted to HQ UASF and the Secretariat for review and approval include the completed AF Form 813
- responds to enquiries from higher headquarters for information or status reports on environmental documents and EIAP milestones
- prepares applicable portions of Certificates of Compliance for each military construction project according to AFI 32-1021.

Verify that the EPF responsible official signs the AF Form 813 certification.

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<p>O1.3. Each office, unit, or activity at any level that initiates Air Force actions (the proponent) is responsible to perform specific functions in the EIAP process (AFI 32-7061, para 1.3.7).</p> <p>O1.4. The SJA, PAO, BEE, and Safety Office are required to perform specific functions in the EIAP process (AFI 32-7061, para 1.3.9 through 1.3.12).</p>	<p>Verify that the proponent of an activity does the following:</p> <ul style="list-style-type: none"> - notifies the EPF of pending actions and completes Section I of AF Form 813, including a DOPAA for submittal to the EPF - identifies the earliest program-need data for document completion to facilitate the decisions making process - identifies key decision points and coordinates the EPF on EIAP phasing to ensure that environmental documents are available to the decision maker before the final decision is made and activities associated with the proposal are not implemented until the EIAP is complete - integrates the EIAP into the planning stage of a proposed program or action and, with the EPF, determines as early as possible whether to prepare an EIS - presents the DOPAA to the EPC for review and comment - coordinates with the EPF prior to organizing public or interagency meetings which deal with EIAP elements of a proposed action and involve persons or agencies outside the Air Force - assists the EPF and PAO in preparing a draft NOI when a decision is made to prepare an EIS. <p>Verify that the Staff Judge Advocate does the following:</p> <ul style="list-style-type: none"> - advises the command level proponent EPF and EPC on CATEX determination and the legal sufficiency of environmental documents - advises the EPF during the scoping process of issues that should be addressed in EISs and on procedures for the conduct of public hearings - coordinates the appointment of the independent hearing officer with AFLSA/JAJT (or NGB/JA) and provides support for the hearing officer in cases of public hearings on the draft EIS. <p>Verify that the PAO:</p> <ul style="list-style-type: none"> - advises the EPF, the EPC, and proponents on public affairs implications of proposed actions and review environmental documents for public affairs issues - advises the EPF during the scoping process of issues that should be addressed in the EIS - prepares, coordinates, and distributes news releases related to the proposal and associated EIAP documents - notifies the media and purchases advertisements when newspapers will not run the notices free of charge. <p>Verify that as a representative of Medical Services, the BEE provides technical assistance to EPFs in the areas of environmental standards, effects, and monitoring capabilities.</p>

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<p>O1.4. (continued)</p> <p>O1.5. The EPC is required to perform specific activities during the EIAP (AFI 32-7061, para 1.3.8).</p> <p>O1.6. Specific types of EAs are required to be forwarded to SAF/MIQ for approval (AFI 32-7061, para 3.3.7).</p> <p>O1.7. FONSI's resulting from an EA are required to include specific information (AFI 32-7061, para 3.4).</p>	<p>Verify that the Safety Office provides technical assistance to EPFs to ensure consideration of safety standards and requirements.</p> <p>Verify that the EPC request formal staffing of a CATEX as necessary by interviewing EPC members.</p> <p>Verify that the EPC reviews and coordinates DOPAAs prepared by the proponent and environmental documents prepared by the EPF.</p> <p>Verify that the following types of EAs are forwarded to SAF/MIQ through HQ USAF/CEV (a copy to AFCEE/ESE for technical review), along with an unsigned FONSI:</p> <ul style="list-style-type: none"> - EAs for actions where the Air Force has wetlands for floodplains compliance responsibility - system acquisition EAs - all EAs on non-Air Force agency proposals that require an Air Force decision, such as use of Air force property for highways and joint-use proposals - EAs for actions that require the Air force to make conformity determinations pursuant to the CAAA90. <p>(NOTE: See Appendix 6-1 for a list of CATEXs.)</p> <p>Verify that the FONSI summarizes the EA or has the EA attached to it and incorporated by reference.</p> <p>Verify that if the EA is not attached, the FONSI includes:</p> <ul style="list-style-type: none"> - the name of the action - a brief description of the action including alternatives considered and the chosen alternative - a brief discussion of anticipated environmental effects - conclusions leading to the FONSI - all mitigation actions that will be adopted.

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<p>O1.8. Draft FONSI are required to be made available for public review in specific circumstances (AFI 32-7061, para 3.4.6).</p>	<p>Verify that in the following circumstances, the draft FONSI is made available for public review for at least 30 days before a final determination on EIS preparation is made or before FONSI approval and implementing the action:</p> <ul style="list-style-type: none"> - when the proposed action is, or is closely similar to, one that usually requires preparation of an EIS - if it is an unusual case, a new kind of action, or a precedent setting case in terms of its potential environmental impacts - if the proposed action would be located in a floodplain or wetland.
<p>O1.9. The EPF is required to distribute NOIs (AFI 32-7061, para 1.3.7 and 3.6).</p>	<p>Verify that the proponent on the installation has sent all NOIs to HQ USAF/CEV for review and publication in the Federal Register.</p> <p>Verify that the EPF has provided copies of the NOIs to the appropriate state authorities.</p> <p>Verify that the EPF has sent the NOI to the PAO for publication in the local media.</p>
<p>O1.10. The EPF is required to distribute copies of the preliminary draft EIS for review (AFI 32-7061, para 3.8.1).</p>	<p>Verify that the EPF provides a sufficient number of the preliminary draft EIS to HQ USAF/CEV for HQ USAF EPC review and AFCEE/ESE for technical review.</p>
<p>O1.11. The EPF is required to send meeting plans for scoping meetings to AF/CEV (or ANGRC) for SAF/MIQ concurrence (AFI 32-7061, para 3.7).</p>	<p>Verify that meeting plans are sent to AF/CEV for concurrence by SAF/MIQ no later than 30 days prior to the first scoping meeting.</p>
<p>O1.12. For each FONSI and ROD containing mitigation measures, the proponent will publish a mitigation plan (AFI 32-7061, para 3.11.4).</p>	<p>Verify that the proponent has published a plan specifically identifying how the proponent will execute the mitigations, who will fund and implement the mitigations and when the mitigation will be completed.</p> <p>Verify that the plan is forwarded to HQ USAF/CEV for review within 90-days from the date of signature of the FONSI or ROD.</p>

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<p>O1.13. As a part of the EIAP process, specific documents are required to be submitted to HQ USAF/CEVP (AF Policy letter 3 January 1994).</p>	<p>Verify that if the installation has generated any of the following documents, they have been sent to HQ USAF/CEVP:</p> <ul style="list-style-type: none"> - all draft and final EISs and RODs - Federal Register notices - all draft and final Air Conformity Determinations with supporting documentation - findings of no practicable alternative (FONPAs) - EAs and FONSIIs which address: <ul style="list-style-type: none"> - actions requiring the Air Force to make Air Conformity Decisions pursuant to the CAAA90 - actions requiring the Air Force to make FONPAs pursuant to the executive orders on wetlands and floodplains - system acquisitions - proposals by non-Air Force agencies for which the Air Force must make a decision, such as use of Air Force property for highways and joint use proposals.

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<p>ENVIRONMENTAL NOISE</p> <p>All Installations</p> <p>O2.1. Copies of all relevant Federal, state, and local regulations on environmental noise are required to be maintained at the installation (MP).</p>	<p>Determine if the following documents are available at the installation:</p> <ul style="list-style-type: none"> - EO 12088, <i>Compliance With Pollution Standards</i>. - AFI 13-212, volume 1, <i>Weapons Ranges</i>. - AFI 13-201, <i>Air Force Airspace Management</i>. - AFI 32-7063, <i>Air Installation Compatible Use Zone Program</i>. - AFM 19-10, <i>Planning in the Noise Environment</i>. - Air Force Policy Letter 9 July 1993, <i>New Land Use Compatibility Policy for Shopping Malls and Shoping Centers for the AICUZ Program</i>. - AICUZ Handbook. - applicable state and local regulations. <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing and proposed activities and keeps the EPC informed as needed.</p>



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<p>ENVIRONMENTAL NOISE</p> <p>AICUZ</p> <p>O2.2. Each installation and auxiliary airfield with an active runway is required to prepare and maintain an AICUZ study (AFI 32-7063, para 3.1 and AF Policy Letter 9 July 1993).</p>	<p>(NOTE: Under AFI 32-7063 the MAJCOM/CE is assigned responsibility for the AICUZ program. But para 1.3.4.2. stipulates that the MAJCOM/CE may delegate the responsibilities outlined in AFI 32-7063 to the installation. Therefore, prior to assessing this portion of the checklist, determine if the installation has been assigned responsibility for fulfilling these responsibilities and conduct the assessment accordingly.)</p> <p>(NOTE: After technical review, the MAJCOM/CE can approve exemptions where the AICUZ study does not extend beyond installation boundaries or where there are less than 10 jet or 25 propeller-driven aircraft operations on a runway on an average busy day.)</p> <p>Verify that volume I of the AICUZ study contains the following:</p> <ul style="list-style-type: none"> - signed and dated transmittal letter - introductions to AICU, purpose, need, process, and procedure - installation description (mission, economic impact, and flying activity) - brief description of the basis of the land use compatibility/incompatibility: <ul style="list-style-type: none"> - accident potential - noise - height restrictions - any additional local considerations - recommendations/guidelines for determining compatible land uses (land use compatibility tables and text) - land use analysis <ul style="list-style-type: none"> - existing land use - zoning and any other ongoing implementation action - future land use - incompatible development - maps with appropriate narrative <ul style="list-style-type: none"> - vicinity map - flight tracks map - separate accident potential zones map (optional) - separate noise control map (optional) - composite AICUZ map (combined noise contour and accident potential zone map) <ul style="list-style-type: none"> - existing offbase land use overlaid on the composite AICUZ map - existing offbase zoning overlaid on the composite AICUZ map - future offbase land use overlaid on the composite AICUZ map - implementation and maintenance responsibilities - installation points of contact. <p>Verify that local shopping malls and strip malls have been considered in the land use compatibility portion of the study.</p>

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<p>O2.4. (continued)</p> <p>O2.5. Due to litigation requirements, AICUZ data files are required to be retained indefinitely (AFI 32-7063, para 1.3.5.2.3).</p>	<p>Verify that the MAJCOM has approved each AICUZ update before it is released to the public.</p> <p>Verify that AICUZ documentation files are retained indefinitely by reviewing historical files.</p>



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<p>ENVIRONMENTAL NOISE</p> <p>Noise Awareness</p> <p>O2.6. A program is required at each applicable base to distribute information on military training routes, special use airspace, and supersonic areas, or routes (AFI 13-201, para 3.2).</p> <p>O2.7. Each installation commander will establish procedures for researching aircraft noise or sonic boom complaints (AFI 13-201, para 3.2.7).</p>	<p>Verify that a explanatory letter has been developed outlining the purpose, routes, areas, altitudes, intensity, day and time of use of the areas or routes, and locations of existing operating areas or routes in the vicinity.</p> <p>Verify that PAO distributes the information in the explanatory letter to community news media and local officials.</p> <p>Verify that copies of the explanatory letter have been sent to airport managers at airports within 20 NM of military training routes, military operating areas and restricted areas and within 40 NM of supersonic operations.</p> <p>Verify that a complaint procedure has been established and review a copy of procedures.</p> <p>Verify that responses are coordinated with PAO.</p> <p>(NOTE: Review the Sonic Boom log.)</p>



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**ENVIRONMENTAL
NOISE**

Ranges

O2.8. A Comprehensive Range Plan that addresses noise problems is required for all air-to-ground training and test ranges (AFI 13-212, Volume 1, para 1.10.1.1.1).

O2.9. The range plan is required to be updated as needed but at a minimum of every 2 yr (AFI 13-212, Volume 1, para 1.10).

Determine if a range plan exists and review a copy of the range plan.

Verify that planning involved all range users and affected agencies including legal and public affairs offices.

Determine the date of last revision.



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<p>INSTALLATION RESTORATION PROGRAM (IRP)</p> <p>All Installations</p> <p>O3.1. Copies of all relevant Federal, state, and local regulations, on the IRP should be maintained at the installation (MP).</p> <p>O3.2. All properties which, due to past activities have the potential for contamination, are required to be evaluated in a systematic and comprehensive manner (HQ USAF/CEV Letter, 16 September 1994, <i>1995 Defense Environmental Restoration Program Management Guidance</i>).</p>	<p>Determine whether copies of the following regulations and policy letters are maintained and kept current at the installation:</p> <ul style="list-style-type: none"> - 40 CFR 300.810, <i>Contents of the Administrative Record File.</i> - SARA Section 120, <i>Federal Facilities.</i> - SARA Section 211, <i>DOD Environmental Restoration Program.</i> - AFI 32-7020, <i>The Environmental Restoration Program.</i> - HQ USAF/CEV Letter, 16 September 1994, <i>1995 Defense Environmental Restoration Program Management Guidance.</i> - applicable state and local requirements. <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing and proposed activities and keeps the EPC informed as needed.</p> <p>Determine if the installation has had previous spills or actions occur that could lead to possible facility contamination.</p> <p>Verify that actions have been taken to ascertain the extent of contamination.</p>

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<p>O3.3. Significant decisions in the IRP process (such as taking no further action at a site, selecting a remedial action, implementing long term monitoring, and reactivating IRP work at a previously excluded site) are required to be documented (AFI 32-7020, para 2.2.10).</p> <p>O3.4. Each installation which has conducted or is currently conducting IRP activities is required to establish an Administrative Record which contains all the information used by the base in selection of a response action for each IRP site (AFI 32-7020, para 2.2.14).</p> <p>O3.5. Installations are required to screen all IRP requirements for Defense Environmental Restoration Account (DERA) funding eligibility before they are submitted to the MAJCOM (Yearly DERA Eligibility/ Programming Guidance, U.S. Air Force).</p>	<p>Verify that the MACOM has ensured that a designated Air Force decision maker signs all decision documentation and distributes it to appropriate organizations.</p> <p>Verify that the Assistant Secretary of the Air Force (Manpower, Reserve Affairs, Installations, and Environment) signs Record of Decision documents for National Priority List (NPL) sites.</p> <p>Verify that the installation commander or designated representative signs other decision documents and "No Further Response Action is Planned" documentation.</p> <p>Verify that copies were distributed to the regulators, the Directorate of Environmental Quality, Environmental Restoration Division, the appropriate Regional Compliance Office, and if executed at the MAJCOM level, the installation.</p> <p>Verify that all decisions requiring formal documentation are coordinated with public affairs.</p> <p>Determine if the installation maintains an Administrative Record.</p> <p>Verify that the Administrative Record is kept in a location normally frequented or found by the public (such as the Base Library, Base Pass and Identification Office, Public Affairs, etc.).</p> <p>Determine if the installations screens their IRP requirements for DERA funding eligibility, using the yearly DERA Eligibility/Programming Guidance.</p> <p>(NOTE: Evidence of this screening will be in the site folder with the site history.)</p>

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<p>O3.6. Each installation will implement community out-reach programs consistent with local community interests and consistent with Air Force community out reach guidance (SARA Section 211; 10 USC 2705 and HQ USAF/CEV Letter, 16 September 1994, 1995 <i>Defense Environmental Restoration Program Management Guidance</i>).</p>	<p>Determine if the installation has formed and implemented a technical review committee.</p> <p>Determine if the committee includes representatives from the USEPA, state and local regulatory agencies, and the public.</p> <p>(NOTE: Suggested local community representatives include college professors in technical fields.)</p>
<p>O3.7. Installations with IRP sites are required to appoint a remedial project manager (EO 12580; National Contingency Plan).</p>	<p>Determine if the installation's commander has appointed a remedial project manager for all IRP sites.</p>
<p>O3.8. Each installation is required to maintain copies of agreements with Regulatory Agencies (Yearly DERA Eligibility and Programming Guidance).</p>	<p>Determine if the installation has a Federal Facilities Agreement, Federal Facility Compliance Agreement, Consent Orders, Consent Decree, or RCRA Permit.</p> <p>Determine if the facility has entered into any other agreement with regulatory agencies with binding schedules.</p> <p>Verify that copies of all such documents are easily located by CEV personnel.</p> <p>Verify that schedules outlined in these documents are being met by the installation.</p>
<p>O3.9. Each installation is required to establish a Community Relations Plan (HQ USAF/CEV Letter, 16 September 1994, 1995 <i>Defense Environmental Restoration Program Management Guidance</i>).</p>	<p>Determine if the installation has developed a formal written plan and submitted copies of the plan to HQ USAF/LEEV and HQ ACC/LEEV.</p> <p>Verify that the installation conducts open meetings for the public.</p>

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<p>O3.10. Each installation is required to develop and maintain a Management Action Plan (MAP) (Yearly DERA Eligibility and Programming Guidance and AFI 32-7020, para 2.2.11).</p>	<p>Determine if the installation has developed a MAP.</p> <p>Verify that the MAP contains the following:</p> <ul style="list-style-type: none">- a Community Disposal and Reuse Plan- the Basewide Environmental Program Status- the Basewide Strategy for Environmental Restoration- the Environmental Restoration/Compliance Program Master Schedule- the Budget for Restoration. <p>Verify that the MAP schedules are updated every 6 mo.</p> <p>Verify that the MAP is reviewed yearly and revised accordingly.</p>

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<p>POLLUTION PREVENTION</p> <p>All Installations</p> <p>O4.1. Copies of all relevant Federal, state, and local regulations on pollution prevention should be maintained at the installation (MP).</p>	<p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing and proposed activities and keeps the EPC informed as needed.</p> <p>Determine whether copies of the following pollution prevention regulations are maintained and kept current at the installation and are ready:</p> <ul style="list-style-type: none"> - AFI 32-7080, <i>Pollution Prevention Program</i>. - Air Force Policy Letter, <i>Air Force Ban on Purchases of Ozone Depleting Chemicals (ODCs)</i>, 7 January 1993.



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<p>POLLUTION PREVENTION</p> <p>Opportunity Assessments</p> <p>O4.2. Installations are required to conduct Opportunity Assessments to review waste generating activities and the installation waste streams (AFI 32-7080 2.2.1).</p>	<p>Verify that an Opportunity Assessment of each waste generating activity is conducted on a recurring basis.</p> <p>Verify that the Opportunity Assessment provides a systematic review of the waste generating activities and installation waste streams.</p> <p>Verify that the Opportunity Assessment examines the total waste generation by type and volume of content and determines the most economical and practical waste minimization option.</p> <p>Verify that consideration is given to cost/benefit analysis when evaluating options.</p>



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<p>POLLUTION PREVENTION</p> <p>Management Plans</p> <p>O4.3. Installations are required to develop and execute a Pollution Prevention Management Plan (PPMP) (AFI 32-7080 2.2).</p> <p>O4.4. Installations should include additional strategies in the PPMP to further improve the pollution prevention program (MP).</p>	<p>Determine that the installation has a PPMP.</p> <p>Verify that the plan addresses all of the following issues:</p> <ul style="list-style-type: none"> - the process required to run a pollution prevention program - the program required to fund pollution prevention projects - the road map to achieve Air Force pollution prevention goals - the actions required to execute the program. <p>Verify that the plan contains management strategies for the following areas:</p> <ul style="list-style-type: none"> - ODCs - USEPA 17 industrial toxics (see Appendix 6-2) - hazardous wastes - municipal solid waste - affirmative procurement of recycled materials - energy conservation - air and water pollution reduction. <p>Verify that the plan identifies and programs projects needed to achieve stated objectives.</p> <p>Verify that the plan includes the following information:</p> <ul style="list-style-type: none"> - plans to crossfeed information to the rest of the Air Force - plans to brief the base EPC - plans to implement Opportunity Assessments - oil/water separator management strategies - usable measures of success - programming and budgeting strategies.



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<p>POLLUTION PREVENTION</p> <p>Ozone Depleting Chemicals (ODCs)</p> <p>O4.5. Installations are required to eliminate dependence on ODCs (Air Force Policy on ODCs).</p> <p>O4.6. The purchase of specific ODCs is prohibited (AFI 32-7080, para 3.1.1 and 3.1.3).</p> <p>O4.7. Installations are required to eliminate purchases of ODCs (Air Force Policy on ODCs).</p>	<p>Determine whether the installation uses any of the substances listed in Appendix 6-3.</p> <p>Verify that the installation's dependence on CFCs, halons, and other substances that deplete the stratospheric ozone layer is being reduced.</p> <p>Verify that any new system or modification to an existing system may not include the use of ODCs as a solvent, unless approved by the proper waiver approval authority.</p> <p>Verify that the substances outlined in Appendix 6-4 are no longer being purchased.</p> <p>Verify that halon fire extinguishing equipment, and ODC air condition and refrigeration equipment for ground applications is no longer being purchased.</p> <p>(NOTE: Organizations may apply for waivers prior to the award of any contract which requires the use of a Class I ODCs to purchase new or recycled ODCs, or obtain ODCs from the Defense Logistics Agency (DLA) ODC Bank for mission critical applications. Waivers are not required for government use of ODCs currently in stock on Air Force facilities.)</p> <p>Verify that policies and procedures are in place to eliminate purchases of ODCs.</p> <p>Verify that the following are no longer purchased:</p> <ul style="list-style-type: none"> - newly produced halon - halon extinguishers for facilities - facility air conditioning systems, AGE equipment, and other refrigeration and support equipment using ODCs - commercial vehicles with ODC air conditioning equipment - ODC solvents and the equipment/systems/products requiring these solvents for maintenance or operation.
<p>O4.8. An ODC Purchases Report will be released quarterly (AFI 7080, para 3.1.4.1).</p>	<p>Verify that the ODC Purchases Report (RCS: HAF-CEV(Q)9424) is released through WIMS-ES quarterly to Air Staff within 45 days after the end of each quarter.</p> <p>(NOTE: Reporting is discontinued during emergency conditions.)</p>

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<p>O4.9. Installations are required to follow specific requirements during the period of transition away from ODC dependence (Air Force Policy on ODCs and AFI 32-7080 3.1.2).</p>	<p>Verify that when non-ODC substitutes need long research and development lead times, existing uses are converted to ODCs with lower ozone depletion potential as interim substitutes, (i.e., HCFCs).</p> <p>Verify that inventory reserves, after production has been outlawed, are used only to aid a transition from ODCs, not as a substitute for changing to nonozone deleting practices.</p> <p>Verify that if reserves are used to extend the service life of ODC dependent equipment, conservation, recovery, and reuse are practiced.</p>
<p>O4.10. Installations are required to initiate certain ODC replacement programs (Air Force Policy on ODCs).</p>	<p>Verify that halon systems on crash/rescue vehicles are disabled and a phased program is in place to replace them with nonhalon fire fighting agents.</p> <p>Verify that a phased replacement program has been initiated to replace halon in the 150 lb [55.5 kg] flightline extinguishers.</p> <p>(NOTE: Halon removed from crash/rescue vehicles, or from existing installation stock, may be used to service flightline extinguishers until the phased replacement program is complete).</p> <p>Verify that existing halon fire extinguishers for facilities are replaced through attrition.</p> <p>Verify that refrigerators and other domestic equipment are replaced at the end of their economic life with non-ODC equipment.</p> <p>(NOTE: Existing airborne cooling systems and subsystems that require ODC refrigerants are considered mission critical).</p>
<p>O4.11. Installations are required to follow specific requirements regarding contract writing for the use of ODCs (Air Force Policy on ODCs).</p>	<p>Verify that contracts awarded after 1 June 1993 do not include a requirement to use ODCs or any requirement that can be met only through the use of ODCs, without approval of the waiver approval authority (AF/LG, AF/CE, or SAF/AQ).</p>

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<p>O4.12. Installations are required to reduce the atmospheric discharge of ODCs (Air Force Policy on ODCs).</p>	<p>Verify that the discharge of ODCs is reduced to zero as soon as possible.</p> <p>Verify that one of the following is being used to reduce discharges:</p> <ul style="list-style-type: none"> - modify operating, training, and testing practices - implement conservation measures such as: <ul style="list-style-type: none"> - recovery - recycling - reuse - material substitution. <p>Verify that existing halon systems which discharge to the atmosphere for other than actual fire situations, such as fuel tank inerting systems, are used only in actual combat or during in-flight emergencies.</p> <p>Verify that fire warning systems and operational procedures operate so that there are no false alarms or false discharges.</p> <p>Verify that automatic discharge extinguisher systems in facilities are disabled and placed on manual activation.</p> <p>Verify that all servicing of aircraft halon systems capture the halon for recycling with no atmospheric discharge, other than <i>de minimis</i> amounts.</p> <p>Verify that leaking systems are corrected quickly.</p>
<p>O4.13. Installations should follow specific procedures for the processing of reclaimed ODCs (MP).</p>	<p>Verify that processes are in place to ensure that reclaimed and excess ODC halons, refrigerants, and solvents are routed to the DLA Defense Reserve.</p>
<p>O4.14. Installations are required to manage halons in existing systems in a specific manner (Air Force Policy on ODCs).</p>	<p>Verify that halons are removed from aircraft being retired from service.</p> <p>Verify that these halons are redeployed or added to the Air Force account at the DLA Defense Reserve.</p>
<p>O4.15. Installations are required to maintain equipment and inventories at a certain level (Air Force Policy on ODCs).</p>	<p>Verify that chillers are well maintained and repaired promptly.</p>

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O4.16. Installations should have a refrigerant management plan (MP).

