# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

2520 WEST ILES AVENUE, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397

JB PRITZKER, GOVERNOR JAMES JENNINGS, ACTING DIRECTOR


June 24, 2025

RE: **Extension of Public Comment Period**

The Illinois Environmental Protection Agency (Illinois EPA) hereby extends the public comment period to **August 8, 2025**.

It is important that the public have the opportunity to review the permit application submitted by the company and the draft renewal permit proposed by the Illinois EPA. If citizens have questions regarding this process, please contact Jeff Guy, Office of Community Relations, Illinois Environmental Protection Agency, 2520 W. Iles Ave, PO Box 19276, Springfield, Illinois 62794-9276, phone (217) 785-8724, TDD phone number (866) 273-5488, jeff.guy@illinois.gov. **Written comments should be submitted by August 8, 2025.** Please include "Argonne" on any comments submitted.

Sincerely,

Jeffrey J. Guy
Office of Community Relations
(217) 785-8724
jeff.guy@illinois.gov

# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

2520 WEST ILES AVENUE, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397

JB PRITZKER, GOVERNOR JAMES JENNINGS, ACTING DIRECTOR


217/524-3301

Certified Mail
Return Receipt Requested

JUN 18 2025

9589 0710 5270 0389 7039 88

U.S. Department of Energy
Attn: Ms. Whitney Bergner-Romozzi, Manager
Argonne Site Office
9800 South Cass Avenue
Lemont, Illinois 60439

Argonne National Laboratory
Attn: Ms. Raenna Sharp-Geiger
Chief Operations Officer
9700 South Cass Avenue
Lemont, Illinois 60439

Re: 0438020002 -- DuPage County
Argonne National Laboratory
IL3890008946
Log No. B-75R2
RCRA Permit File – 24D
Permit Approval

Dear Ms. Bergner-Romozzi and Ms. Sharp-Geiger:

Enclosed is a draft renewed Resource Conservation and Recovery Act (RCRA) Hazardous Waste Management permit (draft permit) for Argonne National Laboratory. The draft permit decision is based on the administrative record contained in the Illinois EPA's files. The contents of the administrative record are described in Title 35 Illinois Administrative Code (IAC) 705.211.

Under the provisions of 35 IAC 705.141(d), the draft permit and administrative record must be publicly noticed and made available for public review and comment. The Illinois EPA must also provide an opportunity for a public hearing. Copies of the draft permit, fact sheet, and renewal permit application are available for review at the Metropolis Public Library. The Illinois EPA has not scheduled a public hearing at the current time. However, any interested party may request a public hearing. The public comment period will close on August 7, 2025.

During the comment period, the applicant or any interested party may submit comments to the Illinois EPA on the draft permit. At the close of the comment period, the Illinois EPA will prepare a response to significant comments. Comments on the draft permit may be submitted to:

Jeff Guy, Office of Community Relations (#5)
Illinois Environmental Protection Agency
2520 West Iles Avenue
Post Office Box 19276
Springfield, Illinois 62794-9276

The Illinois EPA will issue a final renewed RCRA Hazardous Waste Management permit after the close of the public comment period unless the Illinois EPA decides to reverse the tentative decision. The appeal process and limitations are addressed in 35 IAC 705.212.

For questions regarding groundwater issues, please contact Shawntay Dial at 217/558-0177 or by email at shawntay.dial@illinois.gov. For all other questions, contact Jacob Nutt at 217/524-7048 or by email at jacob.nutt@illinois.gov.

Sincerely,

Joshua L. Rhoades, P.G.
Permit Section Manager
Bureau of Land

JLR:JDN:0438020002-RCRA-B75R2-Approval.docx
SDN TNH SDD AMB
Attachments: Fact Sheet
RCRA Hazardous Waste Management Permit

cc: Peter Lynch, Argonne National Laboratory
Matthew Mesarch, Argonne National Laboratory

FACT SHEET FOR ARGONNE NATIONAL LABORATORY
DRAFT RENEWAL HAZARDOUS WASTE MANAGEMENT RCRA PERMIT

STATE ID: 0438020002
USEPA ID: IL3890008946
PERMIT LOG NO. B-75R2

This fact sheet has been prepared pursuant to the requirements of Title 35 Illinois Administrative Code (35 IAC) 705.143. The fact sheet is intended to be a brief summary of the principal facts and significant factual, legal, methodological, and policy questions considered in preparing a draft renewed Resource Conservation Recovery Act (RCRA) Hazardous Waste Management permit (draft permit). This draft permit allows Argonne National Laboratory (Argonne) to operate nine container storage areas and four treatment units. This daft permit also requires Argonne to conduct corrective action at the solid waste management units (SWMUs) and areas of concern (AOCs) at the site, which include post-closure care for the three non-hazardous waste landfills on-site. Pursuant to 35 IAC 705.143(a), this fact sheet is sent to the applicant and to any other person who requests it.

## I. INTRODUCTION

The draft permit for Argonne contains all of the standard conditions required by 35 IAC Parts 702, 703 and 724 and the applicable conditions of 35 IAC Part 724 for operation of hazardous and low-level mixed waste in nine container storage areas, one tank treatment system (the Metal Precipitation Unit) and three miscellaneous units (two Alkali Metal Passivation Booths [AMPBs], and a Mixed Waste Immobilization/Macro-encapsulation Unit). (Including monitoring and remediation of groundwater). Argonne is an existing facility that has been operating under its RCRA Hazardous Waste Management Permit since November 4, 1997, and prior to that date, under interim status since the effective date of RCRA (November 19, 1980).

## II. DESCRIPTION OF FACILITY

### A. General

The Argonne facility carries out broad programs of fundamental and applied research in the physical, biomedical, and environmental sciences and serves as a major center for energy research and development. As a byproduct of these research activities, Argonne generates several forms of waste. These include (1) wastes classified as hazardous under RCRA which are subject to Illinois Environmental Protection Agency (Illinois EPA) regulation; (2) mixed (radioactive and hazardous) wastes, the hazardous component of which is subject to Illinois EPA regulation and the radioactive component of which is subject to regulation under the Atomic Energy Act and Department of Energy (DOE) orders; (3) transuranic (TRU) and low-level radioactive waste (LLW) which are subject to regulation under the Atomic Energy Act and DOE orders; and (4) wastes subject to U.S. Environmental Protection Agency (USEPA)

regulation under the Toxic Substances Control Act (TSCA). Argonne is owned and co-operated by the U.S. Department of Energy (DOE) and co-operated under contract with Chicago Argonne LLC. DOE's RCRA responsibilities are for policy, programmatic funding and scheduling decisions, as well as general oversight. The contractor's RCRA responsibilities are for day-to-day operations, including, but not limited to the following responsibilities: waste analysis and handling, monitoring, recordkeeping, reporting and contingency planning.

Hazardous and mixed wastes generated from these research activities and support services are stored or treated on site before shipment to treatment, storage, and disposal facilities (TSDFs) for further management. Argonne does not receive hazardous waste from off-site sources and does not treat or dispose of hazardous waste on site in landfills, surface impoundments, waste piles, land treatment units, or incinerators.

The investigation of any releases of hazardous substances from the solid waste management units at the facility will be addressed in the permit which is being prepared by Illinois EPA in accordance with the Hazardous and Solid Waste Amendments of 1984 (HSWA).

B. Site Description

Argonne occupies approximately 1,500 acres in DuPage County, Illinois, and is located about 27 miles southwest of downtown Chicago. It lies north of the Des Plaines River Valley, south of Interstate 55, west of Illinois Highway 83, and east of Lemont Road. The mailing addresses for the U.S. DOE and Argonne are as follows:

U.S. Department of Energy
Argonne Site Office
9800 South Cass Avenue
Argonne, Illinois 60439

Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439

## III. HAZARDOUS WASTE MANAGEMENT ACTIVITIES

### A. Container Storage Areas

The permit conditions for container storage deal with properly managing the containers and constructing, operating, and maintaining the containment system in accordance with the design plans and operating specifications. Permit Conditions in Section I of the draft permit are specific to container storage and implement the regulatory requirements of 35 IAC Parts 703 and 724, Subpart I.

1. This draft permit will allow Argonne to store non-RCRA wastes along with

RCRA wastes in permitted areas, provided that all wastes stored within a permitted area are compatible. Compatible LLW and TRU wastes, regulated under DOE Order 435.1, along with PCBs regulated by TSCA may also be stored in these areas. Storage capacity limitation, containment capacity requirements for free liquids, and the primary waste types allowed to be stored, as described below, apply for all waste types stored in each area.

| Container Storage Area and Waste Types | Maximum Allowable Storage Capacity (Gallons) | Secondary Containment Volume (Gallons) |
|---|---|---|
| Building 303 Mixed Waste Storage Facility<br>Storage Area 1: Ignitables<br>Storage Area 2 :Corrosive Bases<br>Storage Area 3: Corrosive Acids<br>Storage Area 4: Oxidizers<br>Storage Area 5: Reactives<br>Storage Area 6: Toxics | 50,980 | 100,149 |
| Building 306 - Storage Room A-142<br>- Ignitables Storage Only | 1,650 | 709 |
| Building 306 - Storage Room A-150<br>Storage Area 1: Corrosive Acids<br>Storage Area 2: Corrosive Caustics<br>Storage Area 3: Reactive Cyanides/Sulfides | 810 | 565 |
| Building 306 - Storage Room C-131<br>Storage Area 1: Corrosive Caustics<br>Storage Area 2: Ignitables,<br>Storage Area 3: Reactive Cyanides/Sulfides | 1,100 | 682 |
| Building 306 - Storage Room C-157<br>Storage Area 1: Corrosive Acids<br>Storage Area 2: Oxidizers | 1,540 | 705 |
| Building 306 - Storage Room D-001<br>Storage Area 1: Toxics<br>Storage Area 2: Toxics | 7,700 | Not Applicable |
| Building 331 Radioactive Waste Storage Facility<br>Storage Level 1: Corrosive Acids and Oxidizers<br>Storage Level 2: Solid Toxic Mixed Waste.<br>Storage Level 3: Ignitables and Solid Toxic Waste<br>Storage Level 4: Solid Toxic Mixed Waste<br>RH Vault: Toxic (Solid and Liquid) Waste | 107,167 | 2,384 |

| | | |
|---|---|---|
| Building 331 Concrete Storage Pad - Solid Toxic Mixed Waste. | 8,000 | Not Applicable |

Description of the waste types are further defined in Section III.A.2 below

2. Managed Waste Types

   a. Waste types that will be permitted for storage in containers at Argonne are identified in Attachment A of the proposed draft permit. A brief summary of the waste types stored at Argonne is as follows:

      i. RCRA Regulated Wastes

         a. Characteristic hazardous wastes (ignitable, corrosive, reactive and toxic);

         b. Listed hazardous wastes, including spent solvent wastes;

         c. Mixed waste - radioactive waste that also contains hazardous components regulated by RCRA; and

         d. Discarded and off-specification commercial chemical products.

      ii. Radioactive Waste Categories not Regulated by RCRA

         (1) Transuranic (TRU) waste - low level radioactive waste that is contaminated with alpha-emitting isotopes with half-lives greater than 30 years. Wastes generated from nuclear reactor research at Argonne. Contains manmade elements heavier than uranium (i.e., having atomic numbers of 93 and above);

         (2) Low-level radioactive (LLW) waste - radioactively contaminated waste that is not TRU waste. They are usually rags, papers, filters, tools, equipment, and discarded protective clothing. Waste sources include decontamination & decommissioning activities, research activities and environmental cleanups; and

         (3) Toxic Substances Control Act (TSCA) wastes (i.e. Poly Chlorinated Biphenyls (PCBs))

   b. For the purposes of this draft permit, wastes will be stored in designated areas according to "primary waste type" categories that include:

i. Ignitable (D00l) wastes as identified in 35 IAC 721.121 (includes Flammable wastes as identified in 49 CFR 173.120 and 49 CFR 173.124);

ii. Corrosive (D002) wastes as identified in 35 IAC 721.122;

iii. Reactive (D003) wastes as identified in 35 IAC 721.123;

iv. Toxic wastes as identified in 35 IAC 721.124; and

v. Oxidizer wastes as identified in 49 CFR 173.127.

c. In addition, compatible wastes (defined as wastes, when mixed with other waste or materials at a hazardous waste facility, do not produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases) may be stored together with "primary waste types."

B. Treatment Units

Treatment unit permit conditions deal with properly managing the wastes in tank treatment and miscellaneous treatment units in accordance with the procedures and operating specifications; and constructing, operating, and maintaining the containment system in accordance with the design plans and operating specifications. Permit Conditions in Section III are specific to tank treatment and miscellaneous unit treatment and implement the regulatory requirements of 35 IAC Parts 703 and 724, Subparts J and X respectively.

1. Argonne will treat hazardous and/or mixed wastes in five separate treatment units identified in the table below.

| Treatment Unit | Component | Component Volume (gallons) | Permitted treatment Capacity | Waste Types |
|---|---|---|---|---|
| Building 306 Metal Precipitation Unit (2), (3)<br><br>T04 Unit | Bulking Tank<br><br>Reaction Tank<br><br>Sample Tank | 30<br><br>100<br><br>250 | 100 gallons/day | Corrosive liquid mixed waste containing RCRA metals |
| Building 206 Alkali Metal Passivation Booth (1), (3)<br><br>X99 Unit | Retention Tank | 700 | 40 pounds per hour | Solid mixed waste containing alkali metals |

| | | | | |
|---|---|---|---|---|
| Building 308 Alkali Metal Passivation Booth (1), (4)<br><br>X99 Unit | Retention Tank | 7,000 | 600 pounds per hour | Solid waste containing alkali metals |
| Building 306 Mixed Waste Immobilization/Macro-encapsulation Unit (1), (3)<br><br>X99 Unit | Mixing drum | 55 | 500 gallons per day | Solid, semisolid, and liquid mixed wastes containing RCRA metals |

2. In general, treatment will be accomplished as follows:

   a. Building 306 Metal Precipitation Unit

      The process removes RCRA metals from the liquid waste treated, producing a solid mixed waste that is collected and stored until shipped off site for disposal. The process reduces the volume of mixed waste to be managed.

   b. Building 206 Alkali Metal Passivation Booth

      The process removes the reactive properties of remnant alkali metals contained in equipment or in containers with bulk alkali metal residues. Radioactively contaminated wastes can be treated in this unit.

   c. Building 308 Alkali Metal Passivation Booth

      The process removes the reactive properties of remnant alkali metals contained in equipment or in containers with bulk alkali metal residues. Radioactively contaminated wastes will not be treated in this unit.

   d. Building 306 Chemical/Photo-Oxidation Unit

      The process uses photo-oxidation (ultraviolet light) to decompose the organic contaminants of liquid mixed waste to water, carbon dioxide and traces of inorganic salts in a dilute aqueous environment. Radioactivity of the wastes remain unchanged by this treatment.

   e. Building 306 Mixed Waste Immobilization/Macro-Encapsulation Unit

      The process uses mixed waste immobilization/macro-encapsulation to produce a stable cementitious product that chemically bonds the toxic metals to the cement matrix. The resulting cement form is packaged for disposal as low-level radioactive waste.

## IV. STANDARD PERMIT CONDITIONS

Standard Permit Conditions 1 through 63 in Section III are regulatory requirements of 35 IAC Parts 702, 703, and 724 and are located in Section III of the Permit. These conditions are of a general nature and are applicable to all Hazardous Waste Management facilities regulated pursuant to an Illinois EPA RCRA permit. These conditions include the effectiveness of the permit, permit actions, severability, permit expiration, monitoring and retention of records, transfer of RCRA permits, and compliance schedules.

Financial Assurance

In accordance with 35 IAC 724.240(c), the DOE/Argonne National Laboratory facility is exempt from 35 IAC 724 Subpart H: Financial Requirements and as such does not need to comply with Standard Condition III.55.

## V. CORRECTIVE ACTION

### A. Solid Waste Management Units

In accordance with Section 3004(u) and (v) of RCRA and 35 IAC 724.201, Argonne must institute such corrective action as necessary to protect human health and the environment from all releases of hazardous wastes or hazardous constituents from any solid waste management unit (SWMU) or area of concern (AOC) at its facility in Argonne, Illinois.

A RCRA permit for this facility was issued jointly by the Illinois EPA and USEPA on September 30, 1997; the Illinois portion of that permit contained corrective action requirements. Argonne has completed a substantial amount of investigation and remediation at the facility. This draft Renewal Permit identifies the activities that still must be carried out to ensure the requirements of 35 IAC 724.201 are met at this facility.
A total of 54 SWMUs were required to be addressed in the original permit. An additional seven units were incorporated into the corrective action program during the course of the permit. To date, corrective action has been completed at 49 units. Thus, corrective action must still be completed at 12 units.

Section V of the permit contains the corrective action requirements for this facility. It requires that Argonne:

1. Continue to carry out corrective action at the 12 SWMUs still of concern at the facility.

    a. Three SWMUs still of concern are located in the vicinity of the SWMU referred to as the 800 Area Landfill. A final cover has been

placed over all these units and they are currently receiving post-closure care (one of the main aspects of post-closure care of these units is implementation of an Illinois EPA approved groundwater monitoring program).

b. Three SWMUs still of concern are located in the vicinity of the 319 Area Landfill. A final cover has been placed over all these units and they are currently receiving post-closure care. An Illinois EPA approved groundwater monitoring/remediation system is also being implemented at these units.

c. Three SWMUs still of concern are located in the 317 Area of the facility. This area is located just west of the 319 Area Landfill. Remedial efforts have been completed to address soil contamination in this area and an Illinois EPA approved groundwater monitoring/remediation system is also being implemented at these units.

d. One of the SWMUs still of concern is referred to as the East North East (ENE) Landfill. A final cover has been placed over this unit and it is currently receiving post- closure care (one of the main aspects of post-closure care of this unit is implementation of an Illinois EPA approved groundwater monitoring program).

e. The remaining two SWMUs still of concern were discovered after the original permit was issued. As such, Argonne is currently conducting an investigation of the potential contamination which may be present at each unit.

2. Comply with a Land Use Control Memorandum of Agreement which places restrictions on the future activities at seven units within the facility;

3. Implement corrective action, as necessary, for any future releases from SWMUs or a new area(s) of concern at the facility

B. GROUNDWATER PROGRAM

As part of the ongoing corrective action requirements for the facility, the Permittee must continue to conduct post-closure groundwater monitoring and associated groundwater activities and/or corrective action for the (1) 317/319 Area; (2) ENE Landfill; and (3) 800 Area Landfill. The groundwater related corrective action must be conducted in accordance with the following:

1. Attachment A of the November 6, 2024 letter (Log No. B-75R-CA-12), Attachments B and C of the November 19, 2009 letter (Log No. B-75-CA-118)

and any subsequent modifications from the Illinois EPA; and

2. Section IV (Corrective Action Activities) of the permit.

## VI. CONSIDERED PERMIT ACTIONS OTHER THAN RCRA

### A. Air

The air emissions from a hazardous waste management facility are regulated under RCRA, and the Clean Air Act (CAA) the Illinois' Environmental Protection Act and State regulations at Title 35: Environmental Protection, Subtitle B: Air Pollution. Under these regulations, it is required to obtain a permit to install or operate any process which is, or may be, a source of air pollutants.

The Division of Air Pollution Control of the Illinois EPA regulates air emissions from process areas, containers, and tanks. Argonne has proper permits for sources of air emissions.

### B. Water

A discharge of any waste waters from a hazardous waste management facility into the waters of the State is required to have a National Pollutant Discharge Elimination System (NPDES) permit, issued by the Illinois EPA under Section 39(b) of the Environmental Protection Act. Argonne has obtained discharge permits for their activities.

## VII. PROCEDURES FOR REACHING A FINAL DECISION

Pursuant to 35 IAC 705.162(a)(2), the public is given at least 45 days to review the application and comment on the draft permit conditions prior to the Illinois EPA taking any final permitting action on the application for this RCRA Post-Closure Care Permit. The comment period will begin on June 23, 2025, the date of publication of the public notice in *DuPage Suburban Life*, a newspaper of general circulation in the area. The comment period will end on August 7, 2025. When the Illinois EPA makes its final permit decision, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final permit decision. The permit will become effective 35-days after service of notice of the decision or at a later date if stated in the permit unless the decision is appealed. In addition, copies of the permit application, draft permit and fact sheet are available for review at:

Lemont Public Library
District 50 E. Wend Street
Lemont, IL 60439

Indian Prairie Public Library
401 Plainfield Road
Darien, IL 60561

The administrative record is available for public inspection by appointment only at the Illinois EPA's Springfield headquarters from 8:30 a.m. to 5:00 p.m., Monday through Friday. The administrative record contains the permit application, draft permit, fact sheet, and other supporting documents and correspondence submitted to the Illinois EPA. Inspections of the administrative record must be scheduled in advance by contacting Jeff Guy at the address listed below.

Office of Community Relations (#5)
Illinois Environmental Protection Agency
2520 West Iles Avenue
P.O. Box 19276
Springfield, Illinois, 62794-9276

In response to requests received during the comment period or at the discretion of the Illinois EPA, a public hearing may be held to clarify one or more issues concerning the permit application. A request for a public hearing must be submitted in writing and shall state the nature of the issues proposed to be raised in the hearing. Public notice of a public hearing will be issued at least 45 days before the public hearing date. If a hearing has been scheduled at the time of the original public notice, further requests are not necessary.

For further information regarding the permit process, to submit written comments on the draft permit, or to request a public hearing, please contact:

Jeff Guy, Office of Community Relations (#5)
Illinois Environmental Protection Agency
2520 West Iles Avenue
Post Office Box 19276
Springfield, Illinois 62794-9276
217-782-7027

When the Illinois EPA makes its final permit decision, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final permit decision. The permit will become effective 35-days after service of notice of the decision or at a later date if stated in the permit unless the decision is appealed.

# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

2520 WEST ILES AVENUE, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397

JB PRITZKER, GOVERNOR JAMES JENNINGS, ACTING DIRECTOR


## RCRA HAZARDOUS WASTE MANAGEMENT PERMIT

IEPA # 0438020002 DuPage County
IL3890008946
Argonne National Laboratory
RCRA Log No. B75R2
RCRA Permit File

Issue Date: DRAFT
Effective Date: DRAFT
Expiration Date: DRAFT
Modification Date:

**PERMITTEES**

U.S. Department of Energy
Attn: Ms. Whitney Bergner-Romozzi
Manager, Argonne Site Office
9800 South Cass Avenue
Lemont, Illinois 60439

Argonne National Laboratory
Attn: Ms. Raenna Sharp-Geiger
Chief Operations Officer
9700 South Cass Avenue
Lemont, Illinois 60439

A Resource Conservation and Recovery Act (RCRA) Hazardous Waste Management permit is hereby granted to Argonne National Laboratory (herein known as the Permittee) pursuant to the RCRA, Illinois Environmental Protection Act, and Title 35 Illinois Administrative Code (IAC) Subtitle G.

### PERMITTED HAZARDOUS WASTE ACTIVITY

This permit requires the Permittee to conduct the following hazardous waste activities in accordance with the approved permit application and the conditions in this permit:

1. **Storage**: for storage of laboratory and facility operations generated hazardous and/or mixed waste, in containers.

2. **Treatment**: for the treatment of hazardous and/or mixed waste.

3. **Corrective Action:** providing corrective action at solid waste management units (SWMUs) and any areas of concern (AOCs) as necessary.

This permit consists of the conditions contained herein and those in the sections and attachments in this permit. The Permittee must comply with all terms and conditions of this permit and applicable regulations contained in 35 IAC Parts 702, 703, 705 and 720 through 729 in effect on the effective date of this permit.

This permit is issued based on the information submitted in the approved permit application identified in Attachment AI to this permit and any subsequent amendments. Any inaccuracies found in the information provided in the permit application may be grounds for the termination or modification of this permit (see 35 IAC 702.187 and 702.186) and potential enforcement action (415 ILCS 5/44(h)).

DRAFT

Joshua L. Rhoades, P.G.
Permit Section Manager
Bureau of Land

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SDN TNH AMB SOD


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115 S. LaSalle Street, Suite 2203, Chicago, IL 60603
1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 (618) 346-5120
9511 Harrison Street, Des Plaines, IL 60016 (847) 294-4000
595 S. State Street, Elgin, IL 60123 (847) 608-3131
2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200
412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022
4302 N. Main Street, Rockford, IL 61103 (815) 987-7760

**RCRA HAZARDOUS WASTE MANAGEMENT PERMIT**
ISSUED TO
DEPARTMENT OF ENERGY
ARGONNE NATIONAL LABORATORY FACILITY
LEMONT, ILLINOIS
STATE ID. NO.: 0438020002
IL3890008946

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# LIST OF ATTACHMENTS

LIST OF ATTACHMENTS
(continued)

# GENERAL FACILITY DESCRIPTION
U.S. Department of Energy
Argonne National Laboratory Facility
Lemont, Illinois
STATE ID #0438020002
IL3890008946

The Argonne National Laboratory (Argonne) facility carries out broad programs of fundamental and applied research in the physical, biomedical, and environmental sciences and serves as a major center for energy research and development. As a byproduct of these research activities, Argonne generates several forms of waste. These include (1) wastes classified as hazardous under the Resource Conservation and Recovery Act (RCRA) which are subject to Illinois Environmental Protection Agency (Illinois EPA) regulation; (2) mixed (radioactive and hazardous) wastes, the hazardous component of which is subject to Illinois EPA regulation and the radioactive component of which is subject to regulation under the Atomic Energy Act and DOE orders; (3) transuranic (TRU) and low-level radioactive waste (LLW) which are subject to regulation under the Atomic Energy Act and DOE orders; and (4) wastes subject to U.S. Environmental Protection Agency (EPA) regulation under the Toxic Substances Control Act (TSCA).

Argonne is an existing facility that has been operating under its RCRA Hazardous Waste Management Permit since November 4, 1997, and prior to that date, under interim status since the effective date of RCRA (November 19, 1980). The waste management activities include storage of waste in containers and management of wastes in treatment units.

Argonne is owned and co-operated by the U.S. Department of Energy (DOE) and under contract with UChicago Argonne, LLC. DOE's RCRA responsibilities are for policy, programmatic funding and scheduling decisions, as well as general oversight. The contractor's RCRA responsibilities are for day-to-day operations, including, but not limited to the following responsibilities: waste analysis and handling, monitoring, recordkeeping, reporting and contingency planning.

Argonne occupies approximately 1,500 acres in DuPage County, Illinois, and is located about 27 miles southwest of downtown Chicago. It lies north of the Des Plaines River Valley, south of Interstate 55, west of Illinois Highway 83, and east of Lemont Road. The mailing addresses for the U.S. DOE and Argonne are as follows:

U.S. Department of Energy
Argonne Site Office
9800 South Cass Avenue
Argonne, Illinois 60439

Argonne National Laboratory
Chief Operations Officer
9700 South Cass Avenue
Argonne, Illinois 60439

# SECTION I: CONTAINER STORAGE

## A. SUMMARY

The Permittee shall be allowed to store laboratory and facility operations generated hazardous and/or mixed waste, in containers, for time periods greater than 90 days within the areas identified in Section D (Subsections D0 through D9) of the approved permit application subject to conditions specified below:

| Container Storage Area | Maximum Allowable Storage Capacity (Gallons) | Secondary Containment Volume (Gallons) |
|---|---|---|
| Building 303 Mixed Waste Storage Facility | 50,980 | 100,149 |
| Building 306 - Storage Room A-142 | 1,650 | 709 |
| Building 306 - Storage Room A-150 | 810 | 565 |
| Building 306 - Storage Room C-131 | 1,100 | 682 |
| Building 306 - Storage Room C-157 | 1,540 | 705 |
| Building 306 - Storage Room D-001 | 7,700 | Not Applicable |
| Building 331 Radioactive Waste Storage Facility | 107,167 | 2,384 |
| Building 331 Concrete Storage Pad | 8,000 | Not Applicable |

Wastes may be stored in containers (drums, paint cans, bottles, etc.) in the container storage areas identified above. Drum specifications are summarized in Table D0-1 of the approved permit application. Section D, Subsection D0.1.1.2 describes the specifications of the bottles used for waste management. Bottles are used as primary containers to store hazardous waste in cabinets/refrigerators. The containers must be compatible with the waste material, and capable of containing the waste under all standard conditions incidental to cabinet storage for the anticipated storage time. Bottles are not used as primary containers for shipment. Each of the areas manage specific wastes determined to be compatible by the facility waste analysis plan. Where applicable, each of the hazardous waste management areas have secondary containment.

Building 331, a dome-shaped building with several levels below ground, was formerly used for research activities. It has been renovated to make it suitable for storing wastes subject to the conditions of this permit.

The total permitted hazardous waste container storage capacity is 183,747 gallons based upon 55-gallon drums. Other size containers will be used in this facility.

B. WASTE IDENTIFICATION

1. All hazardous waste containers shall be stored in one of the nine approved storage area(s) identified in Section I.A. of this permit.

2. The Permittee shall store only the hazardous wastes identified in Attachment A to this permit in the eight permitted container storage areas. These wastes include RCRA regulated wastes such as characteristic hazardous wastes (ignitable, corrosive, reactive and toxic); listed hazardous wastes, including spent solvent wastes; mixed waste - radioactive waste that also contains hazardous components regulated by RCRA and discarded and off-specification commercial chemical products.

3. For the purposes of this permit, wastes are to be stored in designated areas according to "primary waste type" categories that include:

   a. Ignitable (D001) wastes as identified in 35 IAC 721.121 (includes Flammable wastes as identified in 49 CFR 173.120 and 49 CFR 173.124);

   b. Corrosive (D002) wastes as identified in 35 IAC 721.122;

   c. Reactive (D003) wastes as identified in 35 IAC 721.123;

   d. Toxic wastes as identified in 35 IAC 721.124 and

   e. Oxidizer wastes as identified in 49 CFR 173.127.

4. Compatible wastes (defined as wastes, when mixed with other waste or materials at a hazardous waste facility, that do not produce effects which are harmful to human health and the environment) may be stored together with "primary waste types" in each designated area. Guidelines for determining waste compatibility can be found in Attachment B to this permit and in Table C-19 of Section C of the approved permit application. These wastes include the following radioactive waste categories not regulated by RCRA.

   a. Transuranic (TRU) waste - radioactive waste that is contaminated with alpha-emitting isotopes with half-lives greater than 30 years. Wastes generated from nuclear reactor research at Argonne. Contains manmade elements heavier than uranium (i.e., having atomic numbers of 93 and above);

   b. Low-level radioactive (LLW) waste - radioactively contaminated waste that is not TRU waste. They are usually rags, papers, filters, tools, equipment, and discarded protective clothing. Waste sources include decontamination and decommissioning activities, research activities and environmental cleanups.

c. Toxic Substances Control Act (TSCA) wastes (i.e. - Poly Chlorinated Biphenyls (PCBs)).

5. Surplus chemicals and/or wastes which are being stored in a hazardous waste management unit (HWMU) that are not hazardous or mixed shall be compatible and readily identifiable from the hazardous and mixed wastes stored in that unit. Storage capacity limitations and containment capacity requirements for free liquids, as specified in the proposed permit, must be met regardless of the surplus chemicals and/or wastes stored in each area. Storage of surplus chemicals in permitted HWMUs may only be conducted in Rooms 105, 106 and 108 of Building 303.

6. The Permittee is prohibited from accepting hazardous wastes generated by facilities located outside the legal boundaries of DOE/Argonne.

7. Prior to storing any hazardous waste (for more than 90 days) not specifically listed in Attachment A of this permit in any of the eight permitted storage areas, the Permittee must submit a permit modification to the Illinois EPA for review in accordance with the 35 IAC Part 703 permit modification procedures.

8. The Permittee shall implement its Waste Analysis Plan (WAP) to ensure that information is obtained for classification, storage, and on-site and off-site treatment of hazardous waste and mixed waste generated at Argonne. The WAP is presented in Appendix C-1 of the approved permit application. The WAP specifies the following:

   a. Procedures for determining whether wastes can be properly characterized based on existing documentation, or whether the waste must be analyzed for proper characterization.

   b. Parameters for which waste will be analyzed and rationale for selecting these parameters.

   c. Specific test methods which will be used to test for selected parameters.

   d. Sampling methods which will be used to obtain a representative sample of the waste to be analyzed.

   e. Frequency with which the initial analysis will be reviewed or repeated to ensure that the analysis is accurate and current.

9. Where mixed wastes are denoted, the wastes are a combination of hazardous and radioactive wastes.

C. HAZARDOUS WASTE CONTAINER STORAGE AREAS

1. Building 303 Mixed Waste Storage Facility (MWSF)

a. The Permittee may store up to a maximum of 50,980 gallons of solid and liquid mixed waste in the Building 303 Mixed Waste Storage Facility, including ignitable (D001) wastes (including flammable wastes as identified in 49 CFR 173.120 and 49 CFR 173.124); acids and caustics exhibiting the characteristic of corrosivity (D002); oxidizers (as defined in 49 CFR 173.127) exhibiting the characteristic of ignitability (D001); wastes exhibiting the characteristic of reactivity (D003) and solid toxic waste, along with other compatible wastes identified in Table C-1 of the approved permit application.

The wastes are to be stored in the areas depicted in Figure D1-1 of the approved permit application and included in Attachment G of this permit. The primary waste types to be stored in this area are categorized as Ignitable, Corrosive, Oxidizer, Reactive and Toxic. Solid material to be stored in Building 303 includes but is not limited to lead shielding; lead shot; battery cells; glove boxes; used shielding containers and absorbed/solidified liquids or sludges.

| Area | Maximum Storage Capacity |
|---|---|
| Ignitables (Flammables) | 3,330 gallons |
| Corrosive Bases w/TCLP | 2,100 gallons |
| Corrosive Acids w/TCLP | 10,445 gallons |
| Oxidizers | 705 gallons |
| Reactives | 815 gallons |
| (Toxic) Solids** | 33,585 gallons |

** Liquid wastes may also be stored in this area.

b. Wastes shall be stored in containers described in Section D, Subsection D0.1 of the approved permit application, up to the maximum storage capacity of each designated storage area. These containers may include 55 gallon and 30 gallon drums along with other containers described in Subsection D0.1. Containers may be stored in cabinets and/or refrigerators that meet Argonne internal specifications.

c. Waste containers must be stored on pallets, secondary containment pans, stringers or other devices provided these devices are compatible with the wastes stored and their containers.

d. Should Argonne wish to change the primary waste category for a given area (store waste categories in Table C-1 that are incompatible with those wastes specified in Condition I.C.1.a.), the steps outlined in Section C, Appendix C-5 of the approved permit application under the document entitled Guidelines for Changing the Primary Waste Storage Category for a Hazardous Waste Management Unit must be followed. In addition, Argonne must notify the Illinois EPA 30 days in advance before this change is to be made. As part of this notification requirement, a revised layout or figure, identifying the wastes to be stored and a discussion as to the need for a change, must be submitted to the Illinois EPA for approval prior to implementing this change. Upon receipt and review of this notification, the Illinois EPA may require the permittee to submit a permit modification for the proposed change.

e. Aisle space requirements as specified in NFPA 30 for the storage of flammables must be maintained in the area designated for the storage of Ignitables.

f. Where aisle space is part of an exit, the minimum width must be 36 inches to comply with NFPA 101, Life Safety Code.

g. Bulking may be performed in compatible waste storage areas (e.g., ignitable waste is to be processed in the ignitable waste storage area).

h. In the event of a fire, which involves a release of hazardous and/or mixed waste, the fire suppression water collected in respective holding basins must be managed as a hazardous or mixed waste, unless sample analysis shows otherwise.

2. Building 306 - Storage Room A-142

a. The Permittee may store up to a maximum of 1,650 gallons of solid and liquid mixed wastes exhibiting the characteristic of ignitability (D001), along with other compatible wastes identified in Table C-2 of the approved permit application. The wastes are to be stored in the area depicted in Figure D2-3 of the approved permit application and included in Attachment G of this permit. The primary waste type to be stored in this area is categorized as Ignitable.

| Area | Maximum Storage Capacity |
|---|---|
| Ignitable mixed waste | 1,650 gallons |

b. Wastes may be stored in containers described in Section D, Subsection D0.1 of the approved permit application, up to the maximum storage capacity of each designated storage area. These containers may include 55-gallon and 30-gallon drums along with other containers described in Subsection D0.1. Containers may

be stored in cabinets and/or refrigerators that meet Argonne internal specifications.

c. Waste containers must be stored on pallets, secondary containment pans, stringers or other devices provided these devices are compatible with the wastes stored and their containers.

d. Should Argonne wish to change the primary waste category for a given area (store waste categories in Table C-2 that are incompatible with those wastes specified in Condition I.C.2.a.), the steps outlined in Section C, Appendix C-5 of the approved permit application under the document entitled Guidelines for Changing the Primary Waste Storage Category for a Hazardous Waste Management Unit must be followed. In addition, Argonne must notify the Illinois EPA 30 days in advance before this change is to be made. As part of this notification requirement, a revised layout or figure, identifying the wastes to be stored and a discussion as to the need for a change, must be submitted to the Illinois EPA for approval prior to implementing this change. Upon receipt and review of this notification, the Illinois EPA may require the permittee to submit a permit modification for the proposed change.

e. Aisle space requirements as specified in NFPA 30 for the storage of flammables must be maintained.

