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INTERNAL ENVIRONMENTAL PROTECTION AUDITS:
A SUGGESTED GUIDE FOR U.S. DEPARTMENT
OF ENERGY FACILITIES

by

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1 INTRODUCTION

U.S. Department of Energy (DOE) operations and DOE contractors must comply with a variety of environmental regulations. New and changing regulations in the areas of toxic substances control, hazardous waste management, and clean-up of old disposal sites have added some extremely complex requirements for compliance.

In response to these regulations, DOE Order 5482.1A, Environmental, Safety, and Health Appraisal Program, dated 13 August 1981, establishes the basic requirements within DOE for conducting both functional and managerial appraisals of environmental protection. Within this procedural framework, each DOE facility should conduct an annual internal audit to determine the degree of the facility's compliance with environmental protection regulations and to identify potential noncompliance situations and future problem areas.

USE OF THIS MANUAL

This manual has been prepared for use by any DOE facility as an aid for conducting an internal environmental-protection audit. The manual is organized in modular format, with each module covering a separate area of environmental protection. Each module has been structured as a checklist so the facility need not spend extensive time and effort developing narrative responses. For those questions that require a written response, the reviewer is expected to supply only sufficient information to clarify an answer. Space is provided at the end of each module for the reviewer to suggest remedial actions and identify any additional problems.

The questions within each module were developed from existing DOE orders, executive orders, federal statutes, and Environmental Protection Agency (EPA) regulations issued pursuant to specific environmental legislation. A bibliography of such legislation is included at the end of this section.

In addition to questions about compliance with specific environmental regulations, each module also includes questions about a facility's use of industrial "standards of practice." If not reviewed periodically, facilities could fail to adhere to such standards. This failure, in turn, could lead to noncompliance. Standards of practice include maintenance of pollution control equipment, maintenance of diagrams of all discharge points into a facility's sewer system and cross-connections between potable water lines and process water feed lines, and other prudent actions or reviews that can reasonably be undertaken by any facility to ensure compliance with environmental regulations.

Most of the questions have been developed so that an introductory question is followed by one or more subquestions that ask for more details. A negative response to the general question usually means that the subquestions need not be answered. For example:

	<u>Yes</u>	<u>No</u>
4 Are outside contracted services used for solid waste collection?	[]	[]
4.1 Is a copy of the hauler's current state license on file?	[]	[]
4.2 Has the county or state regulatory agency been contacted to see if there are any problems, concerns, or complaints regarding the hauler?	[]	[]
4.3 Has the hauler been followed to see if the proper disposal site is used?	[]	[]

A "No" response to question 4 would preclude the need to respond to questions 4.1, 4.2, and 4.3. In cases where a "No" response would require an additional response, either by answering subquestions or providing a short narrative explanation, the subquestions include specific directions, such as "If not, explain."

Finally, most modules have introductory questions to determine if the module is pertinent to the facility. If it is not, the reviewer is directed to the next module.

ANNOTATED BIBLIOGRAPHY

1. Executive Order 12,088, Federal Compliance with Pollution Control Standards. Orders federal facilities and activities to comply with applicable pollution control standards and procedures.
2. Office of Management and Budget Circular A-106, Reporting Requirements in Connection with the Prevention, Control, and Abatement of Environmental Pollution at Existing Federal Facilities (Dec. 31, 1974). Provides procedures to be followed by federal agencies in carrying out the provision of Executive Order 12,088.
3. U.S. Department of Energy Order 5440.18, Implementation of the National Environmental Policy Act (May 14, 1982). Ensures compliance with applicable requirements of the NEPA.

4. U.S. Department of Energy Order 5472.1, Strategic Petroleum Reserve Oil Spill Reporting Requirements (July 6, 1979). Implements the requirement to report oil spills as it applies to Strategic Petroleum Reserve oil and sets forth policy, procedures, and responsibilities for reporting Strategic Petroleum Reserve oil spills.
5. U.S. Department of Energy Order 5480.1, Environmental Protection, Safety, and Health Protection Program for DOE Operations (Aug. 13, 1981).
 - (a) Chapter I. Environmental Protection, Safety, and Health Protection Standards. Sets forth the environmental protection standards applicable to all DOE operations.
 - (b) Chapter XI. Requirements for Radiation Protection. Establishes radiation protection standards and requirements for DOE contractor operations.
 - (c) Chapter XII. Prevention, Control, and Abatement of Environmental Pollution. Establishes requirements for DOE operations to assure control of pollution sources and compliance with federal environmental protection laws.
6. U.S. Department of Energy Order 5480.2, Hazardous and Radioactive Mixed Waste Management (Dec. 13, 1982). Establishes hazardous-waste management practices and procedures for facilities operated under authority of the Atomic Energy Act (AEA). To the extent practicable, the procedures follow regulations issued by the U.S. Environmental Protection Agency pursuant to the Resource Conservation and Recovery Act (RCRA). However, DOE has taken the position that AEA facilities are not necessarily bound by RCRA requirements.
7. U.S. Department of Energy Order 5482.1A, Environmental, Safety, and Health Appraisal Program (Aug. 13, 1981). Establishes policies, procedures, and responsibilities for appraisal of the environmental, health, and safety programs of DOE operations and activities.
8. U.S. Department of Energy Order 5484.1, Environmental Protection, Safety, and Health Protection Information Reporting Requirements (Aug. 13, 1981).
 - (a) Chapter I. Notification of Occurrences. Outlines types of occurrences at DOE contractor operations that must be reported to the Headquarters Emergency Operations Center immediately or within 72 hours.
 - (b) Chapter II. Investigation Requirements. Defines levels of investigation required for different occurrences, standards for investigation, and corrective actions to be taken by DOE.

- (c) Chapter III. Effluent and Environmental Monitoring Program Requirements. Sets forth requirements and procedures for monitoring effluents and conducting environmental surveys for new and existing sites, processes, and facilities.
 - (d) Chapter IV. Environmental Protection, Safety, and Health Protection Reports. Defines content, reporting frequency, and report recipient requirements for reports on investigations, effluent monitoring, environmental surveys, and safety and health protection.
- 9. U.S. Department of Energy Order 5484.2, Unusual Occurrence Reporting System (Aug. 13, 1981). Sets forth policy, assigns responsibility, and provides criteria and instructions for a system of (1) reporting unusual occurrences that have programmatic significance to DOE operations, (2) analyzing the information reported, and (3) disseminating the analysis results.
 - 10. U.S. Department of Energy Order 5500.2, Emergency Planning, Preparedness, and Response for Operations (Aug. 13, 1981). Provides for the coordination and direction of DOE planning response to operational emergencies in which there is a potential for personal injury; destruction of property; theft; or release of toxic, radioactive, or other hazardous materials that present a potential threat to health, safety, or the environment.
 - 11. U.S. Department of Energy Order 5820, Radioactive Waste Management (Interim Draft) (March 25, 1983). Establishes policies and guidelines by which DOE manages its radioactive waste, radioactive waste by-products, and radioactively contaminated surplus or excess facilities.
 - 12. U.S. Department of Energy Order 5500.3, Reactor and Nonreactor Nuclear Facility Emergency Planning, Preparedness, and Response Program for DOE Operation (Aug. 13, 1981).
 - 13. U.S. Department of Energy Order 5500.4, Public Affairs Policy and Planning Requirements for Emergencies (Aug. 13, 1981).
 - 14. U.S. Department of Energy Order 5610.1, Packaging and Transporting of Nuclear Explosives, Nuclear Components, and Special Assemblies (Sept. 11, 1979).
 - 15. Executive Order 11,988, Floodplain Management (May 24, 1977). Orders each federal agency to evaluate the potential effects of any actions it may take in a floodplain and whether any proposed action would occur within a floodplain.
 - 16. Executive Order 11,990, Protection of Wetlands (May 24, 1977). Orders each agency to minimize the destruction, loss, and degradation of

wetlands and avoid new construction in wetlands wherever there is a practical alternative.

17. Executive Order 11,870, Environmental Safeguards on Activities for Animal Damage Control on Federal Lands (July 18, 1975). Orders each agency that manages federal lands to maintain the environmental quality of the land when implementing mammal or bird control programs.
18. The following federal laws enacted for the protection of the environment, and the applicable current federal regulations issued pursuant thereto:
 - (a) National Environmental Policy Act.
 - (b) Comprehensive Environmental Response, Compensation, and Liability Act of 1980.
 - (c) Clean Air Act.
 - (d) Resource Conservation and Recovery Act of 1976.
 - (e) Federal Water Pollution Control Act.
 - (f) Rivers and Harbors Act of 1899 (Refuse Act).
 - (g) Marine Protection, Research, and Sanctuaries Act of 1972.
 - (h) Safe Drinking Water Act.
 - (i) Federal Insecticide, Fungicide and Rodenticide Act.
 - (j) Surface Mining Control and Reclamation Act of 1977.
 - (k) Coastal Zone Management Act of 1972.
 - (l) Endangered Species Act of 1973.
 - (m) Fish and Wildlife Coordination Act.
 - (n) Wild and Scenic Rivers Act.
 - (o) Soil and Water Resources Conservation Act of 1977.
 - (p) Toxic Substances Control Act.

2 GENERAL FACILITY INFORMATION

Yes No

- 1 Name and location of facility:

1.1 Name: _____

1.2 Address: _____

1.3 County: _____

1.4 Copy of location map attached? [] []

1.5 Copy of plot plan attached? [] []

- 2 Name of operator:

2.1 Name: _____

2.2 Address: _____

2.3 Telephone no.: _____

2.4 Contact person: _____

2.5 Alternate contact person: _____

- 3 Environmental contact person at facility:

3.1 Name: _____

3.2 Title:

3.3 Telephone no.:

- 4 This review date:

4.1 Previous review date:

5 Explain the nature of operations at this facility: _____

6 List all personnel with environmentally related responsibility:

<u>Name</u>	<u>Telephone Number</u>	<u>Area or Department of Responsibility</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

7 List all personnel who are involved in completing this internal audit:

<u>Name</u>	<u>Area or Department of Responsibility</u>	<u>Audit Responsibility</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

	<u>Yes</u>	<u>No</u>
8 Has the facility forecast any major environmentally related expenditures (i.e., over \$100,000) to be required over the next 36 months?	[]	[]
8.1 Has the appropriate DOE Field Office been notified?	[]	[]
8.2 Will this expenditure require an increase in manpower?	[]	[]
9 Are there any future facility programs or plans (e.g., for new buildings, equipment, manufacturing facilities, research facilities, or major modifications to existing facilities) that will affect the environment?	[]	[]

Explain: _____

Yes No

- 10 Has this facility recently installed, or is it presently evaluating, any innovative pollution treatment or control technology? [] []

Describe: _____

- 11 Are any future or proposed federal, state, or local regulations (e.g., sewer discharge limits, state requirements) of concern to this facility? [] []

Explain: _____

- 12 Are any special or unusual environmental control methods or equipment in use that might be applicable to other DOE facilities? [] []

Describe: _____

- 13 Has any federal, state, or local regulatory agency inspected the facility within the last review period? [] []

Describe inspection and results: _____

- 14 List all approved and forecast appropriations or projects related to environmental control: _____

Yes No

- 15 Is this facility operated by contract to DOE?

15.1 Is more than one contractor operating the facility?

[] []

15.2 Number of contractors: _____

Name of prime contractor: _____

- 16 Is this facility a state or public university or school under contract to DOE for research studies?

[] []

- 17 List other general facility information that relates to environmental management and control programs:

3 COMPLIANCE SCHEDULE

	<u>Yes</u>	<u>No</u>
1 Is this facility in violation of any applicable federal, state, or local pollution control standard, code, or regulation?	[]	[]
1.1 Has an internal plan been prepared to achieve compliance?	[]	[]
1.2 Has the plan been submitted to the applicable DOE Field Office?	[]	[]
1.3 Has the plan been accepted into the DOE budget cycle?	[]	[]
1.4 Has Congress appropriated and authorized funding for this plan?	[]	[]
2 Does this facility have any existing compliance schedule orders with a regulatory agency for construction of a control system or facility?	[]	[]
2.1 List with compliance date: _____ _____ _____ _____		
2.2 Does the facility have a tracking system to monitor compliance schedule progress?	[]	[]
Describe: _____ _____ _____ _____		
2.3 Are the compliance schedule milestones being met?	[]	[]
If not, explain: _____ _____ _____ _____		

Yes No

- 3 Does this facility have existing consent orders with a regulatory agency to construct, modify, or add to any environmental control system or facility? [] []

3.1 List with compliance date: _____

- 3.2 Does the facility have a tracking system to monitor progress under the terms of the consent order? [] []

Describe: _____

- 3.3 Are the consent order terms and milestones being met? [] []

If not, explain: _____

- 4 Does this facility have any agreements with a regulatory agency (other than compliance schedules and consent orders) to construct, modify, or add to any environmental control system or facility? [] []

4.1 Describe: _____

- 4.2 Does the facility have a tracking system to monitor progress under terms of the agreement? [] []

Describe: _____

	<u>Yes</u>	<u>No</u>
--	------------	-----------

4.3 Are terms of the agreement being met?

☐	☐
--------------------------	--------------------------

If not, explain: _____

- 5 Is the facility currently involved in discussions or negotiations with any regulatory agency on an environmental problem, noncompliance situation, or complaint?