Verify that the installation has a plan for managing the use and disposal of refrigerant.

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<p>POLLUTION PREVENTION</p> <p>Hazardous Substances (Waste and Material)</p> <p>O4.17. Installations are required to develop procedures to centrally control the purchase and use of hazardous materials (AFI 32-7080 2.4.1).</p> <p>O4.18. Installations are required to participate in the reduction of the USEPA 17 Industrial Toxics (AFI 32-7080, para 3.2).</p>	<p>Verify that the purchase of hazardous materials, including ODCs, is under centralized control.</p> <p>Verify that the issuance and distribution of hazardous materials is centrally controlled.</p> <p>Verify that hazardous materials are issued in the smallest quantity necessary to meet the customer's need.</p> <p>Verify that the installation is working on reducing the use of the following:</p> <ul style="list-style-type: none"> - benzene - cadmium and cadmium compounds - carbon tetrachloride - chloroform - chromium and chromium compounds - cyanide and cyanide compounds - lead and lead compounds - mercury and mercury compounds - methylene chloride - methyl ethyl ketone - methyl isobutyl ketone - nickel and nickel compounds - tetrachloroethylene - toluene - 1,1,1-trichloroethane - trichloroethylene - xylenes. <p>(NOTE: Due to the high levels of certain USEPA 17 Toxics in jet fuel, and the direct link between fuels and flying hours, the Air Force's USEPA 17 reduction goals exempt jet fuels.)</p>

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<p>O4.19. Installations are required to work to minimize hazardous waste generation (AFI 32-7080, paras 3.3 and 3.3).</p> <p>O4.20. Installations should encourage complete use of hazardous materials (MP).</p> <p>O4.21. A Hazardous Materials Purchases Report is required to be released quarterly (AFI 7080, para 3.2.1).</p>	<p>Verify that hazardous waste from industrial, maintenance, and cleanup operations are minimized to the most economically practical extent.</p> <p>Verify that installations strive to reduce hazardous waste generation at the source.</p> <p>Verify that alternatives to hazardous materials and processes are used whenever possible.</p> <p>Verify that when technical orders require the use of many hazardous substances or out-of-date technology, the installation submits an Air Force Technical Order (AFTO) Form 22 to change it if alternative substances/technology are known to exist.</p> <p>Verify that a reuse facility of some type is established.</p> <p>Verify that the Hazardous Materials Purchases Report (RCS: HAF-CEV(Q)9424) is released through WIMS-ES quarterly to Air Staff within 45 days after the end of each quarter.</p> <p>(NOTE: Reporting is discontinued during emergency conditions.)</p>

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<p>O4.24. Installations are required to actively purchase recycled products (AFI 32-7080, para 3.5).</p> <p>O4.25. Installations are required to issue an affirmative procurement purchases report quarterly (AFI 32-7080, para 3.5.4).</p>	<p>Verify that the installation is proactive in the purchasing of all recycled products such as paper, retread tires, building insulation, cement concrete containing fly ash, and re-refined oils.</p> <p>Verify that the affirmative procurement report (RCS, HAF-CEV(q)9424) is released quarterly via WIMS-ES to the Air Staff within 45 days after the end of each quarter.</p>

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<p>PROGRAM MANAGEMENT</p> <p>All Installations</p> <p>O5.1. Copies of all relevant Federal, state, and local regulations on program management should be maintained at the installation (MP).</p>	<p>Determine if the following documents are available at the installation:</p> <ul style="list-style-type: none"> - AFI 13-212, <i>Weapons Ranges.</i> - AFI 32-7002, <i>Environmental Management System.</i> - AFI 32-7005, <i>Environmental Protection Committees.</i> - AFI 32-7047, <i>Compliance Tracking and Reporting.</i> - AFI, 32-7066, <i>Environmental Baseline Survey in Real Estate Transactions.</i> - AFI 32-7001, <i>Environmental Budgeting.</i> - latest version of the <i>Instruction Kit for Completing USEPA Form 3500-7 for New Pollution Abatement and Prevention Projects.</i> - applicable state and local regulations. <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing and proposed activities and keeps the EPC informed as needed.</p>



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<p>PROGRAM MANAGEMENT</p> <p>Weapons Ranges</p> <p>O5.2. Weapons ranges are required to be addressed in plans required by environmental regulations (AFI 13-212, Volume 1, para 1.10.2.2).</p>	<p>Determine whether the installation has weapons ranges.</p> <p>Verify that the weapons range(s) is/are addressed in the plans required by environmental regulations.</p> <p>(NOTE: Examples of such plans are:</p> <ul style="list-style-type: none"> - the hazardous materials management plan - the hazardous waste management plan - the SPCC plan - the spill contingency plan.)



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**PROGRAM
MANAGEMENT**

**A-106 Pollution
Abatement Plan**

O5.3. All installations are required to submit a 5 yr pollution abatement plan (the A-106 report) detailing the actions they plan to take to get into or maintain compliance (AFI 32-7001, para 3.8).

- Obtain a copy of the previous A-106 Pollution Abatement Plan sent to USEPA.
- Determine if the installation A-106 Pollution Abatement Plan reflects environmental requirements and properly prioritizes each as Operation and Services, Level 1, Level 2, or Level 3.
- Compare the A-106 Plan with requirements in the Project by Contract Management System (PCMS), and the PDC System.
- Determine if the A-106 Plan includes all projects involving costs that are necessary to comply with environmental standards.
- Check to ensure projects resulting from previous ECAMP evaluations or regulatory inspections are included in the A-106 Plan. Management action plans from ECAMP will give projects required to get the installation back in compliance.
- Determine if the A-106 Plan includes funds required for studies, management, and monitoring associated with the definition and development of corrective measures and necessary equipment to assure compliance with standards.
- Determine if the installation budgets for the environmental requirements are recorded in the installation A-106 Plan.
- Compare listings in the A-106 with the PCMS and PDC listings in Civil Engineering.
- Compare official financial records with obligation/expenditure data reflected in the A-106 system.
- Determine if current Level 1 and Level 2 requirements are being executed.
- Check progress code in the A-106 Plan to ensure projects are under construction or work on-going.



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<p>PROGRAM MANAGEMENT</p> <p>Environmental Baseline Survey (EBS)</p> <p>O5.4. Installations are required to conduct Phase I of an EBS according to specific parameters (AFI 32-7066, para 2.1).</p>	<p>(NOTE: The requirement for an EBS applies to all real property within the United States and its territories and possessions which has been identified for acquisition, disposal, out-grant, interagency transfer, or termination of temporary interests of the Air Force and non-Air Force parties. The chairman of the host EPC may waive the EBS requirement in a written statement that becomes part of the real estate transaction administrative record (AFI 32-7066, para 1.4 and 1.5).)</p> <p>Determine if the installation is required to conduct an EBS.</p> <p>Verify that, at a minimum, a comprehensive records search, interview, and a visual site inspection are done in Phase I.</p> <p>Verify that Phase I of the EBS identifies the following to the extent that information is available:</p> <ul style="list-style-type: none"> - potential for present and past site contamination by hazardous substances, petroleum products and petroleum derivatives - sources of contamination at the installation and on adjacent properties which could migrate to the subject property after disposal or during the term of temporary acquisition or out-grant - on-going response actions or actions that have been taken at the subject property or the property adjacent to it - characterizes contamination by type, quantity, and times when storage, releases into the environment or structures, or disposal took place on the property. <p>Verify that available Air Force, Federal regulatory agency, and state and local government information and records have been reviewed for the following:</p> <ul style="list-style-type: none"> - all existing or completed surveys, inspection reports or other records relevant to the media and contaminants - IRP studies or other documents produced under CERCLA or the <i>Solid Waste Disposal Act (SWDA)</i> - any applicable regulatory agency reports, NOVs, environmental incident reports, or other similar records - aerial photographs that may reflect prior uses of the property - current and discontinued permits pertaining to environmentally regulated activities such as air emissions, wastewater discharges, and hazardous waste management - title deed, other real property records or other available documents to determine prior uses of the subject property which may have involved hazardous substances or otherwise contaminated the property.

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<p>O5.8. Upon the closure of an outgrant or the expiration of an acquisition, changes in the environmental condition of the property need to be documented (AFI 32-7066, para. 2.4).</p>	<p>Determine if the installation has closed an outgrant or has any acquisitions that have expired.</p> <p>Verify that the documentation is a supplement to the EBS or the statement of waiver, or the EBS was redone as needed.</p> <p>(NOTE: This documentation becomes part of the real estate transaction administrative record.)</p> <p>Verify that the following are documented:</p> <ul style="list-style-type: none">- all hazardous substances used or stored at the property during the term of the outgrant or acquisition- all hazardous wastes generated on the property during the term of the outgrant or acquisition, and its disposition.

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<p>PROGRAM MANAGEMENT</p> <p>Compliance Tracking and Reporting</p> <p>O5.9. Installations are required to use the WIMS-ES to track and report information on all regulatory inspections, enforcement actions, and compliance agreements (AFI 32-7047, para 4 through 7).</p>	<p>Verify that inspections by regulators are logged in WIMS-ES and released to the MAJCOM Air Staff.</p> <p>Verify that inspection results are submitted through the MAJCOM to HQ USAF promptly.</p> <p>Verify that immediate notification is made to the MAJCOMs and appropriate regional compliance offices for any actual or likely action against the Air Force that involves fines, penalties, media attention, or has offsite impact.</p> <p>(NOTE: Immediate notification is done initially by telephone and then, within 24 h, a report is written describing what is happening (RCS: HAF-CEV(AR)9432).)</p> <p>Verify that for routine actions the installation sends, through the MAJCOMs, copies of enforcement actions and all related correspondence to the appropriate regional compliance office within 10 working days after receiving it from a regulator (RCS: HAF-CEV(AR) 8603).</p> <p>Verify that, in the case of enforcement actions, the installation sends to the regional compliance office, through the MAJCOMs, a summary describing the violation and what is being done soon after receiving any enforcement action, and provides updated status reports on enforcement action using WIMS-ES (RCS: HAF-CEV(Q&AR) 9415).</p> <p>Verify that installations send, through the MAJCOMS, a summary report describing compliance agreement milestones, schedule, and completion status to the appropriate regional compliance office soon after the installation signs the agreement.</p> <p>Verify that status updates on compliance agreement are sent to the regional compliance office soon after then end of each calendar quarter (RCS: HAF-CEV(A&AR) 9417).</p>



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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>PROGRAM MANAGEMENT</p> <p>The EPC</p> <p>O5.10. Installations are required to have an EPC that fulfills specific functions (AFI 32-7005, para 4.3).</p>	<p>Verify that it meets at least quarterly or at the direction of the chairperson.</p> <p>Verify that the EPC reviews and approves environmental impact analysis on proposed actions and forwards to the decision maker.</p> <p>Verify that the EPC ensures that appropriate training and manpower exists to meet environmental responsibilities.</p> <p>Verify that a record of the EPC meetings is prepared within 30 days of the meeting.</p> <p>Verify that minutes are kept for a minimum of 10 yr.</p> <p>(NOTE: The AFI stipulates that the membership of the EPC will mirror the membership of the USAF EPC membership which includes:</p> <ul style="list-style-type: none"> - the Assistant Secretary of the Air Force for Manpower, Reserve Affairs, Installations, and Environment (SAF/MII) and the Assistant Vice Chief of Staff (HQ USAF/CVA) co chair the EPC - Assistant Secretary for Acquisition (SAF/AQ) - Assistant Secretary for Budget (SAF/FM) - The General Counsel (SAF/IG) - The Inspector General (SAF/IG) - Office of Legislative Liaison (SAF/LL) - Office of Public Affairs (SAF/PA) - the Civil Engineer (HQ USAF/CE) is the EPC Executive Secretary - Deputy Chief of Staff (DCS) Logistics (HQ USAF/LG) - Director, Programs and Evaluations (HQ USAF/PE) - DCS Plans and Operations (HQ USAF/XO) - Chief of Safety (HQ USAF/SE) - The Judge Advocate General (HQ USAF/JA) - DCS Personnel (HQ USAF/DP) - Services (HW USAF/MW) - DCS Command, Control, Communications and Computers (HQ USAF/SC) - Surgeon General (HQ USAF/SG) - Chief of Air Force Reserves (HQ USAF/RE) - Director, Air National Guard (NGB/CF) - Director, Air Force Base Conversion Agency (AFBC/DR.)



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<p>PROGRAM MANAGEMENT</p> <p>WIMS-ES Management</p> <p>O5.11. Program management reporting is should be done in the Pollution Prevention Module of WIMS-ES (AFI 32-7002).</p>	<p>Verify that quarterly reports are being added and released.</p> <p>Verify that programming records are being added for projects and O&S expenses.</p> <p>Verify that all modules are running and are accessible to the program managers responsible for each media.</p> <p>Verify that the transaction processing is being done daily</p> <p>Verify that rejects are being processed</p> <p>Verify that the Base Variable File reflects the correct address for the base environmental coordinator.</p>



Appendix 6-1

Categorical Exclusions (CATEXs) (AFI 32-7061, para 3.3.8)

1. Procuring routine goods and services.
2. Routine Commissary and Exchange operations.
3. Routine recreational and welfare activities.
4. Normal personnel, fiscal, or budgeting, and administrative activities and decisions including those involving military and civilian personnel (for example, recruiting, processing, paying, and record-keeping).
5. Preparing, revising, or adopting regulations, instructions, directives, or guidance documents that do not, themselves, result in an action being taken.
6. Preparing, revising, or adopting regulations, instructions, directives, or guidance documents that implement (without substantial change) the regulations, instructions, directives, or guidance documents from higher headquarters or other Federal agencies with superior subject matter jurisdiction.
7. Continuation of pre-existing actions, where there is no substantial change in existing conditions and where the actions were originally evaluated in accordance with applicable law and regulations.
8. Performing interior and exterior construction within the 5 ft line of a building without changing the land use of the existing building, provided the structure is not eligible for, or listed in, the National Register of Historic Places.
9. Repairing and replacing real property installed equipment.
10. Maintaining and repairing facilities not involving the disturbance of large quantities of hazardous materials such as asbestos.
11. Actions similar to other actions which have been determined to have an insignificant impact in a similar setting as established in an EIS or an EA, resulting in an FONSI. Application of this CATEX must be documented on AF Form 813, specifically identifying the previous environmental document which provides the basis for this determination.
12. Installing, operating, modifying, and routinely repairing and replacing utility and communications systems, data processing cable, and similar electronic equipment that use existing rights-of-way, easements, distribution systems, or facilities.
13. Installing or modifying airfield operational equipment (such as runway visual range equipment, visual glide path systems, and remote transmitter or receiver facilities) on airfield property usually accessible only to maintenance personnel.

(continued)

Appendix 6-1 (continued)

14. Installing on previously developed land, equipment that does not substantially alter land use (i.e., land use of more than one acre). This type of installation include outgrants to private lessees. The EPF must document application of this CATEX on AF Form 813.
15. Laying-away or mothballing a production facility when:
 1. agreement on any required historic preservation effort has been reached with the state historic preservation officer and the Advisory Council on Historic Preservation (ACHP), and
 2. no degradation in the environmental restoration program will occur.
16. Acquiring land an ingrants (50 acres or less) for activities otherwise subject to CATEX. The EPF must document application of this CATEX on AF Form 813.
17. Transferring land and facilities for which the General Services Administration (GSA) is the action agency, such transfers are excluded only if there is no change in land use and GSA complies with NEPA.
18. Transferring administrative control of real property within the Air Force or to another military department or to another Federal agency(s), including returning public domain lands to the Department of the Interior.
19. Grazing easements, leases, licenses, and permits to use air Force controlled property for activities that, if conducted by the Air Force, would be categorically excluded in accordance with this list. The EPF must document the applicable CATEX exclusion on AF Form 813.
20. Converting in-house services to contract services, under the provisions of DOD Directive 4100.15.
21. Routine decreasing and increasing of manpower, including converting the workforce to either on-base contractor operation or to military operation from contractor operation (excluding base closure and realignment actions which are subject to congressional reporting under 10 USC 2687).
22. Routine, temporary movement of personnel, including deployments of personnel on a temporary duty (TDY) basis where existing facilities are used.
23. Reducing personnel due to workload adjustments, reducing personnel funding levels, skill imbalances, or other similar causes.
24. Implementing study efforts that involve no commitment of resources other than personnel and funding allocations.
25. Implementing actions designed to benefit or improve the natural environment or help assess its conditions without altering it (e.g., inspections, audits, surveys, investigations). This CATEX includes granting permits for surveys, provided that the survey technology or procedure is well understood and there are no adverse environmental impacts anticipated from it. The EPF must document application of this CATEX on AF Form 813.

(continued)

Appendix 6-1 (continued)

26. Carrying out specific investigatory activities to support remedial activities or cleanup of hazardous spillage or waste site or contaminated groundwater or soil. These investigatory activities include performing soil borings and sampling, installation and operation of test or monitoring wells. This CATEX applies to studies that assist in determining final approaches to cleanup actions agreed to by the USEPA or state regulators in accordance with prior interagency agreements, administrative orders, or work plans. (NOTE: This CATEX does not apply to selecting remedial action.)
27. Conducting routine basic and applied scientific research confined to the laboratory and in compliance with all applicable environmental and natural resource conservation laws.
28. Routine transporting of hazardous materials and wastes in accordance with RCRA and the *Hazardous Materials Transportation Act* regulations, and any other applicable Federal, state, interstate, and local laws.
29. Emergency handling and transporting of small quantities of chemical surety material or suspected chemical surety material, whether or no classified as hazardous or toxic wastes, from a discovery site to a permitted storage, treatment, or disposal facility.
30. Responding to the release or discharge of oil or hazardous materials on an emergency basis, in accordance with an approved Spill Prevention and Response Plan or Spill Contingency Plan that is consistent with the requirements of the National Contingency Plan. (NOTE: Long-term cleanup and remediation activities should be evaluated separately.)
31. Relocating a small number of aircraft to an installation with similar aircraft that does not result in an increase of flying hours or the number of aircraft operations, change in flight tracks, or that does not cause an increase in permanent personnel or logistics support requirements at the receiving installation.
32. Infrequent and temporary (for less than 30 days) increase in air operations up to 50 percent of the typical installation aircraft operation rate or increases up to 50 or more operations a day, whichever is greater.
33. Conducting flying activities that comply with the Federal aviation regulations, that are dispersed over a wide area and that do not frequently (more than once a day) pass near the same ground points. (NOTE: This CATEX does not cover regular activity on established routes or within special use airspace).
34. Conducting supersonic flying operations over land above 30,000 ft mean sea level or over water above 10,000 mean sea level, and more than 15 NM from land.
35. Making formal requests to the FAA, or host-nation equivalent agency, to establish or modify special use airspace (for example, restricted areas, warning areas, military operating areas) and military training routes for subsonic operations that have a base altitude of 3000 ft above ground level or higher. The EPF must document this CATEX determination on AF Form 813, which must accompany the request to the Federal Aviation Administration (FAA).

(continued)

Appendix 6-1 (continued)

36. Adopting airfield approach, departure, and en route procedures that do not route air traffic over noise-sensitive areas, including residential neighborhoods or cultural, historical, and outdoor recreational areas. The EPF may categorically exclude such air traffic pattern at or greater than 3000 ft aboveground level regardless of underlying land use.
37. Participating in air shows and fly-overs by Air Force aircraft at non-Air Force public events after obtaining FAA coordination and approval.
38. Conducting Air force open houses and similar events, including air shows, where crowds and traffic control, etc., at the Air Force installations do not present (and have not in the past presented) safety or environmental impacts.

Appendix 6-2

USEPA Industrial ITP Targeted Chemicals (AFI 32-7080, Attachment 2)

Benzene
Cadmium and compounds
Carbon tetrachloride
Chloroform
Chromium and compounds
Cyanides
Dichloromethane
Lead and compounds
Mercury and compounds
Methyl ethyl ketone
Methyl isobutyl ketone
Nickel and compounds
Tetrachloroethylene
Toluene
Trichloroethane
Trichloroethylene
Xylene(s)



Appendix 6-3

ODCs Subject to Air Force Policy Letter, 7 January 1993

HALONS

Halon 1211, Halon 1301, Halon 1202, and Halon 1011 are used primarily as firefighting agents.

CFCs

CFCs -11, -12, -13, -111, -112, -113, -114, -115, -211, -213, -214, -215, -216, and -217 are used primarily as refrigerants and cleaning solvents.

OTHER CONTROLLED SUBSTANCES

Carbon Tetrachloride and Methyl Chloroform are used primarily as cleaning solvents. Methyl Bromide is used as pesticide and fumigant.

Appendix 6-4

ODCs Prohibited from Purchase (AFI 32-7080, Attachment 2)

Class I

CFC-1₃ - Trichlorofluoromethane (CFC-11)
CF₂C1₂ - Dichlorodifluoromethane (CFC-12)
C₂F₃C1₃ - Trichlorotrifluoroethane (CFC-113)
C₂F₄C1₂ - Dichlorotetrafluoroethane (CFC-114)
C₂F₅C1 - (Mono)chloropentafluoroethane (CFC-115)
CF₂C1Br - Bromochlorodifluoromethane (Halon 1211)
CF₃Br - Bromotrifluoromethane (Halon 1301)
C₂F₄Br₂ - Dibromotetrafluoroethane (Halon 2402)
CF₃C1 - Chlorotrifluoromethane (CFC-13)
C₂FC1₅ - (CFC-111)
C₂F₂C1₄ - (CFC-112)
C₃FC1₇ - (CFC-211)
C₃F₂C1₆ - (CFC-212)
C₃F₃C1₅ - (CFC-213)
C₃F₄C1₄ - (CFC-214)
C₃F₅C1₃ - (CFC-215)
C₃F₆C1₂ - (CFC-216)
C₃F₇C1 - (CFC-217)
CC1₄ - Carbon Tetrachloride
C₂H₃C1₃-1,1,1-Trichloroethane (methyl chloroform)
CH₃Br - Bromomethane (methyl bromide)



Appendix 6-5

Format for the EBS Report (AFI 32-7066, Attachment 2)

Executive Summary

Section 1.0: Purpose of the EBS

1.1: Boundaries of the Property and Survey Area

Section 2.0: Survey Methodology

2.1: Approach and Rationale

2.1.1: Description of Documents Reviewed

2.1.2: Property Inspections

2.1.3: Personal Interviews

2.1.4: Parcel Categorizations

Section 3.0: Findings (Onbase properties)

3.1: History and Current Use (including Chain of Title)

3.2: Environmental Setting

3.3: Hazardous Substances and Petroleum Products Management

3.3.1: Hazardous Materials and Petroleum Products

3.3.2: Hazardous Waste and Recoverable/Used Petroleum Products

3.4: Installation Restoration Program Contamination

3.5: Storage Tanks

3.5.1: Aboveground Storage Tanks

3.5.2: Underground Storage Tanks

3.5.3: Pipelines, Hydrant Fueling, and Transfer Systems

3.6: Oil/Water Separators

(continued)

Appendix 6-5 (continued)

- 3.7: Asbestos
- 3.8: Pesticides
- 3.9: Medical/Biohazardous Waste
- 3.10: Ordnance
- 3.11: Wastewater Discharges
- 3.12: Radioactive Wastes
- 3.13: Solid Waste
- 3.14: Water Quality
- 3.15: Disclosure Factors
 - 3.15.1: Asbestos
 - 3.15.2: Polychlorinated Biphenyls
 - 3.15.3: Radon
 - 3.15.4: LBP

Section 4.0: Findings (Offbase properties)

- 4.1 Land Uses
- 4.2 Surveyed Properties

Section 5.0: Related Environmental Factors

- 5.1: Biological Resources
 - 5.1.1: Vegetation
 - 5.1.2: Wildlife
 - 5.1.3: Threatened and Endangered Species
 - 5.1.4: Sensitive Habitat
 - 5.1.5: Floodplains
 - 5.1.6: Wetlands
 - 5.1.7: Coastal Management Zones

(continued)

Appendix 6-5 (continued)

5.2: Cultural Resources

5.2.2 Historical Structures

5.2.3: Archaeological

5.3: Prime and Unique Farmland

5.4: Occupational Safety and Health Considerations

Section 6.0: Conclusions and Recommendations

6.1: Facility Matrix

6.2: Property Categories Map

6.3: Resources Map

Section 7.0: Certification of Findings

Appendix A: Terms

Appendix B: Maps

Appendix C: References



Section 7

Pesticide Management (Air Force Supplement)

A. U.S. Air Force Instructions (AFIs) and Policies	1
B. Department of Defense (DOD) Directives and Instructions	1
C. Using the TEAM Guide for ECAMP	1
D. Key Air Force/DOD Compliance Requirements	2
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G. Additional Records To Review	3
H. Additional Physical Features To Inspect	3
I. People To Interview	3
J. Guidance for Pesticide Management Checklist Users	5

SECTION 7

PESTICIDE MANAGEMENT

A. U.S. Air Force Instructions (AFIs) and Policies

- AFI 32-1053, *Pest Management Program*. This AFI, dated 18 May 1994, provides guidance for pest management at Air Force Installations.

