

**Request for Class 2 Permit Modification in Accordance
with WIPP Permit Condition I.B.1**

**Waste Isolation Pilot Plant
Carlsbad, New Mexico**

March 6, 2001

Request For Class 2 Permit Modification in Accordance with WIPP Permit Condition I.B.1

Consistent with the requirements of the Hazardous Waste Facility Permit (NM4890139088-TSDF) for the Waste Isolation Pilot Plant the U.S. Department of Energy, Carlsbad Field Office is submitting to the New Mexico Environment Department (NMED) this Class 2 modification request. Specifically, this information is provided to comply with Permit Condition I.B.1 (20.4.1.900 New Mexico Administrative Code (NMAC) incorporating 40 CFR § 270.42(b)).

This modification is listed in Table 1. Listed information includes a reference to the applicable section of the Permit, the title of the item and the relevant permit modification category as identified in 20.4.1.900 NMAC. A more complete description of the Class 2 modification is provided in Attachment A.

The changes within this modification request do not reduce the capacity of the Permittees to protect human health or the environment.

Table 1. Class 2 Hazardous Waste Facility Permit Modification

No.	Affected Permit Section	Item	Category	Attachment A Page #
1	a.1. Module I b.1. Module II.E.2 b.2. Module II.E.5 b.3. Module II, Permit Attach. c.1. Module III.G. c.2. Module III, Permit Attach. d.1. Module IV.G. d.2. Module IV Permit Attach. e.1. Att. D-Table of Contents e.2. Att. D e.3. Figure D-1 e.4. Figure D-2 e.5. Table D-1 f. 1. Att. M2-5c	Move Inspection Forms From the HWFP to the Operating Record	B.5.a	A-2
2	a.1. Attach. H2	Change Firefighter 1 Training Requirements	B.5.a	A-8
3	a.1. Attach. H2	Change Radiation Control Technician Training Requirements	B.5.a	A-9
4	a.1. Module II.C.4 b.1. Attach. O, Part A Application	Addition of New Hazardous Waste Numbers	F.3.b	A-10
5	a.1. Module V.I.4 a.2. Module V.J.2a	Extend DMP monitoring data evaluation reporting time	A.4.b	A-25

Attachment A

Description of the Hazardous Waste Facility Class 2 Permit Modification

Item 1

Description:

The replacement of the current inspection forms in Attachment D1 with procedure references and a condition to maintain current copies of all the inspection forms in the Operating Record.

Basis:

This change removes the inspection forms from Attachment D1 and replaces them with procedure references for the items inspected, the frequency of those inspections, the schedule of inspections and the remedial actions taken on any of these items. The current forms, logbooks and procedures used in conducting these inspections will be maintained as part of the Operating Record and will be open to review and inspection by the NMED at any time. All completed forms/logbooks will also be maintained within the Operating Record. This change will allow the Department of Energy (DOE) to make administrative changes to these forms, logbooks and procedures as necessary to be current with facility operations without requiring continual Permit modifications.

Discussion:

The inspection forms contained within Attachment D1 were never intended to be included within the Hazardous Waste Facility Permit (HWFP). The NMED, on numerous occasions throughout the Permit Application review process, indicated that procedures and forms should be referenced and maintained in the Operating Record but not necessarily included in the HWFP.

The New Mexico Hazardous Waste Regulations as codified in 20.4.1.500 and 900 NMAC, (incorporating 40 CFR §§ 264.15(b) and 270.14(b)(5)) require that the owner/operator develop and follow a written schedule for inspecting containers and equipment. This schedule must be kept at the facility and must contain the following:

- equipment that requires inspection
- the types of problems which may be encountered
- the frequency at which those inspections occur
- any remedial actions which are required

The inspection results must be maintained for three years and at a minimum must include the date and time of inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial action.

The Permittees will continue to comply with these requirements.

The intent of the United States Environmental Protection Agency's (USEPA) hazardous waste permitting and modification processes has been to draft permit conditions such that minor deviations from design criteria do not require a permit modification. EPA has stated in the preamble to the Final Rule for Permit Modifications for Hazardous Waste Management Facilities (53 FR 37912) that

“Again, USEPA would like to clarify that as long as a specific permit condition is not affected by a change, a modification is not required.” However, because the HWFP Permit Conditions and Attachments include detailed information not required by 20.4.1.500 and 900 NMAC, the Permittees must continually submit modifications for minor procedural changes. This was not the intent of the modification process as suggested by the USEPA in 53 FR 37912. The example given by the USEPA reinforces the argument for removing specific forms and procedures from the current HWFP. They state: “...changes in a computer program that is used in conjunction with the operating record could require a modification. It is not EPA’s intent to require modifications for such recordkeeping methods. It is unlikely that actual procedures for maintaining the operating record will be specified in permits; therefore there is already significant flexibility in the method of maintaining the record, as long as the requirements of Sec. 264.73 are met.”

The inspections procedures, logbooks and forms, are currently in the Operating Record and open to NMED inspection and review at anytime. The requirements of 20.4.1.500 and 900 NMAC (incorporating 40 CFR §§264.15(b) and 270.14(b)(5)) will be met without the inclusion of the inspection forms and detailed procedures in the HWFP. Therefore, this modification removes Attachment D-1, which provided copies of current inspection forms.

Revised Permit Text:

a.1. Module I, Table of Contents

LIST OF ATTACHMENTS

A	General Facility Description and Process Information
B	Waste Analysis Plan
B1	Waste Characterization Sampling Methods
B2	Statistical Methods Used in Sampling and Analysis
B3	Quality Assurance Objectives and Data Validation Techniques for Mixed Waste Characterization Sampling and Analytical Methods
B4	TRU Mixed Waste Characterization Using Acceptable Knowledge
B5	Quality Assurance Project Plan Requirements
B6	Waste Isolation Pilot Plant Permittees’ Audit and Surveillance Program
C	Security
D	Inspections Schedule/Procedures
D1	Inspection Sheets, Logs, and Instructions for Systems/Equipment Requiring Inspection Reserved
E	Procedures to Prevent Hazards
F	RCRA Contingency Plan
G	Traffic Patterns
H	Personnel Training
H1	RCRA Hazardous Waste Management Job Titles and Descriptions
H2	Training Course and Qualification/Certification Card Outlines

- I
 - I1 Closure Plan
 - Technical Specifications, Panel Closure System, Waste Isolation Pilot Plant
 - I1-G Technical Specifications
 - I1-H Design Drawings
 - I2 Shaft Sealing System Compliance Submittal Design Report
 - I2-A Material Specifications
 - I2-B Shaft Sealing Construction Procedures
 - I2-E Design Drawings
 - I3 Radiological Surveys to Indicate Potential Hazardous Waste Releases
- J
 - J1 Post-Closure Plan
 - Active Institutional Controls
- K Reserved
- L WIPP Groundwater Detection Monitoring Program Plan

b. 1. Module II.E.2

The Permittees shall use the inspection logbooks/forms provided as specified in Permit Attachment D4 (Inspection ~~Schedule/Procedures Sheets, Logs, and Instructions for Systems/Equipment Requiring Inspection~~). **Original copies of these completed forms are maintained in the Operating Record.** The Permittees shall record the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions, as required by 20. ~~NMAC~~ 4.1.500 **NMAC**(incorporating 40 CFR §264.15(d)).

b. 2. Module II.E.5

Inspection Records

The Permittees shall maintain inspection logbooks/ forms in the operating record for at least three (3) years from the date of inspection, as required by 20 NMAC 4.1.500 (incorporating 40 CFR §§264.15(d) and 264.73(b)(5)).

b. 3. Module II–Permit Attachments

~~Permit Attachment D1 (as modified from WIPP RCRA Part B Permit Application, "Inspection Sheets, Logs, and Instructions for Systems/Equipment Requiring Inspection" – Appendix F1).~~

c. 1. Module III.G

The Permittees shall inspect the WHB Unit and Parking Area Unit TRU mixed waste container storage and management areas at least weekly, in accordance with the Inspection Schedule/**Procedures** (Permit Attachment D, Table D-1); ~~Inspection Sheets (Permit Attachment D1)~~, and Permit Attachment M1, Section M1-1e, to detect leaking containers and deterioration of containers and the containment system caused by corrosion and other factors, as required by 20. ~~NMAC~~ 4.1.500 **NMAC** (incorporating 40 CFR §264.174).

c. 2. Module III - Permit Attachments

Permit Attachment D1 (as modified from WIPP RCRA Part B Permit Application; "Inspection Sheets, Logs, and Instructions for Systems/Equipment Requiring Inspection" – Appendix F1).

d. 1. Module IV.G

The Permittees shall inspect the Underground HWDUs at least weekly, as specified in Permit Attachment D (Inspection Schedule/**Procedures**, Table D-1) and ~~Permit Attachment D1 (Inspection Sheets)~~, and as required by 20. ~~NMAC~~ 4.1.500 **NMAC** (incorporating 40 CFR §264.15). The Permittees shall perform these inspections to detect malfunctions, signs of deterioration, operator errors, discharges, or any other factors which have caused or may cause a release of hazardous wastes or hazardous waste constituents to the environment or which may compromise the ability of any Underground HWDU to comply with the environmental performance standards in 20. ~~NMAC~~ 4.1.500 **NMAC** (incorporating 40 CFR §264.601).

d. 2. Module IV - Permit Attachments

~~Permit Attachment D1 (as modified from WIPP RCRA Part B Permit Application; "Inspection Sheets, Logs, and Instructions for Systems/Equipment Requiring Inspection" – Appendix F1).~~

e. 1. Attachment D, Table of Contents

Introduction	D-1
D-1 Inspection Schedule	D-1
D-1a General Inspection Requirements	D-3
D-1a(1) Types of Problems	D-3
D-1a(2) Frequency of Inspections	D-3
D-1a(3) Monitoring Systems	D-4
D-1b Specific Process Inspection Requirements	D-4
D-1b(1) Container Inspection	D-4
D-1b(2) Miscellaneous Unit Inspection	D-5
References	D-5

Figures

- Figure D-1 Typical Inspection Checklist
- Figure D-2 Typical Logbook Entry

Table

Table D-1 Inspection Schedule/Procedures

e. 2. Attachment D

The WIPP facility has developed and will maintain a series of written procedures that include all the detailed inspection procedures and forms necessary to comply with 20. ~~NMAC~~ 4.1.500 **NMAC** (incorporating 40 CFR §264.15(b)), during the Disposal Phase. Table D-1 lists each item or system requiring inspection under these regulations, the inspection frequency, and the organization responsible for the inspection, **the applicable inspection procedure**

and what to look for during the inspection. 20. NMAC 4.1.500 NMAC, (incorporating 40 CFR §§264.15(b), 264.174, and 264.602), list requirements that are applicable to the WIPP facility. Permit Attachment D1 contains the inspection checklists which will be used to perform the inspections.