3. Building 306 - Storage Room A-150

a. The Permittee may store up to a maximum of 810 gallons of solid and liquid mixed waste, including acids and caustics exhibiting the characteristic of corrosivity (D002) and cyanides and sulfides exhibiting the characteristic of reactivity (D003), along with other compatible wastes identified in Table C-3 of the approved permit application. The wastes are to be stored in the area depicted in Figure D3-1 of the approved permit application and included in Attachment G of this permit. The primary waste types to be stored in this area are categorized as Corrosive and Reactive.

| Area | Maximum Storage Capacity |
|---|---|
| Corrosive Acids | 400 gallons |
| Corrosive Caustics | 365 gallons |
| Reactive Cyanides/Sulfides | 45 gallons |

b. Wastes may be stored in containers described in Section D, Subsection D0.1 of the approved permit application, up to the maximum storage capacity of each designated storage area. These containers may include 55-gallon and 30-gallon

drums along with other containers described in Subsection D0.1. Containers may be stored in cabinets and/or refrigerators that meet Argonne internal specifications.

c. Waste containers must be stored on pallets, secondary containment pans, stringers or other devices provided these devices are compatible with the wastes stored and their containers.

d. Should Argonne wish to change the primary waste category for a given area (store waste categories in Table C-3 that are incompatible with those wastes specified in Condition I.C.3.a.), the steps outlined in Section C, Appendix C-5 of the approved permit application under the document entitled Guidelines for Changing the Primary Waste Storage Category for a Hazardous Waste Management Unit must be followed. In addition, Argonne must notify the Illinois EPA 30 days in advance before this change is to be made. As part of this notification requirement, a revised layout or figure, identifying the wastes to be stored and a discussion as to the need for a change, must be submitted to the Illinois EPA for approval prior to implementing this change. Upon receipt and review of this notification, the Illinois EPA may require the permittee to submit a permit modification for the proposed change.

4. Building 306 - Storage Room C-131

a. The Permittee may store up to a maximum of 1,100 gallons of solid and liquid mixed waste, including caustics exhibiting the characteristic of corrosivity (D002); liquids exhibiting the characteristic of ignitability (D001); and cyanide and sulfide wastes exhibiting the characteristic of reactivity (D003) along with other compatible wastes identified in Table C-4 of the approved permit application. The wastes are to be stored in the area depicted in Figure D4-1 of the approved permit application and included in Attachment G of this permit. The primary waste types to be stored in this area are categorized as Corrosive, Ignitable and Reactive.

| Area | Maximum Storage Capacity |
|---|---|
| Corrosive Caustics | 825 gallons |
| Ignitables (Flammables) | 130 gallons |
| Reactive Cyanides/Sulfides | 145 gallons |

b. Wastes may be stored in containers described in Section D, Subsection D0.1 of the approved permit application, up to the maximum storage capacity of each designated storage area. These containers may include 55 gallon and 30 gallon drums along with other containers described in Subsection D0.1. Containers may

be stored in cabinets and/or refrigerators that meet Argonne internal specifications.

c. Waste containers must be stored on pallets, secondary containment pans, stringers or other devices provided these devices are compatible with the wastes stored and their containers.

d. Should Argonne wish to change the primary waste category for a given area (store waste categories in Table C-4 that are incompatible with those wastes specified in Condition I.C.4.a.), the steps outlined in Section C, Appendix C-5 of the approved permit application under the document entitled Guidelines for Changing the Primary Waste Storage Category for a Hazardous Waste Management Unit must be followed. In addition, Argonne must notify the Illinois EPA 30 days in advance before this change is to be made. As part of this notification requirement, a revised layout or figure, identifying the wastes to be stored and a discussion as to the need for a change, must be submitted to the Illinois EPA for approval prior to implementing this change. Upon receipt and review of this notification, the Illinois EPA may require the permittee to submit a permit modification for the proposed change.

e. Aisle space requirements as specified in NFPA 30 for the storage of flammables must be maintained in the Flammables area.

f. Storage of Class 1A flammables is limited to less than 60 gallons in Room C-131.

5. Building 306 - Storage Room C-157

a. The Permittee may store up to a maximum of 1,540 gallons of solid and liquid mixed waste, including acid wastes exhibiting corrosivity (D002) and oxidizers exhibiting ignitability (D001) and/or reactivity (D003), along with other compatible wastes identified in Table C-5 of the approved permit application. The wastes are to be stored in the area depicted in Figure D5-1 of the approved permit application and included in Attachment G of this permit. The primary waste types to be stored in this area are categorized as Corrosive and Oxidizers.

| Area | Maximum Storage Capacity |
|---|---|
| Corrosive Acids | 660 gallons |
| Oxidizers | 880 gallons |

b. Wastes may be stored in containers described in Section D, Subsection D0.1 of the approved permit application, up to the maximum storage capacity of each

designated storage area. These containers may include 55 gallon and 30 gallon drums along with other containers described in Subsection D0.1.

c. Waste containers must be stored on pallets, secondary containment pans, stringers or other devices provided these devices are compatible with the wastes stored and their containers.

d. Should Argonne wish to change the primary waste category for a given area (store waste categories in Table C-5 that are incompatible with those wastes specified in Condition I.C.5.a.), the steps outlined in Section C, Appendix C-5 of the approved permit application under the document entitled Guidelines for Changing the Primary Waste Storage Category for a Hazardous Waste Management Unit must be followed. In addition, Argonne must notify the Illinois EPA 30 days in advance before this change is to be made. As part of this notification requirement, a revised layout or figure, identifying the wastes to be stored and a discussion as to the need for a change, must be submitted to the Illinois EPA for approval prior to implementing this change. Upon receipt and review of this notification, the Illinois EPA may require the permittee to submit a permit modification for the proposed change.

6. Building 306 - Storage Room D-001

a. The Permittee may store up to a maximum of 7,700 gallons of solid mixed waste including remote-handled, solid (e.g., no free liquids), mixed and radioactive wastes; radioactive evaporator/concentrator bottoms contaminated with RCRA metals and miscellaneous solid mixed waste contaminated with RCRA metals (e.g., cadmium (D006), chromium (D007), lead (D008), mercury (D009) and silver (D011)) along with other compatible wastes identified in Table C-6 of the approved permit application. The wastes are to be stored in the area depicted in Figure D6-1 of the approved permit application and included in Attachment G of this permit. The primary waste types to be stored in this area are categorized as Toxic mixed waste.

| Area | Maximum Storage Capacity |
|---|---|
| Toxic mixed waste (Cell No. 1) | 2,750 gallons |
| Toxic mixed waste (Fenced-in area) | 4,950 gallons |

b. Wastes may be stored in containers described in Section D, Subsection D0.1 of the approved permit application, up to the maximum storage capacity of each designated storage area. These containers may include 55-gallon and 30-gallon drums along with other containers described in Subsection D0.1. In addition, Argonne may store compatible solid mixed waste in shielding containers described in Section D, Subsection D6.4.1 of the approved permit application.

c. Waste containers must be stored on pallets, secondary containment pans, stringers or other devices provided these devices are compatible with the wastes stored and their containers.

d. Should Argonne wish to change the primary waste category for a given area (store waste categories in Table C-6 that are incompatible with those wastes specified in Condition I.C.6.a.), the steps outlined in Section C, Appendix C-5 of the approved permit application under the document entitled Guidelines for Changing the Primary Waste Storage Category for a Hazardous Waste Management Unit must be followed. In addition, Argonne must notify the Illinois EPA 30 days in advance before this change is to be made. As part of this notification requirement, a revised layout or figure, identifying the wastes to be stored and a discussion as to the need for a change, must be submitted to the Illinois EPA for approval prior to implementing this change. Upon receipt and review of this notification, the Illinois EPA may require the permittee to submit a permit modification for the proposed change.

7. Building 331 Radioactive Waste Storage Facility

a. The Permittee may store up to a maximum of 107,167 gallons (based on storing only drums without free liquids and that drums are triple stacked) of solid and liquid mixed waste in the Building 331 Radioactive Waste Storage Facility. RCRA regulated wastes permitted for storage include ignitable (D001) wastes (including flammable wastes as identified in 49 CFR 173.120 and 49 CFR 173.124); acidic wastes exhibiting the characteristic of corrosivity (D002); oxidizers (as defined in 49 CFR 173.127) exhibiting the characteristic of ignitability (D001) and toxic wastes, along with other compatible wastes identified in Table C-8 of the approved permit application.

The wastes are to be stored in the areas depicted in Figures D8-2 (Level 1); D8-3 (Level 2); D8-4 (Level 3); D8-5 (Level 4) and D8-6 of the approved permit application and included in Attachment G of this permit. The primary waste types to be stored in the Building 331 Radioactive Waste Storage Facility are characterized as Ignitable, Corrosive, Oxidizer and Toxic. Compatible non-RCRA wastes such as TRU, LLW and TSCA (PCBs) may also be stored with RCRA regulated wastes subject to the requirements of Condition I.B.4.

| Level 1<br>(Elevation 682 ft.) | Maximum Storage Capacity |
|---|---|
| Corrosive Acids (Area 1) | 5,115 gallons |
| Oxidizers (Area 2) | 3,300 gallons |

| | |
|---|---|
| Corrosive Acids (Area 3) | 855 gallons |
| Corrosive Acids (Area 4) | 3,495 gallons |
| Corrosive Acids (Area 5) | 4,455 gallons |
| Level 2<br>(Elevation 696 ft.) | Maximum Storage Capacity |
| Toxic solid waste | 30,525 gallons |
| Level 3<br>(Elevation 713 ft.) | Maximum Storage Capacity |
| Flammable Area - Ignitable waste | 352 gallons |
| Toxic solid waste<br>(area outside of Flammable area) | 38,610 gallons |
| Level 4<br>(Elevation 730 ft.) | Maximum Storage Capacity |
| Toxic solid waste | 17,160 gallons |
| RH Vault<br>(Elevations: top - 730 ft.<br>bottom - 705 ft.) | Maximum Storage Capacity |
| Toxic waste - solid and liquid | 3,300 gallons |

b. Wastes may be stored in containers described in Section D, Subsection D0.1 of the approved permit application, up to the maximum storage capacity of each designated storage area. These containers may include 55 gallon and 30 gallon drums along with other containers described in Subsection D0.1. Containers may be stored in cabinets and/or refrigerators that meet Argonne internal specifications.

c. Waste containers must be stored on pallets, secondary containment pans, stringers or other devices provided these devices are compatible with the wastes stored and their containers.

d. Should Argonne wish to change the primary waste category for a given area (store waste categories in Table C-8 that are incompatible with those wastes specified in Condition I.C.8.a.), the steps outlined in Section C, Appendix C-5 of the approved permit application under the document entitled Guidelines for

Changing the Primary Waste Storage Category for a Hazardous Waste Management Unit must be followed. In addition, Argonne must notify the Illinois EPA 30 days in advance before this change is to be made. As part of this notification requirement, a revised layout or figure, identifying the wastes to be stored and a discussion as to the need for a change, must be submitted to the Illinois EPA for approval prior to implementing this change. Upon receipt and review of this notification, the Illinois EPA may require the permittee to submit a permit modification for the proposed change.

e. Ignitable wastes (including ignitable waste with F-coded solvents) shall only be stored in the Flammables Area of Level 3. Aisle space requirements as specified in NFPA 30 must be maintained in this area.

f. Mixed waste containers with free liquids shall only be stored in the RH Storage Vault and in the bermed areas of Level 1 and Level 3.

g. Structural steel stacking tables, as depicted in the approved permit application, shall be used to facilitate a six-level vertical drum stacking arrangement inside the RH Storage Vault.

8. Building 331 Concrete Storage Pad

a. The Permittee may store up to a maximum total of 8,000 gallons of solid mixed waste exhibiting the characteristic of toxicity, due to the presence of RCRA metals (e.g., arsenic (D004), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), and silver (D011)), along with other compatible solid wastes identified in Table C-9 of the approved permit application. The wastes are to be stored in the area depicted in Figure D9-1 of the approved permit application and included in Attachment G of this permit. The primary waste types to be stored in this area are characterized as Toxic mixed waste and include items such as lead shielding containers and evaporator/concentrator bottoms.

| Area | Maximum Storage Capacity |
|---|---|
| Toxic mixed waste | 8,000 gallons |

b. Wastes may be stored in containers described in Section D, Subsection D0.1 of the approved permit application, up to the maximum storage capacity of each designated storage area. These containers may include 55 gallon and 30 gallon drums along with other containers described in Subsection D0.1.

c. Waste containers must be stored on pallets, secondary containment pans, stringers or other devices provided these devices are compatible with the wastes stored and their containers.

d. Should Argonne wish to change the primary waste category for a given area (store waste categories in Table C-9 that are incompatible with those wastes specified in Condition I.C.9.a.), the steps outlined in Section C, Appendix C-5 of the approved permit application under the document entitled Guidelines for Changing the Primary Waste Storage Category for a Hazardous Waste Management Unit must be followed. In addition, Argonne must notify the Illinois EPA 30 days in advance before this change is to be made. As part of this notification requirement, a revised layout or figure, identifying the wastes to be stored and a discussion as to the need for a change, must be submitted to the Illinois EPA for approval prior to implementing this change. Upon receipt and review of this notification, the Illinois EPA may require the permittee to submit a permit modification for the proposed change.

e. Wastes failing the test for free liquids (Paint Filter Test - EPA Method 9095) shall not be stored in this unit.

D. CONDITION OF CONTAINERS - If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee must transfer the hazardous waste from this container to a container that is in good condition.

E. COMPATIBILITY OF WASTE WITH CONTAINERS - The Permittee must use a container made of or lined with material which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

F. MANAGEMENT OF CONTAINERS - The Permittee shall operate the container storage areas in accordance with the approved permit application and subject to the following management practices:

1. A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

2. A container holding hazardous waste must not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.

3. Waste containers must be stored on pallets, secondary containment pans, stringers or other devices provided these devices are compatible with the wastes stored and their containers, to protect them from coming into contact with any accumulated liquid in the storage area.

4. Aisle space of at least two feet shall be maintained between a row of pallets and between a wall and a row of pallets. This is necessary to provide adequate access for the inspection of each container.

5. Containers may be stacked provided that:

   a. Only the same size or smaller containers are stacked on top of the containers beneath.

   b. 55-gallon or larger containers are separated by a pallet or other dunnage to provide stability.

   c. 55-gallon containers containing free liquids shall not be stacked more than two (2) high.

   d. 55-gallon containers without free liquids shall not be stacked more than three (3) high.

   e. A pallet for stability for smaller size containers shall be used when the height of the stack exceeds 42-inches unless the containers are shrink wrapped. Containers smaller than 55-gallons may be stacked as long as the height of the stack does not exceed the height of two 55-gallon containers on pallets (i.e. 84 inches).

   f. 55-gallon or larger containers may not be stacked in the flammable storage areas until the Illinois EPA has received and approved a written justification from the Permittee that stacking, as proposed, will be consistent with the container management practices required by 35 IAC 274.273(b) and 35 IAC 724.131. Smaller containers may be stacked so long as the height of the stack does not exceed the height of one 55-gallon drum on a pallet (i.e. 42 inches).

6. Containers shall be positioned such that the markings and labels are readable during inspections.

7. The following management practices apply to arrangements of containers that contain one or more of flammable or combustible liquids as defined in NFPA 30.

   a. Each arrangement of containers (pile) as defined below shall be segregated from other arrangements by a five-foot aisle. The maximum volume of containers in each arrangement shall not exceed the following:

      i. 1,100 gallons for arrangements with one or more containers of waste which have a flash point below 73°F and a boiling point below 100°F.

      ii. 2,200 gallons for arrangements with one or more containers of waste having a flash point below 73°F and a boiling point above 100°F.

      iii. 4,400 gallons for arrangements with one or more containers of waste having a flash point at or above 73°F and below 100°F.

iv. 8,800 gallons for arrangements with one or more containers of waste having a flash point at or above 100°F and below 140°F.

v. 22,000 gallons for arrangements which do not contain one or more containers of waste having a flash point below 140°F.

b. An aisle that is a minimum of 2-feet wide must be maintained within the arrangement between each row of pallets and between pallets and a wall in a pile. This is necessary to provide adequate access for the inspection of each container.

8. Liquid which accumulates on the floor of a container storage area or in the containment system shall be removed as soon as possible after it is detected.

9. All hazardous and mixed wastes which are generated and shipped off site for storage, treatment and/or disposal by the Permittee must be accompanied by manifests in accordance with applicable regulations in 35 IAC Parts 722 and 723. Before shipment, the Permittee shall ensure that the receiving facilities have the necessary RCRA hazardous waste management permits to manage the hazardous wastes or hazardous components of mixed wastes to be shipped.

10. The Permittee shall obtain authorization from the Illinois EPA under the provisions of Section 39(h) of the Illinois Environmental Protection Act for hazardous wastes which are to be deposited in a permitted hazardous waste site (including interim status disposal units) within the State of Illinois. This authorization cannot be granted unless the generator demonstrates that, considering technological feasibility and economic reasonableness, the hazardous waste cannot be reasonably recycled for reuse, nor incinerated or chemically, physically, or biologically treated so as to neutralize the hazardous waste and render it nonhazardous. The possession of an approved and active RCRA Part B Permit will suffice for compliance with the provisions of Section 39(h) of the Illinois Environmental Protection Act.

11. Hazardous and mixed waste shall not be accumulated (stored) in outdoor loading/unloading areas for longer than 24 hours.

G. INSPECTION - The Permittee shall inspect the container area, in accordance with the inspection schedule shown in Table F-2 of the approved permit application, to detect leaks and deterioration of containers and the containment system caused by corrosion or other factors.

H. CONTAINMENT - The Permittee shall construct, operate, and maintain the containment systems according to the design plans and operating specifications contained in the approved permit application and conditions of this permit.

## I. WASTE CHARACTERIZATION AND COLLECTION PROCEDURES

Waste characterization and collection procedures must be carried out in accordance with the approved Waste Analysis Plan presented in Appendix C-1 of the approved permit application.

## J. WASTE SAMPLING AND ANALYSIS PROCEDURES

The following guidelines must be followed regarding the sampling and analysis of waste:

1. All sampling of waste must be conducted in a manner that will ensure a representative sample is collected and the sample's physical and chemical integrity are maintained. Sampling plans and procedures must be consistent with the guidance provided in Chapter Nine of Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition (including promulgated updates). Sampling techniques and equipment described in Chapter Nine must be employed for sampling in those situations where they are applicable. The sampling of waste streams where it is not feasible to follow the guidelines presented above, must be conducted in a manner that will ensure a representative sample is collected, the sample's physical and chemical integrity are maintained, and that the analyses ensure the adequate characterization of the waste stream.

2. Samples collected for the purpose of waste characterization must be handled and preserved in a manner that ensure the sample's physical and chemical integrity is maintained. Unless overridden by worker safety concerns or compatibility questions considered and documented in the sampling and analysis plan, sample collection containers, sample preservation techniques, and sample holding times (with the exception of samples being analyzed for radioactivity, in which case the holding time begins once the results for radioactivity are known) must conform to those specified in the samples, usually as described in SW-846. For aqueous samples, Table 2-36 in SW-846, Third Edition, Revision III, may be used to determine the appropriate containers, preservatives, and holding times.

3. The Permittee is required to implement a Quality Assurance program for on-site collection and analysis of samples for the purpose of waste characterization for shipment of wastes off site. The Permittee shall document implementation of the Quality Assurance program for on-site operations and analysis laboratories by means of written Quality Assurance Program Plans or Quality Assurance Plans. For samples analyzed by independent laboratories for shipment of wastes off site, the Permittee shall obtain a copy of each independent laboratory's Quality Assurance Plan. In both cases, the Quality Assurance program described in the Quality Assurance Plan document must be in accordance with requirements described in Chapter One (Quality Control) of SW-846.

## K. HAZARDOUS WASTE BULKING

1. General Requirements

   a. For the purposes of this permit, bulking is defined as the activity in which smaller containers of compatible hazardous wastes are emptied into a larger container.

   b. The Permittee is permitted to bulk hazardous wastes identified in Attachment A to this permit and non-hazardous wastes and materials in the same container, provided that the non-hazardous wastes and materials are compatible with the hazardous wastes. A determination as to the compatibility of the materials to be bulked must be made prior to bulking and must be documented in the facility operating record.

   c. The Permittee may only bulk hazardous wastes specifically listed in Attachment A to this permit and non-hazardous wastes provided that the requirements of Condition B.2 are met.

2. Operational Requirements

   a. Bulking containers must be kept closed at all times, unless bulking activities are actively being conducted. This includes the larger containers into which the smaller containers are being emptied.

   b. The Permittee is prohibited from bulking wastes in a container which previously held wastes or materials incompatible with the wastes to be bulked, unless the container has first been properly decontaminated.

   c. All bulking activities involving wastes with free liquids must be conducted in an area which meets the secondary containment requirements of 35 IAC 724.275.

   d. During bulking of ignitable or reactive wastes (D001, D003), the bulking container must be grounded to reduce the potential of electrostatic buildup.

   e. All containers and container liners (if required) used for bulking activities must be compatible with the wastes being bulked.

   f. All bulking operations for organic solvents must be performed in any of the following locations: (1) under an operating fume hood; or (2) in an area which has adequate ventilation.

   g. All bulking operations must be performed in an area with adequate ventilation.

h. All employees conducting bulking activities at the facility must use appropriate personnel protective equipment. The personnel protection equipment must be of an appropriate material to adequately protect workers from the hazardous component of the wastes being bulked. Such equipment shall provide protection for eyes, skin and clothing. Based on a review of the material to be bulked, the Manager of Waste Management Operations, or their designee, shall determine the appropriate level of personnel protective equipment to be worn during bulking activities. Standard procedures for bulking operations, including required personnel protective equipment, may be developed by the Manager of Waste Management Operations and kept in the operating record.

i. The Permittee is prohibited from bulking air or water reactive wastes.

3. Storage Requirements

All containers of bulked wastes must be stored in rooms in which the contents are compatible with all other wastes in the storage room, or segregated by incompatible wastes by some type of physical barrier which would restrict commingling of the wastes, such as a firewall, dike, etc. This evaluation must be carried out in accordance with Attachment B of this permit. Documentation that such a determination was made must be kept and maintained in the facility operating record.

4. Documentation Requirements

Copies of (1) the waste pickup request filled out by the generator, (2) any packing slips developed during bulking, and (3) manifests for off-site shipment must be cross-referenced, kept and maintained in the facility operating record.

## L. HAZARDOUS AND MIXED WASTE LAB PACKING

1. General Requirements

a. For the purposes of this permit, a lab-pack is defined as an outer container into which several smaller containers of hazardous waste are placed for storage or transportation requirements.

b. The Permittee may only manage lab-packs at this site packaged in accordance with the Department of Transportation (DOT) requirements for lab-packs (49 CFR 173.12) and the additional requirements listed below.

c. Lab-packing of closed containers shall be conducted only in the following locations: within the boundary of all HWMUs, Building 306 Low-Bay Area, loading docks of the HWMUs, Building 306 Decontamination Shop Area, and generator sites at the Argonne facility subject to the applicable RCRA requirements including 35 IAC 724, Subpart I.

The Permittee is allowed to lab-pack hazardous wastes identified in Attachment A to this permit and non-hazardous wastes and materials in the same container, provided that the non-hazardous wastes and materials are compatible with the hazardous wastes. A determination as to the compatibility of the materials to be lab-packed must be made prior to lab-packing and must be documented in the facility operating record.

2. Packaging Requirements

All lab-packs created as a result of consolidation/repackaging efforts must meet the following requirements:

a. Packing must be conducted in accordance with the Department of Transportation (DOT) requirements of 49 CFR 173.12, and the additional requirements listed in L.2.b through L.2.g;

b. All wastes and packing material lab-packed into one container must be determined to be compatible in accordance with Attachment B of this permit;

c. Each labpack must contain a sufficient amount of absorbent material to adsorb any free liquids released from the inner containers. This absorbent material must also provide proper "bedding" to fill all voids in the lab-pack container and to protect the small containers from being broken. Additionally, before shipment, absorbent must be added such that (1) all inner containers are covered and (2) the outer container is full in order to minimize the potential for inner containers to rupture or break.

d. Each container of hazardous waste placed into a lab-pack must have a bar code label affixed which can be used to track the following:

i. The commercial or chemical name of the waste; and

ii. The volume or weight of the waste.

e. No container which is improperly marked may be placed into a lab-pack.

f. The final lab-pack container must be marked or labeled in accordance with the requirements of 35 IAC Part 722. Prior to shipping, the following information is required to be shown on the lab-pack container:

i. The volume or weight of the lab-pack container;

ii. The EPA Hazardous Waste Code(s) of wastes in the lab-pack container; and

iii. The DOT hazard classification.

g. The commercial or chemical name(s) of the waste in the lab-pack container must be provided in a container content sheet accompanying the manifest or shipping documentation.

3. Operational Requirements

a. Precautions During Lab-packing Activities

i. Lab-packing containers must be kept closed at all times unless lab-packing is actively being conducted.

ii. All lab-packing operations for organic solvents must be performed in any of the following locations: (1) under an operating fume hood; or (2) in an area which has adequate ventilation.

iii. Prior to conducting lab-packing activities, the Hazardous Waste Foreman, or their designee, shall determine whether lab-packing activities should be conducted under an operating fume hood or in a well-ventilated area. This determination shall be based on a review of the characteristics and chemical and physical properties of the wastes to be lab-packed.

iv. Prior to lab-packing, the Hazardous Waste Foreman, or their designee, shall ensure that personnel performing lab-packing personnel don protective equipment (PPE) per established waste handling procedures.

b. Storage Requirements

i. All lab-packs must be stored in rooms in which the contents of each container within the lab-pack is compatible with all other wastes in the storage room, or segregated by incompatible wastes by some type of physical barrier which would restrict commingling of the wastes, such as a firewall, dike, etc. Determination of compatibility shall be in accordance with the Permittee's waste handling procedures, Attachment B to this permit, and available waste compatibility charts such as that presented in Appendix C-5 of the approved permit application.

ii. Lab-pack containers must be closed at all times unless lab-packing is actively being conducted.

iii. All lab-pack containers containing liquids must be stored in an area which meets the secondary containment requirements of 35 IAC 724.275, unless lab-packing is actively being conducted.

iv. Lab packs containing air or water reactive wastes:

(1) Are prohibited from being stored in the same room as ignitable wastes;

(2) Must be stored in a room or in an area where an appropriate non-water based (e.g., dry-powder type for Class D fire) fire extinguisher(s) is available;

(3) Must be stored in a room which has a system which has fire suppression/fire control materials compatible with all reactive wastes stored;

(4) Are prohibited from being lab-packed with any wastes other than hazardous wastes which are listed or determined to be characteristic due to their air or water reactive properties. Additionally, all reactive wastes lab-packed within the same container must have the same compatibility classification in accordance with Attachment B;

(5) Must contain packing material (i.e., absorbent) which are non-organic, non-flammable and non-combustible;

(6) Shall not be opened for the purposes of re-consolidation;

(7) Must be conspicuously marked with a label which indicates that the waste material contained inside is reactive with air or water; and

(8) Must be inspected weekly for (1) container condition, (2) container integrity, (3) odors, visual or audible indications that wastes within the containers have been released or are incompatible. Should the inspection indicate that the wastes within the lab-pack have been released and/or are incompatible, the Permittee shall implement the facility contingency plan to address this event.

c. Documentation Requirements

i. Copies of all manifests for hazardous or mixed waste lab-packs must be cross-referenced, kept, and maintained within the facility operating record.

## M. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE

1. The Permittee shall not locate containers which hold ignitable or reactive waste within 50 feet of the facility's property line.

2. The Permittee shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. Ignitable or reactive wastes must be separated and protected from sources of ignition or reaction including but not limited to:

   a. Open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (e.g., static, electrical, or mechanical), spontaneous ignition (e.g., from heat producing chemical reactions), and radiant heat.

   b. While ignitable or reactive waste is being handled, the Permittee must confine smoking and open flame to specially designated locations.

   c. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

3. Aisle spacing for the storage of all hazardous waste containers must be maintained at a minimum distance of two feet.

4. "No Smoking" signs must be conspicuously located in the loading/unloading areas, reactives storage areas, and all other permitted areas where reactive or ignitable wastes are to be managed.

5. The Permittee is prohibited from handling reactive or ignitable wastes in any permitted area when tests, analyses or experiments require use of an open flame.

N. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTE

1. The Permittee shall not place incompatible wastes, or incompatible wastes and materials, in the same container, unless the procedures specified in the approved permit application and conditions of this permit are followed.

   Incompatible wastes or materials must not be placed in the same container unless precautions are taken to prevent reactions which:

   a. Generate extreme heat or pressure, fire or explosions, or violent reactions.

   b. Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment.

   c. Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.

   d. Damage the structural integrity of the device or facility.

   e. Through other like means, threaten human health or the environment.

The basic methods for preventing such reactions are to:

f. Treat one or both of the incompatible wastes/materials to render them compatible prior to placing them in the container.

g. Physically separate the incompatible wastes/materials in the containers so that it is not possible for the incompatible wastes/materials to come in contact with each other.

2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.

3. The Permittee shall not store containers holding a hazardous waste that is incompatible with any waste or other materials stored nearby unless separated from the other material and protected from them by means of a dike, berm, wall, or other devices.

## O. ADDITIONAL REQUIREMENTS ASSOCIATED WITH TRANSPORTING WASTE TO THE PERMITTED CONTAINER STORAGE AREAS

1. All vehicles involved with waste transportation on the roadways at this facility must abide by all applicable Illinois rules of the road and posted traffic signals and signs.

## P. SPECIAL CONDITIONS REGARDING THE MANIFESTING AND RECORDKEEPING SYSTEM

The Permittee is required to maintain a summary of the information required herein on-site at all times. An annual summary of the information required by the permit must be kept and maintained in the facility operating record.

1. The information pertaining to each container stored in the permitted container storage areas in an HWMU, must be placed in the operating record for the facility. The written operating record may include an electronic operating record that can produce a hard written copy upon request.

a. Requisition number/identification number;

b. Waste name (commercial or chemical name);

c. EPA waste codes;

d. Volume or weight of the waste container;

e. Container number;

f. Accumulation start date; and where applicable;

g. Shipment date;

h. Name of TSDF or vendor where the waste has been shipped.

Q. CLOSURE

At closure, at a minimum, all hazardous waste and hazardous waste residues and constituents must be removed from the containment system/storage pads. Remaining wastes, bases, soil, and groundwater containing or contaminated with hazardous waste, hazardous waste residue or hazardous constituents must be decontaminated or removed. Closure of the container storage areas shall be carried out in accordance with the closure plan in the approved permit application, as modified:

1. The Permittee shall notify the Illinois EPA, Bureau of Land in writing of its intent to close the container storage area at least 45 days prior to the date closure is expected to begin. Along with this notification, the Permittee shall submit a sampling and analysis plan to be used in demonstrating the container storage area has been properly decontaminated. This plan must be approved by the Illinois EPA Bureau of Land in writing prior to being implemented. Illinois EPA review of this plan will be subject to the permit appeal provisions contained in Sections 39(a) and 40(a) of the Illinois Environmental Protection Act. The response from the Illinois EPA will approve and establish:

   a. The sampling and decontamination plan;

   b. What contaminants must be analyzed for;

   c. Analytical requirements (SW-846 Methods should be utilized); and

   d. The level at which decontamination or removal is considered complete.

2. All sweepings, washwater and rinsate generated during the closure of each unit shall be managed as a hazardous waste, unless it can be shown to be not hazardous as defined under 35 IAC 721.103.

3. Within 60 days after closure of each container storage area is complete, the Permittee shall submit certification to the Illinois EPA that the unit has been closed in accordance with the approved closure plan.

   The closure certification forms in Attachment F to this permit must be used. Signatures must meet the requirements of 35 IAC 702.126. The qualified Professional Engineer (registered in the State of Illinois) should be present at all critical, major points (activities) during the closure. These might include soil sampling, soil removal,

backfilling, final cover placement, etc. The frequency of inspections by the qualified Professional Engineer must be sufficient to determine the adequacy of each critical activity.

A Closure Documentation Report is to be submitted with the closure certification which includes the following items, if applicable:

a. The volume of waste and waste residue removed, including wastes resulting from decontamination activities.

b. A description of the method of waste handling and transport.

c. Copies of the waste manifests.

d. A description of the sampling and analytical methods used including sample preservation methods and chain-of-custody information.

e. A chronological summary of closure activities and the cost involved.

f. Tests performed, methods and results.

g. Color photographs of closure activities which document conditions before, during and after closure.

h. A scale drawing of all excavated or decontaminated areas and sample locations.

4. To avoid creating another regulated storage unit during closure, it is recommended that you obtain any necessary permits for waste disposal prior to initiating excavation activities. If it is necessary to store excavated hazardous waste on-site prior to off-site disposal, do so only in containers or tanks for less than 90 days. Do not create regulated waste pile units by storing the excavated hazardous waste in piles. The 90-day accumulation time exemption (35 IAC 722.134) only applies to containers and tanks.

5. If the Illinois EPA determines that implementation of this closure plan fails to satisfy the requirements of 35 IAC 724.211, the Illinois EPA reserves the right to amend the closure plan. Revisions of closure plans are subject to the appeal provisions of Section 40 of the Illinois Environmental Protection Act.

6. The requirements of the Responsible Property Transfer Act (Public Act 85-1228) may apply to the facility due to the management of RCRA hazardous waste. In addition, if the permittee stores or treats on-site generated hazardous waste in containers or tanks pursuant to 35 IAC 722.134, those units are subject to the closure requirements identified in 35 IAC 722.134(a)(1).

# SECTION II: TREATMENT UNITS

## A. SUMMARY

The Permittee shall be allowed to operate the treatment units identified below for the treatment of hazardous and/or mixed waste, subject to the conditions as specified in this section.

| Treatment Unit | Component | Component Volume (gallons) | Permitted treatment Capacity | Waste Types |
|---|---|---|---|---|
| Building 306 Metal Precipitation Unit (2), (3)<br><br>T04 Unit | Bulking Tank<br><br>Reaction Tank<br><br>Sample Tank | 30<br><br>100<br><br>250 | 100 gallons per day | Corrosive liquid mixed waste containing RCRA metals |
| Building 206 Alkali Metal Passivation Booth (1), (3)<br><br>X99 Unit | Retention Tank | 700 | 40 pounds per hour | Solid mixed waste containing alkali metals |
| Building 308 Alkali Metal Passivation Booth (1), (4)<br><br>X99 Unit | Retention Tank | 7,000 | 600 pounds per hour | Solid waste containing alkali metals |
| Building 306 Mixed Waste Immobilization/Macro-encapsulation Unit (1), (3)<br><br>X99 Unit | Mixing drum | 55 | 500 gallons per day | Solid, semisolid, and liquid mixed wastes containing RCRA metals |

Note: (1) Unit being permitted as a miscellaneous (Subpart X) hazardous waste treatment unit in accordance with 35 IAC 703.209 and 724.701.

(2) Unit being permitted as a tank-based hazardous waste treatment unit in accordance with 35 IAC 703.202 and 724.292.

(3) Mixed and/or hazardous wastes may be treated in this unit.

(4) Only hazardous waste may be treated in this unit.

## B. GENERAL OPERATIONS AND EQUIPMENT DESCRIPTION

1. Building 306 Metal Precipitation Unit

a. The Permittee shall be allowed to operate the Metal Precipitation Unit for the treatment of corrosive (acids and/or bases) aqueous mixed wastes containing radionuclides and characteristic RCRA metals subject to the terms of the RCRA Hazardous Waste Management permit.

b. The Metal Precipitation Unit in Building 306 consists of:

i. A hydroxide/sulfide precipitation unit that consists of a stainless-steel treatment tank with a working capacity of 100 gallons. A 30-gallon open-top stainless-steel tank, located in a laboratory exhaust hood (emissions covered under Argonne's Title V air permit) with a polyethylene liner, will be used for bulking of small quantities of waste prior to transfer into the 100-gallon tank. Ancillary equipment includes:

(1) a mechanical mixer;

(2) a neutralization media pump and associated control;

(3) a chemical reagent pump and associated control;

(4) a temperature feedback control; and

(5) waste transfer pumps and associated level controls.

ii. A sample tank with a working capacity of approximately 250 gallons.