B. Department of Defense (DOD) Directives and Instructions

- DOD Directive (DODD) 4150.7. This directive sets forth the policy, responsibilities, and procedures for pest management programs. This directive establishes the DOD policy of maintaining safe, efficient, and environmentally sound integrated pest management programs to prevent or control pests that may adversely affect health or damage structures, material, or property. The DOD Plan for the Certification of Pesticides Applicators stipulates the certification of U.S. Air Force military and civilian pest managers.
- Technical Information Memoranda (TIM). DODD 4150.7 is supplemented by TIM that provide specific criteria and procedures for the operation of a pest management program. The TIMs are guidance only and nonregulatory. The following TIMs are appropriate to have on hand:
 - TIM 11 - *Hydrogen Phosphide Fumigation with Aluminum Phosphide* (Feb 1987).
 - TIM 13 - *Ultra Low Volume Dispersal of Insecticides by Ground Equipment* (Mar 1985).
 - TIM 14 - *Personal Protective Equipment for Pest Management Personnel* (Mar 1992).
 - TIM 15 - *Pesticide Spill Prevention and Management* (Jun 1992).
 - TIM 16 - *Pesticide Fires: Prevention, Control and Cleanup* (Jun 1981).
 - TIM 18 - *Installation Pest Management Program Guide* (Feb 1987).
 - TIM 20 - *Pest Management Operations in Medical Treatment Facilities* (Oct 1989).
 - TIM 21 - *Pesticide Disposal Guide for Pest Control Shops (OCT 1986)*.
 - TIM 24 - *Contingency Pest Management Pocket Guide* (Sep 1991).
 - TIM 25 - *Devices for Electrocutation of Flying Insects* (Aug 1988).
 - TIM 26 - *Lyme Disease - Vector Surveillance and Control* (Mar 1990).
 - TIM 27 - *Stored Products Pest Monitoring Techniques* (Jun 1992)
 - TIM 29 - *Integrated Pest Management In and Around Buildings* (Jul 1994).
 - Military Handbook 1028-8A, *Design of Pest Management Facilities* (1 Nov 91).
- DOD Regulation (DODR) 4145.19. Chapter 5, Section 4 of this regulation provides overall guidance for storage and handling of various hazardous commodities at Air Force installations. It functions as implementing guidance of the DOD for the *Occupational Safety and Health Act* (OSHA) 29 CFR 1910 regulations.
- DOD Manual (DODM) 4160.21, *Defense Reutilization and Marketing Manual*. This DODM establishes special processing requirements for the disposal of pesticides.

C. Using the TEAM Guide for ECAMP

- No additional instructions.

D. Key Air Force/DOD Compliance Requirements

- Pesticide Management Plan - Installations are required to develop a comprehensive pesticide management plan which details the pesticide operations on the installation.
- Pesticide Use and Equipment - Installations are required to have Major Command (MAJCOM) approval prior to ordering or using nonstandard, locally purchased pesticides or application equipment. Only trained pest management personnel are allowed to apply general use pesticides. Pesticide applicators are required to participate in a medical surveillance program. Records are required to be kept concerning the storage and application of pesticides.
- Pesticide Storage, Mixing, and Preparation Facilities - Pesticide storage, mixing, and preparation activities must provide facilities and procedures to ensure safety of personnel.
- Highly Toxic Pesticide Storage and Use - Storage facilities for pesticides and excess pesticides classed as highly toxic or moderately toxic that are labeled DANGER, POISON, or with the skull and crossbones symbol, should meet specific structural, operational, and storage requirements. These include pesticides being kept in a dry separate room with fire protection which is not near food or feed, and in containers in good condition with plainly visible labels. There should be decontamination facilities and the local fire department, hospitals, public health officials, and police departments should be notified in writing that the pesticides are being stored (MP).

E. Key Compliance Personnel

- Base Civil Engineering (BCE). The BCE assures that pest management facilities comply with all applicable U.S. Air Force, U.S. Environmental Protection Agency (USEPA), and OSHA regulations and standards; submits quarterly pesticide usage and applicator certification reports (via Work Information Management System (WIMS)); assumes responsibility for the completion of daily records, inspections, requests for additional support, semi-annual physical examinations, notifications to Director of Base Medical Services (DBMS), the protection of the health and safety of pest management personnel, and the required training and certification or recertification of pesticide applicators. The Pest Management shop within BCE is the principal department charged with proper pesticide management at Air Force installations.
- The DBMS. The DBMS identifies and characterizes pests; recommends measures for personal protection and pest control; monitors pests of medical importance; provides industrial hygiene and environmental sanitation assistance; and assures that pest management personnel are physically qualified to work with pesticides.
- Services/Morale, Welfare, and Recreation (MWR)/Golf Course Maintenance. The Chief of Services assures that the pesticide (including herbicides) storage, mixing, and disposal facilities comply with all applicable regulations and standards. The Chief of Services assures that golf course personnel mixing and applying pesticides are trained and certified. Golf course maintenance submits quarterly pesticide usage reports to the BCE pest management shop for inclusion in the WIMS report.

F. Key Air Force/DOD Compliance Definitions

- *Pest* - A plant or animal out of place (AFI 32-1053).
- *Pest Management* - The effective economical, and environmentally sound prevention or control of animal pests and vectors, undesirable terrestrial and aquatic plants, and plant diseases. It includes such methods as (AFI 32-1053):
 1. education
 2. inspection (surveys)
 3. sanitation and proper waste management (such as the use of pressure washing and self closing compactors)
 4. proper storage of food and other pest susceptible items
 5. exclusion, trapping, and other mechanical or physical means of containing pests (such as using portable vacuum cleaners)
 6. pest preventative building construction and maintenance (caulking)
 7. biological control
 8. minimal use of pesticides; chemical used in a manner (such as containerized baits and crack and crevice applications) that cause the least harm to the environment.
- *Vector* - An arthropod or other organism that transmits a disease agent to another organism (AFI 32-1053).

G. Additional Records To Review

- Description of the installation's pest control program
- Any emergency exemption granted to the Air Force by the USEPA
- Integrated Pest Management Plan
- WIMS Pest Program

H. Additional Physical Features To Inspect

- Golf Course Maintenance Areas

I. People To Interview

- Base Civil Engineering
- Base Medical Services - Environmental Health Officer (EHO)
- Base Medical Services
- Bioenvironmental Engineering
- Military Public Health
- Pest Management Shop
- Golf Course Maintenance
- Base Fire Chief
- Base Contracting Office and Contract Pesticide Applicators



J. Guidance for Pesticide Management Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
All Installations	PM.1 through PM.5	7-7
Pesticide Applicators	PM.6 through PM.11	7-11
Application of Pesticides	PM.12 through PM.16	7-15
Pesticide Mixing, Storage, and Preparation Facilities	PM.17 and PM.18	7-17
Highly and Moderately Toxic Pesticides	PM.19 through PM.27	7-19
Disposal	PM.28 through PM.31	7-23



**COMPLIANCE CATEGORY:
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ALL INSTALLATIONS

PM.1. Copies of all relevant Federal, state, and local regulations on pesticide management should be maintained at the installation (MP).

(NOTE: The term pesticides in this protocol refers to insecticides, rodenticides, herbicides, and other pest control chemicals (see definitions).)

Verify that the following documents are maintained and kept current at the base:

- EO 12088, *Federal Compliance with Pollution Standards.*
- 29 CFR 1910, *Occupational Safety and Health.*
- 40 CFR 152, *Pesticide Registration and Classification Procedures.*
- 40 CFR 165, *Regulations for the Acceptance of Certain Pesticides and Recommended Procedures for the Storage and Disposal of Pesticides and Pesticide Containers.*
- 40 CFR 166, *Exemption of Federal and State Agencies for Use of Pesticides Under Emergency Conditions.*
- 40 CFR 171, *Certification of Pesticide Applicators.*
- DODR 4145.19-1, *Storage and Materials Handling.*
- DODD 4150.7, *IDOD Pest Management Program.*
- AFI 32-1053, *Pest Management Program.*
- Military Handbook 1028-8A, *Design of Pest Management Facilities.*
- TIM 11 - *Hydrogen Phosphide Fumigation with Aluminum Phosphide* (Feb 1987).
- TIM 13 - *Ultra Low Volume Dispersal of Insecticides by Ground Equipment* (Mar 1985).
- TIM 14 - *Personal Protective Equipment for Pest Management Personnel* (Mar 1992).
- TIM 15 - *Pesticide Spill Prevention and Management* (Jun 1992).
- TIM 16 - *Pesticide Fires: Prevention, Control and Cleanup* (Jun 1981).
- TIM 18 - *Installation Pest Management Program Guide* (Feb 1987).
- TIM 20 - *Pest Management Operations in Medical Treatment Facilities* (Oct 1989).
- TIM 21 - *Pesticide Disposal Guide for Pest Control Shops* (Oct 1986).
- TIM 24 - *Contingency Pest Management Pocket Guide* (Sep 1991).
- TIM 25 - *Devices for Electrocution of Flying Insects* (Aug 1988).
- TIM 26 - *Lyme Disease - Vector Surveillance and Control* (Mar 1990).
- TIM 27 - *Stored Products Pest Monitoring Techniques* (Jun 1992).
- TIM 29 - *Integrated Pest Management In and Around Buildings* (Jul 1994).
- applicable state and local regulations.

Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing or proposed activities and keeps the Environmental Protection Committee (EPC) informed as needed.

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PM.2. Each installation is required to have a comprehensive pest management plan (DODD 4150.7, para F5; AFI 32-1053, para 2.4.5. and 2.4.7.).

Verify that all installation activities and satellite sites that perform pest control have been included in the plan.

Verify that the plan/program addresses the following:

- annual requirements (such as labor and pest management measures to be used against each pest)
- necessary attachments such as pesticide labels, safety data sheets, and agreements between appropriate state pesticide organizations and DOD
- any unique pest management programs.
- termite inspection frequency.

Verify that, if the installation has endangered or threatened species, the plan was coordinated with the regional U.S. Fish and Wildlife Service office.

Verify that the plan is prepared in accordance with the guidance found in Section II of the Armed Forces Pest Management Board Technical Information Management Memorandum Number 18.

Verify that the plan includes necessary attachments such as pesticide labels, material safety data sheets (MSDSs), and agreements between appropriate pesticide organizations and DOD.

Verify that the Installation Pest Control Supervisor has coordinated with the following to ensure that the plan complies with applicable requirements:

- the Environmental Coordinator (EC)
- the Natural Resources Manager (if assigned)
- the Military Public Health (MPH) Officer
- the BEE.

Verify that the pest management plan has been approved by the MAJCOM.

PM.3. Installations are required to have MAJCOM approval before ordering or using nonstandard, locally purchased pesticides or application equipment (AFI 32-1053, para 3.5.2.).

Verify that the installation has sought and received MAJCOM approval before ordering or using nonstandard, locally purchased pesticides or application equipment.

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PM.4. Pesticide management service contracts are required to comply with Federal and state pesticides laws (AFI 32-1053, para 3.7.2.).

Verify that MAJCOM has approved the statement of work for contrast in effect on the installation.

PM.5. The self-help program for military family housing is required to only issue authorized pest management materials (AFI 32-1053, para 2.4.8.).

Verify that the self-help store for military family housing issues only pesticides and pest management materials approved by HQ Air Force Civil Engineering Support Agency (AFCESA).



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<p>PESTICIDE APPLICATORS</p> <p>PM.6. Application of pesticides may be carried out by certain personnel only (DODD 4150.7, para F1 and F2; and AFI 32-1053, para 2.4.3.)</p> <p>PM.7. Pest management personnel are required to use all pesticides according to label directions and use equipment according to the manufacturer's instructions (AFI 32-1053, para 3.5.4.).</p> <p>PM.8. All pesticide applicators are required to participate in a medical surveillance program (AFI 32-1053, para 2.4.9.).</p>	<p>Verify that trained pest management personnel apply general-use pesticides under the supervision of certified personnel.</p> <p>Verify that pesticides classified as controlled are applied by trained pesticide applicators only.</p> <p>Verify that the installation has the appropriate number of certified pesticide applicators required to perform pest management operations at the installation (see Appendix 7-1).</p> <p>Verify that neither prisoners nor volunteer workers are assigned to apply pesticides.</p> <p>(NOTE: After receiving training from pest management personnel, nonpest-management personnel may apply pesticides in the following situations:</p> <ul style="list-style-type: none"> - adult military housing occupants and facility building managers may apply approved self-help pesticides - military personnel may apply approved arthropod repellents (aerosol, creme, lotion, stick) - military personnel may apply approved aerosol insecticide for quarantine insect extermination on aircraft.) <p>Verify that pest management personnel use all pesticides according to label directions and use equipment according to the manufacturer's instructions.</p> <p>Verify that all BCE and golf course personnel who apply pesticides participate in a medical surveillance program.</p> <p>(NOTE: Contract pesticide applicators should be in a medical surveillance program provided by their employer.)</p> <p>Verify that all BCE personnel who apply pesticides receive a baseline physical examination within 30 days after they arrive.</p>

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<p>PM.8. (continued)</p> <p>PM.9. Personal protective equipment (PPE) and protective clothing are required to be provided at employer (Air Force or contractor) expense (AFI 32-1053, paras 2.4.9. and 3.4.).</p> <p>PM.10. Medical treatment facilities personnel may neither store nor use pesticides (AFI 32-1053, para 2.6.).</p> <p>PM.11. Records are required to be maintained and summary reports written for pest management activities (AFI 32-1053, para 2.4.13. and 2.4.14.).</p>	<p>Verify that the periodic occupational physical exams (including cholinesterase testing if regularly working with organophosphates or carbamate pesticides) are done at the frequency determined by the local Aeromedical Council.</p> <p>Verify that personal protective clothing and PPE is provided and used by pesticide applicators.</p> <p>(NOTE: Use of the following equipment depends upon magnitude and type of operations:</p> <ul style="list-style-type: none"> - respirators - goggles - nitrile or chemical- and oil-resistant gloves - rubber boots - safety shoes - coveralls - specialized PPE for fumigation.) <p>Verify that health and safety procedures emphasizing good work habits, reduction or elimination of hazards, and use of PPE are followed.</p> <p>Verify that protective clothing and equipment are stored away from chemical areas.</p> <p>Verify that overalls are kept clean at all times.</p> <p>Verify that shop washing machines and dryers are used or that any clothing sent to base laundry services is clearly identified as being contaminated with pesticides.</p> <p>Verify that periodic fit testing of respirators is conducted.</p> <p>Verify that medical treatment facilities personnel neither store nor use pesticides.</p> <p>(NOTE: This prohibition does not apply to disinfectants or germicides.)</p> <p>Verify that WIMS pesticide software is used to track pesticide inventories and pesticide applicator certifications.</p> <p>Verify that daily pesticide use is recorded on the WIMS pesticide software.</p> <p>(NOTE: DD Forms 1532 and 1532-1 may be used if WIMS is not on-line.)</p> <p>Verify that historical data are kept on pesticide application in accordance with Air Force Manual 37-139, <i>Record Disposition--Standards</i> (formerly Air Force Regulation (AFR) 4-20, volume 2).</p>

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PM.11. (continued)	<p>Verify that Quarterly Reports are sent no later than 15 days after the close of quarter to the MAJCOM.</p> <p>Verify that the Quarterly Reports include the following:</p> <ul style="list-style-type: none">- pesticide inventory data- pesticide applicator certification data- pesticide application data (equivalent of Report Control Symbol (RCS) DD-P&L[A&AR]1080) for all pest management operations on Air Force real property:<ul style="list-style-type: none">- pest management shop- self-help pest control- roads and grounds- golf course- contractors- forestry- lessee and land permit holders.



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<p>APPLICATION OF PESTICIDES</p> <p>PM.12. Notification is required to be made and/or approval received for certain application activities (AFI 32-1053, para 2.4.10. and 2.4.12.).</p> <p>PM.13. Equipment used for pesticide applications is required to be dedicated to the pest management operation and meet specific requirements (AFI 32-1053, para 3.6.).</p>	<p>Verify that the BEE is notified prior to any pesticide applications in food preparation or consumption facilities, medical facilities, or child development centers.</p> <p>Verify that the Installation Pest Control Supervision coordinates all fumigations with installation medical (including MPH), fire, security police, and safety personnel.</p> <p>Verify that the fire department receives a copy of the pesticide inventory quarterly.</p> <p>Verify that no internal combustion or electrical power-driven spraying machines for aerosol or mist sprays are used inside buildings without approval from BEE and the installation Fire Chief.</p> <p>Verify that the BEE receives the following:</p> <ul style="list-style-type: none"> - a hard copy of installation pesticide inventories - quarterly summary of pesticide application records - applicable MSDSs. <p>Verify that vehicles and dispersal equipment are used solely in support of pest management activities.</p> <p>Verify that only pest management personnel use pest control vehicles.</p> <p>Verify that pest management vehicles are painted with a chemical-resistant coating (similar to fire department vehicles) and equipped with plastic bed liners.</p> <p>Verify that vehicles are equipped with locking compartments for safe handling, storage, and transport of pesticides.</p> <p>(NOTE: A telephone maintenance truck will suit the purpose.)</p> <p>Verify that the truck carries emergency phone numbers and a spill cleanup kit.</p> <p>Verify that placards are attached to trailer-mounted sprayers that identify the pesticide that is being applied.</p> <p>Verify that all pesticide dispersal equipment is kept in the BCE pest management section.</p> <p>(NOTE: Equipment at base golf courses that have certified pesticide applicators are exempt from this requirement.)</p> <p>Verify that vehicles (prime movers) used for fogging, misting, dusting, or ultra low volume (ULV) application are equipped with air conditioning.</p>

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<p>PM.14. Insecticides and termiticides will not be injected into the soil to control subterranean termites in any military buildings with subslab or in-slab heating, ventilation, or air conditioning ducts (AFI 32-1053, para 2.4.11.).</p>	<p>Determine whether pesticide applications are undertaken to control subterranean termites.</p> <p>Verify that no subterranean termite control is undertaken for the types of buildings listed.</p> <p>(NOTE: This prohibition does not apply if such systems are made inoperable and duct registers are blocked to prevent air flow.)</p>
<p>PM.15. Installations are required to ensure their pesticide applications do not adversely impact endangered species or their habitat (AFI 32-1053, para 2.4.5.).</p>	<p>Determine if personnel are aware of any endangered or threatened species at the installation and the impact of pesticides on these and other wildlife.</p> <p>Verify that if endangered or threatened species are present, the Pest Management Plan has been coordinated with the U.S. Fish and Wildlife Service Office.</p>
<p>PM.16. Installations are required to use recyclable and refillable pesticide containers and closed pesticide mixing and transfer systems as much as possible (AFI 32-1053, para 2.4.11.).</p>	<p>Verify that the installation uses recyclable and refillable pesticide containers and closed pesticide mixing and transfer systems as much as possible.</p>

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**PESTICIDE MIXING,
STORAGE, AND
PREPARATION
FACILITIES**

PM.17. Installations are required to store contingency pesticides under the same controlled temperature, security, and other conditions as daily use pesticides (AFI 32-1023, para 2.4.6.).

Verify that the installation stores contingency pesticides under the same controlled temperature, security, and other conditions as daily use pesticides.

PM.18. Installations are required to rotate contingency pesticide stocks back to pest management shop inventories and replace them with fresh chemicals annually (AFI 32-1023, para 2.4.6.).

Verify that the installation rotates contingency pesticide stocks back to pest management shop inventories and replaces them with fresh chemicals annually.



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<p>HIGHLY AND MODERATELY TOXIC PESTICIDES</p> <p>PM.19. Sites where pesticides and excess pesticides that are classed as highly toxic or moderately toxic and are required to be labeled with DANGER, POISON, WARNING, or the skull and crossbones are stored should meet specific requirements (MP).</p> <p>PM.20. An environmental monitoring system should be considered in the vicinity of pesticide storage facilities when there is no spill management system and the facility handles large quantities of pesticides and is located near a sensitive area (MP).</p> <p>PM.21. Storage facilities for pesticides and excess pesticides classed as highly toxic or moderately toxic which are required to be labeled with DANGER, POISON, WARNING, or the skull and crossbones symbol should meet specific structural requirements (MP).</p>	<p>Verify that the site location, where possible, is in an area where flooding is unlikely and where hydrogeologic conditions prevent contamination of any water system by runoff or percolation by:</p> <ul style="list-style-type: none"> - inspecting area surrounding facilities and determine proximity to surface water - noting location relative to floodplains, depth of groundwater, and general soil types and typical permeability. <p>(NOTE: These MPs are based on guidelines found in 40 CFR 165.10(b).)</p> <p>Determine if the site appears to be contaminated with pesticides and if there is a need for an environmental monitoring system.</p> <p>(NOTE: This MP is based on a guideline found in 40 CFR 165.10(h).)</p> <p>Verify that storage is in a dry, separate room, building, or covered area where fire protection is provided.</p> <p>(NOTE: These MPs are based on guidelines found in 40 CFR 165.10(c)(1).)</p>

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<p>PM.22. The storage of pesticides and excess pesticides classed as highly toxic or moderately toxic which are required to be labeled with DANGER, POISON, WARNING, or the skull and crossbones symbol is required to meet specific operational requirements (MP).</p>	<p>Verify that:</p> <ul style="list-style-type: none"> - pesticide containers are stored with the label plainly visible - all containers are in good condition - the lids and bungs on metal or rigid plastic containers are tight - the pesticides are segregated, and if practicable, stored under a sign containing the name of the formulation - rigid containers are stored upright and all containers are stored off the ground. <p>Verify that a complete inventory is kept indicating the number and identity of containers in a storage unit.</p> <p>Verify that containers are regularly inspected for corrosion and leaks and that absorbent material is available for spill cleanup.</p> <p>Verify that excess pesticides and their containers are segregated.</p> <p>(NOTE: These MPs are based on guidelines found in 40 CFR 165.10(d).)</p>
<p>PM.23. Decontamination facilities are required for personnel and equipment at installations which use pesticides classed as highly toxic or moderately toxic and are required to bear the signal words DANGER, POISON, WARNING, or the skull and crossbones symbol on the label (MP).</p>	<p>Verify that facilities are available for personnel decontamination.</p> <p>Verify that facilities are available for the decontamination of equipment, including vehicles which have been used for pesticide applications.</p> <p>Verify that there are berms, curbing, impervious surfaces, and catchment drains which are used to impound washwater resulting from decontamination.</p> <p>(NOTE: These MPs are based on guidelines found in 40 CFR 165.10(c)(3) and 165.10(c)(4).)</p>

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<p>PM.24. Facilities where pesticides are stored or used that are classed as highly toxic or moderately toxic and are required to bear the signal words DANGER, POISON, WARNING, or the skull and crossbones symbol should follow specific practices and procedures to ensure safety (MP).</p>	<p>Verify that no food consumption, drinking, smoking, or tobacco use is undertaken in any area where pesticides are present by inspecting facilities.</p> <p>Verify that the following practices are performed in pest management operations:</p> <ul style="list-style-type: none"> - persons handling pesticides keep hands away from mouths and eyes and wear rubber gloves during all pesticide handling - persons handling pesticides wash hands immediately upon completion of working with pesticides and always prior to eating, smoking, or using toilet facilities - persons working regularly with organophosphates and N-alkyl carbamate pesticides have periodic physical examinations, including cholinesterase tests - inspections are made once a month to determine if any pesticide containers are leaking - pesticide containers are inspected for leakage prior to handling - unauthorized persons are not allowed in storage areas. <p>(NOTE: These MPs are based on guidelines found in 40 CFR 165.10(e) and 165.10(f).)</p>
<p>PM.25. Pesticide storage facilities and equipment which contain or use pesticides classed as highly toxic or moderately toxic and are labeled with DANGER, POISON, WARNING, or the skull and crossbones symbol are required to have signs and safety procedures posted (MP).</p>	<p>Look for signs which read DANGER, POISON, PESTICIDE STORAGE on or near entries to storage facilities.</p> <p>Verify that safety precautions and accident prevention measures are posted.</p> <p>Verify that an inventory of pesticides is displayed outside of the storage facility identifying all chemicals in storage.</p> <p>Verify that mobile equipment used for pesticide applications is labeled CONTAMINATED WITH PESTICIDES and is not removed from storage site without being thoroughly decontaminated.</p> <p>(NOTE: These MPs are based on guidelines found in 40 CFR 165.10(c)(2) through 165.10(c)(3), 165.10(e), and 165.10(g)(2).)</p>

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<p>PM.26. Where large quantities of pesticides classed as highly toxic or moderately toxic and are labeled DANGER, POISON, WARNING, or with the skull and crossbones symbol are being stored, or other conditions warrant, the local fire department, hospitals, public health officials, and police department are required to be notified in writing that pesticides are being stored in the event of a fire (MP).</p>	<p>Verify that notification has been submitted and includes a statement of the hazards that pesticides may present during a fire.</p> <p>Verify that a floor plan of the storage facility indicating the location of the different pesticide classifications has been submitted to the fire department.</p> <p>Verify that the fire chief has the home telephone numbers of the person(s) responsible for the pesticide storage facility.</p> <p>(NOTE: These MPs are based on guidelines found in 40 CFR 165.10(g)(1).)</p>
<p>PM.27. Certain precautions should be taken in the event of a fire at a pesticide storage area where pesticides classed as highly toxic or moderately toxic and are labeled DANGER, POISON, WARNING, or with the skull and crossbones symbol (MP).</p>	<p>Verify that the following procedures are practiced by interviewing the Fire Chief:</p> <ul style="list-style-type: none"> - fire fighting personnel wear supplied air suits and rubberized clothing - personnel avoid breathing or otherwise contacting toxic smoke and fumes - personnel washes completely as soon as possible after encountering smoke and fumes - the water used in fire fighting is contained within the storage site drainage system - individuals who might be threatened by the fumes or smoke are evacuated - firemen take cholinesterase tests after fighting fires involving organo-phosphate or N-alkyl carbamate pesticides. <p>(NOTE: These MPs are based on guidelines found in 40 CFR 165.10(g)(3).)</p>

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<p>DISPOSAL</p> <p>PM.28. Disposal is required to be initiated for all excess pesticides (AFI 32-1053, para 3.5.5.).</p> <p>PM.29. Installations are required to properly dispose of any clothing that is heavily contaminated with pesticides (AFI 32-1053, para 3.4.2.).</p> <p>PM.30. Installations should dispose of any pesticide, pesticide container, or pesticide residue according to specific restrictions (MP).</p> <p>PM.31. Pesticide residues and rinse liquids should be added to spray mixtures or disposed of according to their pesticide type (MP).</p>	<p>Verify that efforts have been made to transfer or exchange excess serviceable pesticides.</p> <p>(NOTE: The best method for disposal of excess pesticides, if not restricted by a suspension or cancellation notice, is to use them in accordance with label directions.)</p> <p>Verify that pesticide wastes are tested to determine if they are hazardous wastes.</p> <p>Verify that, if the pesticide waste is not a hazardous waste, it is disposed of in accordance with the label instructions through Defense Reutilization and Marketing Office (DRMO), or in a specially designated landfill.</p> <p>Verify that paper work to turn in excess serviceable pesticides (that cannot be used) and unserviceable pesticides has been submitted to the installation DRMO.</p> <p>Verify that the installation properly disposes of any clothing that is heavily contaminated with pesticides.</p> <p>Verify that pesticides, pesticide containers, or pesticide residues are disposed of such that:</p> <ul style="list-style-type: none"> - it is not inconsistent with labeling - open dumping of pesticides or pesticide containers is not done - open burning is not done except when allowed by state and local regulation - water dumping or ocean dumping would not occur. <p>(NOTE: These MPs are based on guidelines found in 40 CFR 165.7.)</p> <p>Verify that pesticide residues or rinse liquids are reused.</p> <p>Verify that if they are not reused they are disposed of according to their pesticide type.</p> <p>(NOTE: These MPs are based on guidelines found in 40 CFR 165.9(d).)</p>



Appendix 7-1

**Requirements for Installation Pest Management Program
(DODD 4150.7, Enclosure 3)**

Pest Control Recognized Requirements Work Hours*	Minimum No. of Certified Full-time Pesticide Applicators Required	Installation Pest Management Plan (IPMP)	Onsite Program Review
Less than 0.25	None unless restricted use pesticides are used or unusually sensitive environmental conditions exist including endangered species	Individual plan not required; included in supporting installation plan	Requirements established by MAJCOM Pest Management Consultant (PMC)
0.25 to 0.49	One	Same as above	Same as above
0.50 to 1.49	One	Individual pest management plans required	Annual or biennial
1.50 to 3.99	Two	Same as above	Same as above
4.00 or More	50 percent of the pest management workforce	Same as above	Same as above
* Multiply the total productive work-years required for the pest management program by a factor of 1.19 to determine the recognized requirement. This factor includes essential time allowance for annual and sick leave, on-the-job training, formal training, mandatory attendance at lectures on safety, security, and fire prevention, and required medical examination.			