Operational procedures detailing the inspections required under 20. NMAC 4.1.500 NMAC (incorporating 40 CFR §§264.15(a) and (b)), are maintained in electronic format on the WIPP computer network, in the Operating Record or and, as appropriate, in controlled document locations at the WIPP facility. Frequency of inspections is discussed in detail in Section D-1a(2). Inspections are conducted often enough to identify problems in time to correct them before they pose a threat to human health or the environment and are based on regulatory requirements. The operational procedures assign responsibility for conducting the inspection, the frequency of each inspection, the types of problems to be watched for, what to do if items fail inspection, directions on record keeping, and inspector signature, date, and time. The operational procedures are maintained at the WIPP facility. Table D-1 summarizes inspections, frequencies, responsible organizations, personnel making the inspection (by job title), and the types of anticipated problems as well as the references for the operational procedures. Inspection records are maintained at the WIPP site for three years by the responsible organization shown in Table D-1.

Waste handling equipment and area inspections are typically controlled through established procedures and the results are recorded in logbooks or on data sheets. Operators are trained to consult the logbook to identify the status of any piece of waste handling equipment prior to its use. Once a piece of equipment is identified to be operable, a preoperational inspection is initiated in accordance with the appropriate sheet in Permit Attachment D1 inspection procedure In Table D-1. Inspection results are properly recorded as described below.

Work orders are released for work by the responsible organization. When repairs are complete the responsible organization tests the equipment to ensure the repairs corrected the problem, then closes out the work order, to return the equipment to an operational status for normal operations to resume. Implementation of these procedures constitutes compliance with 20. NMAC 4.1.500 NMAC (incorporating 40 CFR §264.15(c)).

Requirements of 20. NMAC 4.1.500 NMAC (incorporating 40 CFR §264.15(d)), are met by the inspections for each item or system included in Table D-1. The results of the inspections are maintained for at least three years. The inspection logs or summary records include the date and time of inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. Major pieces of waste handling equipment use are inspected using proceduralized inspections. Current copies of inspections forms are as shown in Permit Attachment D1- maintained in the Operating Record. The status of these pieces of equipment is maintained in an equipment logbook that is separate from the checklist. The logbook contains information regarding the condition of the equipment. Equipment operators are required, by the inspection checklist, to consult the logbook as the first activity in the inspection procedure. This logbook is maintained in the operating record. Equipment that is controlled by a logbook includes the waste handling fork lifts, all waste handling cranes, the adjustable center of gravity lift fixture, the CH

transuranic (TRU) underground transporter, the conveyance loading car, the trailer jockey, and the push-pull attachment. In addition to the inspections listed in Table D-1, many pieces of equipment are subject to regular preventive maintenance. This includes more in-depth inspections of mechanical systems, load testing of lifting systems, calibration of measurement equipment and other actions as recommended by the equipment manufacturer or as required by DOE Orders. These preventive maintenance activities along with the inspections in Table D-1 make mechanical failure of waste handling equipment unlikely. The WIPP Safety Analysis Report (DOE, 1995a) contains the results of a systematic analysis of waste handling equipment and the hazards associated with potential mechanical failures. Equipment subject to failures that cannot practically be mitigated is retained for analysis and are the basis for contingency planning. The documents inspection procedures maintained in the operating record in Permit Attachment D are for operational and preventive maintenance, are implemented to assure the equipment is maintained. An example equipment inspection checklist and a typical log book form are shown as Figures D-1 and D-2. Actual checklists or forms are maintained within the Operating Record.

e. 3. Figure D-1- Example Inspection Checklist

Figure D-1 is shown in Attachment B of this modification package

e. 4. Figure D-2 - Typical Logbook Entry

Figure D-2 is shown in Attachment B of this modification package

e. 5. Table D-1 - Inspection Schedule/Procedures

Revised Table D-1 is shown in Attachment B of this modification package

f. 1. Attachment M2-5c

Inspection

The inspection of the WIPP Underground HWDUs will be conducted in accordance with Module II, and Permit Attachment D and Permit Attachment D1 of this permit.

Item 2

Description:

Change the frequency of Firefighter 1 refresher training

Basis:

Attachment H2 of the HWFP describes the training requirements for Firefighter 1. Course SAF-621 currently requires an 8 hour refresher course every month. To comply with the National Fire Protection Association (NFPA) requirements the DOE is requesting a change to allow the refresher training to occur on a quarterly basis.

Discussion:

Currently the HWFP requires Firefighter 1 to undergo monthly refresher training. To comply with the training recommendations as specified by NFPA 600-10, 4-2.1 and 600-11, 5-2.1 the DOE is requesting that the refresher training be conducted on a quarterly basis. Copies of those regulations are included in Attachment B.

In NMED's response to written public comments for the revised draft permit they stated that, "The permit needs to be consistent with the National Fire Protection Association."

The New Mexico Fire Code and the State Fire Marshall's office policy are consistent with the NFPA in regards to training and refresher training guidelines.

Revised Permit Text:

a. 1. Attachment H2

COURSE:	SAF-621 - Firefighter I
DURATION:	. 40 hours
PREREQUISITES:	None
SCOPE:	This class prepares the student to respond to fires. This class is taught by the New Mexico Fire Academy
OBJECTIVES:	
REFRESHER:	Training is conducted 8 hours monthly quarterly
COURSE DESCRIPTION (by lesson)	

Item 3

Description:

Change the requirements for Radiation Control Technician training

Basis:

Attachment H2 of the HWFP describes the training requirements for Radiation Control Technicians (RCT's). One of these requirements is to be trained on the use of liquid scintillation counters as well as alpha and gamma spectroscopy. These are no longer employed in the course of duty and therefore training on this equipment is no longer required.

Discussion:

The current HWFP requires RCT's to train on Counting Room Equipment. This equipment includes liquid scintillation counter as well as alpha and gamma spectroscopy systems. Use of this equipment is no longer part of the RCT's job scope. Therefore, training on this equipment will no longer be required.

Revised Permit Text:

a. 1. Attachment H2

COURSE: Radiological Control Technician Site-Specific Academic Lessons

DURATION: . 88 hours

PREREQUISITES: Lesson specific

SCOPE: Lesson specific

16. Counting Room Equipment (CL2.19) . 4 hours

- a. Prerequisites - None
- b. Scope - This lesson covers counting room equipment in relation to types used, purpose for, radiation monitored, operational requirements, and specific limitations and characteristics. The RCT uses information from these counting instruments to identify and assess the hazards presented by contamination and airborne radioactivity and establish protective requirements for work performed in radiological areas.
- c. Outline - Introduction
 - WIPP Scintillation Alpha and Beta laboratory counter/scalers' features and specifications
 - WIPP low background auto alpha/beta proportional ~~and liquid scintillation~~ counting systems' features and specifications
 - ~~WIPP alpha and gamma spectroscopy systems' features and specifications~~
 - Exam

Item 4

Description:

Add new hazardous waste numbers to the existing Hazardous Waste Facility Permit (HWFP). These new numbers will not require any additional or different management practices beyond what is currently specified in the HWFP.

Basis:

Three generator/storage sites throughout the Department of Energy (DOE) complex have recently requested the addition of hazardous waste numbers to the existing WIPP HWFP. These new numbers are required to ensure compliant management of TRU mixed waste including disposal at WIPP.

The addition of these numbers will not adversely impact the performance of the waste repository nor will it have any deleterious effect on human health or the environment.

Discussion:

Three generator/storage sites have requested additional hazardous waste numbers be added to the existing Part A and Part B portions of the HWFP. Those sites include the Idaho National Engineering and Environmental Laboratory (INEEL); Los Alamos National Laboratory (LANL) and the Savannah River Site (SRS).

The new waste numbers that are requested either:

- no longer exhibit the characteristic for which they were listed (ignitable liquids and toxic gases)
- show reduced toxicity since they are no longer liquids
- their characteristics have already been evaluated as part of the original permit application

The new waste numbers have been evaluated to ensure that they are compatible with their containers, with current waste numbers acceptable at WIPP and with the repository.

Most of these numbers are already present in the existing HWFP as either the characteristic "D" number, the non-specific source "F" number or as a compound required to be analyzed during waste characterization (Table B-1). The only exceptions to this are hydrofluoric acid (which has been neutralized and complexed), vanadium pentoxide (vanadium has been assessed but not as vanadium pentoxide) and hexachlorobutadiene (which has been solidified).

None of these new numbers will require any additional or different management practices from those currently in place at the WIPP facility.

