

Class 1* Permit Modification Request
Change to Closure Schedule for Panel 2
Waste Isolation Pilot Plant
Carlsbad, New Mexico
WIPP HWFP #NM4890139088-TSDF
January, 2005

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Acronyms and Abbreviations

CCD	Compliance Certification Decision
CFR	Code of Federal Regulations
DOE	Department of Energy
EPA	Environmental Protection Agency
HWDU	Hazardous Waste Disposal Unit
HWFP	Hazardous Waste Facility Permit
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
PCS	Panel Closure System
PMR	Permit Modification Request
SMC	Salado Mass Concrete
VOC	Volatile Organic Compound
WPC	WIPP Panel Closure
WIPP	Waste Isolation Pilot Plant

Overview of the Permit Modification Request

This document contains a Class 1* Permit Modification Request (**PMR**) to the Hazardous Waste Facility Permit (**HWFP**) at the Waste Isolation Pilot Plant (**WIPP**), Permit Number NM4890139088-TSDF hereinafter referred to as the WIPP HWFP.

This PMR is being submitted by the U.S. Department of Energy (**DOE**) and Washington TRU Solutions, LLC, collectively referred to as the Permittees, in accordance with the WIPP HWFP, Condition I.B.1, 20.4.1.900 New Mexico Administrative Code (**NMAC**), incorporating Section 270.42(a) of Title 40 of the Code of Federal Regulations (**CFR**) § 270.42(a)). This change does not reduce the ability of the Permittees to continue to protect human health and the environment.

The requested modification to the WIPP HWFP and related supporting documents are provided in this PMR. The proposed modification to the text of the WIPP HWFP has been identified using a double underline and revision bar in the right hand margin for added information, and a ~~strikeout~~ font for deleted information. All direct quotations are indicated by *italicized* text.

Attachment A

Description of the Class 1* Permit Modification Request

Table 1. Class 1* Hazardous Waste Facility Permit Modification Request

No.	Affected Permit Section	Item	Category	Attach A Page #
1	a.1. Attachment I a.2. Attachment I, Table I-1	Change to Schedule for Panel Closure for Panel 2, Revise Table I-1 to update current anticipated operations end date, closure start date, and closure end date for Panel 2.	D.1.b	A-3

Item 1

Description:

This permit modification requests a change to the closure schedule for Panel 2.

Basis:

Panel 2 is the second hazardous waste disposal unit (**HWDU**) that will be closed under the WIPP HWFP. It is anticipated that the closure activities will not be completed within the 180 days provided in the Closure Plan (HWFP Attachment I).

Section 20.4.1.900 NMAC (incorporating 40 CFR § 270.42, Appendix I, Item D.1.b) classifies changes to the closure schedule for any unit as a Class 1* consistent with 20.4.1.900 NMAC, incorporating 40 CFR § 270.42(a)(2).

Discussion:

The Closure Plan (Attachment I, Figure I-2) provides a general schedule for closing each WIPP HWDU (i.e., panel). The schedule estimates closing each panel 180 days after the completion of waste disposal operations in the panel. In addition, Attachment I, Table I-1, *Anticipated Earliest Closure Dates for the Underground HWDUs*, provides operations end, closure start, and closure end dates for each of the panels.

Based on current schedules, disposal operations in Panel 2 will be completed in June of 2005 (the Mine Long Term Plan of December, 2004 is appended to this PMR). Therefore, this PMR proposes to modify the Attachment I, Table I-1 to indicate the anticipated dates for the end of operations, the beginning of closure and the end of closure for Panel 2 as well as when operations will start in Panel 3.

The panel closure system (**PCS**) installation is also subject to the regulatory authority of the U.S. Environmental Protection Agency (**EPA**), which issued the WIPP Compliance Certification Decision (**CCD**), 63 Federal Register, 27354, May 18, 1998. The approved PCS, known as "Option D", requires emplacing a 12-foot explosion isolation wall and a 26-foot monolith composed of Salado Mass Concrete (**SMC**). The DOE developed a design for a new PCS and submitted the new design to both the New Mexico Environment Department (**NMED**) and the EPA on October 7, 2002. The new PCS, referred to as the WIPP Panel Closure (**WPC**), consists of a substantial 30-foot mortared concrete block explosion isolation wall and emplacement of 100 feet of run of mine salt (salt obtained from routine mining activities in the WIPP underground) as backfill. The new design is equally protective, less impactive to facility operations, and has a higher certainty of successful installation.

The primary reason for the schedule change in this PMR is to revise the schedule to reflect the time required for NMED to review the Class 3 PMR submitted on October 7, 2002, and for EPA to assess impacts of the new design on its CCD. The pending Class 3 PMR (Amended Closure Plan PMR) asks for agency authorization to install the new panel closure design in Panels 1, 2, and subsequent panels rather than the currently required closure design.

Current shipping schedules indicate that Panel 2 will likely be ready for closure in June of 2005. To protect human health and the environment, the Permittees propose to install the 12-foot explosion isolation wall component of the approved closure design. This will protect human health and the environment until NMED issues a decision on the Amended Closure Plan PMR by:

- preventing any access into Panel 2 and closing it to receipt of additional waste and,
- restricting the release of materials from the panel into the underground atmosphere.