☐	☐
--------------------------	--------------------------

Explain: _____

- 6 Has this facility had a compliance order, consent degree, or agreement with any regulatory agency within the last three years?

☐	☐
--------------------------	--------------------------

List with date of final compliance: _____

- 7 Exclusive of regulatory agencies, does this facility have any ongoing projects that will involve any part of its environmental control system?

☐	☐
--------------------------	--------------------------

7.1 Describe the nature of the project: _____

- 7.2 Does the project have a tracking system for milestones?

☐	☐
--------------------------	--------------------------

Describe: _____

	<u>Yes</u>	<u>No</u>
7.3 Are project milestones being met?	[]	[]
If not, explain: _____		

8 Exclusive of regulatory agencies, does this facility have any plans for projects that will involve any part of its environmental control system?	[]	[]
8.1 Describe the nature of the planned project:		

8.2 Has this project been approved by facility management?	[]	[]
Provide dates for facility submittal of plan to headquarters: _____		

8.3 Have expenditures for this project been authorized?	[]	[]
Describe nature of authorization: _____		

8.4 Will this project receive any outside agency support?	[]	[]
Describe nature of support with pertinent cost codes: _____		

9 Has this facility received any environmentally related complaints (e.g., odors, smoke, taste in water, etc.) from any individual, group, or community?	[]	[]

9.1 Nature of complaint: _____

Yes No

9.2 Does the facility have a formal procedure for handling complaints?

[] []

9.3 Describe: _____

9.4 Are these complaints transmitted to the appropriate DOE Field Office?

[] []

9.5 Is a file maintained on all complaints and their resolution?

[] []

10 Does this facility maintain a file containing all DOE orders relating to environmental compliance?

[] []

List title and number for DOE orders on file: _____

11 Does this facility meet the requirements of the DOE order requiring yearly environmental reports?

[] []

12 Does this facility maintain a file containing all field office directives and supplemental memos pertinent to DOE environmental orders?

[] []

List dates and originators of directives and memos: _____

- 13 Provide any additional relevant information on compliance problems and give recommendations for their resolution.

4 NONRADIOACTIVE AIR POLLUTION

GENERAL INFORMATION

	<u>Yes</u>	<u>No</u>
1 Does this facility have any nonradioactive air pollutant emissions?	[]	[]
1.1 Did they exist during the past review period?	[]	[]
1.2 Are they anticipated to start up within the next three years?	[]	[]

If the answers to both 1.1 and 1.2 are no, continue with Module 5 (p. 28).

POINT SOURCES

2 Has an inventory or survey of existing or planned point source emissions been completed?	[]	[]
2.1 Complete a data sheet (see Fig. 1 for sample) for each regulated air pollution source; include data for other unregulated sources or pollutants if available. (Alternatively, list report or document where this information is recorded and available for inspection.)		
2.2 Does the facility survey include determination of possible emissions of any of the following materials for which federal standards have been promulgated?	[]	[]
2.2.1 Asbestos	[]	[]
2.2.2 Beryllium	[]	[]
2.2.3 Mercury	[]	[]
2.2.4 Vinyl chloride	[]	[]
2.2.5 Other toxic substances regulated by state air pollution air control agency (list): _____	[]	[]
_____		
_____		
_____		

If the answers for any of the above are yes, include such information on the data sheets.

SUMMARY OF REGULATED AND UNREGULATED POLLUTANT SOURCES FROM FACILITY SURVEY^a

Process or Source: _____ Installation Permit^b: Yes [] No [] N/A []

Date of Installation or Modification: _____ Operation Permit: Yes [] No [] N/A []

Process Capacity (e.g., Btu/hr, lb/hr) _____ Average Annual Utilization
as Percent of Capacity _____

Pollutant	Code Limitation ^c	Regulatory Agency	Is Source in Compliance (Yes, No, N/A)	Are Emissions Determined by Calculation or Test? (Calc., Test)	Are Emissions Controlled? (Yes, No)	Change from Previous Audit (Yes, No)	Comments

^aInclude separate sheet for each process or source.

^bN/A = not applicable.

^cInclude opacity limitations.

Fig. 1 Sample Data Sheet

Yes No

2.3 Date when most-recent, complete, site source survey was completed: _____

2.4 Is there a site map that identifies and locates all emission sources? [] []

3 Does the facility have a fossil-fuel-fired steam generator? [] []

3.1 Provide the following fuel data (or alternatively, list report or document where this information is recorded and available for inspection):

<u>Fuel Type</u>	<u>Percentage of Total Btu</u>	<u>Sulfur Content, %</u>	<u>Ash Content, %</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

3.2 Is reclaimed oil burned in the boiler(s)? [] []

3.2.1 Has it been tested for polychlorinated biphenyls (PCBs)? [] []

3.2.2 Has it been tested for other hazardous constituents? [] []

3.2.3 Summarize test results: _____

3.3 Are any other waste materials (pallets, paper, solvents, sludges, residues, etc.) burned in the boiler(s)? [] []

3.3.1 List waste material quantities and average Btu values: _____

	<u>Yes</u>	<u>No</u>
3.3.2 Have any of these materials been tested to see if they are considered hazardous according to Resource Conservation and Recovery Act (RCRA) criteria?	[]	[]
3.4 Is stack monitoring required?	[]	[]
3.4.1 List the sources, frequency of emission, and pollutants that are monitored: _____

_____ | | |
| 3.4.2 Is notification of the EPA or state required before testing? | [] | [] |
| 3.4.3 Describe any deviations from monitoring or reporting requirements: _____

_____ | | |
| 3.5 Does the facility generate ash, flue-gas-desulfurization sludge, or other solid waste from the boiler operation? | [] | [] |
| 3.6 Summarize the current or anticipated major environmental issues or difficulties in meeting permit conditions for the boilers: _____

_____ | | |

POINT SOURCE CONTROL

4 Does the facility have a preventative maintenance program for air pollution control systems?	[]	[]
4.1 Is it a written program?	[]	[]
4.2 Are there maintenance logs?	[]	[]

- 4.3 Summarize the maintenance program, including frequency, sources, and pollutants controlled: _____

- 5 Are any innovative control technologies (i.e., technologies that have been developed within the past 10 years) used for point sources?

[] []

Describe: _____

FUGITIVE EMISSIONS

- 6 Do any storage tanks for volatile organic liquids have a capacity greater than 40,000 gallons?

[] []

- 6.1 Is vapor recovery required?

[] []

- 6.2 Is monitoring required?

[] []

- 6.3 Are records maintained?

[] []

- 6.4 Are any such tanks exempt from monitoring?

[] []

- 6.5 Describe any deviations from control and monitoring requirements for these facilities: _____

- 7 Does the facility have other limits or control requirements for fugitive emissions (e.g., for dust control or for storage and dispensing of volatile organic materials)?

[] []

7.1 Describe: _____

7.2 Describe any deviations from requirements: _____

Yes No

8 Has a survey of fugitive emissions been conducted?

[] []

Give dates and summarize techniques and results: _____

AMBIENT MONITORING

9 In which Air Quality Control Region (AQCR) is the facility located: _____

10 For this AQCR, check which primary and secondary National Ambient Air Quality Standards are not being met:

	<u>Primary</u>	<u>Secondary</u>
Sulfur dioxide (SO ₂)	_____	_____
Particulates	_____	_____
Carbon monoxide (CO)	_____	_____
Ozone (O ₃)	_____	_____
Hydrocarbons	_____	_____
Nitrogen dioxide (NO ₂)	_____	_____
Lead (Pb)	_____	_____

11 Has ambient air been monitored within 10 km of the facility within the review period?

[] []

11.1 For criteria air pollutants (SO₂, CO, NO₂, particulates, nonmethane hydrocarbons, O₃, or Pb)?

[] []

	<u>Yes</u>	<u>No</u>
11.2 For other nonradioactive air pollutants?	[]	[]
11.3 Provide the following summary data for this monitoring: who conducted monitoring, date, location, and results (for regulated pollutants, provide concentrations for frequency and averaging time indicated in standards, and concentration as percentage of standard; for unreg- ulated pollutants, provide annual average and maximum concentrations, including number of occurrences of max- imum, for 1-hr and 24-hr averages). Alternatively, list report or document where this information is recorded and available for inspection. _____ _____ _____ _____ _____ _____ _____		
12 If available, give dates for next scheduled ambient monitoring for:		
12.1 Criteria air pollutants: _____		
12.2 Other nonradioactive air pollutants: _____		
13 Has the contribution of facility emissions to surrounding ambient air quality been estimated?	[]	[]
13.1 Indicate the estimated contribution as a percentage of standards (or alternatively, list report or document where this information is recorded and available for inspection): _____ _____ _____ _____		
13.2 Did the estimation procedure include data from:		
13.2.1 On-site effluent monitoring?	[]	[]
13.2.2 Aerial surveys?	[]	[]
13.3.3 Off-site monitoring?	[]	[]

	<u>Yes</u>	<u>No</u>
--	------------	-----------

13.3.4 Dispersion modeling?	[]	[]
-----------------------------	-----	-----

13.3.5 Measurement or estimation of background or baseline concentrations?	[]	[]
---	-----	-----

13.2.6 Other (explain): _____	[]	[]
-------------------------------	-----	-----

14 Give location of nearest site for collecting weather data
used in air pollution dispersion estimates: _____

COMPLIANCE OVERVIEW

15 Are current copies of environmental regulations, DOE orders, and other standards on file?	[]	[]
---	-----	-----

15.1 Federal?	[]	[]
---------------	-----	-----

15.2 State?	[]	[]
-------------	-----	-----

15.3 County or city?	[]	[]
----------------------	-----	-----

15.4 DOE?	[]	[]
-----------	-----	-----

16 Does the facility have a formal procedure for tracking compliance requirements, permit applications, renewal schedules, or new regulations?	[]	[]
--	-----	-----

Describe procedure: _____

17 During the review period, have there been any delays in sub- mitting or obtaining approval of construction or operating permits?	[]	[]
---	-----	-----

Explain: _____

	<u>Yes</u>	<u>No</u>
18 Are any major conditions in agreements, permits, variances, or compliance plans not now being met?	[]	[]
18.1 Identify and explain: _____ _____ _____ _____		
18.2 If permit conditions have been exceeded, has the facility gone through proper notification procedures?	[]	[]
19 Is the facility operating under a delayed compliance order?	[]	[]
20 Will any planned construction or modification of facility operations affect air pollutant emissions?	[]	[]
20.1 Summarize the planned changes: _____ _____ _____ _____		
20.2 Are modifications planned to meet federal, state, or DOE order requirements for air pollutant emissions?	[]	[]
20.2.1 Identify requirements: _____		
20.2.2 Will the planned modification affect the facility fiscal plan?	[]	[]
20.2.3 Have the plans been submitted to the DOE line organization (Ref.: DOE 5480.1A, XII.5 Pollutant Abatement Projects)?	[]	[]
21 Is the facility located in a region or state that has the authority to implement and enforce the National Emission Standards for Hazardous Pollutants?	[]	[]
22 Is an emergency or episode plan required that outlines what will be done to protect the public in case of high-level releases or concentrations of air pollutants?	[]	[]
22.1 Has the plan been developed and approved?	[]	[]
22.2 Has the episode plan ever been implemented?	[]	[]
22.3 Date last implemented: _____		

		<u>Yes</u>	<u>No</u>
23	During the review period, were there any accidental releases of atmospheric pollutants that could have significantly affected the public or the off-site environment?	[]	[]
23.1	Describe: _____ _____ _____ _____		
23.2	Did the release require notification of DOE Headquarters Emergency Operations Center on the basis of DOE 5484.1, Chapter I, Notification of Occurrences?	[]	[]
23.3	Was the notification made within the prescribed time?	[]	[]
24	During the review period, did the facility receive any complaints or violation notices that relate to atmospheric pollutants?	[]	[]
24.1	From whom: _____ _____ _____ _____		
24.2	Dates received: _____ _____ _____ _____		
24.3	Summary of notice: _____ _____ _____ _____		
24.4	Summary of corrective action taken or being taken: _____ _____ _____ _____		
25	Does the facility have a quality assurance plan for air pollutant monitoring?	[]	[]
	Describe: _____ _____ _____ _____		

- 26 Identify air quality control problems and give recommendations for their resolution.

5 ASBESTOS

	<u>Yes</u>	<u>No</u>
1 Is asbestos used in any manufacturing operations?	[]	[]
2 Are there any pipes, equipment, walls, ceilings, or surfaces where asbestos insulation or asbestos-containing materials are in place?	[]	[]
If answers to both 1 and 2 are no, continue with Module 6 (p. 31).		
2.1 Has a program been developed for asbestos removal?	[]	[]
2.2 Has any piping or equipment insulated with asbestos been renovated within the last 12 months?	[]	[]
2.3 Was written notification of the intent to renovate such equipment submitted to the EPA?	[]	[]
2.4 Describe the location of asbestos or asbestos-containing material: _____ _____ _____ _____		
3 Is any piping or equipment insulated with asbestos scheduled to be renovated within the coming 12 months?	[]	[]
3.1 Has written notification of the intent to renovate such equipment been submitted to the EPA?	[]	[]
3.2 Has approval for disposal of removed asbestos been requested or obtained?	[]	[]
4 Is there an on-site active or inactive landfill in which asbestos-containing material is being or has been deposited?	[]	[]
4.1 Do all inactive, on-site landfills having asbestos-containing material meet EPA's standards for the following:		
4.1.1 Emissions?	[]	[]
4.1.2 Warning signs?	[]	[]

	<u>Yes</u>	<u>No</u>
4.1.3 Fencing?	[]	[]
4.1.4 Covering?	[]	[]
4.2 Do all active, on-site landfills meet EPA's requirements for the following:		
4.2.1 Emissions?	[]	[]
4.2.2 Warning signs?	[]	[]
4.2.3 Fencing?	[]	[]
4.2.4 Operation?	[]	[]
4.2.5 Covering?	[]	[]
5 Has any asbestos or asbestos-containing material been disposed of from this facility within the last 10 years?	[]	[]

Identify disposal site and explain: _____

- 6 Identify any asbestos problems and give recommendations for their resolution.

