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QA-RP-00012

ROCKY FLATS PLANT  
INTERNAL ENVIRONMENTAL AUDIT CHECKLIST

Date of this Audit: September - October, 1987

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Best Available Copy

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## RESULTS OF INTERNAL AUDIT AND RECOMMENDATIONS

### SECTION D, COMPLIANCE SCHEDULE

RESULTS OF AUDIT: The Plant has not been cited for any violations of any applicable federal, state, local pollution control standard, code, or regulation, with the exception of the PCB transformer fine, and the NPDES violation (spray runoff).

### SECTION E, AIR POLLUTION CONTROL (NONRADIOACTIVE)

RESULTS OF AUDIT: Carbon tetrachloride (CCl<sub>4</sub>) emission levels have been verified by material balance calculations. The 300 pound per day estimated emissions are expected to exceed the limitations in the upcoming regulatory change for CCl<sub>4</sub>. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) is being expanded to include CCl<sub>4</sub>. Although specific emission limits have not yet been set, it is expected the numbers will be very low (in the parts per million range).

RECOMMENDATIONS: The study being conducted by Facilities Engineering investigating alternative solvents and administrative controls should be expanded to include specific control devices capable of reducing CCl<sub>4</sub> emissions to the sub parts per million levels. Samples will be taken from the major CCl<sub>4</sub> sources to verify concentrations, as part of a plant-wide RCRA hazardous emissions study.

### SECTION F, WATER POLLUTION CONTROL

COMMENTS: The emerging RCRA ground water monitoring program is undergoing its own internal audit in accordance with RCRA requirements. Documentation and results of this ongoing audit can be found in the Environmental Master File as they are completed.

### SECTION K, ASBESTOS

RESULTS OF AUDIT: To cover the on-going asbestos removal and renovation projects on plant site, the Industrial Hygiene Department obtained (9/87) from the Colorado Department of Health (CDH) a Permit to conduct these activities in accordance with State regulations. Permit issued on 9/4/87, #87FE401A,

#### SECTION M, NONHAZARDOUS WASTE (LANDFILL)

RESULTS OF AUDIT: Current copies of Federal, State, and local ordinances, regulations, or standards are being maintained by the Environmental Management section of HS&E.

#### SECTION N, HAZARDOUS WASTE

RESULTS OF AUDIT: Item 4.3 relates to maintaining a file with all the pertinent data for following the chain of custody applying to disposal of hazardous waste. A copy of the waste transporter's permit is not maintained in a file on plantsite.

RECOMMENDATIONS: A copy of each transporters' regulatory permit should be kept as part of the Rocky Flats documentation.

COMMENT: The Environmental Internal Audit contains sections which address hazardous waste and radioactive waste. This present format does not contain a section for "Mixed Waste". The status of "Mixed Waste" has changed from "Not Regulated Under RCRA" to "Regulated under RCRA". As a result, many mixed waste units are not yet in compliance with the regulations. The answers provided in this checklist should not be construed as applying to "Mixed Waste" units.

#### SECTION R, LABORATORY QUALITY ASSURANCE

RESULTS OF AUDIT: As per section 4.1, laboratory QA/QC programs as found in USEPA QAMS-001/80 and USEPA QAMS-00/80 do not apply to radiological sampling at Rocky Flats. Applicable Quality Assurance program for laboratory analysis and field sampling where completed in September. Rocky Flats Quality Assurance guidelines established according to NQA-1 (ANSI Standard).

RESULTS OF AUDIT: Item 20.0 indicates maintenance records for some instruments have not been developed and that the interdisciplinary responsibilities in use make Quality Assurance protocols unclear.

RECOMMENDATIONS: All instruments used for environmental sampling and analysis should have attendant maintenance procedures and operating logs.

RESULTS OF AUDIT: Items 26.0 and 26.1 dealing with standard solutions and blanks, as intended in USEPA QAMS-001/80 and QAMS-00/80, does not apply to the analysis of radiological samples.

RESULTS OF AUDIT: Item 30.0 requests procedures for checking all calculations be in place. The survey found a well implemented system for handling non-routine, or problematical sample calculation verification. A computerized program (Flow Gemini) checks for data transfer errors. The number of samples processed makes reviews of all calculation impractical.

RECOMMENDATIONS: A small but representative percentage of the samples considered good should be randomly recalculated as a quality check.

RESULTS OF AUDIT: Items 41.0 - 47.0 pertain to Quality Assurance procedures when environmental samples are sent to outside laboratories for analysis. Improvements have been made in this area, particularly the development of procedure HS&EL OP-63. Further progress is needed and is progressing to verify Quality Assurance procedures for contractor labs.

RECOMMENDATIONS: Appropriate quality assurance programs and their necessary protocols should be verified and documented on all Rocky Flats environmental samples sent to outside laboratories. Turn-key environmental monitoring contractors should have their internalized quality assurance programs verified by Rocky Flats personnel.

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## A. INTRODUCTION

DOE Order 5482.1A and AL Order 5482.1, "Environmental, Safety, and Health (ES&H) Appraisal Program" establish the basic procedure within DOE for both functional and management environmental appraisals. Within this procedural framework, each DOE facility must conduct an annual facility internal audit to determine where the facility stands relative to current environmental compliance, as well as to identify potential noncompliance situations and future problem areas.

The Rocky Flats Plant Internal Environmental Audit Checklist has been adapted from a suggested DOE Facility Internal Audit Checklist prepared by Argonne National Laboratory. The checklist has been structured in several modules -- each representing a separate environmental area

Questions within each module were developed from existing DOE Orders, Executive Orders, federal statutes, Environmental Protection Agency, and Colorado Department of Health regulations issued pursuant to the individual environmental acts. A list of references is included at the end of this checklist (APPENDIX A).

The checklist also includes questions that pertain to industrial environmental "standards of practice." These standards represent areas that could lead to environmental noncompliance situations if not reviewed

periodically. These areas include such items as maintenance of pollution control equipment, knowledge of all discharge points into the Plant sewer system, cross-connections between potable water lines and process water lines (if any exist), and those prudent actions or reviews that can reasonably be expected to be taken to ensure environmental compliance.

The internal environmental audits required for the Rocky Flats Plant are performed by the Environmental Management Section of the Operations Management Branch of the Health, Safety and Environment Department. Audits will be performed by Environmental Management on an annual basis. The record copy of each annual audit will be retained in the Environmental Master File (EMF) located in the Environmental Analysis and Control Section offices.

#### A-2. OVERVIEW OF ENVIRONMENTAL MANAGEMENT SECTION PROGRAM AT THE ROCKY FLATS PLANT

The Environmental Management section at the Rocky Flats Plant is responsible to develop and maintain programs for environmental monitoring and control, meteorological monitoring, plant operation environmental review and surveillance, and emergency and fallout response programs consistent with the Department of Energy (DOE) and Rockwell requirements and objectives. The environmental monitoring program is designed to evaluate and limit the overall impact of plant operations on the surrounding environment and to assure compliance with applicable guides for radioactive and nonradioactive discharge to the environment.

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Compliance is assessed by monitoring of stack effluents, ambient air, water, soil, and sediment. The meteorological monitoring program provides meteorological data specific to the Rocky Flats plant site that are useful in determining site wind structure for routine and emergency conditions. The plant operation review and surveillance program includes all activities required to establish, review, and update environmental criteria for control of pertinent plant operations and activities and to monitor for compliance. The emergency and fallout response programs outline the procedures to be carried out during emergency situations and upon notification of a fallout alert to monitor environmental radioactivity.

The Quality Program Plan for Environmental Management has been written to establish a framework to assure that:

- . Current operating procedures exist for all phases of EA&C operations and that these procedures are implemented as written.
- . The appropriate approvals are obtained prior to program initiation or change.
- . The equipment used in sample collection and data analysis is appropriate to the assigned function and is operating as required.
- . Accurate documentation exists for all programs, procedures, and actions.

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The need for modification of routine sampling programs is determined through the development of special studies programs. These programs are designed by Environmental Management specialists in accordance with procedures of Environmental Management and H/E Analytical Labs and require the approval of the managers of Environmental Management and HS&E Operations Management. At the conclusion of the program, the data and conclusions are reviewed, and recommendations are then implemented.

In addition to this particular audit, the Environmental Management section is subject to periodic audits by:

- Environmental Management Internal
- Rocky Flats Internal Auditing
- Quality Engineering and Control
- DOE Operational Safety Teams

Written procedures exist for all phases of Environmental Management operations. Each procedure is reviewed as necessary by members of the Environmental Management Section and any revisions are approved by the EA&C Manager.

Procedures are divided into three categories:

Control Procedures - Define control points in the various operations and the actions which shall be taken at each control point.

Sampling Procedures - Specific instructions as to sample collection and pretreatment methods.

Emergency Response - Defines the actions which must be taken to respond to any emergency situations.

A listing of the Environmental Management operating procedures follows.

#### Control Procedures

EAC-C-1	Response to a SAAM Alarm
EAC-C-2	Discharges from Ponds B-3 and A-3
EAC-C-3	Spraying from Landfill Pond and Pond A-2
EAC-C-6	Weed Control
EAC-C-7	Runoff, Flood, and Spill Control
EAC-C-10	Discharge from Dams A-4, B-5, and C-2
EAC-C-11	Building 374 Evaporator Product Water
EAC-C-12	Disposal of Waste Oils and Organic Solvents
EAC-C-13	Spray Irrigation of Nitrate Sump Water

#### Sampling Procedures

EAC-S-1	Airborne Effluent Sampling
EAC-S-2, EA&C-S-2A	Ambient Air Sampling
EAC-S-3	Surface Waters
EAC-S-4	Soil Sampling
EAC-S-5	NPDES Permit Water Sampling

#### Emergency Response Procedures

EAC-ERP-1	General Emergency Response Criteria
EAC-ERP-2	Air Pollution Episode Response
EAC-ERP-3	Atmospheric Release Advisory Capability (ARAC)
EAC-ERP-4	Fallout Response

B. COMPLETION OF THE AUDIT CHECKLIST.

The questions contained in the audit checklist were developed such that an introductory question is followed by one or more subquestions that serve to clarify and/or confirm the response to the introductory question. Most of the checklist modules contain introductory questions to which a "No" response permits the user to move immediately to the next module. In most cases, a negative response to the introductory question indicates that the following subquestions need not be answered. It should be noted, however, that there are some questions for which a "No" response would require an additional action. This type of question has been written to include specific directions, such as "If No, explain: ..." .

This audit checklist will be changed and/or updated as required for compliance demonstration.

C. GENERAL FACILITY INFORMATION

	<u>YES</u>	<u>NO</u>
1.0 Name and location of facility:		
1.1 Name: <u>Rocky Flats Plant</u>		
1.2 Address: <u>P. O. Box 464</u> <u>Golden, CO 80402-0464</u>		
1.3 County: <u>Jefferson</u>		
1.4 Copy of location map attached?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.5 Copy of plot plan attached?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.0 Name of Contractor:		
2.1 Name: <u>Rockwell International, NASO</u>		
2.2 Address: <u>P. O. Box 464</u> <u>Golden, CO 80402-0464</u>		
2.3 Telephone No. <u>(303) 966-2453</u>		
2.4 Contact person: <u>George H. Setlock</u>		
2.5 Alternate contact person: <u>G. L. Potter</u>		
3.0 Environmental contact person at facility:		
3.1 Name: <u>George H. Setlock</u>		
3.2 Title: <u>Manager, Environmental Management</u>		
3.3 Telephone No. <u>(303) 966-2453</u>		
4.0 This review date: <u>September - October, 1987</u>		
4.1 Previous review date: <u>August - September, 1986</u>		
5.0 Nature of operations at this facility:		
<u>The Plant is a key DOE facility that produces components</u> <u>for nuclear weapons. Operations include fabrication of</u> <u>components from plutonium, uranium, beryllium, and</u> <u>stainless steel.</u>		

6.0 List contact personnel with environmental responsibility:

<u>Name</u>	<u>Phone</u>	<u>Area or Department/Responsibility</u>
<u>G. W. Campbell</u>	<u>(303) 966-2206</u>	<u>Health, Safety &amp; Environment Director</u>
<u>G. L. Potter</u>	<u>(303) 966-4098</u>	<u>HS&amp;E Operations Management Manager</u>
<u>G. H. Setlock</u>	<u>(303) 966-2453</u>	<u>Environmental Management, Manager</u>
<u>R. J. Crocker</u>	<u>(303) 966-2090</u>	<u>Auditor - Sr. Env. Engineer</u>

- 7.0 Has the facility forecast any major environmentally related expenditures (i.e., over \$100,000) to be required over the next 36 months? (RCRA Part B Transuranic Application) YES  NO
- 7.1 If Yes, has the appropriate DOE Field Office been notified?
- 7.2 Will this expenditure require an increase in manpower? (No plant personnel; offsite consultants will be employed on this project.)
- 8.0 Are there any future programs or plans (i.e., new buildings, equipment, or manufacturing/research facilities, or major modifications to existing facilities) that will impact on the environment?
- 8.1 If Yes, explain: New Spray irrigation field to accommodate 80 million gallons of treated sanitary effluent annually; RCRA closure activities and remedial investigations at prioritized sites at RFP.
- 9.0 Has this facility recently installed, or is it presently evaluating, any innovative pollution treatment/control technology?
- 9.1 If Yes, describe: afterburner on 771 recovery incinerator; controls on fluidized bed incinerator (FBI) in building 776; classified waste incinerator planned upgrades - Building 122.
- 10.0 Are there any future or proposed federal, state, or local regulations (i.e., sewer discharge limits, state requirements) that are of concern to this facility?

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YES NO

10.1 If Yes, explain: Resource Conservation and Recovery Act (RCRA), CDH jurisdiction over RCRA; Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), National Emissions Standards for Hazardous Air Pollutants (NESHAP); 40 CFR 61 Part A.

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

11.1 If Yes, describe: TRAC (Terrain Responsive Atmospheric Code) used for emergency response (air emissions). TRAC is being validated and submitted for EPA approval nationwide.

12.0 Has any federal, state, or local regulatory agency conducted an inspection of the facility within the last review period? [X] [ ]

12.1 If yes, describe inspection and results: Annual dam inspection - U.S. Army Corps of Engineers (6/86); GAO Environmental Audit (12/85); DOE-HQ Environmental Survey (8/86); Sampling (9/86); DOE-AL Audit (6/86); NPDES Permit Inspection (12/85); CDH RCRA inspection (4/87)

13.0 List all approved/forecast appropriations or projects related to environmental control:

Solar Evaporation Pond Cleanup  
Volatile Organic Compound Investigation (GW)  
Building 771 Filter Plenum Renovations + 881  
Waste Storage Tanks (250,000 + 950,000 gal) (2)  
Evaporator Water Tanks (100,000 gal) (2)  
Spray Irrigation Studies/Implementation (80,000,000 gallons/year)

14.0 Is this facility operated by contract to DOE? [X] [ ]

14.1 If Yes, is there more than one contractor operating the facility? [ ] [X]

14.2 If Yes, number of contractors: N/A  
Prime contractors? \_\_\_\_\_

15.0 COMMENTS: During the review period the principal RFP subcontractor (Swinnerton & Walburg (S&W) was replaced by J. A. Jones. This transition became effective 10/1/87.

D. COMPLIANCE SCHEDULE

- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 1.0 Has this facility been cited for any violation of any applicable federal, state, or local pollution control standard, code, or regulation? (PCB penalty and NPDES violation - spray runoff)  | [X]        | [ ]       |
| 1.1 If Yes, has an internal plan been prepared to achieve compliance? (Completed)  | [X]        | [ ]       |
| 1.2 Has the plan been submitted to the applicable DOE Field Office?  | [X]        | [ ]       |
| 1.3 Has the plan been accepted into the DOE budget cycle?  | [ ]        | [X]       |
| 1.4 Has Congress appropriated and authorized funding for this plan?  | [ ]        | [X]       |
| 2.0 Does this facility have existing consent orders compliance schedules, corrective action orders (or equivalent) with a regulatory agency for construction, modification, or addition to any environmental control facility or implementation of any environmental control system? | [X]        | [ ]       |
| 2.1 If Yes, list with compliance date:<br><u>March 1, 1988 Feasibility study due date</u><br><u>Remedial action initiation - May 1, 1988 on</u><br><u>881 Hillside Area (groundwater contamination)</u>  |            |           |
| 2.2 Does the facility have a tracking system to monitor progress under the terms of the order described above?   | [X]        | [ ]       |
| 2.2.1 If Yes, describe: <u>RCRA-CERCLA Programs</u><br><u>section has been set up for this purpose</u><br><u>(contact - K. B. McKinley, x7664.</u>   |            |           |
| 2.3 Are the order terms and milestones being met?  | [X]        | [ ]       |
| 2.3.1 If No, explain: <u>N/A</u><br>_____<br>_____<br>_____  |            |           |

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 3.0 Does this facility have any agreements with a regulatory agency (other than those described above for construction of, and/or modification or addition to, any environmental control facility or implementation of any environmental control system? | [X]        | [ ]       |
| 3.1 If Yes, describe: <u>NPDES Permit with EPA Region VIII; RCRA Part B pending with Colorado Dept. of Health (CDH) - major permits.</u>   |            |           |
| 3.2 Does the facility have a tracking system to monitor progress under terms of the agreement?   | [X]        | [ ]       |
| 3.2.1 If Yes, describe: <u>Monthly reporting for both NPDES and RCRA-CERCLA Compliance Agreement</u>   |            |           |
| 3.3 Are terms of the agreement being met?  | [X]        | [ ]       |
| 3.3.1 If No, explain: _____<br>_____   |            |           |
| 4.0 Is the facility currently in discussions and/or negotiations with any regulatory agency on an environmental problem, noncompliance situation, or complaint?  | [ ]        | [X]       |
| 4.1 If Yes, explain: <u>Not at present.</u><br>_____<br>_____  |            |           |
| 5.0 Has this facility had a compliance order, consent decree, or agreement with any regulatory agency within the last three years?   | [X]        | [ ]       |
| 5.1 If Yes, list with date of final compliance: <u>RCRA-CERCLA Compliance Agreement signed July 31, 1986; final compliance dates negotiated as RI/FS progress.</u>   |            |           |
| 6.0 Exclusive of regulatory agencies, does this facility have any ongoing projects which will involve any part of its environmental control system?  | [X]        | [ ]       |

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- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 7.4 Will there be any outside agency support for this project?  | [ ]        | [X]       |
| 7.4.1 If Yes, describe nature of support with pertinent cost codes: _____<br>_____<br>_____   |            |           |
| 8.0 Has this facility received any environmentally related complaints (i.e., odors, smoke, taste in water, etc.) from any individual or group or community?                       | [X]        | [ ]       |
| 8.1 If Yes, nature of complaint: <u>Concern about hazardous constituents in groundwater; activist + citizen concerns on FBI; routine plutonium recovery operations/emissions.</u> |            |           |
| 8.2 Does the facility have a procedure for handling such complaints?  | [X]        | [ ]       |
| 8.3 If Yes, describe: <u>public concern over all radiation environmental monitoring data; State Exchange meeting represents a monthly public forum</u>                            |            |           |
| 8.4 Are these complaints transmitted to the appropriate DOE Field Office?   | [X]        | [ ]       |
| 8.5 Is a file maintained on all complaints and their resolution?  | [ ]        | [X]       |
| 9.0 Does this facility maintain a file containing all DOE orders relating to environmental compliance?  | [X]        | [ ]       |
| 9.1 If Yes, list title and number for DOE order on file: <u>DOE Orders relating to environment (i.e., 5480.1 5480.1A, 5482.1, 5440.1, 5484.1)</u>                                 |            |           |
| 10.0 Does this facility meet the requirements of the DOE Order 5482.1A requiring yearly environmental reports?  | [X]        | [ ]       |
| 11.0 Does this facility maintain a file containing all field office directives and supplemental memos pertinent to DOE environmental orders?                                      | [X]        | [ ]       |

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YES NO

11.1 If Yes, list dates on directives and memos and  
originator of material: None received in CY87.

\_\_\_\_\_

12.0 COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

14.0 Responsible Contact Person(s): George Setlock (x2453)

\_\_\_\_\_

\_\_\_\_\_

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E. AIR POLLUTION CONTROL  
(NONRADIOACTIVE)

- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 1.0 Does this facility have any nonradioactive air pollutant emissions: | [X]        | [ ]       |
| 1.1 Existing during the past review period?                             | [X]        | [ ]       |
| 1.2 Anticipated to start up within the next three years?                | [X]        | [ ]       |

If No for both 1.1 and 1.2, continue with the next module (F).

POINT SOURCES

- |   |     |     |
|---|-----|-----|
| 2.0 Has an inventory or survey of existing or planned point source emissions for criteria pollutants been completed?  | [X] | [ ] |
| 2.1 If Yes, complete the following data sheet 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?   | [X] | [ ] |
| 2.2.1 Asbestos? (See Section K; also Section 7.1)   | [X] | [ ] |
| 2.2.2 Beryllium? (See EA&C Monthly & Annual Reports)  | [X] | [ ] |
| 2.2.3 Mercury? (Work place analysis)  | [X] | [ ] |
| 2.2.4 Vinyl chloride? (Not used at RFP)   | [ ] | [X] |
| 2.2.5 Benzene? (RF not a benzene source)  | [ ] | [X] |
| 2.2.6 Other hazardous substances regulated by State Air Pollution Control Agency? (See 27.0)  | [X] | [ ] |

If Yes for any of the above, also include information on following data sheets.

- 2.3 Date when most recent complete site source survey was completed: A survey of chemical usage/emissions was completed in August (1987) and submitted to CDH. This preliminary information gathering of non-criteria pollutant information by CDH was part of CDH's expansion of their emissions inventory computer data base.

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2.1.1 Summary of Regulated and Unregulated Pollutant Sources from Facility Survey<sup>a</sup>

Process/Source: Building 776 Incinerator; CDH Permit #C-13,022

Date of Installation/Modification: Permitted on 3/25/86 to account for modifications. Original in operations since early 1950's.

Process Capacity (e.g., Btu/hr, lb/hr) 180 lb/hr.

Avg. Annual Utilization as Percent of Capacity: 100%

Installation Permit: Yes \_\_\_\_\_ No \_\_\_\_\_ N/A X Operation Permit: Yes X No \_\_\_\_\_ N/A \_\_\_\_\_

<u>Pollutant</u>	<u>Code Limitation</u> <sup>b</sup>	<u>Regulatory Agency</u>	<u>Compliance Yes, No, N/A</u>	<u>Emission Determined by (Calc., Test)</u>	<u>Controlled (Yes, No)</u>	<u>Change from Previous Audit (Yes, No)</u>	<u>Comments</u>
Opacity	< 20%	CDH-AQCD	Yes	Visual Inspection	Yes (H.E.P.A.)	No	Incinerator presently inactive;
Particulates (from solids)	<.28 tons/yr. and <.35 lbs/hr.	CDH-AQCD	Yes	Calculation	Yes (H.E.P.A.)	No	application for RCRA hazardous waste
Particulates (from liquid)	<.04 tons/yr. <.25 lbs/hr.	CDH-AQCD	Yes	Calculation	Yes (H.E.P.A.)	No	incinerator is pending.

<sup>a</sup>Include separate sheet for each process or source.

<sup>b</sup>Include opacity limitations.

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2.1.2 Summary of Regulated and Unregulated Pollutant Sources from Facility Survey<sup>a</sup>

Process/Source: **Building 123 Laboratory; CDH Permit #86J018 (Initial) final permit pending until construction is complete.**

Date of Installation/Modification: **Permitted 4/28/86; source modification 5/86 - in progress.**

Process Capacity **Acids <0.4196 tons/yr.**

Avg. Annual Utilization as Percent of Capacity: **50% - 90%**

Installation Permit: Yes \_\_\_\_\_ No \_\_\_\_\_ N/A X Operation Permit: Yes X No \_\_\_\_\_ N/A \_\_\_\_\_

<u>Emission Pollutant</u>	<u>Code Limitation<sup>b</sup></u>	<u>Change from Regulatory Agency</u>	<u>Compliance Yes, No, N/A</u>	<u>Determined by (Calc., Test)</u>	<u>Controlled (Yes, No)</u>	<u>Previous Audit (Yes, No)</u>	<u>Comments</u>
Acid mists	.683 lbs/yr and 1.04 tons/yr	CDH-AQCD	N/A	N/A	No	N/A	Source is not presently in operation, construction still in progress. Compliance is not expected to be a problem.
Nitric acid	usage shall not exceed 760 gal/yr	"	"	"	Yes	N/A	
Hydrochloric acid	usage shall not exceed 250 gal/yr	"	"	"	Yes	N/A	
Opacity	<20%	CDH-AQCD	"	"	No	N/A	

<sup>a</sup>Include separate sheet for each process or source.

<sup>b</sup>Include opacity limitations.

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2.1.3 Summary of Regulated and Unregulated Pollutant Sources from Facility Survey<sup>a</sup>

Process/Source: Building 122 Classified Waste Incinerator; CDH Permit #C-12,931.

Date of Installation/Modification: Permitted 3/25/86

Process Capacity (lb/hr) 490 Avg. Annual Utilization as Percent of Capacity: 10%

Installation Permit: Yes \_\_\_\_\_ No \_\_\_\_\_ N/A X Operation Permit: Yes X No \_\_\_\_\_ N/A \_\_\_\_\_

<u>Pollutant</u>	<u>Code Limitation<sup>b</sup></u>	<u>Regulatory Agency</u>	<u>Compliance Yes, No, N/A</u>	<u>Emission Determined by (Calc., Test)</u>	<u>Controlled (Yes, No)</u>	<u>Change from Previous Audit (Yes, No)</u>	<u>Comments</u>
Particulates	<.45 lbs/hr and .22 tons/yr	CDH-AQCD	Yes	Calculation	No	N/A	This Incinerator has been placed into <u>full-time</u> service due to the failure of the shredder. Expected to continue through the end of FY87. New shredders on order for handling primary waste-paper load.
Opacity	<20%	CDH-AQCD	Yes	Visual Test (Method 9)	"	"	Minor complaints from several employees; no opacity violation observed.

<sup>a</sup>Include separate sheet for each process or source.

<sup>b</sup>Include opacity limitations.

24/1/01

2.1.4 Summary of Regulated and Unregulated Pollutant Sources from Facility Survey<sup>a</sup>

Process/Source: **Building 707 solvent cleaning (carbon tetrachloride); non-permitted\*.**

Date of installation/modification: **N/A**

Process Capacity (lb/hr) **450 lbs/hr**

Avg. Annual Utilization as Percent of Capacity: **50 - 100%**

Installation Permit: Yes \_\_\_\_\_ No \_\_\_\_\_ N/A **X** Operation Permit: Yes \_\_\_\_\_ No \_\_\_\_\_ N/A **X**

<u>Pollutant</u>	<u>Code Limitation<sup>b</sup></u>	<u>Regulatory Agency</u>	<u>Compliance Yes, No, N/A</u>	<u>Emission Determined by (Calc., Test)</u>	<u>Controlled (Yes, No)</u>	<u>Change from Previous Audit (Yes, No)</u>	<u>Comments</u>
CCl4 (as VOC)	3000 lbs/day	CDH (as VOC)	Yes (370 lbs/day)	Calc.	No	No	Carbon tetrachloride is expected to have strict control in the near future. (PPM levels).