Section 8

POL Management (Air Force Supplement)

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SECTION 8

PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT

A. U.S. Air Force Instructions (AFIs) and Policies

- AFI 23-201, *Fuels Management*. This instruction, dated 28 July 1994, provides policy and procedures for fuels operations. If this instruction is in conflict with a technical order, the technical order takes precedence.
- AFI 23-502, *Recoverable and Unusable Liquid Petroleum Products*. This instruction, dated 6 April 1994, sets goals, assigns responsibilities, and provide guidance for recovering usable and disposing of unusable liquid petroleum products. This instruction applies to lubricating oils, aviation fuel, distillates, and gasoline.
- AFI 32-7044, *Storage Tank Compliance*. This instruction, dated 25 April 1994, identifies compliance requirements for underground and aboveground storage tanks and associated piping that store petroleum and hazardous substances except hazardous waste.
- Air Force Manual (AFM) 85-16, *Maintenance of Petroleum Systems*. This manual governs the maintenance of permanently installed storage and dispensing systems for petroleum and unconventional fuels.
- Technical Order (TO) 37-1-1. This provides fuels management personnel guidance in the operation, inspection, and operator maintenance of permanently installed fuel facilities.
- TO 42B-1-23. This provides guidelines for collecting, segregating and processing reclaimed, recoverable and waste petroleum products.

B. Department of Defense (DOD) Directives and Instructions

- None that have not been implemented/superseded by AFIs.

C. Using the TEAM Guide for ECAMP

- No additional instructions.

D. Key Air Force/DOD Compliance Requirements

- Spill Notification - HQ USAF/CEV must be notified of releases (AFI 32-7044, para 2.8.3.2).

E. Key Compliance Personnel

- Base Environmental Protection Committee (EPC). The EPC is usually responsible for drafting and reviewing the spill prevention and response (SPR) plan prior to its promulgation by the Base Commander and for the annual review and update of the SPR plan. Often, the EPC delegates the specific

preparation of the plan to the Base Civil Engineering (BCE) for implementation by the Base Environmental Coordinator (EC). The EPC also is responsible for review and implementation of the Base Plan for recoverable and waste petroleum.

- Spill Response Team (SRT). The SRT is tasked to respond to spills when requested by an On-Scene Commander (OSC) and to perform spill containment, recovery, cleanup, disposal and restoration activities as directed by the OSC. The SRT is a multidisciplinary team often including the following persons: BCE, Base Environmental Coordinator, Bioenvironmental Engineer (BEE), Base Disaster Preparedness Officer (BDPO), Fire Chief, Security Police Chief, Public Affairs Officer (PAO), Base Fuels Flight Commander, Safety Chief, and Staff Judge Advocate (JA).
- Base Fire Department. The fire department provides support in emergency response, spill events, exercises, and fire protection activities. In addition, the department will be responsible for making periodic fire safety inspections of flammable or combustible storage and handling areas, hazardous waste storage areas, and accumulation points on the installation.
- Safety Manager. This individual is responsible for conducting workplace safety evaluations and inspections of the handling and storage of hazardous materials and waste. They will provide the appropriate manager with a report of their findings and recommended corrective actions. They are also responsible for ensuring the prompt and accurate investigation of any hazardous material mishaps that result in injury or property damage.
- Base Fuels Management Officer (BFMO). The BFMO is responsible for the safe and efficient receipt, storage, handling, issuing, and accounting of all petroleum products to include all general operations and inspections.
- The BCE. The BCE is responsible for the maintenance of all installed petroleum storage and dispensing systems. This responsibility often is discharged by the Liquid Fuels Maintenance (LFM) shop. The BCE also is responsible for the calibration of permanently installed meters.
- Base EC. The EC monitors all POL activities that may affect the environment and usually is responsible for the coordination of the EPC review and updates of the SPR plan. The EC also often coordinates the reportable spills notification of appropriate Federal and state agencies on behalf of the Base OSC. Generally the EC comes under the BCE.
- The BEE. The BEE takes samples to determine the chemical nature, pollutant concentration, and extent of each reportable quantity spill as required for response actions and documentation.
- The BDPO. The BDPO is responsible for emergency planning and training of installation disaster response forces. When appointed as *Emergency Planning and Community Right-to-Know Act* (EPCRA) coordinator, the BPDO will exchange emergency response plans with the LEPC and participate in LEPC meetings.

F. Key Air Force/DOD Compliance Definitions

- *Area Fuels Laboratory* - provides testing services to bases on samples of petroleum and related products. Conducts specification tests to determine the quality of the petroleum products under procurement and in the Air Force Supply system (AFI 23-201, Attachment 5, Section B).

- *Bulk Petroleum Products* - liquid petroleum products transported by various means and stored in tanks or containers having an individual fill capacity greater than 250 L [65.96 gal] (AFI 23-201, Attachment 5, Section B).
- *Contaminated Product* - an off-specification product resulting from mixing with another product or products of different type and grade or by introduction of foreign matter such as rust, dirt, or water (AFI 23-201, Attachment 5, Section B).
- *Defueling* - types of defueling are (AFI 23-201, Attachment 5, Section B):
 1. hot defueling which is single point defueling of aircraft with one engine running
 2. cold defueling which is conventional defueling of aircraft which do not have an engine running.
- *Ground Products* - those refined petroleum products normally intended for use in administrative, combat, and tactical vehicles, material handling equipment; special purpose vehicles; and stationary power and heating equipment (AFI 23-201, Attachment 5, Section B).
- *Hazardous Waste* - any petroleum product when mixed with a hazardous substance and designated as waste. Hazardous waste must be stored, transported, and disposed of in accordance with federal, state, and local environmental laws (AFI 23-201, Attachment 5, Section B).
- *Hazardous Waste Fuel* - a waste petroleum product that is mixed with hazardous waste or exhibits characteristics of hazardous waste as defined by the 40 CFR 261 (AFI 23-502, Attachment 1).
- *Hydrant* - that portion of a pump system which can provide 600 to 1200 gal/min [2274 to 4548 L/min] (minus line and friction loss) through an outlet into an aircraft (AFI 23-201, Attachment 5, Section B).
- *Off-Specification Product* - product which has one or more off-specification characteristics (e.g. color, vapor pressure, flash point, etc.). Off-specification products can be blended as regraded products. Off-specification products are not identified as hazardous waste fuel (AFI 23-502, Attachment 1).
- *On-Specification Product* - product of suitable quality for return to the base inventory. TO 42B-1-23, Table 3-1, *Management of Recoverable and Waste Liquid Petroleum Products*, sets the criteria for suitable quality. Do not consider as off specification if the presence of solids and water that can be removed by rotation through on-hand separators (AFI 23-502, Attachment 1).
- *Recoverable Products* - Products that still have useful physical or chemical properties (AFI 23-502, Attachment 1).
- *Recyclable Products* - products determined to be surplus to Air Force needs that are burned for energy recovery (e.g., JP-4 contaminated with hydraulic fuel (fail color specifications) and used lubricating oil are recyclable products when burned for energy recovery as a fuel. Many products are recycled by sale through DRMO (AFI 23-502, Attachment 1).
- *Reprocessing* - refining, clay filtering, or naphtha injection to bring off-specification product up to specification (AFI 23-502, Attachment 1).

- *Unusable Petroleum Product* - product that is no longer suitable for any use on an installation due to excessive concentration or quality degradation (AFI 23-502, Attachment 1).

G. Additional Records To Review

- Records of all spills, leaks, and associated site assessment/cleanup activities (for 3 yr)
- Official correspondence with state implementing agency

H. Additional Physical Features To Inspect

- Refueling facilities
- Washrack areas
- Fire training pits
- Auto hobby shops

I. People To Interview

- Base Environmental Coordinator (EC)
- Base Civil Engineer (BCE)
- Base Fuels Management Officer (BFMO)
- Liquid Fuels Maintenance (LFM)
- Base Bioenvironmental Engineer (BEE)
- Base Fire Department
- BCE Contract Management Officer
- Technical and Design Engineer
- Base Contracting Officer
- Interior Electric Shop/Base Cathodic Protection Engineer
- Contract Programmer
- Base Disaster Preparedness Officer

J. Guidance for POL Management Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
All Installations	PO.1 through PO.5	8-7
Discharges, Spills, and Releases	PO.6 and PO.7	8-11
POL Containment Facilities	PO.8 and PO.9	8-13
Pipelines	PO.10 through PO.12	8-15
Used Oil	PO.13	8-17



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<p>ALL INSTALLATIONS</p> <p>PO.1. Copies of all relevant Federal, state, and local regulations on POL management should be maintained at the installation (MP).</p> <p>PO.2. The installation is required to have an appointed Fuels Environmental Coordinator (AFI 23-204, para 1.5).</p> <p>PO.3. As a management practice the BCE, LFM, and BFMO should have a Memorandum of Agreement (MOA) pertaining to draining interior dike basins. This MOA should be signed by the BCE, BFMO, Base EC and the BEE (MP).</p>	<p>Verify that a file of Federal and state POL, Spill Prevention, Control, and Countermeasures (SPCC) plan (Spill Prevention), and Oil and Hazardous Substance Pollution Contingency (OHSPC) plan Regulations are maintained and kept current at the installation:</p> <ul style="list-style-type: none"> - EO 12088, <i>Federal Compliance With Pollution Standards.</i> - 33 CFR 153, <i>Control of Pollution by Oil and Hazardous Substances, Discharge Removal.</i> - 40 CFR 110, <i>Discharge of Oil.</i> - 40 CFR 112, <i>Oil Pollution Prevention.</i> - 40 CFR 279, <i>Standards for the Management of Used Oil.</i> - 40 CFR 300, <i>National Oil and Hazardous Substances Pollution Contingency Plan.</i> - AFI 23-201, <i>Fuels Management.</i> - AFI 23-502, <i>Recoverable and Unusable Liquid Petroleum Products.</i> - AFI 32-7044, <i>Storage Tank Management.</i> - AFM 85-16, <i>Maintenance of Petroleum Systems.</i> - TO 35-1-3, 36-1-3, 37-1-1, 42B-1-1, 42B-1-23, and 00-25-172. - applicable state and local regulations. <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing and proposed activities and keeps the EPC informed as needed.</p> <p>Verify that the installation has an appointed Fuels Environmental Coordinator.</p> <p>(NOTE: This MP is based on guidelines found in AFM 85-16, Attachment 5.)</p> <p>Verify through interviews that a MOA has been prepared.</p> <p>Verify that the MOA was signed or coordinated through the Base EC and the BEE.</p>

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<p>PO.4. Installations are required to have in place a program for managing recoverable and unusable liquid-petroleum products (AFI 23-502, para 6.2 through 8-7).</p>	<p>(NOTE: This instruction applies to lubricating oils, aviation fuel, distillates, and gasoline.)</p> <p>Verify that the installation has a comprehensive program to manage the segregation and collection, reuse, or recycling of recoverable product and the disposition of unusable petroleum products.</p> <p>(NOTE: Documentation may be in the form of a plan or a base operating instruction.)</p> <p>Verify that the program includes:</p> <ul style="list-style-type: none"> - specific responsibilities and criteria for collection, storing, returning to inventory, reusing, recycling, and disposing of all unusable petroleum products and hazardous waste fuels generated at the base - the identity generating activities by organization - a list all recoverable and unusable products and hazardous waste fuels generated by an organization, including source, approximate quantity, and condition - specific responsibilities of base organizations - the methods and facilities available to the base to collect, store, return to inventory, reuse, recycle, and dispose of products - accounting procedures for recoverable and unusable petroleum products and procedures to credit organizations using the guidelines in AFMAN 23-110, <i>USAF Supply Manual</i> - specific base and organizational procedures for the entry, exit, and control of unusable petroleum product vehicles. <p>(NOTE: The priorities for deposition of products are:</p> <ul style="list-style-type: none"> - return on-specification fuel to the base inventory for use as the original grade - return off-specification fuel to the base inventory and blend into the original or different grade making a regraded product - recycle products onsite by reusing it in secondary applications such as heating fuel - categorize any remaining products as surplus, send them as recyclable to DRMO and credit DRMO sales to the base RRR account - contract with a service company to remove the waste from the base for nonrecyclable waste.) <p>Verify that the BCE has developed procedures at the base level for the disposal of petroleum products.</p> <p>Verify that generating activities have obtained enough containers to properly segregate and store recoverable and unusable products and hazardous waste fuel by product type.</p> <p>(NOTE: Once the generating activity decides to discard the fuel, rather than reuse, recover, or recycle, the fuel is to be managed as hazardous waste.)</p>

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<p>PO.4. (continued)</p> <p>PO.5. All fuels elements are required to be evaluated at least once each quarter (AFI 23-201, para 8.7).</p>	<p>Verify that the generating activity submits data on the quantity and identity of recoverable and unusable petroleum product.</p> <p>Verify that the Quality Control and Inspection (QC&I) Supervisor evaluates each fuels element at least quarterly.</p> <p>(NOTE: This requirement does not apply to the QC&I function itself.)</p> <p>(NOTE: Locations that only have a ground fuels account are inspected semi-annually.)</p> <p>Verify that QC&I personnel or the Quality Assurance Evaluator (QAE) perform at least five no-notice spot checks each week.</p> <p>Verify that QC&I personnel or the QAE spot check all shifts.</p> <p>Verify that spot checks are conducted during exercises and contingencies.</p> <p>(NOTE: Installations with fewer than 20 full-time fuels personnel may conduct as few as two spot checks per week.)</p>



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<p>DISCHARGES, SPILLS, AND RELEASES</p> <p>PO.6. Installations are required to notify HQ USAF/CEV of releases (AFI 32-7044, para 2.8.3.2).</p> <p>PO.7. The BFMO is required to report all spills or releases of fuel as soon as possible by phone and send followup messages (AFI 23-201, para 1.8).</p>	<p>Verify that the installation has notified HQ USAF/CEV of all releases.</p> <p>Verify that the BFMO is reporting spills and releases as soon as possible.</p> <p>Verify that a followup message is sent within 24 h to the MAJCOM with an information copy to HQ USAF/LGSSF, Defense Fuel Supply Center (DFSC) and the applicable Defense Fuel Region (DFR).</p>



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**POL CONTAINMENT
FACILITIES**

PO.8. Dikes should be inspected daily by Base Fuels Management (TO 37-1-1).

Examine AFTO Form 39 records to verify that dikes have been inspected daily.
Verify that any deficiencies noted on AFTO Form 39 have been corrected.

PO.9. Secondary containment is required to be provided for all loading and unloading facilities (AFI 23-201, Attachment 11, para A11.1).

Verify that all loading and unloading facilities have secondary containment that is impermeable to petroleum products.



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<p>PIPELINES</p> <p>PO.10. Air Force operated offsite pipelines should be inspected at least once per week by air patrol, and once a year by line walker or vehicle patrol (MP).</p> <p>PO.11. All Air Force operated above and underground fuel piping systems at transfer operations, pumping and in-plant processing operations should be managed according to specific parameters (MP).</p> <p>PO.12. All underground aviation fuel transfer pipelines should be subject to a hydrostatic pressure test on a 5-yr reoccurring basis (MP).</p>	<p>(NOTE: This MP is based on guidance found in AFM 85-16, Chapter 8.)</p> <p>Verify that weekly inspections have been performed by inspecting records.</p> <p>Verify through interview and records search that any detected leaks were reported and leaking pipes repaired or replaced.</p> <p>Verify that pressure tests have been conducted once a year. Check under remarks Section of AF Form 172 if the testing pressure was maintained during the 2 h period.</p> <p>Determine if confirmed leaks have been reported and leaking pipes repaired or replaced.</p> <p>Determine if pipelines are walked at least twice a year and any suspicious circumstances lead to immediate investigation to include pressure testing of the line and excavation if soil conditions permit.</p> <p>(NOTE: This MP is based on guidance outlined in AFM 85-16, Chapter 8.)</p> <p>(NOTE: This MP is based on guidance outlined in AFM 85-16, Chapter 8.)</p> <p>Verify that hydrostatic pressure tests were conducted as required by reviewing attachments to AF Form 172 and interviewing LFM personnel.</p> <p>Verify that detected leaks were corrected through repair or replacement by inspecting test results.</p> <p>Determine if 150 percent of normal pressure was maintained during the 4-h test period by reviewing the Remarks section of AF Form 172.</p>



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USED OIL

PO.13. BFMO has specific responsibilities with regard to the management of waste fuel (AFI 23-201, Attachment 11, para A11.2).

Verify that BFMO:

- designates interim storage and final disposition locations and procedures for off-specification bulk products and product-water mixtures under fuels management control
- does not use installed hydrants, storage sumps, or slop tanks to collect or store waste fuels
- obtains written MAJCOM approval to use stock listed vehicles and trailers for the collection and transport of waste fuels or oils
- clearly marks and completely isolates the tanks and equipment used for waste products from active product storage and equipment to prevent contamination
- ensures that there is direct supervision when waste materials are delivered to waste product tankage in the fuels area by the generating activity.



Section 9

Solid Waste Management (Air Force Supplement)

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SECTION 9

SOLID WASTE MANAGEMENT

A. U.S. Air Force Instructions (AFIs) and Policies

- AFI 32-7042, *Solid and Hazardous Waste Compliance*. This AFI, dated 12 May 1994, contains requirements for solid and hazardous waste management, planning, training, collecting, and disposal.

B. Department of Defense (DOD) Directives and Instructions

- DOD Directive (DODD) 4165.60, *Solid Waste Management*. This directive provides guidance and direction to all DOD facilities relative to solid waste collection, disposal, material recovery, and recycling in agreement with the *Solid Waste Disposal Act* (SWDA).

C. Using the TEAM Guide for ECAMP

- No additional instructions.

D. Key Air Force/DOD Compliance Requirements

- Plans - The installation is required to have a Solid Waste Management Plan that details the solid waste technologies in use onsite, includes an inventory of solid waste streams, and an evaluation of any onsite landfills (AFI 32-7042, para 3.2).
- Storage/Collection - Installations are required to inspect solid waste collection, transfer, and disposal facilities on a scheduled and unscheduled basis. Installation personnel are required to be periodically informed as to what can and cannot be put into the trash receptacles (AFI 32-7042, para 3.5.1 and 3.5.2).
- Recycling - Air Force installations are required to procure material containing recycled materials and report the amount purchased each year (HQ USAF/CEV Policy Letter, 30 December 1993).
- Specific Wastes - Bulky wastes must be disposed of according to certain methods, which differ depending of the type of waste (i.e., automobile bodies, furniture and appliances are required to be salvaged, or crushed and pushed onto working face near the bottom of the cell). Water treatment plant sludges, containing no free moisture, and digested or heat treated wastewater treatment plant sludges must be disposed of by covering them with soil or municipal solid wastes. Incinerator and air pollution control residues must be disposed of by covering them as necessary to prevent their becoming airborne.
- Land Disposal Site Operations Other Than a Municipal Solid Waste Landfill (MSWLF)- Recommendations for operating procedures are found in the Code of Federal Regulations (CFR). These recommendations have been made requirements in AFI 32-7042.

- Land Disposal Site Closure Other Than an MSWLF - Recommendations for closure procedures are found in the CFR. These recommendations have been made requirements in AFI 32-7042.
- New Landfills Other Than MSWLFs - Recommendations for new landfills are found in the CFR. These recommendations have been made requirements in AFI 32-7042.
- Thermal Processing Facilities - Recommendations for thermal processing facilities are found in the CFR. These recommendations have been made requirements in AFI 32-7042.

E. Key Compliance Personnel

- Base Environmental Manager (EM). The EM acts for the Environmental Protection Committee (EPC) to ensure the overall management of the installation's environmental program is a coordinated effort in line with Federal, state, and local guidelines and DOD and Air Force Directives.
- Base Civil Engineering (BCE). The BCE is responsible for site location, licensing, construction, and operation of on-base landfills, and for storing and transporting of solid wastes to either onsite or offsite disposal activities.
- Base Bioenvironmental Engineer (BEE). The BEE is responsible for compliance sampling data at on-base landfills and for reviewing and coordinating asbestos disposal plans and operations.

F. Key Air Force/DOD Compliance Definitions

- None

G. Additional Records To Review

- Documentation of locations (map) and descriptions of all nonhazardous waste storage, and disposal facilities
- Records of operational history of all active and inactive disposal facilities

H. Additional Physical Features To Inspect

- Resource Recovery Facilities

I. People To Interview

- Base Environmental Manager (EM)
- Base Civil Engineer (BCE)
- Base Bioenvironmental Engineer (BEE)

J. Guidance for Solid Waste Management Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
All Installations	SO.1 through SO.3	9-5
Storage/Collection of Solid Waste	SO.4	9-7
Recycling	SO.5	9-9
Land Disposal Sites Other Than an MSWLF		
Specific Wastes	SO.6 through SO.8	9-11
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SO.3. The installations solid waste management program is required to include scheduled and unscheduled inspections of solid waste collection, transfer, and disposal facilities (AFI 32-7042, para 3.5).

Verify that scheduled and unscheduled inspections of collection, transfer, and disposal facilities are done.

Verify that findings are documented and corrective actions implemented promptly.

Verify that each installation inspects industrial shop wastes to confirm that hazardous waste is not deposited and records of these inspections are retained for 2 yr from the date of inspection.

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**STORAGE AND
COLLECTION OF
SOLID WASTE**

SO.4. Installation personnel are required to be periodically informed about materials that are prohibited from disposal in solid waste receptacles (AFI 32-7042, para 3.5.4.2).

Determine if a program exists at the installation to keep personnel informed about proper waste disposal practices.



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RECYCLING

SO.5. Installations are required to procure materials containing recycled material and report the amounts purchased each fiscal year (HQ USAF/CEV Policy Letter, 30 December 1993).

Verify that the installation collects data for items locally purchased or provided through construction contracts such as:

- cement and concrete containing fly ash
- building insulation containing recovered materials
- re-refined lubricating oil
- retread tires
- paper and paper products.

Verify that the installation reports quarterly on the Affirmative Procurement screens of the Pollution Prevention module in the Work Information Management System - Environmental Subsystem (WIMS-ES) the total value of the products purchased and the total value of the product purchased that met the USEPA guidelines criteria.