If the sludge from the precipitation process is tested for TCLP metals and passes, the sludge will be shipped to an approved low level radioactive waste disposal facility. If it does not pass, the sludge will be further treated to remove the hazard characteristic.

c. <u>Wastes to be Treated</u>

i. The Permittee may treat mixed waste solutions containing one or more of the following corrosive acids/bases and TCLP compounds listed in 35 IAC 721.124(b) in the precipitation unit:

| | |
|---|---|
| Corrosive acids/bases: | Hydrochloric acid (D002), Nitric acid (D002), Sulfuric acid (D002), Phosphoric acid (D002) and other Inorganic acids/bases (D002). |
| TCLP compounds: | Arsenic (D004), Barium (D005), Cadmium (D006), Chromium (D007), Selenium (D010), Silver(D011), Mercury (D009) and Lead (D008). |

ii. The Permittee is not precluded from treating radioactively contaminated wastes identified in Condition II.B.1.c.1, as long as such treatment shall be in accordance with all applicable Federal and State requirements involving the management of the wastes and their treatment residues, the decontamination of any contamination of the Metal Precipitation Unit, and the releases of any radioactively contaminated material affecting human health and the environment.

iii. The Permittee is allowed to treat only wastes generated on-site in the Metal Precipitation Unit. Wastes generated off-site shall not be treated unless expressly approved by Illinois EPA in accordance with the applicable regulations.

d. Treatment Capacity

The Permittee is allowed to treat no more than 100 gallons per day of hazardous wastes identified in Condition II.B.1.c.i in the Building 306 Metal Precipitation Unit.

e. Waste Analysis

Unless process knowledge is applied, each batch of the distillate from the mixed waste concentrator condenser must be analyzed for the eight RCRA metals identified in 35 IAC 721.124, which were exhibited prior to treatment.

Treated wastes which retain their toxicity characteristic must be managed as a hazardous waste and may only be stored in a designated hazardous waste storage area.

f. Operating Requirements for Metal Precipitation Unit

i. The Permittee shall operate and maintain the Metal Precipitation Unit in Building 306 to treat the aqueous wastes identified in Condition II.B.1.c.i by using precipitation/pH adjustment with neutralizing agents, such as calcium hydroxide, followed by precipitation with agents, such as sodium sulfide in the Treatment System. The resulting slurry is then to be stabilized in the Macroencapsulation/Immobilization Unit to remove the toxicity characteristic.

ii. The Permittee shall operate and maintain the Metal Precipitation Unit in Building 306 so as to minimize the possibility of a fire, explosion, or any unplanned, sudden or nonsudden release of hazardous waste constituents to the air, soil, or surface water, which could threaten human health or the environment, as required by 40 CFR 264 and the RCRA Hazardous Waste Management permit.

2. Building 206 Alkali Metal Passivation Booth system (AMPB)

   a. The Permittee shall be allowed to operate the Building 206 Alkali Metal Passivation Booth system (AMPB) for the treatment of mixed wastes exhibiting the characteristic of reactivity (D003), subject to the terms of the RCRA Hazardous Waste Management permit.

   b. The AMPB in Building 206 shall consist of: (1) a sheet metal and steel frame booth, including gratings when needed, overhead roll type steel door, and exhaust duct; (2) an air emission control system consisting of an exhaust blower, venturi scrubber, cyclone separator, high efficiency demister, high efficiency particulate air (HEPA) filter, and exhaust stack; and (3) a 700-gallon steel retention tank, together with its associated piping, to manage wastewater generated in the AMPB system.

   c. Wastes to be Treated

      i. The Permittee may treat bulk quantities of hazardous wastes exhibiting the characteristic of reactivity (D003): including elemental cesium, sodium, potassium, lithium, and rubidium, and mixtures of these elements, such as a sodium-potassium mixture (NaK).

      ii. The Permittee is not precluded from treating radioactively contaminated wastes identified in Condition II.B.2.c.i, as long as such treatment shall be in accordance with all applicable Federal and State requirements involving the management of the wastes and their treatment residues, the decontamination of any contamination of the AMPB system, and the releases of any radioactively contaminated material affecting human health and the environment.

      iii. The Permittee is allowed to treat wastes in the AMPB that are generated on-site. Wastes generated off-site shall not be treated unless expressly approved by Illinois EPA in accordance with the applicable regulations.

   d. Treatment Capacity

      The Permittee is allowed to treat no more than 40 pounds per hour of hazardous wastes identified in Condition II.B.2.c.i in the AMPB.

   e. Operating Requirements for Building 206 AMPB

      i. The Permittee shall operate and maintain the AMPB Unit in Building 206 to treat alkali metal wastes identified in Condition II.B.2.c.i by eliminating the reactive properties of the alkali metals to the extent possible. Treatment is

to be accomplished by heating remnants of alkali metals left in equipment piping, valves, etc.), with electric heaters or steam to allow for drainage into a burn tray inside the AMPB. Bulk alkali metals and bulk containers with alkali metal residuals may also be treated. The metal alkali will then be heated as needed until it ignites and burns, forming an alkali oxide. As the alkali metal burns, it is agitated with a dry steel poker to react-as much of the alkali metal as possible. Near the end of the burn, steam is applied through a long steel probe to react metal that has not yet reacted. Then, water is added in small amounts to dissolve the alkali oxide residue. (Reactive properties of metals are eliminated before residues are flushed into retention tank.). This liquid is then discharged to the retention tank. The corrosive liquid is then neutralized in the retention tank or after it is picked up by Waste Management Operations (WMO) for processing. The air pollution control system contains HEPA filters (replaced every two years during operation or more frequently - depending on pressure drop) to enable ANL to conform with NESHAP regulations for radionuclide emissions.

For types and quantities of alkali metals that can be safely reacted without burning in air, e.g., lithium-water reactions, the permittee is allowed to use the AMPB. The waste alkali-metal products will be discharged to the retention tank during a subsequent burn process.

ii. The Permittee shall operate and maintain the AMPB Unit in Building 206 so as to minimize the possibility of a fire, explosion, or any unplanned, sudden or non-sudden release of hazardous waste constituents to the air, soil, or surface water, which could threaten human health or the environment, as required by 35 IAC Part 724 and this RCRA permit. The air emission control system in the AMPB in Building 206 shall be maintained to provide a 99% removal efficiency for particulates and shall actively operate whenever hazardous waste is being treated.

3. Building 308 Alkali Metal Passivation Booth system (AMPB)

a. The Permittee shall be allowed to operate the Building 308 Alkali Metal Passivation Booth system (AMPB) for the treatment of hazardous wastes exhibiting the characteristic of reactivity, subject to the terms of the RCRA Hazardous Waste Management permit.

b. The AMPB in Building 308 shall consist of: (1) a sheet metal and steel frame booth, including gratings, overhead steel door, and exhaust duct; (2) an air emission control system consisting of an exhaust blower, venturi scrubber, cyclone separator; and (3) a 7000-gallon fiberglass retention tank and associated piping, to manage wastewater generated in the AMPB system.

c. Wastes to be Treated

i. The Permittee may treat bulk quantities of hazardous wastes exhibiting the characteristic of reactivity (D003): including elemental calcium, cesium, sodium, potassium, lithium and rubidium, and mixtures of these elements, such as NaK.

ii. Treatment of mixed wastes will not be allowed in this unit.

iii. The Permittee is allowed to treat only wastes generated on-site in the AMPB. Wastes generated off-site shall not be treated unless expressly approved by Illinois EPA in accordance with the applicable regulations.

d. Treatment Capacity

The Permittee is allowed to treat no more than 600 pounds per hour of hazardous wastes identified in Condition II.B.3.c.i in the AMPB.

e. Operating Requirements for Building 308 AMPB

i. The Permittee shall operate and maintain the AMPB Unit in Building 308 to treat alkali metal wastes identified in Condition II.B.3.c.i by eliminating the reactive properties of the alkali metals to the extent possible. Treatment is to be accomplished by heating remnants of alkali metals left in equipment (piping, valves, etc.), with electric heaters to allow for drainage into a burn tray inside the AMPB. Containers with bulk alkali metal residuals may also be treated. The metal alkali will then be heated with an oxy-acetylene torch until it ignites and burns, forming an alkali oxide. Dry steam application to the ash (metal oxide) is to follow to oxidize any unreacted metal. Water is then to be added in a two-step process to dissolve the alkali oxide residue forming a solution that no longer exhibits corrosive characteristic. (Reactive properties of metals are eliminated before residues are flushed into laboratory sewer.). This nonhazardous liquid is then to be discharged to the retention tank and then discharged to the laboratory sewer system, having a pH of less than 8.

ii. The Permittee shall operate and maintain the AMPB Unit in Building 308 so as to minimize the possibility of a fire, explosion, or any unplanned, sudden or nonsudden release of hazardous waste constituents to the air, soil, or surface water, which could threaten human health or the environment, as required by 40 CFR 264 and the RCRA Hazardous Waste Management permit. The air emission control system in the AMPB in Building 308 shall

be maintained to provide a 99% removal efficiency for particulates and shall actively operate whenever hazardous waste is being treated.

4. Building 306 Mixed Waste Immobilization/Macro-Encapsulation Unit

   a. The Permittee shall be allowed to operate the Building 306 Mixed Waste Immobilization/Macro-Encapsulation Unit for the treatment of hazardous wastes, identified in Condition II.B.4.c.i below, exhibiting the characteristic of toxicity or reactivity, subject to the terms of the RCRA Hazardous Waste Management permit. If the waste exhibits the characteristic of corrosivity, elementary neutralization will be conducted after bulking of compatible corrosive waste and prior to Immobilization/Macro-encapsulation. The contents of the drum will be neutralized to a target pH level between 5 and 9. The treatment unit is to be used for the treatment of solid, semi-solid, and liquid mixed wastes containing TCLP characteristic metals and for solid reactive wastes containing inorganic nitrates. The RCRA metals from homogeneous mixed waste such as soil and liquid will be immobilized using a solidification media (including but not limited to, cementitious, pozzolanic, magnesium phosphate ceramic, and clay type materials), to meet Land Disposal Restrictions (LDR) concentration-based standards and for solid metal debris, macro-encapsulation technology will be used to encapsulate the waste to meet the LDR treatment standard for this waste category.

      The process uses mixed waste immobilization/macro-encapsulation to produce a stable cementitious product that chemically bonds the toxic metals to the cement matrix. The resulting cement form is packaged in 55-gallon drums or suitable containers for disposal as low-level radioactive waste.

   b. The Mixed Waste Immobilization/Macro-Encapsulation Unit in Building 306 shall consist of one part - the mixer. Mixing operations will take place in a 55-gallon steel drum located under a hood that is vented to the Building 306 HEPA filtered ventilation system. The 55-gallon drum or suitable container is the final container for waste disposal.

   c. Wastes to be Treated

      i. The Permittee may treat the mixed waste streams identified in Sub-Section D11.1.2.5 of the approved permit application in the Building 306 Mixed Waste Immobilization/Macro-Encapsulation Unit. The wastes that can be treated in this unit exhibit the characteristic of reactivity (D003) or contain one or more of the following characteristic TCLP metals listed in 35 IAC 721.124: Arsenic (D004); Barium (D005); Cadmium (D006); Chromium (D007); Lead (D008); Mercury (D009); Selenium (D010) and Silver (D011).

ii. The Permittee is allowed to treat only wastes generated on-site in the Building 306 Mixed Waste Immobilization/Macro-Encapsulation Unit. Wastes generated off-site shall not be treated unless expressly approved by Illinois EPA in accordance with the applicable regulations.

d. Treatment Capacity

The Permittee is allowed to treat no more than 500 gallons per day of hazardous wastes identified in Condition II.B.4.c.i in the Mixed Waste Immobilization/Macro-Encapsulation Unit in Building 306.

e. Waste Analysis

i. Each batch of the final waste form resulting from the solidification process must be analyzed to assure that Land Disposal Restriction standard is met before disposal for the following characteristic toxic metals: Arsenic (D004); Barium (D005); Cadmium (D006); Chromium (D007); Lead (D008); Mercury (D009); Selenium (D010) and Silver (D011).

ii. Treated wastes which retain their characteristic must be managed as a hazardous waste and may only be stored in a designated hazardous waste storage area.

iii. Macro-encapsulated metal debris will not be subject to waste analysis as long as the alternative treatment standard specified in 35 IAC 728 Table F is met.

f. Operating Requirements for Building 306 Mixed Waste Immobilization/Macro-Encapsulation Unit

i. The Permittee shall operate and maintain the Mixed Waste Immobilization/Macro-Encapsulation Unit in Building 306 to treat wastes identified in Condition II.B.4.c.i by eliminating the toxic properties of the waste streams to be treated to the extent possible. Treatment is to be accomplished by mixing waste with water and a suitable immobilization media. A double planetary mixer will be used to perform the mixing. Mixing operations will take place in a 55-gallon drum located under a hood that is vented to the Building 306 HEPA filtered ventilation system. The 55-gallon drum or suitable container is the final container for waste disposal.

ii. The Permittee shall operate and maintain the Mixed Waste Immobilization/Macro-Encapsulation Unit in Building 306 so as to minimize the possibility of a fire, explosion, or any unplanned, sudden or non-sudden release of hazardous waste constituents to the air, soil, or surface water, which could threaten human health or the environment, as

required by 40 CFR 264 and the RCRA Hazardous Waste Management permit.

C. MANAGEMENT OF CONTAINERS - TEMPORARY STORAGE

1. The Permittee may temporarily store hazardous and mixed wastes in containers at each of the above treatment units, provided:

   a. The quantity of wastes to be treated in one day and/or one batch will be staged in close proximity to the treatment unit.

   b. The containers are marked with the words "Hazardous Waste" or with other words that identify the contents of the containers.

   c. If a container holding hazardous waste is not in good condition, or if it begins to leak, the Permittee must transfer the hazardous waste from this container to a container that is in good condition.

   d. A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste or during waste processing. A container must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak. Containers shall be kept sufficiently far away from any activities or areas that could affect the integrity of the containers, and which could lead to accidents resulting in fires, explosions, or unplanned releases of hazardous constituents to the environment.

   e. Wastes stored in small containers may be temporarily stored in cabinets meeting the National Fire Protection Association Code #30 and applicable OSHA requirements. These containers shall be stored in a manner which minimizes threats to their integrity to safely contain the waste.

   f. Any waste stored in the above-referenced treatment unit areas must either be treated or removed from the area no later than 90 days from the date which storage was begun. The date the waste was placed into storage and the date the waste was treated must be documented either in written format or electronically in the Permittee's waste tracking system.

   g. The amount of waste staged or temporarily stored in close proximity to each treatment unit will be the amount of waste estimated to be treated by that unit in one day and/or one batch.

2. Any waste spilled out of the active treatment area shall be removed as quickly as feasible under the operating conditions, and it shall be managed in conformance with the conditions of the RCRA Hazardous Waste Management permit and all other applicable State and Federal requirements.

3. The Permittee shall maintain sufficient clearance around each of the treatment units such that all areas of the unit are accessible for inspection and are accessible should implementation of the contingency plan be necessary.

4. If a malfunction in any part of the above treatment units, the Permittee shall stop treating waste, and shall shut down operations as quickly as is feasible. The Permittee shall not resume treating wastes until the Permittee has determined that the malfunction has been corrected, and the system is operating as intended.

D. INSPECTION

1. The permittee shall inspect the treatment unit areas in accordance with the inspection schedule in Attachment D to this Permit in order to detect leaks and deterioration of the units.

E. RESPONSE TO LEAKS OR SPILLS

In the event of a leak or a spill from the treatment units, or if a unit becomes unfit for continued use, the Permittee shall remove the system from service immediately and complete the following actions:

1. Appropriate action to clean up any release of waste from the treatment unit shall be carried out immediately after removing the system (unit) from service.

2. Remove the necessary amount of waste from the system (unit) within 24 hours of the detection of the leak or spill to prevent further releases and to allow inspection and repair of the system.

3. Determine the cause of the release.

4. Make any necessary repairs to fully restore the integrity of the system (treatment unit) before returning the unit to service.

5. All wastes resulting from the cleanup of a spill shall be managed as a hazardous (mixed) waste until proven otherwise.

F. REPORTING AND RECORDKEEPING

1. In addition to the reporting requirements in Section VI - Reporting and Notification Requirements, spills from the treatment units must be reported in accordance with the following requirements:

   a. The Permittee shall report to the Illinois EPA, Bureau of Land Field Office in Des Plaines within 24 hours when a leak or spill occurs unless the spill or leak of

hazardous waste is immediately contained (within the secondary containment system) and cleaned up.

b. Spills/releases requiring notification to local response entities, fires or explosions shall be reported to the Illinois EPA, Bureau of Land Field Office in Des Plaines within 24 hours of the incident.

2. The Permittee shall submit to the Illinois EPA all certification of major repairs to correct leaks within seven days from returning a treatment unit to use. Major repairs to correct leaks are those repairs that are associated with or performed as a result of the activation of the Argonne National Laboratory Contingency Plan.

3. Documentation for the actions required by Conditions II.E.1 through II.E.4 and any waste analysis and/or manifests resulted by requirements in Conditions II.E.5 shall be placed in the facility's operating record.

G. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

1. If it is determined that a waste is incompatible with a previously processed waste, the treatment unit shall be decontaminated to the point that incompatibility is no longer an issue, prior to placing (processing) the new waste in the unit.

H. CLOSURE

At closure, all waste and residues must be removed from the treatment units. Closure of the treatment units shall be carried out in accordance with the closure plan in the approved permit application, subject to the following modifications:

1. The Permittee shall notify the Illinois EPA in writing of its intent to close these units at least 45 days prior to the date closure is expected to begin. Along with this notification, the Permittee shall submit the sampling and analysis plan to be used in demonstrating that these areas have been properly decontaminated. The plan shall be approved by the Illinois EPA, Bureau of Land in writing prior to being implemented. Illinois EPA review of this plan will be subject to the permit appeal provisions contained in Section 39(a) and Section 40(a) of the Act. The response from the Illinois EPA shall approve and establish:

   a. The sampling plan;

   b. What contaminants must be analyzed for; and

   c. The level at which decontamination is complete.

2. The concrete surfaces underlying the treatment units shall be visually inspected, photographed and any residue adhering to the surface must be removed by scraping

and/or brushing. Following this, the concrete surfaces must be steam cleaned and triple rinsed. All wash water and rinse water shall be collected and managed as a hazardous waste, unless the Permittee can document that the waste is not hazardous as defined in 35 IAC 721.103. A qualified Professional Engineer must certify that the surface has no cracks, gaps or other defects which would allow waste to migrate through the underlying soil. Otherwise, sampling shall be conducted to verify the underlying soil is uncontaminated.

3. Within 60 days after closure of any treatment unit is complete, the Permittee shall submit certification to the Illinois EPA that the unit has been closed in accordance with the approved closure plan.

   The closure certification form in Attachment F to this permit or a certification with identical wording must be used. Signatures must meet the requirements of 35 IAC 702.126. The qualified Professional Engineer (registered in the State of Illinois) should be present at all critical, major points (activities) during the closure. These might include soil sampling, soil removal, backfilling, final cover placement, etc. The frequency of inspections by the qualified Professional Engineer must be sufficient to determine the adequacy of each critical activity. The Illinois EPA review of closure certification for partial closure will be conducted in accordance with 35 IAC 724.243.

   A Closure Documentation Report must be submitted with the closure certification which includes the following items, if applicable:

   a. The volume of waste and waste residue removed, including wastes resulting from decontamination activities;

   b. A description of the method of waste handling and transport;

   c. Copies of the waste manifests;

   d. A description of the sampling and analytical methods used;

   e. A chronological summary of closure activities and the cost involved;

   f. Tests performed, methods and results;

   g. Color photographs of closure activities which document conditions before, during and after closure; and

   h. A scaled drawing of all excavated or decontaminated areas and sample locations.

4. To avoid creating another regulated storage unit during closure, it is recommended that you obtain any necessary permits for waste disposal prior to initiating excavation activities. If it is necessary to store excavated hazardous waste on-site prior to off-site

disposal, do so only in containers or tanks for less than 90 days. Do not create regulated waste pile units by storing the excavated hazardous waste in piles. The permit exemption (35 IAC 722.134) only applies to containers and tanks.

5. If the Illinois EPA determines that implementation of this closure plan fails to satisfy the requirements of 35 IAC 724.211, the Illinois EPA reserves the right to amend the closure plan. Revisions of closure plans are subject to the appeal provisions of Section 40 of the Act.

6. Please be advised that the requirements of the Responsible Property Transfer Act (Public Act 85-1228) may apply to your facility due to the management of RCRA hazardous waste. In addition, please be advised that if you store or treat on-site generated hazardous waste in containers or tanks pursuant to 35 IAC 722.134, those units are subject to the closure requirements incorporated by reference in 35 IAC 722.134.

# SECTION III: STANDARD CONDITIONS

## GENERAL REQUIREMENTS

1. EFFECT OF PERMIT. The existence of a RCRA Hazardous Waste Management permit shall not constitute a defense to a violation of the Environmental Protection Act or Subtitle G, except for provisions against development, modification, or operation without a permit. Issuance of this permit does not convey property rights or any exclusive privilege. Issuance of this permit does not authorize any injury to persons or property or invasion of other private rights, or infringement of state or local law or regulations. (35 IAC 702.181)

2. PERMIT ACTIONS. This permit may be modified, reissued, or revoked for cause as specified in 35 IAC 703.270 through 703.273 and 702.186. The filing of a request by the Permittee for a permit modification or reissuance, or a notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition. (35 IAC 702.146)

3. SEVERABILITY. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby. (35 IAC 700.107)

4. PERMIT CONDITION CONFLICT. In case of conflict between a special permit condition and a standard condition, the special condition will prevail. (35 IAC 702.160)

5. DUTY TO COMPLY. The Permittee shall comply with all conditions of this permit except for the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance constitutes a violation of the Environmental Protection Act and is grounds for enforcement action; permit revocation or modification; or for denial of a permit renewal application. (35 IAC 702.141 and 703.242)

6. DUTY TO REAPPLY. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee must apply for a new permit at least 180 days before this permit expires, unless permission for a later date has been granted by the Illinois EPA. (35 IAC 702.142 and 703.125)

7. PERMIT EXPIRATION. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application (see 35 IAC 703.181-703.209) and through no fault of the Permittee the Illinois EPA has not issued a new permit as set forth in 35 IAC 702.125.

8. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or

reduce the permitted activity in order to maintain compliance with the conditions of the permit. (35 IAC 702.143)

9. DUTY TO MITIGATE. In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. (35 IAC 702.144)

10. PROPER OPERATION AND MAINTENANCE. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory, and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit. (35 IAC 702.145)

11. DUTY TO PROVIDE INFORMATION. The Permittee shall furnish to the Illinois EPA, within a reasonable time, any relevant information which the Illinois EPA may request to determine whether cause exists for modifying, revoking, and reissuing or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Illinois EPA, upon request, copies of records required to be kept by this permit. (35 IAC 702.148)

12. INSPECTION AND ENTRY. The Permittee shall allow an authorized representative of the Illinois EPA, upon the presentation of credentials and other documents as may be required by law, to:

    a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the permit; and

    d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate Act, any substances, or parameters at any location. (35 IAC 702.149)

13. MONITORING AND RECORDS. (35 IAC 702.150)

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste must be the appropriate method from Appendix A of 35 IAC 721. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, latest versions; Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, latest versions; or an equivalent method as specified in the approved Waste Analysis Plan.

b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least three years from the date of the sample, measurement, report, or application. These periods may be extended by request of the Illinois EPA at any time. The permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well.

c. Records of monitoring information shall include:

i. The date(s), exact place, and time of sampling or measurements;

ii. The individual(s) who performed the sampling or measurements;

iii. The date(s) analyses were performed;

iv. The individual(s) who performed the analyses;

v. The analytical technique(s) or method(s) used; and

vi. The result(s) of such analyses. (35 IAC 702.150)

14. REPORTING PLANNED CHANGES. The permittee shall give written notice to the Illinois EPA as soon as possible of any planned physical alterations or additions to the permitted facility. In general, proposed changes to the facility will need to be submitted to the Illinois EPA as permit modification request that complies with the requirements of 35 IAC 703.280. (35 IACs 702.152(a))

15. CONSTRUCTION CERTIFICATION. For a new hazardous waste management facility, the permittee shall not commence treatment, storage, or disposal of hazardous waste; and

for a facility being modified the permittee shall not treat, store or dispose of hazardous waste in the modified portion of the facility, until:

a. The permittee has submitted to the Illinois EPA by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

b. 1. The Illinois EPA has inspected the modified or newly constructed facility and finds it is in compliance with the condition of the permit; or

2. If, within 15 days of the date of submission of the letter in paragraph (a), the permittee has not received notice from the Illinois EPA of its intent to inspect, prior inspection is waived and the permittee may commence treatment, storage or disposal of hazardous waste. (35 IAC 703.247)

16. ANTICIPATED NONCOMPLIANCE. The Permittee shall give advanced written notice to the Illinois EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements, regulations, or the Act. (35 IAC 702.152(b))

17. TRANSFER OF PERMITS. This permit may not be transferred by the permittee to a new owner or operator unless the permit has been modified or reissued pursuant to 35 IAC 703.260(b) or 703.272. Changes in the ownership or operational control of a facility must be made as a Class 1 modification with the prior written approval of the Illinois EPA. The new owner or operator shall submit a revised permit application no later than 90 days prior to the scheduled change. (35 IAC 703.260)

18. MONITORING REPORTS. Monitoring results shall be reported at the intervals specified in the permit. (35 IAC 702.152(d))

19. COMPLIANCE SCHEDULES. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than specified in 35 IAC 702.162. (35 IAC 702.152(e))

20. TWENTY-FOUR HOUR REPORTING.

a. The Permittee shall report to the Illinois EPA any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the following circumstances. This report shall include the following:

i. Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.

ii. Information concerning the release or discharge of any hazardous waste or of a fire or explosion at the HWM facility, which could threaten the environment or human health outside the facility.

b. The description of the occurrence and its cause shall include:

i. Name, address, and telephone number of the owner or operator;

ii. Name, address, and telephone number of the facility;

iii. Date, time, and type of incident;

iv. Name and quantity of material(s) involved;

v. The extent of injuries, if any;

vi. An assessment of actual or potential hazards to the environment and human health outside the facility, where applicable; and

vii. Estimated quantity and disposition of recovered material that resulted from the incident.

c. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Illinois EPA may waive the five day written notice requirement in favor of a written report within 15 days. (35 IAC 702.152(f) and 703.245(b))

21. OTHER NONCOMPLIANCE. The Permittee shall report all instances of noncompliance not required to be reported under Standard Conditions 18, 19, and 20, at the time monitoring reports, as required by this permit, are submitted. The reports shall contain the information listed in Standard Condition 20. (35 IAC 702.152(g))

22. OTHER INFORMATION. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application or submitted incorrect information in a permit application or in any report to the Illinois EPA, the Permittee shall promptly submit such facts or information. (35 IAC 702.152(h))

23. REPORTING REQUIREMENTS. The following reports required by 35 IAC Part 724 shall be submitted in addition to those required by 35 IAC 702.152 (reporting requirements):

a. Manifest discrepancy report: if a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy with the waste generator or transporter. If the discrepancy is not resolved within 15 days after receiving the waste, the permittee must immediately submit to the Illinois EPA a letter describing the discrepancy and attempts to reconcile it and a copy of the manifest or shipping paper at issue. (35 IAC 724.172(b))

b. Unmanifested waste report: The permittee must submit to the Illinois EPA within 15 days of receipt of unmanifested waste an unmanifested waste report on EPA form 8700-13B. (35 IAC 724.176)

c. Annual report: an annual report must be submitted covering facility activities during the previous calendar year. (35 IAC 724.175)

24. SUBMITTAL OF REPORTS OR OTHER INFORMATION. All written reports or other written information required to be submitted by the terms of this permit shall be sent to:

Illinois Environmental Protection Agency
Bureau of Land - #33
Permit Section
2520 West Iles Avenue
Post Office Box 19276
Springfield, Illinois 62794-9276

25. SIGNATORY REQUIREMENT. All permit applications, reports or information submitted to the Illinois EPA shall be signed and certified as required by 35 IAC 702.126. (35 IAC 702.151)

26. CONFIDENTIAL INFORMATION. Any claim of confidentiality must be asserted in accordance with 35 IAC 702.103 and 35 IAC 161.

27. DOCUMENTS TO BE MAINTAINED AT FACILITY SITE. The Permittee shall maintain at the facility, until closure is complete, the following documents and amendments, revisions, and modifications to these documents:

a. Waste analysis plan as required by 35 IAC 724.113(b) and this permit.

b. Personnel training documents and records as required by 35 IAC 724.116(d) and this permit.

c. Contingency plan as required by 35 IAC 724.153(a) and this permit.

d. Closure plan as required by 35 IAC 724.212(a) and this permit.

e. Cost estimate for facility closure as required by 35 IAC 724.242(d) and this permit.

f. Operating record as required by 35 IAC 724.173 and this permit.

g. Inspection schedules as required by 35 IAC 724.115(b) and this permit.

28. WASTE MINIMIZATION. The Permittee shall certify at least annually that the Permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the Permittee to be economically practicable, and the proposed method of treatment, storage, or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment, in accordance with 35 IAC 724.173(b)(9).

## GENERAL FACILITY STANDARDS

29. NOTICE OF WASTE FROM A FOREIGN SOURCE. The permittee who has arranged to receive hazardous waste from a foreign source must notify the Illinois EPA in writing at least four weeks in advance of the date the waste is expected at the facility. (35 IAC 724.112(a))

30. NOTICE OF WASTE FROM OFF-SITE. The Permittee who receives hazardous waste from an off-site source (except where the Permittee is also the generator), must inform the generator in writing that the permittee has the appropriate permits for, and will accept, the waste the generator is shipping. The Permittee must keep a copy of this written notice as part of the facility operating record. (35 IAC 724.112(b))

31. GENERAL WASTE ANALYSIS. The Permittee shall comply with the procedures described in the approved waste analysis plan. (35 IAC 724.113)

32. SECURITY. The Permittee shall comply with the security provisions of 35 IAC 724.114(b) and (c).

33. GENERAL INSPECTION REQUIREMENTS. The Permittee shall follow the approved inspection schedule. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 35 IAC 724.115(c). Records of inspections shall be kept as required by 35 IAC 724.115(d).

34. PERSONNEL TRAINING. The Permittee shall conduct personnel training as required by 35 IAC 724.116 and shall maintain training documents and records as required by 35 IAC 724.116(d) and (e).

35. GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE. The Permittee shall comply with the requirements of 35 IAC 724.117.

## PREPAREDNESS AND PREVENTION

36. DESIGN AND OPERATION OF FACILITY. The Permittee shall maintain and operate the facility to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. (35 IAC 724.131)

37. REQUIRED EQUIPMENT. The Permittee shall equip the facility with the equipment set forth in the approved contingency plan, as required by 35 IAC 724.132.

38. TESTING AND MAINTENANCE OF EQUIPMENT. The Permittee shall test and maintain the equipment specified in the contingency plan and this permit as necessary to assure its proper operation in time of emergency. Such testing and maintenance activities are set forth in the approved inspection schedule. (35 IAC 724.133)

39. ACCESS TO COMMUNICATIONS OR ALARM SYSTEM. The Permittee shall maintain access to the communications or alarm system as required by 35 IAC 724.134.

40. REQUIRED AISLE SPACE. The Permittee shall maintain aisle space as required by 35 IAC 724.135 and National Fire Protection Association (NFPA) requirements.

41. ARRANGEMENTS WITH STATE AND LOCAL AUTHORITIES AND EMERGENCY RESPONSE CONTRACTORS. The Permittee shall attempt to make emergency response arrangements with State and local authorities and agreements with State emergency response teams and emergency response contractors and equipment suppliers as required by 35 IAC 724.137. If State or local officials refuse to enter in preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

## CONTINGENCY PLAN

42. IMPLEMENTATION OF PLAN. The provisions of the contingency plan must be carried out by the Permittee immediately whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment (35 IAC 724.151(b)). At a minimum, this includes any fire or explosion which occurs in an area where hazardous waste is being managed (treated, stored or disposed) (35 IAC 703.241). Within 15 days of any incident that requires implementation of the contingency plan, the owner or operator must submit a written report to the Illinois EPA as required by 35 IAC 724.156(j).

43. COPIES OF PLAN. A copy of the contingency plan, including any revisions, must be maintained at the facility and submitted to all local police and fire departments, hospitals and state and local emergency response teams as required by 35 IAC 724.153.

44. AMENDMENTS TO PLAN. The Permittee shall review and immediately amend, if necessary, the contingency plan, as required by 35 IAC 724.154.

45. EMERGENCY COORDINATOR. A trained emergency coordinator shall be available at all times in case of an emergency as required by 35 IAC 724.155 and 724.156.

**MANIFEST SYSTEM RECORD KEEPING AND REPORTING**

46. MANIFEST SYSTEM. The Permittee shall comply with the manifest requirements of 35 IAC 724.171, 724.172 and 724.176.

47. OPERATING RECORD. The Permittee shall maintain a written operating record at the facility in accordance with 35 IAC 724.173.

48. ANNUAL REPORT. The Permittee shall prepare and submit an annual report to the Illinois EPA prior to March 1st of each year in accordance with the requirements of 35 IAC 724.175.

**CLOSURE**

49. PERFORMANCE STANDARD. The Permittee shall close the facility as required by 35 IAC 724.211 12 and in accordance with the approved closure plan.

50. AMENDMENT TO CLOSURE PLAN. The Permittee must amend the closure plan whenever there is a change in the expected year of closure or whenever a change in the facility operation plans or facility design affects the closure plan pursuant to 35 IAC 724.212(c).

51. NOTIFICATION OF CLOSURE. The Permittee shall notify the Illinois EPA at least 60 days prior to the date it expects to begin closure. (35 IAC 724.212(d))

52. TIME ALLOWED FOR CLOSURE. After receiving the final volume of hazardous waste, the Permittee shall treat or remove from the site all hazardous waste and complete closure activities in accordance with the schedule(s) specified in the closure plan. (35 IAC 724.213)

53. DISPOSAL AND/OR DECONTAMINATION OF EQUIPMENT. When closure is completed, the Permittee shall decontaminate and/or dispose of all facility equipment and structures as required by the approved closure (35 IAC 724.214) plan.

54. CERTIFICATION OF CLOSURE. When closure is completed, the Permittee shall submit certification to the Illinois EPA in accordance with 35 IAC 724.215 that the facility has been closed as specified by the approved closure plans.

55. COST ESTIMATE FOR FACILITY CLOSURE. The Permittee's original closure cost estimate, prepared in accordance with 35 IAC 724.242, must be:

a. Adjusted for inflation 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with 35 IAC 724.243. However, if the owner/operator is using the financial test or corporate guarantee, it must be updated for inflation within 30 days after close of the firm's fiscal year, and before the submission of updated information to the Illinois EPA as specified in 35 IAC 724.243(f).

b. Revised no later than 30 days after the Illinois EPA has approved a request to modify the closure plan, if the change in the closure plan increases the cost of closure.

c. Kept on record at the facility and updated. (35 IAC 724.242)

d. Made immediately available to Illinois EPA personnel upon Illinois EPA request.

56. FINANCIAL ASSURANCE FOR FACILITY CLOSURE. The Permittee shall demonstrate compliance with 35 IAC 724.243 by providing documentation of financial assurance, as required by 35 IAC 724.251, in at least the amount of the cost estimates required by the previous Permit Condition. Changes in financial assurance mechanisms must be approved by the Illinois EPA pursuant to 35 IAC 724.243.

Financial assurance documents submitted to Illinois EPA should be directed to the following address:

Illinois Environmental Protection Agency
Bureau of Land - #24
Financial Assurance Program
2520 West Iles Avenue
P.O. Box 19276
Springfield, IL 62794-9276

57. LIABILITY REQUIREMENTS. The Permittee shall demonstrate continuous compliance with the requirements of 35 IAC 724.247 and the documentation requirements of 35 IAC 724.251.

58. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS. The Permittee shall comply with 35 IAC 724.248 whenever necessary.

## LAND DISPOSAL RESTRICTIONS

59. DISPOSAL PROHIBITION. Any waste identified in 35 IAC 728, Subpart C, or any mixture of such a waste with nonrestricted wastes, is prohibited from land disposal unless it meets the standards of 35 IAC 728, Subpart D, or unless it meets the requirements for exemptions under Subpart C. "Land disposal" means placement in or on the land and

includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, or vault intended for disposal.

60. DILUTION PROHIBITION. The Permittee shall not in any way dilute a restricted waste or residual from treatment of a restricted waste as a substitute for adequate treatment in order to achieve compliance with 35 IAC 728, Subpart D (35 IAC 728.103).

61. WASTE ANALYSIS.

a. The Permittee must test the waste or extract developed, using the test method identified in Appendix I of 40 CFR Part 268, or use knowledge of the waste, to determine if the waste is restricted from land disposal.

b. For any waste with treatment standards expressed as concentrations in the waste extract, the Permittee must test the treatment residues, or an extract of such residues developed using the test method described in Appendix I of 40 CFR Part 268, to assure that the treatment residues or extract meet the applicable treatment standard.

c. If the treatment residues do not meet the treatment standards, or if the Permittee ships any restricted wastes to a different facility, the Permittee shall comply with the requirements applicable to generators in 35 IAC 728.107 and 728.150(a)(1).

62. STORAGE RESTRICTIONS

a. The Permittee shall not store hazardous wastes restricted from land disposal under 35 IAC 728, Subpart C unless such wastes are stored only in containers or tanks, and are stored solely for the purpose of the accumulation of such quantities as is necessary to facilitate proper recovery, treatment, or disposal, and: (1) each container is clearly marked to identify its contents and the date each period of accumulation begins; (2) each tank is clearly marked to identify its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, as required by 35 IAC 728.150.

b. The Permittee must comply with the operating record requirements of 35 IAC 724.173.