\* CCl4 is currently being promulgated as an EPA N.E.S.H.A.P.

<sup>a</sup>Include separate sheet for each process or source.

<sup>b</sup>Include opacity limitations.

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2.1.5 Summary of Regulated and Unregulated Pollutant Sources from Facility Survey<sup>a</sup>

Process/Source: **Building 774; carbon tetrachloride sparging operation; non-permitted.**

Date of Installation/Modification: **1967**

Process Capacity (lb/hr) **Received in 600 liter batches; air purged, 340 liters.**

Avg. Annual Utilization as Percent of Capacity: **50-100%**

Installation Permit: Yes \_\_\_\_\_ No \_\_\_\_\_ N/A X Operation Permit: Yes \_\_\_\_\_ No \_\_\_\_\_ N/A X

<u>Pollutant</u>	<u>Code Limitation<sup>b</sup></u>	<u>Regulatory Agency</u>	<u>Compliance Yes, No, N/A</u>	<u>Emission Determined by (Calc., Test)</u>	<u>Controlled (Yes, No)</u>	<u>Change from Previous Audit (Yes, No)</u>	<u>Comments</u>
CCl4 (as a VOC)	10 gallons/day (in ozone non-attainment area)	CDH-AQCD	Yes (as VOC)	Calc.	No	No	Waste venting operation; may need emission control devices in the future CCl4 is being listed as a hazard pollutant by the USEPA.

<sup>a</sup>Include separate sheet for each process or source.

<sup>b</sup>Include opacity limitations.



- YES    NO
- 2.4 Is there a site map which identifies and locates all major emission sources? (For criteria pollutants and VOCs only)    [X]    [ ]
- 3.0 Does the facility have a fossil fuel-fired steam generator?    [X]    [ ]
- 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>% of total Btu</u>	<u>Sulfur Content, %</u>	<u>As1 Content, %</u>
Natural gas	95%	<1 ppm	Negligible
No.6 Fuel Oil	5%	<1 ppm	Negligible

- 3.2 Is reclaimed oil burned in the boiler(s)?    [ ]    [X]
- 3.2.1 Has it been tested for PCBs?    [ ]    [ ]
- 3.2.2 Has it been tested for other hazardous constituents?    [ ]    [ ]
- 3.2.3 If yes, summarize test results:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- 3.3 Are any other waste materials (pallets, paper, solvents, sludges/residues, etc.) burned in the boilers?    [ ]    [X]
- 3.3.1 If yes, list waste materials quantities and average Btu value: \_\_\_\_\_  
 \_\_\_\_\_
- 3.4 Is stack monitoring required?    [ ]    [X]
- 3.4.1 List sources/frequency/pollutions for required monitoring: Renovation and upgrade of existing opacity monitors has been recommended.
- 3.4.2 Is EPA or state notification required before testing?    [ ]    [X]

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YES NO

3.4.3 Describe any deviations from monitoring or reporting requirements:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3.5 Does the facility generate ash, FGD sludge, or other solid waste from the boiler operation? [ ] [X]

(If Yes, complete appropriate sections in Non Hazardous Solid Waste and Hazardous Waste Modules)

3.6 Summarize the current or anticipated major environmental issues or difficulties in meeting permit conditions for the boilers: The ability to quantitatively measure opacity emissions would better enable tracking of compliance with Colorado Department of Health Regulation #1.

POINT SOURCE CONTROL

4.0 Does the facility have an ongoing preventative maintenance program for air pollution control systems? [X] [ ]

4.1 Is it a written program? [X] [ ]

4.2 Are there maintenance logs? [X] [ ]

4.3 Summarize maintenance program, including frequency, sources, and pollutants controlled: The current program is adequate for all particulates in major buildings due to HEPA filtration systems. Wet scrubber maintenance programs vary from building to building. Maintenance is lacking on some units (acid scrubbers).

5.0 For point sources, are any innovative control technologies used? (Defined as technologies that have been developed within the past 10 years.) [ ] [X]

5.1 Describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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YES    NO

FUGITIVE EMISSIONS

- 6.0 Are there any storage facilities for volatile organic liquids greater than 40,000 gallons capacity?\*
- 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:  
\* One 50,000 gallon underground diesel fuel tank onsite.  
\*\* Two onsite tanks (capacity 1,000,000 gallons each) contain #6 fuel oil, which is not defined as a volatile organic liquid.
- 7.0 Does the facility have other limits or control requirements for fugitive emissions (e.g., for storage and dispensing facilities for volatile organic materials, dust control)
- 7.1 Describe: Limited vapor recovery program is in place at the plant (i.e., carbon tetrachloride tank; Permit (CDH #87JE084L) fugitive dust, initial approval for land plowing for Church - Rocky Flats litigation. Asbestos permit obtained by Industrial Hygiene for ongoing plantsite renovation work (87JE401A).
- 7.2 Describe any deviations from requirements: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 8.0 Has a survey of fugitive emissions been conducted?
- 8.1 Give dates and summarize techniques and results: No formal survey; all construction projects have dust suppression measures. Sludge drying beds have been covered to suppress dust. All process buildings have HEPA filter in place to control particulates.

AMBIENT AIR MONITORING

- 9.0 In which Air Quality Control Region (AQCR) is the facility located: Colorado 3, Denver, Colorado

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YES    NO

10.0 For this AQCR, check which primary and/or secondary National Ambient Air Quality Standards are not being met. (AQCR #3 has sections classified as 'Nonattainment' for the following parameters:)

	<u>Primary</u>	<u>Secondary</u>
Sulfur oxides	_____	_____
Particulates	<u>  X  </u>	_____
Carbon monoxide	<u>  X  </u>	_____
Ozone	<u>  X  </u>	_____
Nitrogen dioxide	_____	_____
Lead	_____	_____

11.0 Has the facility ambient monitoring network undergone an independent, third party, quality assurance audit during the past review period?    [X]    [ ]

12.0 Has ambient air monitoring been done within 10 km of the facility within the review period?    [X]    [ ]

12.1 For criteria air pollutants (SO<sub>2</sub>, CO, NO<sub>2</sub>, particulates, ozone, and lead)?    [X]    [ ]

12.2 For other nonradioactive air pollutants? (Beryllium)    [X]    [ ]

12.3 Provide the following summary data for this monitoring (or alternatively list report or document where this information is recorded and available for inspection.)

Who conducted monitoring:  
Environmental Analysis  
& Control

Date(s):  
Routine ongoing  
monitoring  
program.

Location(s): Pertinent information available in the  
Rocky Flats Plant Annual Environmental  
Monitoring Report, published in April  
each year.

YES NO

Results: (For regulated pollutants, provide concentrations for frequency and averaging time indicated in standards, and concentration as percent of standard.

13.0 If available, give dates for next scheduled ambient monitoring for:

13.1 Criteria air pollutants: Continuous monitoring in progress. Two PM-10 particulate samplers are being installed and will be in operation by the Quarter I of 1988.

13.2 Other non radioactive air pollutants: Continuous program conducted for beryllium. A survey of point-source and non-point source VOC emissions is being scheduled for the Spring of 1988.

14.0 Have estimates been made of the contribution of facility criteria pollutant emissions on surrounding ambient air quality? [ ] [X]

14.1 Indicate the estimated contribution as a percentage of standards (or alternatively, list report or document where this information is recorded and available for inspection: NOTE: This effort would require the use of EPA approved computer modeling. Rocky Flats Plant does not have any single point sources classified as "major sources" by regulatory definitions.

14.2 Did the estimation procedure include data from:

14.2.1 On-site effluent monitoring? [ ] [ ]

14.2.2 Aerial surveys? [ ] [ ]

14.2.3 Off-site monitoring? [ ] [ ]

14.2.4 Dispersion modeling? [ ] [ ]

14.2.5 Measurement or estimation of background or baseline concentrations? [ ] [ ]

14.2.6 Other (explain) [ ] [ ]  
Site specific model for assessment of plant impact is currently under development.

15.0 Give location of nearest site for collection of weather data used in air pollutions dispersion estimates:  
Onsite 61-meter meteorological tower.

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YES NO

COMPLIANCE OVERVIEW

- 16.0 Are current copies of environmental regulations, DOE orders and other standards on file? [X] [ ]
- 16.1 Federal? [X] [ ]
- 16.2 State? [X] [ ]
- 16.3 County/city? (State regulations apply) [ ] [ ]
- 16.4 DOE? [X] [ ]
- 17.0 Does the facility have a formal procedure for tracking compliance requirement, permit application or renewal schedules, new regulations? [X] [ ]

17.1 Describe procedure: Criteria pollutant tracking is conducted by routine computerized data base review for existing permitted sources. New sources are formally reviewed during HS&E Engineering reviews. Two new HS&E groups have been established to deal with the growing area of hazardous/toxic substances Environmental Compliance group; and, Hazardous Material Control groups. All new regulations are reviewed as they become available. Asbestos and PCB regulatory compliance is evaluated by Industrial Hygiene.

- 18.0 During the review period, have there been any delays in submitting or obtaining approval of construction or operating permits? [X] [ ]

18.1 Explain: Formal Plant procedures require extensive reviews by several organizations, causing some delays. Insufficient time is allowed, on occasion, for proper Environmental reviews. The final permit for the Building 123 Lab fume hoods has been delayed due to delay in start-up of the new fan systems. An extension on the initial permit has been applied for.

- 19.0 Are there currently any major conditions in agreements, permits, variances, and/or compliance plans that are not being met? [ ] [X]

19.1 Identify and explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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- |      |   | <u>YES</u> | <u>NO</u> |
|------|---|------------|-----------|
| 20.0 | Is the facility operating under a delayed compliance order?   | [ ]        | [X]       |
| 21.0 | Is there planned construction or modification of facility operations that will affect criteria air pollutant emissions?   | [ ]        | [X]       |
| 21.1 | <u>Summarize the planned changes: Minor construction and upgrading projects are ongoing at the Plant at this time. No significant criteria pollutant impacts are expected.</u>    |            |           |
| 21.2 | Are modifications planned in response to a need to meet federal or state regulatory or DOE Order requirements for air pollutant emissions?  | [ ]        | [X]       |
|      | 21.2.1 Identify requirements _____  |            |           |
|      | 21.2.2 Will the planned modification impact the facility fiscal plan?   | [ ]        | [ ]       |
|      | 21.2.2.1 Have the plans been submitted to the DOE line organization (Ref: DOE 5480.1A, XII.5 Pollutant Abatement Projects)?   | [ ]        | [ ]       |
| 22.0 | Is the facility located in a region or state which has been delegated authority to implement and enforce the National Emission Standards for Hazardous Pollutants?                | [X]        | [ ]       |
| 23.0 | 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?                |            |           |
|      | 23.1 Has the plan been developed and approved?  | [X]        | [ ]       |
|      | 23.2 Has the episode plan ever been implemented?  | [ ]        | [X]       |
|      | 23.3 Date last implemented: _____   |            |           |
| 24.0 | During the review period, were there any accidental releases of atmospheric pollutants which could have resulted in significant effect on the public or the off-site environment? | [ ]        | [X]       |
|      | 24.1 Describe: _____  |            |           |
|      | _____   |            |           |
|      | _____   |            |           |
|      | _____   |            |           |

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 24.2 Did the release require notification to DOE Headquarters Emergency Operations Center based on DOE 5484.1, Chapter I, Notification of Occurrences?                                 | [ ]        | [ ]       |
| 24.2.1 Was the notification made within the prescribed time?   | [ ]        | [ ]       |
| 25.0 Have any complaints or violation notices been received during the review period which relate to atmospheric pollutants?   | [ ]        | [X]       |
| 25.1 From whom: _____<br>_____<br>_____  |            |           |
| 25.2 Dates received: _____<br>_____<br>_____   |            |           |
| 25.3 Summary of notice: _____<br>_____<br>_____<br>_____   |            |           |
| 25.4 Summary of corrective action taken or being taken:<br>_____<br>_____<br>_____   |            |           |
| 26.0 Does the facility have an air pollutant monitoring quality assurance plan: <u>Quality assurance/standard operating procedures exist for the NAAQS monitoring station.</u> [X] [ ] | [X]        | [ ]       |
| 26.1 Describe: <u>All quality assurance requirements are set forth in the Health, Safety and Environment Quality Program Plan.</u>   |            |           |

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27.0 Does the facility have applicable environmental air quality [X] [ ] permits?

27.1 List all "active status" permits, indicating permits title, permit number, issuing agency and date of issue:

1. Building 771 Incinerator Permit C-12,932; issued by the Colorado Department of Health, 11/3/81.
2. Building 122 Incinerator Permit C-12,931; issued by the Colorado Department of Health, 3/25/82.
3. Building 776 Fluid Bed Incinerator Permit C-13, 022; issued by the Colorado Department of Health, 3/25/82.
4. Plantwide asbestos removal/renovation permit; issued by Colorado Department of Health, #87FE401A, 9/4/87.
5. Initial Fugitive Dust Permit, #87JE084L issued 6/15/87 and expires 12/31/89; issued for land litigation plowing and overlot grading. Notice of start-up form submitted June 5, 1987; no final permit yet issued.
6. Building 123 Laboratory fume hoods initial permit #86JE018; request for extension of initial permit made to CDH to allow for completion of the building ventilation system.

28.0 COMMENTS: Newly obtained (9/87) CDH Permit for asbestos is being administered by the Industrial Hygiene group. Most of these renovation projects are indoors and control measures follow OSHA requirements. The broad category of 'nonradioactive pollutants', historically referring to the six criteria, and several NESHAPS (Be) is becoming the catch-all for a rapidly growing list of parameters outside the resource limitations of EA&C organizational structures (i.e., RCRA air emissions).

29.0 Responsible contact person(s): R. J. Crocker, M. L. Paricio A. J. Petrocchi

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F. WATER POLLUTION CONTROL

YES    NO

1.0 Does this facility have any federal, state or locally permitted wastewater effluents or outfalls (including stormwater runoff)?     [X]     [ ]

1.1. If yes, list all:

<u>Outfall</u>	<u>Permit No.</u>	<u>Agency</u>
<u>001</u>	<u>CO-0001333</u>	<u>EPA</u>
<u>002</u>	<u>CO-0001333</u>	<u>EPA</u>
<u>003</u>	<u>CO-0001333</u>	<u>EPA</u>
<u>004</u>	<u>CO-0001333</u>	<u>EPA</u>
<u>005</u>	<u>CO-0001333</u>	<u>EPA</u>
<u>006</u>	<u>CO-0001333</u>	<u>EPA</u>
<u>007</u>	<u>CO-0001333</u>	<u>EPA</u>

2.0 Are any wastewater discharge permits pending?     [ ]     [X]

2.1 Type: \_\_\_\_\_

2.2 Agency: \_\_\_\_\_

2.3 Application Date: \_\_\_\_\_

2.4 Status: \_\_\_\_\_

\_\_\_\_\_

3.0 Has a water use survey ever been conducted:     [X]     [ ]

3.1 If yes, date: Annually \_\_\_\_\_

\_\_\_\_\_

4.0 Is an accurate sewer system map available?     [X]     [ ]

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YES    NO

5.0 Water discharge breakdown (give units or %):

Sanitary Wastewater 1%      Process Wastewater 0  
(Effluent)

Stormwater 99%      Cooling Tower Blowdown 0

Non Contact Cooling  
Water 0      Water Treatment Plant  
Discharges 0

Steam Condensate 0

Other (Identify): \_\_\_\_\_  
\_\_\_\_\_

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

7.0 Is a current facility water balance flow diagram available?    [X]    [ ]

7.1 Have any water use reduction studies ever been made?    [X]    [ ]

7.2 Is a water use reduction program now underway?    [X]    [ ]

7.3 If yes, describe: Water recycle is being accomplished to the extent that is practical with reverse osmosis techniques. Land application of sanitary wastewater is being done.

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

9.0 Are all existing permit limitations being met?    [X]    [ ]

9.1 If No, explain: Any NPDES violation is remedial and immediately reported as required by the NPDES permit.

10.0 Will anticipated permit limitations be met?    [X]    [ ]

10.1 If no, explain: \_\_\_\_\_  
\_\_\_\_\_

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YES    NO

11.0 Describe reports submitted, such as NPDES, state monitoring (list agency, frequency, content):  
Monthly NPDES reports are submitted to E.P.A., Region VIII  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12.0 Are any process wastewaters discharged untreated?                    [ ]    [X]

12.1 Explain: \_\_\_\_\_  
\_\_\_\_\_

12.2 Describe program to control untreated discharges:  
\_\_\_\_\_  
\_\_\_\_\_

13.0 For wastewater treatment system, (including pretreatment systems):

13.1 Are abnormal condition alarms provided?                    [ ]    [X]

13.2 If no, why? Sewage Treatment Plant has 24 hour per day staffing with routine checks by DOE.  
\_\_\_\_\_

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

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

13.5 How? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

13.6 Is the system bypassed?                    [ ]    [X]

13.7 What action is taken for upset conditions, or Remedial action is taken to return operations to normal and water is spray irrigated.  
Remedial action is taken to return operations to normal and water is spray irrigated.

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- |  | <u>YES</u>                          | <u>NO</u>                           |
|--|-------------------------------------|-------------------------------------|
| 14.0 Which of the following wastewater residual treatment and disposal methods are provided on-site:   |                                     |                                     |
| 14.1 Thickening?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 14.2 Dewatering?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 14.3 Composting?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 14.4 Incinerations?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 14.5 Landfill?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 14.6 Land spreading?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 15.0 Have required federal and state permits been secured for residual solids disposal? <u>RCRA permit issuance pending as of 9/15/87</u>  |                                     |                                     |
| 16.0 Have these residual solids been analyzed to determine if they are "non-hazardous" per RCRA criteria? <u>(Analysis completed as part of Rocky Flats Compliance Agreement.)</u> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 17.0 For cooling water discharges, check appropriate boxes and indicate monthly average discharge temperatures:  |                                     |                                     |
| 17.1 Once through _____  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 17.2 Recycled _____  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 17.3 Contact _____   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 17.4 Non-Contact _____   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 18.0 Are conditioning chemicals used to treat cooling water?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 18.1 If yes, list chemicals (do not use trade names).<br><u>Chlorine, biocides, acids, slimicide C-31;</u><br><u>2040 and 2020 rust inhibitor and algaecide</u>                    |                                     |                                     |
| 19.0 Are discharges of cooling water to surface or ground water covered by appropriate permits? (None discharged)  |                                     | NA                                  |
| 20.0 Are any oils or other petroleum based materials recovered from wastewater?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

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YES NO

20.1 If yes, describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

21.0 Are the wastewater treatment facilities subject to a scheduled maintenance program? [X] [ ]

21.1 Describe previous maintenance problems and corrective actions: Metal deterioration corrected by totally rebuilding the Sewage Treatment Plant.  
\_\_\_\_\_  
\_\_\_\_\_

22.0 Is outfall inspection a permit requirement? [X] [ ]

22.1 Describe the outfall inspection program: Included in NPDES Permit CO-0001333.  
\_\_\_\_\_  
\_\_\_\_\_

23.0 Is outfall monitoring a permit requirement? [X] [ ]

23.1 Are discharges monitored at least quarterly? [X] [ ]

23.2 Are storm water outfalls monitored? [X] [ ]

23.3 Is receiving water monitored? [X] [ ]

23.4 Is continuous wastewater monitoring equipment employed? [X] [ ]

23.5 Is all of this monitoring equipment included in a statistically based quality control maintenance program? [X] [ ]

24.0 Does this facility have a coal pile? [ ] [X]

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: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 25.0 Does this facility discharge (sanitary wastewater) to a publicly-owned treatment works (POTW?)  | [ ]        | [X]       |
| 25.1 Identify discharge and POTW: _____<br>_____<br>_____<br>_____   |            |           |
| 25.2 Is pretreatment required?   | [ ]        | [ ]       |
| 25.3 Are there monitoring requirements?  | [ ]        | [ ]       |
| 25.4 Describe: _____<br>_____<br>_____   |            |           |
| 25.5 Has the state/county regulatory agency been contacted to determine if they have any problem/complaints/concerns about the POTW?                         | [ ]        | [ ]       |
| 26.0 Is storm water runoff controlled?   | [X]        | [ ]       |
| 26.1 From parking lots?  | [X]        | [ ]       |
| 26.2 Roof drains?  | [X]        | [ ]       |
| 26.3 Process and tank farm area(s)?  | [X]        | [ ]       |
| 26.4 Describe: <u>Three retention ponds collect and retain all storm water runoff from the plant. This water is sampled and analyzed prior to discharge.</u> |            |           |
| 26.5 Is stormwater discharged in a publicly owned conveyance system?   | [ ]        | [X]       |
| 26.6 Is any treatment provided for stormwater discharges?  | [X]        | [ ]       |
| 26.7 Describe: <u>Sedimentation in onsite holding ponds.</u><br>_____  |            |           |

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 27.0 Does the facility have any on-site gravel or dirt roads?  | [X]        | [ ]       |
| 27.1 Are dust control measures ever used?  | [X]        | [ ]       |
| 27.2 Describe: <u>Coherex dust suppressant is applied to road ways periodically</u>  |            |           |
| 28.0 Does the facility have ice/snow removal requirements during the winter months?  | [X]        | [ ]       |
| 28.1 If yes, are chemicals or other materials (sand, etc.) used?   | [X]        | [ ]       |
| 28.2 List chemicals used: <u>5% mixture of salt in sand only</u>   |            |           |
| 29.0 Does the facility have an on-site laboratory for waste-water analyses?  | [X]        | [ ]       |
| 29.1 Is there a sampling program in place for sampling and screening all outfalls?   | [X]        | [ ]       |
| 29.1.1 Describe: <u>Complete program described in Rocky Flats Plant Environmental Monitoring Catalogue (EAC-420-87-1) and Sampling Procedure for Surface Waters (EAC-S-3).</u> |            |           |
| 29.2 Is a file maintained for results or monitoring as required by the permit?   | [X]        | [ ]       |
| 29.3 Is a separate file maintained for monitoring information not required by the permit?  | [X]        | [ ]       |
| 29.4 Are all monitoring records maintained for a minimum of three years?   | [X]        | [ ]       |
| 30.0 Has the facility ever screened outfalls/effluents for the presence of priority pollutants?  | [X]        | [ ]       |
| 30.1 When was it last performed? <u>1983</u>   |            |           |
| 30.2 List priority pollutants found and concentrations: <u>None</u>  |            |           |

YES NO

31.0 Have any wastewater treatability studies ever been made? NA

31.1 Describe: All wastewater a RFP is subject to treatment even though discharge is infrequent.

32.0 Is any effluent applied to the land (either surface or subsurface)? Onsite spray irrigation [X] [ ]

33.0 Is any effluent discharged to a well (any pit with depth greater than diameter)? [ ] [X]

34.0 Are the wastewater treatment facilities under the supervision of a plant operator with the appropriate license? [X] [ ]

35.0 List chronologically the wastewater discharge permit excursions experienced during the past three years. If excursions are a repeat of the same problem (for example pH), list parameters and number of excursions per month.

<u>Date</u>	<u>Parameter</u>	<u>Reason</u>
1985	Total residual chlorine	Faulty valve at Reverse Osmosis Plant after excess Chlorination.
1987	Surface runoff of spray irrigation into Woman Creek.	Saturated fields.
1987	BOD5	Monthly average (15 mg/l) above allowable limit of 10 mg/l.