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<p>LAND DISPOSAL SITES OTHER THAN MSWLFs</p> <p>Specific Wastes</p> <p>SO.6. Bulky wastes are required to be disposed of according to certain methods (AFI 32-7042, para 3.4.1).</p> <p>SO.7. Water treatment plant sludges containing no free moisture and digested or heat treated wastewater treatment plant sludges are required to be disposed of according to certain methods (AFI 32-7042, para 3.4.1).</p> <p>SO.8. Incinerator and air pollution control residues are required to be disposed of according to certain methods (AFI 32-7042, para 3.4.1).</p>	<p>Verify that automobile bodies, furniture, and appliances are either salvaged or crushed and pushed onto the working face near the bottom of the cell.</p> <p>Verify that demolition and construction debris, tree stumps, and large timbers are pushed onto the working face near the bottom of the cell.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 241-200-3(b).)</p> <p>Verify that water treatment plant sludges containing no free moisture and digested or heat treated wastewater treatment plant sludges are covered with soil or solid wastes.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements the recommendations found in 40 CFR 241.200-3(d).)</p> <p>(NOTE: These requirements apply only if the plant sludges are determined to be nonhazardous solid wastes.)</p> <p>Verify that incinerator and air pollution control residues are incorporated into the face and covered as necessary to prevent them from becoming airborne.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 241.200-3(e).)</p> <p>(NOTE: These requirements apply only if the incinerator and air pollution control residues are determined to be nonhazardous solid wastes.)</p>



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<p>LAND DISPOSAL SITES OTHER THAN MSWLFs</p> <p>Operations</p> <p>SO.9. Land disposal sites are required to be operated in a manner which will protect water quality (AFI 32-7042, para 3.4.1).</p> <p>SO.10. Land disposal sites are required to operate in a manner which will protect air quality (AFI 32-7042, para 3.4.1).</p> <p>SO.11. Land disposal sites are required to control decomposition gases according to the following recommended procedures (AFI 32-7042, para 3.4.1).</p>	<p>Verify that surface water courses and runoff are diverted from the land disposal site.</p> <p>Verify that the land disposal site is constructed and graded to promote rapid surface water runoff without excessive erosion.</p> <p>Verify that regrading is done as necessary to avoid ponding of precipitation and to maintain cover material integrity.</p> <p>Verify that siltation or retention basins or other approved methods of retarding runoff are used where necessary to avoid stream siltation or flooding problems.</p> <p>Verify that leachate collection and treatment systems are used where necessary to protect groundwater and surface water resources.</p> <p>Verify that municipal solid wastes and leachate are not in contact with groundwater or surface water.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 241.204-3.)</p> <p>Verify that there is no open burning of solid wastes.</p> <p>Verify that dust control measures are initiated as necessary.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 241.205-3.)</p> <p>Verify that decomposition gases are not allowed to migrate laterally from the land disposal site.</p> <p>Verify that decomposition gases do not pose an explosion or toxicity hazard.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 241.206-3.)</p>

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<p>SO.12. For the land disposal site to be aesthetically acceptable, specific practices are required to be followed (AFI 32-7042, para 3.4.1).</p>	<p>Verify that blowing litter is controlled through portable litter fences or other devices.</p> <p>Verify that wastes that are easily moved by wind are covered as necessary to prevent their becoming airborne.</p> <p>Verify that onsite vegetation is cleared only as necessary.</p> <p>Verify that natural windbreaks are maintained.</p> <p>Verify that buffer strips and/or berms are used to screen the site from nearby residences and major roadways.</p> <p>Verify that salvage material is removed from the site frequently.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 208-3.)</p>
<p>SO.13. Installations are required to place cover material at the end of each operating day (AFI 32-7042, para 3.4.1)</p>	<p>Verify that cover material is put in place at the end of each operating day.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations in 40 CFR 241-200-3(a).)</p>
<p>SO.14. Cover material are required to be applied according to specific recommendations (AFI 32-7042, para 3.4.1).</p>	<p>Verify that cover material is applied daily regardless of weather.</p> <p>Verify that the thickness of the compacted daily cover is no less than 6 in. [15 cm].</p> <p>Verify that intermediate cover is applied on areas where additional cells are not to be constructed for extended periods of time.</p> <p>Verify that final cover is applied on each area as it is completed or if the area is to remain idle for over 1 yr.</p> <p>Verify that the surface grade promotes surface water runoff without erosion to minimize infiltration.</p> <p>Verify that intermediate cover is at least 1 ft [0.30 m] thick and final cover is at least 2 ft [0.6 m] thick.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 209-3.)</p>

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<p>SO.15. Compaction of wastes and cover materials are required to be done according to recommended procedures (AFI 32-7042, para 3.4.1).</p>	<p>Verify that on any operating day municipal solid waste handling equipment is capable of performing the following functions:</p> <ul style="list-style-type: none"> - spread solid waste in layers no more than 2 ft [0.6 m] thick while confining it to the smallest practicable area - compact the solid wastes to the smallest practicable volume - place, spread, and compact the cover material daily. <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 241.210-3.)</p>
<p>SO.16. Specific health and safety procedures are required to be followed in order to protect personnel at land disposal sites (AFI 32-7042, para 3.4.1).</p>	<p>Verify that a safety manual is available to employees.</p> <p>Verify that personal safety devices such as hearing and eye protection, are provided to installation employees.</p> <p>Verify that equipment is provided with safety devices.</p> <p>Verify that provisions to extinguish fires exist.</p> <p>Verify that communications equipment is available onsite.</p> <p>Verify that scavenging is prohibited.</p> <p>Verify that access to the site is controlled.</p> <p>Verify that traffic signs or markers are provided to promote an orderly traffic pattern to and from the discharge area.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 241.211-2 and 241.211-3.)</p>
<p>SO.17. Records being maintained at land disposal site are required to cover specific topics (AFI 32-7042, para 3.4.1).</p>	<p>Verify that records are maintained and cover at least:</p> <ul style="list-style-type: none"> - major operational problems, complaints, or difficulties - results of leachate sampling and analyses - results of gas sampling and analyses - results of groundwater and surface water quality sampling and analyses upstream and downstream of the site - vector control efforts - dust and litter control efforts - quantitative measurements of the solid wastes handled - description of solid waste materials received. <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 241.212-3(a).)</p>



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**LAND DISPOSAL
SITES OTHER THAN
MSWLFs**

Closure

SO.18. Upon closure of a site, a detailed description is required to be recorded with the area's land recording authority (AFI 32-7042, para 3.4.1).

Verify that upon closure of a site a detailed description is recorded with the area's land recording authority.

(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 241.212-3(b).)



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<p>SITE CRITERIA FOR NEW LANDFILLS</p> <p>SO.19. New landfills are required to meet certain location and design criteria (AFI 32-7042, para 3.4.1).</p>	<p>Verify that the hydrogeology of the site has been evaluated.</p> <p>Verify that onsite soil characteristics have been evaluated.</p> <p>Verify that environmental factors, climatological conditions, and socioeconomic factors have been considered in site selection.</p> <p>Verify that the site is easily accessible to vehicles.</p> <p>Verify that the site location will not attract birds and pose a hazard to low-flying aircraft.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements recommendations found in 40 CFR 241.202-2.)</p>



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<p>THERMAL PROCESSING FACILITIES</p> <p>SO.20. Installations with thermal processing facilities designed to process or are processing 50 tons [45,359.24 kg] or more per day of municipal solid wastes are required to provide specific areas for special wastes while they await processing (AFI 32-7042, para 3.4.1).</p> <p>SO.21. Installations with thermal processing facilities designed to process or which are processing 50 tons [45,359.24 kg] or more per day of municipal solid wastes are required to train personnel in any unusual handling required by acceptance of special wastes (AFI 32-7042, para 3.4.1).</p> <p>SO.22. Installations with thermal processing facilities designed to process or which are processing 50 tons [45,359.24 kg] or more per day of municipal solid wastes are required to inform regular users about materials which are excluded (AFI 32-7042, para 3.4.1).</p>	<p>(NOTE: This does not apply to hazardous, agricultural, or mining wastes.)</p> <p>Verify that storage areas for bulky wastes, digested and dewatered sludges from wastewater treatment facilities, raw sewage sludges, and septic tank pumpings are clearly marked.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements guidelines published in 40 CFR 240.100(a), 240.200-2(b), and 240.200-3(a).)</p> <p>(NOTE: This does not apply to hazardous, agricultural, or mining wastes.)</p> <p>Verify that personnel are thoroughly trained to handle bulky wastes, digested and dewatered sludges from wastewater treatment facilities, raw sewage sludges, and septic tank pumpings.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements guidelines published in 40 CFR 240.100(a), and 240.200-3(b).)</p> <p>(NOTE: This does not apply to hazardous, agricultural, or mining wastes.)</p> <p>Verify that regular users are given a list of excluded materials.</p> <p>Verify that a list of excluded materials is posted prominently at the facility.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements guidelines published in 40 CFR 240.100(a), and 240.201-3(a).)</p>

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<p>SO.23. Installations with thermal processing facilities designed to process or which are processing 50 tons [45,359.24 kg] or more per day of municipal solid wastes are required to have certain procedures and precautions to deal with unacceptable wastes which are delivered to or left at the facility (AFI 32-7042, para 3.4.1).</p>	<p>(NOTE: This does not apply to hazardous, agricultural, or mining wastes.)</p> <p>Verify that there is an operating plan which specifies procedures and precautions to be taken if unacceptable wastes are delivered to or left at the facility.</p> <p>Verify that operating personnel are thoroughly trained in such procedures.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements guidelines published in 40 CFR 240.100(a), and 240.201-3(b).)</p>
<p>SO.24. Installations with thermal processing facilities designed to process or which are processing 50 tons [45,359.24 kg] or more per day of municipal solid wastes are required to meet certain site selection criteria (AFI 32-7042, para 3.4.1).</p>	<p>(NOTE: This does not apply to hazardous, agricultural, or mining wastes.)</p> <p>Verify that the facility is located in an area zoned for industrial use and has adequate utilities to serve it.</p> <p>Verify that the site is accessible by permanent roads leading from the public road system.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements guidelines published in 40 CFR 240.100(a), 240.202-2(a), and 202-2(b).)</p>
<p>SO.25. Installations with thermal processing facilities designed to process or which are processing 50 tons [45,359.24 kg] or more per day of municipal solid wastes are required to dispose of residue and other solid waste products resulting from the thermal process in an environmentally acceptable manner (AFI 32-7042, para 3.4.1).</p>	<p>(NOTE: This does not apply to hazardous, agricultural, or mining wastes.)</p> <p>Verify that the furnace operator records the estimated percentage of unburned combustibles in a log.</p> <p>Verify that if residue or fly ash is collected in a wet condition, it is drained of free moisture.</p> <p>Verify that residue and fly ash are transported by means that prevent the loads from shifting, falling, or blowing from the container.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements guidelines published in 40 CFR 240.100(a), 240.208-1, 202-208-2, and 208-3.)</p>

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SO.26. Installations with thermal processing facilities designed to process or which are processing 50 tons [45,359.24 kg] or more per day of municipal solid wastes are required to be designed, operated, and maintained in a manner to protect the health and safety of personnel (AFI 32-7042, para 3.4.1).

(NOTE: This does not apply to hazardous, agricultural, or mining wastes.)

Verify that procedures are developed for operation in emergency situations.

Verify that approved respirators or self-contained breathing apparatus is available at convenient locations.

Verify that training in first aid practices and emergency procedures is given to all personnel.

Verify that personal safety devices are provided to all personnel.

Verify that any regular user or employee that poses a safety hazard is barred from the facility and reported to the responsible agency.

(NOTE: AFI 32-7042, para 3.4.1 implements guidelines published in 40 CFR 240.100(a), 240.209-1, 202-209-2, and 209-3.)

SO.27. Installations with thermal processing facilities designed to process or which are processing 50 tons [45,335.24 kg] or more per day of municipal solid wastes are required to follow certain general operation criteria (AFI 32-7042, para 3.4.1).

(NOTE: This does not apply to hazardous, agricultural, or mining wastes.)

Verify that the facility supervisor is experienced in the operation of the type of facility designed.

Verify that alternate and standby disposal and operating procedures are established for implementation during emergencies, air pollution episodes, and shutdown periods.

Verify that a routine maintenance schedule is established.

Verify that engineering drawings are updated as facility is modified.

Verify that key operational procedures are prominently posted.

Verify that equipment manuals, catalogs, parts lists, and spare parts are readily available at the facility.

Verify that training opportunities are available for personnel.

(NOTE: AFI 32-7042, para 3.4.1 implements guidelines published in 40 CFR 240.100(a), and 240.210-3.)

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<p>SO.28. Installations with thermal processing facilities designed to process or which are processing 50 tons [45,359.24 kg] or more per day of municipal solid wastes are required to provide records and monitoring data (AFI 32-7042, para 3.4.1).</p>	<p>(NOTE: This does not apply to hazardous, agricultural, or mining wastes.)</p> <p>Verify that extensive monitoring and recordkeeping is practiced during:</p> <ul style="list-style-type: none"> - the first 12 to 18 mo of operation of a new or renovated facility - periods of high air pollution - periods of upset conditions at the facility. <p>Verify that operating records are kept in a daily log and include as a minimum:</p> <ul style="list-style-type: none"> - the total weight and volume of solid waste received during each shift, including the number of loads received, the ownership or specific identity of delivery vehicles, and the source and nature of the solid wastes accepted - furnace and combustion chamber temperatures recorded at least every 60 min and as changes are made, including explanations for abnormally high and low temperatures - rate of operation, such as grate speed - weights of bottom ash, grate siftings, and fly ash (individually or combined) recorded at intervals appropriate to normal facility operation - estimated percentages of unburned material in the bottom ash - water used on each shift for bottom ash quenching and scrubber operation <p>(NOTE: Representative samples of process waters should be collected and analyzed as recommended by the responsible agency.)</p> <ul style="list-style-type: none"> - power produced and utilized each shift - overfire and underfire air volumes and pressure and distribution recorded at least every 60 min and as changes are made - if steam is produced, quality, production totals, and consumption rates should be recorded - auxiliary fuel used each shift - gross calorific value of daily representative samples of bottom ash, grate siftings, and fly ash <p>(NOTE: Sampling time should be varied so that all shifts are monitored on a weekly basis.)</p> <ul style="list-style-type: none"> - required emission measurements and laboratory analyses - complete records of monitoring instruments - problems encountered and methods of solution.

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<p>SO.28. (continued)</p>	<p>Verify that an annual report is prepared and that it includes the following information:</p> <ul style="list-style-type: none"> - minimum, average, and maximum daily volume and weight of waste received and processed, summarized on a monthly basis - a summary of the laboratory analyses including at least monthly averages - number and qualifications of personnel in each job category - total man hours per week - number of state certified or licensed personnel - staffing deficiencies - serious injuries, their cause, and preventive measures instituted - an identification and brief discussion of major operational problems and solutions - adequacy of operation and performance with regard to environmental requirements, the general level of housekeeping and maintenance, testing and reporting proficiency, and recommendations for corrective actions - a copy of all significant correspondence, reports, inspection reports, and any other communications from enforcement agencies. <p>Verify that a methodology for evaluating the facility's performance has been developed.</p> <p>(NOTE: AFI 32-7042, para 3.4.1 implements guidelines published in 40 CFR 240.100(a), 240.211-2, and 240.211-3.)</p>



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<p>OFFSITE WASTE DISPOSAL</p> <p>SO.29. Solid waste which is disposed of off-site is required to be disposed of only at licensed or permitted facilities (AFI 32-7042, para 3.4.3).</p> <p>SO.30. Installations should verify with an appropriate regulatory agency that offsite landfills are being operated in general conformance with permit conditions and applicable regulations (MP).</p> <p>SO.31. Solid wastes will be disposed of at regional or municipal facilities wherever practical (AFI 32-7042, para 3.4.2).</p>	<p>Verify through interview and records search that offsite landfills receiving installation wastes are licensed or permitted.</p> <p>Determine through interviews and records reviews if verification with regulators has been made.</p> <p>Verify that proper efforts have been made to use regional waste disposal facilities by interviewing the BCE.</p>



Section 10

Storage Tank Management (Air Force Supplement)

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SECTION 10

STORAGE TANK MANAGEMENT

A. U.S. Air Force Instructions (AFIs) and Policies

- AFI 23-201, *Fuels Management*. This instruction, dated 28 July 1994, provides policy and procedures for fuels operations. If this instruction is in conflict with a technical order, the technical order takes precedence.
- AFI 23-204, *Organizational Fuel Tanks*. This AFI provides guidelines and procedures for establishing an operating organizational fuel tanks.
- AFI 32-7044, *Storage Tank Compliance*. This instruction, dated 25 April 1994, identifies compliance requirements for underground and aboveground storage tanks and associated piping that store petroleum and hazardous substances except hazardous waste.
- AFM 85-5, *Maintenance and Operation of Cathodic Protection Systems*. This manual provides guidance for maintenance and operation of cathodic protection systems.
- Air Force Manual (AFM) 85-16, *Maintenance of Petroleum Systems*. This manual governs the maintenance of permanently installed storage and dispensing systems for petroleum and unconventional fuels.
- Technical Order (TO) 37-1-1. This provides fuels management personnel guidance in the operation, inspection, and operator maintenance of permanently installed fuel facilities.
- TO 42B-1-23. This provides guidelines for collecting, segregating, and processing reclaimed, recoverable, and waste petroleum products.
- Policy Letter, 30 May 1990, *Underground Storage Tank Management Strategy*. This letter provides a long-term management program for achieving compliance efficiently and economically.

B. Department of Defense (DOD) Directives and Instructions

- None that have not been implemented/superseded by AFIs.

C. Using the TEAM Guide for ECAMP

- No additional instructions.

D. Key Air Force/DOD Compliance Requirements

- Airfield Hydrant Fuel Systems - It is recommended that airfield hydrant fuel systems undergo annual leak detection testing.

- Releases/Spills - HQ USAF/CEV must be notified of releases from storage tanks. When there is a suspected leak of an UST, the installation is required to perform a tightness test of the system.
- Alarm Systems and Shutoff Valves - Base Fuels Management Officer (BFMO) fuel tanks with the capacity to receive fuel by pipeline and BFMO fuel tanks with the capacity to receive fuel by tank truck installed with off-loading pumps and headers are required to have high-level alarms and automotive high-level shutoff valves.
- Aboveground Storage Tanks (AST) - There must be an inventory of all ASTs. All ASTs are required to be provided with diking or a drainage system to prevent accidental discharge from endangering adjoining property. These dikes are to be inspected daily by the BFMO.
- Organizational Fuel Tanks - Organizational fuel tanks are to be marked NO SMOKING. If they are over 660 gal [2150.4 L] they are required to be diked. Issue tanks are required to be equipped with a calibrated dispensing meter. All organizational fuels tanks are to be calibrated annually, after repairs, and when accuracy is in doubt. These tanks are to undergo gauging daily.
- USTs - A separate file is required to be maintained on each UST system. The installation is required to have the UST inventory available on the Work Information Management System - Environmental Subsystem (WIMS-ES) and the BFMO is required to keep inventory control records. Fuels personnel are required to be trained on leak detection equipment.

E. Key Compliance Personnel

- Spill Response Team (SRT). The SRT is tasked to respond to spills when requested by an On-Scene Commander (OSC) and to perform spill containment, recovery, cleanup, disposal and restoration activities as directed by the OSC. The SRT is a multidisciplinary team often including the following persons: BCE, Base Environmental Coordinator, Bioenvironmental Engineer (BEE), Base Disaster Preparedness Officer (BDPO), Fire Chief, Security Police Chief, Public Affairs Officer (PAO), Base Fuels Flight Commander, Safety Chief, and Staff Judge Advocate (JA).
- Base Fire Department. The fire department provides support in emergency response, spill events, exercises, and fire protection activities. In addition, the department will be responsible for making periodic fire safety inspections of flammable or combustible storage and handling areas, hazardous waste storage areas, and accumulation points on the installation.
- Safety Manager. This individual is responsible for conducting workplace safety evaluations and inspections of the handling and storage of hazardous materials and waste. They will provide the appropriate manager with a report of their findings and recommended corrective actions. They are also responsible for ensuring the prompt and accurate investigation of any hazardous material mishaps that result in injury or property damage.
- The BFMO. The BFMO is responsible for the safe and efficient receipt, storage, handling, issuing, and accounting of all petroleum products to include all general operations and inspections.
- The BCE. The BCE is responsible for the maintenance of all installed petroleum storage and dispensing systems. This responsibility often is discharged by the Liquid Fuels Maintenance (LFM) shop. The BCE also is responsible for the calibration of permanently installed meters.

- Base Environmental Coordinator (EC). The EC monitors all petroleum, oil, and lubricant (POL) activities that may affect the environment and usually is responsible for the coordination of the Environmental Protection Committee (EPC) review and updates of the Spill Prevention and Response (SPR) Plan. The EC also often coordinates the reportable spills notification of appropriate Federal and state agencies on behalf of the Base On-Scene Commander (OSC). Generally the EC comes under the BCE.
- The BEE. The BEE takes samples to determine the chemical nature, pollutant concentration, and extent of each reportable quantity spill as required for response actions and documentation.
- The BDPO. The BDPO is responsible for emergency planning and training of installation disaster response forces. When appointed as the *Emergency Planning and Community Right-to-Know Act* (EPCRA) coordinator, the BDPO will exchange emergency response plans with the Local Environmental Protection Committee (LEPC) and participate in LEPC meetings.

F. Key Air Force/DOD Compliance Definitions

- *Change in Service* - Continued use of a UST system to store an unregulated substance (AFI 32-7044, Attachment 1).
- *Free Product* - a regulated substance that exists as a nonaqueous-phase liquid (a liquid that does not dissolve in water (AFI 32-7044, Attachment 1)
- *Issue Tank* - this tank is not permanently connected to any equipment or facility and may be used to fuel vehicles such as mobile trailers, ground support or heavy equipment, or portable containers (AFI 23-204, para 2).
- *Organizational Fuel Tank* - these are tanks which are fixed (permanently installed) or portable and must meet established engineering criteria. Organizational tanks do not include fuel tanks integral to vehicles or equipment, any type of hand-carried safety can, 55-gal [208.45-L] drums, or missile propellant conditioning systems. There are three categories of organizational fuel tanks: support tanks, issue tanks, and portable tanks (AFI 23-204, para 2).
- *Overflow Release* - a release occurring when someone attempts to fill a tank beyond its capacity, resulting in discharging the regulated substance to the environment (AFI 32-7044, Attachment 1).
- *Portable Tank* - a tank which may be used as either an issue or a support tank. Any mobile or portable tank (for example an A1B or vehicle mounted POD tank, or a Mobile Engine Test Stand Tank etc.) used for mobility maintenance, research, and development or similar purpose, is a portable tank. (AFI 23-204, para 2).
- *Support Tank* - a tank connected by fixed piping to a consuming facility or installed piece of equipment. Examples include day tanks for power plants and boilers, space heater tanks, aviation test cell tanks, and tanks for electrical generators (AFI 23-204, para 2).

G. Additional Records To Review

- Records of all spills, leaks, and associated site assessment/cleanup activities (for 3 yr)
- Official correspondence with state implementing agency

H. Additional Physical Features To Inspect

- Refueling facilities, including:
 - Above and belowground storage tanks and dikes
 - Venting
 - Fill pipe
 - Gauges

I. People To Interview

- Base Environmental Coordinator
- Base Civil Engineer
- Base Fuels Management Officer
- Liquid Fuels Maintenance
- Base Bioenvironmental Engineer
- Base Fire Department
- BCE Contract Management Officer
- Technical and Design Engineer
- Base Contracting Officer
- Interior Electric Shop/Base Cathodic Protection Engineer
- Contract Programmer
- Base Disaster Preparedness Officer

J. Guidance for Storage Tank Management Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
All Installations	ST.1 and ST.2	10-7
Storage Tank Discharges, Spills, and Releases	ST.3 through ST.5	10-9
Hydrant Fueling Systems	ST.6	10-11
General Storage Tanks	ST.7	10-13
Aboveground Storage Tanks (ASTs)	ST.8 through ST.13	10-15
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<p>ALL INSTALLATIONS</p> <p>ST.1. Copies of all relevant Federal, state, and local regulations on storage tank management should be maintained at the installation (MP).</p> <p>ST.2. As a good management practice the BCE LFM and BFMO should have a Memorandum of Agreement (MOA) pertaining to draining of floating roof tanks. This MOA should be signed by the BCE, BFMO, Base EC, and the BEE (MP).</p>	<p>Verify that a file of Federal and state POL, SPCC plan (Spill Prevention), and OHSPC Regulations are maintained and kept current at the installation:</p> <ul style="list-style-type: none"> - EO 12088, <i>Federal Compliance With Pollution Standards.</i> - 40 CFR 112, <i>Oil Pollution Prevention.</i> - 40 CFR 279, <i>Standards for the Management of Used Oil.</i> - 40 CFR 280, <i>Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST).</i> - AFI 23.201, <i>Fuels Management.</i> - AFI 23-204, <i>Organizational Fuel Tanks.</i> - AFI 32-7044, <i>Storage Tank Compliance.</i> - AFM 85-5, <i>Maintenance of Cathodic Protection Systems.</i> - AFM 85-16, <i>Maintenance of Petroleum Systems.</i> - Technical Orders 35-1-3, 36-1-3, 37-1-1, 42B-1-1, 42B-1-23, and 00-25-172. - Air Force Underground Storage Tank Management Strategy. - applicable state and local regulations. <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing and proposed activities and keeps the EPC informed as needed.</p> <p>(NOTE: This MP is based on guidelines found in AFM 85-16, Attachment 5.)</p> <p>Verify through interviews that a MOA has been prepared.</p> <p>Verify that the MOA was signed or coordinated through the Base EC and the BEE.</p>



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**STORAGE TANK
DISCHARGES,
SPILLS, AND
RELEASES**

ST.3. Installations are required to notify HQ USAF/CEV of releases from storage tanks (AFI 32-7044, para 2.8.3.2).