In addition, the HWFP volatile organic compound (**VOC**) monitoring program will provide assurance that the HWFP emission limits are being met and that workers and the public are protected.

The explosion isolation wall will restrict ventilation in order to ensure minimal releases of VOCs from Panel 2. In addition, the explosion isolation wall will satisfy the HWFP requirements to prevent entry into the filled panel.

This PMR is consistent in all respects to an identical PMR entitled "*Change to Closure Schedule for Panel 1*", (November 21, 2002) and the report entitled "*Assessment of the Short-term Stability of the 12-Foot Explosion Isolation Wall*", (December 18, 2002), which was approved as submitted by the NMED.

Note that this modification only addresses changes to the Panel 2 closure schedule and the start of operations in Panel 3. It does not affect the closure schedule or design for any other panels. The new WPC, the schedule for the WPC, and updated throughput and waste volume information are discussed in the Class 3 Amended Closure Plan PMR.

Revised Permit Text:

a. 1. I-1d(1) Schedule for Panel Closure

The anticipated schedule for the closure of the underground HWDUs known as Panels ~~2~~³ through 8 is shown in Figure I2. This schedule assumes there will be little contamination within the exhaust drift of the panel. The following assumptions are made in estimating the time that closure will be initiated at each underground HWDU: waste operations are assumed to begin in July 1998 for planning purposes; throughput for CH waste is 784 drums per week (7 pallets per day, 4 days per week, 28 drums per pallet); and the capacity of a panel is 81,000 drums. Under these assumptions, a minimum of 104 weeks is needed to emplace the waste. Allowing a 25 percent contingency for maintenance delays and time to transition from one room to another, it is estimated that a panel will be filled 2.5 years after emplacement is initiated. This means that underground HWDUs will be ready for closure according to the schedule in Table I-1. These dates are estimates for planning and permitting purposes. Actual dates may vary depending on the availability of waste from the generator sites. Waste availability at maximum throughput is not anticipated immediately as assumed here.

In the schedule in Figure I-2, notification of intent to close occurs thirty (30) days before placing the final waste in a panel. Once a panel is full, the Permittees will initially block ventilation through the panel as described in Permit Attachment M2 and then will assess the

closure area for ground conditions and contamination so that a definitive schedule and closure design can be determined. If as the result of this assessment the Permittees determine that a panel closure cannot be emplaced in accordance with the schedule in this Closure Plan, a modification will be submitted requesting an extension to the time for closure.

The Permittees will initially block ventilation through Panel 4 2 as described in Permit Attachment M2 once Panel 4 2 is full to ensure continued protection of human health and the environment. The Permittees will then install the explosion isolation wall portion of the panel closure system that is described in Permit Attachment I1, Section 3.3.2, Explosion-and Construction-Isolation Walls. Construction of the explosion isolation wall will not exceed 180 days after the last receipt of waste in Panel 4 2. Final closure of Panels 1 and 2 will be completed as specified in this Permit no later than five years after completion of the explosion isolation wall.

a.2. Table I-1

**TABLE I-1
ANTICIPATED EARLIEST CLOSURE DATES FOR
THE UNDERGROUND HWDUs**

HWDU	OPERATIONS START	OPERATIONS END	CLOSURE START	CLOSURE END
PANEL 1	3/99	2/03	3/03	9/03 SEE NOTE 5
PANEL 2	1/02 <u>3/03</u>	7/04 <u>6/05</u>	8/04 <u>7/05</u>	12/05 <u>1/06</u> <u>SEE NOTE 5</u>
PANEL 3	7/04 <u>7/05</u>	1/07	2/07	6/07
PANEL 4	1/07	7/09	8/09	12/10
PANEL 5	7/09	1/12	2/12	6/12
PANEL 6	1/12	7/14	8/14	12/15
PANEL 7	7/14	1/17	2/17	6/17
PANEL 8	1/17	7/19	8/19	12/20
PANEL 9	7/19	1/22	2/22	SEE NOTE 4
PANEL 10	1/22	7/24	8/24	SEE NOTE 4

NOTE 1: Only Panels 1 to 3 7 will be closed under the permit covered by this application. Closure schedules for Panels 4 8 through 10 are projected assuming new permits will be issued in 2009 and 2019.

NOTE 2: The point of closure start is defined as sixty (60) days following notification to the NMED of closure.

NOTE 3: The point of closure end is defined as one hundred eighty (180) days following placement of final waste in the panel.

NOTE 4: The time to close these areas may be extended depending on the nature and extent of the disturbed rock zone. The excavations that constitute these panels will have been opened for as many as forty (40) years so that the preparation for closure may take longer than the time allotted in Figure I-2. If this extension is needed, it will be requested as an amendment to the Closure Plan.

NOTE 5: The anticipated closure end date for Panels 1 and 2 is for installation of the 12-foot explosion isolation wall. Final closure of Panels 1 and 2 will be completed as specified in this Permit no later than five years after completion of their respective explosion isolation wall.