36.0 Does the facility have an existing compliance schedule for wastewater discharge written into the discharge permit? [ ] [X]

36.1 Are the deadlines being met? [ ] [ ]

36.2 Will the facility be able to meet future deadlines? [ ] [ ]

37.0 Have there been any citizen complaints concerning any aspect of wastewater handling? [ ] [X]

37.1 Explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

38.0 Has any official action been taken concerning wastewater at this site? (Attach pertinent correspondence.) [ ] [X]

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YES    NO

38.1 If yes, briefly specify: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

38.2 Has corrective action been completed?                    [ ]    [ ]

39.0 Does this facility have a routine ground water monitoring [X]    [ ]

40.0 In what water quality control region (i.e., aggregated subarea) is this facility located? \_\_\_\_\_

41.0 COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

42.0 Responsible contact person(s): K. E. Shirk, C. L. Sundblad  
\_\_\_\_\_  
\_\_\_\_\_

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G. DRINKING WATER

YES    NO

1.0 Does the drinking water for this facility come from a municipal system?    [ ]    [X]

1.1 If Yes, this module is complete continue with next module.

2.0 Is the water system privately-owned by the facility?    [X]    [ ]

2.1 If Yes, does the water system serve 25 or more people as a daily average for at least 60 days each year?    [X]    [ ]

2.2 What is the source of water? If more than one source, indicate amounts or percent from each.

2.2.1 Well \_\_\_\_\_

2.2.2 Spring \_\_\_\_\_

2.2.3 Surface Water    100% \_\_\_\_\_

2.2.4 Bottled Water \_\_\_\_\_

2.2.5 Other (describe) \_\_\_\_\_

2.3 What is the water usage breakdown (in units or %)?

Process    25%  
Cooling    30%  
Boiler Feed    10%  
Sanitation    35%

2.4 Does a map of the facility distribution system, including storage tanks, pumps, etc., exist?    [X]    [ ]

3.0 Which of the following treatment methods are provided?

3.1 Coagulation/flocculation    [X]    [ ]

3.2 Filtration    [X]    [ ]

3.3 Disinfection    [X]    [ ]

3.4 Other (Identify):    [ ]    [ ]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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- |     |   | <u>YES</u> | <u>NO</u> |
|-----|---|------------|-----------|
| 4.0 | Are the following constituents monitored? Indicate frequency:   |            |           |
| 4.1 | Coliform Bacteria <u>4 times/week</u>   | [X]        | [ ]       |
| 4.2 | Nitrate <u>annually</u>   | [X]        | [ ]       |
| 4.3 | Turbidity <u>daily</u>  | [X]        | [ ]       |
| 4.4 | Total Residual Chlorine <u>daily</u>  | [X]        | [ ]       |
| 4.5 | Other (Identify):<br><u>As required by all applicable regulations and standards.</u>  | [X]        | [ ]       |
| 5.0 | If the answer to 2.1 is yes, are samples analyzed at an EPA-certified laboratory?   | [X]        | [ ]       |
| 6.0 | Are monitoring results reported to EPA or the state agency (if the state has primacy) within ten working days following the end of the required monitoring period?          | [X]        | [ ]       |
| 7.0 | Has any analysis failed to comply with an applicable maximum contaminant level?   | [ ]        | [X]       |
| 7.1 | If yes, indicate contaminant and concentration:<br>_____<br>_____   |            |           |
| 7.2 | Was the water retested?   | [ ]        | [ ]       |
| 7.3 | Was the public notice of noncompliance given through continuous posting of such failure?  | [ ]        | [ ]       |
| 7.4 | Is biological notice required?  | [ ]        | [ ]       |
| 8.0 | Have any other testing/screening analysis been performed on a water sample such as for radionuclides, priority pollutants, or secondary drinking water parameters?          | [X]        | [ ]       |
| 8.1 | If Yes, explain analyses performed and results:<br><u>Detailed analysis listing is contained in the "Catalogue of Monitoring Activities at Rocky Flats," (EAC-420-87-1)</u> |            |           |

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 14.0 Are records concerning variances or exceptions maintained for five years beyond expiration of such variance?          |            | NA        |
| 15.0 Are permits from a state or local agency to divert water from ground or surface sources required?                     | [ ]        | [X]       |
| 16.0 Does the facility use potable water for process use?  | [X]        | [ ]       |
| 16.1 Are the process feed lines protected with backflow protection devices or with vacuum breakers?                        | [X]        | [ ]       |
| 16.2 Are employees cautioned against making direct connections between water supply lines and process units?               | [X]        | [ ]       |
| 16.3 Is the facility periodically checked for cross-connections and/or other possible sources of back-flow contaminations? | [X]        | [ ]       |
| 16.4 If Yes, describe: <u>Routine preventive maintenance operations (PMO) on all devices.</u>                              |            |           |

17.0 COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

18.0 Responsible contact person(s): K. E. Shirk, S. C. Sadler,  
C. L. Sundblad

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 9.0 Have provisions been made for the following and records kept for specified period:   |            |           |
| 9.1 Bacteriological analyses for five years?   | [X]        | [ ]       |
| 9.2 Chemical analyses for ten years?   | [X]        | [ ]       |
| 10.0 Do the laboratory reports or tabular summaries contain at least:  |            |           |
| 10.1 The date, place, time of sampling, and the name of the person who collected the sample?   | [X]        | [ ]       |
| 10.2 Identification of the sample as to whether it was:  |            |           |
| 10.2.1 A routine distribution system sample?   | [X]        | [ ]       |
| 10.2.2 Check sample?   | [X]        | [ ]       |
| 10.2.3 Raw or process water sample?  | [X]        | [ ]       |
| 10.2.4 Special purpose sample?   | [X]        | [ ]       |
| 10.3 Date of analysis?   | [X]        | [ ]       |
| 10.4 Laboratory and person responsible for performing  | [X]        | [ ]       |
| 10.5 The analytical technique/method use?  | [X]        | [ ]       |
| 10.6 The results of the analysis?  | [X]        | [ ]       |
| 11.0 Has the facility received any notice of violation for potable water systems from a regulatory agency within the last review period? | [ ]        | [X]       |
| 11.1 If Yes, describe: _____<br>_____<br>_____   |            |           |
| 12.0 Are records of actions to correct violations maintained for three years? (There have been no violations.)                           |            | NA        |
| 13.0 Has the facility received any variances or exceptions from a regulatory agency within the last review period?                       | [ ]        | [X]       |
| 13.1 If Yes, describe: _____<br>_____<br>_____   |            |           |

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H. SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN (SPCC)

	<u>YES</u>	<u>NO</u>
1.0 Does this facility have:		
1.1 Above ground oil storage capacity in excess of 1,320 gallons, or a single container in excess of 660 gallons, or;	[X]	[ ]
1.2 Underground oil storage capacity in excess of 42,000 gallons, or;	[ ]	[X]
1.3 A reasonable chance to discharge any oil stored in 1.1 or 1.2 above to the waters of the United States should a spill occur?	[ ]	[X]
<p>If "yes" has been answered to either 1.1, 1.2, or 1.3, continue through the remainder of this model. If all answers are "no," continue with the next module.</p>		
2.0 Does this facility have a SPCC Plan on file?		
2.1 Has the SPCC Plan been certified by a Registered Professional Engineer?	[X]	[ ]
2.2 Date which the SPCC Plan was last certified. <u>6-17-85</u>		
2.3 Original date SPCC Plan was prepared. <u>11-19-81</u>		
3.0 Is this facility located in a state which requires a state spill prevention and control plan for oil and/or hazardous materials?	[X]	[ ]
3.1 If yes, are the State's requirements included in the SPCC Plan?	[X]	[ ]
4.0 Is this facility located in a county, city, township, or other area that requires a local spill prevention and control plan for oil and/or hazardous materials?	[ ]	[X]
4.1 If Yes, are the local requirements included in the SPCC Plan?	[ ]	[ ]
5.0 Has the SPCC Plan been incorporated into the RCRA Part A interim status requirements or a RCRA Part B permit?	[X]	[ ]

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6.0 Have any reportable spills occurred at this facility within the last review period? YES NO  
[X] [ ]

This RQ spill occurred on 11/10/86 at approximately 2:00 p.m. 4-5 gallons of 1,1,1-Trichloroethane was spilled on a loading dock. The incident was properly managed, and the National Spill Center (Washington, D.C.) and the Colorado Department of Health were notified within 90 minutes of spill.

7.0 For the SPCC Plan:

7.1 Are the U.S. Coast Guard National Response Center Notification Procedures included? [ ] [X]\*

7.2 Are secondary containment and/or diversionary structures used for possible spill areas? [X] [ ]

7.3 Do required inspections follow written procedures? [X] [ ]

7.4 Are written procedures and a record of inspections signed by the appropriate supervisor, included in the SPCC Plan? [X] [ ]

7.5 Are areas handling or storing oil fenced, or is the complete facility fenced? [X] [ ]

7.6 Are personnel properly instructed in the operation and maintenance of equipment to prevent oil discharges, and applicable pollution control laws, rules, and regulations? [X] [ ]

7.7 Are spill clean up materials available as indicated in the SPCC Plan? [X] [ ]

8.0 Has the facility conducted and "Emergency Drill" to test the adequacy of the SPCC Plan? [X] [ ]

8.1 If Yes, date of drill: Most recent: 6/29/85

9.0 COMMENTS: \* Notification procedures are included, but U.S. Coast Guard not appropriate for this facility.

10.0 Responsible contact person(s): F. J. Blaha



- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 4.2.2 Aerial survey?   | [ ]        | [X]       |
| 4.2.3 Off-site ground level atmospheric monitoring?  | [X]        | [ ]       |
| 4.2.4 Off-site surface water monitoring?   | [X]        | [ ]       |
| 4.2.5 Off-site groundwater monitoring?   | [ ]        | [X]       |
| 4.2.6 Deposition measurements?   | [ ]        | [X]       |
| 4.2.7 Pathway measurements (e.g., concentrations in vegetation or milk)?   | [ ]        | [X]       |
| 4.2.8 Dispersion or pathway modeling?  | [ ]        | [X]       |
| 4.2.9 Measurement or estimation of background radiation and offsite sources?   | [ ]        | [X]       |
| 4.2.10 Other (explain)?<br>N/A   | [ ]        | [ ]       |
| <hr/>  |            |           |
| 4.3 Have any rapid changes or long term trends (increasing or decreasing) been observed in uncontrolled area exposure estimates?   | [X]        | [ ]       |
| 4.3.1 If yes, summarize known or suspected causes?<br><u>Slight increases in perimeter ambient air monitors (Summer, 87) due to RI monitoring well installation and sampling</u>   |            |           |
| 5.0 Does the facility have quantitative or qualitative interpretations of the DOE goals to maintain radioactivity exposures to the public in uncontrolled areas "as low as reasonably achievable?" (Ref: 5480.1A, XI Requirements for Radiation Protection.) | [X]        | [ ]       |
| 5.1 Summarize: <u>ALARA policy exists for plantsite</u>  |            |           |
| <hr/>  |            |           |
| 6.0 Is there a planned upgrading of facility operations to reduce radionuclide emissions?  | [X]        | [ ]       |
| <hr/>  |            |           |

- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 6.1 Summarize the planned upgrading: <u>Plenum upgrades for several production buildings.</u>  |            |           |
| 6.2 Is the upgrading required to prevent exposure in uncontrolled areas from exceeding the maximum level given in DOE 5480.1A?   | [ ]        | [X]       |
| 6.3 Is the Upgrading required to reduce the exposures currently below allowable maximums in uncontrolled areas to a level "as low as reasonably achievable" below the standards?                             | [ ]        | [X]       |
| 6.4 Will the planned upgrading impact the facility fiscal plan?  | [ ]        | [X]       |
| 6.4.1 Have the plans been submitted to the DOE line organization (Ref: DOE 5480.1A, XII.5 Pollution Abatement Projects)?   | [ ]        | [X]       |
| 7.0 Does the facility have a documented emergency response plan for protecting individuals and population groups in uncontrolled areas during unplanned releases of radioactive materials to the atmosphere? | [X]        | [ ]       |
| 7.1 If so, list the operating section responsible for implementation of this plan: <u>Plantwide Emergency Response Coordinator - L. Turner</u>   |            |           |
| 7.2 Does the responsible operating section have a documented emergency response procedure?   | [X]        | [ ]       |
| 7.3 If so, list the procedure title and number: <u>Plantwide Emergency Response Manual</u>   |            |           |
| 8.0 Have there been any abnormal and/or reportable releases of radioactive materials to the environment during the review period?  | [ ]        | [X]       |

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YES NO

8.1 What was the estimated volume (m<sup>3</sup>) or weight (gm), activity (curies), and duration of the release?

N/A

routine emissions only

8.2 Were estimates made of the maximum public exposure resulting from this release?

8.2.1 Summarize results (or list reference):

N/A

8.2.2 Were exposure limits in DOE 5480.1A exceeded?

N/A

8.2.3 Summarize analysis and/or monitoring procedure used to obtain exposure estimate (see 4.2):

8.3 Did the release require notification to DOE Headquarters Emergency Operations Center based on requirements in DOE 5484.1, Chapter I, Notification of Occurrences? [ ] [X]

8.3.1 Was the notification made within the prescribed time?

8.3.2 Was a DOE investigation completed and reported?

9.0 Does the facility have standard procedures for selecting testing, and calibrating radioactivity monitoring equipment? [X] [ ]

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

9.2 List other guidance documents: Internal plant guides

- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 10.0 Does the facility have a sampling program for radionuclides in soil:  | [X]        | [ ]       |
| 10.1 If so, is soil sampling performed both onsite and offsite?  | [X]        | [ ]       |
| 10.2 If so, are results of the soil sampling program documented and reported? <u>Annual Environmental Monitoring Report</u>  | [X]        | [ ]       |
| 11.0 During the next three years, is there a planned startup of any new source or an increase in an existing source of environmentally released radionuclides at the facility? <u>Remedial actions at several RCRA + CERCLA sites.</u> | [X]        | [ ]       |
| 11.1 Has the DOE Field Office or other contracting officer determined if a preparations background or baseline environmental survey is required (Ref: DOE 5484.1, 6.f(11); III.1; IV.3.g)? See 12.0.                                   |            |           |
| 11.2 Will a preoperational survey be completed?  | [X]        | [ ]       |
| 11.2.1 Give status (to be initiated, ongoing, completed): <u>EA planned pursuant to NEPA compliance</u>  |            |           |
| 12.0 COMMENTS: <u>11.1 A feasibility study incorporating the relevant aspects of an environmental assessment is currently being initiated (11/87).</u>   |            |           |
| 13.0 Responsible contact person(s): <u>George Setlock (2453)</u>   |            |           |
| _____  |            |           |
| _____  |            |           |
| _____  |            |           |

J. TOXIC SUBSTANCES

YES    NO

1.0 Does the facility have an organized hazardous material or toxic substances review committee or control program?       

1.1 Describe: The Hazardous Materials Control Program has control mechanisms in place which minimize the adverse health and physical effects of hazardous materials from the aspects of acquisition, distribution, storage, use and waste disposal.

1.2 Who are the responsible members of this Program?\*

<u>Organization Name</u>	<u>Toxic Materials Program Responsibility</u>	<u>Phone No.</u>
<u>Haz. Matls. Control</u>	<u>Acquisition &amp; storage controls</u>	<u>7007</u>
	<u>Inventory, Haz. Info. Distrib.</u>	
<u>Industrial Hygiene</u>	<u>Health Hazards Control</u>	<u>4089</u>
<u>Indust. &amp; Sys.</u>	<u>Fire/Explosions Safety</u>	<u>2555</u>
<u>Safety Engineering</u>		
<u>Fire Dept.</u>	<u>Fire/Explosion Safety</u>	<u>4336</u>
<u>Traffic</u>	<u>Onsite/Offsite Transportation</u>	<u>2377</u>
<u>Environmental Mgt.</u>	<u>Environmental Hazards Control</u>	<u>2453</u>
<u>Waste Operations</u>	<u>Hazardous Waste Disposal Ctl.</u>	<u>7900</u>

Chairman of Committee: The coordinator is A. J. Petrocchi. There is no formal committee. The program is inter-departmental in scope with shared responsibilities.

1.3 Does this program have the authority for substantive decision making?       

1.3.1 If No, what is the committee's role?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

1.3.2 If No, who has the authority for making decisions regarding toxic substances?

\_\_\_\_\_  
 \_\_\_\_\_

1.4 Is there a policy manual delineating authority on toxic substances issues and describing the control functions and responsibilities?       

\* See section 6.0 for responsible person to contact.

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YES NO

1.4.1 If Yes, give date of most recent revision  
"Hazardous Materials Control Program" standard  
within Health, Safety and Environment Manual  
HSE 9.07 (7-22-86)

1.5 Do the program responsibilities include:

1.5.1 Serving as an authority for the proper use [X] [ ]  
and control of hazardous materials?

1.5.2 Establishing controls to prevent the release [X] [ ]  
of such materials to the environment?

1.5.3 Establishing procedures for purchasing, [X] [ ]  
receiving, handling, storage, use, shipping,  
and disposal of such materials?

1.5.4 Periodically evaluating the procedures in [X] [ ]  
light of new information and compliance?

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

2.1 New material purchases: Paperwork passes through  
Hazardous Materials Control group for review.

2.2 Existing materials: Periodically inventoried.

2.3 Unsolicited or test materials: Warehouse receiving  
will advise Hazardous Materials Control.

2.4 "Emergency buys:" Same as "New Material Purchases."

2.5 How are chemical data obtained from vendors/suppliers  
and who retains these data? Some MSDSs sent by vendors,  
some requested by phone. Some requested by purchase  
order with chemical. Hazardous Materials Control group  
retains these MSDSs in a central file and distributes  
them to MSDS Manual holders.

2.6 Before any new chemical is authorized for use in the  
facility, what review is provided and what controls  
are instituted: Hazardous Materials Control group  
reviews purchase requisitions for chemicals. An MSDS  
is required to be on hand or sent with chemical  
shipment.

YES    NO

2.7 Check those areas that are included in the review:

<input type="checkbox"/> Storage	<input type="checkbox"/> Monitoring	<input checked="" type="checkbox"/> Explosion
<input type="checkbox"/> Spill Control	<input type="checkbox"/> Handling	<input checked="" type="checkbox"/> Toxicity
<input checked="" type="checkbox"/> Disposal	<input checked="" type="checkbox"/> Fire	<input checked="" type="checkbox"/> Area Used

- 3.0 Is hazardous material/toxic substances information available and given to the employees?
- 3.1 How: Verbal       Written
- 3.2 Is personal protective equipment available and issued where appropriate?
- 3.3 Is there a follow-up to determine if specific instructions are being followed?
- 3.4 Is there an annual audit review by Management Systems & Audit.
- 3.5 Are "Material Safety Data Sheets" (from the Vendor) being utilized to build a file of hazard information and DOT proper shipping names?
- 3.6 Does the local staff have access to approved laboratory facilities for the analysis of unknown materials or mixtures of materials and their classification under DOT regulation?
- 4.0 Are any substances used, produced or stored at this facility which are covered under the Toxic Substances Control Act (TSCA) other than PCBs?
- 4.1 Are reporting requirements concerning use and control of these substances applicable?
- 4.1.1 If yes, are reporting requirements concerning use and control of these substances being met?
- 4.2 Is this facility a chemical manufacturer or processor, as those terms are used in TSCA?
- 4.2.1 If yes, have allegations of significant adverse reactions to health or environment by any chemical substance or mixture been made by employees or others?

- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 4.2.2 If yes to 4.2.1, are records being maintained pursuant to TSCA section 8(c)?                             | [ ]        | [ ]       |
| 4.3 Are new processes producing new substances or byproducts?  | [ ]        | [X]       |
| 4.3.1 If yes, has EPA formally approved the use of these new processes?  | [ ]        | [ ]       |
| 4.3.2 If yes to 4.3.1, has the facility filed the appropriate testing protocols with EPA per TSCA regulations? | [ ]        | [ ]       |

5.0 COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

6.0 Responsible contact person(s):

Organization Name	Name	Phone No.
Haz. Materials Control	A. J. Petrocchi	7007
Industrial Hygiene	S. C. Sadler	4089
Ind. Sys. & Safety Eng.	K. D. Gravley	2555
Fire Dept.	K. F. Miller	4336
Traffic	D. M. Krieg	2377
Environmental Mgt.	G. H. Setlock	2453
Waste Operations	E. R. Naimon	7900

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K. ASBESTOS

- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 1.0 Is asbestos used in any manufacturing operations?  | [X]        | [ ]       |
| 2.0 Are there any pipes, equipment, walls, ceilings, or other surfaces where asbestos insulation or asbestos-containing materials are in place?  | [X]        | [ ]       |
| 2.1 If Yes, has a program been developed for removal of asbestos? <u>An aggressive asbestos abatement program has been in place since 1985.</u>  | [X]        | [ ]       |
| 2.2 Was any piping or equipment insulated with asbestos renovated in the last 12 months?   | [X]        | [ ]       |
| 2.2.1 Was written notification of intention to renovate such equipment submitted to the EPA?   | [X]        | [ ]       |
| 2.2.2 Has a permit been issued by any local, state, or federal agency for the handling or disposal of asbestos?  | [X]        | [ ]       |
| 2.2.2.1 If yes, what is the Permit Number?<br><u>87JE401A</u>  |            |           |
| 2.3 Describe where asbestos or asbestos-containing material is currently in place: <u>Asbestos insulation is present on steam condensate and hot water piping in the majority of buildings on plantsite.</u> |            |           |
| If No for both 1.0 and 2.0, continue with next module.   |            |           |
| 3.0 Is any piping or equipment insulated with asbestos scheduled to be renovated within the coming 12 months?  | [X]        | [ ]       |
| 3.1 If yes, has written notification of intention to renovate such equipment been submitted to the EPA?  | [X]        | [ ]       |
| 3.2 Has approval for disposal of removed asbestos been requested or obtained? _____  | [ ]        | [X]       |
| 4.0 Is there an onsite active or inactive landfill in which asbestos-containing material is being, or has been, deposited?   | [X]        | [ ]       |
| 4.1 Does any <u>inactive</u> waste disposal site having asbestos-containing material meet EPA's standards for the following:   |            |           |
| 4.1.1 Emissions?   | [X]        | [ ]       |

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 4.1.2 Warning signs?   | [X]        | [ ]       |
| 4.1.3 Fencing?   | [X]        | [ ]       |
| 4.1.4 Covering?  | [X]        | [ ]       |
| 4.2 Does any <u>active disposal site</u> meet EPA's requirements for the following:  |            |           |
| 4.2.1 Emissions?   | [X]        | [ ]       |
| 4.2.2 Warning signs?   | [X]        | [ ]       |
| 4.2.3 Fencing?   | [X]        | [ ]       |
| 4.2.4 Operation?   | [X]        | [ ]       |
| 4.2.5 Covering?  | [X]        | [ ]       |
| 5.0 Have any asbestos or asbestos containing materials been disposed of from this facility within the last ten years?  | [X]        | [ ]       |
| 5.1 If yes, explain: <u>A great deal of asbestos has been removed. Approximately 90% is considered low level contaminated waste and is shipped to an approved storage/disposal site.</u> |            |           |

6.0 COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

7.0 Responsible contact person(s): S. C. Sadler, D. K. Pegram, Ind. Hyg., for occupational concerns.

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L. PCB MATERIALS

YES NO

1.0 Does this facility have any PCBs in use or in storage? [X] [ ]

1.1 If no, then continue with next module.

2.0 Has there ever been an inventory and analysis to determine the extent of PCBs in use or in storage? [X] [ ]

2.1 If yes, 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>Quality</u>	<u>Status</u>	<u>Fluid PCB Concentration</u>	<u>Fluid Volume</u>
-------------	----------------	---------------	--------------------------------	---------------------

SEE ATTACHED ANNUAL REPORT

3.0 Are PCB analyses performed in-house? \_\_\_\_\_ [X] [ ]

3.1 If not, who performs the analyses? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

4.1 Does the facility have any PCB transformers in use or in storage for reuse which contain more than 60,000 ppm PCBs? [X] [ ]  
 Total of 21

4.1.1 Is the equipment inspected at least once every three months (with inspection records maintained for 3 years after disposal) or does the transformer have secondary containment capable of holding at least 100% of the fluid volume? [X] [ ]  
 Both

4.2 Does the facility have any transformers in use or in storage for reuse which contain more than 500 ppm PCBs but less than 60,000 ppm PCBs? [X] [ ]  
 Total of 4

4.2.1 Is this equipment inspected at least annually (with inspection records maintained for 3 years after disposal)? [X] [ ]

4.3 Have any transformers been found to be leaking? [X] [ ]  
 Total of 50.

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 4.3.1 Was cleanup of released PCBs initiated within 48 hours of discovery?   | [ ]        | [X]       |
| 4.3.2 Describe containment, how the material was cleaned up, and disposed of: <u>Leaks have been repaired. Transformer exteriors and pads cleaned with tri-chloroethane or detergent; contaminated soil excavated; wastes consigned to EPA-approved disposal firm.</u> |            |           |
| 4.4 Have any transformers been serviced or rebuilt at the facility?  | [X]        | [ ]       |
| 4.4.1 Has any servicing required the removal of the transformer coil?  | [ ]        | [X]       |
| 4.4.2 Have any transformers containing >500 ppm PCBs been serviced?  | [X]        | [ ]       |
| 4.4.3 Describe disposal procedures for any dielectric fluid removed from transformers during servicing. <u>An EPA-qualified contractor removed and disposal of dielectric fluids in accordance with EPA requirements.</u>  |            |           |
| 4.5 Does the facility ever top off any existing transformers?  | [ ]        | [X]       |
| 4.5.1 What kind of material is used? _____<br>_____<br>_____   |            |           |
| 5.0 Does the facility have any PCB large capacitors (containing 3 lbs or more of dielectric fluid)?  | [X]        | [ ]       |
| 6.0 Does the facility have any PCB small capacitors (containing 3 lbs. or less of dielectric fluid - commonly used in fluorescent light ballasts and industrial equipment)?  | [X]        | [ ]       |
| 7.0 Does the facility have any open hydraulic systems containing PCBs?   | [ ]        | [X]       |
| 7.1 Has the hydraulic fluid been tested to determine the concentration of PCBs?  | [ ]        | [ ]       |
| 7.2 Has any of this equipment been found to contain more than 50 ppm PCBs?   | [ ]        | [ ]       |
| If so, have the systems been flushed to bring PCBs down to required levels and the PCB levels rechecked?   | [ ]        | [ ]       |

YES    NO

Explain flushing procedures and how the material was disposed of. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 7.3 Have the records been maintained on testing and draining of all equipment that once contained >50 ppm PCBs?
- 7.4 Are there any plans or programs underway to eliminate the use of open hydraulic systems after July 1, 1984?
- 8.0 Does the facility have any open heat transfer systems containing PCBs?
- 8.1 Has the fluid been tested to determine the concentration of PCBs?
- 8.2 Has any of this equipment been found to contain more than 50 ppm PCBs?
- 8.3 Have records been maintained on testing and draining of all equipment that once contained >50 ppm PCBs?
- 8.4 Are there any plans or programs underway to eliminate the use of open heat transfer systems after July 1, 1984?
- 9.0 Does the facility have any voltage, switches, or electromagnets which contain PCBs?
- 9.1 Has any of this equipment been serviced or rebuilt at the facility?

If so, describe procedures for either reuse or disposal of PCBs removed during any servicing activities:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 10.0 Does the facility have any circuit breakers, reclosures, or cables that contain PCBs?   | [X]        | [ ]       |
| 10.1 Has any of this equipment been serviced or rebuilt at the facility?   | [X]        | [ ]       |
| If so, describe procedures for reuse or disposal of any PCBs removed during the servicing activity.<br><u>Material consigned to an EPA-approved disposal firm.</u> |            |           |

STORAGE

- |  |     |     |
|--|-----|-----|
| 11.0 Are there any PCBs stored at the facility?  | [X] | [ ] |
| 12.0 Have any PCBs been placed in storage since January 1, 1983?   | [X] | [ ] |
| 12.1 Is there a program underway to dispose of these PCB materials within 1 year of the date they were first placed in storage? See Item 24.0, Question 12.1.                                | [X] | [ ] |
| 13.0 Does the storage area meet the following criteria:  |     |     |
| 13.1 Adequate roof and walls to prevent rain water from reaching PCB items?  | [X] | [ ] |
| 13.2 Adequate floor with a continuous curbing 6 inches high capable of providing a containment volume equal to at least 25% of the volume of all stored items? See Item 24.0, Question 13.2. | [ ] | [X] |
| 13.3 No drain valves, sewer lines or other openings that would allow liquids to flow from the curbed area?   | [X] | [ ] |
| 13.4 Not located within 100 year floodplain?   | [X] | [ ] |
| 14.0 Are any PCBs stored temporarily in an area that does not comply with the requirements in Question 13.0?   | [X] | [ ] |
| 14.1 Are these items removed from the temporary area within 30 days?   | [X] | [ ] |
| 14.2 Has a Spill Prevention Control and Counter Measure Plan been prepared?  | [X] | [ ] |
| 14.3 Is the PCB concentration of stored liquids below 500 ppm?   | [X] | [ ] |

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- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 14.4 Are all items in storage checked for leaks at least once every 30 days?                        | [X]        | [ ]       |
| 14.5 Do containers for storage of liquid PCBs comply with shipping container specifications of DOT? | [X]        | [ ]       |
| 15.0 Have any PCB items been found to be leaking in any storage facility?                           | [ ]        | [X]       |

If yes, describe clean-up procedures. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

DISPOSAL

16.0 Where do you currently dispose of all 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</u>
<u>Rollins Environmental</u>	<u>Incinerator; chemical waste landfill</u>	<u>Liquid and solids</u>
<u>Los Alamos National Laboratory</u>	<u>Incinerator</u>	
<u>United States Pollution</u>	<u>Landfill</u>	<u>Solids</u>

16.1 Have you ever checked with the EPA and appropriate state agency to see if there are any problems with any of these facilities? [X] [ ]

17.0 Has the facility ever disposed of any PCBs in the past? [X] [ ]

17.1 PCB waste shipped from Rocky Flats Plant:

<u>Date</u>	<u>Type &amp; Amount of Waste</u>	<u>Shipped To</u>
	<u>Liquid      Solid</u>	

SEE TABLE L-1 AT END OF SECTION.