Each generator/storage site and their respective waste numbers will be discussed below.

Los Alamos National Laboratory (LANL)

The LANL facility has requested the addition of two new hazardous waste numbers. These include P120 (vanadium pentoxide) and D033 (hexachlorobutadiene).

Vanadium Pentoxide (P120)

Vanadium pentoxide (V_2O_5) is a solid and is listed due to its toxicity. Table B-1 of the HWFP lists vanadium as one of the metals which will be analyzed for Summary Category Groups S3000 and S4000. During the application phase of the permitting process vanadium was one of the metallic ions evaluated relative to the performance of the underground repository. No adverse affects from management of vanadium were found.

In reviewing vanadium pentoxide as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Several containers at LANL will carry the P120 hazardous waste number.

Hexachlorobutadiene (D033)

The DOE has been requested to add hexachlorobutadiene to its list of permitted waste numbers. Hexachlorobutadiene (C_4Cl_6) is a liquid and is listed for its toxicity characteristics. The current Toxicity Characteristic Leaching Procedure (TCLP) limit for hexachlorobutadiene is 0.5 milligrams per liter (mg/l).

The DOE has evaluated similar semivolatile organics such as hexachlorobenzene and hexachloroethane relative to the performance of the underground repository. No adverse impact from the acceptance of hexachlorobutadiene is anticipated.

The WIPP facility is prohibited from accepting liquid waste for disposal. Since hexachlorobutadiene is a liquid any free liquid will require solidification or stabilization prior to shipment to WIPP for disposal and therefore the toxicity characteristics will be greatly reduced. Hexachlorobutadiene can only occur as residual liquid consistent with the requirements of the HWFP.

To date only one container has been identified that will carry the D033 waste number.

Savannah River Site (SRS)

The Savannah Rive Site (SRS) has requested that DOE add numerous hazardous waste numbers. These new hazardous waste numbers may be applied separately to a waste stream or in any combination so long as they are

compatible with each other. Approximately 2,500 drums of waste will be assigned these numbers.

With one exception (i.e. mercury), all of these new waste numbers apply to either liquid or gaseous compounds. Since liquid waste is not acceptable at WIPP none of these new waste numbers will be present in free liquid form. Since all pressurized containers are vented prior to shipment to WIPP none of these new waste numbers will be present as gases.

All of these new waste numbers are already subject to evaluation at WIPP through the WAP waste characterization requirements as specified in Table B-1 and all of these numbers are presently listed as either "D" or "F" numbers in the existing HWFP.

Acetone (U002)

SRS has requested the addition of acetone (U002) to the list of approved waste numbers at WIPP. Acetone or 2-propanone (C_3H_6O) is a liquid and is listed due to its ignitable characteristics. Acetone is a common solvent used in many industrial applications.

Acetone is currently monitored as a volatile organic compound in Summary Category Groups S3000 and S4000. Acetone is also a constituent of F003 waste which is approved for receipt at WIPP. No liquid acetone will be present in the SRS waste containers and the ignitable characteristic will no longer exist.

No adverse affects to human health or the environment will result from the acceptance of acetone (U002) at the WIPP facility.

Benzene (U019)

SRS has requested the addition of benzene (U019) to the list of approved waste numbers at WIPP. Benzene (C_6H_6) is a liquid and is listed due to its toxicity characteristics. Benzene is a common solvent used in many industrial applications.

Benzene is currently assessed as a volatile organic compound as required by the HWFP in Table B-1. Benzene is also a constituent of F005 waste which is approved for receipt at WIPP. No liquid benzene will be present in the SRS waste containers and the toxicity characteristic will be greatly reduced.

No adverse affects to human health or the environment will result from the acceptance of benzene (U019) at the WIPP facility.

Chlorobenzene (U037)

SRS has requested the addition of chlorobenzene (U037) to the list of approved waste numbers at WIPP. Chlorobenzene (C_6H_5Cl) is a liquid and is listed due to its toxic characteristics. Chlorobenzene is manufactured as a solvent and is used in industrial applications.

Chlorobenzene is currently assessed as a volatile organic compound as required by the HWFP in Table B-1. Chlorobenzene is also a constituent of F002 waste which is approved for receipt at WIPP. No liquid chlorobenzene will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced.

No adverse affects to human health or the environment will result from the acceptance of chlorobenzene (U037) at the WIPP facility.

Vinyl Chloride (U043)

SRS has requested the addition of vinyl chloride (U043) to the list of approved waste numbers at WIPP. Vinyl chloride (C_2H_3Cl) is a gas and is listed due to its toxic characteristics.

Vinyl chloride is currently monitored as a volatile organic compound as required by the HWFP in Table B-1. Vinyl Chloride is currently permitted for receipt at WIPP as D043. Since all containers are vented no gaseous vinyl chloride will be present in the SRS waste containers and therefore the toxicity characteristics will be greatly reduced.

No adverse affects to human health or the environment will result from the acceptance of vinyl chloride (U043) at the WIPP facility.

Chloroform (U044)

SRS has requested the addition of chloroform (U044) to the list of approved waste numbers at WIPP. Chloroform ($CHCl_3$) is a liquid and is listed due to its toxicity characteristics.

Chloroform is currently monitored as a volatile organic compound as required by the HWFP in Table B-1. Chloroform is currently permitted for receipt at WIPP as D022. No liquid chloroform will be present in the SRS waste containers and the toxicity characteristic will be greatly reduced.

No adverse affects to human health or the environment will result from the acceptance of chloroform (U044) at the WIPP facility.

Cresol (U052)

SRS has requested the addition of cresol (U052) to the list of approved waste numbers at WIPP.

Cresol (C_7H_8O) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists cresol as one of the semivolatile organic compounds which will be assessed. Cresol is currently permitted for receipt at WIPP as D026 and is also listed as a constituent in F004 which is already permitted at the WIPP facility. No liquid cresols will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process cresol was one of the compounds evaluated relative to the

performance of the underground repository. No adverse affects from management of cresol were found.

In reviewing cresol as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

1,2- Dichlorobenzene (U070)

SRS has requested the addition of 1,2 dichlorobenzene (U070) to the list of approved waste numbers at WIPP.

1,2-dichlorobenzene ($C_6H_4Cl_2$) is a liquid and is listed due to its toxicity. 1,2-dichlorobenzene is also know as ortho-dichlorobenzene. Table B-1 of the HWFP lists 1,2 dichlorobenzene as one of the volatile and semivolatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. Ortho-dichlorobenzene is also a constituent of F002 waste which is approved for receipt at WIPP. No liquid dichlorobenzene will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process 1,2-dichlorobenzene was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of 1,2 dichlorobenzene were found.

In reviewing 1,2 dichlorobenzene as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

1,4- Dichlorobenzene (U072)

SRS has requested the addition of 1,4-dichlorobenzene (U072) to the list of approved waste numbers at WIPP.

1,4-dichlorobenzene ($C_6H_4Cl_2$) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists 1,4-dichlorobenzene as one of the volatile and semivolatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. 1,4-dichlorobenzene is currently permitted for receipt at WIPP as D027. No liquid 1,4-dichlorobenzene will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process 1,4-dichlorobenzene was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of 1,4-dichlorobenzene were found.

In reviewing 1,4-dichlorobenzene as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

1,1- Dichloroethylene (U078)

SRS has requested the addition of 1,1-dichloroethylene (U078) to the list of approved waste numbers at WIPP. 1,1-dichloroethylene is also know as 1,1-

dichloroethene or vinylidene chloride.

1,1-dichloroethylene ($C_2H_2Cl_2$) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists 1,1-dichloroethylene as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. 1,1-dichloroethylene is currently permitted for receipt at WIPP as D029. No liquid dichloroethylene will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process 1,1-dichloroethylene was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of 1,1-dichloroethylene were found.

In reviewing 1,1-dichloroethylene as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

1,2- Dichloroethylene (U079)

SRS has requested the addition of 1,2-dichloroethylene (U078) to the list of approved waste numbers at WIPP. 1,2-dichloroethylene is also known as 1,2-dichloroethene.

1,2-dichloroethylene ($C_2H_2Cl_2$) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists 1,2-dichloroethylene as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. No liquid dichloroethylene will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process 1,2-dichloroethylene was one of the compounds evaluated relative to the performance of the underground repository. 1,2-dichloroethylene is chemically similar to 1,1-dichloroethylene and no adverse affects from management of 1,2-dichloroethylene are anticipated.

In reviewing 1,2-dichloroethylene as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

2,4- Dinitrotoluene (U105)

SRS has requested the addition of 2,4-dinitrotoluene (U105) to the list of approved waste numbers at WIPP.

2,4-dinitrotoluene ($C_7H_6N_2O_4$) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists 2,4-dinitrotoluene as one of the semivolatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. 2,4-dinitrotoluene is currently permitted for receipt at WIPP as D030. No liquid dinitrotoluene will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process 2,4-dinitrotoluene was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of 2,4-dinitrotoluene were found.

In reviewing 2,4-dinitrotoluene as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Formaldehyde (U122)

SRS has requested the addition of formaldehyde (U122) to the list of approved waste numbers at WIPP.

Formaldehyde (CH₂O) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists formaldehyde as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. No liquid formaldehyde will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process formaldehyde was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of formaldehyde were found.

In reviewing formaldehyde as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Hydrazine (U133)

SRS has requested the addition of Hydrazine (U133) to the list of approved waste numbers at WIPP.

Hydrazine (H₄N₂) is a liquid and is listed due to its reactivity and toxicity. Table B-1 of the HWFP lists hydrazine as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. No liquid hydrazine will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. No reactivity characteristics relative to the solidified hydrazine will be present in the waste from SRS. During the application phase of the permitting process hydrazine was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of hydrazine were found.