6 WATER POLLUTION CONTROL

<u>Yes</u>	<u>No</u>
------------	-----------

1 Does this facility have any federal, state, or locally permitted wastewater effluents or outfalls (including storm-water runoff)?

$$\{ \quad \} \quad \{ \quad \}$$

List all:

[illegible]

2 Are any wastewater discharge permits pending?

[] []

2.1 Type: _____

2.2 Agency: _____

2.3 Application Date:

2.4 Status: _____

Yes	No
-----	----

3 Has a water-use survey ever been conducted? [] []

Date: _____

4 Is an accurate sewer system map available? ☐ ☐

5 Water discharge breakdown (give units or %):

Sanitary wastewater _____

Process wastewater

Storm water _____

Wastewater treatment plant effluent _____

Noncontact cooling water _____

Cooling tower blowdown _____

Steam condensate

Water treatment plant discharges

Other (identify):

6 Are process and sanitary flows conveyed in separate sewer systems? [] []

7 Is a flow diagram of the current facility water balance available? [] []

7.1 Has water-use reduction ever been studied? ☐ ☐

7.2 Is a water-use reduction program now under way? ☐ ☐

7.3 Describe: _____

	<u>Yes</u>	<u>No</u>
--	------------	-----------

8	Are copies of all applicable federal, state, and local water pollution regulations on file, and are they current?	[]	[]
---	---	-----	-----

9	Are all existing permit limitations being met?	[]	[]
---	--	-----	-----

If not, explain: _____

10	Will anticipated permit limitations be met?	[]	[]
----	---	-----	-----

If not, explain: _____

11 Describe reports submitted, such as National Pollutant Discharge Elimination System (NPDES) and state monitoring reports (list agency, frequency, content):

12	Are any process wastewaters discharged untreated?	[]	[]
----	---	-----	-----

12.1 Explain: _____

12.2 Describe program to control untreated discharges:

13 For wastewater treatment systems (including pretreatment systems):

13.1	Are alarms provided for abnormal conditions?	[]	[]
------	--	-----	-----

13.2 If not, why? _____

Yes No

13.3 Has the effect of process dumping been analyzed? [] []

13.4 Can the treatment process be bypassed? [] []

13.5 How? _____

13.6 Is the system bypassed? [] []

13.7 What action is taken for upset conditions, bypassing,
or excursions? _____

14 Which of the following wastewater residual treatment and
disposal methods are provided on site:

14.1 Thickening? [] []

14.2 Dewatering? [] []

14.3 Composting? [] []

14.4 Incineration? [] []

14.5 Landfill? [] []

14.6 Land spreading? [] []

15 Have required federal and state permits been secured for
residual solids disposal? [] []

16 Have these residual solids been analyzed to determine if they
are "nonhazardous" per RCRA criteria? [] []

Yes No

- 17 For cooling water discharges, check appropriate boxes and indicate monthly average discharge temperatures:

17.1 Once-through: _____ [] []

17.2 Recycled: _____ [] []

17.3 Contact: _____ [] []

17.4 Noncontact: _____ [] []

- 18 Are conditioning chemicals used to treat cooling water? [] []

List chemicals (do not use trade names): _____

- 19 Are discharges of cooling water to surface or ground water covered by appropriate permits? [] []

- 20 Are any oils or other petroleum-based materials recovered from wastewaters? [] []

Describe: _____

- 21 Are the wastewater treatment facilities subject to a scheduled maintenance program? [] []

Describe previous maintenance problems and corrective actions: _____

- 22 Is outfall inspection a permit requirement? [] []

Describe the outfall inspection program: _____

	<u>Yes</u>	<u>No</u>
23 Is outfall monitoring a permit requirement?	[]	[]
23.1 Are discharges monitored at least quarterly?	[]	[]
23.2 Are storm-water outfalls monitored?	[]	[]
23.3 Is receiving water monitored?	[]	[]
23.4 Is equipment employed for continuous wastewater monitoring?	[]	[]
23.5 Is all of this monitoring equipment included in a statistically based, quality-control maintenance program?	[]	[]
24 Does this facility have a coal pile?	[]	[]
24.1 Is the coal pile runoff controlled?	[]	[]
24.2 Have any studies been initiated or data collected on coal pile runoff?	[]	[]
24.3 Describe: _____		
_____		
_____		
_____		
25 Does this facility discharge wastewater (process, sanitary, or both) to a publicly owned treatment works?	[]	[]
25.1 Identify discharge and treatment works: _____		
_____		
_____		
_____		
25.2 Is pretreatment required?	[]	[]
25.3 Is monitoring required?	[]	[]

25.4 Describe: _____

Yes No

25.5 Has the state or county regulatory agency been contacted to determine if it has any problems, complaints, or concerns about the treatment work? [] []

26 Is storm-water runoff controlled? [] []

26.1 From parking lots? [] []

26.2 Roof drains? [] []

26.3 Process and tank farm area(s)? [] []

26.4 Describe: _____

26.5 Is storm water discharged to a publicly owned conveyance system? [] []

26.6 Is any treatment provided for storm-water discharges? [] []

26.7 Describe: _____

27 Does the facility have any on-site gravel or dirt roads? [] []

27.1 Are dust control measures ever used? [] []

27.2 Describe: _____

	<u>Yes</u>	<u>No</u>
28 Does the facility have ice or snow removal requirements during the winter months?	[]	[]
28.1 If yes, are chemicals or other materials (sand) used?	[]	[]
28.2 List chemicals used: _____ _____ _____ _____		
29 Does the facility have an on-site laboratory for wastewater analyses?	[]	[]
29.1 Is a sampling program in place for sampling and screening all outfalls?	[]	[]
29.2 Describe: _____ _____ _____ _____		
29.3 Is a file maintained for results of monitoring as required by the wastewater discharge permit?	[]	[]
29.4 Is a separate file maintained for monitoring information not required by the permit?	[]	[]
29.5 Are all monitoring records maintained for a minimum of three years?	[]	[]
30 Has the facility ever screened outfalls and effluents for the presence of priority pollutants?	[]	[]
30.1 When were outfalls last screened? _____		
30.2 List priority pollutants found and give their concentrations: _____ _____ _____ _____		
31 Have any studies been performed to determine whether wastewater is treatable?	[]	[]

Describe: _____

	<u>Yes</u>	<u>No</u>
32 Is any effluent applied to the land (either surface or subsurface)?	[]	[]
33 Is any effluent discharged to a well (any pit with depth greater than diameter)?	[]	[]
34 Are the wastewater treatment facilities under the supervision of a plant operator with the appropriate license?	[]	[]
35 List chronologically all wastewater discharge permit excursions of the past three years. If repeated excursions are caused by the same problem (for example, pH), list parameters and number of excursions per month.		

<u>Date</u>	<u>Parameter</u>	<u>Reason</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

36 Does the facility have an existing compliance schedule for wastewater discharge written into the discharge permit?	[]	[]
36.1 Are the deadlines being met?	[]	[]
36.2 Will the facility be able to meet future deadlines?	[]	[]
37 Have citizens complained about any aspect of wastewater handling?	[]	[]

Explain: _____

	<u>Yes</u>	<u>No</u>
--	------------	-----------

38	Has any official action been taken about wastewater at this site? (Attach pertinent correspondence.)	[]	[]

38.1 Briefly specify: _____

38.2	Has corrective action been completed?	[]	[]

- 39 In what water quality control region (i.e., aggregated subarea) is this facility located? _____

- 40 Identify water pollution compliance problems and give recommendations for their resolution.

7 ENVIRONMENTAL RELEASES OF RADIONUCLIDES*

	<u>Yes</u>	<u>No</u>
1 Does this facility release any radionuclides to the environment?	[]	[]
1.1 Did releases occur during the review period?	[]	[]
1.2 Are they anticipated to begin within the next three years?	[]	[]
If answers to both 1.1 and 1.2 are no, continue with Module 8 (p. 48).		
2 Did these releases include radionuclide effluents to:		
2.1 The atmosphere?	[]	[]
2.2 Surface streams that cross site boundaries?	[]	[]
2.3 Soil columns or ground water without engineered barriers?	[]	[]
3 Were any existing sources not monitored or were any existing or planned effluent data not reported on DOE Form 5821.1?	[]	[]
Identify unmonitored and unreported sources and explain reason for omission [e.g., exempt under DOE 5484.1, 6.f(14)]:		
<hr/>		
<hr/>		
<hr/>		
4 Radiation exposures may occur as a result of existing, planned, or accidental radionuclide releases from site operations; have these exposures been estimated for individuals and populations in uncontrolled areas?	[]	[]

*Includes releases of radionuclides from radioactive waste (see Module 15).

Yes No

- 4.1 Indicate the estimated exposure as a percentage of the standards in DOE 5480.1A, Chapter XI, Fig. XI-2 (or alternatively, list report or document where this information is recorded and available for inspection):

- 4.2 Did the estimation of uncontrolled area exposure include data from:

4.2.1 On-site effluent monitoring? [] []

4.2.2 Aerial surveys? [] []

4.2.3 Off-site ground-level atmospheric monitoring? [] []

4.2.4 Off-site surface water monitoring? [] []

4.2.5 Off-site ground water monitoring? [] []

4.2.6 Deposition measurements? [] []

4.2.7 Pathway measurements (e.g., concentrations in vegetation or milk)? [] []

4.2.8 Dispersion or pathway modeling? [] []

4.2.9 Measurement or estimation of background radiation and off-site sources? [] []

4.2.10 Other? Explain: [] []

- 4.3 Have any rapid changes or long-term trends (increasing or decreasing) been observed in uncontrolled area exposure estimates? [] []

Summarize known or suspected causes: _____

	<u>Yes</u>	<u>No</u>
5 Does the facility have quantitative or qualitative interpretations of the DOE goals to keep radioactivity exposures to the public in uncontrolled areas "as low as reasonably achievable"? (Ref.: DOE 5480.1A, XI Requirements for Radiation Protection.)	[]	[]
Summarize: _____		

6 Are there plans for upgrading facility operations to reduce radionuclide emissions?	[]	[]
6.1 Summarize the planned upgrading: _____		

6.2 Is the upgrading required to prevent exposures in uncontrolled areas from exceeding the maximum level given in DOE 5480.1A?	[]	[]
6.3 Is the upgrading required to reduce the exposures in uncontrolled areas that are currently below allowable maximums to a level "as low as reasonably achievable" below the standards?	[]	[]
6.4 Will the planned upgrading affect the facility fiscal plan?	[]	[]
6.5 Have the pollution abatement plans been submitted to the DOE line organization (Ref: DOE 5480.1A, XII.5, Pollution Abatement Projects)?	[]	[]
7 Does the facility have a documented plan for protecting individuals and population groups in uncontrolled areas during unplanned releases of radioactive materials to the atmosphere?	[]	[]
8 Have any unplanned releases of radioactive materials to the environment occurred during the review period?	[]	[]

- 8.1 What was the estimated activity (curies), duration, and volume (m³) or weight (g) of the release?

Yes No

- 8.2 Was the maximum public exposure resulting from this release estimated?

[] []

- 8.2.1 Summarize results (or list reference):

- 8.2.2 Were exposure limits in DOE 5480.1A exceeded?

[] []

- 8.2.3 Summarize analysis or monitoring procedure used to estimate exposure (see question 4.2 in this section):

- 8.3 Did the release require notification of DOE Headquarters Emergency Operations Center on the basis of requirements in DOE 5484.1, Chapter I, Notification of Occurrences?

[] []

- 8.3.1 Was the notification made within the prescribed time?

[] []

- 8.3.2 Was a DOE investigation completed and reported?

[] []

- 9 Does the facility have standard procedures for selecting, testing, and calibrating radioactivity monitoring equipment?

[] []

- 9.1 Does the plan make use of the guidance documents listed under DOE 5480.1A, pg. XI-16, Monitoring and Protective Equipment?

[] []

- 9.2 List other guidance documents:

	<u>Yes</u>	<u>No</u>
10 During the next three years, does the facility plan to start up any new source or increase its use of an existing source of environmentally released radionuclides?	[]	[]
10.1 Has the DOE Field Office or other contracting officer determined if a preoperational background or baseline environmental survey is required [Ref.: DOE 5484.1, 6.f(11); III.1; IV.3.g]?	[]	[]
10.2 Is it required?	[]	[]
10.3 Will a preoperational survey be completed?	[]	[]
10.4 Give status (to be initiated, ongoing, complete):		

- 11 Identify any existing or projected environmental radionuclide release problems and give recommendations for their resolution.