63. NEW DETERMINATIONS OF PROHIBITED WASTES

Wastes which are prohibited from land disposal under 35 IAC 728, Subpart C, or for which treatment standards have been established under 35 IAC 728, Subpart D, subsequent to the date of issuance of this permit, shall be subject to the conditions number 59 through 62 herein.

# SECTION IV: CORRECTIVE ACTION ACTIVITIES

## A. INTRODUCTION AND CORRRECTIVE ACTION REQUIREMENTS

1. In accordance with Section 3004(u) and (v) of RCRA and 35 IAC 724.201, the Permittee shall institute such corrective action as necessary to protect human health and the environment from all releases of hazardous wastes or hazardous constituents from any solid waste management units (SWMUs) and any areas of concern (AOCs) at its facility in Lemont, Illinois. This section contains the conditions, which must be followed to ensure these requirements are met.

2. The original RCRA Hazardous Waste Management permit for this facility was issued by the Illinois EPA on September 30, 1997; Section V of that permit contained corrective action requirements. The Permittee has completed a substantial amount of investigation and, as necessary, remediation of the SWMUs of concern at the facility. This permit identifies the activities the Permittee must still carry out to ensure the requirements of 35 IAC 724.201 are fully carried out at this facility.

3. The Permittee must provide corrective action, as appropriate, for: (1) any newly discovered SWMUs and AOCs; and/or (2) future releases for existing SWMUs at the facility.

4. The requirements of 35 IAC Parts 620 and 742 must be met, when applicable, in establishing remediation objectives for corrective action. In addition, all corrective action efforts must meet the requirements of 35 IAC 724.201.

5. Unless there is a desire to modify specific requirements set forth herein, the information submitted to the Illinois EPA regarding the corrective action requirements is not a request to modify this permit nor subject to the requirements of 35 IAC 703, Subpart G.

    a. A completed Illinois EPA RCRA Corrective Action Certification Form, LPC 632 (available on the Illinois EPA's website) must accompany all corrective action-related information submitted to the Illinois EPA.

    b. To allow for proper review of all corrective action-related information submitted to the Illinois EPA, the original and two copies of the information must be submitted.

6. All Illinois EPA final decisions regarding RCRA corrective action at this facility are subject to the appeal provisions of the Illinois Environmental Protection Act.

7. The Permittee must incorporate, as necessary, climate change resilience and adaptation considerations into the hazardous waste cleanups required at this facility.

B. CORRECTIVE ACTION EFFORTS COMPLETED TO DATE

1. A RCRA Hazardous Waste Management permit was issued for the Argonne National Laboratory facility on September 30, 1997 (effective November 4, 1997) (Log No. B-75). This permit required the facility to conduct corrective action at 54 solid waste management units at the facility.

2. The Permittee has completed a substantial amount of corrective action efforts to date at this facility.

   a. A list of the 54 SWMUs identified as needing corrective action in the original permit, as well as the current status of corrective action efforts at each unit (as of November 2024) is provided in Attachment C-1. This list also includes: (1) three additional SWMUs/AOCs identified since the original permit was issued; and (2) four former hazardous waste management units that are being or have been closed in accordance with a closure plan approved by Illinois EPA. As such, a total of 61 units are listed in Attachment C-1.

   b. A chronological summary of corrective action efforts completed at this facility, based upon the date that Illinois EPA approved plans/reports associated with these efforts (as of November 2024), is contained in Attachment C-2. It must be noted that the Permittee began corrective action at several of the SWMUs of concern at the facility before a RCRA Hazardous Waste Management permit was issued for this facility in September 1997. As the letters identified in Attachment C-2 approve the plans/reports submitted to date, their contents are incorporated herein.

C. CORRECTIVE ACTION EFFORTS WHICH MUST STILL BE COMPLETED

1. As indicated in Attachment C-1, 12 SWMUs have yet to obtain no further action (NFA) status. A brief description of the units, the corrective action efforts done thus far and what is currently being done at each unit is as follows:

   a. East Northeast (ENE) 319 Landfill (SWMU 19).

      i. This unit is a 3-acre landfill where construction and demolition debris were disposed.

      ii. A soil cover has been placed over this unit. Completion of this corrective measure was accepted in an Illinois EPA letter dated

December 4, 2002; a minimum of 15 years of post-closure care must be provided after this date. Post-closure care including groundwater monitoring and inspection/ maintenance of the final cover is being carried out in accordance with the Illinois EPA letters dated April 3, 2003, and November 10, 2009 (Log No. B-75-CA-118) and subsequent letters.

b. 800 Area Landfill (SWMU 4), 800 Area French Drain (SWMU 20), and 800 Area Landfill Leachate Seep (AOC-C).

i. The 800 Area Landfill is approximately 22-acres in size and received waste from operation of the laboratory. The 800 Area French Drain and the 800 Area Landfill Leachate Seep are located within the landfill and thus the corrective action efforts for the landfill also addresses these units.

ii. On March 25, 2003, Illinois EPA approved a report documenting construction of a final cover of compacted clay and vegetative cover over these units. The March 25, 2003, Illinois EPA letter also set forth requirements for post-closure of these units (including maintenance of the final cover); the post-closure period for this unit will end no sooner than September 13, 2014. A revised groundwater monitoring program for these units was approved by Illinois EPA on November 10, 2009 (Log No. B-75-CA-118 with details contained in Attachment B of the letter) and subsequent letters.

c. 318 Area Compressed Gas Cylinder Disposal Area (SWMU 1); 319 Area Landfill (SWMU 2); 319 Area French Drain (SWMU 18).

i. The 319 Area landfill is approximately 2.5 acres in size. The 318 Area Compressed Gas Cylinder Disposal Area is approximately 35 feet x 140 feet in size and located immediately west of the landfill. The Area 319 French Drain is located within the landfill itself. As a result of this, these units have, in general, been addressed as one unit. In addition, it must be noted that these units are all located immediately east of the 317 Area units mentioned.

ii. A 12-inch reinforced concrete cover was placed over the Compressed Gas Cylinder Disposal Area as an interim measure. An upgraded final cover system was placed over the landfill and the associated French drain. This cover was also extended to cover the Compressed Gas Cylinder Disposal Area. The upgraded final cover included a geosynthetic clay layer, a linear low density polyethylene layer and 2.5 feet of compacted clay.

iii. The 15-year post-closure care of the closed landfill began on October 4, 2000. Post-closure care of this landfill, excluding groundwater monitoring (which is discussed in Item 9 below), is to be carried out in accordance with Illinois EPA's October 4, 2000, letter.

iv. A 300-foot slurry wall was installed along the southern (downgradient) boundary of the landfill. This wall was approximately 30-feet deep and sealed off a subsurface sand lens.

v. A groundwater extraction system consisting of eight wells has been installed and is in operation along the southern boundary of the landfill. These wells are located just upgradient of the slurry wall mentioned above and collect groundwater from the sand lens sealed off by that wall.

vi. An 80-foot leachate collection trench was installed and is in operation near the southern boundary of the landfill; this trench has recovery wells at each end.

vii. Impacted soil along a drainage ditch associated with the landfill has been remediated.

viii. A phytoremediation system employing trees was installed in 1997 south of the landfill to provide hydraulic control of the groundwater in this area. The Illinois EPA approved this effort in March 1999 and May 2003. In April 2017, phytoremediation system maintenance was discontinued due to an observed and documented decline in the trees' abilities to effectively contain the contaminated groundwater plume.

ix. Groundwater monitoring programs have been established for the 319 Area Landfill and the combined 317/319 Areas groundwater plume (note that the 317 Area and 319 Area are adjacent to each other). Illinois EPA most recently approved the groundwater monitoring programs on November 6, 2024 (Log No B-75R-CA-12 with details contained in Attachment A to the letter).

d. 317 Area French Drain (SWMU 11); 317 Area East Vaults Footing Drain (SWMU 13); Groundwater Seeps South of the 317/319/ENE Area (AOC-G

i. The 317 French Drain is located immediately north of the East Vaults Footing Drain. The Groundwater Seeps are located south

(downgradient) of these units. As a result of their close proximity, these units have, in general, been addressed as a group. The overall area of these units and associated contamination is approximately 3.7 acres in size. It must be noted that these units are located directly west of the 319 Area units.

ii. The soil present in two portions of the northern part of this area was treated for VOC contamination.

iii. A groundwater extraction system consisting of 15 extraction wells has been installed and is in operation along the southern portion of this area.

iv. A phytoremediation system employing trees was installed in 1997 to provide hydraulic control of the groundwater in the area. The Illinois EPA approved this effort in March 1999 and May 2003. In April 2017, phytoremediation system maintenance was discontinued due to an observed and documented decline in the trees' abilities to effectively contain the contaminated groundwater plume.

v. The 317 Area East Vaults Footing Drain (SWMU 13) consists of footing drains for the North Vault, Deep Vault and Map Tube Vault in this area. The Deep Vault and the Map Tube Vault have been demolished in place. The footing drains associated with these vaults are still intact and transport any collected water to a manhole (referred to as Manhole 2) and pumped to Argonne's sewer system. The lines which previously allowed water to flow from Manhole 2 and eventually be discharged to the environment have been grouted or plugged.

vi. A groundwater monitoring program has been established for this area and also for the combined 317/319 groundwater plume in the southern portion of these two areas (note that the 317 Area and 319 Area are adjacent to each other). In addition, a groundwater management zone has also been established for the overall 317/318/319 area. Illinois EPA most recently approved these groundwater monitoring programs on November 6, 2024 (Log No. B-75R-CA-12 with details contained in Attachment A to the letter).

e. Lead in Soil Near Water Towers (AOC-J).

i. This SWMU includes the area around seven water tanks (Tanks 42, 564, 565, 566, 568, 584, and 585). Soil around all these tanks except Tank 564 is contaminated with low levels of lead.

ii. Illinois EPA approved a plan to conduct further assessment at these six areas on January 18, 2008.

iii. A report documenting the results of the approved assessment for the soil around Water Towers 42, 565, 566, 568, 584 and 585 was submitted to Illinois EPA on February 4, 2010.

2. The requirements of 35 IAC, Subtitle G: Waste Disposal and 35 IAC Part 620 must be met in completing corrective action at the listed units. Additional plans and reports must be submitted to the Illinois EPA for review and approval, as necessary, to ensure these requirements are met.

3. Once all the required corrected actions have been completed at a given unit, the Permittee must submit to the Illinois EPA a Corrective Action Completion Report. If this report demonstrates that the corrective action completed at a given unit meets the regulatory requirements set forth in Condition IV.C.2 herein, then the Illinois EPA will issue a no further action determination (NFA) for that unit.

4. Upon completion of post-closure care of the non-hazardous waste landfill units at the facility and overall corrective action requirements, and prior to termination of the RCRA permit for this facility, the Permittee shall submit a proposed Environmental Covenant (EC) for the future land use and management of the property where the landfill units are located. Until such time that an EC is established for the facility, the conditions in the Land Use Control Memorandum of Agreement (LUCMOA) established on August 22, 2003 as described in Section IV.D below must be met.

## D. COMPLIANCE WITH THE LAND USE CONTROL MEMORANDUM OF AGREEMENT

The Permittee and the Illinois EPA entered into a LUCMOA on August 22, 2003. This LUCMOA was established in accordance with 35 IAC 742.1012 and places certain restrictions and requirements on eight solid waste management units at this facility. The units addressed in this LUCMOA and the restrictions which must be met, as set forth in this agreement are as follows:

| **Unit No. and Name** | **Restrictions in LUCMOA for Unit** |
|---|---|
| SWMU 2 - 319 Area Landfill | Maintain final cover.<br>Restrict exposure to waste remaining in unit.<br>Monitor/remediate groundwater. |
| SWMU 4 - 800 Area Landfill | Maintain final cover.<br>Restrict exposure to waste remaining in unit.<br>Monitor groundwater. |

| | |
|---|---|
| SWMU 7 - Freund Ponds | Restrict future use of unit to commercial or industrial activities (i.e., prohibit use of area for residential purposes). |
| SWMU 19 - ENE 319 Landfill | Maintain final cover.<br>Restrict exposure to waste remaining in unit.<br>Monitor/remediate groundwater. |
| SWMU 744 - Former Debris Disposal Site in the 800 Area (formerly known as the Newly Identified Solid Waste Landfill) | Restrict groundwater usage at unit. Restrict future use of unit to commercial or industrial activities (i.e., prohibit use of area for residential purposes). |
| AOC F - Contaminated Soil Near Building 827 | Restrict future use of unit to commercial or industrial activities (i.e., prohibit use of area for residential purposes). |
| AOC I - Contaminated Creek Sediment Near the ENE Landfill | Restrict future use of unit to commercial or industrial activities (i.e., prohibit use of area for residential purposes). |
| SWMU 747 - Building 310 | Maintain asphalt cap. Restrict future use of unit to commercial or industrial activities (i.e., prohibit use of area for residential purposes). |

1. The LUCMOA requires the Permittee to conduct an annual inspection of the units listed above to ensure that the restrictions for each unit as set forth in the LUCMOA remain in place and are adequate.

2. At least 30 days prior to conducting the required inspection, the Permittee shall notify the Illinois EPA of the date that the required annual inspection is to take place.

3. Within 30 days of the required annual inspection, the Permittee shall notify the Illinois EPA of any deficiencies noted during the inspection.

4. The Permittee shall take appropriate action in a timely manner to address any deficiencies noted during the annual inspection. The Illinois EPA shall be notified of the action taken.

5. The annual report/certification required by Section IV to document compliance with the LUCMOA for each calendar year (January 1 to December 31) must be submitted to Illinois EPA by the following February 1.

E. INTERIM MEASURES/STABILIZATION

The Permittee must carry out interim measures/stabilization activities to prevent or mitigate the migration of a release of hazardous substances into the environment, and to provide adequate protection to human health and the environment.

1. At any time during the corrective action process, the Permittee may initiate interim measures for the purpose of preventing continuing releases and/or mitigating the results of releases and/or mitigating the migration of hazardous wastes or hazardous constituents. It shall not be necessary to conduct all phases of a RCRA Facility Investigation (RFI) or a Corrective Measures Study (CMS) prior to implementing an interim measure if the Illinois EPA and the Permittee agree that a problem can be corrected, or a release cleaned up, without additional study and/or without a formal corrective measures study.

2. Prior to implementing any interim measures, the Permittee must submit detailed information regarding the proposed interim measure to the Illinois EPA for approval. This information shall include, at a minimum:

   a. Objectives of the interim measures: how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long-term solution at the facility;

   b. Design, construction, and maintenance requirements;

   c. Schedules for design and construction; and

   d. Schedules for progress reports.

3. If the Illinois EPA determines that a release cannot be addressed without additional study and/or a formal CMS, then the Illinois EPA will notify the Permittee that these must be performed. Any proposal made under this provision or any other activity resulting from such proposal, including the invocation of dispute resolution, shall not affect the schedule for implementation of the other corrective action efforts being carried out at the facility or of any other portion of the permit.

4. If the Illinois EPA determines that interim measures are necessary to protect human health or the environment, the Permittee will be notified by way of a permit modification.

5. Consistent with the annual reporting requirements of this permit, the Permittee shall submit a report assessing the effectiveness of any interim measures being carried out in accordance with this permit. Based on a review of this report, the Illinois EPA reserves the right to require additional interim measures be carried out if it is determined that the interim measure is unable to protect human health and the environment. This annual report should at a minimum contain the following information regarding each system which comprises the interim measure:

a. A discussion of each system's operation during the year. This discussion should address: (1) actual daily, weekly and monthly flow rates through each system; (2) any periods when the systems were not operating; and (3) deviations from the design operating procedures for the system (such as problems with drawing an adequate vacuum, downtime due to equipment failure, etc.);

b. Results of all monitoring efforts carried out during the year;

c. A discussion of the effectiveness of the system supported as appropriate with data and calculations;

d. Recommended changes, if any, which should be made to the system to improve its effectiveness.

6. The Illinois EPA reserves the right to require the Permittee to remove or treat soil if the Illinois EPA determines that contaminants are present in the soils at levels such that the remediation system is unable to protect human health and the environment. Remediation objectives for corrective measures will be established by the Illinois EPA at a later date

7. The interim measure approved for a SWMU may not be sufficient to meet the final requirements for corrective action for remediation for the unit. The adequacy of the interim measure will be addressed upon Illinois EPA review and approval of the RFI Reports and the Corrective Measures Plan, as required by this permit. As such, the Permittee may be required to expand this interim measure as necessary to address existing or additional contamination detected through RFI investigations.

8. The Illinois EPA reserves the right to require revision and modification of the interim measures implemented by the facility should it be determined by the Illinois EPA through information obtained through facility monitoring that the interim measures approved by this portion of the permit are ineffective in protecting human health and the environment.

F. REQUIREMENTS FOR ADDRESSING NEWLY IDENTIFIED SWMU(s) AND AOCs

1. The Permittee shall notify the Illinois EPA in writing of any newly-identified SWMU(s) discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, no later than 30 calendar days after discovery. The notification shall provide the following information, as available:

a. The location of the newly-identified SWMU in relation to other SWMUs on a scaled map or drawing;

b. The type and past and present function of the unit;

c. The general dimensions, capacities, and structural description of the unit (available drawings and specifications provided);

d. The period during which the unit was operated;

e. The specifics on all materials, including but not limited to, wastes and hazardous constituents, that have been or are being managed at the SWMU, to the extent available; and

f. The results of any relevant available sampling and analysis which may aid in determining whether releases of hazardous wastes or hazardous constituents have occurred or are occurring from the unit.

2. If the submitted information demonstrates a potential for a release of hazardous waste or hazardous waste constituents from the newly identified SWMU/AOC, the Illinois EPA may request in writing, that the Permittee prepare a SWMU Assessment Plan and a proposed schedule of implementation and completion of the Plan for any additional SWMU/AOC(s) discovered subsequent to the issuance of this Permit. This SWMU Assessment plan must also propose investigations, including field investigations if necessary, to determine the release potential to specific environmental media for the newly-identified SWMU/AOC. The SWMU Assessment Plan must demonstrate that the sampling and analysis program, if applicable, is capable of yielding representative samples and must include parameters sufficient to identify migration of hazardous waste and hazardous constituents from the newly-discovered SWMU/AOC(s) to the environment. Additional guidance regarding the contents of this plan will be provided along with the written request for submittal of a SWMU Assessment Plan.

3. Within 60 days after receipt of the Illinois EPA request for a SWMU Assessment Plan, the Permittee shall submit a SWMU Assessment Plan to the Illinois EPA for review and approval.

4. After the Permittee submits the SWMU Assessment Plan, the Illinois EPA shall either approve, approve with conditions or disapprove the Plan in writing. If the plan is approved, the Permittee shall begin to implement the Plan within 45 days of receiving such written notification. If the Plan is disapproved, the Illinois EPA shall notify the Permittee in writing of the Plan's deficiencies and specify a due date for submittal of a revised plan.

5. The Permittee shall submit a report documenting the results of the approved SWMU Assessment Plan to the Illinois EPA in accordance with the schedule in the approved SWMU Assessment Plan. The SWMU Assessment Report shall

describe all results obtained from the implementation of the approved SWMU Assessment Plan.

6. Additional investigation plans and reports must be submitted to and approved by the Illinois EPA, as necessary, to ensure the nature and extent of contamination at the SWMU/AOC is adequately characterized. Once the contamination is characterized, the Permittee shall develop remedial objectives for the SMWU/AOC in accordance with 35 IAC Parts 742 and 620; such objectives are subject to the Illinois EPA review and approval

7. The Permittee must implement a Corrective Measures Program, as necessary, to properly address any contamination encountered during the assessment. Guidance regarding the implementation of this program will be provided at the time the Illinois EPA notifies the Permittee of the need for such a program.

8. Overall efforts for these activities must meet the requirements of 35 IAC 724.201.

G. FUTURE RELEASES FROM SWMUs

There exists a potential that a release may occur in the future from SWMUs identified in the RFA which did not require any corrective action at the time that the RFA or RFI was completed. If the Permittee discovers that a release has occurred from such a SWMU in the future, then the Illinois EPA must be notified of this release within 30 days after its discovery following the procedures set forth in Section IV, Condition F.1 above. Additional investigation and, as necessary, corrective measures efforts at this SWMU must be carried out in accordance with the procedure set forth in Condition IV.G herein. The results of all corrective action efforts required by this condition must meet the requirements of 35 IAC 724.201.

H. REPORTING

Reports must be submitted to the Illinois EPA documenting the corrective actions conducted each quarter of the calendar year. Of special concern are the activities and results of all investigative, monitoring, inspection and remediation efforts carried out during the reporting period. These reports must be submitted to the Illinois EPA in accordance with the following schedule.

| Months Addressed in Report | Report to be Submitted by the Following |
|---|---|
| January - March | May 15 |
| April - June | August 15 |
| July - September | November 15 |
| October - December | February 15 |

# SECTION V: SPECIAL PERMIT CONDITIONS

## A. REPORTING REQUIREMENTS

1. Any incident which requires implementation of the contingency plan shall be recorded in an incident log which is maintained by the Argonne Emergency Management Officer. The incident log must include a copy of each incident report. In addition to the information identified in the approved application, the incident report must include, at a minimum, the waste management units involved in the incident, the cause of the release, measures taken to correct the situation and prevent a reoccurrence.

## B. MISCELLANEOUS

1. Non-RCRA wastes stored in an HWMU unit shall be compatible with RCRA wastes stored in that unit and, if these non-RCRA wastes are liquids, must be considered part of the volume limit for the secondary containment for the HWMU.

2. The Permittee is authorized to operate the Building 206 Alkali Metal Passivation Booth (AMPB) and Building 308 AMPB intermittently without triggering closure during periods of inactivity. A general inspection, which includes actual operation of the AMPBs and the air pollution control system, will be conducted before each treatment cycle to assure that each unit is functioning properly. The AMPBs are to be inspected weekly while in use.

3. The Permittee is required to manage mixed wastes in a manner consistent with the Final Site Treatment Plan developed under the Federal Facility Compliance Act (FFCA). For the purpose of compliance with land disposal restrictions under 35 IAC 728, residuals or by-products generated from these treatment processes are deemed acceptable for land disposal as long as such residuals or waste streams do not contain free liquids as defined in 35 IAC 724.414 and do not possess hazardous waste characteristics under Subpart C of 35 IAC Part 721.

4. The Permittee is authorized to treat radiologically contaminated surfaces for reuse and recycling, which is exempt from the RCRA permitting requirements under 35 IAC 721.106.

5. The Permittee **shall not** perform treatment of listed hazardous or listed mixed waste in permitted treatment units.

## C. CONTINGENCY PLAN

1. Based on air modeling results contained in the approved permit application, the types and volumes of waste permitted for storage at the Argonne facility will not

have an impact off-site if spills occur. Therefore, the local response entities are not required to be notified because of spills, unless it is found that the actual release may have an off-site impact. Then the Permittee shall contact the local emergency response entities as soon as possible after implementation of the contingency plan:

a. The entities which must be notified include:

1. DuPage County Sheriff's Department

2. DuPage County Office of Emergency Management

3. Local Mutual Aid Box Alarm System (MABAS) Fire Department

4. Illinois Emergency Management Agency Local Coordinator

5. Illinois Environmental Protection Agency, Emergency Response Unit

6. National Response Center

7. Illinois EPA Field Office (Des Plaines Region)

b. The information which must be initially relayed to each entity includes:

1. The type of emergency (release, fire or explosion);

2. The type of wastes involved in the emergency, and the approximate quantity involved;

3. An initial assessment of the conditions at the site and whether outside help is needed to properly respond to the situation.

c. If the Permittee is able to properly respond to the emergency without any aid from the entities identified in Condition V.2.a, the Permittee shall notify each of these entities that the emergency situation no longer exists once all required emergency response and cleanup activities have been completed.

2. The Permittee shall provide applicable local emergency entities with changes/modifications to the contingency plan and offer to meet and review the plan on an annual basis. Copies of the meeting notes and list of attendees shall be placed in the facility's operating record and be available to the Illinois EPA for review upon verbal or written request.

D. REQUIRED FORMS

1. The permittee shall provide a completed Illinois EPA permit application form LPC-PA23 with all additional information, permit modifications, and permit applications that are submitted to the Illinois EPA Bureau of Land.

2. The permittee shall submit current 39(i) certifications and supporting documentation with all applications for a permit

E. STANDARD CONDITIONS

1. This Condition supersedes Standard Conditions III.55 through III.58. "Standard Conditions III.55 through III.58 are not applicable to this Permit."

F. COPIES OF CONTENGENCY PLAN

1. The Permittee shall maintain a copy of their contingency plan including all revisions to the plan must be maintained at the site and include the following information required by 40 CFR Part 262.262, Subpart M:

   a. The large quantity generator must submit a copy of the contingency plan and all revisions to all local emergency responders (*i.e.,* police departments, fire departments, hospitals and State and local emergency response teams that may be called upon to provide emergency services). This document may also be submitted to the Local Emergency Planning Committee, as appropriate.

   b. A large quantity generator that first becomes subject to these provisions after May 30, 2017, or a large quantity generator that is otherwise amending its contingency plan must at that time submit a quick reference guide of the contingency plan to the local emergency responders identified at paragraph (a) of this section or, as appropriate, the Local Emergency Planning Committee. The quick reference guide must include the following elements:

      i. The types/names of hazardous wastes in layman's terms and the associated hazard associated with each hazardous waste present at any one time (*e.g.,* toxic paint wastes, spent ignitable solvent, corrosive acid);

      ii. The estimated maximum amount of each hazardous waste that may be present at any one time;

      iii. The identification of any hazardous wastes where exposure would require unique or special treatment by medical or hospital staff;

iv. A map of the facility showing where hazardous wastes are generated, accumulated and treated and routes for accessing these wastes;

v. A street map of the facility in relation to surrounding businesses, schools and residential areas to understand how best to get to the facility and also evacuate citizens and workers;

vi. The locations of water supply (*e.g.*, fire hydrant and its flow rate);

vii. The identification of on-site notification systems (*e.g.*, a fire alarm that rings off site, smoke alarms); and

viii. The name of the emergency coordinator(s) and seven 24 hour emergency telephone number(s) or, in the case of a facility where an emergency coordinator is continuously on duty, the emergency telephone number for the emergency coordinator.

c. Generators must update, if necessary, their quick reference guides, whenever the contingency plan is amended and submit these documents to the local emergency responders identified at paragraph (a) of this section or, as appropriate, the Local Emergency Planning Committee.

## G. COORDINATION AGREEMENT

1. Argonne is a member of the Mutual Aid Box Alarm System (MABAS), which is an agreement with external fire departments to provide emergency response aid to Argonne upon request. Argonne Retains a written agreement of participation and has included a copy as Appendix G-5 of the of the approved permit application.

2. The three members of MABAS Division 10 closest to Argonne are called on as secondary respondents if an emergency is deemed beyond the on-site fire departments capabilities. If, in unusual circumstances, these backup response units are not sufficient, the MABAS agreement allows calling upon any of the fire departments belonging to Division 10. The list of MABAS Division 10 members can be found in Appendix G-5 of the of the approved permit application.

3. As backup units, fire departments do not need to have extensive touring or briefing of the site because it is understood that, if responding to hazardous waste emergencies, they would be working under the guidance of qualified Argonne Fire Department personnel. The written MABAS agreement is included in Appendix G-5 of the of the approved permit application.

4. A letter of understanding between Argonne Security and DuPage County Sheriff's Department is included in Appendix G-5 of the of the approved permit application. No letter of understanding is needed from the Illinois State Police Department to rely on their assistance. The security personnel can contact either DuPage County Sheriff's Department, which is the primary respondent in the event of an emergency, or the Illinois State Police Department, if the Sheriff's Department is unable to respond.

H. EMERGENCY MEDICAL TREATMENT AND LABOR ACT

1. The hospitals Argonne routinely coordinates with are under an umbrella network to receive patients in accordance with Emergency Medical Treatment and Labor Act (EMTALA) adherence by Argonne and local hospitals guides coordination efforts, in lieu of individual memorandum of agreements.

2. Argonne will provide training for medical and radiation emergencies and plan to offer it to local emergency room/Fire Department associates

3. A copy of training plan shall be provided to local police and fire departments, hospitals, and local emergency response teams which may be called upon to provide emergency services.

4. Argonne shall maintain an environmental service under contract that will conduct emergency spill cleanup and remediation on short notice.

# SECTION VI: REPORTING AND NOTIFICATION REQUIREMENTS

The reporting and notification requirements of each section of the RCRA Hazardous Waste Management permit are summarized below. This summary is provided to highlight the various reporting and notification requirements of this permit.

| Condition | Submittal | Due Date |
|---|---|---|
| SECTION I: | CONTAINER STORAGE | |
| C(1) through C(8) | Notify Illinois EPA of intent to change primary waste category. | 30 days in advance before change is to be made. |
| Q(1) | Notify Illinois EPA of intent to close container storage area(s). | At least 45 days prior to |
| Q(1) | Submit sampling and analysis plan. | At least 45 days prior to commencement of closure. |
| Q(3) | Submit certification for closure of container storage area(s). | No later than 60 days after closure of container storage area(s) is complete. |
| SECTION II: | TREATMENT UNITS | |
| F(1)(b) | Notify Illinois EPA of spills/releases requiring notification to local response entities. | 24 hours after spill/release occurs. |
| F(2) | Submit certification of major repairs. | Within seven days from returning tank system to service. |
| H(1) | Notify Illinois EPA of intent to close treatment unit(s). | At least 45 days prior to commencement of closure. |
| H(1) | Submit sampling and analysis plan. | At least 45 days prior to commencement of closure. |
| H(3) | Submit certification of closure of treatment system(s). complete. | 60 days after closure of treatment system(s) is |

| Condition | Submittal | Due Date |
|---|---|---|
| SECTION III: | STANDARD CONDITIONS | |
| 6 | Complete application for new permit. | At least 180 days prior to permit expiration. |
| 11 | Information requested by Illinois EPA and copies of records required to be kept by this permit. | Reasonable time. |
| 14 | Notify Illinois EPA of planned physical alterations or additions. | As soon as possible. |
| 16 | Notify Illinois EPA of changes which may result in permit noncompliance. | In advance of such activities. |
| 17 | Application for permit modification indicating permit is to be transferred. | No later than 90 days prior to transfer. |
| 19 | Submission of any information required in a compliance schedule. | Within 14 days after each schedule date. |
| 20 | Report to Illinois EPA any non-compliance which may endanger health or environment. | |
| | telephone | Within 24 hours after discovery. |
| | in writing | Within 5 days after discovery. |
| 21 | Report all other instances of noncompliance. | March 1 of each year along with Annual Report. |
| 42 | Implementation of Contingency Plan. | |
| | Notify appropriate state and local agencies with designated response roles. | Within 15 days of any incident that requires implementation of the contingency plan. |

| Condition | Submittal | Due Date |
|---|---|---|
| 42 | Notify appropriate local officials. | Immediately, if emergency coordinator's assessment indicates evacuation of local area is advisable. |
| | Notify the Illinois EPA (217/782-3637) or Illinois EMA (217/782-7860) if emergency coordinator determines there has been a release, fire or explosion which could threaten human health or the environment, outside the facility. | Immediately after determination made. |
| | Notify Illinois EPA and appropriate state and local authorities, in writing that facility is in compliance with 35 IAC 724.156(i). | Prior to resuming operation in affected areas. |
| | Report to Illinois EPA details regarding incident which required implementation of contingency plan. | Within 15 days after event. |
| 48 | Submit annual report required by 35 IAC 724.175. | March 1 of each year. |
| 50 | Application for permit modification amending closure plan. | As necessary. |
| 51 | Notify Illinois EPA that expecting to close. | At least 60 days prior to beginning closure. |
| 54 | Closure Certification | 60 days after completion of closure. |

| Condition | Submittal | Due Date |
|---|---|---|
| SECTION IV: | CORRECTIVE ACTION ACTIVITIES | |
| C.1.e | Assessment report for AOC-J | As necessary |
| C.4 | UEC to be established for Landfill Units | Upon on completion of corrective action and prior to termination of the permit |
| D.2 | Notify Illinois EPA of annual inspections to be conducted as required by the LUCMOA | 30 days prior to date of inspection |
| D.3 | Notification of Illinois EPA of any deficiencies observed during the annual inspection | 30 days after inspection |
| D.4 | Take appropriate corrective action in response to observed deficiency and notify Illinois EPA of action taken | Timely manner |
| D.5 | Submit annual reports required by Land Use Control Memorandum of Agreement | February 1 of the following calendar year |
| F.1 | Notification of newly identified SWMU | 30 days after discovery |
| F.2 | Submit workplan for investigating newly identified SWMU | In accordance with agreed schedule |
| G. | Notification of release from existing SWMU | 30 days after discovery |

| | | Months Addressed In Report | Report to be submitted by the Following |
|---|---|---|---|
| H. | Submission of reports documenting corrective action efforts completed each quarter | January-March<br>April-June<br>July-September<br>October-December | May 15<br>August 15<br>November 15<br>February 15 |

| Condition | Submittal | Due Date |
|---|---|---|
| SECTION V: | SPECIAL PERMIT CONDITIONS | |
| FACILITY CONTINGENCY PLAN | | |
| C.1 | Notify Illinois EPA, Bureau of Land Field Office (Des Plaines) when implementing Contingency Plan. | As soon as possible after implementation. |
| C.1 | Notify emergency response entities. | As soon as possible after implementation of Contingency Plan if a release has an off-site impact. |

# SECTION VII: AIR EMISSION STANDARDS FOR CONTAINERS

Level 1 and/or Level 2 Containers

1. Whenever hazardous waste is in a container subject to controls, the Permittee shall install all covers and closure devices for the container and secure and maintain each closure device in closed position except:

    a. Opening of a closure device or cover for a container is allowed for the purposes of adding/removing hazardous waste or material as follows:

        i. In the case where the container is filled to the intended final level in one continuous operation, the Permittee shall promptly secure the closure devices in the closed position and install the covers upon conclusion of the filling operation.

        ii. In the case where discrete quantities or batches of material intermittently are added to the container over a period of time, the Permittee shall promptly secure the closure devices in the closed position and install covers upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

        iii. An empty container, as defined in 35 IAC 721.107(b), may be open to the atmosphere at any time.

        iv. In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in 35 IAC 721.107(b), the Permittee shall promptly secure the closure devices in the closed position and install covers upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

    b. Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste.

c. Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications.

d. Opening of a safety device is allowed at any time conditions require doing so to avoid an unsafe condition.

2. The Permittee shall inspect the containers and their covers and closure devices as follows:

a. In the case when a hazardous waste already is in the container at the time the Permittee first accepts possession of the container at the facility and the container in not emptied within 24 hours after the container is accepted at the facility, the Permittee shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection must be conducted on or before the date on which the container is accepted at the facility.

b. In the case when a container used for managing hazardous waste remains at the facility for a period of one year or more, the Permittee shall visually inspect the container and its cover and closure device initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position.

c. When a defect is detected for the container, cover, or closure devices, the Permittee shall make first efforts at repair of the defect no later than 24 hours after detection and repair must be completed as soon as possible but no later than five calendar days after detection. If repair cannot be completed with five calendar days, then the hazardous waste must be removed from the container and the container must not be used to manage hazardous waste until the defect is repaired.

3. The above requirements do not apply to a waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act (42 USC 2011 et seq.) and the Nuclear Waste Policy Act. (35 IAC 724.290 (b)(6))

# ATTACHMENT A

# WASTE CODES AND DESCRIPTION OF WASTES

STATE ID NO. 0438020002

IL3890008946

# ATTACHMENT A
# WASTE CODES AND DESCRIPTION OF WASTE

The table below identifies the USEPA Hazardous Waste Numbers of the hazardous wastes which may be stored in areas referenced in the approved permit application at DOE's Argonne National Laboratory facility and provides a description of the waste associated with each number.

| USEPA Hazardous Waste Number | Hazardous Waste |
|---|---|
| D001 | Waste exhibiting the characteristic of ignitability. A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties: 1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, and has a flash point less than 60°C (140°F), as determined by Pensky-Martens Closed Cup Tester, using the test method specified in the American Society of Testing Materials (ASTM) Standard D-93-79 or D-93-80, or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 or as determined by an equivalent test method approved by the Board. 2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard. 3) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Board. 4) It is an oxidizer as defined in 49 CFR 173.127. |
| D002 | Waste exhibiting the characteristic of corrosivity. A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties: 1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either an EPA test method or an equivalent test method (35 IAC 720.121). The EPA test method for pH is specified as Method 5.2 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods". 2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" or an equivalent test method (35 IAC 720.121). |
| D003 | A waste exhibiting the characteristic of reactivity. A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties: |

1) It is normally unstable and readily undergoes violent change without detonating.

2) It reacts violently with water.

3) It forms potentially explosive mixtures with water.

4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a threat to human health and the environment.