In reviewing hydrazine as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Mercury (U151)

SRS has requested the addition of mercury (U151) to the list of approved waste numbers at WIPP.

Mercury (Hg) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists mercury as one of the metallic compounds which will be analyzed for Summary Category Groups S3000 and S4000. Mercury is currently permitted for receipt at WIPP as D009. During the application phase of the permitting

process mercury was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of mercury were found.

In reviewing mercury as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Methanol (U154)

SRS has requested the addition of methanol (U154) to the list of approved waste numbers at WIPP.

Methanol (CH₄O) is a liquid and is listed due to its ignitability. Table B-1 of the HWFP lists methanol as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. Methanol is also a constituent of F003 waste which is approved for receipt at WIPP. No liquid methanol will be present in the SRS waste containers and the ignitable characteristics will no longer exist. During the application phase of the permitting process methanol was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of methanol were found.

In reviewing methanol as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Methyl Ethyl Ketone (U159)

SRS has requested the addition of methyl ethyl ketone (U159) to the list of approved waste numbers at WIPP.

Methyl ethyl ketone (C₄H₈O) is a liquid and is listed due to its ignitability and toxicity. Table B-1 of the HWFP lists methyl ethyl ketone as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. Methyl ethyl ketone is currently permitted for receipt at WIPP as D035 and is also listed as a constituent in F005 which is already permitted at the WIPP facility. No liquid methyl ethyl ketone will be present in the SRS waste containers and the ignitable characteristics will no longer exist. The solidified methyl ethyl ketone will exhibit greatly reduced toxicity characteristics. During the application phase of the permitting process methyl ethyl ketone was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of methyl ethyl ketone were found.

In reviewing methyl ethyl ketone as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Pyridine (U196)

SRS has requested the addition of pyridine (U196) to the list of approved waste numbers at WIPP.

Pyridine (C_5H_5N) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists pyridine as one of the semivolatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. Pyridine is currently permitted for receipt at WIPP as D038 and is also listed as a constituent in F005 which is already permitted at the WIPP facility. No liquid pyridine will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process pyridine was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of pyridine were found.

In reviewing pyridine as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

1,1,2,2-Tetrachloroethane (U209)

SRS has requested the addition of 1,1,2,2-tetrachloroethane (U209) to the list of approved waste numbers at WIPP.

1,1,2,2-Tetrachloroethane ($C_2H_2Cl_4$) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists 1,1,2,2-tetrachloroethane as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. No liquid tetrachloroethane will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process 1,1,2,2-tetrachloroethane was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of 1,1,2,2-tetrachloroethane were found.

In reviewing 1,1,2,2-tetrachloroethane as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Tetrachloroethylene (U210)

SRS has requested the addition of tetrachloroethylene (U210) to the list of approved waste numbers at WIPP.

Tetrachloroethylene (C_2Cl_4) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists tetrachloroethylene as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. Tetrachloroethylene is currently permitted for receipt at WIPP as D039 and is also listed as a constituent in F001 and F002 wastes which are already permitted at the WIPP facility. No liquid tetrachloroethylene will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process tetrachloroethylene was one of the compounds evaluated relative to the performance of the underground

repository. No adverse affects from management of tetrachloroethylene were found.

In reviewing tetrachloroethylene as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Toluene (U220)

SRS has requested the addition of toluene (U220) to the list of approved waste numbers at WIPP.

Toluene (C_7H_8) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists toluene as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. Toluene is also a constituent of F005 waste which is approved for receipt at WIPP. No liquid toluene will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process toluene was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of toluene were found.

In reviewing toluene as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

1,1,1-Trichloroethane (U226)

SRS has requested the addition of 1,1,1-Trichloroethane (U226) to the list of approved waste numbers at WIPP.

1,1,1-trichloroethane ($C_2H_3Cl_3$) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists 1,1,1-trichloroethane as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. Trichloroethane is also a constituent of F001 and F002 wastes which are approved for receipt at WIPP. No liquid trichloroethane will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process 1,1,1- trichloroethane was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of 1,1,1- trichloroethane were found.

In reviewing 1,1,1- trichloroethane as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Trichloroethylene (U228)

SRS has requested the addition of Trichloroethylene (U228) to the list of approved waste numbers at WIPP.

Trichloroethylene (C_2HCl_3) is a liquid and is listed due to its toxicity. Table B-1 of the HWFP lists trichloroethylene as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000.

Trichloroethylene is currently permitted for receipt at WIPP as D040 and is also listed as a constituent in F001 and F002 wastes which are already permitted at the WIPP facility. No liquid trichloroethylene will be present in the SRS waste containers and the toxicity characteristics will be greatly reduced. During the application phase of the permitting process trichloroethylene was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of trichloroethylene were found.

In reviewing trichloroethylene as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Xylene (U239)

SRS has requested the addition of Xylene (U239) to the list of approved waste numbers at WIPP.

Xylene (C_8H_{10}) is a liquid and is listed due to its ignitability. Table B-1 of the HWFP lists xylene as one of the volatile organic compounds which will be analyzed for Summary Category Groups S3000 and S4000. Xylene is also a constituent of F003 waste which is approved for receipt at WIPP. No liquid xylene will be present in the SRS waste containers and the ignitability characteristics will no longer exist. During the application phase of the permitting process xylene was one of the compounds evaluated relative to the performance of the underground repository. No adverse affects from management of xylene were found.

In reviewing xylene as a candidate number for acceptance at WIPP it was determined that no impact on human health or the environment will result from management of this waste.

Idaho National Engineering and Environmental Laboratory (INEEL)

Hydrofluoric Acid–(U134)

The INEEL facility has requested the addition of hazardous waste number U134 (hydrofluoric acid). Hydrofluoric acid (HF) is listed in 20.4.1.200 NMAC (incorporating 40 CFR Part 261) for its corrosivity and toxicity characteristics.

The U134 waste from INEEL was used in the zirconium dissolution process. Both used and unused forms of HF were complexed with aluminum nitrate prior to liquid waste treatment at the INEEL facility.

The complexation of HF with aluminum nitrate forms aluminum fluoride and nitric acid. Once complexed, the hydrofluoric acid does not reform. Aluminum fluoride has been shown to be significantly less toxic than other fluoride compounds due

to its reduced solubility.

Once the HF was complexed with the aluminum nitrate the mixture was discharged into the INEEL wastewater treatment plant where the nitric acid was neutralized. The subsequent sludge is dewatered and prepared for shipment to WIPP. The final waste is a solid which no longer exhibits either the corrosive or toxic characteristic.

Approximately 1,000 containers of waste from INEEL will be assigned the U134 hazardous waste number.

Revised Permit Text:

a.1. Module II.C.4

Table II.C.4 - Permitted TRU Mixed Wastes		
EPA Hazardous Waste Code	Hazardous Waste	Chemical Abstract Number
F001	<u>Spent halogenated solvents:</u> Tetrachloroethylene Trichloroethylene Methylene chloride 1,1,1-Trichloroethane Carbon tetrachloride Chlorinated fluorocarbons	127-18-4 79-01-6 75-09-2 71-55-6 56-23-5 NA
F002	<u>Spent halogenated solvents:</u> Tetrachloroethylene Methylene chloride Trichloroethylene 1,1,1-Trichloroethane Chlorobenzene 1,1,2-Trichloro-1,2,2-trifluoroethane Ortho-dichlorobenzene Trichlorofluoromethane 1,1,2-Trichloroethane	127-18-4 75-09-2 79-01-6 71-55-6 108-90-7 76-13-1 95-50-1 75-69-4 79-00-5
F003	<u>Spent non-halogenated solvents:</u> Xylene Acetone Ethyl acetate Ethyl benzene Ethyl ether Methyl isobutyl ketone n-Butyl alcohol Cyclohexanone Methanol	1330-20-7 67-64-1 141-78-6 100-41-4 60-29-7 108-10-1 71-36-3 108-94-1 67-56-1

Table II.C.4 - Permitted TRU Mixed Wastes		
EPA Hazardous Waste Code	Hazardous Waste	Chemical Abstract Number
F004	<u>Spent non-halogenated solvents:</u> Cresols and cresylic acid Nitrobenzene	1319-77-3 98-95-3
F005	<u>Spent non-halogenated solvents:</u> Toluene Methyl ethyl ketone Carbon disulfide Isobutanol Pyridine Benzene 2-Ethoxyethanol 2-Nitropropane	108-88-3 78-93-3 75-15-0 78-83-1 110-86-1 71-43-2 110-80-5 79-46-9
F006	<u>Wastewater treatment sludges from electroplating operations:</u> Cadmium Chromium Cyanide Lead Nickel Silver	7440-43-9 7440-47-3 57-12-5 7439-92-1 7440-02-0 7440-22-4
F007	<u>Spent cyanide plating bath solutions from electroplating operations:</u> See F006	
F009	<u>Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process:</u> See F006	
D004	Arsenic	7440-38-2
D005	Barium	7440-39-3
D006	Cadmium	7440-43-9
D007	Chromium	7440-47-3
D008	Lead	7439-92-1
D009	Mercury	7439-97-6
D010	Selenium	7782-49-2
D011	Silver	7440-22-4
D018	Benzene	71-43-2
D019	Carbon Tetrachloride	56-23-5
D021	Chlorobenzene	108-90-7
D022	Chloroform	67-66-3