8 SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

	<u>Yes</u>	<u>No</u>
1 Does this facility have:		
1.1 Aboveground oil storage capacity in excess of 1,320 gallons, or a single container in excess of 660 gallons?	[]	[]
1.2 Underground oil storage capacity in excess of 42,000 gallons?	[]	[]
1.3 A reasonable chance to discharge any oil stores in 1.1 or 1.2 above to the waters of the United States should a spill occur?	[]	[]
If all answers to 1.1-1.3 are No, continue with Module 9 (p. 51).		
2 Does this facility have a Spill Prevention Control and Countermeasure (SPCC) plan on file?	[]	[]
2.1 Has the SPCC plan been certified by a registered professional engineer?	[]	[]
2.2 Date the SPCC plan was last certified: _____		
2.3 Original date SPCC plan was prepared: _____		
3 Is this facility located in a state that requires a state spill prevention and control plan for oil or hazardous materials?	[]	[]
3.1 Are the state requirements included in the SPCC plan?	[]	[]
4 Is this facility located in a county, city, township, or other area that requires a local spill prevention and control plan for oil or hazardous materials?	[]	[]
4.1 Are the local requirements included in the SPCC plan?	[]	[]
5 Has the SPCC plan been incorporated into the Resource Conservation and Recovery Act (RCRA) Part A interim status requirements or a RCRA Part B permit?	[]	[]
6 Have any reportable spills occurred at this facility within the last review period?	[]	[]

	<u>Yes</u>	<u>No</u>
7 In the SPCC plan:		
7.1 Are the U.S. Coast Guard National Response Center Notification Procedures included?	[]	[]
7.2 Are secondary containment or diversionary structures used for possible spill areas?	[]	[]
7.3 Do required inspections follow written procedures?	[]	[]
7.4 Are written procedures and a record of inspections signed by the appropriate supervisor included?	[]	[]
8 At the facility:		
8.1 Are areas for handling or storing oil fenced, or is the complete facility fenced?	[]	[]
8.2 Are personnel properly instructed in the operation and maintenance of equipment to prevent oil discharges and in applicable pollution control laws, rules, and regulations?	[]	[]
8.3 Are spill clean-up materials available as indicated in the SPCC plan?	[]	[]
9 Has the facility conducted an emergency drill to test the adequacy of the SPCC plan?	[]	[]

Date of drill: _____

- 10 Identify SPCC compliance problems and give recommendations for their resolution.

9 NONHAZARDOUS SOLID WASTEYes No

1	Are current copies of federal, state, or local ordinances or other standards related to solid waste management on file?	[]	[]
2	Has this facility received any complaints or violation notices relating to the handling or disposal of solid waste materials?	[]	[]
3	Have any reports been supplied to, or required by, any regulatory agency?	[]	[]

Explain: _____

4	Are outside contracted services used for solid waste collection?	[]	[]
4.1	Is a copy of the hauler's current state license on file?	[]	[]
4.2	Has the county or state regulatory agency been contacted to see if there are any problems, concerns, or complaints regarding the hauler?	[]	[]
4.3	Has the hauler been followed to see if the proper disposal site is used?	[]	[]
5	Are outside contracted services used for solid waste disposal?	[]	[]
5.1	Is a copy of the disposal site's current state license on file?	[]	[]
5.2	Has the county or state regulatory agency been contacted to see if there are any problems, concerns, or complaints regarding the disposal operation?	[]	[]
6	Are facility-owned or facility-operated trucks used for solid waste collection?	[]	[]
6.1	Do these trucks leave the facility property?	[]	[]

	<u>Yes</u>	<u>No</u>
6.2 Are the trucks licensed for hauling solid waste?	☐	☐
6.3 Describe how the trucks (containers) are cleaned and where washwaters go: _____ _____ _____ _____		
6.4 Are there any employee safety training programs for collection or disposal of solid waste?	☐	☐
6.5 Describe: _____ _____ _____ _____		
7 Does the facility own or operate its own solid waste disposal site?	☐	☐
7.1 Describe the site and its location: _____ _____ _____ _____		
7.2 Is the disposal operation permitted?	☐	☐
7.3 List all permits and permitting agency: _____ _____ _____ _____		
7.4 Is the operation in compliance with all permit conditions?	☐	☐
7.5 Has the disposal operation been inspected by any federal, state, or county regulatory agency within the last review period?	☐	☐
7.6 Describe any results of that inspection: _____ _____ _____ _____		

	<u>Yes</u>	<u>No</u>
8 Have any studies of solid waste reduction, recycling, or disposal been initiated or completed within the last review period?	[]	[]
Describe the study and its status: _____		

9 Has the solid waste inventory, quantity, and generation rate study been conducted within the last three years?	[]	[]
10 Are procedures established to determine if a newly generated solid waste is nonhazardous?	[]	[]
Describe: _____		

11 Does the facility have a formal program for segregating hazardous waste from solid waste?	[]	[]
11.1 At the point of generation?	[]	[]
11.2 During on-site transportation?	[]	[]
11.3 At on-site storage or transfer facilities?	[]	[]
11.4 During truck loading operations?	[]	[]
11.5 Describe any segregation activities: _____		

12 Are any nonhazardous solid wastes being used as supplemental fuel in the facility's boilers?	[]	[]
List: _____		

	<u>Yes</u>	<u>No</u>
13 Does the facility operate a solid waste incinerator?	[]	[]
13.1 Does the unit recover heat?	[]	[]
13.2 Is the incinerator permitted?	[]	[]
14 Using Fig. 2 as a sample format, list all contracted solid waste haulers and disposal sites.		

SOLID WASTE HAULERS AND DISPOSAL SITES
(NON-RCRA REGULATED WASTES)

Solid Waste Haulers:	Licensed?		Copy on File?	
	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
_____	[]	[]	[]	[]
_____	[]	[]	[]	[]
_____	[]	[]	[]	[]
_____	[]	[]	[]	[]
_____	[]	[]	[]	[]

Liquid and Sludge Haulers:	Licensed?		Copy on File?	
	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
_____	[]	[]	[]	[]
_____	[]	[]	[]	[]
_____	[]	[]	[]	[]
_____	[]	[]	[]	[]
_____	[]	[]	[]	[]
_____	[]	[]	[]	[]
_____	[]	[]	[]	[]

Disposal Sites	EPA No.	Disposal Method and Site Life Span	Licensed?		Copy on File?	
			<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
_____	_____	_____	[]	[]	[]	[]
_____	_____	_____	[]	[]	[]	[]
_____	_____	_____	[]	[]	[]	[]
_____	_____	_____	[]	[]	[]	[]
_____	_____	_____	[]	[]	[]	[]
_____	_____	_____	[]	[]	[]	[]
_____	_____	_____	[]	[]	[]	[]
_____	_____	_____	[]	[]	[]	[]
_____	_____	_____	[]	[]	[]	[]
_____	_____	_____	[]	[]	[]	[]

Fig. 2 Sample Survey of Solid Waste
Haulers and Disposal Sites

- 15 Identify nonhazardous solid waste problems and give recommendations for their resolution.

10 DRINKING WATER

	<u>Yes</u>	<u>No</u>
1 Does the drinking water for this facility come from a municipal system?	[]	[]
If so, this module is complete; continue with Module 11 (p. 62).		
2 Is the water system privately owned by the facility?	[]	[]
2.1 Does the water system serve 25 or more people as a daily average for at least 60 days each year?	[]	[]
2.2 What is the source of water? If more than one source, indicate amounts or percentage from each.		
2.2.1 Well _____		
2.2.2 Spring _____		
2.2.3 Surface Water _____		
2.2.4 Bottled Water _____		
2.2.5 Other (describe) _____		
2.3 What is the water usage breakdown (in units or %)?		
Process _____		Fire Protection _____
Cooling _____		Irrigation _____
Boiler Feed _____		Product _____
Sanitation _____		Other (Identify) _____

2.4 Does a map of the facility distribution system, including storage tanks, pumps, etc., exist?	[]	[]
3 Which of the following treatment methods are provided?		
3.1 Coagulation/flocculation	[]	[]
3.2 Filtration	[]	[]
3.3 Disinfection	[]	[]

	<u>Yes</u>	<u>No</u>
3.4 Other (Identify): _____ _____ _____	[]	[]
4 Are the following constituents monitored? Indicate frequency:		
4.1 Coliform bacteria: _____	[]	[]
4.2 Nitrate: _____	[]	[]
4.3 Turbidity: _____	[]	[]
4.4 Other (Identify): _____ _____ _____	[]	[]
5 If the answer to 2.1 is yes, are samples analyzed at an EPA-certified laboratory?	[]	[]
6 Are monitoring results reported to EPA or the state agency (if the state has primacy) within 10 working days after the required monitoring period ends?	[]	[]
7 Has any contaminant in any analysis exceeded the applicable maximum contaminant level?	[]	[]
7.1 Indicate contaminant and concentration: _____ _____ _____ _____		
7.2 Was the water retested?	[]	[]
7.3 Was public notice of noncompliance given through continuous posting of such failure?	[]	[]
7.4 Is biological notice required?	[]	[]
8 Have any other tests or screening analyses been performed on a water sample such as for radionuclides, priority pollutants, or secondary drinking-water parameters?	[]	[]

Explain analyses performed and results: _____

Yes No

- 9 Have provisions been made for the following analyses and records kept for the specified period:

9.1 Bacteriological analyses for five years? [] []

9.2 Chemical analyses for ten years? [] []

- 10 Do the laboratory reports or tabular summaries contain at least:

10.1 The date, place, and time of sampling, and the name of the person who collected the sample? [] []

10.2 Identification of the sample as to whether it was:

10.2.1 Routine distribution system sample? [] []

10.2.2 Check sample? [] []

10.2.3 Raw or process water sample? [] []

10.2.4 Special purpose sample? [] []

10.3 Date of analysis? [] []

10.4 Laboratory and person responsible for performing analysis? [] []

10.5 Analytical technique or method used? [] []

10.6 Results of the analysis? [] []

- 11 Within the last review period, has any regulatory agency notified the facility that its potable water system is in violation of standards? [] []

Describe: _____

	<u>Yes</u>	<u>No</u>
12 Are records of actions to correct violations maintained for three years?	[]	[]
13 Has the facility received any variances or exceptions from a regulatory agency within the last review period?	[]	[]

Describe: _____

14 Are records of variances or exceptions maintained for five years beyond expiration of such variances?	[]	[]
15 Are permits from a state or local agency required to divert water from ground or surface sources?	[]	[]
15.1 Does the facility have valid permits?	[]	[]
16 Does the facility use potable water in process units?	[]	[]
16.1 Are the process feed lines protected with back-flow protection devices or vacuum breakers?	[]	[]
16.2 Are employees cautioned against making direct connections between water supply lines and process units?	[]	[]
16.3 Is the facility periodically checked for cross-connections or other possible sources of back-contamination?	[]	[]

16.4 Describe: _____

- 17 Identify any drinking water problems and give recommendations for their resolution.

11 TOXIC SUBSTANCESYes No

- 1 Does the facility have an organized review committee or control program for hazardous materials or toxic substances?

[] []

1.1 Describe: _____

- 1.2 Who are the members of this committee?

<u>Name</u>	<u>Toxic Materials Program Responsibility</u>	<u>Telephone Number</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Chairman of Committee: _____

- 1.3 Does this committee have the authority for substantive decision making?

[] []

1.3.1 If not, what is the committee's role? _____

1.3.2 If not, who has the authority for making decisions regarding toxic substances? _____

	<u>Yes</u>	<u>No</u>
--	------------	-----------

1.4	Is there a policy manual delineating authority on toxic substance issues and describing the committee functions and responsibilities?	☐	☐

Give date of most recent revision: _____

- 1.5 Do the committee responsibilities include:

1.5.1	Serving as an authority for the proper use and control of hazardous materials?	☐	☐
1.5.2	Establishing controls to prevent the release of hazardous materials to the environment?	☐	☐
1.5.3	Establishing procedures for purchasing, receiving, handling, storing, using, shipping, and disposing of hazardous materials?	☐	☐
1.5.4	Periodically evaluating such procedures in light of new information and compliance?	☐	☐

- 2 How does the toxic materials control program function with regard to (include method of paperwork flow)

- 2.1 New material purchases: _____

- 2.2 Existing materials: _____

- 2.3 Unsolicited or test materials: _____

- 2.4 "Emergency buys": _____

- 3 How are chemical data obtained from suppliers, and who retains these data? _____

- 4 Before any new chemical is authorized for use in the facility, what review is provided and what controls are instituted?