6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

8) It is a forbidden explosive as defined in 49 CFR 173.5, or a Class A explosive as defined in 49 CFR 73.53, or a Class B explosive as defined in 49 CFR 173.88, incorporated by reference in 35 IAC 720.111.

| EPA Hazardous Waste Number | Compound | CAS Number | Regulatory Level mg/l |
|---|---|---|---|
| D004 | Arsenic | 7440-38-2 | 5.0 |
| D005 | Barium | 7440-39-3 | 100.0 |
| D006 | Cadmium | 7440-43-9 | 1.0 |
| D007 | Chromium | 7440-47-3 | 5.0 |
| D008 | Lead | 7439-92-1 | 5.0 |
| D009 | Mercury | 7439-97-6 | 0.2 |
| D010 | Selenium | 7782-49-2 | 1.0 |
| D011 | Silver | 7440-22-4 | 5.0 |
| D012 | Endrin | 72-20-8 | 0.02 |
| D013 | Lindane | 58-89-9 | 0.4 |
| D014 | Methoxychlor | 72-43-5 | 10.0 |
| D015 | Toxaphene | 8001-35-2 | 0.5 |
| D016 | 2,4,-D | 94-75-7 | 10.0 |
| D017 | 2,4,5-TP (Silvex) | 93-72-1 | 1.0 |
| D018 | Benzene | 71-43-2 | 0.5 |
| D019 | Carbon tetrachloride | 56-23-5 | 0.5 |
| D020 | Chlordane | 57-74-9 | 0.03 |
| D021 | Chlorobenzene | 108-90-7 | 100.0 |
| D022 | Chloroform | 67-66-3 | 6.0 |
| D023 | o-Cresol | 95-48-7 | 200.0 |
| D024 | m-Cresol | 108-39-4 | 200.0 |
| D025 | p-Cresol | 106-44-5 | 200.0 |
| D026 | Cresol | | 200.0 |
| D027 | 1,4-Dichlorobenzene | 106-46-7 | 7.5 |
| D028 | 1,2-Dichloroethane | 107-06-2 | 0.5 |
| D029 | 1,1-Dichloroethylene | 75-35-4 | 0.7 |
| D030 | 2,4-Dinitrotoluene | 121-14-2 | 0.13 |
| D031 | Heptachlor (and its Epoxide) | 76-44-8 | 0.008 |
| D032 | Hexachlorobenzene | 118-74-1 | 0.13 |
| D033 | Hexachloro-1,3-butadiene | 87-68-3 | 0.5 |
| D034 | Hexachloroethane | 67-72-1 | 3.0 |
| D035 | Methyl ethyl ketone | 78-93-3 | 200.0 |
| D036 | Nitrobenzene | 98-95-3 | 2.0 |
| D037 | Pentachlorophenol | 87-86-5 | 100.0 |
| D038 | Pyridine | 110-86-1 | 5.0 |
| D039 | Tetrachloroethylene | 127-18-4 | 0.7 |
| D040 | Trichloroethylene | 79-01-6 | 0.5 |
| D041 | 2,4,5-Trichlorophenol | 95-95-4 | 400.0 |
| D042 | 2,4,6-Trichlorophenol | 88-06-2 | 2.0 |
| D043 | Vinyl Chloride | 75-01-4 | 0.2 |

NOTE: The USEPA Hazardous Waste Numbers identified on this page are associated with the TCLP test. Wastes containing the compounds identified on this page are hazardous wastes if the concentration of the compound in the waste exceeds the regulatory level shown above, based on an analysis of the extract of the TCLP test.

| USEPA Hazardous Waste Number | Hazardous Waste |
|---|---|
| F001 | The following spent halogenated solvents used in degreasing tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures and blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004 or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. |
| F002 | The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane; and 1,1,2-trichloroethane; all spent solvent mixtures and blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. |
| F003 | The following spent non-halogenated solvents: xylene, acetone, ethylacetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures and blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures and blends containing, before use, one or more of the above non-halogenated solvents and a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004 or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. |
| F004 | The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures and blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002 or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. |

| USEPA Hazardous Waste Number | Hazardous Waste |
|---|---|
| F005 | The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol and 2-nitropropane; all spent solvent mixtures and blends, containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002 or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. |
| F006 | Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. |
| F007 | Spent cyanide plating bath solutions from electroplating operations. |
| F008 | Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process. |
| F009 | Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process. |
| F010 | Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process. |
| F011 | Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations. |
| F012 | Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process. |
| F019 | Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. |
| F020 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri-, or tetrachlorphenol, or of intermediate used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2, 4, 5 - trichlorophenol.) |

| USEPA Hazardous Waste Number | Hazardous Waste |
|---|---|
| F021 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives. |
| F022 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions. |
| F023 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol. |
| F024 | Process wastes including but not limited to, distillation residues, heavy ends, tars, and reactor cleanout wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts and wastes listed in this Section or 35 IAC 721.312.) |
| F025 | Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. |
| F026 | Wastes (except wastewater and spent carbon from hydrocarbon chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate or component in a formulating process) of tetra-, penta- or hexachlorobenzene under alkaline conditions. |
| F027 | Discarded unused formulations containing tri, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.) |

| USEPA Hazardous Waste Number | Hazardous Waste |
|---|---|
| F028 | Residues resulting from the incineration or thermal treatment of soil contaminated with hazardous waste numbers F020, F021, F022, F023, F026 and F027. |
| F032 | Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with 35 IAC 721.135 and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol. |
| F034 | Wastewaters, (except those that have not come into contact with process contaminants), process residuals, preservative drippage and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol. |
| F035 | Wastewaters, (except those that have not come into contact with process contaminants), process residuals, preservative drippage and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol. |
| F037 | Petroleum refinery primary oil/water/solids separation sludge - Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in subsection (b)(2), below, (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units), and K051 wastes are not included in this listing. |

| USEPA Hazardous Waste Number | Hazardous Waste |
|---|---|
| F038 | Petroleum refinery secondary (emulsified) oil/water/solids separation sludge - Any sludge or float generated from the physical or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air floatation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in subsection (b)(2), below, (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units), F037, K048 and K051 wastes are not included in this listing. |
| F039 | Leachate (liquids which have percolated through land disposal wastes) resulting from the disposal of more than one restricted waste under Subpart D. (Leachate resulting from the disposal of one or more of the following USEPA hazardous wastes and no other hazardous wastes retains its USEPA hazardous waste number(s): F020, F021, F022, F026, F027 or F028.) |
| K047 | Waste is hazardous because it fails the test for the characteristic of ignitability, corrosivity or reactivity. (Pink/red water wastes from laboratory procedures). |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| P001 | P81-81-2 | 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, and salts, when present at concentrations greater than 0.3% |
| P001 | P81-81-2 | Warfarin, and salts, when present at concentration greater than 0.3% |
| P002 | 591-08-2 | 1-Acetyl-2-thiourea |
| P002 | 591-08-2 | Acetamide, N-(aminothioxomethyl)- |
| P003 | 107-02-8 | 2-Propenal |
| P003 | 107-02-8 | Acrolein |
| P004 | 309-00-2 | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8, 8a-hexahydro-, (1alpha, 4alpha, 4abeta, 5alpha, 8alpha, 8abeta)- |
| P004 | 390-00-2 | Aldrin |
| P005 | 107-18-6 | 2-Propen-1-ol |
| P005 | 107-18-6 | Allyl alcohol |
| P006 | 20859-73-8 | Aluminum phosphide (R,T) |
| P007 | 2763-96-4 | 3(2H)-Isoxazolone, 5-(aminomethyl)- |
| P007 | 2763-96-4 | 5-(Aminomethyl)-3-isoxazolol |
| P008 | 504-24-5 | 4-Pyridinamine |
| P008 | 504-24-5 | 4-Aminopyridine |
| P009 | 131-74-8 | Phenol, 2,4,6-trinitro-, ammonium salt (R) |
| P009 | 131-74-8 | Ammonium picrate (R) |
| P010 | 7778-39-4 | Arsenic acid $H_3AsO_4$ |
| P011 | 1303-28-2 | Arsenic oxide $As_2O_5$ |
| P011 | 1303-28-2 | Arsenic pentoxide |
| P012 | 1327-53-3 | Arsenic trioxide |
| P012 | 1327-53-3 | Arsenic oxide $As_2O_3$ |
| P013 | 542-62-1 | Barium cyanide |
| P014 | 108-98-5 | Thiophenol |
| P014 | 108-98-5 | Benzenethiol |
| P015 | 7440-41-7 | Beryllium |
| P016 | 542-88-1 | Methane, oxybis[chloro- |
| P016 | 542-88-1 | Dichloromethyl ether |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| P017 | 598-31-2 | 2-Propanone, 1-bromo- |
| P017 | 598-31-2 | Bromoacetone |
| P018 | 357-57-3 | Strychnidin-10-one, 2,3-dimethoxy- |
| P018 | 357-57-3 | Brucine |
| P020 | 88-85-7 | Dinoseb |
| P020 | 88-85-7 | Phenol, 2,-(1-methylpropyl)-4, 6-trinitro- |
| P021 | 592-01-8 | Calcium cyanide $Ca(CN)_2$ |
| P021 | 592-01-8 | Calcium cyanide |
| P022 | 75-15-0 | Carbon disulfide |
| P023 | 107-20-0 | Chloroacetaldehyde |
| P023 | 107-20-0 | Acetaldehyde, chloro- |
| P024 | 106-47-8 | p-Chloroaniline |
| P024 | 106-47-8 | Benzenamine, 4-chloro- |
| P026 | 5344-82-1 | Thiourea, (2-chlorophenyl)- |
| P026 | 5344-82-1 | 1-(o-Chlorophenyl) thiourea |
| P027 | 542-76-7 | 3-Chloropropionitrile |
| P027 | 542-76-7 | Propanenitrile, 3-chloro- |
| P028 | 100-44-7 | Benzene, (chloromethyl)- |
| P028 | 100-44-7 | Benzyl chloride |
| P029 | 544-92-3 | Copper cyanide CuCN |
| P029 | 544-92-3 | Copper cyanide |
| P030 | | Cyanides (soluble cyanide salts), not otherwise specified |
| P031 | 460-19-5 | Ethanedinitrile |
| P031 | 460-19-5 | Cyanogen |
| P033 | 506-77-4 | Cyanogen chloride |
| P033 | 506-77-4 | Cyanogen chloride CNCl |
| P034 | 131-89-5 | Phenol, 2-cyclohexyl-4, 6-dinitro- |
| P034 | 131-89-5 | 2-Cyclohexyl-4, 6-dinitrophenol |
| P036 | 696-28-6 | Arsonous dichloride, phenyl- |
| P036 | 696-28-6 | Dichlorophenylarsine |
| P037 | 60-57-1 | Dieldrin |
| P037 | 60-57-1 | 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6, 9,9-hexachloro-1a,2,2a, 3,6,6a,7,7a-octahydro-, (1aalpha, 2beta, 2aalpha, 3beta, 6beta, 6aalpha, 7beta, 7aalpha)- |
| P038 | 692-42-2 | Diethylarsine |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| P038 | 692-42-2 | Arsine, diethyl- |
| P039 | 298-04-4 | Disulfoton |
| P039 | 298-04-4 | Phosphorodithioic acid, 0,0-diethyl S-[2-(ethylthio)ethyl] ester |
| P040 | 297-97-2 | Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester |
| P040 | 297-97-2 | O,O-Diethyl O-pyrazinyl phosphorothioate |
| P041 | 311-45-5 | Phosphoric acid, diethyl 4-nitrophenyl ester |
| P041 | 311-45-5 | Diethyl-p-nitrophenyl phosphate |
| P042 | 51-43-4 | 1,2-Benzenediol, 4-[1-hydroxy-2-(methyl-Mamino)ethyl]-,(R)- |
| P042 | 51-43-4 | Epinephrine |
| P043 | 55-91-4 | Diisopropylfluorophosphate (DFP) |
| P043 | 55-91-4 | Phosphorofluoridic acid, bis(1-methylethyl)ester |
| P044 | 60-51-5 | Dimethoate |
| P044 | 60-51-5 | Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl]ester |
| P045 | 39196-18-4 | 2-Butanone,3,3-dimethyl-1-(methylthio),-O-[methyl amino)carbonyl]oxime |
| P045 | 39196-18-4 | Thiofanox |
| P046 | 122-09-8 | Benzeneethanamine,alpha, alpha-dimethyl- |
| P046 | 122-09-8 | alpha, alpha-Dimethylphenethylamine |
| P047 | P534-51-1 | 4,6-Dinitro-o-cresol and salts |
| P047 | P534-52-1 | Phenol, 2,-methyl-4,6-dinitro-, and salts |
| P048 | 51-28-5 | 2,4-Dinitrophenol |
| P048 | 51-28-5 | Phenol, 2,4-dinitro- |
| P049 | 541-53-7 | Dithiobiuret |
| P049 | 541-53-7 | Thioimidodicarbonic diamide $[(H_2N)C(S)]_2$ NH |
| P050 | 115-29-7 | Endosulfan |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| P050 | 115-29-7 | 6,9-Methano-2,4,3-benzo dioxathiepen, 6,7,8,9, 10,10-hexachloro-1,5,5a, 6,9,9a-hexahydro-, 3-oxide |
| P051 | 72-20-8 | Endrin, and metabolites |
| P051 | 72-20-8 | Endrin |
| P051 | P72-20-8 | 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6, 9,9-hexachloro-1a,2,2a, 3,6,6a,7,7a-octahydro-, (1aalpha, 2beta, 2abeta, 3alpha, 6alpha, 6beta, 7beta, 7aalpha)-, and metabolites |
| P054 | 151-56-4 | Ethylenimine |
| P054 | 151-56-4 | Aziridine |
| P056 | 7782-41-4 | Fluorine |
| P057 | 640-19-7 | Fluoroacetamide |
| P057 | 640-19-7 | Acetamide, 2-fluoro- |
| P058 | 62-74-8 | Fluoroacetic acid, sodium salt |
| P058 | 62-74-8 | Acetic acid, fluoro-, sodium salt |
| P059 | 76-44-8 | 4,7-Methano-1H-indene, 1,4,5,6,7,8,8- heptachloro-3a,4,7, 7a-tetrahydro- |
| P059 | 76-44-8 | Heptachlor |
| P060 | 465-73-6 | 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha, 4abeta, 5beta, 8beta, 8abeta)- |
| P060 | 465-73-6 | Isodrin |
| P062 | 757-58-4 | Hexaethyl tetraphosphate |
| P062 | 757-58-4 | Tetraphosphoric acid, hexaethyl ester |
| P063 | 74-90-8 | Hydrogen cyanide |
| P063 | 74-90-8 | Hydrocyanic acid |
| P064 | 624-83-9 | Methyl isocyanate |
| P064 | 624-83-9 | Methane, isocyanato- |
| P065 | 628-86-4 | Mercury fulminate (R,T) |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| P065 | 628-84-4 | Fulminic acid, mercury (2+) salt (R,T) |
| P066 | 16752-77-5 | Methomyl |
| P066 | 16752-77-5 | Ethanimidothioic acid, N-[[(methylamino) carbonyl]oxy]-, methyl ester |
| P067 | 75-55-8 | 1,2-Propylenimine |
| P067 | 75-55-8 | Aziridine, 2-methyl |
| P068 | 60-34-4 | Methyl hydrazine |
| P068 | 60-34-4 | Hydrazine, methyl- |
| P069 | 75-86-5 | 2-Methyllactonitrile |
| P069 | 75-86-5 | Propanenitrile, 2-hydroxy-2-methyl- |
| P070 | 116-06-3 | Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino) carbonyl]oxime |
| P070 | 116-06-3 | Aldicarb |
| P071 | 298-00-0 | Phosphorothioic acid, 0,0-dimethyl O-(4-nitrophenyl)ester |
| P071 | 298-00-0 | Methyl parathion |
| P072 | 86-88-4 | alpha-Naphthylthiourea |
| P072 | 86-88-4 | Thiourea, 1-naphthalenyl- |
| P073 | 13463-39-3 | Nickel carbonyl $Ni(CO)_4$, (T-4)- |
| P073 | 13463-39-3 | Nickel carbonyl |
| P074 | 557-19-7 | Nickel cyanide $Ni(CN)_2$ |
| P074 | 557-19-7 | Nickel cyanide |
| P075 | P54-11-5 | Pyridine, 3-(1-methy-2-pyrrolidinyl)-, (S-) and salts |
| P075 | P54-11-5 | Nicotine, and salts |
| P076 | 10102-43-9 | Nitric oxide |
| P076 | 10102-43-9 | Nitrogen oxide NO |
| P077 | 100-01-6 | Benzenamine, 4-nitro- |
| P077 | 100-01-6 | p-Nitroaniline |
| P078 | 10102-44-0 | Nitrogen oxide $NO_2$ |
| P078 | 10102-44-0 | Nitrogen dioxide |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| P081 | 55-63-0 | 1,2,3-Propanetriol, trinitrate- (R) |
| P081 | 55-63-0 | Nitroglycerine (R) |
| P082 | 62-75-9 | Methanamine, N-methyl-N-nitroso- |
| P082 | 62-75-9 | N-Nitrosodimethylamine |
| P084 | 4549-40-0 | Vinylamine, N-methyl-N-nitroso- |
| P084 | 4549-49-0 | N-Nitrosomethylvinylamine |
| P085 | 152-16-9 | Diphosphoramide, octamethyl- |
| P085 | 152-16-9 | Octamethylpyrophosphor amide |
| P087 | 20816-12-0 | Osmium oxide $OsO_4$, (T-4)- |
| P087 | 20816-12-0 | Osmium tetroxide |
| P088 | 145-73-3 | Endothall |
| P088 | 145-73-3 | 7-Oxabicyclo[2.2.1] heptane-2,3- dicarboxylic acid |
| P089 | 56-38-2 | Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester |
| P089 | 56-38-2 | Parathion |
| P092 | 62-38-4 | Mercury, (acetato-O)phenyl- |
| P092 | 62-38-4 | Phenylmercury acetate |
| P093 | 103-85-5 | Thiourea, phenyl- |
| P093 | 103-85-5 | Phenylthiourea |
| P094 | 298-02-2 | Phosphorodithioic acid, 0,0-diethyl S-[(ethylthio)methyl] ester |
| P094 | 298-02-2 | Phorate |
| P095 | 75-44-5 | Carbonic dichloride |
| P095 | 75-44-5 | Phosgene |
| P096 | 7803-51-2 | Phosphine |
| P096 | 7803-51-2 | Hydrogen phosphide |
| P097 | 52-85-7 | Phosphorothioic acid, O-[4-[dimethylamino) sulfonyl)]phenyl]O, O-dimethyl ester |
| P097 | 52-85-7 | Famphur |
| P098 | 151-50-8 | Potassium cyanide |
| P098 | 151-50-8 | Potassium cyanide KCN |
| P099 | 506-61-6 | Argentate (1-), bis(cyano-C)-, potassium |
| P099 | 506-61-6 | Potassium silver cyanide |
| P101 | 107-12-0 | Propanenitrile |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| P101 | 107-12-0 | Ethyl cyanide |
| P102 | 107-19-7 | 2-Propyn-1-ol |
| P102 | 107-19-7 | Propargyl alcohol |
| P103 | 630-10-4 | Selenourea |
| P104 | 506-64-9 | Silver cyanide AgCN |
| P104 | 506-64-9 | Silver cyanide |
| P105 | 26628-22-8 | Sodium azide |
| P106 | 143-33-9 | Sodium cyanide NaCN |
| P106 | 143-33-9 | Sodium cyanide |
| P108 | P57-24-9 | Strychnine and salts |
| P108 | P57-24-9 | Strychnidin-10-one, and salts |
| P109 | 3689-24-5 | Tetraethyldithiopyro phosphate |
| P109 | 3689-24-5 | Thiodiphosphoric acid, tetraethyl ester |
| P110 | 78-00-2 | Tetraethyl lead |
| P110 | 78-00-2 | Plumbane, tetraethyl- |
| P111 | 107-49-3 | Diphosphoric acid, tetraethyl ester |
| P111 | 107-49-3 | Tetraethylpyrophosphate |
| P112 | 509-14-8 | Methane, tetranitro- (R) |
| P112 | 509-14-8 | Tetranitromethane (R) |
| P113 | 1314-32-5 | Thallic oxide |
| P113 | 1314-32-5 | Thallium oxide $Tl_2O_3$ |
| P114 | 12039-52-0 | Selenious acid, dithallium (1+) salt |
| P114 | 12039-52-0 | Thallium(I) selenite |
| P115 | 7446-18-6 | Thallium (I) sulfate |
| P115 | 7446-18-6 | Sulfuric acid, dithallium (1+) salt |
| P116 | 79-19-6 | Hydrazinecarbothioamide |
| P116 | 79-19-6 | Thiosemicarbazide |
| P118 | 75-70-7 | Trichloromethanethiol |
| P118 | 75-70-7 | Methanethiol, trichloro- |
| P119 | 7803-55-6 | Ammonium vanadate |
| P119 | 7803-55-6 | Vanadic acid, ammonium salt |
| P120 | 1314-62-1 | Vanadium oxide $V_2O_5$ |
| P120 | 1314-62-1 | Vanadium pentoxide |
| P121 | 557-21-1 | Zinc cyanide $Zn(CN)_2$ |
| P121 | 557-21-1 | Zinc cyanide |
| P122 | 1314-84-7 | Zinc phosphide $Zn_3P_2$-, when present at concentrations greater than 10% (R,T) |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U001 | 75-07-0 | Acetaldehyde (I) |
| U001 | 75-07-0 | Ethanal (I) |
| U002 | 67-64-1 | Acetone (I) |
| U002 | 67-64-1 | 2-Propanone (I) |
| U003 | 75-05-8 | Acetonitrile (I,T) |
| U004 | 98-86-2 | Ethanone, 1-phenyl- |
| U004 | 98-86-2 | Acetophenone |
| U005 | 53-96-3 | Acetamide, N-9H-fluoren-2-yl- |
| U005 | 53-96-3 | 2-Acetylaminofluorene |
| U006 | 75-36-5 | Acetyl chloride (C,R,T) |
| U007 | 79-06-1 | Acrylamide |
| U007 | 79-06-01 | 2-Propenamide |
| U008 | 79-10-7 | Acrylic acid (I) |
| U008 | 79-10-7 | 2-Propenoic acid (I) |
| U009 | 107-13-1 | 2-Propenenitrile |
| U009 | 107-13-1 | Acrylonitrile |
| U010 | 50-07-7 | Mitomycin C |
| U010 | 50-07-7 | -Azirino[2',3':3,4]pyrrolo [1,2-a]indole-4,7-dione, 6-amino-8-[[amino carbonyl)oxy]methyl]-1, 1a,2,8,8a,8b-hexahydro- 8a-methoxy-5-methyl-, [1a-S-(1aalpha, 8beta, 8aalpha, 8balpha)]- |
| U011 | 61-82-5 | 1H-1,2,4-Triazol-3-amine |
| U011 | 61-82-5 | Amitrole |
| U012 | 62-53-3 | Aniline (I,T) |
| U012 | 62-53-3 | Benzenamine (I,T) |
| U014 | 492-80-8 | Benzenamine, 4,4'-carbonimidoylbis [N,N-dimethyl- |
| U014 | 492-80-8 | Auramine |
| U015 | 115-02-6 | Azaserine |
| U015 | 115-02-6 | L-Serine, diazoacetate (ester) |
| U016 | 225-51-4 | Benz(c)acridine |
| U017 | 98-87-3 | Benzene, (dichloromethyl)- |
| U017 | 98-87-3 | Benzal chloride |
| U018 | 56-55-3 | Benz[a]anthracene |
| U019 | 71-43-2 | Benzene (I,T) |
| U020 | 98-09-9 | Benzenesulfonyl chloride (C,R) |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U020 | 98-09-9 | Benzenesulfonic acid chloride (C,R) |
| U021 | 92-87-5 | Benzidene |
| U021 | 92-87-5 | [1,1'-Biphenyl]-4, 4'-diamine |
| U022 | 50-32-8 | Benzo[a]pyrene |
| U023 | 98-07-7 | Benzene, (trichloromethyl)- |
| U023 | 98-07-7 | Benzotrichloride (C,R,T) |
| U024 | 111-91-1 | Ethane, 1,1'-[methylenebis(oxy)] bis[2-chloro- |
| U024 | 111-91-1 | Dichloromethoxy ethane |
| U025 | 111-44-4 | Dichloroethyl ether |
| U025 | 111-44-4 | Ethane, 1,1'-oxybis [2-chloro- |
| U026 | 494-03-1 | Chlornaphazine |
| U026 | 494-03-1 | Naphthaleneamine, N,N'-bis (2-chloroethyl)- |
| U027 | 108-60-1 | Dichloroisopropyl ether |
| U027 | 108-60-1 | Propane, 2,2'-oxybis[2-chloro- |
| U028 | 117-81-7 | Diethylhexyl phthalate |
| U028 | 117-81-7 | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester |
| U029 | 74-83-9 | Methane, bromo- |
| U029 | 74-83-9 | Methyl bromide |
| U030 | 101-55-3 | Benzene, 1-bromo-4-phenoxy- |
| U030 | 101-55-3 | 4-Bromophenyl phenyl ether |
| U031 | 71-63-3 | n-Butyl alcohol (I) |
| U031 | 71-36-3 | 1-Butanol (I) |
| U032 | 13765-19-0 | Chromic acid $H_2CrO_4$, calcium salt |
| U032 | 13765-19-0 | Calcium chromate |
| U033 | 353-50-4 | Carbonic difluoride |
| U033 | 353-50-4 | Carbon oxyfluoride (R,T) |
| U034 | 75-87-6 | Acetaldehyde, trichloro- |
| U034 | 75-87-6 | Chloral |
| U035 | 305-03-3 | Chlorambucil |
| U035 | 305-03-3 | Benzenebutanoic acid, 4-[bis(2-chloroethyl) amino]- |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U036 | 57-74-9 | 4,7-Methan-1H-indene, 1,2,4,5,6,7,8,8-octa chloro-2,3,3a,4,7,7a-hexahydro- |
| U036 | 57-74-9 | Chlordane alpha and gamma isomers |
| U037 | 108-90-7 | Benzene, chloro- |
| U037 | 108-90-7 | Chlorobenzene |
| U038 | 510-15-6 | Chlorobenzilate |
| U038 | 510-15-6 | Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-,ethyl ester |
| U039 | 59-50-7 | Phenol, 4-chloro-3-methyl- |
| U039 | 59-50-7 | p-Chloro-m-cresol |
| U041 | 106-89-8 | Oxirane, (chloromethyl)- |
| U041 | 106-89-8 | Epichlorohydrin |
| U042 | 110-75-8 | 2-Chloroethyl vinyl ether |
| U042 | 110-75-8 | Ethene, (2-chloroethoxy)- |
| U043 | 75-01-4 | Vinyl chloride |
| U043 | 75-01-4 | Ethene, chloro- |
| U044 | 67-66-3 | Chloroform |
| U044 | 67-66-3 | Methane, trichloro- |
| U045 | 74-87-3 | Methyl chloride (I,T) |
| U045 | 74-87-3 | Methane, chloro- (I,T) |
| U046 | 107-30-2 | Chloromethyl methyl ether |
| U046 | 107-30-2 | Methane, chloromethoxy- |
| U047 | 91-58-7 | Naphthalene, 2-chloro- |
| U047 | 91-58-7 | beta-Chloronaphthalene |
| U048 | 95-57-8 | Phenol, 2-chloro- |
| U048 | 95-57-8 | o-Chlorophenol |
| U049 | 3165-93-3 | Benzenamine, 4-chloro- 2-methyl-,hydrochloride |
| U049 | 3165-93-3 | 4-chloro-o-toluidine, hydrochloride |
| U050 | 218-01-9 | Chrysene |
| U051 | | Creosote |
| U052 | 1319-77-3 | Cresol (Cresylic acid) |
| U052 | 1319-77-3 | Phenol, methyl- |
| U053 | 4170-30-3 | 2-Butenal |
| U053 | 4170-30-3 | Crotonaldehyde |
| U055 | 98-82-8 | Benzene, (1-methylethyl)-(I) |
| U055 | 98-82-8 | Cumeme (I) |
| U056 | 110-82-7 | Cyclohexane (I) |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U056 | 110-82-7 | Benzene, hexahydro-(I) |
| U057 | 108-94-1 | Cyclohexanone (I) |
| U058 | 50-18-0 | Cyclophosphamide |
| U058 | 50-18-0 | 2H-1,3,2-Oxazaphosphorine-2-amine,N,N-bis(2-chloroethyl) tetrahydro-, 2-oxide |
| U059 | 20830-81-3 | Daunomycin |
| U059 | 20830-81-3 | 5,12-Naphthacenedione, pyranosyl)oxyl]-7,8,9,10-tetrahydro-6,8, 11-trihydroxy-1-methoxy-, (8S-cis)- |
| U060 | 72-54-8 | DDD |
| U060 | 72-54-8 | Benzene, 1,1'-(2,2-dichloroethylidene)bis [4-chloro- |
| U061 | 50-29-3 | DDT |
| U061 | 50-29-3 | Benzene, 1,1'-(2,2,2-trichloroethylidene(bis 4-chloro- |
| U062 | 2303-16-4 | Carbamothioic acid, bis (1-methylethyl)-, S-(2, 3-dichloro-2-propenyl) ester |
| U062 | 2303-16-4 | Diallate |
| U063 | 53-70-3 | Dibenz[a,h]anthracene |
| U064 | 189-55-9 | Benzo[rst]pentaphene |
| U064 | 189-55-9 | Dibenzo[a,i]pyrene |
| U066 | 96-12-8 | Propane, 1,2-dibromo-3-chloro- |
| U066 | 96-12-8 | 1,2-Dibromo-3-chloropropane |
| U067 | 106-93-4 | Ethane, 1,2-dibromo- |
| U067 | 106-93-4 | Ethylene dibromide |
| U068 | 74-95-3 | Methane, dibromo- |
| U068 | 74-95-3 | Methylene bromide |
| U069 | 84-74-2 | 1,2-Benzenedicarboxylic acid, dibutyl ester |
| U069 | 84-74-2 | Dibutyl phthalate |
| U070 | 95-50-1 | Benzene, 1,2-dichloro- |
| U070 | 95-50-1 | o-Dichlorobenzene |
| U071 | 541-73-1 | m-Dichlorobenzene |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U071 | 541-73-1 | Benzene, 1,3-dichloro- |
| U072 | 106-46-7 | p-Dichlorobenzene |
| U072 | 106-46-7 | Benzene, 1,4-dichloro- |
| U073 | 91-94-1 | 3,3'-Dichlorobenzidine |
| U073 | 91-94-1 | [1,1'-Biphenyl]-4, 4'-diamine, 3,3'-dichloro- |
| U074 | 764-41-0 | 2-Butene, 1,4-dichloro- (I,T) |
| U074 | 764-41-0 | 1,4-Dichloro-2-butene (I,T) |
| U075 | 75-71-8 | Dichlorodifluoromethane |
| U075 | 75-71-8 | Methane, dichlorodifluoro- |
| U076 | 75-34-3 | Ethylidene dichloride |
| U076 | 75-34-3 | Ethane, 1,1-dichloro- |
| U077 | 107-06-2 | Ethane, 1,2-dichloro- |
| U077 | 107-06-2 | Ethylene dichloride |
| U078 | 75-35-4 | Ethene, 1,1-dichloro- |
| U078 | 75-35-4 | 1,1-Dichloroethylene |
| U079 | 156-60-5 | Ethene, 1,2-dichloro-, (E)- |
| U079 | 156-60-5 | 1,2-Dichloroethylene |
| U080 | 75-09-2 | Methylene chloride |
| U080 | 75-09-2 | Methane, dichloro- |
| U081 | 120-83-2 | 2,4-Dichlorophenol |
| U081 | 120-83-2 | Phenol, 2,4-dichloro- |
| U082 | 87-65-0 | Phenol, 2,6-dichloro- |
| U082 | 87-65-0 | 2,6-Dichlorophenol |
| U083 | 78-87-5 | Propylene dichloride |
| U083 | 78-87-5 | Propane, 11-dichloro |
| U084 | 542-75-6 | 1-Propene, 1,3-dichloro- |
| U084 | 542-75-6 | 1,3-Dichloropropene |
| U085 | 1464-53-5 | 1,2:3,4-Diepoxybutane (I,T) |
| U085 | 1464-53-5 | 2,2'-Bioxirane |
| U086 | 1615-80-1 | N,N-Diethylhydrazine |
| U086 | 1615-80-1 | Hydrazine, 1,2-diethyl- |
| U087 | 3288-58-2 | Phosphorodithioic acid, O,O-diethyl S-methyl ester |
| U087 | 3288-58-2 | O,O-Diethyl S-methyl dithiophosphate |
| U088 | 84-66-2 | Diethyl phthalate |
| U088 | 84-66-2 | 1,2-Benzenedicarboxylic acid diethyl ester |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U089 | 56-53-1 | Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-,(E)- |
| U089 | 56-53-1 | Diethylstilbestrol |
| U090 | 94-58-6 | Dihydrosafrole |
| U090 | 94-58-6 | 1,3-Benzodioxole, 5-propyl- |
| U091 | 119-90-4 | [1,1'-Biphenyl]-4, 4'-diamine, 3,3'-dimethoxy- |
| U091 | 119-90-4 | 3,3'-Dimethoxybenzidine |
| U092 | 124-40-3 | Methanamine, N-methyl- (I) |
| U092 | 124-40-3 | Dimethylamine (I) |
| U093 | 60-11-7 | Benzenamine, N,N-dimethyl-4-(phenylazo)- |
| U093 | 60-11-7 | p-Dimethylaminoazobenzene |
| U094 | 57-97-6 | Benz[a]anthracene, 7,12-dimethyl- |
| U094 | 57-97-6 | 7,12-Dimethylbenz[a] anthracene |
| U095 | 119-93-7 | [1,1'-Biphenyl]-4, 4'-diamine, 3,3'-dimethyl- |
| U095 | 119-93-7 | 3,3'-Dimethylbenzidine |
| U096 | 80-15-9 | Hydroperoxide, 1-methyl-1-phenylethyl-(R) |
| U096 | 80-15-9 | alpha, alpha-Dimethylbenzylhydro peroxide (R) |
| U097 | 79-44-7 | Dimethylcarbamoyl chloride |
| U097 | 79-44-7 | Carbamic chloride, dimethyl- |
| U098 | 57-14-7 | 1,1-Dimethylhydrazine |
| U098 | 57-14-7 | Hydrazine, 1,1-dimethyl- |
| U099 | 540-73-8 | 1,2-Dimethylhydrazine |
| U099 | 540-73-8 | Hydrazine, 1,2-dimethyl- |
| U101 | 105-67-9 | Phenol, 2,4-dimethyl- |
| U101 | 105-67-9 | 2,4-Dimethylphenol |
| U102 | 131-11-3 | 1,2-Benzenedicarboxylic acid, dimethyl ester |
| U102 | 131-11-3 | Dimethyl phthalate |
| U103 | 77-78-1 | Sulfuric acid, dimethyl ester |
| U103 | 77-78-1 | Dimethyl sulfate |
| U105 | 121-14-2 | 2,4-Dinitrotoluene |
| U105 | 121-14-2 | Benzene, 1-methyl 2, 4-dinitro- |
| U106 | 606-20-2 | Benzene, 2-methyl-1, 3-dinitro- |
| U106 | 606-20-2 | 2,6-Dinitrotoluene |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U107 | 117-84-0 | 1,2-Benzenedicarboxylic acid, dioctyl ester |
| U107 | 117-84-0 | Di-n-octyl phthalate |
| U108 | 123-91-1 | 1,4-Diethyleneoxide |
| U108 | 123-91-1 | 1,4-Dioxane |
| U109 | 122-66-7 | 1,2-Diphenylhydrazine |
| U109 | 122-66-7 | Hydrazine, 1,2-Diphenyl- |
| U110 | 142-84-7 | 1-Propanamine, N-propyl-(I) |
| U110 | 142-84-7 | Dipropylamine (I) |
| U111 | 621-64-7 | Di-n-propylnitrosamine |
| U111 | 621-64-7 | 1-Propanamine, N-nitroso-N-propyl- |
| U112 | 141-78-6 | Acetic acid, ethyl ester (I) |
| U112 | 141-78-6 | Ethyl acetate (I) |
| U113 | 140-88-5 | Ethyl acrylate (I) |
| U113 | 140-88-5 | 2-Propenoic acid, ethyl ester (I) |
| U114 | P111-54-6 | Carbamodithioic acid, 1,2-ethanediylbis-, salts and esters |
| U114 | P111-54-6 | Ethylenebis dithiocarbamic acid, salts and esters |
| U115 | 75-21-8 | Oxirane (I,T) |
| U115 | 75-21-8 | Ethylene oxide (I,T) |
| U116 | 96-45-7 | Ethylenethiourea |
| U116 | 96-45-7 | 2 Imidazolidinethione |
| U117 | 60-29-7 | Ethane, 1,1'-oxybis- (I) |
| U117 | 60-29-7 | Ethyl ether |
| U118 | 97-63-2 | Ethyl methacrylate |
| U118 | 97-63-2 | 2-Propenoic acid, 2-methyl-, ethyl ester |
| U119 | 62-50-0 | Ethyl methanesulfonate |
| U119 | 62-50-0 | Methanesulfonic acid, ethyl ester |
| U120 | 206-44-0 | Fluoranthene |
| U121 | 75-69-4 | Methane, trichlorofluoro- |
| U121 | 75-69-4 | Trichloromonofluoromethane |
| U122 | 50-00-0 | Formaldehyde |
| U123 | 64-18-6 | Formic acid (C,T) |
| U124 | 110-00-9 | Furfuran (I) |
| U124 | 110-00-9 | Furan (I) |
| U125 | 98-01-1 | 2-Furancarboxaldehyde (I) |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U125 | 98-01-1 | Furfural (I) |
| U126 | 765-34-4 | Oxiranecarboxyaldehyde |
| U126 | 765-34-4 | Glycidylaldehyde |
| U127 | 118-74-1 | Hexachlorobenzene |
| U127 | 118-74-1 | Benzene, hexachloro- |
| U128 | 87-68-3 | Hexachlorobutadiene |
| U128 | 87-68-3 | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- |
| U129 | 58-89-9 | Lindane |
| U129 | 58-89-9 | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha, 5alpha,6beta)-U057 108-94-1 Cyclohexanone(I) |
| U130 | 77-47-4 | Hexachlorocyclopentadiene |
| U130 | 77-47-4 | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- |
| U131 | 67-72-1 | Ethane, hexachloro- |
| U131 | 67-72-1 | Hexachloroethane |
| U132 | 70-30-4 | Phenol, 2,2'-methylenebis [3,4,6-trichloro- |
| U132 | 70-30-4 | Hexachlorophene |
| U133 | 302-01-2 | Hydrazine (R,T) |
| U134 | 7664-39-3 | Hydrofluoric acid (C,T) |
| U134 | 7664-39-3 | Hydrogen fluoride (C,T) |
| U135 | 7783-06-4 | Hydrogen sulfide |
| U135 | 7783-06-4 | Hydrogen sulfide H2S |
| U136 | 75-60-5 | Cacodylic acid |
| U136 | 75-60-5 | Arsinic acid, dimethyl- |
| U137 | 193-39-5 | Indeno[1,2,3-cd]pyrene |
| U138 | 74-88-4 | Methane, iodo- |
| U138 | 74-88-4 | Methyl iodide |
| U140 | 78-83-1 | Isobutyl alcohol (I,T) |
| U140 | 78-83-1 | 1-Propanol, 2-methyl- (I,T) |
| U141 | 120-58-1 | 1,3-Benzodioxole, 5-(1-propenyl)- |
| U141 | 120-58-1 | Isosafrole |
| U142 | 143-50-0 | Kepone |
| U142 | 143-50-0 | 1,3,4-Metheno-2H-cyclobuta [cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b, 6-decachlorooctahydro- |
| U143 | 303-34-4 | Lasiocarpene |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U143 | 303-34-4 | 2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[alpha(Z), 7(2S*,3R*), 7aalpha]]- |
| U144 | 301-04-2 | Lead acetate |
| U144 | 301-04-2 | Acetic acid, lead (2+) salt |
| U145 | 1335-32-6 | Lead, bis(acetato-0) tetrahydroxytri- |
| U145 | 7446-27-7 | Lead phosphate |
| U145 | 7446-27-7 | Phosphoric acid, lead (2+) salt (2:3) |
| U146 | 1335-32-6 | Lead subacetate |
| U147 | 108-31-6 | 2,5-Furandione |
| U147 | 108-31-6 | Maleic anhydride |
| U148 | 123-33-1 | 3,6-Pyridazinedione, 1,2-dihydro- |
| U148 | 123-33-1 | Maleic hydrazide |
| U149 | 109-77-3 | Propanedinitrile |
| U149 | 109-77-3 | Malononitrile |
| U150 | 148-82-3 | L-Phenylalanine, 4-[bis (2-chloroethyl)amino]- |
| U150 | 148-82-3 | Melphalan |
| U151 | 7439-97-6 | Mercury |
| U152 | 126-98-7 | Methacrylonitrile (I,T) |
| U152 | 126-98-7 | 2-Propenenitrile, 2-methyl- (I,T) |
| U153 | 74-93-1 | Methanethiol (I,T) |
| U153 | 74-93-1 | Thiomethanol (I,T) |
| U154 | 67-56-1 | Methyl alcohol (I) |
| U154 | 67-56-1 | Methanol (I) |
| U155 | 91-80-5 | Methapyrilene |
| U155 | 91-80-5 | 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)- |
| U156 | 79-22-1 | Methyl chlorocarbonate (I,T) |
| U156 | 79-22-1 | Carbonochloridic acid, methyl ester (I,T) |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U157 | 56-49-5 | 3-Methylcholanthrene |
| U157 | 56-49-5 | Benz[j]aceanthrylene, 1,2-dihydro-3-methyl- |
| U158 | 101-14-4 | Benzenamine, 4,4'-methylenebis [2-chloro- |
| U158 | 101-14-4 | 4,4'-Methylenebis(2-chloroaniline) |
| U159 | 78-93-3 | Methyl ethyl ketone (MEK) (I,T) |
| U159 | 78-93-3 | 2-Butanone (I,T) |
| U160 | 1338-23-4 | Methyl ethyl ketone peroxide (R,T) |
| U160 | 1338-23-4 | 2-Butanone, peroxide (R,T) |
| U161 | 108-10-1 | Methyl isobutyl ketone (I) |
| U161 | 108-10-1 | 4-Methyl-2-pentanone (I) |
| U161 | 108-10-1 | Pentanol, 4-methyl- |
| U162 | 80-62-6 | Methyl methacrylate (I,T) |
| U162 | 80-62-6 | 2-Propenoic acid, 2-methyl-, methyl ester (I,T) |
| U163 | 70-25-7 | MNNG |
| U163 | 70-25-7 | Guanidine, N-methyl-N'-nitro-N-nitroso- |
| U164 | 58-04-2 | 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo- |
| U164 | 56-04-2 | Methylthiouracil |
| U165 | 91-20-3 | Naphthalene |
| U166 | 130-15-4 | 1,4-Naphthalenedione |
| U166 | 130-15-4 | 1,4-Naphthoquinone |
| U167 | 134-32-7 | alpha-Naphthylamine |
| U167 | 134-32-7 | 1-Naphthalenamine |
| U168 | 91-59-8 | beta-Naphthylamine |
| U168 | 91-59-8 | 2-Naphthalenamine |
| U169 | 98-95-3 | Nitrobenzene (I,T) |
| U169 | 98-95-3 | Benzene, nitro- |
| U170 | 100-02-7 | Phenol, 4-nitro- |
| U170 | 100-02-7 | p-Nitrophenol |
| U171 | 79-46-9 | Propane, 2-nitro- (I,T) |
| U171 | 79-46-9 | 2-Nitropropane (I,T) |
| U172 | 924-16-3 | N-Nitrosodi-n-butylamine |
| U172 | 924-16-3 | 1-Butanamine, N-butyl-N-nitroso- |
| U173 | 1116-54-7 | N-Nitrosodiethanolamine |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U173 | 1116-54-7 | Ethanol, 2,2'-(nitrosoimino)bis- |
| U174 | 55-18-5 | Ethanamine, N-ethyl-N-nitroso- |
| U174 | 55-18-5 | N-Nitrosodiethylamine |
| U176 | 759-73-9 | Urea, N-ethyl-N-nitroso- |
| U176 | 759-73-9 | N-Nitroso-N-ethylurea |
| U177 | 684-93-5 | N-Nitroso-N-methylurea |
| U177 | 684-93-5 | Urea, N-methyl-N-nitroso- |
| U178 | 615-53-2 | N-Nitroso-N-methylurethane |
| U178 | 615-53-2 | Carbamic acid, methylnitroso-,ethyl ester |
| U179 | 100-75-4 | N-Nitrosopiperidine |
| U179 | 100-75-4 | Piperidine, 1-nitroso- |
| U180 | 930-55-2 | Pyrrolidine, 1-nitroso |
| U180 | 930-55-2 | N-Nitrosopyrrolidine |
| U181 | 99-55-8 | 5-Nitro-o-toluidine |
| U181 | 99-55-8 | Benzenamine, 2-methyl-5-nitro |
| U182 | 123-63-7 | Paraldehyde |
| U182 | 123-63-7 | 1,3,5-Trioxane, 2,4,6-trimethyl- |
| U183 | 608-93-5 | Pentachlorobenzene |
| U183 | 608-93-5 | Benzene, pentachloro- |
| U184 | 76-01-7 | Pentachloroethane |
| U184 | 76-01-7 | Ethane, pentachloro- |
| U185 | 82-68-8 | Pentachloronitrobenzene (PCNB) |
| U185 | 82-68-8 | Benzene, pentachloronitro- |
| U186 | 504-60-9 | 1-Methylbutadiene (I) |
| U186 | 504-60-9 | 1,3-Pentadiene (I) |
| U187 | 62-44-2 | Acetamide, N-(4-ethoxyphenyl)- |
| U187 | 62-44-2 | Phenacetin |
| U188 | 108-95-2 | Phenol |
| U189 | 1314-80-3 | Sulfur phosphide (R) |
| U189 | 1314-80-3 | Phosphorus sulfide (R) |
| U190 | 85-44-9 | Phthalic anhydride |
| U190 | 85-44-9 | 1,3-Isobenzofurandione |
| U191 | 109-06-8 | 2-Picoline |
| U191 | 109-06-8 | Pyridine, 2-methyl- |
| U192 | 23950-58-5 | Benzamide, 3, 5-dichloro-N-(1,1-dimetyl-2-propynyl)- |
| U192 | 23950-58-5 | Pronamide |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U193 | 1120-71-4 | 1,3-Propane sultone |
| U193 | 1120-71-4 | 1,2-Oxathiolane, 2,2-dioxide |
| U194 | 107-10-8 | 1-Propanamine (I,T) |
| U194 | 107-10-8 | n-Propylamine (I,T) |
| U196 | 110-86-1 | Pyridine |
| U197 | 106-51-4 | 2,5-Cyclohexadienediene-1,4-dione |
| U197 | 106-51-4 | p-Benzoquinone |
| U200 | 50-55-5 | Yohimban-16-carboxylic |
| U200 | 50-55-5 | Reserpine |
| U201 | 108-46-3 | 1,3-Benzenediol |
| U201 | 108-46-3 | Resorcinol |
| U202 | P81-07-2 | Saccharin and salts |
| U202 | P81-07-2 | 1,2-Benzisothiazol-3 (2H)-one,1,1-dioxide, and salts |
| U203 | 94-59-7 | 1,3-Benzodioxole, 5-(2-propenyl)- |
| U203 | 94-59-7 | Safrole |
| U204 | 7783-00-8 | Selenium dioxide |
| U204 | 7783-00-8 | Selenious acid |
| U205 | 7488-56-4 | Selenium sulfide |
| U205 | 7488-56-4 | Selenium disulfide $SeS_2$ (R,T) |
| U206 | 18883-66-4 | Streptozotocin |
| U206 | 18883-66-4 | Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-,D- |
| U206 | 18883-66-4 | D-Glucose, 2-deoxy-2[[ (methylnitrosoamino)-carbonyl]amino]- |
| U207 | 95-94-3 | 1,2,4,5-Tetrachlorobenzene |
| U207 | 95-94-3 | Benzene, 1,2,4,5-tetrachloro- |
| U208 | 630-20-6 | 1,1,1,2-Tetrachloroethane |
| U208 | 630-20-6 | Ethane, 1,1,1,2-tetrachloro- |
| U209 | 79-34-5 | 1,1,2,2-Tetrachloroethane |
| U209 | 79-34-5 | Ethane, 1,1,2,2-tetrachloro- |
| U210 | 127-18-4 | Ethene, tetrachloro- |
| U210 | 127-18-4 | Tetrachloroethylene |
| U211 | 56-23-5 | Methane, tetrachloro- |
| U211 | 56-23-5 | Carbon tetrachloride |
| U213 | 109-99-9 | Tetrahydrofuran (I) |
| U213 | 109-99-9 | Furan, tetrahydro- (I) |
| U214 | 563-68-8 | Acetic acid, thallium(1+)salt |
| U214 | 563-68-8 | Thallium (I) acetate |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U215 | 6533-73-9 | Carbonic acid, dithallium (1+) salt |
| U215 | 6533-73-9 | Thallium (I) carbonate |
| U216 | 7791-12-0 | Thallium (I) chloride |
| U216 | 7791-12-0 | Thallium (I) chloride T1C1 |
| U217 | 10102-45-1 | Thallium (I) nitrate |
| U217 | 10102-45-1 | Nitric acid, thallium(1+) salt |
| U218 | 62-55-5 | Ethanethioamide |
| U218 | 62-55-5 | Thioacetamide |
| U219 | 62-56-6 | Thiourea |
| U220 | 108-88-3 | Benzene, methyl- |
| U220 | 108-88-3 | Toluene |
| U221 | 25376-45-8 | Toluenediamine |
| U221 | 25376-45-8 | Benzenediamine, ar-methyl- |
| U222 | 636-21-5 | o-Toluidine hydrochloride |
| U222 | 636-21-5 | Benzenamine, 2-methyl-, hydrochloride |
| U223 | 26471-62-5 | Benzene, 1,3-diisocyanatomethyl-(R,T) |
| U223 | 26471-62-5 | Toluene diisocyanate (R,T) |
| U225 | 75-25-2 | Bromoform |
| U225 | 75-25-2 | Methane, tribromo- |
| U226 | 71-55-6 | Ethane, 1,1,1-trichloro- |
| U226 | 71-55-6 | Methylchloroform |
| U227 | 79-00-5 | 1,1,2-Trichloroethane |
| U227 | 79-00-5 | Ethane, 1,1,2-trichloro- |
| U228 | 79-01-6 | Ethene, trichloro- |
| U228 | 79-01-6 | Trichloroethylene |
| U234 | 99-35-4 | 1,3,5-Trinitrobenzene (R,T) |
| U234 | 99-35-4 | Benzene, 1,3,5-trinitro- |
| U235 | 126-72-7 | Tris(2,3-dibromopropyl) phosphate |
| U235 | 126-72-7 | 1-Propanol, 2,3-dibromo-, phosphate (3:1) |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U236 | 72-57-1 | 2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3' -dimethyl-[1,1'-biphenyl]-4,4'-diyl)bis (azo)bis[5-amino-4-hydroxyl]-,tetrasodium salt |
| | | (8S-cis)-8-acetyl-10-[(3 -amino-2,3,6-trideoxy-alpha-L-lyxo-hexa |
| U236 | 72-57-1 | Trypan blue |
| U237 | 66-75-1 | 2,4-(1H,3H)-Pyrimidinedione, 5-[bis (2-chloroethyl)amino]- |
| U237 | 66-75-1 | Uracil mustard |
| U238 | 51-79-6 | Ethyl carbamate (urethane) |
| U238 | 51-79-6 | Carbamic acid, ethyl ester |
| U239 | 1330-20-7 | Xylene (I) |
| U239 | 1330-20-7 | Benzene, dimethyl-(I,T) |
| U240 | P94-75-7 | Acetic acid, (2,4-dichlorophenoxy)-, salts and esters |
| U240 | P94-75-7 | 2,4-D, salts and esters |
| U243 | 1888-71-7 | 1-Propene, 1,1,2,3,3, 3-hexachloro- |
| U243 | 1888-71-7 | Hexachloropropene |
| U244 | 137-26-8 | Thiram |
| U244 | 137-26-8 | Thioperoxydicarbonic diamide [($H_2N$)C (S)]2S2, tetramethyl- |
| U246 | 506-68-3 | Cyanogen bromide CNBr |
| U247 | 72-43-5 | Methoxychlor |
| U247 | 72-43-5 | Benzene, 1,1'-(2,2,2-trichloroethylidene(bis [4-methoxy- |
| U248 | P81-81-2 | Warfarin, and salts, when present at concentrations of 0.3% or less |