Table II.C.4 - Permitted TRU Mixed Wastes		
EPA Hazardous Waste Code	Hazardous Waste	Chemical Abstract Number
D026	Cresol	1319-77-3
D027	1,4-Dichlorobenzene	106-46-7
D028	1,2-Dichloroethane	107-06-2
D029	1,1-Dichloroethylene	75-35-4
D030	2,4-Dinitrotoluene	121-14-2
D032	Hexachlorobenzene	118-74-1
D033	Hexachlorobutadiene	87-68-3
D034	Hexachloroethane	67-72-1
D035	Methyl ethyl ketone	78-93-3
D036	Nitrobenzene	98-95-3
D037	Pentachlorophenol	87-86-5
D038	Pyridine	110-86-1
D039	Tetrachloroethylene	127-18-4
D040	Trichloroethylene	79-01-6
D043	Vinyl chloride	75-01-4
P015	Beryllium powder	7440-41-7
P120	Vanadium Pentoxide	1314-62-1
U002	Acetone	67-64-1
U019	Benzene	71-43-2
U037	Chlorobenzene	108-90-7
U043	Vinyl Chloride	75-01-4
U044	Chloroform	67-66-3
U052	Cresol	1319-77-3
U070	1,2-Dichlorobenzene	95-50-1
U072	1,4-Dichlorobenzene	106-46-7
U078	1,1-Dichloroethylene	75-35-4
U079	1,2-Dichloroethylene	156-60-5
U105	2,4-Dinitrotoluene	121-14-2
U122	Formaldehyde	50-00-0
U133	Hydrazine	302-01-2
U134	Hydrofluoric Acid	7664-39-3
U151	Mercury	7439-97-6
U154	Methanol	67-56-1

Table II.C.4 - Permitted TRU Mixed Wastes		
EPA Hazardous Waste Code	Hazardous Waste	Chemical Abstract Number
U159	Methyl Ethyl Ketone	78-93-3
U196	Pyridine	110-86-1
U209	1,1,2,2-Tetrachloroethane	79-34-5
U210	Tetrachloroethylene	127-18-4
U220	Toluene	108-88-3
U226	1,1,1-Trichloroethane	71-55-6
U228	Trichloroethylene	79-01-6
U239	Xylene	1330-20-7

b.1. Attachment O, Part A Application

A revised Part A Application is include in Attachment B

Item 5

Description:

The Department of Energy (DOE) is requesting an extension in the time allowed for the reporting of groundwater monitoring data after the collection of the final sample from each semi-annual sampling round. The Hazardous Waste Facility Permit (HWFP) currently requires that data be submitted within sixty (60) calendar days of the final sample collection. The DOE requests that this time be extended to one hundred twenty (120) calendar days.

As specified in 20.4.1.900 NMAC (incorporating 40 CFR § 270.42, Appendix I) this change to the HWFP would be classified as category A.4.b (a change in the frequency of or procedures for monitoring, reporting, sampling or maintenance activities by the permittee—other changes).

Basis:

The basis for this modification is the time needed to obtain and verify the analytical data required by the WIPP groundwater monitoring program.

The samples are obtained from the Culebra Formation which exhibits high salinity and high total dissolved solids. This combination results in analytical data that are difficult to quantify and time consuming to validate. The time required to generate, review, verify, validate, and prepare reports can take over 100 days.

For this reason the DOE has found it necessary to increase the time allotted for groundwater data submittal.

Discussion:

The groundwater that is monitored in the Culebra Formation has extremely high total dissolved solids (TDS). The TDS of these samples ranges from 17,000 to 220,000 milligrams per liter (mg/l). At these extremely high TDS concentrations the laboratories are forced to analyze the WIPP samples separately from other clients samples. When commercial laboratories analyze samples separately it requires additional time to complete those analyses.

The WIPP groundwater samples have such high salinity and TDS that high dilutions of those samples are required at the analytical laboratory. These high dilutions also result in elevated detection limits. This forces the laboratory to rerun samples several times in order to meet the required detection limits for trace constituents while still ensuring that all quality assurance and quality control requirements are met.

The time required from sample collection until submittal to NMED is indicated below:

- Sample transport from the wellhead to the laboratory—less than 6 hours
- Laboratory analysis including the data package--45 days
- Data validation and verification—15 days
- Data entry into spreadsheets and databases--3 days
- Statistical evaluation--4 days

- Report preparation--21 days
 - WTS internal review--7 days
 - Carlsbad Field Office review--14 days
- The total time for this process is 109 days

The DOE has evaluated additional laboratories in an attempt to reduce the number of days required for analyses and data verification. DOE has questioned five additional analytical laboratories and none has the ability to reduce the time currently required.

20.4.1.500 NMAC (incorporating 40 CFR § 264.98(f)(2) states that “The Secretary will specify in the facility permit what period of time is reasonable, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of ground-water samples.”

For these reasons DOE believes its request for an extension of time is both valid and reasonable.

Revised Permit Text:

a. 1. Module V.I.4

Data Evaluation Timeframe

The Permittees shall perform the data evaluations specified in Permit Condition V.I.3 within ~~sixty (60)~~ **one hundred twenty (120)** calendar days after completion of DMP sampling, as required by 20 ~~NMAC~~ 4.1.500 **NMAC** (incorporating 40 CFR §264.98(f)(2)).

a. 2. Module V.J.2.a

Data evaluation results - the Permittees shall submit to the Secretary the analytical results required by Permit Conditions V.E.1 and V.I.2, and the results of the statistical analyses required by Permit Condition V.I.3, in compliance with the schedule on Table V.J.2.a below, and as required by 20 ~~NMAC~~ 4.1.500 **NMAC** (incorporating 40 CFR §264.97(j)):

Table V.J.2.a - Analytical Results Submittal Schedule	
Samples to be collected during the preceding months of:	Results due to the NMED Secretary by:
March - May	Sixty (60) One hundred twenty (120) calendar days after final sample is collected
September - November	Sixty (60) One hundred twenty (120) calendar days after final sample is collected

Analytical results of a sampling round may be included in the report specified in Permit Condition V.J.2.c if publication of the report coincides with the ~~sixty (60)~~ **one hundred twenty (120)** calendar day report submittal schedule.

b. 1. Attachment O

A revised Part A application is contained in Attachment B

Attachment B

Figure D-1

Example Equipment Inspection Checklist
(Actual checklists and forms are maintained in the Operating Record)

TYPICAL EQUIPMENT WEEKLY CHECK LIST		
<u> </u> % OK <u> X </u> Adjustment Made <u> O </u> Repairs Required AR Written [] Yes [] No AR # _____ (check or complete appropriate information)		
ITEM INSPECTED	Condition	Comments/Corrective Action
<i>Mechanical Checks:</i> (examples)		
Oil level		
Radiator fluid level		
Automatic transmission fluid level		
Operate all valves/check gauges		
Emergency brake		
Fuel level (> ¾ full)		
Oil pressure (at warm idle)		
Tire Pressure		
Sirens, horn, & back-up alarm		
<i>Deterioration Checks:</i> (examples)		
Fan belts		
Battery (terminals, cables)		
Run generator 5 min.		
Hose, nozzles & valves		
<i>Leaks/Spills Checks:</i> (examples)		
Leaks around pump		
Foam tank level		
<i>Required Equipment:</i> (examples)		
Inspect SCBAs (> 4050 psi)		
Hand tools & equipment		
Trauma Kit		
Inspected by: _____ <div style="display: flex; justify-content: space-between; margin-left: 20px;"> Print Name Signature Time/Date </div> Inspected by: _____ <div style="display: flex; justify-content: space-between; margin-left: 20px;"> Print Name Signature Time/Date </div> Reviewed by: _____ <div style="display: flex; justify-content: space-between; margin-left: 20px;"> Print Name Signature Time/Date </div> Comments: _____ _____ _____		

NOTE: All items that are mandatory for every inspection form are shown in bold.

Fig. D-1: Example Inspection Checklist

Figure D-2
Typical Logbook Entry

Table D-1
Inspection Schedule/Procedures

TABLE D-1
INSPECTION SCHEDULE/PROCEDURES

System/Equipment Name	Responsible Organization	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection	Deterioration^b Leaks/Spills Other Procedure Number and Inspection Criteria
Air Intake Shaft Hoist	Underground Operations	Preoperational ^c See Lists 1b and c	WP 04-HO1004 Inspecting for Yes Deterioration^b , Safety Equipment, Communication Systems, and Mechanical Operability ^m NA Inspect per in accordance with Mine Safety and Health Administration (MSHA) requirements
Ambulances (Surface and Underground) and related emergency supplies and equipment	Emergency Management Services	Weekly See List 11	PM000030 Inspecting for Mechanical Operability ^m , Yes Deterioration^b , and Required Equipment ⁿ NA Depletion and expiration dates
Adjustable Center of Gravity Lift Fixture	Waste Operations Handling	Preoperational See List 8	WP 05-WH1410 Inspecting for Mechanical Operability ^m and Yes Deterioration^b NA NA
Backup Power Supply Diesel Generators	Facility Operations	Monthly See List 3	WP 04-ED1301 Inspecting for Mechanical Operability ^m and NA Yes Leaks/Spills by, \$ starting and operating both generators. Results of this inspection are logged in accordance with WP 04-AD3008.
Facility Inspections (Water Diversion Berms)	Facility Engineering	Annually See List 4	WP 10-WC3008 Inspecting for Damage, Impediments to water flow, and Yes Deterioration^b NA NA
Central Monitoring Systems (CMS)	Facility Operations	Continuous See List 3	NA NA Automatic Self-Checking
Contact-Handled (CH) TRU Underground Transporter	Waste Operations Handling	Preoperational See List 8	WP 05-WH1603 Inspecting for Mechanical Operability ^m , Yes Deterioration^b , and NA Inspect area around transporter clear of for obstacles
Conveyance Loading Car	Waste Operations Handling	Preoperational See List 8	WP 05-WH1406 Inspecting for Mechanical Operability ^m , Yes Deterioration^b , NA F tracks clear of obstacles, and guards in the proper place
Exhaust Shaft	Underground Operations	Quarterly See List 1a	PM041099 Inspecting for Yes Deterioration^b and Yes Leaks/Spills NA
Eye Wash and Shower Equipment	Equipment Custodian	Weekly See List 5	WP 12-IS1832 Inspecting for Yes Deterioration^b NA NA
		Semi-annually See List 2a	WP 12-IS1832 Inspecting for Yes Deterioration^b and NA Fluid Levels —Replace as Required Water replaced
Fire Detection and Alarm System	Emergency Management Services	Semiannually See List 11	PM000027 Inspecting for Yes Deterioration^b , NA Operability of indicator lights and, Inspection includes underground fuel station dry chemical suppression system. Inspection is per NFPA 72
Fire Extinguishers ^l	Emergency Management Services	Monthly See List 11	PM000036 Inspecting for Yes Deterioration^b , Yes Leaks/Spills , Expiration , seals, fullness, and pressure
Fire Hoses	Emergency Management Services	Annually (minimum) See List 11	PM000031 Inspecting for Yes Deterioration^b and Yes Leaks/Spills NA