Check those areas that are included in the review:

☐ Storage	☐ Monitoring	☐ Explosion
☐ Spill Control	☐ Handling	☐ Toxicity
☐ Disposal	☐ Fire	☐ Area Used

	<u>Yes</u>	<u>No</u>
--	------------	-----------

5 Is information on hazardous materials and toxic substances available and given to the employees?	☐	☐

5.1 In what form: Verbal ☐ Written ☐

5.2 Is there a follow-up to determine if specific instructions are being followed?	☐	☐

5.3 Where is such information followed up?

☐ Point of Use ☐ Handling ☐ Storage ☐ Disposal

6 Is personal protective equipment available and issued where appropriate?	☐	☐

7 Does the hazardous materials committee conduct an annual audit review?	☐	☐

8 Are "Hazardous Material Data Sheets" (from vendors) being used to build a file of proper (U.S. Department of Transportation) shipping names and hazardous classifications?	☐	☐

9 Does the local staff have access to approved laboratory facilities for analyzing unknown materials or mixtures of materials and to the classification of those materials under U.S. Department of Transportation regulation?	☐	☐

	<u>Yes</u>	<u>No</u>
10 Are any of the substances used, produced, or stored at this facility covered under the Toxic Substances Control Act (TSCA), other than PCBs?	[]	[]
10.1 Are reporting requirements for the control and use of these substances being met?	[]	[]
10.2 Are appropriate worker exposure and epidemiological records maintained pursuant to requirements under TSCA?	[]	[]
10.3 Where new processes are producing new substances or by-products, has the facility filed the appropriate testing protocols with EPA pursuant to TSCA regulations?	[]	[]
10.4 Has EPA formally approved the use of these new processes?	[]	[]

- 11 Identify any toxic materials or TSCA-related problems and give recommendations for their resolution.

12 PCB MATERIALS

USE OF POLYCHLORINATED BIPHENYLS (PCBs)

<u>Yes</u>	<u>No</u>
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1 Does this facility have any PCB-containing items in use or storage?	[]	[]

If not, continue with Module 13 on p. 74.

2 Has this facility ever conducted an inventory and analysis to determine the extent of PCB-containing items in use or in storage?	[]	[]

Describe the type (i.e., transformer, hydraulic machine), quantity, status (i.e., in use or storage), and PCB concentration and volume, if known.

<u>Type</u>	<u>Quantity</u>	<u>Status</u>	<u>Fluid PCB Concentration</u>	<u>Fluid Volume</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

3 Are PCB analyses performed in-house?	[]	[]

3.1 If not, who performs the analysis? _____

3.2 What analytical methods are used? _____

4 Does the facility have any PCB transformers in use or storage?	[]	[]

4.1 Do any of these transformers in use or in storage for reuse contain more than 60,000 ppm PCBs?	[]	[]
--	-----	-----

4.2 Is the equipment inspected at least once every three months (with inspection records maintained for three years after disposal) or does the transformer have secondary containment capable of holding at least 100% of the fluid volume?	[]	[]
--	-----	-----

	<u>Yes</u>	<u>No</u>
4.3 Does the facility have any transformers in use or in storage for reuse that contain more than 500 ppm PCBs but less than 60,000 ppm PCBs?	[]	[]
4.4 Is this equipment inspected at least annually (with inspection records maintained for three years after disposal)?	[]	[]
4.5 Have any transformers leaked?	[]	[]
4.5.1 Was cleanup of released PCB-containing material initiated within 48 hours of discovery?	[]	[]
4.5.2 Describe how the material was contained, cleaned up, and disposed of: _____ _____ _____ _____		
4.6 Have any transformers been serviced or rebuilt at the facility?	[]	[]
4.6.1 Has any servicing required the removal of the transformer coil?	[]	[]
4.6.2 Have any transformers containing more than 500 ppm PCB been serviced?	[]	[]
4.6.3 Describe disposal procedures for any dielectric fluid removed from transformers during servicing: _____ _____ _____ _____		
4.7 Does the facility ever top-off any existing transformers?	[]	[]
What kind of material is used? _____ _____ _____ _____		
5 Does the facility have any PCB large capacitors (containing 3 lb or more of dielectric fluid)?	[]	[]

	<u>Yes</u>	<u>No</u>
6 Does the facility have any PCB small capacitors (containing less than 3 lb of dielectric fluid), such as those commonly used in fluorescent light ballasts and industrial equipment?	[]	[]
7 Does the facility have any open hydraulic systems containing PCBs?	[]	[]
7.1 Has the hydraulic fluid in these systems been tested to determine the concentration of PCBs?	[]	[]
7.2 Do any of these systems contain more than 50 ppm PCBs?	[]	[]
7.3 Have the systems been flushed to bring PCBs down to required levels, and have the PCB levels been rechecked?	[]	[]
7.4 Explain flushing procedure and how the material was disposed of: _____ _____ _____ _____		
7.5 Have records been maintained on the testing and draining of all equipment that once contained more than 50 ppm PCBs?	[]	[]
7.6 Are any plans or programs under way to eliminate the use of open hydraulic systems after July 1, 1984?	[]	[]
8 Does the facility have any open heat transfer systems containing PCBs?	[]	[]
8.1 Has the fluid in these systems been tested to determine the concentration of PCBs?	[]	[]
8.2 Do any of these systems contain more than 50 ppm PCB?	[]	[]
8.3 Have records been maintained on the testing and draining of all equipment that once contained more than 50 ppm PCBs?	[]	[]
8.4 Are any plans or programs under way to eliminate the use of open heat transfer systems after July 1, 1984?	[]	[]
9 Does the facility have any voltage regulators, switches, or electromagnets that contain PCBs?	[]	[]

Yes	No
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- 9.1 Has any of this equipment been serviced or rebuilt at the facility? [] []
- 9.2 Describe procedures for either reuse or disposal of PCBs removed during any servicing: _____

- 10 Does the facility have any circuit breakers, reclosers, or cables that contain PCBs? [] []
- 10.1 Has any of this equipment been serviced or rebuilt at the facility? [] []
- 10.2 Describe procedures for reuse or disposal of any PCBs removed during the servicing: _____

STORAGE

11	Are any PCB-containing items stored at the facility?	[]	[]
12	Were any PCB-containing items stored before January 1983?	[]	[]
12.1	Are there any plans to dispose of these items before January 1984?	[]	[]
13	Have any PCB-containing items been stored since January 1983?	[]	[]
13.1	Is a program under way to dispose of these items within one year of the date they were first stored?	[]	[]
14	Does the storage area meet the following criteria:		
14.1	Adequate roof and walls to prevent rain water from reaching PCB-containing items?	[]	[]
14.2	Adequate floor with a continuous curbing 6 inches high that can contain at least 25% of the volume of all stored items?	[]	[]

	<u>Yes</u>	<u>No</u>
14.3 No drain valves, sewer lines, or other openings that would allow liquids to flow from the curbed area?	[]	[]
14.4 Not located within 100-year floodplain?	[]	[]
15 Are any PCB-containing items stored temporarily in an area that does not comply with the requirements in Question 14?	[]	[]
15.1 Are these items removed from the temporary area within 30 days?	[]	[]
15.2 Has a Spill Prevention Control and Counter Measure Plan been prepared?	[]	[]
15.3 Is the PCB concentration of stored liquids below 500 ppm?	[]	[]
15.4 Are all items in storage checked for leaks at least once every 30 days?	[]	[]
15.5 Do containers for storage of liquids containing PCBs comply with shipping container specifications of the U.S. Department of Transportation?	[]	[]
16 Have any PCB-containing items leaked in any storage facility?	[]	[]

Describe clean-up procedures: _____

DISPOSAL

- 17 Where does the facility dispose of PCBs? Identify company name and type of facility (i.e., incinerator, chemical waste landfill, municipal landfill).

<u>Name</u>	<u>Type of Facility</u>	<u>PCB Material</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

	<u>Yes</u>	<u>No</u>
17.1 Has the facility checked with the EPA and appropriate state agency to see if any problems or complaints regarding any of these facilities have been reported?	[]	[]
18 Has the facility ever disposed of any PCBs in the past at a disposal site other than those listed in Question 17?	[]	[]
Describe when, how much, and disposal site used: _____		

19 Do facility records indicate that any large quantities of PCBs are unaccounted for over the last 15 years?	[]	[]
20 Are any oils, including lubricants, sent out for reclaiming, or are any reclaimed oils purchased or used by the facility?	[]	[]
20.1 Have reclaimed oils been analyzed for PCBs?	[]	[]
21 Does the facility burn any waste oils in boilers or other incinerator devices on site?	[]	[]
21.1 Has the waste oil been tested for PCBs?	[]	[]
21.2 What is the PCB content? _____		
22 Have all wastewater effluents been checked for PCBs?	[]	[]
23 Are any PCB-containing items contaminated with radioactivity?	[]	[]
24 Is newly purchased or reconditioned equipment tested for PCB contamination?	[]	[]

- 25 Identify any PCB handling, storage, or disposal problems and give recommendations for their resolution.

13 HAZARDOUS WASTE

GENERAL INFORMATION

	<u>Yes</u>	<u>No</u>
1 Prior to January 1981 [after this date a Resource Conservation and Recovery Act (RCRA) Part A Permit was required] did the facility store or dispose of any hazardous waste on site?	[]	[]
1.1 Were these hazardous wastes stored in containers, tanks, or surface impoundments (lagoons)?	[]	[]
1.2 Have all of these hazardous wastes been removed and disposed of in accordance with RCRA regulations?	[]	[]
2 Does this facility generate any waste listed or classified as a hazardous waste?	[]	[]
2.1 If not, continue with Module 14 (p. 96).		
2.2 If so, complete section on Hazardous Waste Generation, beginning with Question 14 on p. 77.		
3 Does this facility store any hazardous waste for less than 90 days?	[]	[]
If so, complete section on Hazardous Waste Storage for Less than 90 Days, beginning with Question 22 on p. 79.		
4 Does this facility store any hazardous waste for 90 days or longer?	[]	[]
4.1 If so, complete section on Hazardous Waste Storage for 90 Days or More, beginning with Question 27 on p. 80.		
4.2 Does the storage facility have a Part A Permit?	[]	[]
5 Does this facility transport any hazardous waste over public roads (i.e., off facility property) in its own trucks?	[]	[]
If so, complete section on Facility Transportation of Hazardous Waste, beginning with Question 82 on p. 87.		

	<u>Yes</u>	<u>No</u>
6 Does this facility treat or dispose of any hazardous waste on site or at a facility-owned operation?	[]	[]
If so, complete section on Hazardous Waste Treatment and Disposal, beginning with Question 91 on p. 89.		
7 Does this facility use a commercial service to transport hazardous waste over public roads?	[]	[]
If so, complete section on Commercial Transportation of Hazardous Waste, beginning with Question 115 on p. 94.		
8 Does this facility use a commercial service for the disposal of hazardous waste?	[]	[]
If so, complete section on Commercial Treatment and Disposal of Hazardous Waste, beginning with Question 125 on p. 95.		
9 If any answers to Questions 4 to 6 are yes, has the facility been required to submit a Part B permit application for any of the above activities?	[]	[]
Give the status of any such applications: _____		

10 Has the facility closed a hazardous waste treatment or storage facility within the last 12 months, or is it planning to close such a facility within the next 12 months?	[]	[]
11 Has the facility closed a hazardous waste disposal facility within the last 12 months, or is it planning to close such a facility within the next 12 months?	[]	[]
12 Is this facility located in a state that has interim authorization for RCRA?	[]	[]
12.1 Are any of the state requirements more stringent than the federal requirements?	[]	[]
12.2 Identify and explain: _____		

- 13 After completing the appropriate subsections, identify hazardous waste handling, storage, and disposal problems and give recommendations for their resolution.

HAZARDOUS WASTE GENERATION

Yes No

- 14 Are the hazardous wastes generated at this facility tested ☐ ☐
or acknowledged to be hazardous waste as defined by federal
regulation?

14.1 Name listed hazardous wastes:

[illegible]

- 14.2 Has delisting of any waste been attempted? [] []

14.3 Give the status of any such delisting: _____

- 15 Have all unlisted hazardous wastes been evaluated in terms of [] []
ignitability, corrosivity, reactivity, or EP (extraction
procedure) toxicity?