| USEPA Hazardous Waste Number | Chemical Abstracts Number | Hazardous Waste |
|---|---|---|
| U248 | P81-81-2 | 2H-1-Benzopyran-2-one, 4-hydroxyl-3-(3-oxo-1-phenylbutyl)-, and salts, when present at concentrations of 0.3% or less |
| U249 | 1314-84-7 | Zinc phosphide $Zn_3P_2$, when present at concentrations of 10% or less acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxy benzoyl)oxy]-,methyl ester, |
| U328 | 95-53-4 | Benzenamine, 2-methyl- |
| U328 | 95-53-4 | o-Toluidine |
| U353 | 106-49-0 | p-toluidine |
| U353 | 106-49-0 | Benzenamine, 4-methyl- |
| U359 | 110-80-5 | Ethylene glycol monoethyl ether |
| U359 | 110-80-5 | Ethanol, 2-ethoxy- |

ATTACHMENT B

EXAMPLES OF INCOMPATIBLE WASTES OR
INCOMPATIBILITY CLASSIFICATION AT ARGONNE

STATE ID. NO. 0438020002

IL3890008946

# EXAMPLES OF INCOMPATIBLE WASTES OR WASTE COMPATIBILITY CLASSIFICATIONS AT ARGONNE

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequences as noted.

| Group 1-A | Group 1-B |
|---|---|
| Acetylene sludge | Acid sludge |
| Alkaline caustic liquids | Acid and water |
| Alkaline cleaner | Battery acid |
| Alkaline corrosive liquids | Chemical cleaners |
| Alkaline corrosive battery fluid | Electrolyte, acid |
| Caustic wastewater | Etching acid, liquid or solid |
| Lime sludge and other corrosive alkalis | Pickling liquor and other corrosive acids |
| Lime wastewater | Spent acid |
| Lime and water | Spent mixed acid |
| Spent caustic | Spent sulfuric acid |

Potential consequences: Heat generation; violent reaction

| Group 2-A | Group 2-B |
|---|---|
| Aluminum<br>Beryllium<br>Calcium<br>Lithium<br>Magnesium<br>Potassium<br>Sodium<br>Zinc powder<br>Other reactive metals and metal hydrides | Any waste in Groups 1-A or 1-B |

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

| Group 3-A | Group 3-B |
|---|---|
| Alcohols<br>Water<br>Other water-reactive metals<br>and metal hydrides | Any concentrated waste in Groups 1-A or 1-B<br>Calcium<br>Lithium<br>Metal hydrides<br>Potassium<br>$SO_2Cl_2$, $SOCl_2$, $PCl_3$, $CH_3SiCl_3$ |

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

| Group 4-A | Group 4-B |
|---|---|
| Alcohols<br>Aldehydes<br>Halogenated hydrocarbons<br>Nitrated hydrocarbons<br>Unsaturated hydrocarbons<br>Other reactive organic compounds and solvents | Concentrated Group 1-A or 1-B wastes<br>Group 2-A wastes |

Potential consequences: Fire, explosion or violent reaction.

| Group 5-A | Group 5-B |
|---|---|
| Spent cyanide or sulfide solutions | Group 1-B wastes |

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

| Group 6-A | Group 6-B |
|---|---|
| Chlorates | Acetic acid and other organic acids |
| Chlorine | Concentrated mineral acids |
| Chlorites | Group 2-A wastes |
| Chromic acid | Group 4-A wastes |
| Hypochlorites | Other flammable and combustible wastes |
| Nitrates | |
| Nitric acid, fuming | |
| Perchlorates | |
| Permanganates | |
| Peroxides | |
| Other strong oxidizers | |

Potential consequences: Fire, explosion, or violent reaction.

ATTACHMENT C

ATTACHMENTS PERTAINING TO CORRECTIVE ACTION

ARGONNE

STATE ID NO. 0438020002

IL3890008946

| | |
|---|---|
| Attachment C-1 | Status of the Corrective Action Efforts at the Units of Concern at Argonne |
| Attachment C-2 | Chronological Summary of Illinois EPA Letters Addressing Corrective Action Plans/Reports from Argonne |

ATTACHMENT C-1

STATUS OF THE CORRECTIVE ACTION EFFORTS
AT THE UNITS OF CONCERN AT ARGONNE

STATE ID NO. 0438020002

IL3890008946

# Attachment C-1
# Status of the Corrective Action Efforts at the Units of Concern at Argonne

The status of corrective action at the 62 SWMUs/AOCs of concern at Argonne as of November 2024 can be broken down into one of three general categories:

- No Further Action (NFA) needed (regular type)
- ***Investigation on-going (bold and italic typeset)***
- *Corrective action on-going (italic set type)*

The table below identifies the specific status of corrective action efforts at each of the 62 SWMUs/AOCs of concern at the Argonne facility. SWMU 1 through AOC-G below were identified as SWMUs/AOCs of concern in the RCRA Hazardous Waste Management permit issued to Argonne in 1997. AOC-H, I and J below were discovered during the course of corrective action efforts conducted between 1997 and 2009. The last four units in this table were RCRA permitted units that were clean closed under the permit's corrective action program (it must be noted that hazardous waste management units are a subset of solid waste management units).

Note: PCC = post-closure care
Pmt'd = RCRA permitted unit
LUCMOA = Land Use Memorandum of Agreement
IC = institutional control

| SWMU No. | SWMU Name | Status |
|---|---|---|
| *1* | *Facility 318-Compressed Gas Cylinder Burial Area* | *Closed as landfill; in PCC. Groundwater monitoring/remediation systems in place. Phytoremediation system discontinued in April 2017.* |
| *2* | *319 Area Landfill* | *Same as SWMU 1.* |
| *4* | *800 Area Landfill* | *Closed as landfill; in PCC including groundwater monitoring.* |
| 5 | East Area Sewage Treatment Sand Filter Beds | NFA approved 5/14/2001 |
| 6 | Fossil Energy User's Lab (FEUL) Settling Pond | NFA approved 12/18/2000 |
| 7 | Freund Ponds | NFA approved 1/16/2004; IC req'd |

| SWMU No. | SWMU Name | Status |
|---|---|---|
| 9 | Building 108-Equalization Pond | NFA approved 11/16/2000 |
| *11* | *317 Area French Drain* | *Interim measures completed. Groundwater monitoring/remediation systems in place. Phytoremediation system discontinued in April 2017.* |
| 12 | 317 Area Map Tube Vault | NFA approved 8/24/2000 |
| *13* | *317 Area East Vaults Footing Drain* | *Same as SWMU 11.* |
| *18* | *319 Area French Drain* | *Same as SWMU 11.* |
| *19* | *East Northeast (ENE) 319 Landfill* | *Closed as landfill; in PCC Including groundwater monitoring.* |
| *20* | *800 Area French Drain* | *Same as SWMU 4.* |
| 21 | Laboratory Sewer | NFA approved 12/18/2000 |
| 104 | Laboratory Retention Tanks | NFA approved 7/23/2003 |
| 105 | Laboratory Retention Tanks | NFA approved 7/23/2003 |
| 106 | Laboratory Retention Tanks | NFA approved 7/23/2003 |
| 132 | Sanitary Sewer | NFA approved 3/20/2000 |
| 133 | 570 Area-Unlined Holding Basin | NFA approved 4/25/2003 |
| 134 | 570 Area Laboratory WW Sludge Drying Beds | NFA approved 2/15/2001 |
| 136 | 570 Area Sanitary WW Sludge Drying Beds | NFA approved 12/11/2001 |
| 137 | Canal Water Treatment Plant Settling Ponds | NFA approved 12/18/2000 |
| 138 | East Area Sanitary Sewers | NFA approved 5/15/2000 |
| 142 | East Area Burn Pit | NFA approved 12/18/2000 |
| 146 | $A^2R^2$ Reactor Excavation Fill | NFA approved 3/7/2002 |
| 148 | South of 381-Ravines Filled with Trash | NFA approved 12/18/2000 |
| 150 | Building 34-Liquid Mixed Waste Treatment | NFA approved 3/10/2003 |
| 151 | Building 330-Yard with Materials for Decomm | NFA approved 7/14/2003 |
| 152 | Waste Oil Storage Area | NFA approved 12/18/2000 |

| SWMU No. | SWMU Name | Status |
|---|---|---|
| 159 | Waste Oil Satellite Accumulation Area (Bldg 205) | NFA approved 1/20/1999 |
| 161 | Waste Oil Satellite Accumulation Area (Bldg 208) | NFA approved 1/20/1999 |
| 162 | Waste Oil Satellite Accumulation Area (Bldg 211) | NFA approved 1/20/1999 |
| 163 | Waste Oil Satellite Accumulation Area (Bldg 212) | NFA approved 1/20/1999 |
| 170 | Building 815-Waste Oil Satellite Accumulation Area | NFA approved 12/18/2000 |
| 176 | Scrap Metal Storage-West of Building | NFA approved 12/18/2000 |
| 177 | Boiler House Ash Silo | NFA approved 3/24/2000 |
| 178 | 360 Area Fenced Low Level Rad Waste Staging Area | NFA approved 5/11/2000 |
| 179 | Storm Sewers-Cooling Tower Wastewater | NFA approved 5/30/2002 |
| 180 | Scrap Disposal Staging Area<br>East of 377 Cooling Towers | NFA approved 11/14/2001 |
| 182 | Waste Oil Spread on Roads | NFA approved 5/22/2001 |
| 498 | 320 Area Shooting Range | NFA approved 3/4/2003 |
| 693 | Building 24 Former Boiler House Settling Tank | NFA approved 2/3/1999 |
| 694 | Building 108B-Baghouse Unit | NFA approved 3/24/2000 |
| 721 | Building 310-Retention Tank Sump | NFA approved 7/23/2003 |
| 725 | Central Boiler House Ash Loader | NFA approved 3/24/2000 |
| 736 | 800 Area Transformer Storage Pad | NFA approved 12/18/2000 |
| 744 | Newly Identified Suspected Solid Waste Landfill | NFA approved 1/16/2004; IC req'd |
| 745 | Building 214 Sump | NFA approved 11/21/2000 |
| 746 | Floor Drains in Building 300 | NFA approved 3/3/2010 |
| 747 | Building 310<br>Soils North and West of Former Building 310 | NFA Approved 12/13/2016<br>Soils South of Former Building 310 (under asphalt engineered barrier) incorporated into LUCMOA |

| SWMU No. | SWMU Name | Status |
|---|---|---|
| AOC-B | 800 Area Landfill Wetland Area | NFA approved 8/9/2000 |
| AOC-C | 800 Area Landfill Leachate Seep | Same as SWMU 4. |
| AOC-F | Contaminated Soil Near Building 827 | NFA approved 1/16/2004; IC req'd |
| AOC-G | Off-site GW Seeps (south of 317/319/ENE Area) | Same as SWMU 11. |
| AOC-H | Soil Contam with TCE Near Former Building 24 | NFA approved 3/7/2002 |
| AOC-I | Creek Sediment Near ENE Landfill | NFA approved 1/16/2004; IC req'd |
| ***AOC-J*** | ***Lead in Soil Near Water Towers*** | ***Assessment plan approved by Illinois EPA 1/18/08; assessment report submitted 2/4/10 and under Illinois EPA review.*** |
| Pmt'd | Building 329 | Closure cert app'd 3/16/2005 |
| Pmt'd | Building 317 Decon Unit | Closure cert app'd 5/26/2006 |
| Pmt'd | Building 325 | Closure cert app'd 6/20/2006 |
| Pmt'd | Building 374A S01 Unit | Closure cert app'd 8/28/2007 |

ATTACHMENT C-2

CHRONOLOGICAL SUMMARY OF ILLINOIS EPA LETTERS ADDRESSING CORRECTIVE ACTION PLANS/REPORTS FROM ARGONNE

STATE ID NO. 0438020002

IL3890008946

## Attachment C-2

## Chronological Summary of Illinois EPA Letters Addressing Corrective Action Plans/Reports from Argonne

The following is a chronological listing of all letters issued by Illinois EPA regarding corrective action efforts at this facility through November 2024. These letters in turn, respond to the various corrective action submittals made by the Permittee. It must be noted Argonne initiated corrective action efforts prior to the issuance of its RCRA Hazardous Waste Management permit on September 30, 1997.

| Date of Letter/Illinois EPA Log No. | Description of Illinois EPA Letter |
|---|---|
| 8/16/1994 (B-75-CA-1) | Approved RFI work plan for the following SWMUs present in the 317/319/ENE Area: SWMUs 1, 2, 11, 12, 13, 18, 19, 184 and 493. |
| 11/17/1994 (B-75-CA-2) | Approved RFI work plan for the following SWMUs present in the 800 Area: SWMUs 4, 20, 152, 153-170, 176, 182, 504-527, 529-552, 733, 744, AOC-B and AOC-C. |
| 12/7/1994 | Approved request to delay corrective action activities at SWMU 493 (Facility 317 Concrete Storage Pad) approved in the Illinois EPA August 16, 1994, letter (this unit was a hazardous waste storage area that would eventually have to undergo RCRA closure.) |
| 4/14/1995 | Approved with conditions certain proposed changes to the approved RFI work plans for the 317/319/ENE Area and the 800 Area. |
| 5/10/1995 (B-75-CA-1) | Determined that interim action had been completed at Building 810 Former Waste Solvent Disposal Area (SWMU 147) and no further remediation is necessary at this unit. |
| 8/29/1995 (B-75-CA-1) | Approved document entitled "319 Area Interim Action Work Plan". This document described the proposed interim action activities to be performed at the 319 Area Landfill (SWMU 2) and 319 Area French Drain (SWMU 18). The interim action activities included construction of a leachate collection trench and a barrier wall south of the 319 Area Landfill to prevent migration of contaminated leachate and groundwater from the 319 Area Landfill to the south of the landfill. |
| 6/25/1996 (B-75-CA-2) | Approved document entitled "Preliminary Assessment Work Plan for Ten Solid Waste Management Units at Argonne National Lab-East". This document contained a work plan to perform preliminary assessment for SWMU: 9, 175, 177, 180, 181, 554, 693, 694, 725 and 736. |
| 6/25/1996 (B-75-CA-2) | Contained list of SWMUs to be addressed under facility's corrective action program. |
| 6/25/1996 (B-75-CA-1) | Approved a document entitled "Final Documentation Report, 319 Area Interim Action". This report documented completion of the interim action activities at the 319 Area Landfill (SWMU 2). The interim action included construction of a leachate collection trench, installation of leachate and groundwater recovery wells, and construction of a barrier wall south of the unit. |
| 7/10/1996 (B-75-CA-1) | Approved document entitled "Area 317 Map Tube Facility, Decontamination Report". This report described the decontamination activities performed at the Map Tube Facility (SWMU 12). These decontamination activities were conducted as part of an interim action and consisted of dewatering, debris removal, scrubbing and pressure rinsing of the tube interiors, removal of tube from the concrete monolith, packaging, and off-site disposal. |

| Date of Letter/Illinois EPA Log No. | Description of Illinois EPA Letter |
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| 7/16/1996 (B-75-CA-2) | Approved the documents entitled: (1) 800 Area RFI, Documentation Report; and (2) Revised Sections-800 Area RFI Work Plan. The first submittal contained the results of the RFI activities at various SWMUs at the 800 Area and the second submittal contained a work plan to perform next phase of the RFI at the 800 Area. The following SWMUs were addressed in this submittal: 4, 20, 152, 153-170, 176, 182, 504-527, 529-552, 733, 744, AOC-B and AOC-C. Illinois EPA required that operation and closure of SWMUs 504-527 and 529-552 should be carried out in accordance with Illinois State Fire Marshall regulations and 35 IAC 731. These SWMUs are petroleum underground storage tanks located throughout the facility. |
| 12/5/1996 (B-75-CA-3) | Approved a document entitled "Addendum to the Proposed Revisions to the RCRA Facility Assessment Report". This submittal contained information regarding 13 SWMUs. Illinois EPA granted NFA for SWMU 181-Cooling Tower for EBWR and SWMU 554-East Area Transformer Storage Pad. |
| 2/18/1997 (B-75-CA-1) | Sent out in response to the following reports: (1) Preliminary Engineering Report, Contaminated Groundwater Seeps, 317/319/ENE Area; and (2) Inspection and Monitoring Plan, Contaminated Groundwater Seeps, 317/319/ENE Area. These submittals contained information regarding the groundwater seeps discovered in the Waterfall Glen Forest Preserve. This letter approved with conditions the Preliminary Engineering Report; however, the Inspection and Monitoring Plan was disapproved. |
| 4/7/1997 (B-75-CA-5) | Approved a document entitled "Interim Action Work Plan, Facility 318 Compressed Gas Cylinder Burial Area". This work plan described an interim action of placing a concrete cover over the entire SWMU 1-Compressed Gas Cylinder Burial Area. |
| 4/10/1997 (B-75-CA-2) | Sent out in response to the following documents: (1) Preliminary Site Assessments for 32 SWMUs; (2) Screening Risk Assessment for 16 SWMUs; and (3) Facility Modification Documentation Report at Nine SWMUs. This letter granted NFA for the following SWMUs: 153, 156, 157, 158, 160, 164, 167, 502, 690-692, 696, 698, 705-710, and 740. |
| 4/21/1997 (B-75-CA-4) | Approved a document entitled "Preliminary Interim Action Work Plan for the 317 Area Groundwater Seep". This work plan described an interim action to seal a possible migration pathway for contaminated groundwater problem south of the 317/319/ENE Area. This interim action included locating and sealing of the underground pipe and adjacent porous bedding of the 317 Area East Vault Footing Drain (SWMU 13). |
| 5/20/1997 (B-75-CA-2) | Written as a follow-up to the April 10,1997, letter and disapproved the request for an NFA for SWMU 146-$A^2R^2$ Reactor Excavation Fill. |
| 5/20/1997 (B-75-CA-8) | Superseded April 7, 1997, letter with a minor modification made regarding the proposed interim action at SWMU 1-Compressed Gas Cylinder Burial Area. |
| 7/14/1997 (B-75-CA-9) | Approved a document entitled "Interim Action Work Plan for Treating Soil in the Vicinity of the 317 Area French Drain." This work plan described an interim action to treat contaminated soil present in the vicinity of the 317 Area French Drain (SWMU 11) using Soil Mixing/Thermally Enhanced Soil Vapor Extraction (SM/TESVE) technology. |
| 7/28/1997 (B-38-CA-6) | Approved a document entitled "Interim Action Work Plan for the 317 Area Groundwater Seep". This work plan described an interim action to prevent the migration of contaminated groundwater from the 317 Area into the Waterfall Glen Forest Preserve located south of the 317/319/ENE Area. |

| Date of Letter/Illinois EPA Log No. | Description of Illinois EPA Letter |
|---|---|
| | This proposed interim action included: (1) locating and sealing of the underground pipe and adjacent porous bedding of the 317 Area East Vault Footing Drain (SWMU 13); and (2) installation of a groundwater extraction system near the south fence line. |
| 7/28/1997 (B-38-CA-10) | Approved a document entitled "Interim Action Work Plan for the 800 Area Landfill Cap Extension." This work plan described an interim action to extend the cap of the 800 Area Landfill (SWMU 4) to cover exposed debris and buried waste located north and west of the landfill. |
| 9/30/1997 (B-75) | A RCRA Hazardous Waste Management permit was issued to Argonne. Among other things, this permit required Argonne to take corrective action, as appropriate, on 54 units. Note that some corrective action efforts had been completed by Argonne before the issuance of this permit. |
| 10/27/1997 (B-75-CA-13) | Approved document entitled "Interim Action Documentation Report for the 318 Compressed Gas Cylinder Burial Area (SWMU 1)". This report documented completion of interim action activities at the 318 Compressed Gas Cylinder Burial Area (SWMU 1). The interim action consisted of placing a reinforced concrete cover over the entire 318 Area. |
| 10/27/1997 (B-75-CA-12) | Approved document entitled "Interim Action Documentation Report for the 317 Area Groundwater Seep". This document contained a documentation of the interim action activities performed at the 317 Area East Vault Footing Drain (SWMU 13). The interim action activities included locating and sealing/grouting of the underground pipe (Legs 5 and 6) and adjacent porous bedding of SWMU 13 which leads from the vault to the south fence line of the area. |
| 12/10/1997 (B-75-CA-16) | Sent out in response to an August 28, 1997, submittal and approved a proposed soil verification sampling plan for the 317 Area French Drain (SWMU 11). |
| 7/6/1998 (B-75-CA-19) | Approved document entitled "Building 24: Former Boiler House Settling Tank SWMU 693, Final Design Report and Construction Work Plan for Corrective Action". This report described the proposed corrective action activities for the Building 24-Former Boiler House Settling Tank (SWMU 693). The proposed corrective action activities consisted of excavation/disposal of contaminated soil, removal of settling tank, and verification soil sampling/analysis activities. |
| 9/11/1998 (B-75-CA-20) | Approved document entitled "Interim Action to Treat Soil in the Vicinity of the 317 Area French Drain, Quarterly Progress Report No. 4 for the Period from April 1, 1998, through June 30, 1998". This submittal contained a sampling plan to define the boundary between contaminated and clean treated soil in the area where the Soil Mixing/Thermally Enhanced SVE was being used. |
| 1/20/1999 (B-75-CA-21) | Approved NFA request for the following SWMUs: 159, 161, 162 and 163. |
| 1/29/1999 (B-75) | Approved NFA request for the following SWMUs: 185, 702 and 733. |
| 2/3/1999 (B-75-CA-26 & 27) | Granted for Building 24: Former Boiler House Settling Tank (SWMU 693). |
| 3/1/1999 (B-75-CA-14 ; 22 ; 24) | Approved the following submittals: (1) Determination of Corrective Action Report for the 317 Area French Drain (SWMU 11); (2) Conceptual Design Report for the 317 Area French Drain; and (3) 317 Area French Drain Soil Mixing Final Report. The first submittal contained a summary of RFI for SWMU 11, proposed Tier 2 soil/groundwater objectives, and a comparison of the soil and groundwater. The second submittal contained a proposal to use phytoremediation to address both soil and groundwater present in the vicinity of SWMU 11. The third submittal described the steps taken to implement an interim action at SWMU 11 which consisted of treatment of contaminated soils at SWMU 11 using Soil Mixing/Thermally Enhanced SVE technology. |