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 18.0 Do facility records indicate that there are any large quantities of PCBs unaccounted for over the last 15 years?  | [ ]        | [X]       |
| 19.0 Are any oils, including lubricants, sent out for reclaiming or are any reclaimed/recycled oils purchased or used by the facility? Hydraulic oil from Precision Forge Oxnard Facility.   | [X]        | [ ]       |
| 19.1 Have reclaimed oils been analyzed for PCBs?   | [X]        | [ ]       |
| 20.0 Does the facility burn any waste oils in their boilers or in any other incinerator device on-site?  | [ ]        | [X]       |
| 20.1 Has the waste oil been tested for PCBs?   | [ ]        | [ ]       |
| If so, what is the PCB content? _____  |            |           |
| 21.0 Have all waste water effluents been checked for PCBs?   | [ ]        | [X]       |
| 22.0 Are any PCBs contaminated with radioactivity?<br><u>Solid wastes stored in Building 776.</u>  | [X]        | [ ]       |
| 23.0 Is newly purchased or reconditioned equipment tested for PCB contamination?   | [ ]        | [X]       |
| 24.0 COMMENTS:<br><u>Question 12.1: Some solid PCB wastes contaminated with radioactivity are stored indefinitely: no EPA-approved disposal site.</u><br><u>Question 13.2: Catch basin capacity exceeds twice the volume of the largest stored item.</u> |            |           |
| 25.0 Responsible contact person(s): <u>John R. Handschy, John A. Hayden, David E. Schultz.</u>   |            |           |

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TABLE L-1  
PCB WASTE SHIPPED FROM ROCKY FLATS PLANT

DATE	LIQUID (GALLONS)	SOLID (POUNDS OR DRUMS)	SHIPPED TO
06/24/82	1,136	6 DRUMS	ROLLINS
08/30/82		4 DRUMS	ENVIRONMENTAL INTERNATIONAL
08/31/83	4.5	2 DRUMS	ROLLINS
10/13/83		9,750 POUNDS	ENVIRONMENTAL INTERNATIONAL
07/09/84	400		LANL
10/11/84		6,046 POUNDS	ROLLINS
06/13/85		840 POUNDS	ROLLINS
01/27/86		6,192 POUNDS	ROLLINS
08/08/86	1,950	150 POUNDS	ROLLINS
08/25/86	980		GENERAL ELECTRIC
08/26/86	980		GENERAL ELECTRIC
08/27/86	530		GENERAL ELECTRIC
08/28/86	375	100 POUNDS	GENERAL ELECTRIC
09/02/86	555		GENERAL ELECTRIC
09/03/86	770		GENERAL ELECTRIC
09/04/86	742		GENERAL ELECTRIC
09/06/86	681		GENERAL ELECTRIC
09/14/86	2,014		GENERAL ELECTRIC
09/18/86	477		GENERAL ELECTRIC
09/21/86	1,855		GENERAL ELECTRIC
09/12/86	1,975		TRINITY CHEMICAL
09/19/86	5,400		TRINITY CHEMICAL
09/05/86	2,033		TRINITY CHEMICAL
08/29/86	4,930		TRINITY CHEMICAL
01/28/87	990		GENERAL ELECTRIC
01/29/87	990		GENERAL ELECTRIC
11/07/86	53	286 POUNDS	S.D. MYERS
04/06/87		31,287 POUNDS	USPCI, INC.
07/06/87	1761	9,475 POUNDS	ROLLINS
08/26/87	1378	244 POUNDS	PYROCHEM

THE PCB WASTES SHIPPED TO GENERAL ELECTRIC, TRINITY CHEMICAL, S.D. MYERS, AND PYROCHEM WERE GENERATED BY SUBCONTRACTED WORK AT RFP.

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PCB ANNUAL REPORT  
CALENDAR YEAR 1986  
WASTE OPERATIONS

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The regulations requiring the preparation of an annual document on the disposition of PCB and PCB items are published in 40 CFR, Part 761.45. Facilities using or storing at least 45 kg of PCB's, or one or more PCB transformers, or 50 or more PCB large capacitors are required to prepare an annual report. The information required for this report includes dates removed from service, weight of PCB, identification of container contents, number of transformers, number of large capacitors, location of storage facilities, and PCB items in service at the end of the calendar year.

Responsibility for waste PCB materials was transferred to the Waste Operations department in March 1981. Waste Operations has assumed the responsibility for preparing the annual PCB report. However, the information regarding "in-service PCB items" has been supplied by the Production Support Engineering Department (Plant Power Systems).

On January 1, 1986, there were four (4) PCB waste storage areas on-site containing 56 items. As of December 31, 1986, there were three (3) PCB waste storage areas on site containing 145 items. Specific information regarding each container transaction is contained in the Waste Operations Office PCB Log and in the Waste Data Base.

The current non-radioactive Rocky Flats waste PCB's are stored in three (3) cargo containers, located at the hazardous waste storage area (HW-8, 14, 15). These materials are kept separate from radioactively contaminated PCB and are only placed in this storage area after having been evaluated by laboratory analysis and/or Health Physics personnel. The weights for liquids listed were calculated using estimated volumes and densities. Table 1 contains information regarding the items stored in HW - 8, 14, and 15).

The radioactive solid and liquid PCB's at Rocky Flats are being stored in Building 776. Table 2 contains information regarding the items in this storage area.

The Rocky Flats Plant Power Group monitors the "in-service" PCB items. They have supplied all information regarding transformers (Table 3) and capacitors (Table 4).

TABLE 1

HAZARDOUS WASTE STORAGE AREA - PCB WASTE  
DECEMBER 31, 1986

ITEM	DATE TRANSFERRED TO WASTE OPERATIONS	IDENTIFICATION	PHYSICAL FORM	VOLUME (g)	MASS (kg)
Oil	11/25/85	86032.1*	Liquid	184	266
Oil	11/25/85	86032.2*	Liquid	183	264
Oil	11/25/85	86032.3*	Liquid	183	264
Oil	01/07/86	86064	Liquid	1	?
Oil	07/15/86	86262.1	Liquid	200	289
Oil	07/15/86	86262.2	Liquid	200	289
Oil	07/15/86	86262.3	Liquid	200	289
Oil	07/15/86	86262.4	Liquid	200	289
Oil	07/15/86	86279.1	Liquid	209	302
Oil	07/15/86	86279.2	Liquid	209	302
Oil	07/15/86	86279.3	Liquid	209	302
Oil	05/19/86	86286	Liquid	1	2
Capacitors	07/15/86	86287.1	Solid/Liquid	8	12
Capacitors	07/15/86	86287.2	Solid/Liquid	27	39
Capacitors	07/15/86	86287.3	Solid/Liquid	27	39
Gravel	08/09/86	86289.1	Solid		200
Gravel	08/09/86	86289.2	Solid		200
Gravel	08/09/86	86289.3	Solid		185
Gravel	08/09/86	86289.4	Solid		145
Gravel	08/09/86	86289.5	Solid		165
Gravel	08/09/86	86289.6	Solid		160
Gravel	08/09/86	86289.7	Solid		136
Gravel	08/09/86	86289.8	Solid		195
Gravel	08/09/86	86289.9	Solid		180
Gravel	08/18/86	86292.1	Solid		250
Gravel	08/18/86	86292.2	Solid		210
Gravel	08/18/86	86292.3	Solid		190
Gravel	08/18/86	86292.4	Solid		215
Gravel	08/18/86	86292.5	Solid		215
Gravel	08/18/86	86292.6	Solid		190
Gravel	08/18/86	86292.7	Solid		190
Gravel	08/18/86	86292.8	Solid		195
Gravel	08/18/86	86292.9	Solid		215
Gravel	08/18/86	86292.10	Solid		205
Gravel	08/18/86	86292.11	Solid		170
Gravel	08/18/86	86292.12	Solid		210
Gravel	08/18/86	86292.13	Solid		240
Gravel	08/18/86	86292.14	Solid		235
Debris	08/18/86	86292.15	Solid		50
Debris	08/18/86	86292.16	Solid		30
Gravel	08/18/86	86292.17	Solid		40
Gravel	08/22/86	86301.1	Solid		170
Gravel	08/22/86	86301.2	Solid		185
Gravel	08/??/86	86301.3	Solid		185

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TABLE 1 (Continued)

ITEM	DATE TRANSFERRED TO WASTE OPERATIONS	IDENTIFICATION	PHYSICAL FORM	VOLUME (L)	MASS (Kg)
Gravel	08/22/86	86301.4	Solid		120
Gravel	08/22/86	86301.5	Solid		200
Gravel	08/22/86	86301.6	Solid		30
Gravel	08/22/86	86301.7	Solid		200
Gravel	08/22/86	86301.8	Solid		180
Gravel	08/22/86	86301.9	Solid		170
Gravel	08/22/86	86301.10	Solid		200
Gravel	08/22/86	86301.11	Solid		215
Gravel	08/22/86	86301.12	Solid		130
Gravel	08/22/86	86301.13	Solid		225
Gravel	08/22/86	86301.14	Solid		150
Gravel	08/22/86	86301.15	Solid		40
Gravel	08/22/86	86301.16	Solid		30
Gravel	08/22/86	86301.17	Solid		55
Gravel	08/22/86	86301.18	Solid		20
Gravel	08/22/86	86301.19	Solid		15
Gravel	08/22/86	86301.20	Solid		40
Gravel	08/22/86	86301.21	Solid		1
Capacitors	09/19/86	86362.1	Solid/Liquid		118
Capacitors	09/19/86	86362.2	Solid/Liquid		118
Capacitors	09/24/86	86374.1	Solid/Liquid		182
Capacitors	09/24/86	86374.2	Solid/Liquid		168
Capacitors	09/24/86	86374.3	Solid/Liquid		180
Capacitors	09/24/86	86374.4	Solid/Liquid		185
Capacitors	09/24/86	86374.5	Solid/Liquid		183
Capacitors	09/24/86	86374.6	Solid/Liquid		178
Capacitors	09/24/86	86374.7	Solid/Liquid		186
Capacitors	09/24/86	86374.8	Solid/Liquid		182
Capacitors	09/24/86	86374.9	Solid/Liquid		182
Capacitors	09/24/86	86374.10	Solid/Liquid		185
Capacitors	09/24/86	86374.11	Solid/Liquid		185
Capacitors	09/24/86	86374.12	Solid/Liquid		187
Capacitors	09/24/86	86374.13	Solid/Liquid		187
Capacitors	09/24/86	86374.14	Solid/Liquid		183
Capacitors	09/24/86	86374.15	Solid/Liquid		186
Capacitors	09/24/86	86374.16	Solid/Liquid		186
Capacitors	09/24/86	86374.17	Solid/Liquid		187
Debris	09/19/86	86375	Solid		45
Capacitors	09/19/86	86376	Solid/Liquid		20
Kerosene	09/19/86	86378	Liquid	115	166
Transformer	09/15/86	86379	Solid		1996
Transformer	09/15/86	86380	Solid		227
Debris	09/22/86	86381.1	Solid		35
Gravel	09/22/86	86381.2	Solid		75
Gravel	09/22/86	86381.3	Solid		171
Gravel	09/22/86	86381.4	Solid		291

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TABLE 1 (Continued)

<u>ITEM</u>	<u>DATE TRANSFERRED TO WASTE OPERATIONS</u>	<u>IDENTIFICATION</u>	<u>PHYSICAL FORM</u>	<u>VOLUME (L)</u>	<u>MASS (Kg)</u>
Oil	08/28/86	86382.1	Liquid	208	300
Oil	08/28/86	86382.2	Liquid	208	300
Oil	08/28/86	86382.3	Liquid	132	191
Water	08/28/86	86382.4	Liquid	113	64
Oil	08/28/86	86383.1	Liquid	132	90
Oil	08/28/86	86383.2	Liquid	132	190
Debris	09/24/86	87006	Solid		50
Debris	10/24/86	87030	Solid		36
Gravel	10/16/86	87034.1	Solid		260
Gravel	10/16/86	87034.2	Solid		225
Gravel	10/16/86	87034.3	Solid		250
Gravel	10/16/86	87034.4	Solid		220
Gravel	10/16/86	87034.5	Solid		190
Gravel	10/16/86	87034.6	Solid		220
Gravel	10/16/86	87034.7	Solid		120
Gravel	10/16/86	87034.8	Solid		220
Gravel	10/16/86	87034.9	Solid		210
Gravel	10/16/86	87034.10	Solid		270
Oil	11/11/86	87056	Liquid	95	137
Hexane	11/13/86	87059.1	Liquid	28	40
Debris	11/13/86	87059.2	Solid		30
Oil	11/13/86	87059.3	Liquid	11	16
Oil	11/13/86	87059.4	Liquid	1	2
Oil	12/02/86	87079	Liquid	4	6
Debris	11/25/86	87080.1	Solid		15
Debris	11/25/86	87080.2	Solid		15
Transformer	11/25/86	87081.1	Solid		120
Oil	11/25/86	87081.2	Liquid	178	257
Transformer	11/25/86	87082.1	Solid		190
Debris	11/25/86	87082.2	Solid		20
Debris	11/25/86	87082.3	Solid		20

\*Considered radioactive by Rocky Flats HS&E Standards, but not by DOT Regulations.

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TABLE 2

BUILDING 776 PCB STORAGE  
DECEMBER 31, 1986

<u>ITEM</u>	<u>DATE TRANSFERRED TO WASTE OPERATIONS</u>	<u>IDENTIFICATION</u>	<u>PHYSICAL FORM</u>	<u>VOLUME (L)</u>	<u>MASS (Kg)</u>
Capacitor/Debris	12/03/81	D14316	Solid		37
Debris	12/03/81	I2381	Solid		20
Capacitor	10/22/83	D34656	Solid/Liquid	4	6
Debris	11/23/83	D34760	Solid		65
Debris	11/23/83	D34763	Solid		60
Debris	11/23/83	D34764	Solid		60
Debris	11/23/83	D34766	Solid		62
Ballasts	01/06/84	D33535	Solid		156
Capacitors	01/23/84	D33004	Solid/Liquid		66
Debris	03/01/84	D29751	Solid		29
Capacitors	04/18/84	D37059	Solid/Liquid		119
Regulator	01/21/85	D44252	Solid		98
Regulator	01/21/85	D44259	Solid		116
Regulator	01/21/85	D44260	Solid		127
Capacitor	05/04/86	86222	Solid/Liquid		4
Debris	10/28/86	87064.1	Solid		62
Debris	10/28/86	87064.2	Solid		62
Debris	10/28/86	87064.3	Solid		62
Debris	10/28/86	87064.4	Solid		62
Debris	10/28/86	87064.5	Solid		62
Debris	10/28/86	87064.6	Solid		62
Oil	11/19/86	87116.1	Liquid	200	289
Oil	11/19/86	87116.2	Liquid	200	289
Capacitors	12/10/86	87117	Solid/Liquid	12	20

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TABLE 3  
PCB TRANSFORMERS IN SERVICE  
DECEMBER 31, 1986

PMO NUMBER OR BUILDING SUB-STATION	PPM PCB	GALLONS**	RG
223-1	19,800	407	1,449
334-1****	722	285	1,015
371-1****	2,244	356	1,267
371-4****	1,799	356	1,267
371-5****	952	356	1,267
371-6****	1,026	356	1,267
Indoor 371-7		282	1,536
Indoor 371-8		282	1,536
443-1	10,965	443	1,577
Indoor 444-1		810	4,413
Indoor 444-3		656	3,574
Indoor 444-4		810	4,413
447		333	1,814
559		235	1,280
707-2**		238	1,297
707-3		238	1,297
707-4		238	1,297
707-5		238	1,297
707-6		238	1,297
708-1		770	4,195
729		180	981
750		465	2,533
Indoor 771-1		810	4,413
Indoor 771-2		425	2,315
776-4*		656	2,460
776-5****	807	305	1,096
779-1		330	1,798
779-2		330	1,798
865-1		223	1,215
865-2		223	1,215
883-4		247	1,346
376-017\$		40	220
376-018\$		40	220
376-019\$	158	40	220
376-111\$	67	40	220
370-021\$	84	40	220
376-001\$	314	20	110

\* Retrofilled with silicone oil, PCB concentration approximately 3%.  
Retrofilled 11/19/77.

\*\* Retrofilled with silicone oil, PCB concentration approximately 5%.  
Retrofilled 9/30/76.

\*\*\* Conversion factor: 2 gallon = 5448 Kg.

\*\*\*\* Retrofilled, awaiting ninety day classification.

\$ Previously classified as non-PCB pole transformers.

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TABLE 4

POWER CAPACITORS IN SERVICE  
DECEMBER 31, 1986

<u>BUILDING</u>	<u>NUMBER OF CAPACITORS</u>	<u>GALLONS PER CAPACITOR</u>	<u>MASS<sup>1</sup> (Kg)</u>
334 <sup>2</sup>	2	2.4	26
334	11	0.25	15
371	13	2.0	140
371	1	0.25	1.4
371 <sup>2</sup>	1	0.8	4.4
444	3	1.9	31
444	6	4.2	140
444	5	1.1	30
444 <sup>2</sup>	6	1.08	35
447	1	4.2	23
705	1	1.08	5.9
707	48	1.08	280
707 <sup>2</sup>	8	4.2	180
707 <sup>2</sup>	5	0.25	6.8
708	6	1.08	35
708	5	2.4	65
708	1	0.75	4.1
771	20	1.08	120
771	4	4.2	92
776	4	1.08	24
776	9	4.2	210
777 <sup>2</sup>	2	4.2	46
865	8	1.08	47
865 <sup>2</sup>	7	2.4	92
865 <sup>2</sup>	69	0.25	94
881	8	4.2	180
881 <sup>2</sup>	2	2.0	22
883 <sup>2</sup>	12	4.2	270
883 <sup>2</sup>	10	1.08	59
991	2	4.2	46

<sup>1</sup> PCB density assumed to be 5.45 Kg/gallon.

<sup>2</sup> Includes existing capacitors not previously reported.

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M. NONHAZARDOUS SOLID WASTE

- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 1.0 Are current copies of federal, state, or local ordinances, regulations, or other standards related to solid waste management on file?      | [X]        | [ ]       |
| 2.0 Has this facility received any complaints or violation notices relating to handling or disposal of solid waste materials?                  | [ ]        | [X]       |
| 3.0 Have any reports been supplied to, or required by, any regulatory agency?  | [ ]        | [X]       |
| 3.1 Explain: _____<br>_____<br>_____<br>_____  |            |           |
| 4.0 Are outside contracted services used for solid waste collection:   | [ ]        | [X]       |
| 4.1 Is a copy of the hauler's current state license on file?   | [ ]        | [ ]       |
| 4.2 Has the county/state regulatory agency been contacted to see if there are any problems, concerns or complaints on the hauler?              | [ ]        | [ ]       |
| 4.3 Has the hauler been followed to see if he uses the proper disposal site?   | [ ]        | [ ]       |
| 5.0 Are outside contracted services used for solid waste disposal?   | [ ]        | [X]       |
| 5.1 Is a copy of the disposal site's current state license on file?  | [ ]        | [ ]       |
| 5.2 Has the county/state regulatory agency been contacted to see if there are any problems, concerns, or complaints on the disposal operation? | [ ]        | [ ]       |
| 6.0 Are facility owned/operated trucks used for solid waste collection?  | [X]        | [ ]       |
| 6.1 Do these trucks leave the facility property  | [ ]        | [X]       |
| 6.2 Are the trucks licensed for hauling solid waste?   | [ ]        | [X]       |

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YES NO

- 6.3 Describe how the trucks (containers) are cleaned and where wash waters go: Containers and trucks are washed with water at the landfill. Containers are sanitized each month with chlorox. All washwater remains in landfill.
- 6.4 Are there any employee safety/handling training or education programs?
- 6.4.1 Describe: Safety training for operation of compactor and dumpster boxes is provided.
- 7.0 Does the facility own/operate its own solid waste disposal site? [X] [ ]
- 7.1 Describe the site and its location: Sanitary Landfill that is located in the north part of the Plant property.
- 7.2 Is the disposal operation permitted? [ ] [X]\*
- 7.3 If Yes, list all permits and permitting agency:  
\* A RCRA Closure Plan has been submitted for the landfill due to past acceptance of some listed hazardous wastes. Landfill is undergoing closure. No other permits required for facility.
- 7.4 Is the operation in compliance with all permit conditions? [X] [ ]
- 7.5 Has the disposal operation been inspected by any federal/state/county regulatory agency within the last review period? [ ] [X]
- 7.6 Describe any results of that inspection: A DOE group surveyed the entire Rocky Flats Plant in August 1986. This group was not a regulatory agency, it was an independent group tasked to identify problems and potential at the Rocky Flats Plant. This group felt that the landfill was a potential source of groundwater contamination in addition to having improper controls to prevent the disposal of low-level radioactive waste or hazardous waste in this landfill. Additionally, this survey group felt that improper asbestos disposal and recordkeeping were also taking place. Some groundwater monitoring wells exist near the landfill at the current time. Additional monitoring wells, soil samples, and other investigation techniques will be used at the landfill to identify any potential environmental problems during 1987. To date, no problem or contamination migration has

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been identified in any samples taken near the landfill. These samples include water from the retention pond and water from the monitoring wells. Institutional controls on wastes going to the landfill for disposal were upgraded in the fall of 1986 as results of the Waste Stream Identification Survey became available. Potential low level radioactive or hazardous wastes were segregated out from the waste streams entering the landfill. Custodial control and locked containers are provided at waste collection points. To date, no environmental problems at the landfill have been identified, so no corrective actions are required. The disposal of potentially low-level radioactive or hazardous waste in the landfill has ceased. The active landfill is undergoing RCRA Closure, and the siting of a new landfill is underway. The closure activities have begun, and will include investigations to determine the characteristics of any leachate that may be in the landfill, a determination as to whether leachate has migrated from the landfill, and mapping studies to determine the most suitable cap for the landfill. In the spring of 1987 the National Enforcement Investigations Center (NEIC) of EPA surveyed the Rocky Flats Plant and indicated they thought the landfill was a potential source of groundwater contamination. They sampled groundwater and surface water near the landfill. Gross indicators of contamination did not indicate contamination, but detailed analytical results are not yet available. The NEIC group did not inspect the landfill, they were simply concerned about downgradient groundwater quality. The results of these samples will be considered in all closure actions.

- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 8.0 Have any solid waste reduction/recycling/disposal studies been initiated or completed within the last review period?  | [X]        | [ ]       |
| 9.0 Has a solid waste inventory/quantity/generation rate study been conducted within the last 3 years?  | [X]        | [ ]       |
| 10.0 Are there procedures established to determine if a newly generated solid waste is nonhazardous?  | [X]        | [ ]       |
| 10.1 Describe: <u>These procedures are described in Section C of RCRA Part B Permit Application. This application was submitted to the state and federal regulators in November, 1986 and will be updated in December 1987.</u> |            |           |
| 11.0 Is there a formal program for segregating hazardous waste from solid waste?  | [X]        | [ ]       |

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	<u>YES</u>	<u>NO</u>
11.1 At the point of generation?	[X]	[ ]
11.2 During on-site transportation?	[ ]	[ ]
11.3 At on-site storage/transfer facilities?	[ ]	[ ]
11.4 During truck loading operations?	[ ]	[ ]
11.5 Describe any segregation activities: _____ _____ _____ _____		
12.0 Are there any nonhazardous solid wastes that are being used as a supplemental fuel source in the facilities boilers?	[ ]	[X]
12.1 If yes, list: _____ _____ _____		
13.0 Does the facility operate a solid waste incineration device?	[X]	[ ]
13.1 If Yes, does the unit recover heat?	[ ]	[X]
13.2 Is the incinerator permitted?	[X]	[ ]
14.0 COMMENTS: _____ _____ _____ _____		
15.0 Responsible contact person(s): <u>F. J. Blaha</u>		

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N. HAZARDOUS WASTE (GENERAL)

- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 1.0 Prior to January 1981 (date when RCRA Part A Permit was required) did the facility store or dispose of any hazardous waste on site?            | [X]        | [ ]       |
| 1.1 Were these hazardous wastes stored in containers, tanks, or surface impoundments (lagoons)?  | [X]        | [ ]       |
| 1.2 Have all of these hazardous wastes been removed and disposed of in accordance with RCRA regulations?   | [ ]        | [X]       |
| 2.0 Does this facility generate any waste listed or classified as a hazardous waste?   | [X]        | [ ]       |
| 2.1 If no, continue with the next module.  |            |           |
| 2.2 If yes, complete Subsection 1, Hazardous Waste Generator.  |            |           |
| 3.0 Does this facility store any hazardous waste for less than 90 days?  | [X]        | [ ]       |
| 3.1 If yes, complete Subsection 2, Hazardous Waste Storage.  |            |           |
| 4.0 Does this facility store any hazardous waste for 90 days or longer?  | [X]        | [ ]       |
| 4.1 If yes, complete Subsection 3, Hazardous Waste Storage.  |            |           |
| 4.2 Does this storage facility have a Part A Permit?   | [X]        | [ ]       |
| 5.0 Does this facility transport any hazardous waste over public roads (i.e., off facility property) in their own trucks? <u>DOE Owned trucks.</u> | [X]        | [ ]       |
| 5.1 If yes, complete Subsection 4, Facility Transportation of Hazardous Waste.   |            |           |
| 6.0 Does this facility treat or dispose of any hazardous waste on-site or at a facility owned operation?   | [X]        | [ ]       |
| 6.1 If yes, complete Subsection 5, Hazardous Waste Treatment and Disposal.   |            |           |

- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 7.0 Does this facility use a commercial service for transportation of hazardous waste over public roads?  | [X]        | [ ]       |
| 7.1 If yes, complete Subsection 6, Commercial Transportation of Hazardous Waste.  |            |           |
| 8.0 Does this facility use a commercial service for the disposal of hazardous waste?  | [X]        | [ ]       |
| 8.1 If yes, complete Subsection 7, Commercial Hazardous Waste Treatment and Disposal.   |            |           |
| 9.0 If Question 4.0 through 6.0 have been answered Yes, have any of the above activities been required to submit a Part B permit application?   | [X]        | [ ]       |
| 9.1 <u>Status: RCRA Part B Permit Application was submitted in November, 1986, along with a RCRA Post-Closure Care Permit Application containing Closure Plans for many facilities. Closure of many facilities has begun. Permits are currently under review.</u> |            |           |
| 10.0 Has the facility closed a hazardous waste treatment and/or storage facility within the last 12 months, or is it planning to close such a facility within the next 12 months?   | [X]        | [ ]*      |
| 11.0 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?   | [X]        | [ ]       |
| 12.0 COMMENTS: <u>*10. Number of small storage Facilities to be closed.</u>   |            |           |
| <u>*11. Implementing closure on a disposal facility, the West Spray Field.</u>  |            |           |
| 13.0 Responsible contact person(s): <u>F. J. Blaha, HS&amp;E</u>  |            |           |
| _____   |            |           |
| _____   |            |           |
| _____   |            |           |

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Subsection 1  
HAZARDOUS WASTE GENERATOR

1.0 Are the hazardous wastes generated at this facility tested or acknowledged to be hazardous wastes as defined by federal regulations? YES NO  
[X] [ ]

1.1 Name listed hazardous wastes:

Hazardous Waste Contaminant	Hazardous Waste No.
-----------------------------	---------------------

See RCRA Part A Permit Application for listing of hazardous and mixed wastes. (Environmental Master File; Building T452B)

1.2 Has delisting of any waste been attempted? [ ] [X]

1.3 Status: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2.0 Have any nonlisted hazardous wastes been evaluated in terms of ignitability, corrosivity, reactivity, or E.P. toxicity? [X] [ ]

2.1 Are all data available and filed? [X] [ ]

2.2 Name nonlisted hazardous wastes:

Hazardous Waste Contaminant	Hazardous Waste No.
-----------------------------	---------------------

See RCRA Part A Permit Application (Environmental Master File - T452B).