Verify that the installation has notified HQ USAF/CEV of all releases.

ST.4. Installations with a suspected release from a UST are required to perform specific activities (AFI 32-7044, para 2.8.1.1 and 2.8.1.2).

Verify that, if the installation suspects a leaking UST, immediate action is taken to investigate and confirm the release.

Verify that, if there is a suspected release because of environmental contamination but a leak is not detected, a site check is performed by sampling and measuring for contamination at the UST site.

ST.5. Releases of free product outside a UST are required to be cleaned up as soon as possible (AFI 32-7044, para 2.8.2.1).

Verify that releases of free product outside a UST are cleaned up as soon as possible.



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<p>HYDRANT FUELING SYSTEMS</p> <p>ST.6. The Air Force UST Management Strategy strongly recommends annual leak testing of airfield hydrant fuel systems even though they are currently deferred from USEPA regulations (AFI 32-7044, para 2.12).</p>	<p>Determine if installation has an airfield hydrant fuel system, and if so, when it was last leak tested.</p> <p>(NOTE: Not required where approved leak detection system (i.e., tracer) is installed).</p> <p>(NOTE: Some states do not defer airfield hydrant fueling systems.)</p> <p>Verify that all new hydrant systems have automatic release detection systems and line leak detectors.</p>



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**GENERAL STORAGE
TANKS**

ST.7. Certain fuel tanks are required to be equipped with high-level alarms and automatic high-level shut-off valves (AFI 23-201, para Attachment 11, para 11.1).

Verify that the following tanks have high-level alarms and automatic high-level shut-off valves:

- BFMO fuel tanks that have the capacity to receive fuel by pipeline
- BFMO fuel tanks that have the capacity to receive fuel by tank truck installed with off-loading pumps and headers.

Verify that BFMO has established safe fill levels below the high-level alarm level.



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<p>ABOVEGROUND STORAGE TANKS (ASTs)</p> <p>ST.8. The installation is required to have an inventory list of all ASTs (AFI 32-7044, para 3.2).</p> <p>ST.9. ASTs are required to be provided with drainage or diking to prevent any accidental discharge from endangering adjoining property or reaching waterways (AFI 32-7044, para 3.3.3).</p> <p>ST.10. Secondary containment is required to be impermeable to petroleum products (AFI 23-201, Attachment 11, para A11.1).</p> <p>ST.11. Dikes should be inspected daily by Base Fuels Management (TO 37-1-1).</p> <p>ST.12. Drainage water from diked areas around bulk ASTs that is determined to contain petroleum products in harmful quantities is required to be treated before discharge (AFI 23-201, Attachment 11, para A11.1).</p>	<p>Verify that the installation has an inventory of all ASTs and their characteristics.</p> <p>Verify that ASTs on the installation are provided with drainage or diking to prevent any accidental discharge from endangering adjoining property or reaching waterways.</p> <p>Verify that all ASTs have secondary containment that is impermeable to petroleum products.</p> <p>Examine Air Force Technical Order (AFTO) Form 39 records to verify that dikes have been inspected daily.</p> <p>Verify that any deficiencies noted on AFTO Form 39 have been corrected.</p> <p>Verify that drainage water that contains residual petroleum products or hazardous chemicals is not discharged.</p>

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ST.13. A product recovery system should be installed at the tank water drainoff valve for tanks storing aviation fuels (MP).

(NOTE: This MP is based on guidance given in AFM 88-15.)

Verify that product recovery systems are in place and operating correctly by inspecting aviation fuel tanks.

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<p>ORGANIZATIONAL FUEL TANKS</p> <p>ST.14. The BFMO is required to maintain a list of all organizational fuel tanks in addition to developing and maintain a training program (AFI 23-204, para 3.6.2, 13.1, and 13.3).</p> <p>ST.15. Tank custodians are required to perform specific activities and be trained on specific issues (AFI 23-204, para 12.1.2, 12.1.3).</p> <p>ST.16. Tank custodians should be trained for Hazardous Waste Operations Emergency Response Level 1 (MP).</p>	<p>Verify that the BFMO maintains a list of all supported organizational fuel tanks with the following identifiers:</p> <ul style="list-style-type: none"> - organization - tank location and type (for example, aboveground support or underground issue etc.) - type of product stored - tank capacity. <p>Verify that the BFMO has developed and maintains a program to train tank custodians and provide refresher training.</p> <p>(NOTE: Training is provided upon the request of the using organization commander.)</p> <p>Verify that the BFMO keeps the custodian training documents including an audit trail of trained custodians.</p> <p>Verify that the BFMO also briefs fuel delivery vehicle escorts on their duties.</p> <p>Verify that tank custodians are trained in the following areas:</p> <ul style="list-style-type: none"> - gauging procedures for both fuel and water - daily facility inspection and maintenance requirements including: <ul style="list-style-type: none"> - product accountability and proper completion of inventory documentation (AF Form 300 or similar computer document) - safety precautions - how to receive shipments - responsibilities under the Hazardous Materials Emergency Planning and Response Requirements Plan. <p>Verify that the tank custodian checks weekly fuel reports for USTs in order to identify leakage and reports suspected leaks to the base environmental manager immediately.</p> <p>Verify that tank custodians are trained for Hazardous Waste Operations Emergency Response Level 1.</p> <p>(NOTE: This is based on a recommendation in AFI 23-204, para 13.2.3.)</p>

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<p>ST.17. Organizations with organizational fuel tanks are required to perform specific activities (AFI 23-204, para 8.2).</p> <p>ST.18. All organizational fuel tanks are required to meet specific structural standards (AFI 23-204, para 5, 6, 7.1.1, and 7.1.2).</p> <p>ST.19. Single or manifolded tanks are required to have impervious secondary diking (AFI 23-204, para 12.1.4).</p>	<p>(NOTE: BCE is the owning organization for all heating and power production support tanks.)</p> <p>Verify that the organization has provided the BFMO with a list of all support tanks authorized to receive fuel.</p> <p>Verify that changes are forwarded as they occur.</p> <p>Verify that for unattended tanks the following are secured:</p> <ul style="list-style-type: none"> - pump-dispensing nozzles and electrical power source for all issue tanks - gauge hatches and other access points on all storage tanks - bulk fuel off-loading systems - low point drains. <p>Verify that organizational fuel tanks are marked to indicate NO SMOKING and the type of fuel stored as follows:</p> <ul style="list-style-type: none"> - highly visible colors are used and large lettering - markings are visible from a distance of 50 ft [15.24 m] - markings are positions so as to be visible from each approach. <p>(NOTE: The international NO SMOKING sign may be used when marking diesel, mogas, and other products.)</p> <p>Verify that all issue tanks are equipped with a calibrated dispensing meter.</p> <p>Verify that all organizational fuel tank meters are calibrated annually, after repairs, and when accuracy is in doubt.</p> <p>Verify that all organizational tanks, regardless of size, are equipped with certified calibration charts, unless waived by the Major Command (MAJCOM) civil engineer.</p> <p>(NOTE: Computer generated calibration charts may be used.)</p> <p>Verify that single or manifolded tanks have impervious secondary diking.</p>



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UST OPERATIONS

ST.22. Fuels personnel is required to be properly trained on UST leak detection equipment (AFI 23-201, Attachment 11, para A11.3).

Verify that fuels personnel are trained on leak detection equipment associated with USTs and on proper data collection and recording procedures.



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HEATING OIL USTs

ST.23. USTs used to store heating oil for consumptive use on the premise should meet the requirements outlined in 40 CFR 280 (MP).

Determine if the installation has tanks used for storing heating oil for consumptive use on the premise.

Verify that these tanks meet release detection requirements, spill and overfill protection requirements, corrosion control requirements, and release reporting requirements applicable to tanks that meet the definition of UST.

(NOTE: Under 40 CFR 280.12, USTs storing heating oil for consumptive use on the premises are exempted from the regulatory definition of UST.)



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<p>UST DOCUMENTATION</p> <p>ST.24. Installations are required to have a UST inventory readily available on WIMS-ES (AFI 32-7044, para 2.10.1).</p> <p>ST.25. The BFMO is required to maintain inventory control records and keep them available for inspection (AFI 32-7044, para 2.10.2).</p> <p>ST.26. A separate file is to be maintained on each individual UST system at an installation (30 May 1990 UST Management Strategy Letter).</p> <p>ST.27. The Air Force Management Strategy directs the installation to notify the regulators in writing if they are going to miss a compliance deadline. If a compliance deadline is not met, the installation is required to work out a compliance agreement with the regulator (30 May 1990, UST Management Strategy Letter).</p>	<p>Verify that the installation is maintaining an inventory of USTs.</p> <p>Verify that the BFMO is maintaining the inventory control records.</p> <p>Determine if file contains:</p> <ul style="list-style-type: none"> - a completed UST inventory form - a completed risk assessment form - spill reports - leak detection sampling and monitoring tests - performance claims by manufacturer - calibration, maintenance, and repair records - history of products stored - certification, if applicable, that site conditions do not require cathodic protection - results of site investigation conducted at the time USTs are permanently closed. <p>Determine if the installation missed a compliance deadline, and if so, review letter of notification to regulator and compliance agreement.</p>



Section 11

Toxic Substances Management (Air Force Supplement)

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SECTION 11

TOXIC SUBSTANCES MANAGEMENT

A. U.S. Air Force Instructions (AFIs) and Policies

PCBs

- HQ USAF/CEV Letter, 29 April 1986. The letter, *Removal of Polychlorinated Biphenyl (PCB) Equipment from Air Force Installations* required all major commands to draft management plans for removing all PCB equipment from AF installations by FY 92.
- HQ USAF/CEV Letter, 5 April 1988. The letter *Removal of Polychlorinated Biphenyls (PCBs) Items from Air Force Installations*, required an update on major command plan to remove all PCB items by FY 92 including:
 1. All PCB items (greater than 500 ppm)
 2. All PCB contaminated items (50 to 499 ppm)
 3. Reclassifications (retrofilling, filtering, and treatment processes)
 4. Funding requirements and program approach, A-106 report inputs.
- HQ USAF/CE/SGP Letter, 24 July 1987. The letter, *Polychlorinated Biphenyls (PCBs) Spill Cleanup Policy*, requires cleanup of PCBs to different levels, depending on release location, potential for exposure after clean up, concentration of PCB released, and the nature and size of population at risk.
- HQ USAF/CE Letter, 1 March 1990 and 19 July 1990. The letter, *New Polychlorinated Biphenyls (PCBs) Notification, Recordkeeping, and Manifest Requirement*, summarizes new requirements of 40 CFR 761.205(b)-(c) and 207-215.
- HQ USAF/CEV Letter, 24 May 1993. This letter, *Continuation of the Air Force Polychlorinated Biphenyls (PCB) Free Policy* re-emphasizes the Air Force Goal to be PCB free. It recommends using ECAMP to ensure full compliance and requires the Major Commands (MAJCOMs) to provide current PCB status.

Asbestos

- AF1 32-1052, *Facility Asbestos Management*. This instruction, dated 22 March 1994, outlines procedures for developing an installation asbestos management program.
- AF Policy Letter, *Asbestos Policy for Closure Bases*. This letter, dated 25 March 1994, applies to property being disposed of through the Base Realignment and Closure (BRAC) process and supersedes all previous policy on this matter.

Radon

- Radon Assessment and Mitigation Program (RAMP). RAMP was initiated by the Assistant Vice Chief of staff of the Air Force (USAF/CV) by policy letter on 23 October 1987. This letter transmitted the RAMP Implementation Plan to Air Force activities for implementation.

Lead-Based Paint (LBP)

- HQ USAF Policy Letter, *Air Force Policy and Guidance on Lead-Based Paint in Facilities*. This policy letter, dated 24 May 1993, specified actions required to protect facility occupants and workers and the environment from hazardous exposure to lead in LBPs. Appendix 11-1 summarizes the likelihood of LBP being present and the regulations/guidelines which normally must be followed.
- Air Force Base Conversion Agency (AFBCA) Policy Letter, *Instructions for Facilities at Closure Bases*. This letter, dated 4 November 1993 and change one dated 10 August 1994, details the responsibilities and actions concerning LBP at closure bases.

B. Department of Defense (DOD) Directives and Instructions

- None that have not been implemented/superseded by AFIs.

C. Using the TEAM Guide for ECAMP

- No additional instructions.

D. Key Air Force/DOD Compliance Requirements

- Asbestos Identification - Installation buildings with the potential to be contaminated with asbestos should be tested and surveyed for asbestos and friable materials.
- Asbestos Management Plan - Installations with maintenance responsibilities are required to have a written Asbestos Operation and Management Plan.
- Asbestos at Closure Bases - Asbestos at closure bases is required to be treated differently than at a nonclosure installation. A survey has to be done within 6 mo prior to closure. Remediation must be done by the AFBCA unless the transferee is willing to conduct the remediation.
- Radon

MITIGATION TIME FRAME

Radon Level (pCi/L)	Mitigate
Greater than 200 ¹	1 mo or move the occupants
200-20 ¹	6 mo
20-8 ²	1-4 yr ³
8-4 ²	5 yr
4 or less ¹	No action required

¹Determine by 90-day screen or a 1-yr measurement in the case of Priority 2 and 3 structures.

²Annual average determined by 1-yr measurement. Screening measurements in this range will not be used as the basis for initiating mitigation actions.

³Depending on the level of the measurement.

- LBP - Installations are required to develop and implement a plan for identifying, evaluating, and managing LBP hazards. Personnel working with LBP are required to be trained. Paint used on the installation will not contain more than 0.06 percent lead by weight.
- LBP at Closure Bases - Closure bases are required to have a LBP survey of high priority facilities. How the survey is conducted is based on the age of the facilities being surveyed.

E. Key Compliance Personnel

PCBs

- Base Civil Engineering (BCE). The BCE through the Exterior Electrical Shop and the Base Environmental Coordinator, is responsible for identifying, inspecting, marking (labeling), and properly servicing PCB electrical equipment (transformers and capacitors).
- Base Environmental Coordinator. The Base Environmental Coordinator is responsible for ensuring that out-of-service items are stored in a technically adequate PCB storage facility. Normally, such facilities are located at a Defense Reutilization and Marketing Organization (DRMO) and the DRMO is responsible for storage, disposal, transportation, and contracting for disposal.
- Bioenvironmental Engineer (BEE). The BEE is responsible for arranging for chemical analytical support in screening electrical equipment or PCBs and for cleanup verification.

Asbestos

- Asbestos Operations Officer. Asbestos Operations Officer prepares and implements the Asbestos Operating Plan.
- Asbestos Program Officer. Asbestos Program Officer prepares the Asbestos Management Plan that contains documentation on all asbestos management efforts and the mechanism for oversight of the Asbestos Management Program.
- The BCE. The BCE appoints an Asbestos Program Officer to prepare the Asbestos Management Plan and an Asbestos Operations Officer to prepare the Asbestos Operating Plan. He also ensures a sufficient number of in-house technicians and supervisors are trained and equipped to remove, repair, and control ACM.
- Base Environmental Coordinator. The Base Environmental Coordinator is responsible for ensuring proper disposal of friable asbestos. DRMO is responsible for contracting for disposal of friable asbestos.
- The BEE. The BEE takes air samples, evaluates friable materials for the presence of asbestos, and assigns Risk Assessment Codes (RAC) so the situation can be treated as a hazard.

Radon

- The BCE. The BCE is responsible for reviewing radon assessments and implementation of radon mitigation activities in accordance with Air Force RAMP.
- The BEE. The BEE is responsible for radon sampling and assessments at installation offices, housing, day care facilities, etc. The BEE provides these sample results to the BCE. The BEE is also responsible for post mitigation monitoring to determine the adequacy of mitigation measures.

Lead-Based Paint (LBP)

- The BCE. The BCE will participate in developing and implementing the management plan for identifying, evaluating, managing, and abating LBP. Additionally they train personnel and maintain records of activities.
- Chief, Aerospace Medicine. The Chief, Aerospace Medicine will ensure a coordinated epidemiological analysis of facility lead sampling results and positive pediatric lead analysis is accomplished.
- The BEE. The BEE will conduct testing and sampling of paint to determine the lead content. They will participate in inspections and training activities as well.

F. Key Air Force/DOD Compliance Definitions

- None

G. Additional Records To Review During

- Asbestos management plan and operating plan
- Records of asbestos training program
- List of buildings insulated with asbestos or housing ACM
- Radon test results

H. Additional Physical Features To Inspect

- None

I. People To Interview

- Base Civil Engineering (Environmental Planning)
- Base Bioenvironmental Engineer (BEE)
- Base Civil Engineering (Exterior Electric Shop)
- Defense Reutilization and Marketing Office (DRMO)
- On-Scene Coordinator or Remedial Project Manager (OSC/RPM)
- Engineering Programmer (DEP)
- Base Environmental Coordinator (For AFLC, this is the EM Shop)
- Judge Advocate

J. Guidance for Toxic Substances Management checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
PCB Management	T1.1	11-7
Asbestos Management		
All Installations	T2.1 through T2.4	11-9
Asbestos at Closure Bases	T2.5 and T2.6	11-11
Radon Management		
All Installations	T3.1 and T3.2	11-13
Lead-Based Paint (LBP)		
All Installation	T4.1 through T4.7	11-15
LBP at Closure Bases	T4.8 through T4.15	11-19



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PCB MANAGEMENT

All Installations

T1.1. Copies of all relevant Federal, state, and local regulations on PCBs should be maintained at the installation (MP).

Determine if copies of the following are maintained on the installation:

- EO 12088, *Federal Compliance with Pollution Standards.*
- 40 CFR 761, *PCB Regulations.*
- HQ USAF/CEV Policy Letter 29 April 1986, *Removal of Polychlorinated Biphenyl (PCB) Equipment from Air Force Installations.*
- HQ USAF/CEV/SGP Policy Letter 24 July 1987, *Polychlorinated Biphenyl (PCB) Spill Cleanup Policy.*
- HQ USAF/CEV Policy Letter 5 April 1988, *Removal of Polychlorinated Biphenyl (PCB) Equipment from Air Force Installations (Update).*
- applicable state and local regulations.

Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing and proposed activities and keeps the EPC informed as needed.



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<p>ASBESTOS MANAGEMENT</p> <p>All Installations</p> <p>T2.1. Copies of all relevant Federal, state, and local regulations on asbestos should be maintained at the installation (MP).</p> <p>T2.2. Installations are required to have a written asbestos management plan (AFI 32-1056, para 5).</p>	<p>Determine whether copies of the following regulations are maintained and kept current at the installation:</p> <ul style="list-style-type: none"> - EO 12088, <i>Federal Compliance with Pollution Standards.</i> - 40 CFR 61, Subpart M, <i>National Emission Standards for Asbestos.</i> - 40 CFR 763, <i>Asbestos in Schools.</i> - 49 CFR 172-177, <i>Transportation of Hazardous Materials.</i> - AFOSH Standard 161-4, <i>Exposure to Asbestos.</i> - AFI 32-1052, <i>Facility Asbestos Management.</i> - AF Policy Letter, <i>Asbestos Policy for Closure Bases</i>, 25 March 1994. - applicable state and local requirements. <p>(NOTE: OSHA regulations designed to protect workers handling asbestos (29 CFR 1910) are not in this protocol.)</p> <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing or proposed activities and keep the EPC informed as needed.</p> <p>Verify that each installation having maintenance responsibility has developed a written management plan that includes a permanent record of the current status and condition of all asbestos-containing material in an installation facility inventory.</p> <p>Verify that the management plan provides documentation for all asbestos management efforts and procedures for overseeing the entire facility asbestos management program.</p> <p>Verify that the plan includes procedures to ensure that the installation complies with applicable Federal, state, and local regulations.</p>

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<p>T2.3. Installations are required to have a written asbestos operating plan (AFI 32-1056, para 6).</p>	<p>Verify that the Asbestos Operating Plan:</p> <ul style="list-style-type: none"> - assigns responsibilities - establishes inspection and repair teams - gives repair procedures and personnel protection instructions - includes references to and explanations of applicable USEPA and OSHA regulations, Air Force Policy Directive (AFPD) 32-70, and AFI 91-301 - addresses the following: <ul style="list-style-type: none"> - the organizational structure for carrying out asbestos related work - personnel training programs - equipment and supply requirements - identification of worker manuals or other written procedures - yearly budget estimates - procedures for interim control measures and extraordinary precautions - procedures for asbestos certification and asbestos disposition statements on programming documents - requirements for a special response team and in-house inspection capability - contractor requirements to perform analytical work and asbestos abatement.
<p>T2.4. Damaged asbestos containing material is required to be removed or repaired to eliminate the potential hazard (AFI 32-1052, para 2.1 and 2.2).</p>	<p>Verify that damaged ACM has been removed or repaired.</p>

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<p>ASBESTOS MANAGEMENT</p> <p>Asbestos at Closure Bases</p> <p>T2.5. A survey of facilities for ACM is required to be accomplished or updated within 6 mo of the initial transfer (AF Policy Letter, <i>Asbestos Policy for Closure Bases</i>, 25 March 1994, Section 3(b)).</p> <p>T2.6. Remediation of ACM in facilities at closure bases is required to be carried out in accordance with applicable laws, regulations, and standards (AF Policy Letter, <i>Asbestos Policy for Closure Bases</i>, 25 March 1994, Section 3(c)).</p>	<p>Verify that a survey of facilities for ACM is accomplished or updated within 6 mo of the initial transfer.</p> <p>(NOTE: This requirement applies whether the initial transfer occurs by lease, sale, or other disposal method.)</p> <p>Verify that, at a minimum, the survey identifies the extent of asbestos contained in facilities and the exposure hazards.</p> <p>Verify that surveys are accomplished under the supervision of an accredited asbestos professional.</p> <p>Verify that the survey includes, at a minimum, the following:</p> <ul style="list-style-type: none"> - a review of facility records - a visual inspection - an intrusive inspection, as directed by an accredited asbestos professional - ambient air sampling, if directed by an accredited asbestos professional. <p>(NOTE: Ambient air sampling is carried out in order to determine whether any appropriate remedial actions are needed prior to the property being leased or transferred, or to protect facility occupants.)</p> <p>Verify that remediation of ACM in facilities at closure bases is carried out in accordance with applicable laws, regulations, and standards.</p> <p>(NOTE: Remediation of ACM may be required if, in the judgment of an accredited asbestos professional, at least one of the following criteria apply:</p> <ul style="list-style-type: none"> - the ACM is of a type, condition, and in a location such that, through normal and expected use of the facility, it will be damaged to the extent that it will produce an asbestos fiber hazard to facility occupants - the type and condition of the ACM is such that it is not in compliance with the appropriate statutes or regulations.) <p>(NOTE: Remediation of ACM will not be accomplished by the AFBCA if the transferee is willing to conduct remediation in accordance with applicable standards prior to beneficial occupancy as part of the transfer agreement.)</p>



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<p>RADON MANAGEMENT</p> <p>All Installations</p> <p>T3.1. Copies of all relevant Federal, state, and local regulations on radon should be maintained at the installation (MP).</p> <p>T3.2. Air Force policy requires sampling for and mitigation of radon in certain structures at radon concentrations above 4 pCi/L (HQ USAF/CV Policy letter 23 October 1987).</p>	<p>Determine if the installation has a copy of the Policy Letter from USAF/CV dated 23 October 1987, and any relevant updates.</p> <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing or proposed activities and keep the EPC informed as needed.</p> <p>Determine if any mitigation actions are required by reviewing sampling records.</p> <p>Verify that initial sample results were completed in May 1988.</p> <p>Verify that detailed assessment results were completed in May 1990, for high- and some medium-risk bases.</p> <p>Verify that detailed assessment results will be completed by mid 1992 for the rest of the medium-risk bases.</p> <p>Review any needed radon mitigation projects with the contract programmer in Civil Engineering and verify that all mitigation projects are prioritized according to their radon level (pCi/L) (see the Introduction).</p> <p>Determine if the programmed mitigation projects meet the goals listed above.</p> <p>Determine if Civil Engineering Staff have received radon diagnostic and mitigation training.</p> <p>Check if residents were informed of the radon levels in their residences and measures being taken for correction.</p>



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<p>LEAD-BASED PAINT (LBP)</p> <p>All Installations</p> <p>T4.1. Copies of all relevant Federal, state, local regulations, DOD and U.S. Air Force directive, and guidance documents on LBP should be maintained at the installation (MP).</p> <p>T4.2. Installations are required to develop and implement a plan for identifying, evaluating, managing, and abating LBP hazards (HQ USAF/CC Policy letter 24 May 1993, para 6).</p>	<p>Determine whether copies of the following documents and publications are maintained and kept current at the installation:</p> <ul style="list-style-type: none"> - HQ USAF/CC Policy Letter, <i>Air Force Policy and Guidance on Lead-Based Paint in Facilities</i>, 24 May 1993. - AFBCA Policy Letter, <i>Instructions for Facilities at Closure Bases</i>, 4 November 1993. <p>Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing or proposed activities and keep the EPC informed as needed.</p> <p>Verify that the installation has a management plan which includes a strategy for:</p> <ul style="list-style-type: none"> - identifying, evaluating, controlling, and eliminating existing LBP hazards and preventing new hazards from developing - protecting facility occupants, especially children, and workers from LBP hazards - ensure compliance with all applicable environmental protection requirements and all laws and regulations pertaining to LBP activities. <p>Verify that the plan also:</p> <ul style="list-style-type: none"> - is an integral part of their overall plan for inspecting, constructing, upgrading, repairing, maintaining, and demolishing the facility inventory - is based on local conditions and an evaluation of the health risk from LBP on base which considers available information on the conditions of the facilities, the results of facility inspections and evaluations, and incidents of lead toxicity resulting from LBP - gives priority to finding and reducing or eliminating the risk of existing hazardous conditions in high-priority facilities - emphasizes in-place management to control existing hazards and reduce the risk of hazardous exposure to acceptable levels - considers abatement of LBP as part of the normal facility renovation and upgrade programs when it is cost-effective - ensures precautions and procedures are incorporated into all maintenance, repair, renovation, and upgrade activities which are performed in-house, by contract, or self-help and which disturb painted surfaces known or likely to contain lead.