| Date of Letter/Illinois EPA Log No. | Description of Illinois EPA Letter |
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| 3/24/1999 (B-75-CA-14) | Follow-up to the Illinois EPA March 1, 1999, letter and disapproved the proposed Tier 2 groundwater objectives for SWMU 11. |
| 4/6/1999 (B-75-CA-27) | Sent out in response to a February 11, 1999, submittal regarding a newly identified area of concern (AOC) referred to as "Soil Contaminated with Trichloroethylene Near Former Building 24". This letter gave a designation of "AOC-H" to the new unit and required that it be investigated and remediated in accordance with Argonne's RCRA Hazardous Waste Management permit. |
| 4/23/1999 (B-75-CA-14) | Approved the following documents: (1) Determination of Corrective Action Report for the 317 Area East Vaults Footing Drain (SWMU 13); and (2) Conceptual Design Report for the 317 Area East Vaults Footing Drain. These submittals contained a proposal to locate and seal Legs 1 through 4 of SWMU 13 as well as filling Manhole No. 1 in a manner similar to that used for Legs 5 and 6 during the interim action activities. |
| 4/23/1999 (B-75-CA-29) | Approved the following documents: (1) Final Design Report and Construction Work Plan for Corrective Action for SWMUs 9, 175, 177, 694, and 725, Adjacent to the Building 108 Boiler House; and (2) Construction Specifications for SWMUs 9, 175, 177, 694, and 725, Adjacent to the Building 108 Boiler House. The proposed corrective action activities consisted of: (1) removal of contaminated gravel and soil associated with SWMUs 9, 175, 177, 694 and 725; (2) collection of verification soil samples; and (3) replacement with clean backfill and asphalt paving. |
| 4/27/1999 (B-75-CA-14) | Approved the following documents: (1) Determination of Corrective Action Report for the 319 Area Landfill and French Drain; and (2) Conceptual Design Report for the 319 Area Landfill and French Drain. These documents contained a proposal to place a cap over the 319 Area Landfill (SWMU 2) and 319 Area French Drain (SWMU 18) which extends over the 318 Area Compressed Gas Cylinder Burial Facility (SWMU 1). |
| 8/17/1999 (B-75-CA-30) | Approved the following documents: (1) Addendum to the Proposed Revisions to the RCRA Facility Assessment Report for ANL-E, SWMU 179 and SWMU 180; and (2) Corrective Action Plan for SWMU 179: Storm Sewers Cooling Tower Wastewater. These submittals proposed and Illinois EPA approved (1) NFA for Outfalls 003, 003H, 004, 005, 006, 007, and the two non-NPDES outfalls east of Building 202 of SWMU 179; (2) further evaluation of Outfall 003C of SWMU 179; (3) further evaluation of SWMU 180; and (4) a proposal to use phytoremediation to remediate Outfall 003C of SWMU 179. |
| 10/13/1999 (B-75-CA-23) | Approved document entitled "Investigation Work Plan, Building 34-Liquid Mixed Waste Treatment, SWMU 150". This document contained a sampling plan for both soil and groundwater to determine the nature and extent of any soil and groundwater contamination present in the vicinity of SWMU 150. |
| 2/10/2000 (B-75) | Approved document entitled "Supplemental Sampling and Analysis Plan for the 800 Area Wetland (Area of Concern B)." This submittal contained a proposed sampling and analysis plan for additional sediment sampling to determine whether NFA can be proposed or remedial actions are necessary for AOC-B. |
| 3/20/2000 (B-75) | Granted NFA for SWMU 132-Sanitary Sewer. |

| Date of Letter/ Illinois EPA Log No. | Description of Illinois EPA Letter |
|---|---|
| 3/22/2000 (B-75-CA-31) | Approved document entitled "Investigation Work Plan for Solid Waste Management Unit Numbers 5, 133, 134, 136, 146, 151, 745 and Area of Concern-H". This document contained: (1) a discussion of previous sampling results; (2) a proposal for additional soil and groundwater sampling at SWMUs 5, 133, 136, 146, 151 and AOC-H; and (3) a proposal to perform soil excavation efforts at SWMUs 134 and 745. |
| 4/5/2000 (B-75-CA-39) | Approved document entitled "Construction Work Plan for Solid Waste Management Unit Numbers 137, 142, 152, 170, 180, and 736". This document contained: (1) a proposal of contaminated soil removal and off-site disposal at SWMUs 137, 142, 152, 170, 180 and 736; and (2) a proposal of soil verification sampling at each SWMU to be completed after the soil removal effort. |
| 5/4/2000 (B-75-CA-40) | Approved document entitled "Investigation Work Plan for Solid Waste Management Unit Numbers 6, 21, 148, 176, and 182 of ANL-E Remedial Action". This document contained a proposal of characterization activities at SWMUs 6, 21, 148, 176 and 182. |
| 5/11/2000 (B-75-CA-42) | Granted NFA to SWMU 178-Fenced Low Level Radioactive Waste Staging Area. |
| 5/15/2000 (B-75-CA-41) | Granted NFA to SWMU 138-East Area Sanitary Sewer. |
| 7/13/2000 (B-75-CA-36 & 37) | Approved the following documents: (1) Construction Report for the 317 Area French Drain Phytoremediation Project (SWMU 11); and (2) Plant Disposal Plan for the 317 Area French Drain Phytoremediation Project (SWMU 11). The first submittal contained a construction report documenting completion of installation of the phytoremediation system. The second submittal contained a plan to managing any plants removed from the phytoremediation area. |
| 8/9/2000 (B-75-CA-47) | Granted NFA to 800 Area Wetland (AOC-B). |
| 8/24/2000 (B-75-CA-44) | Granted NFA to 317 Area Map Tube Vaults (SWMU 12). |
| 9/26/2000 (B-75-CA-49) | Sent out in response to an August 23, 2000, submittal. This submittal contained results of previous investigations performed for SWMU 5-East Area Sewage Treatment Sand Filter Beds and SWMU 133-570 Area Unlined Holding Basin. This letter required that (1) no further soil investigation/remediation is necessary at SWMU 5; and (2) soil and groundwater investigation for SWMU 133 be performed in accordance with the work plan approved by the Illinois EPA March 22, 2000, letter (B-75-CA-31). |
| 10/4/2000 (B-75-CA-48) | Sent out in response to a document entitled "Construction Report for Corrective Action for the 319 Area Landfill and French Drain (SWMUs 2 and 18) and the Facility 318 Compressed Gas Cylinder Burial Area (SWMU 1)". This submittal contained a documentation of completion of corrective measures for SWMUs 1, 2 and 18. The corrective measures include placement of a final cover system over SWMUs 1, 2 and 18. |
| 11/16/2000 (B-75-CA-50) | Granted NFA to SWMU 9-Building 108 Boiler House Equalization Pond. |
| 11/21/2000 (B-75-CA-51) | Granted NFA to SWMU 745-Building 214 Sump. |

| Date of Letter/ Illinois EPA Log No. | Description of Illinois EPA Letter |
|---|---|
| 11/27/2000 (B-75-CA-11; 28; 32) | Approved the following documents: (1) Response to Illinois EPA Information Request Regarding the Off-site Groundwater Seeps; (2) Groundwater Seeps in Waterfall Glen Forest Preserve South of the 300 Area—Subsurface Investigation Report; and (3) Proposal for a Groundwater Management Zone in the 317/319 Area at Argonne. These documents mainly deal with Off-site Groundwater Seeps (AOC-G). However, a groundwater management zone for the 317 and 319 Areas is also proposed. These documents were reviewed as requests to modify the approved corrective action programs for SWMUs 1, 2, 11, 13, 18, 19 and AOC-G. |
| 11/29/2000 (B-75-CA-45) | Disapproved proposed Tier 3 work plan for SWMU 179-Storm Sewers Cooling Tower Wastewater Outfall 003C Area. |
| 12/18/2000 (B-75-CA-52) | Granted NFA to SWMUs 137, 142, 152, 170 and 736. |
| 12/18/2000 (B-75-CA-53) | Granted NFA to SWMUs 6, 21, 148 and 176. |
| 2/15/2001 (B-75-CA-54) | Granted NFA to SWMU 134-570 Area Laboratory Wastewater Sludge Drying Beds. |
| 5/3/2001 (B-75-CA-56) | Approved a document entitled "Construction Work Plan for the East-Northeast Landfill (SWMU 19)". This work plan proposed the following activities for SWMU 19: (1) clearing and grubbing the area; (2) performing additional soil sampling; (3) consolidating the existing surface and subsurface waste and contouring the waste mound area; (4) placing a protective layer of soil over the waste mound; (5) adding a vegetative layer; (6) installing a surface water drainage system; (7) installing groundwater monitoring wells; and (8) implementing institutional controls. |
| 5/11/2001 (B-75-CA-57) | Approved a document entitled "Construction Work Plan for Area of Concern –F". This work plan described the proposed corrective action activities for Contaminated Soil Near Building 827 (AOC-F). The proposed activities included (1) contaminated soil removal and off-site disposal; and (2) soil verification sampling. |
| 5/14/2001 (B-75-CA-55) | Approved, with conditions, a document entitled "Investigation Report for Solid Waste Management Unit Numbers 5, 133, 136, 146, 151, and Area of Concern H". This letter determined no further soil investigation/remediation necessary for SWMUs 5, 136, 146, 151 and AOC-H; also determined no further action necessary for groundwater for SWMUs 5 and 133. |
| 5/22/2001 (B-75-CA-60) | Granted NFA for SWMU 182-Waste Oil Spread on Roads. |
| 7/16/2001 (B-75-CA-58) | Approved, with conditions, a document entitled "Revised Work Plan for Tier 3 Analysis for SWMU 179: Storm Sewers Cooling Tower Wastewater Outfall 003C Area." |
| 9/18/2001 (B-75-CA-63) | Approved, with conditions, the soil remediation aspects of a document entitled "Construction Work Plan for Solid Waste Management Unit No. 744". This work plan described the proposed corrective action activities for Suspected Solid Waste Landfill (SWMU 744). The proposed activities included (1) contaminated soil removal and off-site disposal; and (2) soil verification sampling. This submittal also contained results of groundwater sampling and information to support that classification of groundwater in the vicinity of SWMU 744 is Class II groundwater. |

| Date of Letter/ Illinois EPA Log No. | Description of Illinois EPA Letter |
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| 11/7/2001 (B-75-CA-62) | Approved, with conditions, a document entitled "Investigation Report, Building 34-Liquid Mixed Waste Treatment, SWMU 150". This submittal proposed (1) no further investigation for soil; (2) a corrective action to address groundwater contamination. The proposed activities included: (1) excavation/disposal of soil that contains pore water contaminated with metals; and (2) backfilling and restoring the excavation. |
| 11/14/2001 (B-75-CA-66) | Granted NFA to Scrap Disposal Staging Area East of the 377 Cooling Towers (SWMU 180). |
| 11/26/2001 (B-75-CA-63) | Approved, with conditions, a document entitled "Construction Work Plan for Solid Waste Management Unit No. 744". This work plan described the proposed corrective action activities for Suspected Solid Waste Landfill (SWMU 744). The proposed activities included (1) contaminated soil removal and off-site disposal; and (2) soil verification sampling. This submittal also contained results of groundwater sampling and information to support that classification of groundwater in the vicinity of SWMU 744 is Class II groundwater. |
| 12/11/2001 (B-75-CA-64) | Granted NFA to 570 Area Sanitary Wastewater Sludge Drying Beds (SWMU 136). |
| 2/6/2002 (B-75-CA-67) | Disapproved a request of NFA for Contaminated Soil Near Building 827 (AOC-F). This letter requires Argonne to submit plan by April 1, 2002, to properly address contamination detected at AOC-F. |
| 3/7/2002 (B-75-CA-68 & 69) | Approved NFA determination for groundwater for the following units: (1) $A^2R^2$ Reactor Excavation Fill (SWMU 146); and (2) Soil Contaminated with TCE Near Former Building 24(AOC-H). |
| 5/10/2002 (B-75-CA-59) | Approved a document entitled "Supplemental Sampling and Analysis Plan (SAP) for SWMU 7 (Freund Ponds)". This document contained a soil sampling and analysis plan. Based on the results of this sampling effort, an NFA or remedial action will be performed. |
| 5/16/2002 (B-75-CA-71) | Approved a February 22, 2002, submittal containing a proposal to modify planned remedial actions for the 317 Area East Vaults Footing Drain (SWMU 13). |
| 5/16/2002 (B-75-CA-72) | Approved a February 21, 2002, submittal containing a request to modify the groundwater RO for chloroform. |
| 5/16/2002 (B-75-CA-73) | Approved a document entitled "Construction Work Plan for the 320 Area Shooting Range SWMU 498". This document contained a work plan for investigation/remediation of contaminated soil present at the 320 Area Shooting Range (SWMU 498). |
| 5/30/2002 (B-75-CA-70) | Approved an NFA request for Storm Sewers Cooling Tower, Wastewater Outfall Area (SWMU 179)—Outfall 003C. |
| 7/31/2002 (B-75-CA-77) | Approved a document entitled "Construction Work Plan for 570 Holding Area-Unlined Holding Basin (SWMU 133)". This document contained a work plan to delineate the extent of arsenic contamination detected in soil near the influent pipe for this SWMU. |
| 7/31/2002 (B-75-CA-76) | Approved a document entitled "Solid Waste Management Unit Investigation Work Plan for the Building 310 Tanks and Sump (SWMUs 104, 105, 106 and 721)". This submittal addressed four SWMUs located in Building 310 (3 retention basins and 1 sump) referred to as SWMUs 104, 105, 106 and 721. This work plan described the activities completed to date and the activities which still needed to be carried out to complete corrective action at these SWMUs. |

| Date of Letter/ Illinois EPA Log No. | Description of Illinois EPA Letter |
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| 9/5/2002<br>(B-75-CA-1)<br>(B-75-CA-78) | Approved the following two documents: (1) "Agreement to Establish a Groundwater Management Zone at Argonne National Laboratory"; and (2) "Supplemental Investigation Work Plan for Building 330—Yard with Mixed Materials for Decommissioning (SWMU 151)". The first submittal addressed issues associated with the establishment of a GMZ for SWMUs in the 317/319 Area. The second submittal consisted of a proposed supplemental groundwater investigation plan for SWMU 151. Nickel was detected in the past in groundwater at concentrations above Class I standard at SWMU 151. |
| 12/3/02<br>(B-75-CA-81) | Approved remedial activities for SWMU 7 - Freund Ponds and indicated that once a proper institutional control has been established to restrict future use to industrial/commercial, Illinois EPA will be able to make a final NFA determination for this unit. |
| 12/4/02<br>B-75-CA-65 | Approved remedial activities completed at East-Northeast Landfill (SWMU 19). The letter required that post-closure care (including groundwater monitoring) be carried out for landfill. |
| 12/12/02<br>B-75-CA-82 | Approved a document entitled "Construction Report for Corrective Action for Solid Waste Management Unit No. 744" and determined No Further Action necessary for soil. Groundwater must still be addressed in accordance with Illinois EPA's November 26, 2001, letter. |
| 3/4/03<br>B-75-CA-86 | Approved a No Further Action determination for 320 Area Shooting Range (SWMU 498). |
| 3/10/03<br>B-75-CA-80<br>B-75-CA-84 | Approved: (1) a report entitled "Final Construction Report for Building 34-Liquid Mixed Waste Management (SWMU 150)"; and (2) additional information submitted January 14, 2003. Illinois EPA determined that No Further Action is necessary at SWMU 150. |
| 3/25/03<br>B-75-CA-6<br>B-75-CA-33<br>2002-396 | Approved construction of a final cover system over SWMUs 4 and 20 and AOC-C and set forth post-closure care requirements for these units. Seeps except for the post-closure care efforts. Post-closure period started September 14, 1999, and must continue for 15 years following this date. |
| 4/7/03<br>B-75-CA-91 | Approved a report entitled "Investigation Report for Area of Concern I (AOC-I)". This document contained the results of sampling performed at Contaminated Creek Sediments near ENE Landfill (AOC-I) and proposed No Further Action for this unit. This letter indicated that Illinois EPA will be able to make a final NFA determination for this unit once proper institutional control has been established for this unit. |
| 4/9/03<br>B-75-CA-79 | Approved a report entitled "Final Investigation Report for the Building 310 Retention Tanks and Sump (SWMUs 104, 105, 106 and 721)". This submittal documented the corrective action activities completed at four SWMU located in Building 310 (3 retention basins and 1 sump) referred to as SWMUs 104, 105, 106 and 721 and requested a No Further Action (NFA) determination for these units. Illinois EPA approved the NFA request provided that an engineered barrier shall be maintained over these units and proper institutional control is established. |
| 4/11/03<br>B-75-CA-90 | Approved a document entitled "Groundwater Monitoring Plan for the ENE Area Landfill at Argonne National Laboratory-East," dated March 17,2003. This submittal contained a proposed groundwater monitoring plan for the East Northeast (ENE) Landfill (SWMU 19). |
| 4/25/03<br>B-75-CA-89 | Approved a report entitled "Final Construction Report for the 570 Area – Unlined Holding Basin, SWMU 133" and documented No Further Action necessary for this SWMU. |

| Date of Letter/ Illinois EPA Log No. | Description of Illinois EPA Letter |
|---|---|
| 5/14/03<br>B-75-CA-88 | Approved, with conditions and modifications, a document entitled "Work Plan for Enhancements to 317 Area Remedial Actions at Argonne National Laboratory-East (ANL-E)". This submittal proposed various enhancements to the ongoing remedial activities (phytoremediation and groundwater extraction) at the 317/319/ENE Area for SWMUs 11, 13 and AOC G. |
| 7/14/03<br>B-75-CA-92 | Approved, with conditions and modifications, a document entitled "Tier 2 Evaluation Report for Solid Waste Management Unit No. 744." This submittal contained a Tier 2 groundwater evaluation and proposed a NFA for SWMU 744. This letter identified once a proper institutional control is established for this unit, Illinois EPA will be able to make an NFA determination for groundwater for this unit. |
| 7/14/03<br>B-75-CA-93 | Approved a report entitled "Final Supplemental Groundwater Investigation Report for Building 330 Yard with Mixed Materials for Decommissioning (SWMU 151)." This report contained results of groundwater sampling at SWMU 151 and requested a No Further Action determination for groundwater. Illinois EPA determined that no further action is necessary for groundwater for this unit. |
| 7/23/03<br>B-75-CA-95 | Approved a June 9, 2003, submittal regarding corrective action activities at SWMUs 104, 105, 106 and 721. The Illinois EPA letter indicated that no further action is necessary for SWMUs 104, 105, 106 and 721. An engineered barrier and institutional controls are also not necessary. The radiological contamination remaining at these units must be addressed in accordance with: (1) DOE Order 5400.5; and (2) Title 10, CFR 835. |
| 8/22/03<br>B-75-CA-94 | Illinois EPA signed a Land Use Control Memorandum of Agreement (LUCMOA) with Argonne. This LUCMOA imposes certain restrictions at various SWMUs at the facility such as industrial/commercial property use, maintenance of engineered barrier, etc. |
| 10/30/03<br>B-75-CA-96 | Approved a report entitled "Groundwater Assessment Plan for the 800 Area Landfill." This report was submitted to fulfill the requirement of Condition 14 of the Illinois EPA March 25, 2003, letter and contained a groundwater assessment plan for the 800 Area Landfill (SWMU 4). |
| 1/16/04<br>B-75-CA-97 | Approved a final NFA for SWMU 7, SWMU 744, AOC-F and AOC-I. A land use control is in place for these units in the form of LUCMOA. |
| 1/16/04<br>B-75-CA-98 | Approved a document entitled "Draft Risk-Based End State Document for Argonne National Laboratory-East." This document described the current land use of the Argonne site and the existing environmental hazards present at the site. DOE requested that Illinois EPA review the document and provide its comments. |
| 7/6/04<br>B-75-CA-99 | Approved a document entitled "Groundwater Assessment Report for the 800 Area Landfill at Argonne National Laboratory-East." This report was submitted to meet the requirements of Condition 11.c of Attachment A of the Illinois EPA March 25, 2003, letter and contained a groundwater assessment report for the 800 Area Landfill. |
| 8/3/04<br>B-75-CA-100 | Approved a closure plan for the "Building 329" hazardous waste container storage area. |
| 8/3/04<br>B-75-CA-101 | Approved a closure plan for a hazardous waste treatment unit referred to as "Building 317 Baler Room Dry Ice Pellet Decontamination Unit." |
| 2/9/05<br>B-75-CA-105 | Approved notification of a new area of concern AOC-J, Lead in Soil Near Water Towers; required submittal of an assessment plan. |

| Date of Letter/ Illinois EPA Log No. | Description of Illinois EPA Letter |
|---|---|
| 2/28/05<br>B-75-CA-103<br>B-75-CA-104 | Approved, with conditions and modifications, the following submittals regarding post-closure groundwater activities being carried out at the 800 Area: a letter dated September 14, 2004, requesting an extension for submission of a supplemental groundwater investigation work plan for groundwater at the 800 Area Landfill; and (2) a document entitled "Supplemental Groundwater Assessment Plan for the 800 Area Landfill at Argonne National Laboratory-East, Modification No. 2." |
| 3/16/05<br>B-75-CA-106 | Approved a closure documentation report for the Building 329 hazardous waste container storage area (see also B-75-CA-100 above). |
| 3/23/05<br>B-75-CA-102 | Approved notification of a new SWMU (Floor Drains in Building 300) and assessment plan. |
| 6/29/05<br>B-75-CA-108 | Rejected a report establishing background groundwater values for the 800 Area Landfill. |
| 7/8/05<br>B-75-CA-109 | Approved a closure plan for a hazardous waste container storage area known as Building 325C. |
| 8/11/05<br>B-75-CA-110 | Approved an assessment plan for AOC-J (lead in soil near water towers). |
| 10/25/05<br>B-75-CA-111 | Approved a submittal regarding establishment of background concentrations of groundwater parameters for the 800 Area Landfill (resubmitted). |
| 5/26/06<br>B-75-CA-107 | Approved closure documentation report for a hazardous waste treatment unit referred to as "Building 317 Baler Room Dry Ice Pellet Decontamination Unit." |
| 6/20/06<br>B-75-CA-112 | Approved closure certification for Building 325C (East & West Storage Areas). |
| 8/1/06<br>B-75-CA-113 | Approved a closure plan for the Building 374A Storage Area. |
| 8/28/07<br>B-75-CA-114 | Approved Closure Certification for building 374A Storage Area. |
| 7/5/07<br>B-75-CA-115 | Approved investigative report for AOC-J (possible lead contaminated soil around 7 water towers: 42, 564, 565, 566, 568, 584 and 585); no further action req'd at one tower (564); additional investigation required at the six other units. |
| 1/18/08<br>B-75-CA-116 | Approved submittal assessment plan for the six areas around the six water towers still of concern which comprise AOC-J. (Letter has incorrect log number on it.) |
| 11/21/08<br>B-75-CA-117 | Approved assessment report for SWMU 746 (Building 300 floor drain). |
| 11/10/09<br>B-75-CA-118 | Approved groundwater monitoring programs for the 317/319 Area, the ENE landfill, and the 800 Area Landfill. |

| Date of Letter/ Illinois EPA Log No. | Description of Illinois EPA Letter |
|---|---|
| 3/3/10<br>B-75-CA-119 | NFA determination for SWMU 746. |
| 7/24/2014<br>B-75R-CA-1 | Approval to modify Argonne corrective action program to include SWMU 747. Letter was a response to RCRA Facility Assessment submitted by Argonne to Illinois EPA in 2010. Illinois EPA letter requests that Argonne submit a work plan to conduct a soil investigation to determine extent of soil contamination. |
| 7/19/2011<br>B-75R-CA-3 | 5-year GMZ re-evaluation for 317/319 area landfills. |
| 9/17/2012<br>B-75R-CA-4<br>B-75R-CA-2 | Investigation of potential contamination of seven tanks which comprise Area of Concern J. No further action approved for Tanks 564, 42, 565, 566, and 584. Approved remedial measures for tanks 568 and 585. |
| 6/5/2013<br>B-75R-CA-5 | Corrective action study proposal for evaluation of 317 area phytoremediation system. |
| 10/9/2014<br>B-75R-CA-6 | Phytoremediation system evaluation report. |
| 5/6/2015<br>B-75R-CA-7 | Approved document entitled "Soil Investigation Work Plan for Building 310 (SWMU 747)". Document also approved the use of the asphalt parking lot south of the former Building 310 as an engineered barrier. |
| 12/13/2016<br>B-75R-CA-11 | NFA Determination for SWMU 747 (soils North and West of former Building 310). Approved engineered barrier (asphalt parking lot) for soils south of the former Building 310 and requested development of institutional control for barrier. |
| 5/18/2017<br>B-75-R-CA-9 | 5-year GMZ re-evaluation for 317/319 landfills. |
| 4/5/2022<br>B-75R-CA-13 | Approved document entitled Argonne National Laboratory Notification of Newly Identified Area of Concern Solvent-Contaminated Soil Near Building 203" for a newly-identified Area of Concern (AOC) outside the northwest wall of Building 203 P-Wing |
| 11/6/2024<br>B-75R-CA-12 | Approved document entitled "Response to request for additional information for the five (5) year review" to modify the groundwater portions of the approved RCRA corrective action program. |

ATTACHMENT D

INSPECTION SCHEDULES

STATE ID. NO. 0438020002

IL3890008946

## INSPECTION SCHEDULES

The Permittee shall inspect the components, structures, and equipment at the site in accordance with the approved permit application and the conditions specified in this permit. Inspections of the Hazardous Waste Management Units (HWMUs) shall be done in accordance with the schedules presented in Table F-1 of the original renewal Permit Application dated October 11, 2007, and Tables D-2, D-3 and D-4 of the submittal dated August 4, 2009. (Aforementioned Tables have been included in this attachment.)

### TABLE D-1
### Inspection Schedule for Safety and Emergency Equipment

| Inspection Item | Component | Frequency of Inspection[1] | Problems to Look for and Responsibility[2] |
|---|---|---|---|
| Emergency Telephone | Complete Operation | W | Effective communications throughout facility. Responsible: NOD-WMO |
| Fire Detection & Fire Alarm Systems | Complete Operation | O.B. | Proper functioning to diagnose hazard condition and alert personnel. Responsible: ANL-FD |
| Loudspeaker | Complete Operation | W | Clarity and audibility of the public address system. Responsible: NOD-WMO |
| Radios (2-way) | Complete Operation | M, D when in use | Effective communications throughout facility. Responsible: NOD-WMO |
| Sprinkler System | Complete Operation | A | Proper operation of valves and alarm signal. Responsible: ANL-FD |
| Fire Extinguishers | Complete Operation | M | Proper pressure, no corrosion. Responsible: ANL-FP |
| Spill Stations | Absorbents Containment Material | M | In proper place, complete, general condition. Responsible: NOD-WMO |
| Emergency Shower/ Eyewash | Water Supply | M | Check operation. Responsible: NOD-WMO |

Notes:

1 Q = Quarterly; W = Weekly; M = Monthly; A = Annually; O.B. = see Operational Bulletin Located in Building 306 (inspection frequency is based on manufacturers recommendation).

2 ANL-FD = ANL-E Fire Department ANL-FP = ANL-E Fire Protection.

## Table D-2
## Inspection Schedule for HWMUs
## Argonne National Laboratory

| HWMU | Person Responsible | Inspection Frequency[1] |
|---|---|---|
| **Building 303** | | |
| Mixed Waste Storage Facility | Manager of Operations | Weekly |
| **Building 306** | | |
| Storage Room A-142 | Manager of Operations | Weekly |
| Storage Room A-150 | Manager of Operations | Weekly |
| Storage Room C-131 | Manager of Operations | Weekly |
| Storage Room C-157 | Manager of Operations | Weekly |
| Storage Room D-001 | Manager of Operations | Weekly[2] |
| Metal Precipitation | Manager of Operations | Daily (when operating) |
| Immobilization/Macroencapsulation Unit | Manager of Operations | Weekly (when operating) |
| Loading/Unloading Area | Manager of Operations | Daily (when in use) |
| Lab Packing Areas (e.g., Low Bay, Room A-158) | Manager of Operations | Weekly |
| **Building 331** | | |
| Radioactive Waste Storage Facility | Manager of Operations | Weekly |
| Loading/Unloading Area | Manager of Operations | Daily (when in use) |
| **Facility 331** | | |
| Concrete Storage Pad | Manager of Operations | Weekly |
| **Building 206** | | |
| AMPB | Engineering Specialist | Before each use[3] |
| **Building 308** | | |
| AMPB | Engineering Specialist | Before each use[4] |

Note:

1 Inspections will only be conducted when waste is present.

2 Only required if the room is used for storage of hazardous waste. Cell #1 in Building 306 Storage Room D-001 will be inspected remotely via a periscope due to the highly radioactive nature of the waste in Cell #1.

3 Due to infrequent operation of the Building 206 booth, the comprehensive inspection is conducted each time before the unit is operated. See Section D11.

4 Due to infrequent operation of the Building 308 booth, the comprehensive inspection is conducted each time before the unit is operated. See Section D11.

## Table D-3

## Fire Protection Equipment for Buildings or Areas Containing HWMUs

| | Alarm System | | Suppression System | Fire Extinguisher | Fire Hydrants |
|---|---|---|---|---|---|
| | Smoke | Heat | | | |
| Building 303 | X | X | Wet Pipe Sprinkler* | X | X |
| Building 306 | X | X | Wet Pipe Sprinkler | X | X |
| Storage Units Outside Bldg. 306 | X | - | Automatic Chemical Fire Suppression with Wet Pipe Sprinkler System Connection Ability | - | X |
| Building 331 | X | - | Wet Pipe Sprinkler* | X | X |
| Facility 331 Concrete Storage Pad | - | - | - | X | X |
| Building 206 | X | X | - | X | X |
| Building 308 | X | X | - | X | X |

* Except in rooms which store water-reactive waste.

**Table D-4**
**Emergency Equipment for Buildings or Areas Containing HWMUs**

| | Over Pack Drums | Eye Wash | Spill Control Equipment | Emergency Shower |
|---|---|---|---|---|
| Building 303 | - | X | X | X |
| Building 306 | X | X | X | X |
| Storage Units Outside Bldg. 306 | - | X | - | - |
| Building 331 | - | X | X | X |
| Facility 331 | - | - | - | - |
| Building 206 | - | X | X | X |
| Building 308 | - | X | X | X |

ATTACHMENT E

CONSTRUCTION CERTIFICATION STATEMENT

STATE ID. NO. 0438020002

IL389000894

CONSTRUCTION CERTIFICATION STATEMENT

Construction Certification Statement

This Statement is to be completed by both the responsible officer and the qualified Professional Engineer registered in the state of Illinois upon completion of construction in accordance with 35 IAC 702.126. Submit one copy of the certification with original signatures and two additional copies. Forward these certification statements and any information required by the permit to the following address:

Illinois Environmental Protection Agency
Permit Section
Bureau of Land -- #33
2520 West Iles Avenue
Post Office Box 19276
Springfield, Illinois 62794-9276

Facility Name:

IEPA Site Code: USEPA ID Number:

Part B Permit Log No.: B-75R2 Permit Issue Date:

The _____ has been constructed in accordance with the specifications of the RCRA Part B Permit issued to this facility. Documentation that the construction was in accordance with the permit is contained in the enclosed report. I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Signature of Owner or Operator Name and Title

_____ _____

Signature of Qualified P.E. Name of Qualified P.E. &
Ill. Registration Number

_____(P.E. Seal)

Date

ATTACHMENT F

CLOSURE CERTIFICATION STATEMENT

STATE ID. NO. 0438020002

IL3890008946

CLOSURE CERTIFICATION STATEMENT
Argonne National Laboratory - DuPage County
Log No. B-75R2

To meet the requirements of 35 IAC 724.215, this statement is to be completed by both a responsible officer of the owner/operator (as defined in 35 IAC 702.126) and by a qualified professional engineer upon completion of closure. Submit one copy of the certification with original signatures and two additional copies.