3.0 Does the facility qualify for a small quantity exemption? [ ] [X]

4.0 Does the facility ship hazardous waste off-site? [X] [ ]

4.1 Has a manifest been used for all shipments? [X] [ ]

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- |   | <u>YES</u> | <u>NO</u>        |
|---|------------|------------------|
| 4.2 Are all transporters used by the plant licensed?  | [X]        | [ ]              |
| 4.3 Are copies of the transporters' and/or permit applications on file?   | [X]        | [ ] <sup>*</sup> |
| 4.4 Are all waste shipments packaged and labeled in accordance with DOT regulations?  | [X]        | [ ]              |
| 4.5 Have all prepared manifests been signed by the generator and initial transporter?   | [X]        | [ ]              |
| 4.6 Are manifest copies, waste analyses, and other determinations retained at the facility for at least three years?                          | [X]        | [ ]              |
| 4.7 Are the appropriate placards on file and offered to the initial transporter?  | [X]        | [ ]              |
| 5.0 Are hazardous wastes imported from or exported to foreign countries?  | [ ]        | [X]              |
| 6.0 Have manifest copies from disposal sites been received by the plant within 35 days?   | [X]        | [ ]              |
| 6.1 If no, has the plant taken any action to determine the status of the shipment?  | [ ]        | [ ]              |
| 6.2 If copies of the manifest have not been received within 45 days, has an exception report been filed with the EPA?                         | [ ]        | [ ]              |
| 7.0 Does the facility generate any hazardous wastes that are contaminated with radioactivity? (If Yes, complete module P, Radioactive Waste.) | [X]        | [ ]              |
| 8.0 COMMENTS: * <u>4.3 Transporter I.D. numbers on file, but not the permits.</u>   |            |                  |
| 9.0 Responsible contact person(s): <u>F. J. Blaha, HS&amp;E</u>   |            |                  |
|   |            |                  |
|   |            |                  |

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Subsection 2  
 HAZARDOUS WASTE STORAGE FACILITY  
 (For Storage of Hazardous Wastes for  
 Less Than 90 Days)

- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 1.0 Does the facility store hazardous wastes on-site for less than 90 days?   | [X]        | [ ]       |
| 1.1 If Yes, is storage in:  |            |           |
| 1.1.1 Tanks?  | [X]        | [ ]       |
| 1.1.2 Containers?   | [X]        | [ ]       |
| 2.0 Is the date accumulation begins clearly marked on each container or tank?   | [X]        | [ ]       |
| 2.1 Are records kept to document accumulation dates?  | [X]        | [ ]       |
| 2.2 Are the containers or tanks clearly marked "Hazardous Waste"?   | [X]        | [ ]       |
| 3.0 Has a contingency plan been prepared to handle movement of hazardous waste if required (i.e., flooding)?  | [X]        | [ ]       |
| 4.0 Has an emergency and preparedness plan been prepared to respond to fires, explosions, etc.?   | [X]        | [ ]       |
| 5.0 Has the facility provided for a personnel training program including instructions for safe equipment operation and emergency response procedures? | [X]        | [ ]       |
| 5.1 Are new employees in the hazardous waste area provided such training within the first six months of the job assignment?                           | [X]        | [ ]       |
| 5.2 Is an annual training refresher course provided to all employees?   | [X]        | [ ]       |

6.0 COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

7.0 Responsible contact person(s): F. J. Blaha, HS&E  
 \_\_\_\_\_  
 \_\_\_\_\_

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Subsection 3  
HAZARDOUS WASTE STORAGE  
(For Storage of Hazardous  
Wastes for 90 Days or More)

	<u>YES</u>	<u>NO</u>
<b>DRUMS</b>		
1.0 Are hazardous wastes stored in containers (drums)?	[X]	[ ]
1.1 If yes, complete Question 2.0 - 11.0 below.		
1.2 If no, continue with Question 12.0.		
2.0 Does this facility have a Part A permit for the container storage area?	[X]	[ ]
3.0 Are recovery drums available for leaking containers?	[X]	[ ]
4.0 Are the containers used compatible with the waste being stored?	[X]	[ ]
5.0 Are containers storing waste kept closed except when transferring waste?	[X]	[ ]
6.0 Are container storage areas inspected at least weekly to detect leaks or signs of deteriorating conditions?	[X]	[ ]
7.0 Is the base of the storage area sufficiently impervious to contain spills or leaks until they can be removed?	[X]	[ ]
8.0 Are provisions in place to minimize contact between standing liquid and the storage containers (i.e., elevated on pallets)?	[X]	[ ]
9.0 Does the containment area have a capacity to hold 10% of the volume of containers (or the volume of the largest container)?	[X]	[ ]
10.0 Is the facility constructed to avoid storm water run-on into the containment area?	[X]	[ ]
10.1 COMMENTS: <u>Direct precipitation on some outdoor storage areas does occur.</u>		
11.0 Is accumulated precipitation tested to determine if it is hazardous?	[X]	[ ]
11.1 COMMENTS: <u>All direct precipitation is not accumulated. However, that precipitation that is accumulated is occasionally screened for pH and radioactivity.</u>		

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YES NO

11.2 Describe storm water control system: Retention Ponds: the water of which is analyzed before release. (See Rocky Flats "Annual Environmental Monitoring Report" for additional details.

TANKS

12.0 Are the hazardous wastes stored in tanks? [X] [ ]

12.1 If Yes, complete Questions 13.0 - 18.0 below.

12.2 If No, continue with Question 19.0.

13.0 Does the facility have a Part A permit for the tank(s)? [X] [ ]

14.0 Are the tanks used to store hazardous waste above ground? [X] [ ]

14.1 Is there a containment system? [X] [ ]\*

14.2 Describe: Secondary containment systems for tanks vary, but typically consist of concrete monitored areas. Pipes are generally double-contained by an outside PVC pipe. Some secondary containment being provided for some old tanks.

15.0 Are the tanks used to store hazardous waste buried underground? [ ] [X]

15.1 If yes, do these buried tanks have an access port for inspection? [ ] [ ]

16.0 Are the hazardous wastes stored in the tanks compatible with tank construction? [X] [ ]

16.1 Are different types of hazardous waste stored in the same tank? [X] [ ]

16.1.1 If yes, are the wastes compatible? [X] [ ]

17.0 Do the above ground tanks have gas or vapor-tight covers? [X] [ ]

17.1 If no, do uncovered tanks have at least 60 cm (2 feet) of freeboard or dikes or other containment structures? [ ] [ ]

18.0 Is there a written inspection program for the tanks? [X] [ ]

18.1 If yes, frequency: Daily for aboveground, 24 hour leak detection systems otherwise.

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YES NO

18.2 Describe how inspection procedures are documented:  
Written records.

SURFACE IMPOUNDMENTS

19.0 Are hazardous wastes stored in surface impoundments? [X] [ ]

19.1 If yes, complete Questions 20.0 - 27.0 below.

19.2 If no, continue with Question 28.0.

20.0 Does the facility have a Part A permit for the surface impoundment(s)? [ ] [X]

20.1 COMMENTS: Closure Plan for these surface impoundments submitted in November 1986 and revised March 1, 1987. Closure activities have begun.

21.0 Is the surface impoundment designed to operate with at least 60 cm (2 feet) of freeboard and is it designed with a structural containment system adequate to contain the waste material? [X] [ ]

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

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

23.1 If Yes, are all such inspections documented? [X] [ ]

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

24.1 Describe: Remedial action is underway for leachate migration. Source of leachate is the surface impoundments.

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

25.2 COMMENTS: Routine placement of waste ceased in 1985. Use of surface impoundments is now for emergency storage of waste and storage of intercepted groundwater/leachate produced by Remedial Actions. All wastes are now compatible.

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

- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 27.0 Is a ground water monitoring system in place and operational?   | [X]        | [ ]       |
| 27.1 If no, is there written documentation that there is a low potential of migration of hazardous wastes? | [ ]        | [ ]       |
| 27.2 Is this documentation certified in writing by a qualified geologist?                                  | [ ]        | [ ]       |

WASTE PILES

- |   |     |     |
|---|-----|-----|
| 28.0 Are hazardous wastes stored in waste piles?    | [ ] | [X] |
| 28.1 If yes, complete Questions 29.0 to 33.0 below. |     |     |
| 28.2 If no, continue with Question 34.0.            |     |     |

- |   |     |     |
|---|-----|-----|
| 29.0 Does the facility have a Part A permit for the waste pile?       | [ ] | [ ] |
| 30.0 Are wastes subject to wind dispersal protected against the wind? | [ ] | [ ] |

30.1 If yes, explain: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- |   |     |     |
|---|-----|-----|
| 31.0 Does the waste pile produce a leachate or runoff after a period of time? | [ ] | [ ] |
| 31.1 If Yes, is the pile on an impermeable base?                              | [ ] | [ ] |

- |  |     |     |
|--|-----|-----|
| 32.0 Is storm water run-on controlled or diverted from the waste pile? | [ ] | [ ] |
|--|-----|-----|

32.1 Describe: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- |   |     |     |
|---|-----|-----|
| 33.0 Are incompatible wastes ever added to the same waste pile? | [ ] | [ ] |
|---|-----|-----|

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	<u>YES</u>	<u>NO</u>
EMERGENCY PROCEDURES AND PREPAREDNESS		
34.0 Has a detailed chemical and physical analysis plan been prepared to include:		
34.1 All parameters and rationale for their selection?	[X]	[ ]
34.2 Sampling and testing frequency?	[X]	[ ]
34.3 Testing of new wastes when first generated?	[X]	[ ]
35.0 Does the facility have 24-hour surveillance, a fence, and/or danger signs posted at the entrances to any of the facility's storage, treatment and/or disposal operations?	[X]	[ ]
36.0 Has the facility developed a comprehensive, written inspection plan and does it maintain an operating record log? Does the plan include the inspection of the following elements:	[X]	[ ]
36.1 Emergency equipment?	[X]	[ ]
36.2 Monitoring equipment?	[X]	[ ]
36.3 Security alarm and communications devices?	[X]	[ ]
36.4 Process equipment (pipes, pumps, etc.)?	[X]	[ ]
36.5 Containment structures (dikes, curbs, etc.)?	[X]	[ ]
36.6 Structural malfunctions (roof, floor, etc.)?	[X]	[ ]
36.7 Hazardous waste handling/loading areas used each day?	[X]	[ ]
36.8 Record of any malfunctions due to equipment or operator errors?	[X]	[ ]
36.9 Record of any hazardous waste discharges?	[X]	[ ]
36.10 Storage areas (drums, tanks, etc.)?	[X]	[ ]
37.0 Does the facility have a training program for hazardous waste management? Are the following documents maintained at the facility:	[X]	[ ]
37.1 A written job description?	[X]	[ ]
37.2 A job title for each position related to hazardous waste management?	[X]	[ ]
37.3 Training records?	[X]	[ ]

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 38.0 Are special precautions taken for ignitable, reactive, or incompatible wastes? Do these precautions include:  | [X]        | [ ]       |
| 38.1 Protection from sources of ignition?  | [X]        | [ ]       |
| 38.2 Physical separation of incompatible waste materials?  | [X]        | [ ]       |
| 38.3 "No Smoking" or "No Open Flames" signs near areas where ignitable or reactive wastes are handled?   | [X]        | [ ]       |
| 38.4 Control of comingling of waste materials?   | [X]        | [ ]       |
| 39.0 Does the plant retain safety equipment as required by the type of waste handled (fire extinguishers, spill control equipment)?  | [X]        | [ ]       |
| 39.1 <u>List: On-plant fire department with extinguishers, pumper trucks, chemical fire-fighting capability, fire-water system, spill control equipment, and safety equipment.</u> |            |           |
| 39.2 Is emergency equipment tested, inspected and maintained, as necessary?  | [X]        | [ ]       |
| 39.3 Are arrangements with local authorities included in the Emergency Preparedness Plan?  | [X]        | [ ]       |
| 40.0 Has a contingency plan with emergency procedures been developed and/or incorporated with the spill plan?  | [X]        | [ ]       |
| 40.1 If yes, does it include:  |            |           |
| 40.1.1 Information on what to do in case of fire, explosion, or unplanned release of hazardous materials to the air or water?  | [X]        | [ ]       |
| 40.1.2 Arrangements with local police, fire departments, hospitals, contractors, state and local emergency response teams to coordinate emergency services?                        | [X]        | [ ]       |
| 40.1.3 Names, addresses, home and office phone numbers of persons qualified to act as emergency coordinators?  | [X]        | [ ]       |
| 40.1.4 A list of emergency equipment?  | [X]        | [ ]       |

- |  | <u>YES</u> | <u>NO</u>         |
|--|------------|-------------------|
| 40.1.5 Evacuation plans in case of fire or explosion? (Plans need not to be made if explosive or flammable materials are not stored or handled at the plant.)  | [X]        | [ ]               |
| 40.2 Has the contingency plan been tested to determine its effectiveness?  | [X]        | [ ]               |
| 40.2.1 If yes, date: <u>September 2, 1987</u>  |            |                   |
| 41.0 Is a copy of the contingency plan and any plan revisions maintained on-site and submitted to all local and state emergency service authorities that might be required to participate in the execution of the plan?                                      | [X]        | [ ]               |
| 42.0 If required, due to the actual hazards associated with the waste materials, has the facility attempted to make appropriate arrangements with local emergency service authorities to familiarize them with the possible hazards and the facility layout? | [X]        | [ ]               |
| 43.0 Where state or local emergency service authorities have declined to enter into any proposed special arrangements or agreements, has the refusal been documented?  |            | Not<br>Applicable |
| 44.0 Does the plant have an assigned emergency coordinator?  | [X]        | [ ]               |
| 44.1 Coordinator's Name: <u>Shift Superintendent - Names on File</u>   |            |                   |
| 44.2 Does the coordinator have the authority to carry out the contingency plan?  | [X]        | [ ]               |
| 45.0 Has an emergency occurred in the past review period?  | [X]        | [ ]*              |
| 45.1 Was the contingency plan followed?  | [X]        | [ ]               |
| 45.2 Was notification made to the DOE Emergency Operation Center within the prescribed time period?  | [X]        | [ ]               |
| 46.0 Does the plant maintain a written operating record for all treatment, storage and/or disposal activity?   | [X]        | [ ]               |
| 47.0 Do all "empty" containers contain less than one inch of residue, or are they triple rinsed with a suitable solvent?   | [X]        | [ ]               |
| 48.0 Are ignitable and reactive wastes stored at least 15 meters (50 feet) from the facility property line?  | [X]        | [ ]               |

\* Natural gas pipe line break - EOC activated.

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 49.0 Are incompatible wastes kept separate from each other?  | [X]        | [ ]       |
| 50.0 Are new employees who are hired to handle hazardous waste given a preemployment physical examination (including complete blood and urine analysis) before being assigned to work?                           | [X]        | [ ]       |
| 51.0 Are employees given physical examinations following assignment to handle hazardous waste?   | [X]        | [ ]       |
| 51.1 If yes, list frequency and examination given:<br><u>Minimum of an annual physical. Routine physicals.</u><br><u>Frequency varies based on age and other factors.</u>  |            |           |
| 51.2 Are employee health records maintained for ten years after employment/assignment to the hazardous waste area ceases?  | [X]        | [ ]       |
| 52.0 Is emergency medical care available?  | [X]        | [ ]       |
| 52.1 If yes, describe: <u>On-plant medical department with trained doctors and nurses.</u>   |            |           |
| 53.0 Is the facility located in a seismic zone?  | [X]        | [ ]*      |
| 54.0 Is the facility located in a 100-year floodplain?   | [ ]        | [X]       |
| 55.0 Has a closure plan been prepared?   | [X]        | [ ]       |
| 55.1 Is yes, has the cost for closure been included in the plan?   | [ ]        | [X]*      |
| 56.0 COMMENTS: <u>*45. The Plant has had minor emergencies and the emergency plan was implemented. These emergencies did not involve hazardous waste and the contingency plan was therefore not implemented.</u> |            |           |
| <u>*53.0 On a scale of 0-10, Rocky Flats is rated at 1.</u>  |            |           |
| <u>*55.1 No cost required in Closure Plans for government facilities.</u>  |            |           |
| 57.0 Responsible contact person(s): <u>F. J. Blaha, HS&amp;E</u>   |            |           |

Subsection 4  
FACILITY TRANSPORTATION OF HAZARDOUS WASTE  
(Off Facility Property in Facility Operated Trucks)

	<u>YES</u>	<u>NO</u>
1.0 Does this facility transport any hazardous waste off the facility property in facility operated trucks?	[ ]	[X]

NOTE: If 1.0 is answered NO, proceed to the next section.

2.0 Does the facility have an EPA I.D. number?	[ ]	[ ]
--	-----	-----

3.0 Are hazardous waste shipments accompanied by a manifest?	[ ]	[ ]
--	-----	-----

4.0 Is the manifest signed by the facility, as the transporter, including the date of acceptance?	[ ]	[ ]
---	-----	-----

5.0 Is a copy of the signed manifest returned to the facility as the generator?	[ ]	[ ]
---	-----	-----

6.0 Does the facility, as the transporter, retain one copy of the signed manifest in a separate file?	[ ]	[ ]
---	-----	-----

7.0 Are hazardous wastes transported out of the U.S.?	[ ]	[ ]
---	-----	-----

8.0 Does the facility, as the transporter, deliver the waste to the designated treatment/disposal facility?	[ ]	[ ]
---	-----	-----

8.1 If no, explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8.2 Does the facility, as the transporter, keep a signed copy of the manifest for three years?	[ ]	[ ]
--	-----	-----

9.0 Has the facility, as the transporter, ever experienced a spill of hazardous waste during transport?	[ ]	[ ]
---	-----	-----

9.1 Was notice given to the National Response Center?	[ ]	[ ]
---	-----	-----

9.2 Was immediate action taken?	[ ]	[ ]
---------------------------------	-----	-----

9.3 Describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9.4 Was a written transporter report submitted?	[ ]	[ ]
---	-----	-----

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Subsection 5  
 HAZARDOUS WASTE TREATMENT AND DISPOSAL  
 (Treatment or disposal of any hazardous waste  
 on-site or at a facility-owned operation)

- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 1.0 Does this facility dispose of any hazardous waste either on-site or at a facility owned operation?  | [ ]        | [X]       |
| 1.1 Indicate what type of disposal or treatment is provided?  |            |           |
| Incinerator _____   |            |           |
| Land Treatment _____  |            |           |
| Chemical/physical/biological _____  |            |           |
| Other: explain _____  |            |           |
| 1.2 Are the above treatment activities permitted?   | [X]        | [ ]*      |
| *If you have already answered questions 34-55 in Subsection 3, Hazardous Waste Storage, continue with next subsection.  |            |           |
| 2.0 Has a detailed chemical and physical analysis plan been prepared to include:  | [ ]        | [ ]       |
| 2.1 All parameters and rationale for their selection?   | [ ]        | [ ]       |
| 2.2 Sampling and testing frequency?   | [ ]        | [ ]       |
| 2.3 Testing of new wastes when first generated?   | [ ]        | [ ]       |
| 3.0 Does the facility have 24-hour surveillance, a fence, and/or danger signs posted at the entrances to the facility's storage, treatment and/or disposal operations?                | [ ]        | [ ]       |
| 4.0 Has the facility developed a comprehensive, written inspection plan and does it maintain an operating record log? Does the plan include the inspection of the following elements: | [ ]        | [ ]       |
| 4.1 Emergency equipment?  | [ ]        | [ ]       |
| 4.2 Monitoring equipment?   | [ ]        | [ ]       |
| 4.3 Security, alarm, and communications devices?  | [ ]        | [ ]       |

\* See item 25 Subsection 4 for comment.

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	<u>YES</u>	<u>NO</u>
4.4 Process equipment (pipes, pumps, etc.)?	[ ]	[ ]
4.5 Containment structures (dikes, curbs, etc.)?	[ ]	[ ]
4.6 Structural malfunctions (roof, floor, etc.)?	[ ]	[ ]
4.7 Hazardous waste handling/loading areas used each day?	[ ]	[ ]
4.8 Record of any malfunctions due to equipment or operator errors?	[ ]	[ ]
4.9 Record of any hazardous waste discharges?	[ ]	[ ]
4.10 Storage areas (drums, tanks, etc.)?	[ ]	[ ]
5.0 Does the facility have a training program for hazardous waste management? Are the following documents maintained at the facility?	[ ]	[ ]
5.1 A written job description?	[ ]	[ ]
5.2 A job title for each position related to hazardous waste management?	[ ]	[ ]
5.3 Training records?	[ ]	[ ]
6.0 Are special precautions taken for ignitable, reactive, or incompatible wastes? Do these precautions include?	[ ]	[ ]
6.1 Protection from sources of ignition?	[ ]	[ ]
6.2 Physical separation of incompatible waste materials?	[ ]	[ ]
6.3 "No Smoking" or "No Open Flames" signs near areas where ignitable or reactive wastes are handled?	[ ]	[ ]
6.4 Control of comingling of waste materials?	[ ]	[ ]
7.0 Does the plan retain safety equipment as required by the type of waste handled (fire extinguishers, spill control equipment)?	[ ]	[ ]
7.1 List: _____		
_____		
_____		
_____		

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 7.2 Is emergency equipment tested, inspected and maintained, as necessary?   | [ ]        | [ ]       |
| 7.3 Are arrangements with local authorities included in the operating record?  | [ ]        | [ ]       |
| 8.0 Has a contingency plan with emergency procedures been developed and/or incorporated with the spill plan?   | [ ]        | [ ]       |
| 8.1 If yes, does it include:   |            |           |
| 8.1.1 Information on what to do in case of fire, explosion, or unplanned release of hazardous materials to the air or water?   | [ ]        | [ ]       |
| 8.1.2 Arrangements with local police, fire departments, hospitals, contractors, state and local emergency response teams to coordinate emergency services?   | [ ]        | [ ]       |
| 8.1.3 Names, addresses, home and office phone numbers of persons qualified to act as emergency services?   | [ ]        | [ ]       |
| 8.1.4 A list of emergency equipment?   | [ ]        | [ ]       |
| 8.1.5 Evacuation plans in case of fire or explosion? (Plans need not be made if explosive or flammable materials are not stored or handled at the plant.)  | [ ]        | [ ]       |
| 8.2 Has the contingency plan been tested to determine its effectiveness?   | [ ]        | [ ]       |
| 8.2.1 If Yes, date _____   |            |           |
| 9.0 Is a copy of the contingency plan and any plan revisions maintained on-site and submitted to all local and state emergency service authorities that might be required to participate in the execution of the plan?                                       | [ ]        | [ ]       |
| 10.0 If required, due to the actual hazards associated with the waste materials, has the facility attempted to make appropriate arrangements with local emergency service authorities to familiarize them with the possible hazards and the facility layout? | [ ]        | [ ]       |
| 11.0 Where state or local emergency service authorities have declined to enter into any proposed special arrangements or agreements, has the refusal been documented?  | [ ]        | [ ]       |

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	<u>YES</u>	<u>NO</u>
12.0 Does the plant have an assigned emergency coordinator?	[ ]	[ ]
12.1 Coordinator's Name: _____		
12.2 Is the coordinator familiar with the plant operation: and emergency procedures?	[ ]	[ ]
12.3 Does the coordinator have the authority to carry out the contingency plan?	[ ]	[ ]
13.0 Has an emergency occurred in the last review period?	[ ]	[ ]
13.1 Was the contingency plan followed?	[ ]	[ ]
13.2 Was notification made to the DOE Emergency Operations Center within the prescribed time?	[ ]	[ ]
14.0 Does the plant maintain a written operating record including manifest for all treatment, storage, and/or disposal activity?	[ ]	[ ]
15.0 Do all "empty" containers contain less than one inch of residue, or are they triple rinsed with a suitable solvents?	[ ]	[ ]
16.0 Are ignitable and reactive wastes stored at least 15 meters (50 feet) from the facility property line?	[ ]	[ ]
17.0 Are incompatible wastes stored in separate tanks or containers?	[ ]	[ ]
18.0 Are tanks or containers of incompatible wastes separated or protected from each other by physical barriers or sufficient distance?	[ ]	[ ]
19.0 Are new employees who are hired to handle hazardous waste given a pre-employment physical examination (including complete blood and urine analysis) before being assigned to work?	[ ]	[ ]
20.0 Are employees given physical examinations following assignment to handle hazardous waste?	[ ]	[ ]
20.1 If yes, list frequency and examination give:		
_____		
_____		
_____		
_____		

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- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 20.2 Are employee health records maintained for ten years after employment/assignment to the hazardous waste area ceases?         | [ ]        | [ ]       |
| 21.0 Is emergency medical care available?   |            |           |
| 21.1 If yes, describe: _____  |            |           |
| _____   |            |           |
| _____   |            |           |
| _____   |            |           |
| 22.0 Is the facility located in a seismic zone?   | [ ]        | [ ]       |
| 23.0 Is the facility located in a 100-year floodplain?  | [ ]        | [ ]       |
| 24.0 Has a closure plan been prepared?  | [ ]        | [ ]       |
| 24.1 If yes, has the cost for closure been included in the plan?  | [ ]        | [ ]       |
| 25.0 COMMENTS: <u>*1.0 Facility does conduct some permitted treatment activities, but no hazardous waste disposal activities.</u> |            |           |
| 26.0 Responsible contact person(s): _____   |            |           |
| _____   |            |           |
| _____   |            |           |
| _____   |            |           |
| _____   |            |           |

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Subsection 6  
COMMERCIAL TRANSPORTATION OF HAZARDOUS WASTE

- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 1.0 Does the facility use a commercial service for transportation of hazardous waste over public roads?   | [X]        | [ ]       |
| 1.1 If no, continue with the next subsection.   |            |           |
| 2.0 Does the transporter have a valid license for the transportation of hazardous waste?  | [X]        | [ ]       |
| 2.1 If Yes, EPA I.D. Number   |            |           |
| COD 980591184   |            |           |
| UTD 991301748   |            |           |
| OKD065438376  |            |           |
| TXD055141378  |            |           |
| 3.0 Does the transporter sign and date the manifest forms when he accepts the hazardous waste?  | [X]        | [ ]       |
| 4.0 Has the facility experienced any problems with the transporter and the proper handling of manifest forms?   | [ ]        | [X]       |
| 5.0 Have the state the regional EPA regulatory offices been contacted to determine if there are any violation notices, complaints, or concerns about the use of this transporter? | [ ]        | [X]       |
| 5.1 If Yes, results: _____  |            |           |
| _____   |            |           |
| _____   |            |           |
| _____   |            |           |
| 6.0 Has the facility received any complaints about the use of the transporter?  | [ ]        | [X]       |
| 7.0 Has the transporter had an accident or reportable release involving the facility's hazardous waste in the past review period?   | [ ]        | [X]       |
| 8.0 Has the transporter had an accident or reportable release involving any hazardous waste during the past review period?  | [ ]        | [X]       |
| 9.0 COMMENTS: _____   |            |           |
| _____   |            |           |
| _____   |            |           |
| _____   |            |           |
| _____   |            |           |