15.1 Are all data available and filed? ☐ ☐

15.2 Name unlisted hazardous wastes:

[illegible]

	<u>Yes</u>	<u>No</u>
16 Has the facility investigated the possibility of obtaining a small-quantity exemption?	[]	[]
16.1 At the federal level?	[]	[]
16.2 At the state level?	[]	[]
16.3 Status: _____		
17 Does the facility ship hazardous waste off-site?	[]	[]
17.1 Does a manifest exist for all shipments?	[]	[]
17.2 Are all transporters used by the plant licensed?	[]	[]
17.3 Are copies of the transporter's permits or permit applications on file?	[]	[]
17.4 Are all waste shipments packaged and labeled in accordance with U.S. Department of Transportation regulations?	[]	[]
17.5 Have all prepared manifests been signed by the generator and initial transporter?	[]	[]
17.6 Are copies of manifests, waste analyses, and other determinations retained at the facility for at least three years?	[]	[]
17.7 Are the appropriate placards on file and offered to the initial transporter?	[]	[]
18 Are hazardous wastes imported from or exported to foreign countries?	[]	[]
19 Are manifest copies from disposal sites received by the plant within 35 days?	[]	[]
19.1 If not, does the plant take any action to determine the status of the shipment?	[]	[]
19.2 If copies of manifests are not received within 45 days, are exception reports filed with the EPA?	[]	[]

	<u>Yes</u>	<u>No</u>
20 Does the facility generate any hazardous wastes that are contaminated with radioactivity? (If so, complete Module 15, Radioactive Waste.)	[]	[]
21 Is this facility located in a state that is authorized to implement the Resource Conservation and Recovery Act (RCRA)?	[]	[]
21.1 Are any state requirements more stringent than RCRA?	[]	[]

HAZARDOUS WASTE STORAGE FOR LESS THAN 90 DAYS

22 Does the facility store hazardous wastes on site for less than 90 days?	[]	[]
Are such wastes stored in:		
22.1 Tanks?	[]	[]
22.2 Containers?	[]	[]
23 Is the date accumulation begins clearly marked on each container or tank?	[]	[]
23.1 Are records kept to document accumulation dates?	[]	[]
23.2 Are the containers or tanks clearly marked "Hazardous Waste"?	[]	[]
24 Has a contingency plan been prepared for moving hazardous wastes if required, e.g., by flooding?	[]	[]
25 Has an emergency preparedness plan been prepared to respond to fires, explosions, and other emergencies?	[]	[]
26 Has the facility provided a personnel training program that includes instructions for safe equipment operation and emergency response procedures?	[]	[]
26.1 Are new employees in the hazardous waste area provided such training within the first six months of their job assignment?	[]	[]
26.2 Is an annual training refresher course provided to all employees?	[]	[]

HAZARDOUS WASTE STORAGE FOR 90 DAYS OR MORE

	<u>Yes</u>	<u>No</u>
<u>Drums</u>		
27 Are hazardous wastes stored in containers (drums)?	[]	[]
If so, complete Questions 28-37 below. If not, continue with Question 38.		
28 Does this facility have a Part A permit for the container storage area?	[]	[]
29 Are recovery drums available for leaking containers?	[]	[]
30 Are the containers compatible with the wastes?	[]	[]
31 Are containers kept closed except when transferring waste?	[]	[]
32 Are container storage areas inspected at least weekly to detect leaks or signs of deteriorating conditions?	[]	[]
32.1 Is a written record maintained?	[]	[]
33 Is the base of the storage area sufficiently impervious to contain spills or leaks until they can be removed?	[]	[]
34 Are provisions in place to minimize contact between standing liquid and the storage containers (e.g., are containers elevated on pallets)?	[]	[]
35 Can the containment area hold 10% of the volume of containers (or the volume of the largest container)?	[]	[]
36 Is the facility constructed to avoid the accumulation of storm water run-on in the containment area?	[]	[]
37 Is accumulated precipitation tested to determine if it is hazardous?	[]	[]

Describe the storm-water control system: _____

Yes No

Tanks

- 38 Are hazardous wastes stored in tanks? ☐ ☐

If so, complete Questions 39-44 below. If not, continue with Question 45.

- 39 Does the facility have a Part A permit for the tanks? { } []

- 40 Are the tanks aboveground? [] []

- 40.1 Is there a containment system? [] []

40.2 Describe: _____

- 41 Are the tanks buried underground? [] []

- 41.1 Do these buried tanks have an access port for inspection? [] []

- 42 Are the hazardous wastes stored in the tanks compatible with tank construction? [] []

- 42.1 Are different types of hazardous waste stored in the same tank? ☐ ☐

- 42.2 Are the wastes compatible? [] []

- 43 Do the aboveground tanks have gas- or vapor-tight covers? [] []

- 43.1 If not, do uncovered tanks have at least 60 cm (2 ft) of freeboard, dikes, or other containment structures? ☐ ☐

- 44 Does the facility have a written inspection program for the tanks? [] []

- 44.1 How often are tanks inspected?

44.2 Describe how inspection procedures are documented:

Yes No

Surface Impoundments

45 Are hazardous wastes stored in surface impoundments? [] []

If so, complete Questions 46-53 below. If not, continue with Question 54.

46 Does the facility have a Part A permit for the surface impoundments? [] []

47 Are the surface impoundments designed to operate with at least 60 cm (2 ft) of freeboard, and are they designed with a structural containment system adequate to contain the waste material? [] []

48 Are earthen structural containment systems provided with protective cover such as grass, shale, or rock to minimize erosion from wind and water? [] []

49 Is the level of freeboard in the surface impoundments inspected at least once each operating day and the structural containment system inspected at least once per week? [] []

49.1 Are all such inspections documented? [] []

50 Has the facility ever recorded an unplanned release of hazardous waste from a surface impoundment? [] []

Describe: _____

51 Are different types of hazardous wastes ever placed in the same surface impoundment? [] []

51.1 Are the wastes compatible? [] []

52 Have ignitable or reactive wastes ever been placed in a surface impoundment? [] []

53 Is a groundwater monitoring system in place and operational? [] []

53.1 If not, does the facility have written documentation that there is a low potential of hazardous waste migration from the surface impoundments? [] []

53.2 Is this documentation certified in writing by a qualified geologist? [] []

Yes No

Waste Piles

- 54 Are hazardous wastes stored in waste piles? [] []

If so, complete Questions 55-59 below. If not, continue with Question 60.

- 55 Does the facility have a Part A permit for the waste piles? [] []

- 56 Are wastes that are subject to wind dispersal protected from the wind? [] []

Describe: _____

- 57 Do the waste piles produce a leachate or runoff after a period of time? [] []

- 57.1 Is the pile on an impermeable base? [] []

- 58 Is storm water run-on controlled or diverted from the waste pile? [] []

Describe: _____

- 59 Are incompatible wastes ever added to the same waste pile? [] []

Emergency Procedures and Preparedness

- 60 Has a detailed plan for chemical and physical analysis been prepared to include:

- 60.1 All parameters and rationale for their selection? [] []

- 60.2 Sampling and testing frequency? [] []

- 60.3 Testing of new wastes when first generated? [] []

		<u>Yes</u>	<u>No</u>
61	Does the facility have 24-hour surveillance, a fence, and danger signs posted at the entrances to the facility's storage, treatment, and disposal operations?	[]	[]
62	Has the facility developed a comprehensive, written inspection plan, and is an operating record log maintained? Does the plan include the inspection of the following elements:	[]	[]
62.1	Emergency equipment?	[]	[]
62.2	Monitoring equipment?	[]	[]
62.3	Security alarm and communications devices?	[]	[]
62.4	Process equipment (pipes, pumps)?	[]	[]
62.5	Containment structures (dikes, curbs)?	[]	[]
62.6	Structural malfunctions (roof, floor)?	[]	[]
62.7	Hazardous waste handling and loading areas used each day?	[]	[]
62.8	Record of any malfunctions due to equipment or operator errors?	[]	[]
62.9	Record of any hazardous waste discharges?	[]	[]
62.10	Storage areas (drums, tanks)?	[]	[]
63	Does the facility have a training program for hazardous waste management? Are the following documents maintained at the facility:	[]	[]
63.1	A written job description for each position related to hazardous waste management?	[]	[]
63.2	A job title for each position related to hazardous waste management?	[]	[]
63.3	Training records?	[]	[]
64	Are special precautions taken for ignitable, reactive, or incompatible wastes? Do these precautions include:	[]	[]

	<u>Yes</u>	<u>No</u>
64.1 Protection from sources of ignition?	[]	[]
64.2 Physical separation of incompatible wastes?	[]	[]
64.3 "No Smoking" or "No Open Flames" signs near areas where ignitable or reactive wastes are handled?	[]	[]
64.4 Controlled commingling of waste materials?	[]	[]
65 Does the plant retain safety equipment as required by the type of waste handled (fire extinguishers, spill control equipment)?	[]	[]
65.1 List the kinds of equipment available: _____ _____ _____ _____		
65.2 Is emergency equipment tested, inspected, and maintained, as necessary?	[]	[]
65.3 Are arrangements with local authorities included in the operating record?	[]	[]
66 Has a contingency plan with emergency procedures been developed or incorporated with the spill plan?	[]	[]
66.1 Does the plan include:		
66.1.1 Information on what to do in case of fire, explosion, or unplanned release of hazardous materials to the air or water?	[]	[]
66.1.2 Arrangements to coordinate emergency services with local police, fire departments, hospitals, and contractors, and state and local emergency response teams?	[]	[]
66.1.3 Names, addresses, and home and office telephone numbers of persons qualified to act as emergency coordinators?	[]	[]
66.1.4 A list of emergency equipment?	[]	[]

Yes No

66.1.5 Evacuation plans in case of fire or explosion?
(Such plans are not necessary if explosive or
flammable materials are not stored or handled
at the plant.)

[] []

66.2 Has the contingency plan been tested to determine its
effectiveness?

[] []

Date of test: _____

67 Are copies of the contingency plan and any plan revisions
maintained on site and submitted to all local and state
emergency services that might be required to participate in
the execution of the plan?

[] []

68 If required, due to the actual hazards associated with the
waste materials, has the facility made appropriate arrange-
ments with local emergency service authorities to familiarize
them with the possible hazards and the facility layout?

[] []

69 Where state or local emergency service authorities have
declined to enter into any proposed special arrangements
or agreements, has the refusal been documented?

[] []

70 Does the plant have an assigned emergency coordinator?

[] []

70.1 Coordinator's name: _____

70.2 Does the coordinator have the authority to carry out
the contingency plan?

[] []

71 Has an emergency occurred in the past review period?

[] []

71.1 Was the contingency plan followed?

[] []

71.2 Was notification made to the DOE Emergency Operation
Center within the prescribed time period?

[] []

72 Does the plant maintain a written operating record for all
treatment, storage, and disposal activity?

[] []

73 Do all "empty" containers contain less than one inch of
residue, or are they triple-rinsed with a suitable solvent?

[] []

74 Are ignitable and reactive wastes stored at least 15 m
(50 ft) from the facility property line?

[] []

	<u>Yes</u>	<u>No</u>
75 Are incompatible wastes kept separate from each other?	[]	[]
76 Are new employees who are hired to handle hazardous waste given a preemployment physical examination (including complete blood and urine analysis) before they are assigned to work?	[]	[]
77 Are employees given physical examinations after their assignment to handle hazardous waste?	[]	[]
77.1 List frequency and type of examination given:		
77.2 Are employee health records maintained for 10 years after employment or assignment to the hazardous waste area ceases?	[]	[]
78 Is emergency medical care available?	[]	[]
Describe:		
79 Is the facility located in a seismic zone?	[]	[]
80 Is the facility located in a 100-year floodplain?	[]	[]
81 Has a closure plan been prepared?	[]	[]
81.1 Has the cost of closure been included in the plan?	[]	[]

FACILITY TRANSPORTATION OF HAZARDOUS WASTE

82 Does the facility have an EPA identification number?	[]	[]
83 Are hazardous waste shipments accompanied by a manifest?	[]	[]
84 Is the manifest signed by the facility, as the transporter, and does it include the date of acceptance?	[]	[]

	<u>Yes</u>	<u>No</u>
85 Is a copy of the signed manifest returned to the facility as the generator?	[]	[]
86 Does the facility, as the transporter, retain one copy of the signed manifest in a separate file?	[]	[]
87 Are hazardous wastes transported out of the United States?	[]	[]
87.1 Is the date the hazardous waste left the United States placed on the manifest?	[]	[]
88 Does the facility, as the transporter, deliver the waste to the designated treatment or disposal facility?	[]	[]
88.1 If not, explain: _____ _____ _____ _____		
88.2 Does the facility, as the transporter, keep a signed copy of the manifest for three years?	[]	[]
89 Has the facility, as the transporter, ever experienced a spill of hazardous waste during transport?	[]	[]
89.1 Was the National Response Center notified?	[]	[]
89.2 Was immediate action taken?	[]	[]
89.3 Describe: _____ _____ _____ _____		
89.4 Was a written transporter report submitted?	[]	[]
89.5 Was the DOE Emergency Operations Center notified within the prescribed period?	[]	[]

	<u>Yes</u>	<u>No</u>
90 Have training requirements of the Resource Conservation and Recovery Act and the U.S. Department of Transportation been met?	[]	[]

Describe training program: _____

FACILITY WASTE TREATMENT AND DISPOSAL OF HAZARDOUS WASTE

91 Does this facility dispose of any hazardous waste on site or at a facility-owned operation?	[]	[]

91.1 Indicate what type of disposal is provided:

Incinerator _____
Land treatment _____
Chemical/physical/biological _____
Other (explain): _____

91.2 Are the above disposal activities permitted?	[]	[]

If you have already answered Questions 60-81 on hazardous waste storage, continue with the section on Commercial Transportation of Hazardous Waste, beginning with Question 115 on p. 94.