TABLE D-1
INSPECTION SCHEDULE/PROCEDURES

System/Equipment Name	Responsible Organization	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection	Deterioration^b Leaks/Spills Other Procedure Number and Inspection Criteria
Fire Hydrants	Emergency Management Services	Semi-annual/annually See List 11	PM000034 Inspecting for Yes Deterioration ^b and Yes Leaks/Spills — NA
Fire Pumps	Emergency Management Services	Weekly/annually See List 11	PM000026 Inspecting for Yes Deterioration ^b , Yes Leaks/Spills, valves, and panel lights NA
Fire Sprinkler Systems—	Emergency Management Services	Monthly/ quarterly See List 11	PM000025 Inspecting for Yes Deterioration ^b , Yes Leaks/Spills, static pressures, and removable strainers— NA
Fire Trucks (Seagrave Fire Apparatus, Emergency One Apparatus, Brush Truck, and Underground Rescue Truck)	Emergency Management Services	Weekly See List 11	PM000033 Inspecting for Mechanical Operability ^m , Yes Deterioration ^b , Yes Leaks/Spills, and Required Equipment ⁿ — NA
Forklifts Used for Waste Handling (Electric and Diesel forklifts, Loron Attachment)	Waste Operations Handling	Preoperational See List 8	WP 05-WH1401, WP 05-WH1402, WP 05-WH1403, and WP 05-WH1412 Inspecting for Mechanical Operability ^m , Yes Deterioration ^b , and NA On board fire suppression system
Hazardous Material Response Equipment	Emergency Management Services	Weekly See List 11	PM000033 Inspecting for Mechanical Operability ^m , Yes Deterioration ^b , and Required Equipment ⁿ — NA — Depletion and expiration dates
Miners First Aid Station	Emergency Management Services	Quarterly See List 11	PM000035 Inspecting for Required Equipment ⁿ — NA — NA — Depletion
Mine Pager Phones (between surface and underground)	Facility Operations	Monthly See List 3	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations— NA — NA — NA
MSHA Air Quality Monitor	Maintenance/Underground Operations	Daily ^l See Lists 1 and 10	WP 12-IH1828 Inspecting for Air Quality Monitoring— NA — NA — Equipment Functional Check
Perimeter Fence, Gates, Signs	Security	Daily See List 6	PF0-011 Inspecting for Yes Deterioration ^b and Posted Warnings — NA — NA
Personal Protective Equipment (not otherwise contained in emergency vehicles or issued to individuals): —Self-Contained Breathing Apparatus	Emergency Management Services	Weekly See List 11	PM000029 Inspecting for Yes Deterioration ^b and Pressure — NA — NA
Public Address (and Intercom System)	Facility Operations	Monthly See List 3	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations— NA — NA — NA — Systems operated in test mode
Radio Equipment	Facility Operations	Daily ^l See List 3	NA — NA — Radios are operated daily and used until they are repaired upon failure
Rescue Truck (Surface and Underground)	Emergency Management Services	Weekly See List 11	PM000030 and PM000033 Inspecting for Mechanical Operability ^m , Yes Deterioration ^b , Yes Leaks/Spills, Depletion and Required Equipment ⁿ expiration dates

**TABLE D-1
INSPECTION SCHEDULE/PROCEDURES**

System/Equipment Name	Responsible Organization	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection	Deterioration^b Leaks/Spills Other Procedure Number and Inspection Criteria
Salt Handling Shaft Hoist	Underground Operations	Preoperational See List 1b and c	WP 04-HO1002 Inspecting for Yes Deterioration^b , Safety Equipment, Communication Systems, and Mechanical Operability ^m NA Inspect per in accordance with MSHA requirements
Self-Rescuers	Underground Operations	Quarterly See List 1c	WP 04-AU1026 Inspecting for Yes Deterioration^b and Functionality NA Inspect per in accordance with MSHA requirements
Surface TRU Mixed Waste Handling Area ^k	Waste Operations Handling	Preoperational or Weekly ^e See List 8	WP 05-WH1101 Inspecting for Yes Deterioration^b , Yes Leaks/Spills, Required Aisle Space, Posted Warnings, Communication Systems, Container Condition, and Floor coating integrity
TRU Mixed Waste Decontamination Equipment	Waste Operations Handling	Annually See List 8	WP 05-WH1101 Inspecting for Required Equipment ⁿ NA NA Depletion
Underground Openings—Roof Bolts and Travelways	Underground Operations	Weekly See List 1a	WP 04-AU1007 Inspecting for Yes Deterioration^b NA NA
Underground—Geomechanical Instrumentation System (GIS)	Geotechnical Engineering	Monthly See List 9	WP 07-EU1301 Inspecting for Yes Deterioration^b NA NA
Underground TRU Mixed Waste Disposal Area—(mine pager phones, equipment, unobstructed access, signs, debris, ventilation)	Waste Operations Handling	Preoperational See List 8	WP 05-WH1810 Inspecting for Yes Deterioration^b , Yes Leaks/Spills, mine pager phones, equipment, unobstructed access, signs, debris, and ventilation NA
Uninterruptible Power Supply (Central UPS)	Facility Operations	Daily See List 3	WP 04-ED1542 Inspecting for Mechanical Operability ^m and Yes Deterioration^b with NA NA no malfunction alarms. Results of this inspection are logged in accordance with WP 04-AD3008.
TDOP Upender	Waste Operations Handling	Preoperational See List 8	WP 05-WH1010 Inspecting for Mechanical Operability ^m and Yes Deterioration^b NA NA
Vehicle Siren	Emergency Management Services	Weekly See List 11	Yes NA Functional Test included with inspection of the Ambulances, Fire Trucks, and Rescue Trucks
Ventilation Exhaust	Maintenance Operations	Quarterly See List 10	IC041098 Check for Yes Deterioration^b and Calibration of Mine Ventilation Rate Monitoring Equipment NA NA
Waste Handling Cranes	Waste Operations Handling	Preoperational See List 8	WP 05-WH1407 Inspecting for Mechanical Operability ^m , Yes Deterioration^b , and Yes Leaks/Spills NA
Waste Hoist	Underground Operations	Preoperational See List 1b and c	WP 04-HO1003 Inspecting for Yes Deterioration^b , Safety Equipment, Communication Systems, and Mechanical Operability ^m , Yes Leaks/Spills, Inspect per in accordance with MSHA requirements

TABLE D-1
INSPECTION SCHEDULE/PROCEDURES

System/Equipment Name	Responsible Organization	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection	Deterioration^b Leaks/Spills Other Procedure Number and Inspection Criteria
Water Tank Level	Facility Operations	Daily See List 3	SDD-WD00 Inspecting for Yes Deterioration^b , and NA Record water levels. Results of this inspection are logged in accordance with WP 04-AD3008.
Push-Pull Attachment	Operations Waste Handling	Preoperational See List 8	WP 05-WH1401 Inspecting for Damage and Yes Deterioration^b NA NA
Trailer Jockey	Operations Waste Handling	Preoperational See List 8	WP 05-WH1405 Inspecting for Mechanical Operability ^m and Yes Deterioration^b NA NA

TABLE D-1 (CONTINUED)
INSPECTION SCHEDULE/~~PROCEDURES~~ LISTS

List 1: Underground Operations

- a. Mining Technician *
- Senior Mining Technician *
- Continuous Mining Specialist *
- Senior Mining Specialist *
- Mine OPS Supervisor *
- b. Waste Hoist Operator
- Waste Hoist Shaft Tender
- c. *Underground Facility Operations - Self Rescuers
- ~~Shaft Technician *~~
- d. Operations Engineer
- Supervisor U/G Services*
- Senior Operations Engineer*

List 2: Industrial Safety

- a. Safety Technician *
- Senior Safety Technician *
- Safety Specialist *
- Safety Engineer *
- Industrial Hygienist *
- b. Fire Protection Engineering *

List 3: Facility Operations

- Facilities Technician *
- Senior Facilities Technician *
- Facility Operations Specialist *
- Central Monitoring Room Operator *
- Central Monitoring Room Specialist *
- Operations Engineer
- Senior Operations Engineer *
- Facility Shift Manager
- Operations Technical Coordinator *

List 4: Facility Engineering

- Senior Engineer *

List 5: General

- Equipment Custodian*

List 6: Security

- Security Protective *
- Security Protective Supervisor *

List 8: Waste ~~Operations~~ Handling

- Manager, Waste Operations
- TRU-Waste Handler

List 9: Geotechnical Engineering

- Engineer Technician *
- Associate Engineer *
- Engineer *
- Senior Engineer *
- Principal Engineer*