The hazardous waste storage unit at Argonne National Laboratory has been closed in accordance with the specifications in the approved closure plan. A report documenting that closure has been carried out in accordance with the approved plan is attached.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

| | |
|---|---|
| USEPA ID Number | Facility Name |
| Signature of Owner/Operator Responsible Officer Date | Name and Title of Owner/Operator Responsible Officer |
| Signature of Licensed P.E. Date | Name of Licensed P.E. and Illinois License Number |
| Mailing Address of P.E.: | Licensed P.E.'s Seal: |

ATTACHMENT G

FIGURES DEPICTING LOCATIONS OF APPROVED CONTAINER STORAGE AREAS

STATE ID. NO. 0438020002

IL3890008946

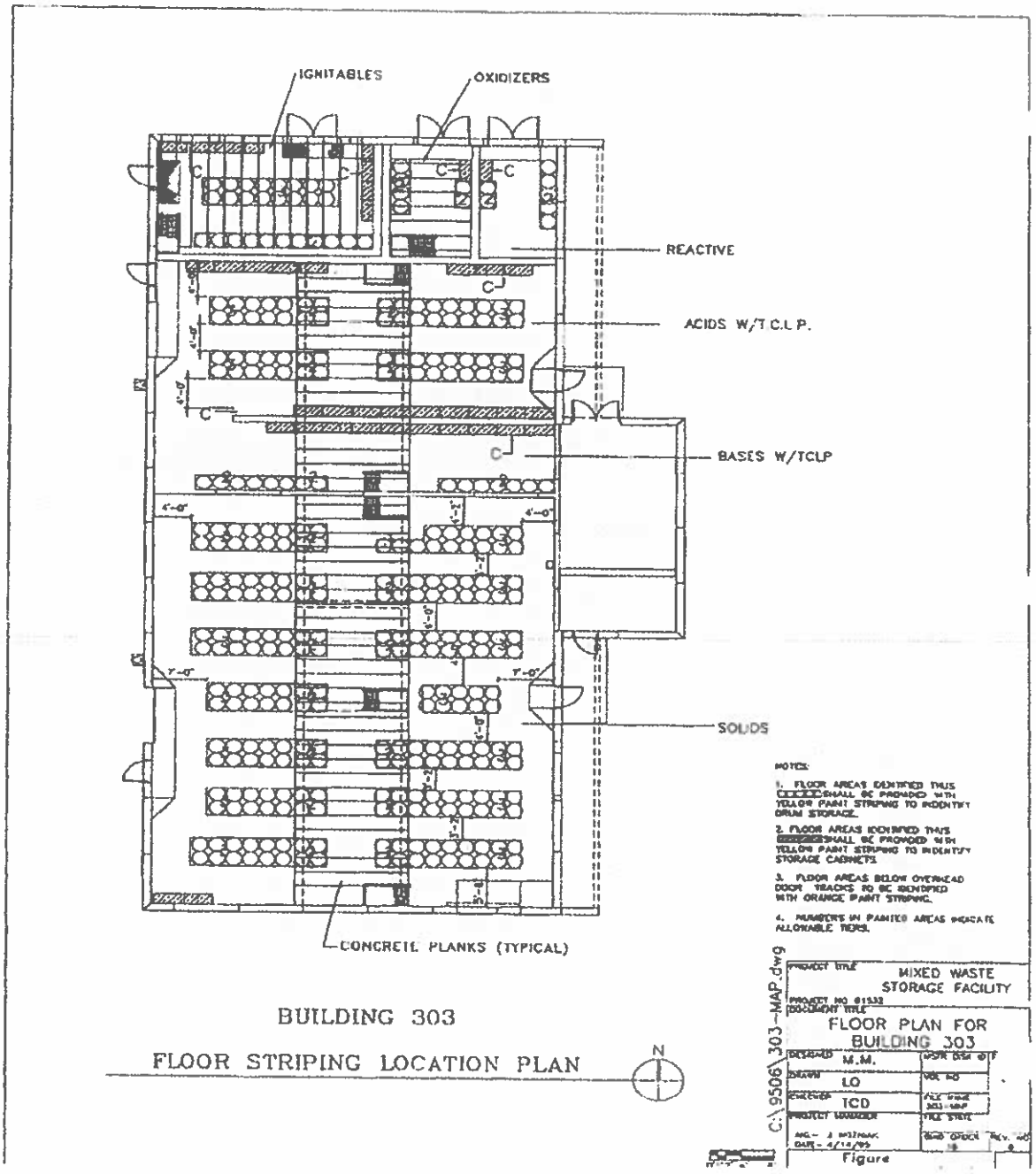



**FIGURE D1-1 Building 303 Floor Striping Location Plan**

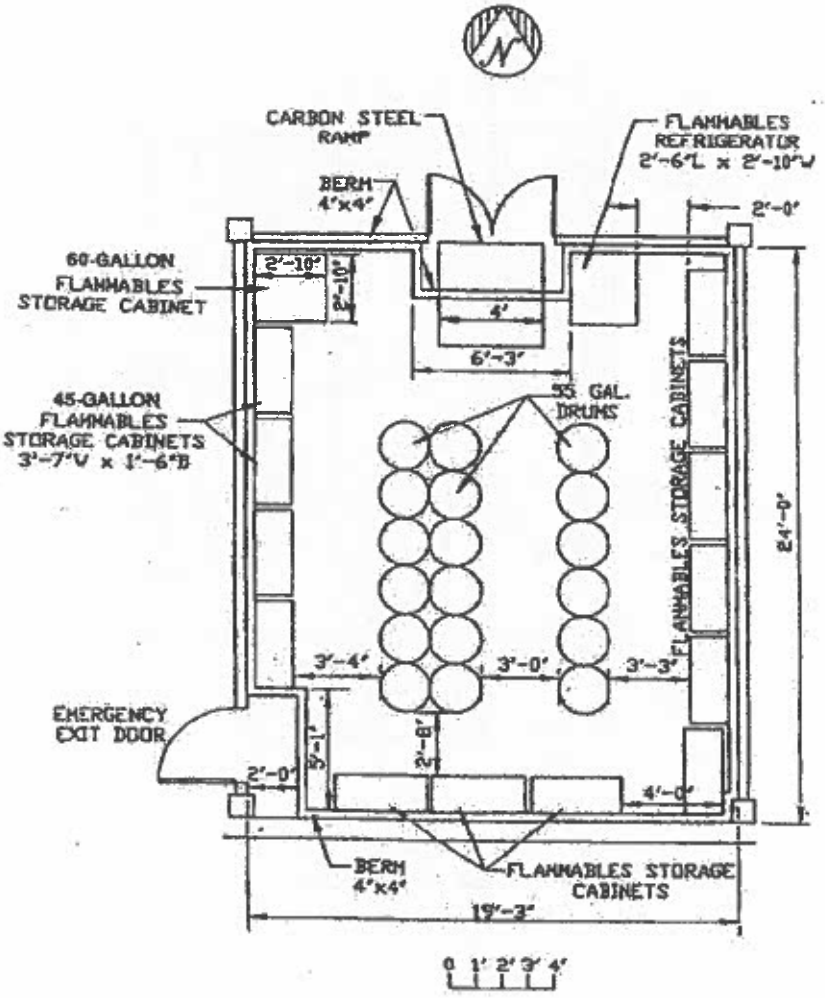



**FIGURE D2-3 Building 306, Room A-142**

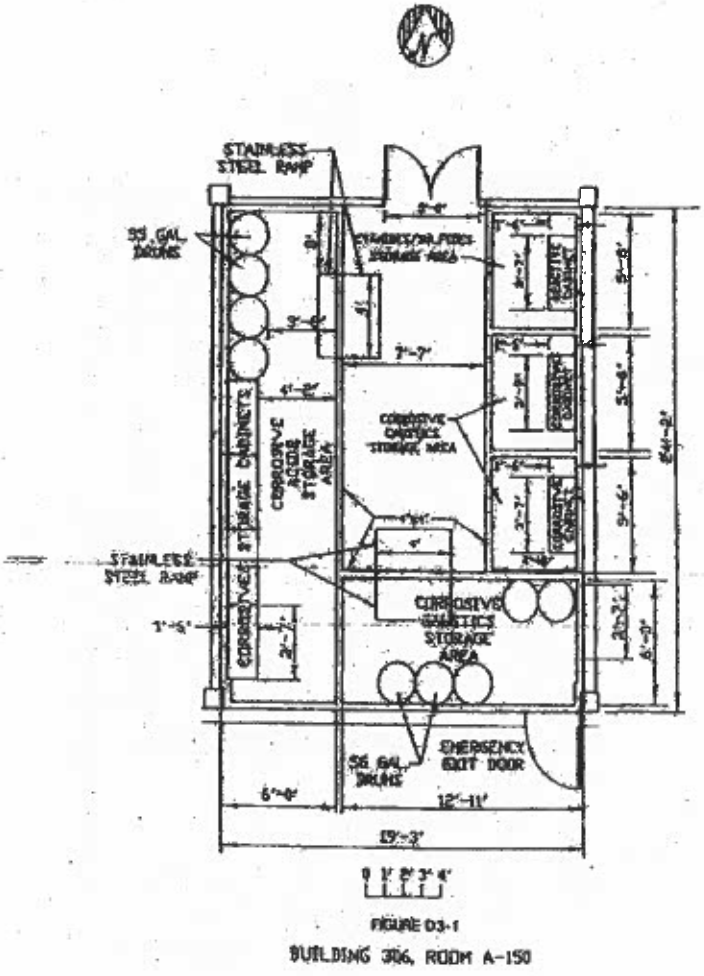



FIGURE D3-1
BUILDING 306, ROOM A-150

**Figure D3-1 Building 306, Room A-150**

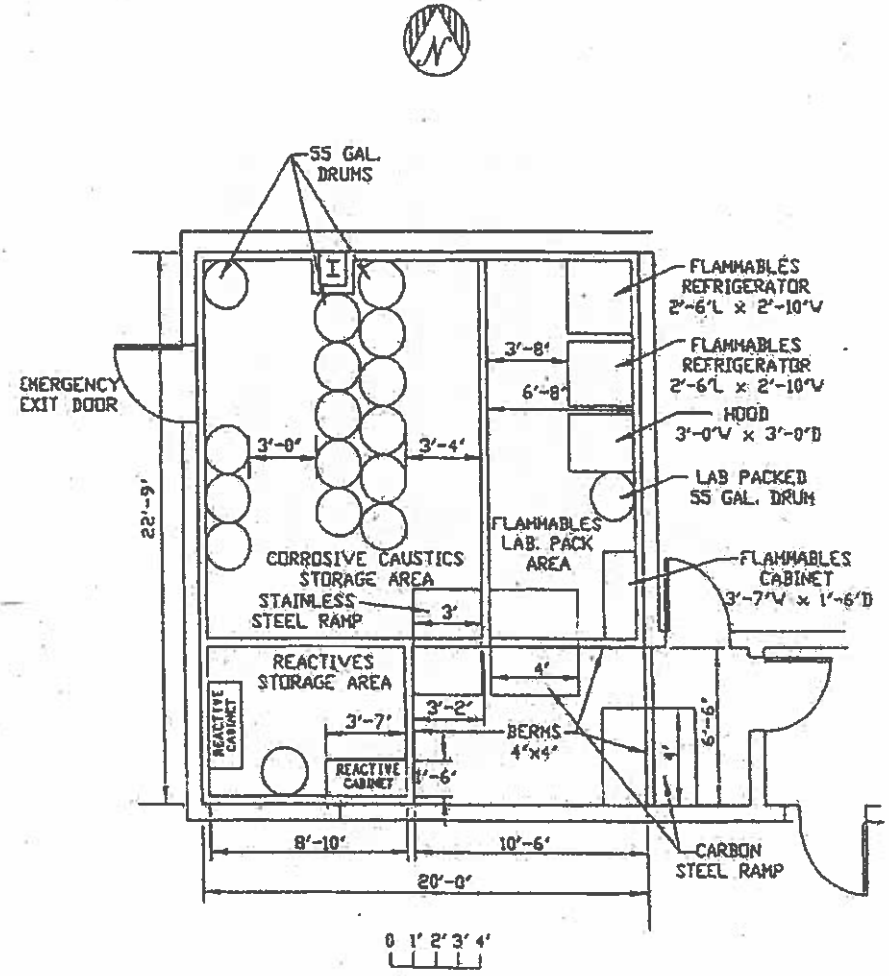



**FIGURE D4-1 Building 306, Room C-131**

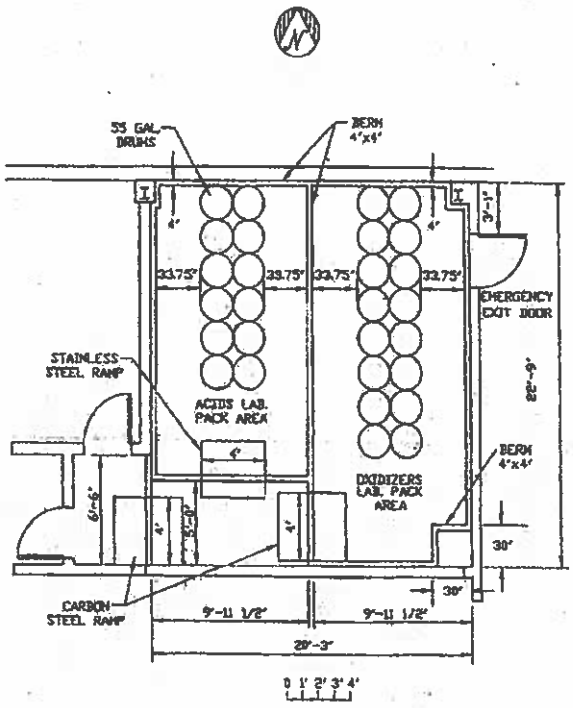



**FIGURE D5-1 Building 306, Room C-157**

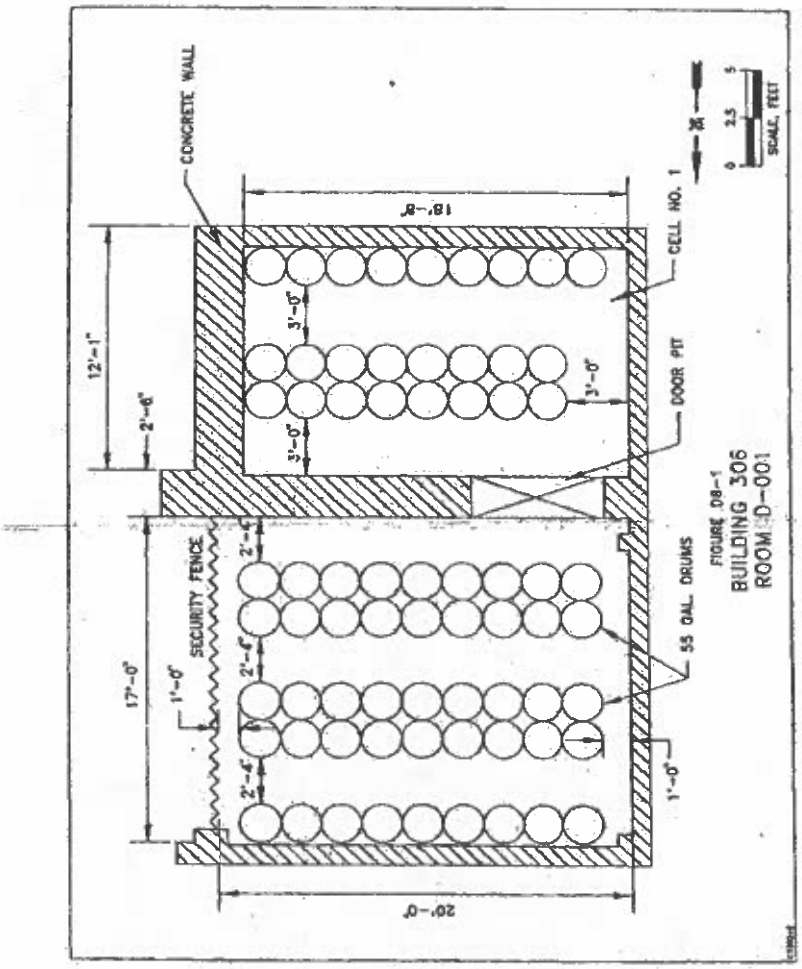



**FIGURE D6-1 Building 306, Room D-001**

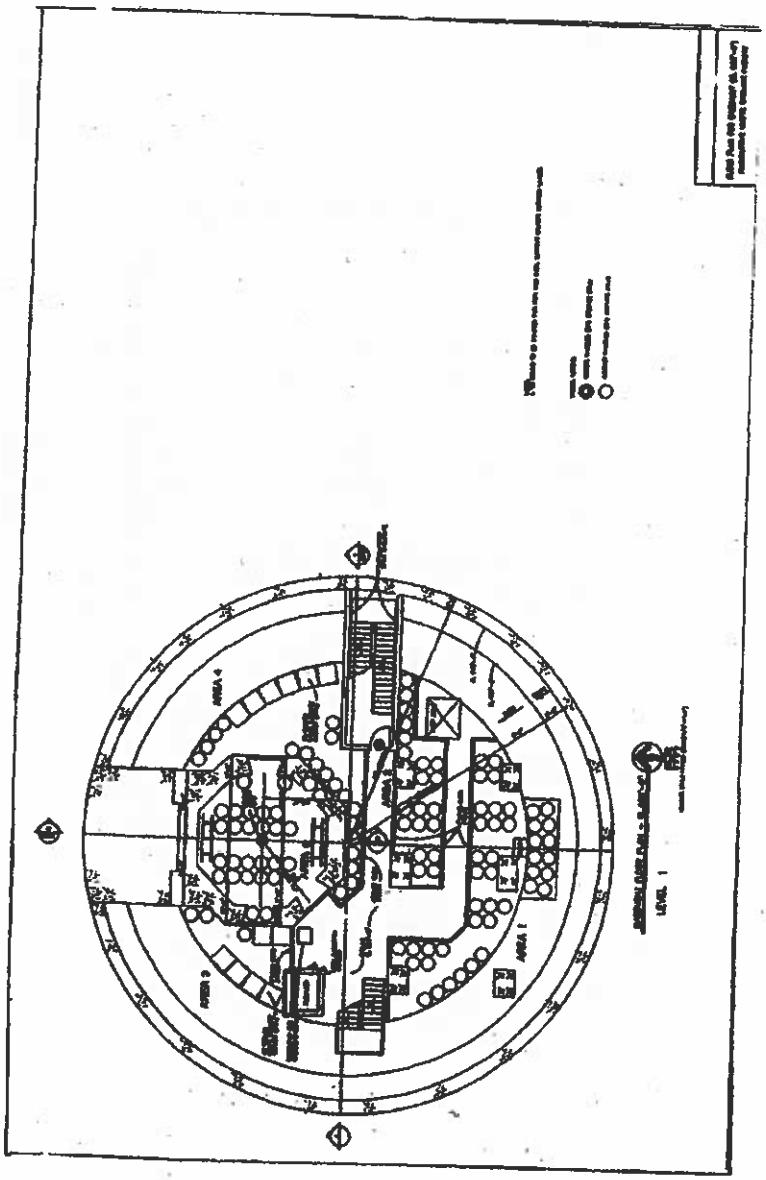


**FIGURE D8-2 Floor Plan for Basement (El 682'-0") Radioactive Waste Storage Facility**

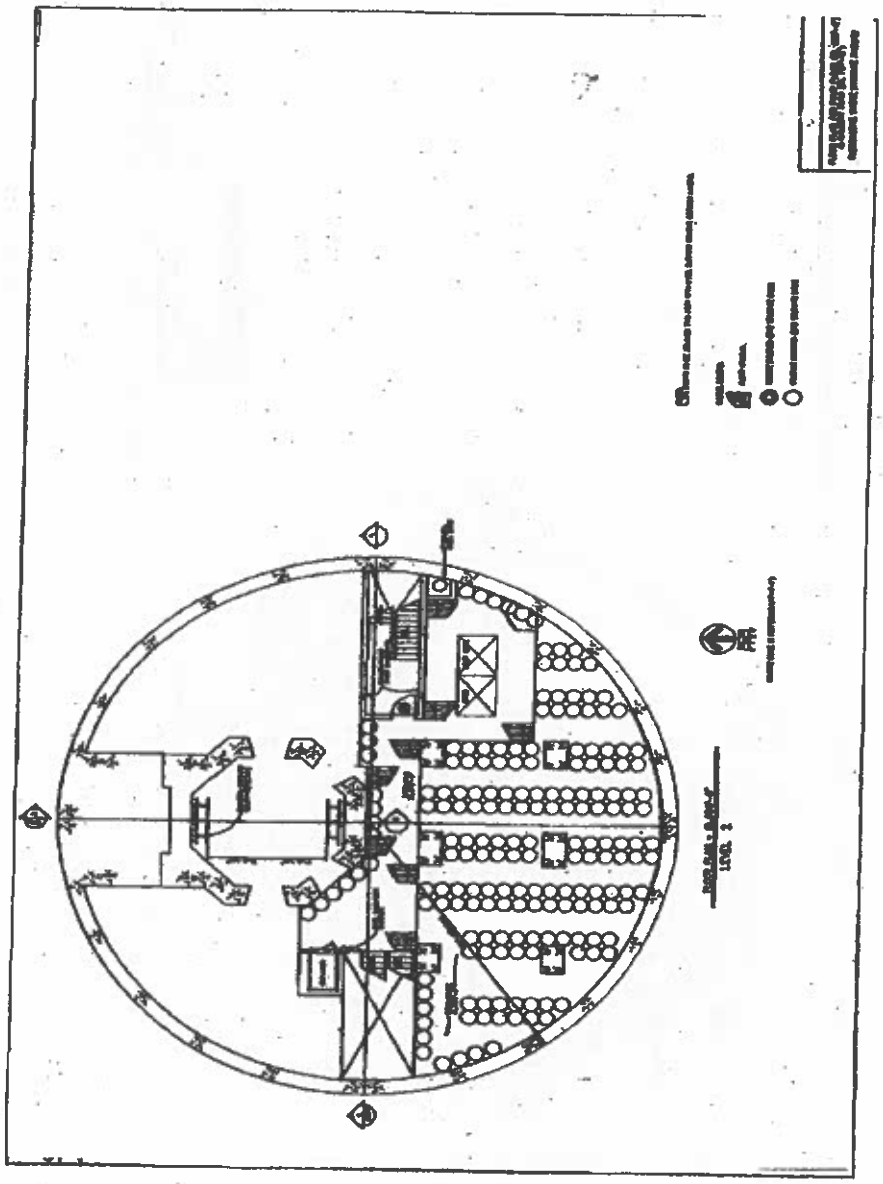


**FIGURE D8-3 Floor Plan for Pump Floor (El 695'–0") and Gallery Plan (El 707'–5") Radioactive Waste Storage Facility**

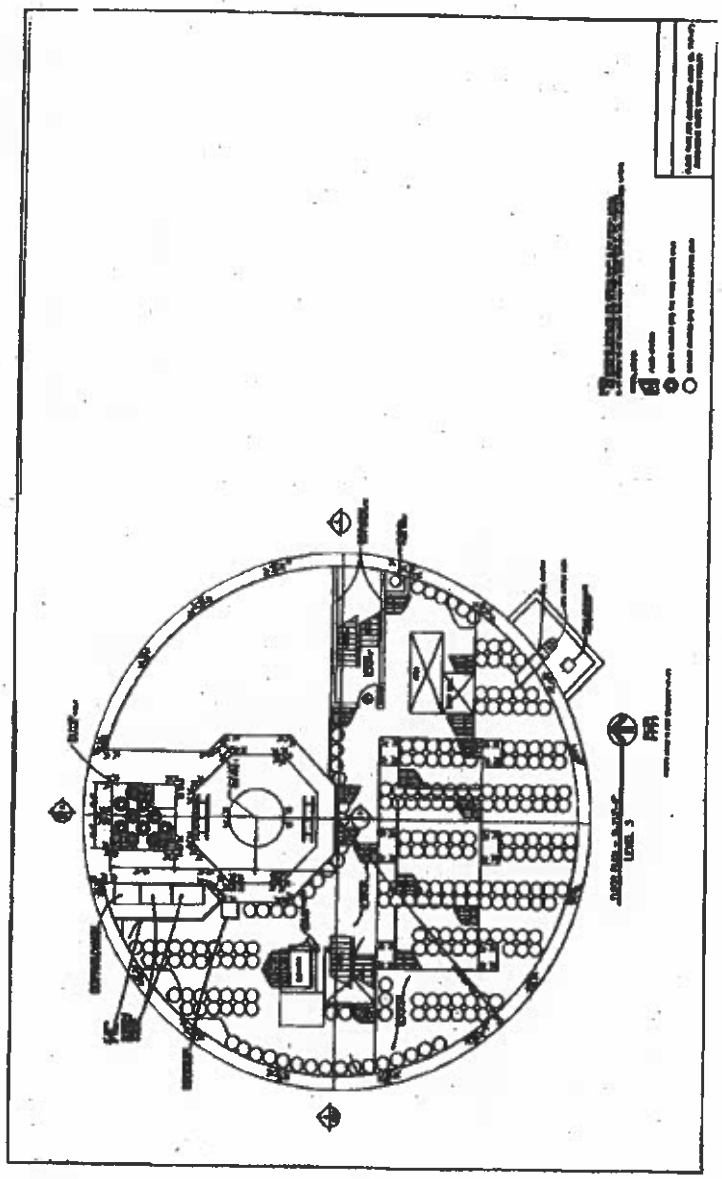


**FIGURE D8-4 Floor Plan for Condenser Floor (El 713'-0")**
**Radioactive Waste Storage Facility**

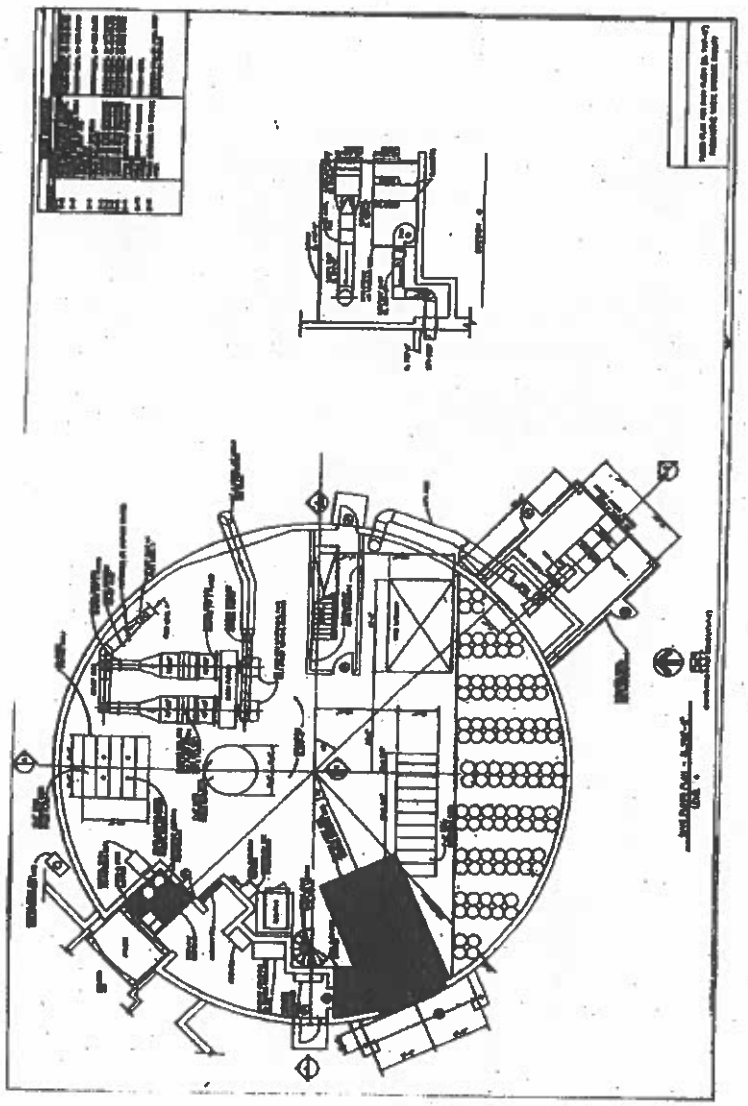


**FIGURE D8-5 Floor Plan for Main Floor (El 730'-0") Radioactive Waste Storage Facility**

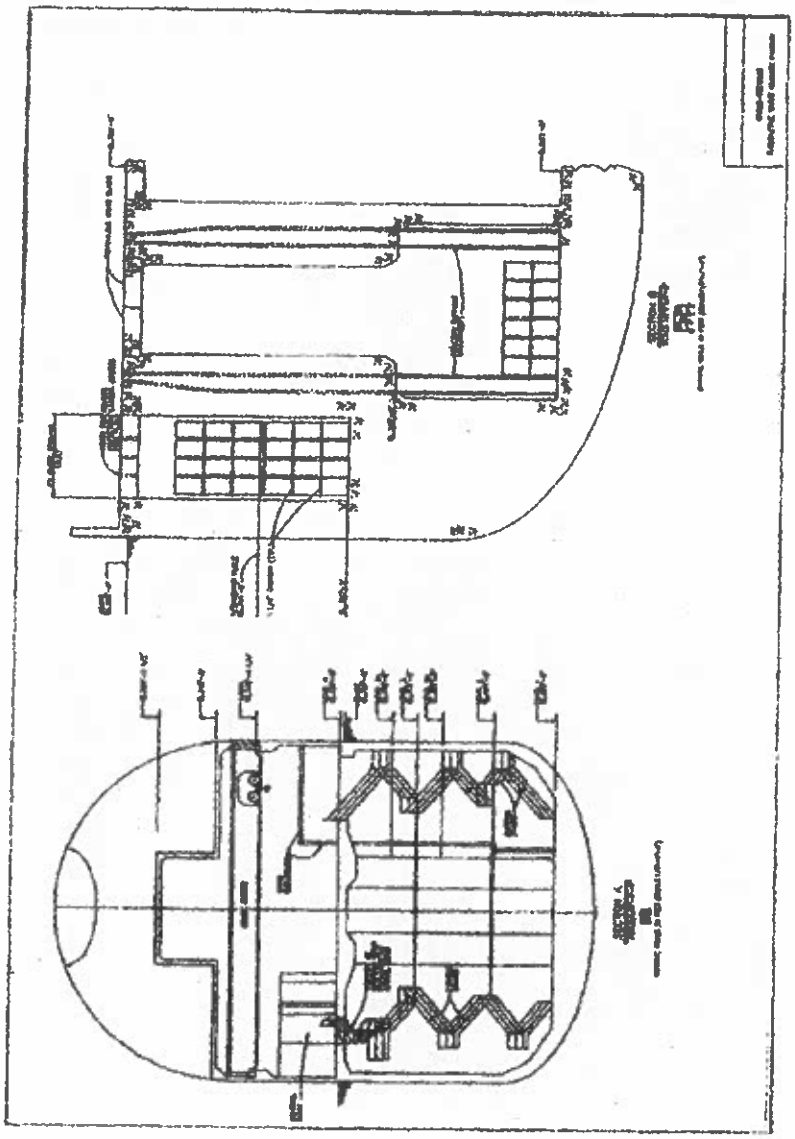


**FIGURE D8-6 Cross Sections Radioactive Waste Storage Facility**

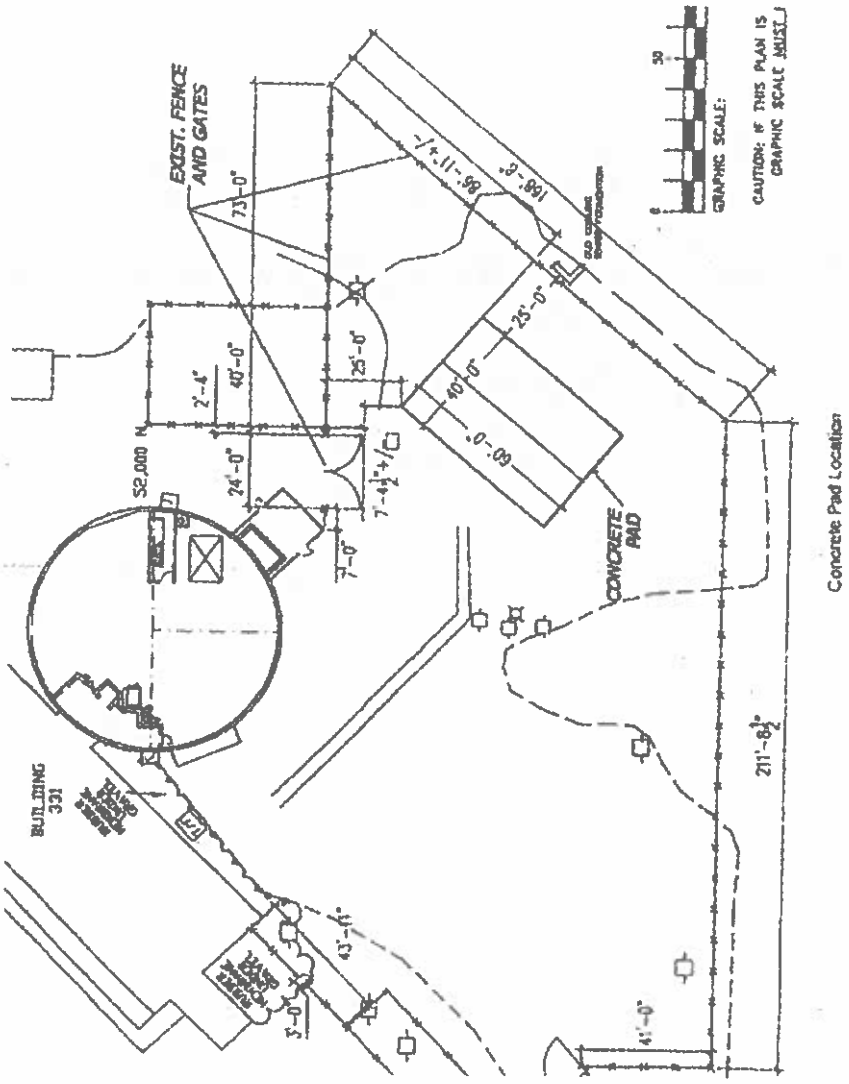


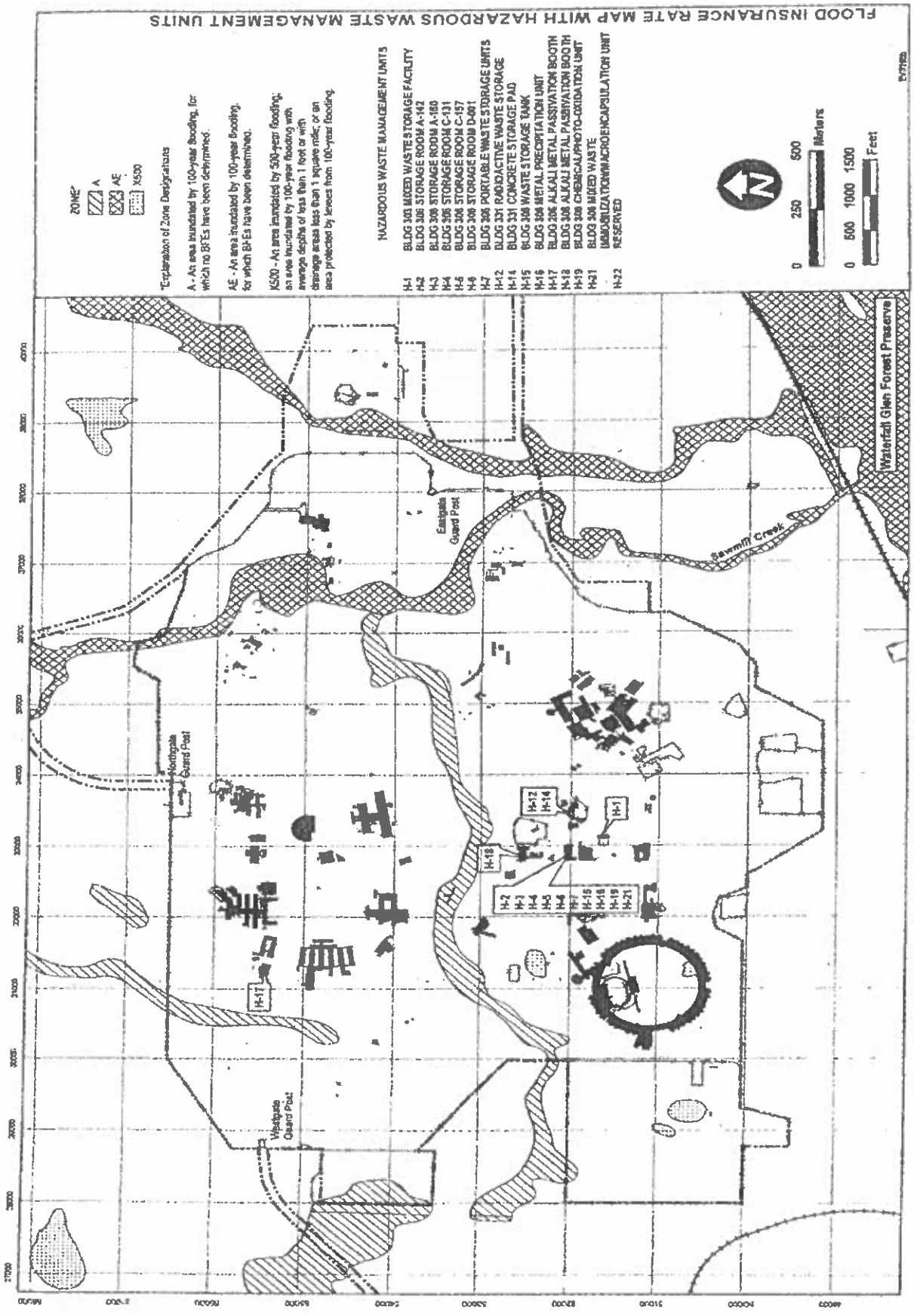

**FIGURE D9-1 Facility 331 Concrete Storage Pad**

ATTACHMENT H

FIGURE DEPICTING LOCATIONS OF PERMITTED HAZARDOUS WASTE MANAGEMENT UNITS

STATE ID. NO. 0438020002

IL3890008946


FLOOD INSURANCE RATE MAP WITH HAZARDOUS WASTE MANAGEMENT UNITS
ZONE
A
AE
X500
Explanation of Zone Designations
A - An area inundated by 100-year flooding, for which no BFEs have been determined.
AE - An area inundated by 100-year flooding, for which BFEs have been determined.
X500 - An area inundated by 500-year flooding; an area inundated by 100-year flooding with average depths of less than 1 foot or with drainage areas less than 1 square mile; or an area protected by levees from 100-year flooding.
HAZARDOUS WASTE MANAGEMENT UNITS
H-1 BLDG 303 MIXED WASTE STORAGE FACILITY
H-2 BLDG 306 STORAGE ROOM A-142
H-3 BLDG 306 STORAGE ROOM A-180
H-4 BLDG 306 STORAGE ROOM C-131
H-5 BLDG 306 STORAGE ROOM C-157
H-6 BLDG 306 STORAGE ROOM D-001
H-7 BLDG 306 PORTABLE WASTE STORAGE UNITS
H-12 BLDG 331 RADIOACTIVE WASTE STORAGE
H-14 BLDG 331 CONCRETE STORAGE PAD
H-15 BLDG 308 WASTE STORAGE TANK
H-16 BLDG 358 METAL PRECIPITATION UNIT
H-17 BLDG 205 ALKALI METAL PASSIVATION BOOTH
H-18 BLDG 306 ALKALI METAL PASSIVATION BOOTH
H-19 BLDG 306 CHEMICAL/PHOTO-OXIDATION UNIT
H-21 BLDG 306 MIXED WASTE
IMMOBILIZATION/MICROENCAPSULATION UNIT
H-22 RESERVED
N
0 250 500 Meters
0 500 1000 1500 Feet
Waterfall Glen Forest Preserve
Sawmill Creek
Eastgate Guard Post
Northgate Guard Post
Westgate Guard Post

ATTACHMENT AI

LIST OF PLANS AND DOCUMENTS CONTAINED IN
THE APPROVED PERMIT APPLICATION

STATE ID. NO. 0438020002

IL3890008946

# LIST OF PLANS AND DOCUMENTS CONTAINED IN THE APPROVED PERMIT APPLICATION

Pursuant to Illinois hazardous waste management requirements, Argonne has prepared the following formal plans and documents covering the various facets of the design, operation and monitoring its hazardous waste management units. The issuance of this draft permit approves the plans and documents identified below unless otherwise indicated in the permit.

The approved permit application includes: (1) the document entitled "Argonne National Laboratory RCRA Part B Permit Renewal Application - 2019" dated November 4, 2019, and received by the Illinois Environmental Protection Agency (Illinois EPA) on November 7, 2019; (2) a submittal dated November 4, 2019, that included a revised Section K to the approved permit application, a revised table of contents for Section K was received on February 21, 2025. (3) a submittal dated February 7, 2020, that included a response to a notice of deficiencies and containing additional information and revised pages to aforementioned document. (4) A submittal dated November 13, 2020, that included a response to a notice of deficiencies and containing additional information and revised pages to aforementioned document. (5) A submittal dated November 19, 2024, that included a response to a notice of deficiencies and containing additional information and revised pages to aforementioned document.

Each plan or document regarding all aspects of this permit and its location within the approved permit application are as follows:

| | Plan or Document | Location in the Approved Permit Application |
|---|---|---|
| 1. | Forms and Certifications | Section A |
| 2. | Facility description | Section B |
| 3. | Waste Analysis Plan | Section C |
| 4. | Process Information | Section D |
| 5. | Groundwater Monitoring | Section E |
| 6. | Inspection Plan | Section F |
| 7. | Contingency Plan | Section G |
| 8. | Training Program | Section H |
| 9. | Closure Plans | Section I |
| 10. | Other Federal Laws | Section J |

| | | |
|---|---|---|
| 11. | Corrective Action | Section K |
| 12. | Air Emission Standards For Tanks, Surface Impoundments, and Containers | Section CC |