92 Has a detailed plan for chemical and physical analysis been prepared to include:	[]	[]
92.1 All parameters and rationale for their selection?	[]	[]
92.2 Sampling and testing frequency?	[]	[]
92.3 Testing of new wastes when first generated?	[]	[]
93 Does the facility have 24-hour surveillance, a fence, and danger signs posted at the entrances to the facility's storage, treatment, and disposal operations?	[]	[]

		<u>Yes</u>	<u>No</u>
94	Has the facility developed a comprehensive, written inspection plan, and is an operating record log maintained? Does the plan include the inspection of the following elements:	[]	[]
94.1	Emergency equipment?	[]	[]
94.2	Monitoring equipment?	[]	[]
94.3	Security, alarm, and communications devices?	[]	[]
94.4	Process equipment (pipes, pumps)?	[]	[]
94.5	Containment structures (dikes, curbs)?	[]	[]
94.6	Structural malfunctions (roof, floor)?	[]	[]
94.7	Hazardous waste handling and loading areas used each day?	[]	[]
94.8	Record of any malfunctions due to equipment or operator errors?	[]	[]
94.9	Record of any hazardous waste discharges?	[]	[]
94.10	Storage areas (drums, tanks)?	[]	[]
95	Does the facility have a training program for hazardous waste management? Are the following documents maintained at the facility:	[]	[]
95.1	A written job description for each position related to hazardous waste management?	[]	[]
95.2	A job title for each position related to hazardous waste management?	[]	[]
95.3	Training records?	[]	[]
96	Are special precautions taken for ignitable, reactive, or incompatible wastes? Do these precautions include:	[]	[]
96.1	Protection from sources of ignition?	[]	[]
96.2	Physical separation of incompatible wastes?	[]	[]

	<u>Yes</u>	<u>No</u>
96.3 "No Smoking" or "No Open Flames" signs near areas where ignitable or reactive wastes are handled?	[]	[]
96.4 Controlled commingling of waste materials?	[]	[]
97 Does the plant retain safety equipment as required by the type of waste handled (fire extinguishers, spill control equipment)?	[]	[]
97.1 List the types of equipment available: _____ _____ _____ _____		
97.2 Is emergency equipment tested, inspected, and maintained, as necessary?	[]	[]
97.3 Are arrangements with local authorities included in the operating record?	[]	[]
98 Has a contingency plan with emergency procedures been developed or incorporated with the spill plan?	[]	[]
98.1 Does the plan include:		
98.1.1 Information on what to do in case of fire, explosion, or unplanned release of hazardous materials to the air or water?	[]	[]
98.1.2 Arrangements to coordinate emergency services with local police, fire departments, hospitals, and contractors, and state and local emergency response teams?	[]	[]
98.1.3 Names, addresses, and home and office telephone numbers of persons qualified to act as emergency coordinators?	[]	[]
98.1.4 A list of emergency equipment?	[]	[]
98.1.5 Evacuation plans in case of fire or explosion? (Not necessary if explosive or flammable materials are not stored or handled at the plant.)	[]	[]

	<u>Yes</u>	<u>No</u>
98.2 Has the contingency plan been tested to determine its effectiveness?	[]	[]
Date of test: _____		
99 Are copies of the contingency plan and any plan revisions maintained on site and submitted to all local and state emergency services that might be required to participate in the execution of the plan?	[]	[]
100 If required, due to the actual hazards associated with the waste materials, has the facility made appropriate arrangements with local emergency service authorities to familiarize them with the possible hazards and the facility layout?	[]	[]
101 Where state or local emergency service authorities have declined to enter into any proposed special arrangements or agreements, has the refusal been documented?	[]	[]
102 Does the plant have an assigned emergency coordinator?	[]	[]
102.1 Coordinator's name: _____		
102.2 Is the coordinator familiar with the plant operations and emergency procedures?	[]	[]
102.3 Does the coordinator have the authority to carry out the contingency plan?	[]	[]
103 Has an emergency occurred in the last review period?	[]	[]
103.1 Was the contingency plan followed?	[]	[]
103.2 Was the DOE Emergency Operations Center notified within the prescribed time?	[]	[]
104 Does the plant maintain a written operating record, including manifests, for all treatment, storage, and disposal activity?	[]	[]
105 Do all "empty" containers contain less than one inch of residue, or are they triple-rinsed with a suitable solvent?	[]	[]
106 Are ignitable and reactive wastes stored at least 15 m (50 ft) from the facility property line?	[]	[]

	<u>Yes</u>	<u>No</u>
107 Are incompatible wastes stored in separate tanks or containers?	[]	[]
108 Are tanks or containers of incompatible wastes separated or protected from each other by physical barriers or sufficient distance?	[]	[]
109 Are new employees who are hired to handle hazardous waste given a preemployment physical examination (including complete blood and urine analysis) before they are assigned to work?	[]	[]
110 Are employees given physical examinations after their assignment to handle hazardous waste?	[]	[]
110.1 List frequency and type of examination given:		
110.2 Are employee health records maintained for 10 years after employment or assignment to the hazardous waste area ceases?	[]	[]
111 Is emergency medical care available?	[]	[]
Describe:		
112 Is the facility located in a seismic zone?	[]	[]
113 Is the facility located in a 100-year floodplain?	[]	[]
114 Has a closure plan been prepared?	[]	[]
114.1 Has the cost of closure been included in the plan?	[]	[]

COMMERCIAL TRANSPORTATION OF HAZARDOUS WASTE

	<u>Yes</u>	<u>No</u>
115 Does the facility use a commercial service for transporting hazardous waste over public roads?	[]	[]
If not, continue with Question 125.		
116 Does the transporter have a valid license for transporting hazardous waste?	[]	[]
Give EPA identification number: _____		
117 Does the transporter sign and date the manifest forms when accepting the hazardous waste?	[]	[]
118 Does the facility package, label, and mark the waste according to Department of Transportation Hazardous Materials Regulations (49 C.F.R. §§ 173, 178, and 179) before offering the waste for transportation?	[]	[]
119 Does the facility placard or offer the initial transporter the appropriate placards according to Department of Transportation Hazardous Materials Regulations (49 C.F.R. § 172)?	[]	[]
120 Has the facility experienced any problems with the transporter or the handling of manifest forms?	[]	[]
121 Have the state and regional EPA regulatory offices been contacted to determine if any complaints about this transporter have been registered and if the transporter has received any violation notice?	[]	[]
Results: _____		

122 Has the facility received any complaints about the use of the transporter?	[]	[]
123 Has the transporter had an accident or reportable release involving the facility's hazardous waste in the past review period?	[]	[]

	<u>Yes</u>	<u>No</u>
124 Has the transporter had an accident or reportable release involving any hazardous waste during the past review period?	[]	[]

COMMERCIAL TREATMENT AND DISPOSAL OF HAZARDOUS WASTE

125 Does the facility use a commercial hazardous waste disposal service?	[]	[]

If not, continue with Module 14 (p. 96).

126 Does the disposal operation have a valid Part A permit?	[]	[]

126.1 Give the EPA identification number: _____

126.2 Has the facility been asked to submit a Part B permit application?	[]	[]

126.3 Status: _____

127 Have the state and regional EPA regulatory offices been contacted to determine if any complaints about this disposal service have been registered and if this service has received any violation notices?	[]	[]

Results: _____

128 Have there been any problems or delays in receiving completed manifests from the disposal operation?	[]	[]

14 SUPERFUND

	<u>Yes</u>	<u>No</u>
1 Has the facility ever released into the environment any reportable quantity of a hazardous substance as listed under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)?	[]	[]
1.1 Was this release reported to the EPA?	[]	[]
1.2 Was any remedial action program or clean-up implemented?	[]	[]
1.3 Describe material release and subsequent actions: _____

_____ | | |
2 Has the facility ever disposed of any waste materials into a disposal site that is on the current EPA Superfund site list or currently being reviewed by the state or EPA for inclusion on that list?	[]	[]
3 Did the facility dispose of any hazardous waste on site before Resource Conservation and Recovery Act (RCRA) regulations went into effect?	[]	[]
3.1 Are any of these materials on the current Superfund list?	[]	[]
3.2 Have these abandoned sites been reported to EPA?	[]	[]

15 RADIOACTIVE WASTE

GENERAL INFORMATION

	<u>Yes</u>	<u>No</u>
1 Does this facility generate, transport, store, process or treat, or have a role in permanent disposal any radioactive waste?	[]	[]

If not, continue with Module 16 (p. 107).

- 2 Does this waste include high-level waste (HLW)?

If so, complete Questions 3-15 and Questions 16-18 on HLW. HLW is defined as the highly radioactive waste that (1) results from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid waste derived from the liquid; (2) contains at least as much transuranium radionuclides as transuranic waste; and (3) contains fission products in concentrations that require permanent isolation.

3 Does this waste include transuranic (TRU) waste?	[]	[]

If so, complete Questions 4-15 and Questions 19-23 on TRU waste. TRU waste is defined as radioactive waste that, without regard to source or form, at the end of institutional control periods is contaminated with alpha-emitting transuranium radionuclides with half-lives greater than 20 years and concentrations greater than 100 nCi/g.

4 Does this waste include low-level waste (LLW)?	[]	[]

If so, complete Questions 5-15 and Questions 24-26 on LLW. LLW is defined as any gaseous, liquid, or solid radioactive waste not classified as HLW, TRU waste, spent nuclear fuel, or mill tailings.

5 Does this waste include radioactive material that contains only naturally occurring radionuclides, including uranium or thorium isotopes or their decay products?	[]	[]

If so, complete Questions 6-15 and Questions 27-28 on naturally occurring radionuclide waste.

Yes No

- 6 Are radioactive waste management reports for the site submitted annually according to guidelines in DOE 5820, Radioactive Waste Management, App. I (Interim Draft), March 25, 1985? [] []

If so, some of the subsequent questions may be skipped by indicating that the requested information is available in the Radioactive Waste Management Report, or other document.

- 7 For all radioactive wastes at this facility, provide process flowcharts indicating current and projected (three years) sources, volume, radioactive content, and chemical and physical characteristics: _____

- 8 Are radioactive wastes generated at other facilities shipped to this facility? [] []

8.1 Are such wastes shipped to this facility for:

8.1.1 Storage? [] []

8.1.2 Treatment or processing? [] []

8.1.3 Disposal? [] []

8.2 Indicate current and projected sources, volumes, radioactivity content, and chemical and physical characteristics: _____

- 9 Have any leaks, spills, effluents from processing, or accidental releases of radioactive wastes been detected during the review period? [] []

If so, complete Module 7 on Environmental Releases of Radionuclides (p. 42).

- 10 Is the construction of additional radioactive handling, transfer, or storage facilities planned within the next three years? [] []

10.1 Summarize: _____

Yes No

10.2 Will these facilities be doubly contained? [] []

10.3 Will these facilities be used to:

10.3.1 Transfer existing waste from current system? [] []

10.3.2 Store additional waste? [] []

10.4 Have the plans been submitted to the DOE line organiza- [] []
tion?

11 Are radioactive wastes evaluated to determine hazards of [] []
chemical wastes?

11.1 Do any of the radioactive wastes at this facility [] []
contain hazardous chemical wastes?

11.2 Describe: _____

11.3 Do the radioactive wastes require greater confinement [] []
because of the chemical wastes?

11.4 Describe: _____

12 Does the facility transport radioactive wastes? [] []

12.1 Do the shipping practices conform to U.S. Department [] []
of Transportation Hazardous Material Regulations
(49 C.F.R §§ 100-179)?

		<u>Yes</u>	<u>No</u>
12.2	Do shipping practices conform to other standards or guidelines?	[]	[]
12.3	Describe: _____ _____ _____ _____		
13	Does the facility have radioactive wastes on site that were previously disposed of using practices or procedures not meeting current criteria?	[]	[]
13.1	Do these historical waste sites have detectable leaks?	[]	[]
13.2	Is retrieval or upgrading of these wastes planned?	[]	[]
13.3	Explain: _____ _____ _____ _____		
14	Does the facility have a quality assurance plan for radioactive waste management?	[]	[]
14.1	Describe: _____ _____ _____ _____		
14.2	Indicate status:		
14.2.1	Planned?	[]	[]
14.2.2	Ongoing?	[]	[]

- 15 Identify any existing or projected radioactive waste problems and give recommendations for their resolution.