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Subsection 7  
COMMERCIAL HAZARDOUS WASTE TREATMENT AND DISPOSAL

- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 1.0 Does the facility use a commercial hazardous waste disposal services?  | [X]        | [ ]       |
| 1.1 If no, continue with the next module.  |            |           |
| 2.0 Does the disposal operation have a valid Part A permit?  | [X]        | [ ]       |
| 2.1 If Yes, EPA I.D. Number:<br><u>INMETCO #PAD087561015 - Part A in Part B undergoing 2nd Revision.</u><br><u>OSCO #COD980591184 - Part B approved.</u><br><u>USPCI - Utah #UTD991301748 - Working on Part B due October 1987.</u><br><u>Rollins #TXD055141378 - Part b being prepared.</u> |            |           |
| 2.2 Has the facility been asked to submit a Part B Permit application?   | [X]        | [ ]       |
| 2.3 Status: <u>Most facilities under interim status. OSCO (COD 980591184) has full Part B operating status. Other facilities mostly have their Part B in preparation or in review.</u>   |            |           |
| 3.0 Have the state and regional EPA regulatory offices been contacted to determine if there are any violation notices, complaints, or concerns about the use of this disposal service?   | [X]        | [ ]       |
| 3.1 If Yes, results: <u>Reputable services.</u>  |            |           |
| 4.0 Have there been any problems/delays in receiving completed manifest forms back from the disposal operation?  | [ ]        | [X]       |
| 5.0 COMMENTS: _____<br>_____<br>_____<br>_____   |            |           |
| 6.0 Responsible contact person(s): <u>E. R. Naimon, J. K. Payner, F. J. Blaha</u>  |            |           |

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0. CERCLA (Superfund)

- |  | YES | NO  |
|--|-----|-----|
| 1.0 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)?       | [X] | [ ] |
| 1.1 If Yes, was this release reported to the EPA?  | [X] | [ ] |
| 1.2 Was any remedial action program or cleanup implemented?  | [X] | [ ] |
| 1.3 Describe material release and subsequent actions.<br><u>Numerous spills documented in various reports, some old disposal sites in 3004(u) solid waste Waste Management Units of Part B.</u>                            |     |     |
| 2.0 Has the facility ever disposed of any waste materials into a disposal site that is on the current EPA Superfund site list, or is currently being reviewed by the state/EPA for inclusion on that list? See note below. | [X] | [ ] |
| 3.0 COMMENTS: <u>Some materials disposed at Lowery Landfill, an EPA superfund site.</u>  |     |     |
| 4.0 Responsible contact person(s): <u>K. B. McKinley, E. R. Naimon, F. J. Blaha</u>  |     |     |

P. RADIOACTIVE WASTE DISPOSAL

- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 1.0 Does this facility generate, transport, store, process or treat, or have on-site in permanent disposal any radioactive waste? (If no, continue with next module.)   | [X]        | [ ]       |
| 2.0 Does this waste include high level waste (HLW)? (If yes, complete questions 6 through 15 and Subsection 1, High Level Waste.)   | [ ]        | [X]       |
| <p>(High Level Waste is defined as the highly radioactive waste material that results from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid waste derived from the liquid; contains at least as much transuranium radionuclides as TRU waste; and contains fission products in concentrations which require permanent isolation.)</p> |            |           |
| 3.0 Does this waste include transuranic waste (TRU)? (If yes, complete questions 6 through 15 and Subsection 2, Transuranic Waste.)   | [X]        | [ ]       |
| <p>(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 uCi/g.)</p>  |            |           |
| 4.0 Does this waste include low level waste (LLW)? (If yes, complete questions 6 through 15 and Subsection 3, Low Level Waste.)   | [X]        | [ ]       |
| 5.0 Does this waste include radioactive material that contains only naturally occurring radionuclides, including uranium or thorium isotopes or their decay products? (If yes, complete questions 6 through 15 and Subsection 4, Naturally Occurring Radionuclide Waste.)   | [X]        | [ ]       |
| 6.0 Are radioactive waste management reports for the site submitted annually according to guidelines in DOE 5820, RADIOACTIVE WASTE MANAGEMENT, APP. I (Interim Draft), Mar. 25, 1985? (If Yes, some of the subsequent questions may be skipped by indicating availability of requested information in the Radioactive Waste Management Report, or other comment.)                                  | [X]        | [ ]       |

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 10.4 Have the plans been submitted to the DOE line organization?   | [X]        | [ ]       |
| 11.0 Are radioactive wastes evaluated to determine hazards of chemical wastes?   | [X]        | [ ]       |
| 11.1 Do any of the radioactive wastes at this facility contain hazardous chemical wastes?  | [X]        | [ ]       |
| 11.1.1 Describe: <u>See attachment; Appendix B</u>   |            |           |
| 11.1.2 Do the radioactive wastes require greater confinement because of the chemical wastes?   | [ ]        | [X]       |
| Describe: _____  |            |           |
| _____  |            |           |
| _____  |            |           |
| _____  |            |           |
| 12.0 Does the facility transport radioactive wastes? Do the shipping practices conform to:   | [X]        | [ ]       |
| 12.1 Dept. of Transportation Hazardous Material Regulations (49 CFR 100-179)?  | [X]        | [ ]       |
| 12.2 Regulations for Packaging of Radioactive Materials for Transport (10 CFR 71)/   | [X]        | [ ]       |
| 12.3 Other standards or guidelines? (Describe)   | [X]        | [ ]       |
| <u>DOE 5480.3</u>  |            |           |
| <u>DOE 5820.2</u>  |            |           |
| 13.0 Does the facility have radioactive wastes on site which were previously disposed of using practices or procedures not meeting current criteria? | [ ]        | [X]       |
| 13.1 Do these historical waste sites currently have detectable leaks?  | [ ]        | [ ]       |
| 13.2 Is there a planned retrieval or upgrading of these wastes?  | [ ]        | [ ]       |
| 13.2.1 Explain: _____  |            |           |
| _____  |            |           |
| _____  |            |           |

YES NO

14.0 Does the facility have a quality assurance plan for radioactive waste management?  [X]  [ ]

14.1 Describe: Quality Program Plan for waste processing.  
Last revision 3/12/84.

14.2 Indicate Status:

Planned?  [ ]  [X]  
Ongoing?  [X]  [ ]

15.0 COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

16.0 Responsible contact person(s): E. R. Naimon, P. Robledo,  
G. Hewitt, F. P. McMenus

Subsection 1  
HIGH LEVEL WASTE (HLW)

(DOES NOT APPLY TO ROCKY FLATS)

	YES	NO
1.0 Is HLW held in interim storage?	<input type="checkbox"/>	<input type="checkbox"/>
1.1 Do the interim storage tank systems and intertank systems and intertank transfer systems include monitoring and leak detection systems for rapid identification of failed containment?	<input type="checkbox"/>	<input type="checkbox"/>
1.1.1 Describe detection system sensitivity limits:		
_____		
_____		
_____		
1.1.2 Describe detection system maintenance procedures:		
_____		
_____		
_____		
1.2 Does the storage system have spare capacity equivalent to the largest volume of HLW contained in any one tank?	<input type="checkbox"/>	<input type="checkbox"/>
1.3 Is the stored HLW retrievable?	<input type="checkbox"/>	<input type="checkbox"/>
2.0 Is generated or received HLW treated or processed prior to storage?	<input type="checkbox"/>	<input type="checkbox"/>
Currently ongoing?	<input type="checkbox"/>	<input type="checkbox"/>
Planned?	<input type="checkbox"/>	<input type="checkbox"/>
2.1 Do these processes include separation and recovery of waste byproducts for storage or immediate use?	<input type="checkbox"/>	<input type="checkbox"/>
2.1.1 Describe process, by products, and use or storage:		
_____		
_____		
_____		
_____		
2.2 Do these processes include reduction of volume and mobility to meet applicable disposal requirements?	<input type="checkbox"/>	<input type="checkbox"/>
2.2.1 Describe:		
_____		
_____		
_____		
_____		

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 3.0 Are programs planned or ongoing for ultimate disposal of the HLW located at the facility?                  | [ ]        | [ ]       |
| 3.1 Is the anticipated disposal in geologic repositories consistent with the Nuclear Waste Policy Act of 1982? | [ ]        | [ ]       |
| 3.2 Is disposal in place stabilization with engineered barriers at this facility?                              | [ ]        | [ ]       |
| 3.3. Indicate time schedule for disposal, if known:  |            |           |
|  | _____      | _____     |
|  | _____      | _____     |
|  | _____      | _____     |

4.0 COMMENTS: This section not applicable.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5.0 Responsible contact person(s): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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Subsection 2  
TRANSURANIC (TRU) WASTE

- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 1.0 Is any material known or suspected to be contaminated with transuranium radionuclides assayed as soon as practicable to avoid comingling with other wastes? | [X]        | [ ]       |
| 2.0 Does the facility have a certification program to demonstrate that TRU wastes meet disposal acceptance requirements, (Ref: WIPP-DOE-609, _____)             | [X]        | [ ]       |
| 2.1 Has the program been documented and approved by the disposal site management?   | [X]        | [ ]       |
| 3.0 Does the facility have TRU waste which cannot be certified?   | [ ]        | [X]       |
| 3.1 Have disposal or treatment plans been developed for these wastes?   | [ ]        | [ ]       |
| 3.1.1 Describe: _____<br>_____<br>_____<br>_____  |            |           |
| 3.2 Have administrative plans been developed for reducing or completely eliminating generation of TRU wastes that cannot be certified?                          | [ ]        | [ ]       |
| 4.0 Have technical and administrative controls been directed toward reducing the volume and radioactivity of TRU wastes?  | [ ]        | [X]       |
| 4.1 Describe these controls and the goals for reduced volume and radioactivity: _____<br>_____<br>_____   |            |           |
| 4.2 Describe new or innovative controls being implemented or developed: _____<br>_____<br>_____   |            |           |
| 4.3 Will new controls impact the facility fiscal plan?  | [ ]        | [ ]       |
| 4.3.1 Have the plans been submitted to the DOE line organization (Ref: DOE 5480.1A, XII, Pollutant Abatement Projects)?   | [ ]        | [ ]       |

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YES    NO

5.0 Have any TRU wastes in the past been buried in shallow land burial sites or emplaced on soil columns?

[ ]    [X]

5.1 Are they periodically monitored in-situ?

5.1.1 Summarize monitoring results: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5.2 Has the DOE program office, in consultation with the DOE Director of Defense Waste and By-Products Management and DOE Asst. Sec. for Environmental Protection, Safety, and Emergency Preparedness, evaluated the need for remedial actions?

[ ]    [ ]

5.2.1 Describe result of this evaluation:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6.0 COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7.0 Responsible contact person(s): E. R. Naimon, P. Robledo,  
F. P. McMenus, G. Hewitt

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Subsection 3  
LOW-LEVEL WASTE (LLW)

- |   | YES | NO  |
|---|-----|-----|
| 1.0 Does this facility currently conduct onsite disposal of LLW?  | [ ] | [X] |
| 1.1 Have site specific waste form acceptance criteria been developed and implemented?   | [ ] | [ ] |
| 1.2 Does the site conform to established DOE field organization criteria for:   |     |     |
| 1.2.1 Site selection?   | [ ] | [ ] |
| 1.2.1 Site design?  | [ ] | [ ] |
| 1.2.3 Site operation?   | [ ] | [ ] |
| 2.0 Does this facility have an inactive LLW disposal site?  | [ ] | [X] |
| 2.1 Does the site have an established DOE field organization site specific comprehensive closure plan?                                  | [ ] | [ ] |
| 2.1.1 Indicate status of implementation of the closure plan:  |     |     |
| _____   |     |     |
| _____   |     |     |
| _____   |     |     |
| _____   |     |     |
| 3.0 Does the facility currently have operations involving disposal of liquid LLW directly to the environment?                           | [ ] | [X] |
| 3.1 Do plans exist to replace these operations with treatment systems such as immobilization before disposal or in-situ immobilization? | [ ] | [ ] |
| 3.1.1 Indicate status of implementation of these plans:   |     |     |
| _____   |     |     |
| _____   |     |     |
| _____   |     |     |
| _____   |     |     |
| 4.0 COMMENTS:   |     |     |
| _____   |     |     |
| _____   |     |     |
| _____   |     |     |
| _____   |     |     |
| 5.0 Responsible contact person(s):  |     |     |
| <u>E. R. Naimon, P. Robledo,</u>  |     |     |
| <u>F. P. McMenus, G. Hewitt</u>   |     |     |

Subsection 4  
WASTE CONTAINING NATURALLY OCCURRING RADIONUCLIDES

	<u>YES</u>	<u>NO</u>
1.0 Indicate the technique(s) used to manage waste containing naturally occurring radionuclides, other than enriched uranium:		
1.1 Storage without treatment?	[ ]	[ ]
1.2 Stabilization in place?	[ ]	[ ]
1.3 Disposal at LLW disposal site?	[X]	[ ]
1.4 Disposal at nuclear fuel or processing sites designated under the Uranium Mill Tailings Radiation Control Act of 1978?	[ ]	[ ]
1.5 Other (explain):	[ ]	[ ]
_____		
_____		
_____		
2.0 Does the facility manage wastes containing enriched uranium?	[X]	[ ]
2.1 Indicate which of the approaches listed under 1.0 are used: <u>It is mixed with Pu waste (shipped as Tru Waste). Also, enriched uranium waste (non Pu contaminated) is disposed of at an LLW disposal site.</u>		
3.0 COMMENTS:		
_____		
_____		
_____		
4.0 Responsible contact person(s): <u>E. R. Naimon, P. Robledo</u>		

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Q. ENVIRONMENTAL AND CONSERVATION POLICY

	<u>YES</u>	<u>NO</u>
1.0 Are there any actions under consideration at the facility that may be classified as a major federal action significantly affecting the quality of the human environment?	[X]	[ ]
1.1 If yes, has DOE been notified to determine whether an Environmental Assessment (EA) or Environmental Impact Statement (EIS) is required?	[X]	[ ]
2.0 Are there any general facility projects that are located in previously undeveloped areas and may affect sensitive areas such as floodplains, wetlands, archaeological sites, or critical habitats?	[ ]	[X]
2.1 If yes, has DOE been notified to determine if an EA or an EIS is required?	[ ]	[ ]
3.0 Does the facility use, test, or require the use of a marine mammal in the conduct of any of its operations?	[ ]	[X]
4.0 Has the area contained within the facility's property or fence lines been investigated or studied to determine the presence of:		
4.1 Wetlands?	[X]	[ ]
4.2 Coastal zones?	[X]	[ ]
4.3 Endangered species?	[X]	[ ]
4.4 Historic landmark sites or national heritage areas?	[X]	[ ]
4.5 Archaeological sites?	[X]	[ ]
4.6 Wild, scenic, or recreational rivers?	[X]	[ ]
5.0 Have any programs been implemented, or are any currently planned, for the control of predatory animals on the facility property?	[ ]	[X]
6.0 Are there any programs or plans to impound or divert or otherwise control for navigation or drainage, any streams or other surface waters located on the property?	[X]	[ ]
7.0 Are there any active mines (including minerals and coal) located within the facility's property lines?	[X]	[ ]

YES    NO

7.1 If yes, describe mining operations: Two small mining operations exist west of the plant within the buffer zone boundary. One is a gravel operation and one is a clay and gravel operation.

8.0 Are there any abandoned mines (including minerals and coal) located within the facility's property lines?                    [ ]    [X]

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

9.1 If yes, describe use: All of the above are used on a routine basis. Yearly usage is low. All are listed and described in the Final Environmental Impact Statement.

10.0 COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

11.0 Responsible contact person(s): F. P. Lawton  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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R. LABORATORY QUALITY ASSURANCE

- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 1.0 Is there an environmental sampling and analysis program at this facility? | [X]        | [ ]       |
| 2.0 Do facility personnel sample environmental discharges?                    | [X]        | [ ]       |
| 3.0 Are there laboratory facilities on site for analysis?                     | [X]        | [ ]       |
| 3.1 If no, continue with Question 40.0.                                       |            |           |

ORGANIZATION

- |  |     |     |
|--|-----|-----|
| 4.0 Has a quality assurance (QA/QC) program been implemented for the laboratory analysis program?  | [X] | [ ] |
| 4.1 If Yes, 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?" (see Section 48.0) | [ ] | [X] |
| 5.0 Has a QA/QC coordinator or manager been appointed?   | [X] | [ ] |
| 5.1 If yes, does this person operate outside of the laboratory line management structure? <u>QA Manager</u>  | [X] | [ ] |
| 5.2 List the qualifications of the QA/QC manager:<br><u>Department QA Manager - L. C. Smith (outside line management structure)</u><br><u>Functional Group QA officer - S. P. Deutch (internal to organization)</u>  |     |     |
| 6.0 Have specifications been developed for responsibilities of all laboratory personnel with regard to the QA/QC program?  | [X] | [ ] |
| 6.1 If Yes, has there been specific staff designated to:   |     |     |
| 6.1.1 Review and approve results? <u>Chemists, Alpha Spectroscopists</u>   | [X] | [ ] |
| 6.1.2 Prepare and disseminate spiked sample, split samples, and blind samples? <u>Matrix standards are prepared by Chem Stds Lab and disseminated by CRL technicians.</u>  | [X] | [ ] |
| 6.1.3 Maintain instruments? <u>Chemists, Electronic technicians.</u>   | [ ] | [ ] |

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- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 6.2 List qualifications of laboratory personnel:<br><u>Chemists ---&gt; degree &amp; experience</u><br><u>Technicians ---&gt; must qualify according to job</u><br><u>description and must also complete progression program.</u> |            |           |
| 7.0 Has a chain-of-custody procedure been developed?  | [X]        | [ ]       |
| 7.1 Who has the responsibility to ensure that these<br>procedures are being met? <u>Chemists and Lab Manager</u>  |            |           |
| 8.0 Has a systematic alert system been developed to flag<br>unsatisfactory or unexpected results?   | [X]        | [ ]       |
| 8.1 DESCRIBE: <u>Computer system flags unusual and unsatis-</u><br><u>factory results, and chemists review and approve prior</u><br><u>to reporting to customer.</u>  |            |           |

RECORDS

- |  |     |     |
|--|-----|-----|
| 9.0 Is there a designated area in the facility where all<br>laboratory and sampling records are kept?  | [X] | [ ] |
| 9.1 If Yes, where is this location? <u>Bldg.123, Rooms 143,</u><br><u>143A &amp; 158</u>   |     |     |
| 9.2 Is access to this location limited?  | [X] | [ ] |
| 9.2.1 If so, who has access:<br><u>Authorized Radiation Dosimetry personnel and</u><br><u>authorized central receiving laboratory personnel.</u>                           |     |     |
| 10.0 Are detailed sample logbooks maintained? (If yes, do these<br>logbooks give information on):  | [X] | [ ] |
| 10.1 Sampling time and location: <u>Field Logbook</u>  | [X] | [ ] |
| 10.2 Field samples? <u>Field Logbook</u>   | [X] | [ ] |
| 10.3 Analyst(s)? <u>Electroplating tickets</u>   | [X] | [ ] |
| 10.4 Dates analyzed and reported?  | [X] | [ ] |
| 10.5 Laboratory number for samples sent off-site for analysis?   | [X] | [ ] |
| 11.0 Are records of all calibration graphs maintained?   | [X] | [ ] |
| 11.1 Explain: <u>QC charting for alpha pulse height analyses is</u><br><u>currently being upgraded. Statisticians are reviewing</u><br><u>program and collecting data.</u> |     |     |

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- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 12.0 Are records of all instrument maintenance activities maintained?   | [X]        | [ ]       |
| 13.0 Are all analysts' laboratory notebooks maintained?   | [X]        | [ ]       |
| 14.0 Are records of all standards preparation and attendant calibrations maintained?  | [X]        | [ ]       |
| 15.0 If one or more of the answers to questions 11.0 through 14.0 is yes, what is the period of time these records are maintained? <u>75 year or greater</u>  |            |           |
| <hr/>   |            |           |
| 16.0 Has a inventory control system been developed to spot check the accuracy of working solutions (validity of samples checked after reagents prepared)?   | [X]        | [ ]       |
| 16.1 If Yes, describe the procedure: <u>HS&amp;EL-48 (Proc. for Acid-Base Titrations) HS&amp;EL-57 (Titration of acids using the Mettler DL40RC Memotitrator), HS&amp;EL-OP-41 (Proc. for Verification of Stock and Working Internal Radioactive Standard Solutions).</u> |            |           |

#### SAMPLING PROCEDURES

- |  |     |     |
|--|-----|-----|
| 17.0 Is a sampling schedule maintained for all environmental discharges?                         | [X] | [ ] |
| 18.0 Has a sampling procedures manual been prepared?   | [X] | [ ] |
| 18.1 Are procedures in this manual consistent with EPA and/or other accepted sampling protocols? | [X] | [ ] |
| 19.0 Have procedures been written which cover:   |     |     |
| 19.1 Sample container cleaning and preparation?  | [X] | [ ] |
| 19.2 Obtaining a representative sample?  | [X] | [ ] |
| 19.3 Sample preservation?  | [X] | [ ] |
| 19.4 Sample storage conditions and times?  | [X] | [ ] |

#### INSTRUMENTS

- |  |     |     |
|--|-----|-----|
| 20.0 Have maintenance procedures been written for each instrument or piece of equipment used in some part of the analysis? | [ ] | [X] |
|--|-----|-----|

- |   | <u>YES</u>            | <u>NO</u> |
|---|-----------------------|-----------|
| 20.1 Are maintenance schedules and attendant records maintained? (Partial records in some groups.)  | [ ]                   | [X]       |
| 21.0 Have calibration procedures been prepared for each instrument used for sample analysis? <u>(by spectroscopist)</u>   | [X]                   | [ ]       |
| 21.1 Are calibration schedules and records maintained?  | [X]                   | [ ]       |
| 21.2 Are standards and equipment used to calibrate instruments traceable to National Bureau of Standards?   | [X]                   | [ ]       |
| 22.0 Have procedures been written for training of personnel on the use of these instruments? (OJT)  | [X]                   | [ ]       |
| 22.1 Are training records maintained? (OJT records)<br><u>Yes for gross alpha and tritium; no for pulse height analysis.</u>  | [X]                   | [X]       |
| 23.0 Have detailed procedures for instrument use been written?  | [X]                   | [ ]       |
| 23.1 Is there a manufacturer's manual available in support of these written procedures?   | [X]                   | [ ]       |
| 24.0 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>    |           |
| <u>Packard Liquid Scintillation Detection Systems</u>   | <u>Quarterly</u>      |           |
| <u>Multi-channel Analyzer (ND66)</u>  | <u>Semi-annual</u>    |           |
| <u>VAX 11-750</u>   | <u>Onsite Monthly</u> |           |

#### ANALYTICAL PROCEDURES

- |   |     |     |
|---|-----|-----|
| 25.0 Are laboratory manuals developed describing procedures for each parameter?           | [X] | [ ] |
| 25.1 Are these procedures consistent with those developed by EPA and/or Standard Methods? | [X] | [ ] |
| 25.2 If Yes, are these procedures periodically reviewed and modified as necessary?        | [X] | [ ] |
| 25.3 Are these modifications noted as revisions of the original procedure?                | [X] | [ ] |
| 25.4 Are older versions of the procedure kept in files?                                   | [X] | [ ] |

	<u>YES</u>	<u>NO</u>
26.0 Are procedures clearly developed for the use of standard solutions and blanks for developing calibration charts?	[ ]	[X]
26.1 Are these charts kept in the laboratory's historical records?	[ ]	[X]
26.2 Are primary standards used to prepare standard solutions traceable to National Bureau of Standards?	[X]	[ ]
27.0 Are procedures written giving the required purity of all reagents?	[X]	[ ]
27.1 Are reagents logged in with date of arrival marked on the container?	[X]	[ ]
28.0 Are procedures written giving the acceptable limit for maintaining a standard solution?	[X]	[ ]
28.1 Are standard solution containers marked with date of standardization?	[X]	[ ]
29.0 Does the laboratory notebook contain the following information:		
29.1 Sample identification number?	[X]	[ ]
29.2 Date analyzed?	[X]	[ ]
29.3 Analysts signature? <u>Employee number only.</u>	[ ]	[X]
29.4 Internal QA signature?	[ ]	[X]
 INTERNAL QUALITY ASSURANCE PROCEDURES		
30.0 Is there a procedure for checking all calculations?	[ ]	[X]
31.0 Is there a procedure for checking for possible data transfer errors?	[ ]	[X]
32.0 Is there a procedure for spiking samples in the laboratory?	[X]	[ ]
32.1 <u>Needs to be upgraded. Has been identified by Lab Manager.</u>		
33.0 Is there a procedure for running known replicates to determine precision?	[ ]	[X]
34.0 Is there a program for checking the accuracy of the results?	[x]	[ ]

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- |  | <u>YES</u> | <u>NO</u> |
|--|------------|-----------|
| 34.1 Does this program include analyzing standard samples from EPA? (Chlorine and pH)  | [X]        | [ ]       |
| 34.2 Does this program include analyzing unknown, round-robin samples from EPA?  | [X]        | [ ]       |
| 34.3 Does the laboratory subscribe to similar programs as in 34.1 or 34.2 conducted by other federal and state agencies? (EML, EMSL) | [X]        | [ ]       |
| 34.4 Does this program include the analysis of NBS standards? (All samples traceable to NBS Standards.)                              | [X]        | [ ]       |
| 34.5 Does this program include the internal preparation of blind samples and/or blind repeat analyses?                               | [X]        | [ ]       |
| 35.0 Is an independent program carried out by the QA/QC manager which would cover any areas in 34.0?                                 | [ ]        | [X]       |
| 36.0 Are procedures in place to verify trend-analysis of chemical recovery analysis?   | [ ]        | [X]       |

#### EDUCATION OF PERSONNEL

- |  |     |     |
|--|-----|-----|
| 37.0 Are minimum education and experience levels listed for the analytical procedures?   | [X] | [ ] |
| 38.0 Are procedures developed for training staff on analytical methods new to them?  | [X] | [ ] |
| 38.1 <u>Procedures implemented but not fully documented.</u>   |     |     |
| 38.2 Do these procedures contain specific precision and accuracy levels to be achieved by the analysts before they can commence working on actual samples? | [ ] | [X] |
| 39.0 Are there mechanisms in place to allow for continued development and training of staff in new analytical techniques?                                  | [X] | [ ] |

#### OUTSIDE LABORATORY

- |   |     |     |
|---|-----|-----|
| 40.0 Are environmental samples sent to outside laboratories for analysis? (Accu-Labs) | [X] | [ ] |
| 40.1 <u>Currently only Bioassay and Industrial Hygiene</u>                            |     |     |
| 41.0 Have chain-of custody protocols been developed for transfer of samples?          | [X] | [ ] |

- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 42.0 Have procedures been prepared for the handling, storage and preservation of samples during transfer?   | [X]        | [ ]       |
| 42.1 <u>HS&amp;EL OP-63 (Handling, Preparation, and Packaging of Samples for Analysis by an External Laboratory).</u>   |            |           |
| 43.0 Do these laboratories maintain a QA/QC program?  | [X]        | [ ]       |
| 44.0 Does this facilities' staff have access to the outside laboratory's facilities for review of their procedures?   | [ ]        | [X]       |
| 45.0 Has someone at this facility been designated as QA/QC manager to review and audit QA/QC procedures at the outside laboratory?                                      | [ ]        | [X]       |
| 46.0 Have QA/QC audit procedures been written for the purpose of conducting an outside audit?   | [ ]        | [X]       |
| 47.0 Has any QA/QC audit been conducted on outside laboratory?  | [ ]        | [X]       |
| 47.1 If so, what was the date of the most recent audit?   |            |           |
| _____   |            |           |
| 47.2 Describe corrective actions with timetables for these actions _____  |            |           |
| _____   |            |           |
| 48.0 COMMENTS: <u>Improvements in HS&amp;E Labs.</u>  |            |           |
| <u>(1.) Chain of custody implementation and documentation.</u>  |            |           |
| <u>(2.) Training (OJT) upgrades.</u>  |            |           |
| <u>(3.) Material handling and shipping protocols written and implemented</u>  |            |           |
| _____   |            |           |
| <u>In addition, a Department QA Program has been developed and approved 9/87.</u>   |            |           |
| _____   |            |           |
| <u>Section 4.1 - USEPA QAMS-001/80 is not applicable for radiological sampling at this site. Rocky Flats guidelines established according to NQA-1 (ANSI Standard).</u> |            |           |
| _____   |            |           |
| 49.0 Responsible contact person(s): <u>M. T. Jameson - HS&amp;E QA</u>  |            |           |
| <u>D. L. Bokowski - Lab Manager</u>   |            |           |
| <u>C. Trice/S. P. Deutch - Lab Chemists</u>   |            |           |
| _____   |            |           |

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S. DISPOSITION OF COMPLETED AUDIT CHECKLIST

Internal environmental audits will be performed annually by the Environmental Management Section. After satisfactory audit closure has been effected with responsible Plant Departments, the record copy of this audit checklist will be retained in the Environmental Master File (EMF) at the Rocky Flats Plant.