List 10: Maintenance Operations

- Maintenance Technician *
- Maintenance Specialist *
- Senior Maintenance Specialist *
- Contractor *

List 11: Emergency ~~Management~~ Services

- Qualified Emergency Services Personnel
- Fire Protection Technician

TABLE D-1 (CONTINUED)
INSPECTION SCHEDULE/PROCEDURES** NOTES**

- ^a Inspection may be accomplished as part of or in addition to regularly scheduled preventive maintenance inspections for each item or system. Certain structural systems of the WHB, Waist Hoist and Station A are also subject to inspection following severe natural events including earthquakes, tornados, and severe storms. Structural systems include columns, beams, girders, anchor bolts and concrete walls.
- ^b Deterioration includes: cracks, erosion, salt build-up, damage, corrosion, loose or missing parts, malfunctions, and structural deterioration.
- ^c "Preoperational" signifies that inspections are required prior to the first use during a calendar day. For calendar days in which the equipment is not in use, no inspections are required. For an area this includes: area is clean and free of obstructions (for emergency equipment); adequate aisle space; emergency and communications equipment is readily available, properly located and sign-posted, visible, and operational. For equipment, this includes: checking fluid levels, pressures, valve and switch positions, battery charge levels, pressures, general cleanliness, and that all functional components and emergency equipment is present and operational.
- ^e These weekly inspections apply to container storage areas when containers of waste are present for a week or more.
- ^g In addition, the water tank levels are maintained by the CMR and level readouts are available at any time.
- ^h This organization is responsible for obtaining licenses for radios and frequency assignments. They do periodic checks of frequencies and handle repairs which are performed by a vendor.
- ⁱ Radios are not routinely "inspected." They are operated daily and many are used in day-to-day operations. They are used until they fail, at which time they are replaced and repaired. Radios are used routinely by Emergency Management Services, Security, Environmental Monitoring, and Facility Operations.
- ^j Fire extinguisher inspection is paperless. Information is recorded into a database using barcodes. The database is then printed out.
- ^k Surface TRU mixed waste handling areas include the Parking Area Unit, the WHB unit, and unloading areas.
- ^l No log forms are used for daily readings. However, readings that are out of tolerance are reported to the CMR and logged by CMR operator. Inspection includes daily functional checks of portable equipment.
- ^m **Mechanical Operability means that the equipment has been checked and is operating in accordance with site safety requirements (e.g. proper fluid levels and tire pressure; functioning lights, alarms, sirens, and power/battery units; and belts, cables, nuts/bolts, and gears in good condition), as appropriate.**
- ⁿ **Required Equipment means that the equipment identified in Table F-6 is available and usable (i.e. not expired/depleted and works as designed).**
- * Positions are not considered RCRA positions (i.e., personnel do not manage TRU mixed waste).

TABLE D-2
MONITORING SCHEDULE

System/Equipment Name	Responsible Organization	Monitoring Frequency	Purpose
Geomechanical ^b	Geotechnical Engineering	Monthly	To evaluate the geotechnical performance of the underground facility and to detect ground conditions that could affect operational safety
Central Monitoring System	Facility Operations	System Dependent	Monitor and provide status for the following facility parameters: Electrical Power Status ^d Fire Alarm System ^e Ventilation System Status ^f Meteorological Data System ^g Facility Systems (compressors ^e , pumps ^h , water tank levels ⁱ , waste hoists ^j)

^b Equipment is listed as Underground-Geomechanical Instrumentation System (GIS) in Table D-1.
^d Equipment listed as Backup Power Supply Diesel Generator in Table D-1.
^e Equipment listed as Fire Detection and Alarm System in Table D-1.
^f Equipment listed as Ventilation Exhaust in Table D-1.
^g Not RCRA equipment.
^h Equipment listed as Fire Pumps in Table D-1.
ⁱ Equipment listed as Water Tank Level in Table D-1.
^j Equipment listed as Waste Hoist in Table D-1.

NFPA Training Regulations

2-7 Industrial Fire Brigade Apparatus

2-7.1 Industrial fire brigade management shall consider industrial fire brigade health and safety as primary concerns in the specification, design, construction, acquisition, operation, maintenance, inspection, and repair of all apparatus.

2-7.1.1* Industrial fire brigade apparatus shall be operated only by members who have been qualified in its proper operation by formal training using performance-based standards.

2-7.1.2 Industrial fire brigade apparatus drivers shall have valid driver's licenses for the type of vehicle as required by state law or corporate policy. Vehicles shall be operated in compliance with all applicable traffic laws.

2-7.1.3 Industrial fire brigade apparatus drivers shall be directly responsible for safe and prudent operation under all conditions.

2-7.1.4 Standing while riding shall not be permitted.

2-7.1.5 Riding on tailsteps or in any other exposed position on industrial fire brigade apparatus shall not be permitted.

2-7.1.6 All persons riding on industrial fire brigade apparatus shall be seated and secured with seat belts.

2-7.2 All industrial fire brigade apparatus shall be maintained in accordance with the manufacturer's recommendations.

2-7.3 All industrial fire brigade apparatus shall be inspected at least weekly and within 24 hours after any use or repair to identify and correct unsafe conditions.

2-7.4 Industrial fire brigade apparatus found unsafe shall be placed out of service until repaired.

2-7.5 Fire pumps on apparatus shall be service tested in accordance with the frequency and procedures specified in NFPA 1911, *Standard for Service Tests of Fire Pump Systems on Fire Department Apparatus*.

2-7.6 All aerial devices shall be inspected and service tested in accordance with the frequency and procedures specified in NFPA 1914, *Standard for Testing Fire Department Aerial Devices*.

Chapter 3 Industrial Fire Brigades That Perform Incipient Stage Fire Fighting

3-1 General. Industrial fire brigades organized to perform incipient stage fire fighting shall meet the following requirements in addition to all applicable requirements of Chapters 1 and 2 of this standard.

3-2 Education, Training, and Drills

3-2.1* All industrial fire brigade members shall receive training and education at least annually.

3-2.2 All industrial fire brigade members shall participate in a drill at least annually.

3-2.3* Training and drills involving live fire evolutions shall be performed in accordance with recognized safety precautions.

3-3 Protective Clothing and Protective Equipment. Thermal protective clothing and SCBA shall not be required.

3-4 Medical. Each industrial fire brigade member shall meet the medical and job-related physical performance requirements as specified in Section 2-5.

Chapter 4 Industrial Fire Brigades That Perform Advanced Exterior Fire Fighting Only

4-1 General. Industrial fire brigades organized to perform advanced exterior fire fighting only shall meet the following requirements in addition to all applicable requirements of Chapters 1 and 2 of this standard.

4-2 Education, Training, and Drills

4-2.1 All industrial fire brigade members shall receive training and education at least quarterly to meet the requirements of Section 2-3.

4-2.2 All industrial fire brigade members shall participate in a drill at least semi-annually to meet the requirements of Section 2-3.

4-2.3 Live fire training shall be conducted at least annually. Training and drills involving a live fire evolution shall be performed in accordance with recognized safety precautions.

4-2.4 Live fire training shall include props that are representative of and that simulate as closely as possible the hazards and conditions that could be encountered by the industrial fire brigade member.

4-3 Protective Clothing and Protective Equipment

4-3.1 Thermal protective clothing and protective equipment shall be available in sufficient quantities and sizes to fit each industrial fire brigade member expected to enter the hot and warm zones. Thermal protective clothing and protective equipment meeting the following requirements shall be required to be worn by all industrial fire brigade members entering the hot and warm zones.

4-3.1.1* Protective clothing shall be in accordance with NFPA 1971, *Standard on Protective Ensemble for Structural Fire Fighting*, or NFPA 1976, *Standard on Protective Ensemble for Proximity Fire Fighting*.

4-3.1.2 Helmets, gloves, and footwear shall be in accordance with NFPA 1971, *Standard on Protective Ensemble for Structural Fire Fighting*.

4-3.2 SCBA and personal alert safety systems (PASS) devices meeting the following requirements shall be provided for and shall be used by all industrial fire brigade members working in the hot zone.

4-3.2.1 PASS devices shall be in accordance with NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)*.

4-3.2.2 Open-circuit-type self-contained breathing devices shall be in accordance with NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters*.

4-3.2.3 Closed-circuit-type self-contained breathing devices shall be approved by the National Institute for Occupational Health and Safety (NIOSH) and Mine Safety and Health Administration (MSHA) with a minimum service duration of 30 minutes and shall operate in the positive pressure mode only.

4-3.3 Thermal protective clothing and protective equipment shall be used and maintained in accordance with manufacturer's instructions. A maintenance and inspection program shall be established for thermal protective clothing and protective equipment. Specific responsibilities shall be assigned for inspection and maintenance.

4-3.4 Industrial fire brigade members using SCBA shall operate in teams of two or more who are in communication with each other through visual, audible, physical, safety guide rope, electronic, or other means to coordinate their activities and are in close proximity to each other to provide assistance in case of an emergency.

Where industrial fire brigade members are involved in operations that require the use of SCBA or other respiratory protective equipment, at least one member shall be assigned to remain outside the area where respiratory protection is required. This member shall be responsible for maintaining a constant awareness of the number and identity of personnel using SCBA, their location, function, and time of entry. This member with SCBA shall be trained, equipped, and available for rescue.

4-3.5 All industrial fire brigade members entering the hot zone shall be provided with approved protective hoods that provide protection for the ears and neck and interface with the SCBA facepiece, thermal protective coat, and helmet.

4-4 Medical. Each industrial fire brigade member shall meet the medical and job-related physical performance requirements as specified in Section 2-5.