Yes No

HIGH-LEVEL WASTE

- 16 Is HLW held in interim storage? [] []
- 16.1 Do the interim storage tank systems and intertank transfer systems include monitoring and leak detection systems for rapid identification of failed containment? [] []
- 16.1.1 Describe the sensitivity limits of the detection system: _____

- 16.1.2 Describe maintenance procedures for the detection system: _____

- 16.2 Does the storage system have spare capacity equivalent to the largest volume of HLW contained in any one tank? [] []
- 16.3 Is the stored HLW retrievable? [] []
- 17 Is generated or received HLW treated or processed before it is stored? [] []
- 17.1 Indicate the status of such treatment or processing:
- 17.1.1 Ongoing? [] []
- 17.1.2 Planned? [] []
- 17.2 Do these processes include separation and recovery of waste by-products for storage or immediate use? [] []
- 17.3 Describe processes, by-products, and use or storage:

		<u>Yes</u>	<u>No</u>
17.4	Do these processes include reduction of volume and mobility to meet applicable disposal requirements?	[]	[]
17.5	Describe processes: _____ _____ _____ _____		
18	Are programs planned or ongoing for ultimate disposal of the HLW?	[]	[]
18.1	Is the anticipated disposal in geologic repositories consistent with the Nuclear Waste Policy Act of 1982?	[]	[]
18.2	Is current and planned disposal by in-place stabilization with engineered barriers?	[]	[]
18.3	Indicate time schedule for disposal, if known: _____ _____ _____ _____		

TRANSURANIC WASTE

19	Is any material known or suspected to be contaminated with transuranium radionuclides assayed as soon as practicable to avoid commingling with other wastes?	[]	[]
20	Does the facility have a certification program to demonstrate that TRU wastes meet disposal acceptance requirements (Ref.: WIPP-DOE-609, <i>TRU Waste Acceptance Criteria for the Waste Isolation Plant</i> , Sept. 1981)?	[]	[]
20.1	Has the program been documented and approved by the disposal site management?	[]	[]
21	Does the facility have TRU wastes that cannot be certified?	[]	[]
21.1	Have disposal or treatment plans been developed for this waste?	[]	[]

21.2 Describe: _____

Yes No

21.3 Have administrative procedures been developed for reducing or completely eliminating generation of TRU wastes that cannot be certified? ☐ ☐

22 Have technical and administrative controls been directed toward reducing the volume and radioactivity of TRU wastes? ☐ ☐

22.1 Describe these controls and the goals for reduced volume and radioactivity: _____

22.2 Describe new or innovative controls being implemented or developed: _____

22.3 Will new controls affect the facility fiscal plan? ☐ ☐

22.4 Have the plans been submitted to the DOE line organization (Ref.: DOE 5480.1A, XII, Pollutant Abatement Projects)? ☐ ☐

23 Have any TRU wastes been buried in shallow land sites or emplaced on soil columns? ☐ ☐

23.1 Are they periodically monitored in situ? ☐ ☐

23.2 Summarize monitoring results: _____

	<u>Yes</u>	<u>No</u>
23.3 Has the DOE program office, in consultation with the DOE Director of Defense Waste and By-Products Management and DOE Assistant Secretary for Environmental Protection, Safety, and Emergency Preparedness, evaluated the need for remedial actions?	[]	[]
23.4 Describe result of this evaluation: _____ _____ _____ _____		
LOW-LEVEL WASTE		
24 Does this facility dispose of LLW on site?	[]	[]
24.1 Have site-specific acceptance criteria for this waste form been developed and implemented?	[]	[]
24.2 Does the site conform to established DOE field organization criteria for:		
24.2.1 Site selection?	[]	[]
24.2.2 Site design?	[]	[]
24.2.3 Site operation?	[]	[]
25 Does this facility have an inactive LLW disposal site?	[]	[]
25.1 Does the site have DOE-approved, site-specific closure plan?	[]	[]
25.2 Indicate implementation status of the closure plan: _____ _____ _____		
26 Does the facility have operations that dispose of liquid LLW directly to the environment?	[]	[]
26.1 Do plans exist to replace these operations with treatment systems such as immobilization before disposal or in situ immobilization?	[]	[]

26.2 Indicate implementation status of these plans:

WASTES CONTAINING NATURALLY OCCURRING RADIONUCLIDES

	<u>Yes</u>	<u>No</u>
27 Indicate the techniques used to manage wastes containing naturally occurring radionuclides, other than enriched uranium:		
27.1 Storage without treatment?	[]	[]
27.2 Stabilization in place?	[]	[]
27.3 Disposal at LLW disposal site?	[]	[]
27.4 Disposal at nuclear fuel or processing sites designated under the Uranium Mill Tailings Radiation Control Act of 1978?	[]	[]
27.5 Other?	[]	[]
27.6 Explain: _____		
_____		
_____		
_____		
28 Does the facility manage wastes containing enriched uranium?	[]	[]

Indicate which of the management techniques listed in Question 27 are used: _____

16 ENVIRONMENTAL AND CONSERVATION POLICY

	<u>Yes</u>	<u>No</u>
1 Is this facility considering any actions that may be classified as major federal actions significantly affecting the quality of the human environment?	[]	[]
1.1 Has DOE been notified to determine whether an Environmental Assessment or Environmental Impact Statement is required?	[]	[]
2 Do any general facility projects (i.e., minor alterations of existing buildings, parking area resurfacing) located in previously undeveloped areas have the potential to affect sensitive areas such as floodplains, wetlands, archaeological sites, or critical habitats?	[]	[]
2.1 Has DOE been notified to determine if an Environmental Assessment or an Environmental Impact Statement is required?	[]	[]
3 Does the facility use, test, or require the use of a marine mammal in the conduct of any of its operations?	[]	[]
4 Has the area contained within the facility's property or fence lines been investigated or studied to determine the presence of:		
4.1 Wetlands?	[]	[]
4.2 Coastal zones?	[]	[]
4.3 Endangered species?	[]	[]
4.4 Historic landmark sites or national heritage areas?	[]	[]
4.5 Archaeological sites?	[]	[]
4.6 Wild, scenic, or recreational rivers?	[]	[]
5 Have any programs been implemented, or are any currently planned, for the control of predatory animals on the facility property?	[]	[]
6 Are there any programs or plans to impound, divert, or otherwise control for navigation or drainage, any streams or other surface waters located on the property?	[]	[]

	<u>Yes</u>	<u>No</u>
7 Are any active mines (including those for minerals and coal) located within the facility's property lines?	[]	[]

Describe mining operation: _____

8 Are any abandoned mines (including those for minerals and coal) located within the facility's property lines?	[]	[]

9 Are any pesticides, insecticides, fungicides, or rodenticides used (currently or within the past 12 months) within the facility's property lines?	[]	[]

Describe use: _____

17 LABORATORY QUALITY ASSURANCE**GENERAL INFORMATION**

	<u>Yes</u>	<u>No</u>
1 Does the facility have an environmental sampling and analysis program?	[]	[]
2 Do facility personnel sample environmental discharges?	[]	[]
3 Are there laboratory facilities on site for analysis?	[]	[]

If not, continue with Question 42.

ORGANIZATION

4 Has a quality assurance or quality control (QA/QC) program been implemented for the sampling and analysis program?	[]	[]
4.1 Was this program prepared according to guidelines set forth in USEPA QAMS-001/80, "Strategy for the Implementation of the EPA's Mandatory Quality Assurance Program" and USEPA QAMS-00-80, "Interim Guidelines and Specifications for Preparing Quality Assurance Plans?"	[]	[]
5 Has a QA/QC coordinator or manager been appointed?	[]	[]
5.1 Does this person operate outside of the laboratory line management structure?	[]	[]
5.2 List the qualifications of the QA/QC manager:		
6 Have specifications been developed for responsibilities of all laboratory personnel involved in the QA/QC program?	[]	[]
6.1 Have specific staff members been designated to:		
6.1.1 Review and approve results?	[]	[]

	<u>Yes</u>	<u>No</u>
6.1.2 Prepare and disseminate spiked samples, split samples, and blind samples?	[]	[]
6.1.3 Maintain instruments?	[]	[]
6.2 List qualifications of laboratory personnel: _____ _____ _____ _____		
7 Has a chain-of-custody procedure been developed?	[]	[]
7.1 Who has the responsibility to ensure that these procedures are being met? _____		
8 Has a systematic alert system been developed to flag unsatisfactory or unexpected results?	[]	[]

RECORDS

9 Does the facility have a designated area where all laboratory and sampling records are kept?	[]	[]
9.1 Where is this area? _____		
9.2 Is access to this area limited?	[]	[]
9.3 Who has access? _____ _____ _____ _____		
10 Are detailed sample logbooks maintained?	[]	[]
Do these logbooks give information on:		
10.1 Sampling time and location?	[]	[]
10.2 Samples?	[]	[]
10.3 Analysts?	[]	[]
10.4 Dates that samples are analyzed and reported?	[]	[]
10.5 Laboratory number for samples sent off site for analysis?	[]	[]

	<u>Yes</u>	<u>No</u>
11 Are records maintained of all calibration graphs and charts?	[]	[]
12 Are records maintained of all instrument maintenance?	[]	[]
13 Are all analysts' laboratory notebooks maintained?	[]	[]
14 Are records maintained of all standards preparation and attendant calibrations?	[]	[]
15 If one or more of the answers to Questions 11-14 is yes, how long are these records maintained? _____ _____ _____		
16 Has an inventory control system been developed to spot-check the purity of commercial chemicals used in analysis?	[]	[]
Describe the procedure: _____ _____ _____ _____		

SAMPLING PROCEDURES

17 Is a sampling schedule maintained for all environmental discharges?	[]	[]
18 Has a sampling procedures manual been prepared?	[]	[]
18.1 Are procedures in this manual consistent with EPA or other accepted sampling protocols?	[]	[]
19 Do written procedures cover:		
19.1 Sample-container cleaning and preparation?	[]	[]
19.2 Obtaining a representative sample?	[]	[]
19.3 Sample preservation?	[]	[]
19.4 Sample storage conditions and times?	[]	[]

INSTRUMENTS

	<u>Yes</u>	<u>No</u>
20 Have maintenance procedures been written for each instrument or piece of equipment used for sample analysis?	[]	[]
20.1 Are maintenance schedules and attendant records maintained?	[]	[]
21 Have calibration procedures been prepared for each instrument used for sample analysis?	[]	[]
21.1 Are calibration schedules and records maintained?	[]	[]
21.2 Are standards and equipment used to calibrate instruments traceable to National Bureau of Standards?	[]	[]
22 Are there written procedures for training personnel in the use of these instruments?	[]	[]
22.1 Are training records maintained?	[]	[]
23 Are there detailed written procedures for instrument use?	[]	[]
23.1 Is a manufacturer's manual available in support of these written procedures?	[]	[]
24 For some instruments, periodic maintenance by factory service technicians is necessary. List those instruments for which there are periodic manufacturer maintenance agreements.		

<u>Instrument and Manufacturer</u>	<u>Time Period</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

ANALYTICAL PROCEDURES

25 Do laboratory manuals describe procedures for each type of analysis?	[]	[]
25.1 Are these procedures consistent with those developed by EPA or other standard methods?	[]	[]

		<u>Yes</u>	<u>No</u>
25.2	Are these procedures periodically reviewed and modified as necessary?	[]	[]
25.3	Are these modifications noted as revisions of the original procedure?	[]	[]
25.4	Where procedures are substantively different from accepted EPA procedures, has the laboratory petitioned EPA for acceptance of the modification?	[]	[]
25.5	Are older versions of the procedure kept in files?	[]	[]
26	Are there procedures for developing calibration charts with standard solutions and blanks?	[]	[]
26.1	Are these charts kept in the laboratory's historical records?	[]	[]
26.2	Are the primary standards used to prepare standard solutions traceable to National Bureau of Standards?	[]	[]
27	Do written procedures give the required purity of all reagents?	[]	[]
28	Are reagents logged in with date of arrival marked on the container?	[]	[]
29	Do written procedures give the acceptable limit for maintaining a standard solution?	[]	[]
30	Are standard solution containers marked with date of standardization?	[]	[]
31	Does the laboratory notebook contain the following information:		
31.1	Sample identification number?	[]	[]
31.2	Date of analysis?	[]	[]
31.3	Analyst's signature?	[]	[]
31.4	Internal QA signature?	[]	[]

INTERNAL QUALITY ASSURANCE PROCEDURES

	<u>Yes</u>	<u>No</u>
32 Is there a procedure for checking all calculations?	[]	[]
33 Is there a procedure for checking for possible data transfer errors?	[]	[]
34 Is there a procedure for spiking samples in the field and laboratory?	[]	[]
35 Is there a procedure for running known replicates to determine precision?	[]	[]
36 Is there a program for checking the accuracy of the results?	[]	[]
36.1 Does this program include the analysis of standard samples from EPA?	[]	[]
36.2 Does this program include the analysis of unknown, round-robin samples from EPA?	[]	[]
36.3 Does the laboratory subscribe to programs similar to those described in Questions 36.1 or 36.2 but conducted by other federal and state agencies?	[]	[]
36.4 Does this program include the analysis of standards from National Bureau of Standards?	[]	[]
36.5 Does this program include blind repeat analyses or the internal preparation of blind samples?	[]	[]
37 Does the QA/QC manager carry out an independent program that covers any areas discussed in Question 36?	[]	[]
38 Are there written procedures to verify recovery of a parameter over time?	[]	[]

EDUCATION OF PERSONNEL

39 Are minimum education and experience levels listed for personnel who perform the analytical procedures?	[]	[]
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	<u>Yes</u>	<u>No</u>
40 Are there established procedures for training staff to perform analytical methods new to them?	[]	[]
40.1 Do these procedures contain specific precision and accuracy levels to be achieved by the analysts before they can begin working on actual samples?	[]	[]
41 Are there mechanisms in place to allow for continued developments and training of staff in new analytical techniques?	[]	[]

OUTSIDE LABORATORY

42 Are environmental samples sent to outside laboratories for analysis?	[]	[]
43 If samples are designated as hazardous materials for the purposes of transportation, are they packaged, labeled, and shipped according to U.S. Department of Transportation Hazardous Materials Regulations?	[]	[]
44 Have chain-of-custody protocols been developed for transfer of samples?	[]	[]
45 Have procedures been prepared for the handling, storage and preservation of samples during transfer?	[]	[]
46 Do these laboratories maintain a QA/QC program?	[]	[]
47 Do the facility staff members have access to the outside laboratory's facilities for review of its procedures?	[]	[]
48 Has someone at the facility been designated as QA/QC manager to review and audit QA/QC procedures at the outside laboratory?	[]	[]
49 Are there QA/QC audit procedures for conducting an outside audit?	[]	[]
49.1 Are these procedures available for internal review?	[]	[]
50 Has any QA/QC audit been conducted?	[]	[]
50.1 Date of the most recent audit: _____		

50.2 Describe any problems which occurred as a result of the audit: _____

50.3 Describe corrective actions with timetables for these actions: _____

- 51 Identify any laboratory quality assurance problems and give recommendations for their resolution.

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