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## REFERENCES

1. Executive Order 12088, FEDERAL COMPLIANCE WITH POLLUTION CONTROL STANDARDS, Oct. 13, 1978, FR 47707. Orders compliance of Federal facilities and activities with applicable pollution control standards.
2. OMB 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 12088.
3. DOE Order 5440.1B, IMPLEMENTATION OF THE NATIONAL ENVIRONMENTAL POLICY ACT, May 14, 1982. Ensures compliance with applicable requirements of the NEPA.
4. DOE Order 5472.1, STRATEGIC PETROLEUM RESERVE OIL SPILL REPORTING REQUIREMENTS, July 6, 1979. Implements the requirement to report oil spills as it applies to SPRO and sets forth policy, procedures and responsibilities for reporting Strategic Petroleum Reserve oil spills.
5. DOE 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. DOE 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). The procedures follow, to the extent practicable, regulations issued by EPA 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. (This position is being contested by EPA.)
7. DOE 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. DOE Order 5484.1, ENVIRONMENTAL PROTECTION, SAFETY, AND HEALTH PROTECTION: INFORMATION REPORTING REQUIREMENTS, Aug. 13, 1981.

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- (a) Chapter I. Notification of Occurrences. Outlines types of occurrences at DOE contractor operations that require notification 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 investigation reports, effluent monitoring reports, environmental surveys, and various safety and health protection reports.
9. DOE Order 5484.2, UNUSUAL OCCURRENCE REPORTING SYSTEM, Aug. 13, 1981. Sets forth policy, assigns responsibility, and provides criteria and instructions for a system of reporting unusual occurrences that have programmatic significance to DOE operations, analyzing the information reported and disseminating the analysis results.
  10. DOE 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 material which present a potential threat to health, safety, or the environment.
  11. DOE Order 5820, RADIOACTIVE WASTE MANAGEMENT (INTERIM DRAFT), March 25, 1983. Establishes policies and guidelines by which the DOE manages its radioactive waste, waste by-products, and radioactively contaminated surplus or excess facilities.
  12. DOE Order 5500.3, REACTOR AND NONREACTOR NUCLEAR FACILITY EMERGENCY PLANNING, PREPAREDNESS, AND RESPONSE PROGRAM FOR DOE OPERATION, Aug. 13, 1981.
  13. DOE Order 5500.4, PUBLIC AFFAIRS POLICY AND PLANNING REQUIREMENTS FOR EMERGENCIES, Aug. 13, 1981.
  14. DOE Order 5610.1, PACKAGING AND TRANSPORTING OF NUCLEAR EXPLOSIVES, NUCLEAR COMPONENTS, AND SPECIAL ASSEMBLIES, Sept. 11, 1979.
  15. Executive Order 11988, FLOODPLAIN MANAGEMENT, May 24, 1977, FR 43239. Orders each federal agency to evaluate the potential effects of any actions it may take in a floodplain and whether or not any proposed action would occur within a floodplain.

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16. Executive Order 11990, PROTECTION OF WETLANDS, May 24, 1977, FT 77-15123. Orders each agency shall minimize the destruction, loss of degradation of wetlands, and to avoid new construction in wetlands wherever there is a practical alternative.
17. Executive Order 11870, ENVIRONMENTAL SAFEGUARDS ON ACTIVITIES FOR ANIMAL DAMAGE CONTROL ON FEDERAL LANDS, July 18, 1975. Orders each agency to manage federal lands in such a way to maintain the environmental quality when implementing all mammal or bird control programs.
18. Various federal laws enacted for the protection of the environment, and including the applicable current federal Environmental Protection Agency regulations issued pursuant thereto:
  - (a) The 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) The Rivers and Harbors Act of 1899 (The 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.

APPENDIX B

RADIOACTIVE WASTE DISPOSAL - SECTION P  
REFERENCE MATERIAL

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TABLE 1 - RADIOACTIVE WASTE GENERATION

WASTE CATEGORY	MAIN CONSTITUENTS	ACTIVITY LEVEL (CI)			VOLUME/YEAR (M <sup>3</sup> )			MASS/YEAR (KG)		
		FY 1986	FY 1987	FY 1988	FY 1986	FY 1987	FY 1988	FY 1986	FY 1987	FY 1988
TRU	PU (>100 nCi/g)	4.0x10 <sup>4</sup>	4.0x10 <sup>4</sup>	4.0x10 <sup>4</sup>	2,854	2,832	2,900	1,253,989	1,243,248	1,273,100
	AM	2.3x10 <sup>3</sup>	2.3x10 <sup>3</sup>	2.3x10 <sup>3</sup>						
***LLW	PU (<100 nCi/g)	4.6	5.0	4.8	5,757	11,336	7,512	3,844,579	8,772,089	5,832,089
	Depleted Uranium	18.6	18.6	18.6						
TRU	U235	2.4x10 <sup>-3</sup>	2.4x10 <sup>-3</sup>	2.4x10 <sup>-3</sup>	*	*	*	*	*	*
LLW	U235	2.4x10 <sup>-1</sup>	2.4x10 <sup>-1</sup>	2.4x10 <sup>-1</sup>	*	*	*	*	*	*
PCB	PU									
	Solid	-	-	-	3 Drums	10 Drums	11 Drums	-	-	-
	Liquid	-	-	-	0 L	1000 L	1000 L	0	1,440	1,440
	**Capacitors		-	-	-	2 Each	2 Each	2 Each	30	30
30										
	**Transformers	-	-	-	1 Each	1 Each	1 Each	15	15	15

\*Included in LLW or TRU Values, respectively.

\*\*Capacitors and transformers are stored in drums.

\*\*\*Includes mixed waste.



FIGURE 4

U.S. Department of Energy - Nevada Operations Office  
Waste Stream Characterization  
Data Sheet

- 1) Waste Stream #: A R I R - - - - - 2 0 - B 0 1 - A
- 2) Generator: A) Name: Rocky Flats Plant  
B) U.S. EPA I.D. #: C07890010526
- 3) Common Waste Name(s): A) Saltcrete  
B) \_\_\_\_\_  
C) \_\_\_\_\_
- 4) Principal Constituents: A) Radionuclide: Pu-239  
B) Hazardous: Acetone
- 5) Description of Waste: Evaporator salts immobilized with Portland  
cement.
- 6) Physical/Chemical Attributes:  
A) Density: 1.4 - 2.0 g/cm<sup>3</sup> E) pH: N/A  
B) Physical Form: Solid. F) Odor: N/A  
C) Color: Variable G) Corrosivity of Steel: N/A  
D) Mean Particle Size: N/A H) Flash Point: 1) N/A  
(open cup)  
2) N/A  
(closed cup)
- 7) Description of Packaging: Tri-wall Box
- 8) Description of Treatment: Evaporator salts are mixed with brine and  
Portland cement.

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FIGURE 4 (Continued)

9) Radioactive Constituents:

I. Nuclide category (circle entries): 1 (2) 3 4 5 6 (7) 8

II. Amount:

	<u>Nuclide</u>	<u>Low</u>	<u>Activity (nCi/g)</u>	
			<u>Mean</u>	<u>High</u>
A)	Pu-239		1.6X10 <sup>-1</sup>	
B)	Am-241		8.8X10 <sup>-2</sup>	
C)	U-233		2.5X10 <sup>-2</sup>	
D)	U-238		8.8X10 <sup>-2</sup>	
E)				
F)				
G)				

10) Hazardous Constituents:

	<u>EPA #</u>	<u>Description</u>	<u>Concentration (ug/kg)</u>		
			<u>Low</u>	<u>Mean</u>	<u>High</u>
A)	U002 <i>F003</i>	Acetone		380	
B)	U159 <i>F005</i>	2-Butanone		70	
C)	U080 <i>F002</i>	Methylene CHLORIDE		20	
D)	U019	Benzene		20	
E)	U220 <i>F005</i>	Toluene		26	
F)					

11) Analytical Methods:

- A) Radioactive: Scintillation Counter
- B) Chemical: GC/Mass Spec.

12) Basis for Listing as Hazardous Waste (circle entries):

- A) Ignitable      B) ~~Reactive~~      C) Corrosive      D) EP Toxic
- E) Listed Waste      (F) Other Considered hazardous by Colorado Department of Health

13) Waste Minimization Statement: Rocky Flats Plant

complies with the manifest requirements of 40 CFR 262.20 (a)

131/144

FIGURE 4 (Continued)

14) Transportation Information:

- A) DOT Shipping Name: Radioactive Material, LSA, NOS
- B) DOT Hazard Class: Radioactive
- C) DOT I.D. #: UN2912

15) Special Handling or Disposal Requirements: None

16) Preparer:

- A) Name: E. R. Naimon
- B) Title: Manager, Waste Operations
- C) Address: Bldg. 374, Rocky Flats Plant, Golden, CO
- D) Phone: (Com) (303)966-7900 (FTS) 320-7900

17) Signature: *ER Naimon* Date: 5/25/87

FIGURE 4

U.S. Department of Energy - Nevada Operations Office  
Waste Stream Characterization  
Data Sheet

- 1) Waste Stream #: A R I R - - - - - 1 0 - B 0 1 - A
- 2) Generator: A) Name: Rocky Flats Plant  
B) U.S. EPA I.D. #: C07890010526
- 3) Common Waste Name(s): A) DCP Bypass Sludge  
B) \_\_\_\_\_  
C) \_\_\_\_\_
- 4) Principal Constituents: A) Radionuclide: Pu-239  
B) Hazardous: Not determined at this time
- 5) Description of Waste: Evaporator sludge cemented with Portland cement.  
\_\_\_\_\_  
\_\_\_\_\_
- 6) Physical/Chemical Attributes:  
A) Density: 0.4 - 1.1 g/cm<sup>3</sup> E) pH: N/A  
B) Physical Form: Solid F) Odor: N/A  
C) Color: Variable G) Corrosivity of Steel: N/A  
D) Mean Particle Size: N/A H) Flash Point: 1) N/A  
(open cup)  
2) N/A  
(closed cup)
- 7) Description of Packaging: DOT specification 17C (DOT 7A, Type A)  
drums.  
\_\_\_\_\_  
\_\_\_\_\_
- 8) Description of Treatment: Solidified with Portland cement.  
\_\_\_\_\_  
\_\_\_\_\_

133/144

FIGURE 4 (Continued)

9) Radioactive Constituents:

I. Nuclide category (circle entries): 1 (2) 3 4 5 6 (7) 8

II. Amount:

	Nuclide	Activity (nCi/g)		
		Low	Mean	High
A)	Pu-52	30.0	147*	892*
B)	AM	0	35	117
C)	U-235	0	1	8
D)				
E)				
F)				
G)				

10) Hazardous Constituents:

	EPA #	Description	Concentration		
			Low	Mean	High
A)		(Yet to be analyzed)			
B)					
C)					
D)					
E)					
F)					

11) Analytical Methods:

A) Radioactive: Scintillation Counter

B) Chemical: No analysis to date

12) Basis for Listing as Hazardous Waste (circle entries):

A) Ignitable      B) Reactive      C) Corrosive      D) EP Toxic

E) Listed Waste      (F) Other Suspected to contain trace amounts of listed hazardous wastes, similar to saltcrete.

13) Waste Minimization Statement: \_\_\_\_\_

Rocky Flats Plant complies with the manifest requirements of 40 CFR 262.20

\*The majority of these drums qualify as TRU waste.

134/104

FIGURE 4 (Continued)

14) Transportation Information:

- A) DOT Shipping Name: Radioactive material, LSA, N.O.S.  
B) DOT Hazard Class: Radioactive  
C) DOT I.D. #: UN-2912

15) Special Handling or Disposal Requirements: None

16) Preparer:

- A) Name: E. R. Naimon  
B) Title: Manager, Waste Operations  
C) Address: Bldg. 374, Rocky Flats Plant, Golden, CO  
D) Phone: (Com) (303)966-7900 (FTS) 320-7900

17) Signature: *E.R. Naimon* Date: 5 12 87

FIGURE 4

U.S. Department of Energy - Nevada Operations Office  
Waste Stream Characterization  
Data Sheet

- 1) Waste Stream #: A R I R - - - - - 2 0 - B 0 1 - A
- 2) Generator: A) Name: Rocky Flats Plant  
B) U.S. EPA I.D. #: C07890010526
- 3) Common Waste Name(s): A) Pondcrete  
B) \_\_\_\_\_  
C) \_\_\_\_\_
- 4) Principal Constituents: A) Radionuclide: Pu-239  
B) Hazardous: Acetone
- 5) Description of Waste: Cemented sludge from solar ponds.  
\_\_\_\_\_  
\_\_\_\_\_
- 6) Physical/Chemical Attributes:  
A) Density: 0.9 - 1.7 g/cm<sup>3</sup> E) pH: N/A  
B) Physical Form: Solid F) Odor: N/A  
C) Color: Variable G) Corrosivity of Steel: N/A  
D) Mean Particle Size: N/A H) Flash Point: 1) N/A  
(open cup)  
2) N/A  
(closed cup)
- 7) Description of Packaging: Tri-wall container  
\_\_\_\_\_  
\_\_\_\_\_
- 8) Description of Treatment: Pond sludge is separated from pond water  
(via a clarifier) then cemented with Portland cement.  
\_\_\_\_\_

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FIGURE 4 (Continued)

9) Radioactive Constituents:

I. Nuclide category (circle entries): 1 (2) 3 4 5 6 (7) 8

II. Amount:

	Nuclide	Activity* (pCi/g)		
		Low	Mean	High
A)	Pu-239		3400	
B)	Am-241		1400	
C)	U-233		180	
D)	U-238		210	
E)				
F)				
G)				

\*Results reported for pond sludge, not pondcrete.

10) Hazardous Constituents:

	EPA #	Description	Concentration (ppb)		
			Low	Mean	High
A)	U209	1,1,2,2-Tetra Chloroethane		160	
B)	U080	Methylene Chloride		35	
C)	U002	Acetone		180	
D)	U028	BIS(2-ethylhexyl) phthalate		152	
E)					
F)					

11) Analytical Methods:

A) Radioactive: Scintillation counter

B) Chemical: GC/mass spec

12) Basis for Listing as Hazardous Waste (circle entries):

A) Ignitable      B) ~~Reactive~~      C) Corrosive      D) EP Toxic

E) Listed Waste      (F) Other Considered hazardous by Colorado Dept. of Health

13) Waste Minimization Statement: Rocky Flats complies with the manifest

requirements of 40 CFR 262.20 (a).

137/164

FIGURE 4 (Continued)

14) Transportation Information:

- A) DOT Shipping Name: Radioactive Material, LSA, N.O.S.  
B) DOT Hazard Class: Radioactive  
C) DOT I.D. #: UN2912

15) Special Handling or Disposal Requirements: None

16) Preparer:

- A) Name: E. R. Naimon  
B) Title: Manager, Waste Operations  
C) Address: Bldg. 374, Rocky Flats Plant, Golden, CO  
D) Phone: (Com) (303)966-7900 (FTS) 320-7900

17) Signature: *E.R. Naimon* Date: 5/25/87

FIGURE 4

U.S. Department of Energy - Nevada Operations Office  
Waste Stream Characterization  
Data Sheet

- 1) Waste Stream #: A R I R - - - - - 1 0 - A 0 0 - A
- 2) Generator: A) Name: Rocky Flats Plant  
B) U.S. EPA I.D. #: C07890010526
- 3) Common Waste Name(s): A) Lead  
B) \_\_\_\_\_  
C) \_\_\_\_\_
- 4) Principal Constituents: A) Radionuclide: Pu-239  
B) Hazardous: Lead
- 5) Description of Waste: Non-line generated lead shielding.  
\_\_\_\_\_  
\_\_\_\_\_
- 6) Physical/Chemical Attributes:
- |  |   |
|--|---|
| A) Density: <u>11 g/cm<sup>3</sup></u> | E) pH: <u>N/A</u>                           |
| B) Physical Form: <u>solid</u>         | F) Odor: <u>N/A</u>                         |
| C) Color: <u>gray</u>                  | G) Corrosivity of Steel: <u>N/A</u>         |
| D) Mean Particle Size: _____           | H) Flash Point: 1) <u>N/A</u><br>(open cup) |
|  | 2) <u>N/A</u><br>(closed cup)               |
- 7) Description of Packaging: 55-gallon DOT specification 17C (DOT 7A,  
Type A) drum.  
\_\_\_\_\_  
\_\_\_\_\_
- 8) Description of Treatment: None  
\_\_\_\_\_  
\_\_\_\_\_

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FIGURE 4 (Continued)

9) Radioactive Constituents:

I. Nuclide category (circle entries): 1 2 3 4 5 6 **7** 8

II. Amount:

	<u>Nuclide</u>	<u>Low</u>	<u>Activity (nCi/g)</u>	
			<u>Mean</u>	<u>High</u>
A)	Pu-52			100
B)				
C)				
D)				
E)				
F)				
G)				

10) Hazardous Constituents:

	<u>EPA #</u>	<u>Description</u>	<u>Concentration</u>		
			<u>Low</u>	<u>Mean</u>	<u>High</u>
A)	D008	Lead			
B)					
C)					
D)					
E)					
F)					

11) Analytical Methods:

- A) Radioactive: Alpha survey  
 B) Chemical: EP Toxicity Test

12) Basis for Listing as Hazardous Waste (circle entries):

- A) Ignitable      B) **Reactive**      C) Corrosive      **D)** EP Toxi:  
 E) Listed Waste      F) Other \_\_\_\_\_

13) Waste Minimization Statement: Rocky Flats complies with the manifest requirements of 40 CFR 262.20 (a).

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FIGURE 4 (Continued)

14) Transportation Information:

- A) DOT Shipping Name: To be determined
- B) DOT Hazard Class: Radioactive
- C) DOT I.D. #: UN2912

15) Special Handling or Disposal Requirements: None

16) Preparer:

- A) Name: E. R. Naimon
- B) Title: Manager, Waste Operations
- C) Address: Bldg. 374, Rocky Flats Plant, Golden, CO
- D) Phone: (Com) (303)966-7900 (FTS) 320-7900

17) Signature: *E.R. Naimon* Date: 5/25/57

FIGURE 4

U.S. Department of Energy - Nevada Operations Office  
Waste Stream Characterization  
Data Sheet

- 1) Waste Stream #: A R I R - - - - - 0 3 - G 6 7 - A
- 2) Generator: A) Name: Rocky Flats Plant  
B) U.S. EPA I.D. #: C07890010526
- 3) Common Waste Name(s): A) Sewer Sludge  
B) \_\_\_\_\_  
C) \_\_\_\_\_
- 4) Principal Constituents: A) Radionuclide: U-238  
B) Hazardous: Silver\*
- 5) Description of Waste: Sewage sludge from sanitary waste treatment plant.  
\_\_\_\_\_  
\_\_\_\_\_
- 6) Physical/Chemical Attributes:  
A) Density: 0.6 g/cm<sup>3</sup> E) pH: N/A  
B) Physical Form: Solid F) Odor: Sewer  
C) Color: Brown G) Corrosivity of Steel: N/A  
D) Mean Particle Size: N/A H) Flash Point: 1) N/A  
(open cup)  
2) N/A  
(closed cup)
- 7) Description of Packaging: 2'X4'X7' plywood box  
\_\_\_\_\_  
\_\_\_\_\_
- 8) Description of Treatment: The sludge is mixed with oil-dri to  
absorb any free liquids.  
\_\_\_\_\_  
\_\_\_\_\_

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FIGURE 4 (Continued)

9) Radioactive Constituents:

I. Nuclide category (circle entries): 1 (2) 3 4 5 6 (7) 8

II. Amount:

	Nuclide	Activity (nCi/g)		
		Low	Mean	High
A)	Pu-239	5.2X10 <sup>-3</sup>	7.7X10 <sup>-3</sup>	1.1X10 <sup>-2</sup>
B)	Am-241	2.5X10 <sup>-4</sup>	1.1X10 <sup>-3</sup>	2.2X10 <sup>-3</sup>
C)	U-233	1.2X10 <sup>-2</sup>	1.7X10 <sup>-2</sup>	4.0X10 <sup>-2</sup>
D)				
E)				
F)				
G)				

10) Hazardous Constituents:\*

	EPA #	Description	Concentration (ug/g)		
			Low	Mean	High
A)	D011	Silver	1.7X10 <sup>5</sup>	2.5X10 <sup>5</sup>	3.9X10 <sup>5</sup>
B)					
C)					
D)					
E)					
F)					

11) Analytical Methods:

- A) Radioactive: Scintillation Counter
- B) Chemical: EP Toxicity Test

12) Basis for Listing as Hazardous Waste (circle entries):

- A) Ignitable
- B) Reactive
- C) Corrosive
- D) EP Toxic

E) Listed Waste (F) Other Listed as a mixed hazardous waste in the Part B Permit Application. The silver concentration is below the EP toxicity level.

13) Waste Minimization Statement:

Rocky Flats Plant is in compliance with the manifest requirements of 40 CFR

262.20 (a)

\*See item 12.

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FIGURE 4 (Continued)

14) Transportation Information:

- A) DOT Shipping Name: Radioactive Material LSA, N.O.S.  
B) DOT Hazard Class: Radioactive  
C) DOT I.D. #: UN2912

15) Special Handling or Disposal Requirements: None

16) Preparer:

- A) Name: E. R. Naimon  
B) Title: Manager, Waste Operations  
C) Address: Bldg. 374, Rocky Flats Plant, Golden, CO  
D) Phone: (Com) (303)966-7900 (FTS) 320-7900

17) Signature: *ER Naimon* Date: 5/1/87

FIGURE 4

U.S. Department of Energy - Nevada Operations Office  
Waste Stream Characterization  
Data Sheet

- 1) Waste Stream #: A R I R - - - - - 0 1 - B 0 1 - A
- 2) Generator: A) Name: Rocky Flats Plant  
B) U.S. EPA I.D. #: C07890020526
- 3) Common Waste Name(s): A) Composite Chips, cemented  
B) \_\_\_\_\_  
C) \_\_\_\_\_
- 4) Principal Constituents: A) Radionuclide: U-238  
B) Hazardous: None\*
- 5) Description of Waste: Metal chips (uranium and stainless steel composite)  
that are immersed with Portland cement.
- 6) Physical/Chemical Attributes:  
A) Density: 2.0 - 2.2 g/cm<sup>3</sup> E) pH: N/A  
B) Physical Form: Solid F) Odor: N/A  
C) Color: N/a G) Corrosivity of Steel: N/A  
D) Mean Particle Size: N/A H) Flash Point: 1) N/A  
(open cup)  
2) N/A  
(closed cup)
- 7) Description of Packaging: Five DOT specification 17C (DOT 7A, Type A)  
drums overpacked in a 4'X4'X7' plywood box.
- 8) Description of Treatment: Machining chips are compressed and cemented  
(Portland cement) within each drum.

\*See item 12.

FIGURE 4 (Continued)

9) Radioactive Constituents:

I. Nuclide category (circle entries): 1 (2) 3 4 5 6 7 8

II. Amount:

	Nuclide	Activity (nCi/g)		
		Low	Mean	High
A)	U-238			3.3X10 <sup>2</sup>
B)				
C)				
D)				
E)				
F)				
G)				

10) Hazardous Constituents: \*

	EPA #	Description	Concentration		
			Low	Mean	High
A)					
B)					
C)					
D)					
E)					
F)					

11) Analytical Methods:

- A) Radioactive: Process Knowledge
- B) Chemical: Not analyzed at this time

12) Basis for Listing as Hazardous Waste (circle entries):

- A) Ignitable      B) Reactive      C) Corrosive      D) EP Toxic
- E) Listed Waste      (F) Other Listed as hazardous in Part B Application c to suspected chlorinated solvent residual from machining operations.

13) Waste Minimization Statement: Rocky Flats Plant is in compliance with the manifest requirements of 40 CFR 262.20 (a).