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<p>T4.3. The identification and evaluation of existing and potential LBP hazards is required to be done according to specific procedures (USAF/CC Policy Letter 24 May 1993, para 7).</p>	<p>Verify that, depending on local circumstances, one of the following is used to identify and evaluate existing and potential LBP hazards:</p> <ul style="list-style-type: none"> - evaluations of observations from routine facility inspections and activities such as MFH walk-throughs, fire and safety inspections, inspections for family day care home licensing, and occupant reports of deteriorated paint - inspections and evaluations specifically designed to locate existing and potential LBP hazards so that appropriate measures can be taken to avoid hazardous lead exposures - facility investigations to determine the source of documented lead exposure. <p>Verify that facility personnel who conduct routine inspections have been instructed to report signs of paint deterioration or children chewing on painted surfaces in high-priority facilities.</p> <p>Verify that there are procedures in place to document and respond to information reported from inspections and occupants concerning potential LBP problems and the resulting evaluations and actions.</p> <p>Verify that facility inspections that are done specifically to identify LBP problems meet the following:</p> <ul style="list-style-type: none"> - they are focused on high-priority facilities and areas within those facilities with painted surfaces in deteriorated condition - the evaluations are performed by a team consisting of BEE and BEE representatives or by a qualified contractor - reports of the data results and resulting actions are collected, consolidated, and analyzed by the Chief, Aerospace Medicine for reporting through Air Force medical channels - permanent records of facility evaluations are maintained by the BCE and/or BEE.
<p>T4.4. Prior to the start of facility maintenance, repair, modification, and renovation activities, it is required to be determined if LBP is present if the activity will disturb painted surfaces (HQ USAF/CC Policy Letter 24 May 1993, para 11).</p>	<p>Verify that prior to the start of maintenance, modification, or renovation activities it is determined if LBP is going to be disturbed.</p>

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T4.5. Paint used in all facilities, industrial and nonindustrial, will not contain more than 0.06 percent lead by weight of the nonvolatile solids (USAF/CC Policy Letter 24 May 1993, para 12).

Verify that paint with more than 0.06 percent lead by weight of the nonvolatile solids is not used or stored for future use at the installation.

T4.6. Air Force personnel who perform tests for LBP and work on painted surfaces are required to be trained (USAF/CC Policy Letter 24 May 1993, para 13).

Verify that at least one person from BCE has received USEPA certification.

Verify that the certified individual trains others on the proper precautions to take and potential hazards.

Verify that a minimum level of training which includes the following is provided for all workers who perform tasks which disturb painted surfaces:

- potential hazards of LBP
- work practices to reduce and control dust and debris
- handling of debris
- hygiene
- cleanup procedures.

Verify that workers who will be performing larger jobs in which simple work practices will not reliably reduce or control dust and those who will be assisting in LBP evaluations have received additional training in OSHA and HUD requirements.

T4.7. Installations are required to perform a Lead Toxicity Investigation (LTI) when children with elevated blood lead levels have been identified at the installation (USAF/CC Policy Letter, para 14).

Determine if the installation has ever had a case of elevated blood lead levels.

Verify that the LTI team consists of representatives from BEE, Military Public Health (MPH), Public Affairs (PA), and Judge Advocate (JA) as needed.

Verify that an LTI was conducted.

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<p>LBP MANAGEMENT</p> <p>LBP at Closure Bases</p> <p>T4.8. Each closure base is required to have and document a LBP survey of high-priority facilities (AFBCA Policy Letter, 4 November 1993, para 6(a)).</p> <p>T4.9. Installations are required to use in-place management first to reduce risk of hazardous exposure (AFBCA Policy Letter, 4 November 1993, para 6(a)(2) and 6(a)(3)).</p> <p>T4.10. All pre-1978 housing is required to be surveyed before being transferred (AFBCA Policy Letter, 4 November 1993, para 6(a)(3)).</p> <p>T4.11. Housing constructed prior to 1978 is required to be inspected prior to property conveyance (AFBCA Policy Letter, 4 November 1993, para 6(b)).</p>	<p>(See Appendices 11-2, 11-3, and 11-4 for informational attachments to the AFBCA Policy Letter.)</p> <p>Verify that the installation has a LBP survey of high-priority facilities.</p> <p>Verify that the survey identifies where LBP exists on the installation.</p> <p>Verify that the survey is documented in an installation LBP Survey Report.</p> <p>Verify that the survey is incorporated in the installation's Environmental Baseline Survey (EBS).</p> <p>(NOTE: If the LBP survey has not been accomplished prior to the completion of the base-wide EBS, a data gap is identified in the EBS report, and LBP sampling is a part of the subsequent EBS effort.)</p> <p>Determine whether LBP has been found to exist.</p> <p>Verify that installations use in-place management first to reduce risk of hazardous exposure to acceptable levels.</p> <p>Verify that abatement is performed only when in-place management will not control the hazard effectively.</p> <p>(NOTE: Without a survey, LBP is assumed to be present if the housing was constructed prior to 1978.)</p> <p>Verify that all pre-1978 housing is surveyed before being transferred.</p> <p>(NOTE: This requirement does not apply to the following types of housing: - housing intended for the elderly or persons with disabilities, unless any child under 6 yr of age is expected to reside in it - 0-bedroom dwellings (efficiency apartments and dormitories).)</p> <p>Verify that housing constructed prior to 1978 is inspected prior to property conveyance to determine the condition of all interior and exterior painted surfaces and whether LBP hazards exist.</p> <p>Verify that the results of this inspection are documented in an installation LBP Inspection Report.</p>

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<p>T4.12. All defective paint surfaces are required to be assumed to be an immediate hazard until test results show otherwise (AFBCA Policy Letter, 4 November 1993, para 6(b)).</p>	<p>Verify that all defective paint surfaces are assumed to be an immediate hazard until test results show otherwise.</p> <p>(NOTE: This requirement does not apply to housing units with negative LBP survey results; their defective paint surfaces are not a LBP hazard.)</p>
<p>T4.13. Installations are required to abate LBP hazards in certain housing facilities (AFBCA Policy Letter, 4 November 1993, para 6(c)).</p>	<p>Verify that abatement is performed for housing that meets the following criteria, if the disposition occurs on or after 1 January 1995:</p> <ul style="list-style-type: none"> - it was constructed prior to 1960 and - children are likely to reside in it after the transfer. <p>(NOTE: This requirement does not apply to the following types of housing:</p> <ul style="list-style-type: none"> - housing intended for the elderly or persons with disabilities, unless any child under 6 yr of age is expected to reside in it - 0-bedroom dwellings (efficiency apartments and dormitories).)
<p>T4.14. The installation is required to make all LBP Inspection and Survey Reports available to all potential recipients of closure base property prior to conclusion of transfer agreements (AFBCA Policy Letter, 4 November 1993, para 6(e)).</p>	<p>Verify that the installation makes all LBP Inspection and Survey Reports available to all potential recipients of closure base property prior to conclusion of transfer agreements.</p>
<p>T4.15. Closure bases are required to comply with applicable environmental protection regulations (AFBCA Policy Letter, 4 November 1993, para 8).</p>	<p>Verify that the installation complies with applicable environmental regulations.</p>

Appendix 11-1

Summary of Likelihood of Lead-Based Paint Being Present and Regulation/Guidelines Which Normally Must be Followed

(USAF/CC Policy Letter, 24 May 1993)

High Priority Facilities

Facility Type	LBP Likely	HUD	OSHA	RCRA	AIR
MFH/Day Care Home, Before 1980	Yes	Yes	Yes	Yes	No
MFH/Day Care Home, During/After 1980	No	Yes	No	No	No
Other High Priority Facilities Before 1980	Yes	Yes	Yes	Yes	No
Other High Priority Facilities During/After 1980, Ferrous Metal Surface	Yes*	Yes	Yes	Yes	No
Other High Priority Facilities, During/After 1980, Other Surfaces	No**	Yes	No	No	No

Other Facilities (Not High-Priority)

Facility Type	LBP Likely	HUD	OSHA	RCRA	AIR
Steel Structures	Yes	No	Yes	Yes	Yes
Industrials	Yes	No	Yes	Yes	No
Painted Yellow Pavement Markings	Yes	No	Yes	Yes	No
Nonindustrials, Ferrous Metal Surfaces	Yes*	No	Yes	Yes	No
Nonindustrials, During/After 1980, Other Surfaces	No**	No	No	No	No

* CPSC restrictions uncertain but common practices favor lead present.

** CPSC restriction uncertain but common practices favor lead absent.

HUD - Housing and Urban Development Interim Guidelines

OSHA - Occupational Safety and Health Administration

RCRA - *Resource Conservation and Recovery Act*

AIR - National Primary and Secondary Ambient Air Quality Standards

CPSC - Consumer Product Safety Council

MFH - Military Family Housing

NOTES:

1. Likelihood of finding LBP on a particular surface in a facility is based on when it was constructed (before 1980 or during/after 1980), applicability of CPSC restrictions on use of LBP, and common painting practices.
2. Although LBP may not be likely, some precautions described in the HUD guidelines will normally be considered in high priority facilities since children are potentially at risk and there is some possibility the LBP is present.



Appendix 11-2

LBP Sampling Strategies for Closure Bases

(USAF/CC Policy Letter, 04 November 1993)

Housing Sampling Strategy

Number of Units or Buildings	Number of Units or Buildings to be Tested
</= 20	All
</= 40	31
</= 60	38
</= 80	42
</= 100	45
</= 200	51
</= 300	54
</= 400	55
</=600	56
</=1000*	56

* When the total number of units exceed 1000, test 58 of the units.

(NOTE: The above sampling strategy should be used for housing constructed at the same time and having a common paint history. The units chosen for testing should be selected randomly so they represent accurately the total population of units or buildings being considered for possible abatement. 100 percent testing will be accomplished on high-priority facilities other than housing.)

Quantifying Lead in Interior and Exterior Paint.

Items to be tested	Sampling Specifics
Interior	
Baseboard	1 in each area
Ceiling	1 in each area
Crown molding	1 in each area
Door	Surface of door and 1 side of the frame on a representative interior door in each area

(continued)

Appendix 11-2 (continued)

Items to be tested	Sampling Specifics
Fireplace	1 item per housing unit
Floor	1 in each area
Radiator	1 item per housing unit
Shelf	1 in each area
Shelf support	In each area
Stairs	Riser, tread, stripper, newel post, railing cap, balustrade
Wall	Upper and lower wall, chair rail in each area
Window	Sash, casing and sill on a representative window
Exterior	
Bulkhead	1 item per housing unit
Ceiling	1 item per housing unit
Cornerboard	1 item per housing unit
Door	Surface of door and door casing
Fence	1 item per housing unit
Floor	1 item per housing unit
Joist	1 item per housing unit
Lattice	1 item per housing unit
Lower Railing	1 item per housing unit
Painted Roofs	1 item per housing unit
Porch	1 item per housing unit
Railing cap	1 item per housing unit
Siding	1 item per housing unit
Stairs	Tread, riser, handrail
Support columns	1 item per housing unit
Trim	1 item per housing unit
Window	Sill, casing and sash of representative window; sample cellar window if available

Appendix 11-3

Testing in Single Family Housing

(USAF/CC Policy Letter, 04 November 1993)

Testing with the spectrum analyzer X-Ray Fluorescence (XRF) is recommended. If direct reading XRF is used, it is necessary to scrape the paint to determine substrate equivalent lead (SEL) for each different building component. This is because the variability of the direct reading XRF cannot be "averaged out" over a large number of samples as is the case in multi-family housing. All inconclusive results must be confirmed by laboratory testing.

Spectrum analyzer XRF:

Results are positive if reading is 1.3 mg/cm^2 or higher.

Results are inconclusive if reading is 0.8 to 1.2 mg/cm^2 .

Results are negative if reading is less than 0.8 mg/cm^2 .

Direct reading XRF:

Results are positive if the corrected lead concentration (CLC) is greater than or equal to 1.6 1.3 mg/cm^2 .

Results are inconclusive if the CLC is 0.5 to 1.5 mg/cm^2 .

Results are negative if the CLC is less than 0.5 mg/cm^2 .



Appendix 11-4

LBP Summary Chart for Housing to Be Conveyed (USAF/CC Policy Letter, 04 November 1993)

Between Now and 1 January 1995

Requirements	Pre-1960	1960 - 1977	1978 - Present
LBP Survey of High Priority Facilities (may assume LBP is present without testing).	X	X	NA
Inspection of painted surface with confirmed or assumed LBP.	X	X	NA
Treatment of deflection LBP paint surfaces.	X	Only required if there is also pre-1960 housing**	NA
Disclosure	X	X	NA

** Treatment of 1960 - 1977 housing is not required under Title X. However, for consistency purposes, if a base chooses to treat pre-1960 housing under 24 CFR rather than abate under Title X, then 1960 - 1977 housing should also be treated since it is a requirement under 24 CFR.

After 1 January 1995

Requirements	Pre-1960	1960 - 1977	1978 - Present
LBP Survey of High Priority Facilities (may assume LBP is present without testing).	X	X	NA
Inspection of painted surface with confirmed or assumed LBP.	X	X	NA
Treatment of deflection LBP paint surfaces.	X	No action required	NA
Disclosure	X	X	NA



Section 12

Wastewater Management (Air Force Supplement)

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SECTION 12

WASTEWATER MANAGEMENT

A. U.S. Air Force Instructions (AFIs) and Policies

- AFI 32-1067, *Water Systems*. This instructions, dated 25 March 1994 provides guidelines for managing wastewater systems ay Air Force bases.
- AFI 32-7041, *Water Quality Compliance*. This AFI, dated 13 May 1994, applies to the generation, collection, treatment, reuse, and disposal of domestic and industrial wastewater, stormwater, non-point source runoff, sewage sludge, and water treatment residues.
- AFI 48-119, *Medical Service Environmental Quality Programs*. This instruction, dated 25 July 1994, identifies Medical Services roles and responsibilities.
- Air Force Manual (AFM) 91-32, *Operation and Maintenance of Domestic and Industrial Wastewater Systems*. This manual specifies detailed operational and maintenance guidelines and requirements for water pollution control plants on Air Force installations. In particular, requirements for maintenance of operating logs, maps, and records are specified in these AFMs.

B. Department of Defense (DOD) Directives and Instructions

- DOD Instruction 4120.14 and Office of Management and Budget (OMB) Circular A-106. DOD Instruction 4120.14 implements within DOD policies provided by Executive Order (EO) 12088 and OMB Circular A-106 and establishes policies for developing and submitting plans for installing improvements needed to abate water pollution emanating from DOD facilities.

C. Using the TEAM Guide for ECAMP

- Ensure that swimming pool filter backwash water and water treatment residuals, including sludge and process wastewater, from drinking water treatment plants are not discharged without a National Pollutant Discharge Elimination System (NPDES) permit.

D. Key Air Force/DOD Compliance Requirements

- Oil/Water Separators - Collected fuel, oil, grease, oily waste, solvents, cleaning compounds, corrosion control facility wastes, or other contaminants cannot be discharged to oil/water separators.
- Discharges To A Treatment Works - Installations that discharge to either a publicly owned treatment works (POTW) or a Federally owned treatment works (FOTW) must pretreat hazardous waste before discharging it to the treatment works.
- Treatment Works Operation - Personnel are required to be trained and certified and maintain certain operating logs and records. Operators are required to maintain pollution control logs and have

plant-specific O&M manuals. Installations are required to eliminate Combined Sewer Overflows (CSO) and unauthorized connections of industrial wastewater and floor drains from industrial shops to domestic wastewater collection systems.

- Fire Training Pits - New live aircraft fire training facilities are required to be operated as zero discharge facilities. Only uncontaminated fuel can be used in live aircraft fire training exercises.

E. Key Compliance Personnel

- The Base Civil Engineer (BCE)/Environmental Management. The BCE/Environmental Management is responsible for the preparation of all wastewater discharge permit applications, monitoring compliance with all approved NPDES permit conditions, and reporting requirements specified as in the NPDES permit. The BCE/Environmental Management is also responsible for developing a pre-treatment program in accordance with the pre-treatment provisions of 40 Code of Federal Regulations (CFR) 401 et seq. for all industrial processed wastewater generated on the installation. BCE design departments are responsible for the design and construction of wastewater collection and treatment systems as needed on the installation. Training of personnel to meet proficiency levels consistent with local/state operator certification requirements is the responsibility of the BCE.
- The Water and Waste Shop. The Water and Waste Shop within BCE has responsibility for operations and maintenance of treatment plants, pretreatment facilities, pump stations, oil or water separators and other associated facilities around the installation including taking timely and appropriate corrective actions when permit limits are exceeded. They also have process and discharge monitoring requirements to control treatment and comply with discharge permit requirements.
- Bioenvironmental Engineering (BEE). The BEE is responsible for monitoring wastewater discharge and stream water quality at selected locations around the installation.
- Individual Shop Supervisors and Superintendents. Individual shop supervisors and superintendents are responsible for ensuring that prohibited, unpermitted discharge of wastewater containing toxic or hazardous substances to the sanitary or stormwater systems does not occur from their shop in accordance with the base wastewater regulation.

F. Key Air Force/DOD Compliance Definitions

- *Combined Sewer* - a wastewater collection system that collects both stormwater and wastewater (AFI 32-7041, Attachment 1).
- *Combined Sewer Overflow (CSO)* - direct discharge of untreated wastewater from a combined sewer (AFI 32-7041, Attachment 1).
- *Lift Station* - a wastewater collection system that pumps wastewater from a gravity sewer to a sewer or treatment plant at a higher elevation (AFI 32-7041, Attachment 1).
- *Point Source* - any discernible confined and discrete conveyance from which pollutants are or may be discharged, excluding agricultural stormwater discharges and return flows from irrigated agricul-

ture. Point sources include: pipes, ditches, channels, tunnels, conduits, wells, discrete fissures, containers, rolling stock, concentrated animal feeding operations, landfill leachate connection systems, vessel or other floating crafts (AFI 32-7041, Attachment 1).

- *Stormwater Discharge Associated with Industrial Activity* - The discharge from any conveyance used for collecting and conveying stormwater directly to related to manufacturing, processing, or storing raw materials at an industrial plant. U.S. Environmental Protection Agency (USEPA) has categories of industrial activities that apply to Air Force installations, including (AFI 32-7041, Attachment 1):
 1. transportation facilities
 2. steam electric power generating facilities
 3. treatment works treating domestic sewage
 4. construction sites.

G. Additional Records To Review

- As Built Drawings

H. Additional Physical Features To Inspect

- Fire training pit
- Laboratory facilities

I. People To Interview

- Base Civil Engineering, including:
 - Environmental Coordinator
 - Collection, Treatment, and Distribution Facility Operators
- Bioenvironmental Engineering, Wastewater
- Wastewater Treatment Plant Superintendent
- Environmental Management
- Water, wastewater shop personnel for oil/water separators, and lift station operators



J. Guidance for Wastewater Management Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
All Installations	WA.1 through WA.4	12-7
Oil/Water Separators	WA.5	12-9
Discharges to POTWs/FOTWs	WA.6 through WA.9	12-11
POTW/FOTW Operations	WA.10 through WA.18	12-13
Fire Training Pit Discharges	WA.19 through WA.21	12-17



**COMPLIANCE CATEGORY:
WASTEWATER MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>WA.3. Bioenvironmental Engineering Services (BES) is responsible for developing and maintaining waste stream inventories and maintain a master record of all monitoring points (AFI 48-119, para 9.4.1 and 9.4.2).</p> <p>WA.4. The BES is required to conduct periodic evaluations of the treatment works' compliance with applicable standards (AFI 32-1067, para 4.4).</p>	<p>Verify that the BES is maintaining an inventory and a master record of monitoring points.</p> <p>(NOTE: Typical areas which might be included in the inventory and monitoring record include:</p> <ul style="list-style-type: none"> - battery shop - corrosion control - engine shop - motor pool - paint shop - plating shop - pesticide shop - petroleum, oil, and lubricant (POL) area - photo processing - wash racks - lift stations. <p>Verify that BES conducts periodic evaluations of pollution control facilities' compliance with applicable standards.</p>

**COMPLIANCE CATEGORY:
WASTEWATER MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
January 1995**

**OIL/WATER
SEPARATORS**

WA.5. Collected fuel, oil, grease, oily waste, solvents, cleaning compounds, or corrosion control facility wastes, or other contaminants cannot be discharged to oil/water separators (AFI 32-7041, para 2.10).

Verify that collected fuel, oil, grease, oil waste, solvents, cleaning compounds, or corrosion control facility waste is not being discharged to an oil/water separator by identifying which oil/water separators are located in areas that these types of wastes are generated, such as:

- corrosion control
- the paint shops
- motor pools
- aircraft maintenance
- print shops.

(NOTE: If the oil/water separator is hooked into the wastewater treatment works and the discharge of inappropriate substances is sufficient to create a problem at the treatment works, write up the finding under a Federal regulation as found in the section titled Discharges to POTWs/FOTWs.)

(NOTE: Adequately sized oil/water separators may be used to remove incidental releases of residual fuel, oil, grease and floatable other contaminants when dry cleanup methods are not feasible.)



**COMPLIANCE CATEGORY:
WASTEWATER MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>DISCHARGES TO POTWs/FOTWs</p> <p>WA.6. Installations are required to develop a base standard wastewater treatment procedure to govern the discharge of industrial and nondomestic waste to the sanitary system by generating activities (AFI 32-1067, para 7.3.2).</p> <p>WA.7. Generators are required to use pollution control techniques to minimize pollutant discharges (AFI 32-1067, para 7.3.2).</p> <p>WA.8. Hazardous waste may not be discharged to the collection system (AFI 32-1067, para 7.3.2).</p>	<p>Verify that the installation has a base standard wastewater treatment procedure to govern the discharge of industrial and nondomestic waste to the sanitary system by generating activities.</p> <p>Verify that BCE outlines procedures for discharging industrial wastes to the sanitary system.</p> <p>Verify that the procedures describe the following:</p> <ul style="list-style-type: none"> - pretreatment requirements - discharge procedures - effluent limitations for industrial waste. <p>(NOTE: The installation commander or the municipal waste water authority can impose these requirements.)</p> <p>Verify that generators follow the instructions given by BCE.</p> <p>Verify that generators of discharges minimize the discharge of pollutants using the pollution control techniques in AFI 32-7080.</p> <p>(NOTE: See applicable checklist items in the Pollution Prevention portion of the Other Environmental Issues Section.)</p> <p>Verify that no hazardous waste is discharged to the collection system.</p>

**COMPLIANCE CATEGORY:
WASTEWATER MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
January 1995**

WA.9. Wastewaters from operations which produce hazardous waste such as aircraft maintenance operations are required to meet pretreatment standards before being discharged to the wastewater treatment plant or be handled as hazardous waste (AFI 32-7041, para. 2.11).

Determine if wastewaters from hazardous waste producing activities such as aircraft maintenance are discharged to the FOTW/POTW.

Verify that discharging facilities are meeting any pretreatment standard assigned to the facility prior to discharge to the FOTW/POTW.