Chapter 5 Industrial Fire Brigades That Perform Interior Structural Fire Fighting Only

5-1 General. Industrial fire brigades organized to perform interior structural fire fighting only shall meet the following requirements in addition to all applicable requirements of Chapters 1 and 2 of this standard.

5-2 Education, Training, and Drills.

5-2.1 All industrial fire brigade members shall receive training and education at least quarterly to meet the requirements of Section 2-3.

5-2.2 All industrial fire brigade members shall participate in a drill at least semi-annually to meet the requirements of Section 2-3.

5-2.3 Live fire training shall be conducted at least annually. Training and drills involving a live fire evolution shall be performed in accordance with NFPA 1403, *Standard on Live Fire Training Evolutions*.

5-2.4 Live fire training shall include props that are representative of and that simulate as closely as possible the hazards and conditions that could be encountered by the industrial fire brigade member.

5-3 Protective Clothing and Protective Equipment.

5-3.1 Thermal protective clothing for structural fire fighting and protective equipment shall be available in sufficient quantities and sizes to fit each industrial fire brigade member

expected to enter the hot and warm zones. Thermal protective clothing and protective equipment meeting the following requirements shall be required to be worn by all industrial fire brigade members entering the hot and warm zones.

5-3.1.1 Protective clothing, helmets, gloves, and footwear shall be in accordance with NFPA 1971, *Standard on Protective Ensemble for Structural Fire Fighting*.

5-3.1.2 PASS devices shall be in accordance with NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)*.

5-3.1.3 Open-circuit-type self-contained breathing devices shall be in accordance with NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters*.

5-3.1.4 Closed-circuit-type self-contained breathing devices shall be approved by NIOSH and MSHA with a minimum service duration of 30 minutes and shall operate in the positive pressure mode only.

5-3.2 All industrial fire brigade members entering the hot zone shall be provided with approved protective hoods that provide protection for the ears and neck and interface with the SCBA facepiece, protective coat for structural fire fighting, and helmet.

5-3.3 Thermal protective clothing and protective equipment shall be used and maintained in accordance with manufacturer's instructions. A maintenance and inspection program shall be established for thermal protective clothing and protective equipment. Specific responsibilities shall be assigned for inspection and maintenance.

5-3.4 Industrial fire brigade members performing emergency response operations below ground level shall be provided with self-contained or externally supplied breathing apparatus and shall use that apparatus unless the safety of the atmosphere can be established by testing and continuous monitoring.

5-3.5* Industrial fire brigade members using SCBA shall operate in teams of two or more who are in communication with each other through visual or voice contact to coordinate their activities and are in close proximity to each other to provide assistance in case of an emergency.

Where industrial fire brigade members are involved in operations that require the use of SCBA, at least two members shall be assigned to remain outside the area where respiratory protection is required. One member shall be responsible for maintaining a constant awareness of the number and identity of personnel using SCBA, their location, function, and time of entry. These members with SCBA shall be trained, equipped, and available for rescue.

5-4 Medical. Each industrial fire brigade member shall meet the medical and job-related physical performance requirements as specified in Section 2-5.

Chapter 6 Industrial Fire Brigades That Perform Advanced Exterior and Interior Structural Fire Fighting

6-1 General. Industrial fire brigades intended to perform both advanced exterior and interior structural fire fighting response duties shall meet the requirements of Chapters 1, 2, 4, and 5 of this standard.

Attachment O
Part A Application

XII. PROCESS—CODES AND DESIGN CAPACITIES (continued)

The Waste Isolation Pilot Plant (WIPP) geologic repository is defined as a "miscellaneous unit" under 40 CFR §260.10. "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, waste pile, land treatment unit, landfill, incinerator, containment building, boiler, industrial furnace, or underground injection well with appropriate technical standards under 40 CFR Part 146, corrective action management unit, or unit eligible for research, development, and demonstration permit under 40 CFR §270.65. The WIPP is a geologic repository designed for the disposal of defense-generated transuranic (TRU) waste. Some of the TRU wastes disposed of at the WIPP contain hazardous wastes as co-contaminants. More than half the waste to be disposed of at the WIPP also meets the definition of debris waste. The debris categories include manufactured goods, biological materials, and naturally occurring geological materials. Approximately 120,000 cubic meters (m³) of the 175,600 m³ of WIPP wastes is categorized as debris waste. The geologic repository has been divided into ten discrete hazardous waste management units (HWMU) which are being permitted under 40 CFR Part 264, Subpart X.

During the Disposal Phase of the facility, which is expected to last 25 years, the total amount of waste received from off-site generators and any derived waste will be limited to 175,600 m³ of TRU waste of which up to 7,080 m³ may be remote-handled (RH) TRU mixed waste. For purposes of this application, all TRU waste is managed as though it were mixed.

On March 25, 1996, the DOE reached the conclusion that in order to comply with 40 CFR 191 §13 which regulates the long-term release of radionuclides from a geologic disposal facility, it is necessary to add magnesium oxide to each disposal room. This additive is to be placed as a backfill ~~over, beside, and within the waste stacks~~. The function of the backfill is to chemically alter the composition of brine that may accumulate in the disposal region. The result of the chemical alteration is to significantly reduce the solubility of the prevalent TRU radionuclides.

The process design capacity for the miscellaneous unit (composed of ten underground HWMUs in the geologic repository) shown in Section XII B, is for the maximum amount of waste that may be received from off-site generators plus the maximum expected amount of derived wastes that may be generated at the WIPP facility. In addition, two HWMUs have been designated as container storage units (S01) in Section XII. One is inside the Waste Handling Building (WHB) and consists of the contact-handled (CH) bay, conveyance loading room, waste hoist entry room, RH bay, cask unloading room, hot cell, transfer cell, and facility cask loading room. This HWMU will be used for waste receipt, handling, and storage (including storage of derived waste) prior to emplacement in the underground geologic repository. No treatment or disposal will occur in this S01 HWMU. The capacity of this S01 unit for storage is 87.7 m³, based on 40 standard waste boxes or seven-packs of drums on pallets and in the TRUDOCKs, one standard waste box of derived waste, seven RH canisters in the transfer cell, and five RH canisters in the hot cell. The second S01 HWMU is the parking area outside the WHB where the Transuranic Package Transporter (TRUPACT-II) trailers and the road cask trailers will be parked awaiting waste handling operations. The capacity of this unit is 12 TRUPACT-IIs and three road casks or four rail casks with a combined volume of 47.1 m³. The railroad side tracks

are included in this area to accommodate rail shipments of RH TRU mixed waste. The HWMUs are shown in Appendix O3 as Figures O3-2, O3-3, and O3-4.

During the ten year period of the permit, up to 52,110 m³ of CH waste and 1,954 m³ of RH waste could be emplaced in Panels 1 to 3. A fourth HWMU (Panel 4), plus disposal area access drifts (designated as Panels 9 and 10), will be constructed under this permit. These latter areas will not receive waste for disposal under this permit.

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XV. Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (See instructions for more detail).

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

XVIII. Certification(s)

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.

Owner Signature <i>Lawrence D. Bailey for</i>	Date Signed <i>March 7, 2001</i>
Name and Official Title (Type or print) Ines R. Triay, Manager, DOE Carlsbad Field Office	
Owner Signature	Date Signed
Name and Official Title (Type or print)	
Operator Signature <i>Lawrence D. Bailey for</i>	Date Signed <i>March 7, 2001</i>
Name and Official Title (Type or print) Ines R. Triay, Manager, DOE Carlsbad Field Office	
Operator Signature <i>Henry F. Herrera</i>	Date Signed <i>3/7/2001</i>
Name and Official Title (Type or print) Henry F. Herrera, President and General Manager - Westinghouse TRU Solutions, LLC	

XIX. Comments

Section XVIII Operator - *See Attached "RCRA Part A Application Certification"

This submittal is to notify of a name change.

Previous submittals were on July 9, 1991; November 12, 1992; January 29, 1993; March 2, 1995; May 26, 1995; April 12, 1996; May 29, 1996; April 21, 1999; May 10, 1999; and February 2, 2001.

Part A originally signed on January 18, 1991, and submitted on January 22, 1991.

Note: Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information)

RCRA PART A APPLICATION CERTIFICATION

The U.S. Department of Energy (DOE), through its Carlsbad Field Office, has signed as "owner and operator," and Westinghouse TRU Solutions, LLC , has signed this application for the permitted facility as "co-operator."

The DOE has determined that dual signatures best reflect the actual apportionment of Resource Conservation and Recovery Act (RCRA) responsibilities as follows:

The DOE's RCRA responsibilities are for policy, programmatic directives, funding and scheduling decisions, Waste Isolation Pilot Plant (WIPP) requirements of DOE generator sites, auditing, and oversight of all other parties engaged in work at the WIPP, as well as general oversight.

The MOC RCRA responsibilities are for certain day-to-day operations (in accordance with general directions given by the DOE and in the Management and Operating Contract as part of its general oversight responsibility), including, but not limited to, the following: waste handling, monitoring, record keeping, data collection, reporting, technical advice, and contingency planning.

For purposes of the certification required by 20.4.1.900 NMAC, (incorporating 40 CFR §270.11(d)), the DOE's and the MOC representatives certify, under penalty of law that this document and all attachments were prepared under their direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on their 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 their knowledge and belief, true, accurate, and complete for their respective areas of responsibility. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner and Operator Signature: *Lawrence D. Bailey Jr for*
Title: Manager, Carlsbad Field Office
for: U.S. Department of Energy
Date: March 7, 2001

Co-Operator Signature: *Samuel S. Wilson*
Title: General Manager
for: Westinghouse TRU Solutions, LLC
Date: March 7, 2001