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FIGURE 4 (Continued)

14) Transportation Information:

- A) DOT Shipping Name: Radioactive Material, LSA, N.O.S.  
B) DOT Hazard Class: Radioactive  
C) DOT I.D. #: UN2912

15) Special Handling or Disposal Requirements: None

16) Preparer:

- A) Name: E. R. Naimon  
B) Title: Manager, Waste Operations  
C) Address: Bldg. 374, Rocky Flats Plant, Golden, CO  
D) Phone: (Com) (303)966-7900 (FTS) 320-7900

17) Signature: *E. R. Naimon* Date: 5/12/87

FIGURE 4

U.S. Department of Energy - Nevada Operations Office  
Waste Stream Characterization  
Data Sheet

- 1) Waste Stream #: A R I R - - - - - 1 0 - B 0 4 - A
- 2) Generator: A) Name: Rocky Flats Plant  
B) U.S. EPA I.D. #: C07890010526
- 3) Common Waste Name(s): A) Combustibles  
B) \_\_\_\_\_  
C) \_\_\_\_\_
- 4) Principal Constituents: A) Radionuclide: Pu-239/U-238  
B) Hazardous: See Item #10
- 5) Description of Waste: Paper and cloth rags from cleaning operations.  
\_\_\_\_\_  
\_\_\_\_\_
- 6) Physical/Chemical Attributes:  
A) Density: 0.02 - 0.2 g/cm<sup>3</sup> E) pH: N/A  
B) Physical Form: Solid F) Odor: N/A  
C) Color: Variable G) Corrosivity of Steel: N/A  
D) Mean Particle Size: N/A H) Flash Point: 1) N/A  
(open cup)  
2) N/A  
(closed cup)
- 7) Description of Packaging: DOT specification 17C (DOT 7A, Type A)  
Drums.  
\_\_\_\_\_  
\_\_\_\_\_
- 8) Description of Treatment: None other than possible compaction.  
\_\_\_\_\_  
\_\_\_\_\_

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FIGURE 4 (Continued)

9) Radioactive Constituents:

I. Nuclide category (circle entries): 1 ② 3 4 5 6 ⑦ 8

II. Amount:

	Nuclide	Activity (nCi/g)		
		Low	Mean	High
A)	Pu-239			1.0X10 <sup>2</sup>
B)	U-238			2.9X10 <sup>2</sup>
C)				
D)				
E)				
F)				
G)				

10) Hazardous Constituents:\*

	EPA #	Description	Concentration		
			Low	Mean	High
A)		*Hazardous constituents will vary on a package to package basis. Examples of these constituents are F001/solvents, Xylene, Acetone, and paints.			
B)					
C)					
D)					
E)					
F)					

11) Analytical Methods:

- A) Radioactive: U - Process knowledge; Pu - Low Specific Activity Counter
- B) Chemical: Analysis has yet to be conducted.

12) Basis for Listing as Hazardous Waste (circle entries):

- A) Ignitable      B) ~~Reactive~~      C) Corrosive      D) EP Toxic
- E) Listed Waste      ⑥ Other Considered hazardous by Colorado Dept. of Health

13) Waste Minimization Statement: Rocky Flats Plant complies with the manifest requirements of 40 CFR 262.20 (a).

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FIGURE 4 (Continued)

14) Transportation Information:

- A) DOT Shipping Name: To be determined  
B) DOT Hazard Class: Radioactive  
C) DOT I.D. #: UN2912

15) Special Handling or Disposal Requirements: None

16) Preparer:

- A) Name: E. R. Naimon  
B) Title: Manager, Waste Operations  
C) Address: Bldg. 374, Rocky Flats Plant, Golden, CO  
D) Phone: (Com) (303)966-7900 (FTS) 320-7900

17) Signature: *E.R. Naimon* Date: 5-12-87

FIGURE 4

U.S. Department of Energy - Nevada Operations Office  
Waste Stream Characterization  
Data Sheet

- 1) Waste Stream #: A R I R - - - - - 1 0 - C 0 7 - A
- 2) Generator: A) Name: Rocky Flats Plant  
B) U.S. EPA I.D. #: C07890010526
- 3) Common Waste Name(s): A) Roaster Oxide  
B) \_\_\_\_\_  
C) \_\_\_\_\_
- 4) Principal Constituents: A) Radionuclide: U-238  
B) Hazardous: Chlorinated solvents\*
- 5) Description of Waste: Uranium dioxide produced from depleted uranium.  
\_\_\_\_\_  
\_\_\_\_\_
- 6) Physical/Chemical Attributes:  
A) Density: 11 g/cm<sup>3</sup> E) pH: N/A  
B) Physical Form: Solid F) Odor: N/A  
C) Color: Yellow G) Corrosivity of Steel: N/A  
D) Mean Particle Size: 1-16 microns H) Flash Point: 1) N/A  
approx. 50% of particles under 10 microns (open cup)  
2) N/A  
(closed cup)
- 7) Description of Packaging: 30 gallon DOT specification 17H drum within  
a 55-gallon, DOT specification 17C (DOT 7A, Type A) drum.  
\_\_\_\_\_  
\_\_\_\_\_
- 8) Description of Treatment: Depleted uranium chips are burned to  
oxidize the uranium metal.  
\_\_\_\_\_  
\_\_\_\_\_

\*See item #12

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FIGURE 4 (Continued)

9) Radioactive Constituents:

I. Nuclide category (circle entries): 1 **2** 3 4 5 6 7 8

II. Amount:

	<u>Nuclide</u>	<u>Low</u>	<u>Activity</u> (nCi/g)	
			<u>Mean</u>	<u>High</u>
A)	U-239			2.9X10 <sup>2</sup>
B)				
C)				
D)				
E)				
F)				
G)				

10) Hazardous Constituents:

	<u>EPA #</u>	<u>Description</u>	<u>Concentration</u>		
			<u>Low</u>	<u>Mean</u>	<u>High</u>
A)					
B)					
C)		No analysis			
D)					
E)					
F)					

11) Analytical Methods:

- A) Radioactive: Process knowledge
- B) Chemical: No analysis

12) Basis for Listing as Hazardous Waste (circle entries):

- A) Ignitable      B) **Reactive**      C) Corrosive      D) EP Toxic
- E) Listed Waste      **F) Other** Listed as hazardous in Part B Permit Application suspected to contain F001 solvents in PPD levels, residual from machining operations.

13) Waste Minimization Statement:

Rocky Flats complies with the manifest requirements of 40 CFR 262.20 (a).

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FIGURE 4 (Continued)

14) Transportation Information:

- A) DOT Shipping Name: Radioactive material, LSA, N.O.S.  
B) DOT Hazard Class: Radioactive  
C) DOT I.D. #: UN2912

15) Special Handling or Disposal Requirements: None

16) Preparer:

- A) Name: E. R. Naimon  
B) Title: Manager, Waste Operations  
C) Address: Bldg. 374, Rocky Flats Plant, Golden, CO  
D) Phone: (Com) (303)966-7900 (FTS) 320-7900

17) Signature: *E. R. Naimon* Date: 5/28/87

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TABLE 2

TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	FOOTNOTE (See Below)	MAXIMUM QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
300	Graphite Molds	None					
302	Benelex & Plexiglas	None					
303	Scarfed Graphite	None					
312	Coarse Graphite	None					
320	Heavy Non-SS Metal	Lead 1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride	1 1000 5000 5000 1000	49000 ppm 200 ppm 100 ppm 300 ppm 400 ppm	**	40/300 0.2/1 0.08/0.6 0.2/2 0.3/2	D008 F001 F001 F001 F002
321	Lead	Lead	1	100%	**	800/6000	D008
330	Dry Combustibles	1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride	1000 5000 5000 1000	2000 ppm 750 ppm 1500 ppm 750 ppm		2/10 0.6/5 1/9 0.6/5	F001 F001 F001 F002
335	Absolute Dry Box Filters	1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride	1000 5000 5000 1000	150 ppm 150 ppm 100 ppm 50 ppm		0.1/0.9 0.1/0.9 0.08/0.6 0.04/0.3	F001 F001 F001 F002

RQ = Reportable Quantity

NOTE: Maximum weight - 800 pound drums, 6000 pound crates

\* Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.

\*\* Particle size larger than 100 micrometers (0.004 inches).

\*\*\* Listed as a hazardous material in 49 CFR 172.101.

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TABLE 2

TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE (Continued)

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	FOOTNOTE (See Below)	MAXIMUM QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
336	Wet Combustibles	1,1,1-Trichloroethane	1000	2000 ppm		2/10	F001
		Carbon Tetrachloride	5000	750 ppm		0.6/5	F001
		Trichlorotrifluoroethane	5000	1500 ppm		1/9	F001
		Methylene Chloride	1000	750 ppm		0.6/5	F002
337	Plastic	1,1,1-Trichloroethane	1000	1000 ppm		0.8/6	F001
		Carbon Tetrachloride	5000	500 ppm		0.04/0.3	F001
		Trichlorotrifluoroethane	5000	2500 ppm		2/20	F001
		Methylene Chloride	1000	1000 ppm		0.8/6	F002
339	Leaded Dry Box Gloves	Lead	1	60%	**	500/4000	D008
368	MgO Crucibles - Not Leco	None					
370	Leco Crucibles	None					
371	Firebrick	None					
374	Blacktop, Dirt, Concrete and Sand	1,1,1-Trichloroethane	1000	200 ppm	*	0.2/1	F001
		Methylene Chloride	1000	700 ppm		0.6/4	F002
		Potassium Hydroxide	1000	100 ppm		0.08/0.6	F002
375	Oil Dry	1,1,1-Trichloroethane	1000	900 ppm		0.7/5	F001
		Carbon Tetrachloride	5000	100 ppm		0.08/0.6	F001
		Trichlorotrifluoroethane	5000	8000 ppm		6/50	F001
		Methylene Chloride	1000	41000 ppm		30/200	F002

RQ - Reportable Quantity

NOTE: Maximum weight - 800 pound drums, 6000 pound crates

\* Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.

\*\* Particle size larger than 100 micrometers (0.004 inches).

\*\*\* Listed as a hazardous material in 49 CFR 172.101.

1576/144

TABLE 2

TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE (Continued)

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	FOOTNOTE (See Below)	MAXIMUM QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
376	Processed Filter Media	1,1,1-Trichloroethane	1000	150 ppm		0.1/0.9	F001
		Carbon Tetrachloride	5000	150 ppm		0.1/0.9	F001
		Trichlorotrifluoroethane	5000	100 ppm		0.08/0.6	F001
		Methylene Chloride	1000	50 ppm		0.04/0.3	F002
377	Firebrick, Coarse	None					
379	Firebrick, Scarfed	None					
411	ER Salt	Sodium	10	750 ppm	***	0.6	D003
		Magnesium	---	250 ppm	***	0.2	D003
429	Spent Salt	None					
438	Insulation	1,1,1-Trichloroethane	1000	25 ppm		0.02/0.2	F001
		Carbon Tetrachloride	5000	5 ppm		0.004/0.03	F001
		Trichlorotrifluoroethane	5000	50 ppm		0.04/0.3	F001
		Methylene Chloride	1000	20 ppm		0.02/0.1	F002
440	Glass	1,1,1-Trichloroethane	1000	10 ppm		0.008/0.06	F001
		Carbon Tetrachloride	5000	5 ppm		0.004/0.03	F001
		Trichlorotrifluoroethane	5000	20 ppm		0.02/0.1	F001
		Methylene Chloride	1000	5 ppm		0.004/0.03	F002
		Methyl Alcohol	5000	25 ppm		0.02/0.2	F003
		Xylene	1000	25 ppm		0.02/0.2	F003
		Butyl Alcohol	5000	10 ppm		0.008/0.06	F003

RQ - Reportable Quantity

NOTE: Maximum weight - 800 pound drums, 6000 pound crates

\* Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.

\*\* Particle size larger than 100 micrometers (0.004 inches).

\*\*\* Listed as a hazardous material in 49 CFR 172.101.

157/164

TABLE 2

## TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE (Continued)

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	FOOTNOTE (See Below)	MAXIMUM QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
442	Leached Raschig Rings	Carbon Tetrachloride	5000	150 ppm		0.1/0.9	F001
		1,1,1-Trichloroethane	1000	800 ppm		0.6/5	F001
		Trichlorotrifluoroethane	5000	50 ppm		0.04/0.3	F001
454	DOR Salts	None					
480	Light Metal	1,1,1-Trichloroethane	1000	15 ppm		0.01/0.09	F001
		Carbon Tetrachloride	5000	10 ppm		0.008/0.06	F001
		Trichlorotrifluoroethane	5000	75 ppm		0.06/0.5	F001
		Methylene Chloride	1000	200 ppm		0.2/1	F002
		Lead	1	2000 ppm	**	2/10	D008
488	Glovebox Parts with Lead	Lead	1	1%	**	8/60	D008
490	HEPA Filters	1,1,1-Trichloroethane	1000	150 ppm		0.1/0.9	F001
		Carbon Tetrachloride	5000	150 ppm		0.1/0.9	F001
		Trichlorotrifluoroethane	5000	100 ppm		0.08/0.6	F001
		Methylene Chloride	1000	50 ppm		0.04/0.3	F002
491	Prefilters	1,1,1-Trichloroethane	1000	400 ppm		0.3/2	F001
		Carbon Tetrachloride	5000	400 ppm		0.3/2	F001
		Trichlorotrifluoroethane	5000	150 ppm		0.1/0.9	F001
		Methylene Chloride	1000	50 ppm		0.04/0.3	F002

RQ - Reportable Quantity

NOTE: Maximum weight - 800 pound drums, 6000 pound crates

\* Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.

\*\* Particle size larger than 100 micrometers (0.004 inches).

\*\*\* Listed as a hazardous material in 49 CFR 172.101.

55/104

TABLE 2

TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE (Continued)

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	FOOTNOTE (See Below)	MAXIMUM QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
800	Solidified Sludge - Building 774	1,1,1-Trichloroethane	1000	75 ppm		0.06	F001
		Carbon Tetrachloride	5000	25 ppm		0.02	F001
		Trichlorotrifluoroethane	5000	100 ppm		0.08	F001
		Methylene Chloride	1000	700 ppm		0.6	F002
		Methyl Alcohol	5000	25 ppm	*	0.02	F003
		Xylene	1000	50 ppm	*	0.04	F003
		Butyl Alcohol	5000	10 ppm	*	0.008	F003
		Cadmium	1	5 ppm	**	0.004	D006
		Lead	1	10 ppm	**	0.008	D008
801	Solidified Organics - Building 774	1,1,1-Trichloroethane	1000	15%		100	F001
		Carbon Tetrachloride	5000	5%		40	F001
		Trichlorotrifluoroethane	5000	5%		40	F001
802	Solidified Lab Waste - Building 774	Methyl Alcohol	5000	500 ppm	*	0.4	F003
		Xylene	1000	150 ppm	*	0.1	F003
		Butyl Alcohol	5000	300 ppm	*	0.2	F003
		Cyclohexane	1000	50 ppm	*	0.04	U056
803	Solidified Sludge (DCP) - Building 374	1,1,1-Trichloroethane	1000	20 ppm		0.02	F001
		Carbon Tetrachloride	5000	15 ppm		0.01	F001
		Trichlorotrifluoroethane	5000	20 ppm		0.02	F001
		Methylene Chloride	1000	5 ppm		0.004	F002
		Methyl Alcohol	5000	5 ppm	*	0.004	F003
		Xylene	1000	10 ppm	*	0.008	F003
		Butyl Alcohol	5000	5 ppm	*	0.004	F003
		Cadmium	1	10 ppm	**	0.008	D006
		Lead	1	10 ppm	**	0.008	D008

RQ = Reportable Quantity

NOTE: Maximum weight - 800 pound drums, 6000 pound crates

\* Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.

\*\* Particle size larger than 100 micrometers (0.004 inches).

\*\*\* Listed as a hazardous material in 49 CFR 172.101.

159/104

TABLE 2

TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE (Continued)

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	FOOTNOTE (See Below)	MAXIMUM QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
806	Solidified Process Solids	1,1,1-Trichloroethane	1000	200 ppm		0.2	F001
		Carbon Tetrachloride	5000	25 ppm		0.02	F001
		Trichlorotrifluoroethane	5000	200 ppm		0.2	F001
		Methylene Chloride	1000	100 ppm		0.08	F002
		Methyl Alcohol	5000	15 ppm	*	0.01	F003
		Xylene	1000	50 ppm	*	0.04	F003
		Butyl Alcohol	5000	10 ppm	*	0.008	F003
		Lead	1	400 ppm	**	0.3	D008
807	Solidified Bypass Sludge - Building 374	1,1,1-Trichloroethane	1000	20 ppm		0.02	F001
		Carbon Tetrachloride	5000	15 ppm		0.01	F001
		Trichlorotrifluoroethane	5000	20 ppm		0.02	F001
		Methylene Chloride	1000	5 ppm		0.004	F002
		Methyl Alcohol	5000	5 ppm	*	0.004	F003
		Xylene	1000	10 ppm	*	0.008	F003
		Butyl Alcohol	5000	5 ppm	*	0.004	F003
		Cadmium	1	10 ppm	**	0.008	D006
		Lead	1	10 ppm	**	0.008	D008

RQ - Reportable Quantity

NOTE: Maximum weight - 800 pound drums, 6000 pound crates

\* Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.

\*\* Particle size larger than 100 micrometers (0.004 inches).

\*\*\* Listed as a hazardous material in 49 CFR 172.101.

7/21/001

TABLE 2A

TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	AVERAGE CONTAINER NET WEIGHT (LB) DRUM/CRATE	QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
300	Graphite Molds	None					
302	Benelex & Plexiglas	None					
303	Scarfed Graphite	None					
312	Coarse Graphite	None					
320	Heavy Non-SS Metal	Lead ** 1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride	1 1000 5000 5000 1000	49000 ppm 200 ppm 100 ppm 300 ppm 400 ppm	212/3170	10/200 0.04/0.6 0.02/0.3 0.06/1 0.08/1	D008 F001 F001 F001 F002
321	Lead	Lead **	1	100%	220/3290	200/3000	D008
330	Dry Combustibles	1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride	1000 5000 5000 1000	2000 ppm 750 ppm 1500 ppm 750 ppm	129/1018	0.3/2 0.1/0.8 0.2/2 0.1/0.8	F001 F001 F001 F002
335	Absolute Dry Box Filters	1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride	1000 5000 5000 1000	150 ppm 150 ppm 100 ppm 50 ppm	90/1350	0.01/0.2 0.01/0.2 0.009/0.1 0.005/0.07	F001 F001 F001 F002

RQ = Reportable Quantity

\* Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.

\*\* Particle size larger than 100 micrometers (0.004 inches).

\*\*\* Listed as a hazardous material in 49 CFR 172.101.

10/1/01

TABLE 2A

TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE (Continued)

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	AVERAGE CONTAINER NET WEIGHT (LB) DRUM/CRATE	QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
336	Wet Combustibles	1,1,1-Trichloroethane	1000	2000 ppm	73/1096	0.1/2	F001
		Carbon Tetrachloride	5000	750 ppm		0.05/0.8	F001
		Trichlorotrifluoroethane	5000	1500 ppm		0.1/2	F001
		Methylene Chloride	1000	750 ppm		0.05/0.8	F002
337	Plastic	1,1,1-Trichloroethane	1000	1000 ppm	97/1443	0.1/1	F001
		Carbon Tetrachloride	5000	500 ppm		0.05/0.7	F001
		Trichlorotrifluoroethane	5000	2500 ppm		0.2/4	F001
		Methylene Chloride	1000	1000 ppm		0.1/1	F002
339	Leaded Dry Box Gloves	Lead **	1	60%	211/3155	100/2000	D008
368	MgO Crucibles - Not Leco	None					
370	Leco Crucibles	None					
371	Firebrick	None					
374	Blacktop, Dirt, Concrete and Sand	1,1,1-Trichloroethane	1000	200 ppm	374/5540	0.07/1	F001
		Methylene Chloride	1000	700 ppm		0.3/4	F002
		Potassium Hydroxide *	1000	100 ppm		0.04/0.6	F002
375	Oil Dry	1,1,1-Trichloroethane	1000	900 ppm	264/3947	0.2/4	F001
		Carbon Tetrachloride	5000	100 ppm		0.03/0.4	F001
		Trichlorotrifluoroethane	5000	8000 ppm		2/30	F001
		Methylene Chloride	1000	41000 ppm		10/200	F002

RQ = Reportable Quantity

\* Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.

\*\* Particle size larger than 100 micrometers (0.004 inches).

\*\*\* Listed as a hazardous material in 49 CFR 172.101.

162-104

TABLE 2A

TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE (Continued)

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	AVERAGE CONTAINER NET WEIGHT (LB) DRUM/CRATE	QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
376	Processed Filter Media	1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride	1000 5000 5000 1000	150 ppm 150 ppm 100 ppm 50 ppm	74/1106	0.01/0.2 0.01/0.2 0.007/0.1 0.004/0.06	F001 F001 F001 F002
377	Firebrick, Coarse	None					
379	Firebrick, Scarfed	None					
411	ER Salt	Sodium *** Magnesium ***	10 ---	750 ppm 250 ppm	90	0.07 0.02	D003 D003
429	Spent Salt	None					
438	Insulation	1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride	1000 5000 5000 1000	25 ppm 5 ppm 50 ppm 20 ppm	75/1121	0.002/0.03 0.004/0.003 0.004/0.06 0.002/0.02	F001 F001 F001 F002
440	Glass	1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride Methyl Alcohol * Xylene * Butyl Alcohol *	1000 5000 5000 1000 5000 1000 5000	10 ppm 5 ppm 20 ppm 5 ppm 25 ppm 25 ppm 10 ppm	284/1776	0.003/0.02 0.001/0.009 0.006/0.04 0.001/0.009 0.007/0.04 0.007/0.04 0.003/0.02	F001 F001 F001 F002 F003 F003 F003

RQ = Reportable Quantity

- \* Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.
- \*\* Particle size larger than 100 micrometers (0.004 inches).
- \*\*\* Listed as a hazardous material in 49 CFR 172.101.

103/144

TABLE 2A

TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE (Continued)

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	AVERAGE CONTAINER NET WEIGHT (LB) DRUM/CRATE	QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
442	Leached Raschig Rings	Carbon Tetrachloride 1,1,1-Trichloroethane Trichlorotrifluoroethane	5000 1000 5000	150 ppm 800 ppm 50 ppm	139/2085	0.02/0.3 0.1/2 0.007/0.1	F001 F001 F001
454	DOR Salts	None					
480	Light Metal	1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride Lead **	1000 5000 5000 1000 1	15 ppm 10 ppm 75 ppm 200 ppm 2000 ppm	254/2361	0.004/0.04 0.003/0.02 0.02/0.2 0.05/0.5 0.5/5	F001 F001 F001 F002 D008
488	Glovebox Parts with Lead	Lead **	1	1%	270/4037	3/40	D008
490	HEPA Filters	1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride	1000 5000 5000 1000	150 ppm 150 ppm 100 ppm 50 ppm	81/1214	0.01/0.2 0.01/0.2 0.008/0.1 0.004/0.06	F001 F001 F001 F002
491	Prefilters	1,1,1-Trichloroethane Carbon Tetrachloride Trichlorotrifluoroethane Methylene Chloride	1000 5000 5000 1000	400 ppm 400 ppm 150 ppm 50 ppm	85/1271	0.03/0.5 0.03/0.5 0.01/0.2 0.004/0.06	F001 F001 F001 F002

RQ - Reportable Quantity

\* Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.

\*\* Particle size larger than 100 micrometers (0.004 inches).

\*\*\* Listed as a hazardous material in 49 CFR 172.101.

TABLE 2A

## TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE (Continued)

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	AVERAGE CONTAINER NET WEIGHT (LB) DRUM/CRATE	QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
800	Solidified Sludge - Building 774	1,1,1-Trichloroethane	1000	75 ppm	360	0.03	F001
		Carbon Tetrachloride	5000	25 ppm		0.009	F001
		Trichlorotrifluoroethane	5000	100 ppm		0.04	F001
		Methylene Chloride	1000	700 ppm		0.3	F002
		Methyl Alcohol *	5000	25 ppm		0.009	F003
		Xylene *	1000	50 ppm		0.02	F003
		Butyl Alcohol *	5000	10 ppm		0.004	F003
		Cadmium **	1	5 ppm		0.002	D006
		Lead **	1	10 ppm		0.004	D008
801	Solidified Organics - Building 774	1,1,1-Trichloroethane	1000	15%	466	70	F001
		Carbon Tetrachloride	5000	5%		20	F001
		Trichlorotrifluoroethane	5000	5%		20	F001
802	Solidified Lab Waste - Building 774	Methyl Alcohol *	5000	500 ppm	581	0.3	F003
		Xylene *	1000	150 ppm		0.09	F003
		Butyl Alcohol *	5000	300 ppm		0.2	F003
		Cyclohexane *	1000	50 ppm		0.03	U056
803	Solidified Sludge (DCP) - Building 374	1,1,1-Trichloroethane	1000	20 ppm	530	0.01	F001
		Carbon Tetrachloride	5000	15 ppm		0.008	F001
		Trichlorotrifluoroethane	5000	20 ppm		0.01	F001
		Methylene Chloride	1000	5 ppm		0.003	F002
		Methyl Alcohol *	5000	5 ppm		0.003	F003
		Xylene *	1000	10 ppm		0.005	F003
		Butyl Alcohol *	5000	5 ppm		0.003	F003
		Cadmium **	1	10 ppm		0.005	D006
		Lead **	1	10 ppm		0.005	D008

Q - Reportable Quantity

Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.

\* Particle size larger than 100 micrometers (0.004 inches).

\*\* Listed as a hazardous material in 49 CFR 172.101.

105/165

TABLE 2A

TRANSURANIC MIXED WASTE BY ITEM DESCRIPTION CODE (Continued)

IDC	DESCRIPTION	HAZARDOUS CONSTITUENTS	RQ (LB)	PERCENTAGE OR PPM	AVERAGE CONTAINER NET WEIGHT (LB) DRUM/CRATE	QUANTITY OF HAZARDOUS CONSTITUENTS DRUM/CRATE (LB)	EPA IDENTIFICATION NUMBER
806	Solidified Process Solids	1,1,1-Trichloroethane	1000	200 ppm	245	0.05	F001
		Carbon Tetrachloride	5000	25 ppm		0.006	F001
		Trichlorotrifluoroethane	5000	200 ppm		0.05	F001
		Methylene Chloride *	1000	100 ppm		0.02	F002
		Methyl Alcohol *	5000	15 ppm		0.004	F003
		Xylene *	1000	50 ppm		0.01	F003
		Butyl Alcohol *	5000	10 ppm		0.002	F003
		Lead **	1	400 ppm		0.1	D008
807	Solidified Bypass Sludge - Building 374	1,1,1-Trichloroethane	1000	20 ppm	332	0.007	F001
		Carbon Tetrachloride	5000	15 ppm		0.005	F001
		Trichlorotrifluoroethane	5000	20 ppm		0.007	F001
		Methylene Chloride	1000	5 ppm		0.002	F002
		Methyl Alcohol *	5000	5 ppm		0.002	F003
		Xylene *	1000	10 ppm		0.003	F003
		Butyl Alcohol *	5000	5 ppm		0.002	F003
		Cadmium **	1	10 ppm		0.003	D006
		Lead **	1	10 ppm		0.003	D008

RQ = Reportable Quantity

\* Listed as a hazardous material, but in Waste Operations opinion does not meet the associated hazard class.

\*\* Particle size larger than 100 micrometers (0.004 inches).

\*\*\* Listed as a hazardous material in 49 CFR 172.101