**COMPLIANCE CATEGORY:
WASTEWATER MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>POTW/FOTW OPERATIONS</p> <p>WA.10. Operators of water treatment plants and wastewater treatment plants are required to meet specific training requirements (AFI 32-1067, para 8.1).</p> <p>WA.11. Supervisors are required to meet specific safety training requirements for all employees (AFI 32-1067, para 9).</p>	<p>Verify that new operators receive classroom training and extensive supervised on-the-job training before being assigned to critical tasks.</p> <p>Verify that experienced personnel receive technical refresher courses and upgrade training.</p> <p>(NOTE: Training requirements may be met by one of the following means:</p> <ul style="list-style-type: none"> - AF training available through technical schools, career development correspondence courses, and on-the-job training - civilian training courses available at educational institutions, government agencies, and professional and technical associations - correspondence courses from accredited institutions for operators in areas that do not have local resident courses.) <p>Verify that all employees are familiar with the safety instructions in the following documents, as applicable:</p> <ul style="list-style-type: none"> - AFM 91-32, <i>Operation and Maintenance of Domestic and Industrial Wastewater Systems.</i> - AFOSH STD 127-10, <i>Civil Engineering.</i> - AFOSH STD 127-25, <i>Confined Spaces.</i> - AFOSH STD 161-21, <i>AF Hazard Communication Standard.</i> <p>Verify that the supervisor maintains current BES baseline and annual industrial hygiene survey reports.</p> <p>(NOTE: The supervisor should use these reports to train workers on occupational health hazards.)</p> <p>Verify that supervisors make safety instructions readily available to all operating personnel.</p> <p>Verify that supervisors train facility personnel on safety procedures and equipment and enforce their proper use at all times.</p> <p>(NOTE: Once trained, individual workers are personally responsible for following safe procedures.)</p>

**COMPLIANCE CATEGORY:
WASTEWATER MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>WA.12. Major treatment works are required to have plant-specific O&M manuals (AFI 32-1067, para 7.3.1).</p>	<p>Verify that the treatment works has plant-specific O&M manuals.</p> <p>(NOTE: Domestic and industrial wastewater treatment plants are the primary facilities covered by this instruction.)</p> <p>Verify that, if the activities are present on the installation, manuals specifically address the following areas of concern:</p> <ul style="list-style-type: none"> - metal finishing and electroplating - vehicle and aircraft was facilities - aircraft maintenance <ul style="list-style-type: none"> - paint stripping - nondestructive inspection - painting - solvent cleaning - battery shops - photo labs - hospitals - aircraft deicing - fire training. <p>Verify that facility manuals address the proper operation and maintenance of oil/water separators and lift stations.</p>
<p>WA.13. Operators of treatment works are required to prepare pollution control logs (AFI 32-1067, para 10.1.2).</p>	<p>Verify that operators prepare the following forms:</p> <ul style="list-style-type: none"> - AF Form 1462, <i>Water Pollution Control Utility Operating Log (General)</i> - AF Form 1463, <i>Water Pollution Control Plant Operating Log--Supplementary.</i>
<p>WA.14. Treatment facilities are required to keep specific information on hand at the facility (AFI 32-1067, para 10.2).</p>	<p>Verify that the following information is on hand and up to date at the facility:</p> <ul style="list-style-type: none"> - plant specific O&M manuals and applicable Air Force publications for each treatment system - system operating instructions with single line drawings, include operational and compliance monitoring procedures - as-built drawings along with other system plans and blueprints - shop drawings, catalogue cuts, and other equipment information or literature.

**COMPLIANCE CATEGORY:
WASTEWATER MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>WA.15. Maintenance records for the facility are required to be maintained (AFI 32-1067, para 10.3).</p>	<p>Verify that the facility develops and maintains a maintenance plan that includes the following:</p> <ul style="list-style-type: none"> - a recurring work schedule - a maintenance history for each major piece of equipment - an essential spare parts list - a long range maintenance and improvement plan.
<p>WA.16. Lift stations are required to be designed and operated to remain operable during power failures and have redundant pumps to provide adequate capacity for handling the flow when one pump is out of service (AFI 32-7041, para 2.5).</p>	<p>Verify that major lift stations provide stand-by power generations, portable power generators, or the use of two independent power sources at each stations.</p> <p>Verify that smaller lift stations provide a connection for a portable generator.</p> <p>Verify that sound and visual alarms are installed at pump stations to alert maintenance staff when pump failure occur.</p> <p>Verify that there are backup batteries or other emergency power sources to retain alarm data during power failure.</p> <p>Verify that there are redundant pumps to provide adequate pumping capacity for handling the maximum wastewater when one pump is out of service.</p>
<p>WA.17. Wastewater collection systems and pumping station are not allowed to bypass or permit overflow into storm sewers or surface water (AFI 32-7041, para 2.6.1).</p>	<p>Verify that the collection systems and pumping stations are designed so that bypass or overflow into storm sewers or surfaces waters is not possible.</p>
<p>WA.18. Installations are required to eliminate CSOs and unauthorized connections of industrial wastewater and floor drains from industrial shops to domestic wastewater collection systems (AFI 32-7041, para 2.6.1).</p>	<p>Verify that the installation has been eliminating CSOs and unauthorized connections of industrial wastewater and floor drains from industrial shops to domestic wastewater collection systems.</p>



**COMPLIANCE CATEGORY:
WASTEWATER MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>FIRE TRAINING PIT DISCHARGES</p> <p>WA.19. Installations with live fire training facilities that are connected to onsite wastewater treatment plants should discharge the effluent gradually to avoid adverse impact on the wastewater treatment plants (MP).</p> <p>WA.20. New live aircraft fire training facilities are required to be operated as zero discharge facilities (AFI 32-7041, para 2.9).</p> <p>WA.21. Only uncontaminated fuel may be used in live aircraft fire training exercises (AFI 32-7041, para 2.9).</p>	<p>Determine if there is an effective fuel and water separator.</p> <p>Verify that proper maintenance of the fuel and water separator is being done and look for visible discharge of fuel in the effluent.</p> <p>Determine if there are self-monitoring reports on fuel and water separators.</p> <p>Determine if onsite storage treatment of wastewater is done before discharging to on-base wastewater treatment plant or if it is discharged directly to surface water sources.</p> <p>Determine the status of the wastewater treatment plant discharge permit for compliance with permit requirements.</p> <p>Determine the type and quality of fuel used for fire training and verify that it is free from contaminant that can cause adverse environmental impact on the environment.</p> <p>Verify that new facilities have provisions for protecting the groundwater, including a groundwater monitoring system and double-lined basins with leak detection systems.</p> <p>Verify that regulatory approval was obtained prior to contract award for construction.</p> <p>Verify that only uncontaminated fuel is used in all live aircraft fire training exercises.</p>



Section 13

Water Quality Management (Air Force Supplement)

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SECTION 13

WATER QUALITY MANAGEMENT

A. U.S. Air Force Instructions (AFIs) and Policies

- AFI 32-1066, *Plumbing Systems*, 4 May 1994, provides guidance for personnel who maintain and operate plumbing systems on AF installations.
- AFI 32-1067, *Water Systems*, 25 March 1994, provides guidelines for managing water and wastewater systems at U.S. AF bases.
- AFI 48-119, *Medical Service Environmental Quality Program*, 25 July 1994, provides directive requirements for the Medical Service Environmental Quality Program and identifies responsibilities of participants in that program at U.S. AF bases.
- Air Force Regulation (AFR) 91-26, *Maintenance and Operation of Water Supply, Treatment, and Distribution Systems*, 30 August 1984, provides guidance for personnel who maintain and operate water supply, treatment, and distribution systems on AF installations.
- HQ USAF/SG Policy Letter, *Water Testing in Child Development Centers (CDC)*. This letter, dated 21 October 1992, expands and clarifies the requirements for the monitoring of drinking water at Air Force Child Development Centers (CDC).
- Air Force Manual (AFM) 91-32, *Operation and Maintenance of Domestic and Industrial Wastewater Systems*, specifies detailed operation and maintenance guidelines and requirements for water pollution control plants on AF installations. In particular, requirements for maintenance of operating logs, maps, and records are specified in these AFMs.

B. Department of Defense (DOD) Directives and Instructions

- DOD Directive 6230.1. This directive of 24 April 1978 sets forth DOD policy for provisions of adequate safe drinking water and compliance with the *Safe Drinking Water Act (SDWA)* and the standards established by 40 Code of Federal Regulations (CFR) 141.

C. Using the TEAM Guide for ECAMP

- No additional instructions.

D. Key Air Force/DOD Compliance Requirements

- Backflow Prevention - Installations are required to have a Backflow Program Manager. A survey of the installation plumbing devices and systems every 5 yr. Bioenvironmental Engineering Services (BES) assign a degree of hazard to each cross-connection using the Uniform Plumbing Code (UPC). Only approved backflow prevention devices may be used. There is required to be an inventory of all backflow prevention devices.

- Operation Of Drinking Water Systems - Water treatment plant operators must be trained and certified. Each separate water source is required to have a meter and a raw water sampling point. Each active well should have an air line or electric depth gauge. Only flux and solder with less than 0.2 percent lead can be used and pipes and pipe fittings are required to contain less than 8 percent lead.
- Water Supply System Documentation - Water treatment facilities are required to prepare a monthly report of daily operations data reports using AF Form 1461 and 1460. They are also required to create a yearly operating report. When maximum contaminant levels (MCLs) are exceeded, specific personnel at the installation must be notified.
- Child Development Centers (CDC) - Drinking water at CDCs is required to be sampled monthly.

E. Key Compliance Personnel

- Armstrong Lab. Armstrong Lab, Brooks Air Force Base, Texas, provides services to complete all required laboratory, chemical, physical, and radiological analyses for drinking water. Armstrong Lab maintains a potable water quality data repository of the last 10 yr and disseminates analytical results as required to the using activities and commands.
- Director of Base Medical Services. Director of Base Medical Services, through the BEE Section, is responsible for proper sample collection from drinking water systems at Air Force installations and determining compliance with drinking water standards. Coordination with Armstrong Lab, interpretation of results of water analyses, and notifications to state regulatory authorities when MCLs are exceeded are also the responsibilities of the Director of Base Medical Services.
- Base Civil Engineer (BCE). The BCE designs, constructs, and operates the water supply system to provide sufficient drinking water to installation personnel. The BCE is responsible for providing adequate water treatment to assure drinking water does not exceed the maximum contaminant levels established under primary drinking water regulations. Training of operating personnel to meet proficiency levels consistent with the operator certification requirements that apply to their location is also the responsibility of the BCE. The BCE maintains an up-to-date map of the complete potable water system, makes repairs, and maintains the systems. The BCE is also responsible for negotiating and maintaining the base's water supply contract.

F. Key Air Force/DOD Compliance Definitions

- None

G. Additional Records To Review

- Records, including any petition for review, of facility projects that may potentially cause contamination of a sole source aquifer through its recharge zone
- Equipment calibration records

H. Additional Physical Features To Inspect

- Onsite laboratory analysis facilities
- Aircraft watering points

I. People To Interview

- Base Civil Engineering, including:
 - Environmental Coordinator
 - Collection, Treatment, and Distribution Facility Operators
- Bioenvironmental Engineering
- Environmental Management

J. Guidance for Water Quality Management Checklist Users

	REFER TO CHECKLIST ITEMS:	REFER TO PAGE NUMBER:
All Installations	WQ.1 through WQ.3	13-7
Backflow Prevention	WQ.4 through WQ.15	13-9
Water Supply Systems		
Training	WQ.16 and WQ.17	13-13
Operations	WQ.18 through WQ.20	13-15
Documentation	WQ.21 through WQ.28	13-17
Child Development Centers (CDCs)	WQ.29 through WQ.33	13-19



**COMPLIANCE CATEGORY:
WATER QUALITY MANAGEMENT
U.S. TEAM Guide: ECAMP Supplement**

**REGULATORY
REQUIREMENTS:**

**REVIEWER CHECKS:
January 1995**

ALL INSTALLATIONS

WQ.1. Copies of all relevant Federal, state, and local regulations on water quality should be maintained at the installation (MP).

Determine if the following are current and readily available:

- EO 12088, *Federal Compliance With Pollution Standards.*
- 40 CFR 141, *National Primary Drinking Water Regulations.*
- 40 CFR 149, *Sole Source Aquifers.*
- AFI 32-1066, *Plumbing Systems.*
- AFI 32-1067, *Water Systems.*
- AFR 91-26, *Maintenance and Operation of Water Supply, Treatment, and Distribution Systems.*
- HQ USAF/SG Policy Letter, *Water Testing in Child Development Center (CDC)*, 21 October 1992.
- applicable state and local requirements

Verify that the Base Staff Judge Advocate reviews Federal, state, and local regulations that may affect ongoing and proposed activities and keeps the EPC informed as needed.

WQ.2. Installations are required to use municipal or regional water supply systems where feasible (AFI 32-1067, para 2).

Verify that the installation uses a municipal or regional water system where feasible.

Verify that a life cycle cost analysis is performed to determine the most cost-effective approach.

WQ.3. Bases are required to not have dual water supply systems for potable and nonpotable water unless certain conditions have been met (AFI 32-1067, para 12.1).

Verify that the following conditions are met by bases with dual water supply systems:

- BCE establishes and maintains a clearly defined separation of the two systems so that nonpotable water cannot contaminate the potable water system
- the systems have approved backflow prevention devices to prevent contamination of potable water
- the Major Command (MAJCOM) approves the dual system before construction and operation
- connections between systems are avoided.



**COMPLIANCE CATEGORY:
WATER QUALITY MANAGEMENT
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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: January 1995
<p>BACKFLOW PREVENTION</p> <p>WQ.4. Installations are required to have a Backflow Program Manager who fulfills specific responsibilities (AFI 32-1066, para 6, 8, and 12.2).</p> <p>WQ.5. The installation's Backflow Program Manager is required to conduct a facility survey of plumbing devices and systems every 5 yr (AFI 32-1066, para 8 and 12.1).</p> <p>WQ.6. BES is required to fulfill particular responsibilities with regard to cross-connections (AFI 32-1066, para 9).</p>	<p>(NOTE: Except for laboratory sinks and sinks with hose threaded faucets, backflow preventers integral to a standard plumbing fixture do not come under this program.)</p> <p>Verify that an engineer or appropriate supervisor has been appointed the Backflow Program Manager.</p> <p>Verify that the Backflow Program Manager:</p> <ul style="list-style-type: none"> - maintains an aggressive program to identify, isolate, record, and correct cross-connections and other potential sources of distribution system contamination - makes sure plumbing personnel can properly test, install, maintain, and repair backflow prevention device. - identifies and forecasts training requirements for BCE personnel - reviews all plans and drawings of new or modified water systems to identify potential cross-connections - maintains inspection records and the status of installation and upgrade actions. <p>Verify that the Backflow Program Manager conducts a facility survey of plumbing devices and systems every 5 yr.</p> <p>Verify that records are updated to reflect the results of the survey.</p> <p>(NOTE: Military family housing is excluded from the survey unless underground sprinkler systems are installed.)</p> <p>(NOTE: The Backflow Program Manager coordinates the surveys with BES.)</p> <p>Verify that survey personnel locate backflow prevention devices, assess their adequacy, and determine the need for more devices.</p> <p>(NOTE: This information is used to determine potential or existing cross-connections and the degree of hazard they present.)</p> <p>Verify that the results of the survey are recorded on AF Form 848, <i>Inventory of Cross-Connection Control and Backflow Prevention Devices</i>.</p> <p>Verify that BES assigns a degree of hazard to each cross-connection, using the UPC.</p> <p>Verify that BES reviews plans for water system modification to prevent cross-connections and to identify existing cross-connections or other potential sources of contamination or pollution and recommends corrective action.</p>

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<p>WQ.7. BCE personnel are required to eliminate the potential for cross-connections (AFI 32-1066, para 11).</p>	<p>Verify that the potential for cross-connection is eliminated.</p> <p>Verify that, if elimination is not feasible, approved prevention devices are installed.</p> <p>Verify that the devices installed prevent contamination of potable water supplies that are susceptible to backpressure or back-siphonage from fixtures, equipment, appliances, or buildings.</p> <p>Verify that, if the potable water supply is critical, approved backflow preventers are installed in parallel to allow maintenance or repair without system shutdown.</p>
<p>WQ.8. Installations are required to take specific actions with regard to existing backflow protection devices (AFI 32-1066, para 12.5).</p>	<p>Verify that existing backflow prevention devices are identified during the survey by a control number.</p> <p>Verify that unapproved devices are replaced in priority depending on the degree of hazard and without waiting for the devices to fail.</p> <p>(NOTE: MAJCOM/CE may be contacted for help when uncertain about a device's category or level of protection.)</p>
<p>WQ.9. Severe cross-connections are required to be eliminated immediately (AFI 32-1066, para 12.2).</p>	<p>Verify that severe cross-connections are eliminated immediately.</p>
<p>WQ.10. Installations are required to meet specific requirements with regard to backflow prevention on new dry/wet fire suppression systems (AFI 32-1066, para 12.6).</p>	<p>Verify that double check valve backflow preventers are installed on new dry/wet fire suppression systems that use only water as a fire suppressant.</p> <p>Verify that a reduced pressure type backflow device is used where antifreeze or other hazardous chemicals are added.</p> <p>Verify that backflow preventers are approved and listed for fire protection use by acceptable testing agencies such as Underwriters' Laboratories or Factory Mutual.</p>
<p>WQ.11. Backflow prevention retrofit work is required to be performed when fire suppression systems are down for major renovation (AFI 32-1066, para 12.6).</p>	<p>Verify that backflow prevention retrofit work is performed when systems are down for major renovation.</p> <p>(NOTE: This requirement is waived if a threat dictates that the work be performed sooner.)</p>

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<p>WQ.12. Technicians who test and maintain backflow prevention devices are required to be certified by MAJCOM (AFI 32-1066, para 14 and 15).</p>	<p>Verify that MAJCOM-certified technicians perform tests, inspections, and maintenance of backflow prevention devices.</p> <p>(NOTE: Current certificates using forms other than AF Form 483, <i>Certificate of Competency</i>, are valid until they expire.)</p> <p>Verify that technicians are recertified by MAJCOM every 3 yr.</p>										
<p>WQ.13. Tests and inspections of backflow devices are required to be conducted on a schedule established by the Backflow Prevention Manager (AFI 32-1066, para 13).</p>	<p>Verify that the Backflow Prevention Manager has established a schedule for testing and inspecting all backflow devices, including air gaps.</p> <p>Verify that the frequency of testing, inspection, and overhaul of each devices is established with due regard to the age, condition, and degree of hazard each prevents.</p> <p>(NOTE: The inspecting and testing schedule should be part of the recurring work program.)</p> <p>Verify that overhauls are performed according to manufacturer recommendations.</p> <p>(NOTE: The following are recommended time intervals for inspection of backflow prevention devices.</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">If the Degree of Hazard is:</th> <th style="text-align: left;">Inspect Device Every:</th> </tr> </thead> <tbody> <tr> <td style="padding-left: 40px;">Minor</td> <td>24 mo</td> </tr> <tr> <td style="padding-left: 40px;">Moderate</td> <td>24 mo</td> </tr> <tr> <td style="padding-left: 40px;">Severe</td> <td>6 mo</td> </tr> <tr> <td style="padding-left: 40px;">(Air Gap)</td> <td>12 mo.)</td> </tr> </tbody> </table>	If the Degree of Hazard is:	Inspect Device Every:	Minor	24 mo	Moderate	24 mo	Severe	6 mo	(Air Gap)	12 mo.)
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<p>WQ.14. Certain tasks are required to be conducted in the course of inspections of cross-connections (AFI 32-1066, paras 13.1, 13.2, and 13.3).</p>	<p>Verify that certified backflow inspectors inspect all cross-connections to make sure that:</p> <ul style="list-style-type: none"> - there is an approved air gap - the backflow prevention devices are in good condition - newly installed devices were installed correctly and are free of debris that could interfere with their functioning. <p>Verify that newly installed devices are inspected within 1 week of installation and a follow-up inspection is performed 3 mo later.</p> <p>Verify that all devices are tested in accordance with the UPC, the <i>UPC Illustrated Testing Manual</i>, or the manufacturer's instructions.</p> <p>Verify that defective devices are repaired and retested or replaced.</p>										



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<p>WATER SUPPLY SYSTEMS</p> <p>Operations</p> <p>WQ.18. Each separate water supply source is required to have a water meter and a raw water sampling point (AFI 32-1067, para 6).</p> <p>WQ.19. Each active well should have an air line or electric depth gauge to measure draw-down, static level, and pumping level (MP).</p> <p>WQ.20. Installations are required to use only lead-free pipe, solder, flux, and fittings when installing or repairing drinking water systems for drinking water (AFI 32-1067, para 12.4).</p>	<p>Verify that each separate water supply source has a water meter and a raw water sampling point for water quality monitoring.</p> <p>Verify that each active well has an air line or electric depth gauge to measure draw-down, static level, and pumping level. (NOTE: This MP is drawn from AFI 32-1067, para 6.)</p> <p>Verify that only flux and solder with less than 0.2 percent lead is used.</p> <p>Verify that pipes and pipe fittings contain less than 8 percent lead.</p>



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<p>WATER SUPPLY SYSTEMS</p> <p>Documentation</p> <p>WQ.21. Installations are required to develop, publish, and periodically update procedures for operating their water systems during emergencies (AFI 32-1067, para 13).</p> <p>WQ.22. BCE is required to develop local operating instructions that address specific topics (AFI 32-1067, para 4.3)</p> <p>WQ.23. Water treatment logs are required to be prepared (AFI 32-1067, para 10.1.1).</p> <p>WQ.24. Water treatment facilities are required to manage logs and reports in accordance with specific requirements (AFI 32-1067, para 10.1).</p>	<p>Verify that an emergency contingency plan is in place and is periodically updated.</p> <p>Verify that BCE has developed local operating instructions that include the following:</p> <ul style="list-style-type: none"> - operational monitoring for process control - sampling and testing procedures - emergency operations - maintenance - regulatory compliance requirements. <p>Verify that operators prepare AF Form 1461, <i>Water Utility Operating Log (General)</i>.</p> <p>Verify that, if the water requires more than minor treatment, AF Form 1460, <i>Water Utility Operating Log (Supplemental)</i>, is prepared.</p> <p>Verify that daily operating logs and laboratory records are prepared for in-plant use.</p> <p>(NOTE: Computer files and printouts like the Working Information Management System (WIMS) operating logs are acceptable if they have the same information as the forms.)</p> <p>Verify that permanent records of the printouts are kept as if they were forms.</p> <p>Verify that backup copies of the active computer files are maintained to protect them against accidental loss.</p> <p>Verify that operating logs or computer files are posted daily (covering one month's operation) in neat legible form.</p> <p>Verify that the original form or computer printout is kept for the BCE permanent file.</p>

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<p>WQ.25. Specific records are required to be maintained for wells and pumping stations (AFI 32-1067, para 10.1.1.2 and 10.2).</p>	<p>Verify that AF Form 996, <i>Well Data</i>, is completed and a file kept for each well, beginning with initial construction.</p> <p>Verify that the information is updated after completing a repair, redeveloping a well, or conducting a performance test.</p> <p>Verify that the following daily operating records are maintained for wells and pumping stations:</p> <ul style="list-style-type: none"> - AF Form 997, <i>Daily Well Activity Record</i>. - AF Form 998, <i>Daily Pumping Station Activity Record - Water</i>.
<p>WQ.26. Specific physical facility information is required to be developed, maintained, and kept available at drinking water facilities (AFI 32-1067, para 10.2).</p>	<p>Verify that the following information is developed, maintained, and kept available at the treatment facilities:</p> <ul style="list-style-type: none"> - required plant-specific O&M manuals and applicable AF publications - system operating instructions with single-line drawings, including operational and compliance monitoring procedures - up-to-date system as-built drawings along with other system plans and blueprints, including hydraulic water elevation profiles and a drawing of the entire collection and distribution systems - AF Form 996, <i>Well Data</i> - shop drawings, catalogue cuts, and any other equipment information or literature.
<p>WQ.27. Installations are required to develop and maintain effective maintenance plans that address specific topics (AFI 32-1067, para 10.3).</p>	<p>Verify that the installation develops and maintains effective maintenance plans that include:</p> <ul style="list-style-type: none"> - a recurring work schedule - a maintenance history for each major piece of equipment - an essential spare parts list, with spare parts stocked at the treatment facility or other accessible location - a long-range maintenance and improvement plan.
<p>WQ.28. Installations are required to notify the MAJCOM/CE when the potable water supply becomes contaminated (AFI 32-1066, para 6).</p>	<p>Verify that MAJCOM/CE is notified when the potable water supply becomes contaminated.</p>

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<p>CHILD DEVELOPMENT CENTERS (CDCs)</p> <p>WQ.29. Drinking water at CDCs is required to be sampled monthly (HQ USAF/SG Policy Letter, 21 October 1992, paras 1 and 4).</p> <p>WQ.30. BES and CDC Directors are required to coordinate certain efforts (HQ USAF/SG Policy Letter, 21 October 1992, para 2).</p> <p>WQ.31. The Director of the CDC is required to notify BES of certain activities (HQ USAF/SG Policy Letter, 21 October 1992, para 2).</p> <p>WQ.32. Certain taps are required to be taken out of service and resampled (HQ USAF/SG Policy Letter, 21 October 1992, para 3).</p> <p>WQ.33. BES is required to perform sampling in accordance with LCCA guidance under certain circumstances (HQ USAF/SG Policy Letter, 21 October 1992, para 3).</p>	<p>Verify that the drinking water at CDCs is sampled monthly.</p> <p>Verify that bacteriological sampling is accomplished monthly.</p> <p>(NOTE: Chemical sampling is generally accomplished once every 3 yr.)</p> <p>Verify that BES and the CDC Director coordinate the following:</p> <ul style="list-style-type: none"> - determine whether <i>Lead Contamination Control Act (LCCA)</i> sampling was thorough and complete - review records to ensure that identified corrective actions to remove sources of lead contamination were completed - ensure that Lead Assessment Program analytical results for drinking water lead concentrations are on file in the CDC administrative office. <p>Verify that BES is notified prior to the opening of a new CDC facility and when plumbing lines or fixtures are added or replaced.</p> <p>Verify that taps with lead concentrations exceeding 20 ppb are taken out of service and resampled.</p> <p>Verify that remediation is accomplished when successive sample results exceed 20 ppb.</p> <p>Verify that BES performs sampling in accordance with LCCA guidance when metallic materials are used in CDC plumbing systems.</p>

