Notice of RCRA Class 1 Permit Modification
in Accordance with 20 NMAC 4.1.900 (40 CFR Part 270)

Waste Isolation Pilot Plant
Carlsbad, New Mexico

March 29, 2000

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Consistent with requirements of 20 New Mexico Administrative Code (NMAC) 4.1.900 (hereafter referred to as Part 270 or Section 270.XX) the U.S. Department of Energy, Carlsbad Area Office is submitting to the New Mexico Environment Department (NMED) a notice of Class 1 modifications to the Hazardous Waste Facility Permit (NM4890139088-TSDF) for the Waste Isolation Pilot Plant (WIPP). Specifically, this information is provided to comply with the requirements of Section 270.42(a)(1).

The modifications are listed in Table 1. Listed information includes a reference to the applicable section of the permit, a brief description of each item, and the class of the item, as identified in Appendix I to Section 270.42. The relevant permit modification category, as identified in Appendix I, is provided as well. A more complete description of the class 1 modifications are provided in Attachment A. Revised checklists, figures, and procedures are provided in Attachment B.

The identified changes do not substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment and the modified permit is no less stringent than the current permit.

Table 1. Class 1 Hazardous Waste Facility Permit Modification

No.	Affected Permit Section	Item	Category	Attachment 1 Page #
1	D1	a. Revise waste hoist operators log. b. Delete the terms "Revision, Change, and Page Number" from the header on documents included within Attachment D1	A.3 A.1	A-1
2	G	Change drawings of facility to reflect current operations.	A.1	A-3
3	M2	Revise magnesium oxide specifications to reflect current operations.	A.3	A-4
4	P	a. Revise WP13-1 to incorporate provisions for evaluating and revising the WID QAPD when the CAO QAPD is revised. Incorporate changes deemed necessary after evaluating CAO QAPD revision 3 and to revised DOE 0 414.1A b. Revise WP 12-HP1100 to provide procedures that reflect current operating conditions.	A.1 A.1	A-7
5	I.F	Reword condition to be consistent with the applicable regulations and to eliminate the need for unnecessary documentation	A.1	A-8
6	B6	Insert informational changes within Attachment B6 to more adequately reflect correct terminology	A.1	A-10
7	B Figure B-1	WIPP Waste Stream Profile Form	A.1	A-12
8	B1-1a(1)	Helium leak testing of canisters	A.1	A-13
9	B1-1b	Clarification regarding holding temperatures.	A.1	A-14

Attachment A

Descriptions of the Hazardous Waste Facility Class 1 Permit Modifications

Item 1

Description:

a. Replacement of the Lower Over-travel Limit Switch 2 magnetic switch with a lever operated switch requires the revision of Attachment D1 to reflect an upgraded Waste Hoist Operators Log.

b. Revise Attachment D1 to delete the terms “Revision, Change, and Page Numbers” within the attached documents

Basis:

a. This change allows for the installation of a lever operated, maintained position switch which is identical to the track limit switches currently in use. Non-destructive examination of the hoist ropes leaves concentrated residual magnetic field poles at locations where magnetized rope sections pass the switch and an inadvertent hoist emergency stop may result.

b. The documents included within Attachment D1 require frequent revision to reflect changes that are administrative and informational and do not impact the permit. In an effort to reduce the administrative burden associated with changes that do not affect the content of the inspection forms, the aforementioned change is proposed.

Discussion:

a. The change is a result of an upgrade of current equipment with an item that is functionally equivalent to enhance reliability. This change also allows for the administrative change in the Waste Hoist Operators Log that reflects the upgrade in equipment. The changes are administrative and informational.

b. Many of the checklists in Attachment D1 are portions of WIPP Operating Procedures. Frequently, these procedures may change without affecting the inspection content or schedule. Such changes affect the checklists because the checklists contain header information showing procedure revision numbers, dates, and page references. Therefore, without removing this information from the checklists, a Permit modification is needed every time a procedure change occurs, whether or not the content of the inspection form is actually affected. This modification eliminates the need for these unnecessary changes. In the event a procedure change actually affects the inspection content or schedule, an appropriate permit modification will be processed.

The items above are Class 1 permit modifications under Section 270.42,

Appendix I, A.1. These changes neither substantially alter the permit conditions nor reduce the capacity of the facility to protect the human health and the environment.

Revised Permit Text:

a. Attachment D1; Waste Hoist Operator's Log.
Refer to revised Inspection Sheet in Attachment B, Item 1.

b. Attachment D1; Remove Rev., Chg., and Pg. Number.
Refer to example in Attachment B, Item 1.

Item 2

Description:

Modify Figure G-2 to reflect current operating conditions.

Basis:

This change allows the current facility master plan to be maintained in a manner which reflects the current site conditions.

Discussion:

This change is most appropriately classified as administrative and informational. This item is a Class 1 permit modification under Section 270.42, Appendix I, A.1. This change neither substantially alters the permit conditions nor reduces the capacity of the facility to protect the human health and the environment.

Revised Permit Text:

Permit Attachment G

Refer to new Figure G-2, Attachment B, Item 2

Item 3

Description:
Revise and update Attachment M2 to incorporate the specification document for backfill that is used in the disposal rooms.

Basis:
The WIPP has committed to use backfill as a means of minimizing the potential release of radionuclides over the 10,000 year regulatory period imposed by 40 CFR 191. This backfill is described in the permit, in Section M2-2a(1). The description in the permit includes both operational information as well as performance specifications. The operational description in the permit contains detail about the configuration of the backfill (size, shape and weight). These details may have to change periodically as the DOE identifies alternative handling techniques, new vendors for backfill materials, or more efficient packaging configurations. These details are incidental to the performance requirements, such as the type and overall quantity of backfill. This permit modification removes the operational details from the permit and substitutes, in its place, reference to the applicable specification document. By making this change, the DOE can manage the procurement and placement of backfill without necessitating a permit modification. That is, operational parameters may be changed when needed without modifying the permit. Alternatively, by including reference to the specification in the permit, the DOE is restrained from making changes to the specification that affect the performance requirements for the backfill. Such changes would necessitate a permit modification.

Description:
This modification deletes the specific details concerning the size, shape, and weight of backfill containers and substitutes, in its place, reference to Specification D-0101 (MgO Backfill Specification). This specification is kept on file by the Permittees. Changes to backfill must be consistent with the specification. Changes to the Specification that are functionally equivalent to or more stringent than the existing conditions may be made without a permit modification. Changes that result in less stringent conditions or changes that alter the performance specifications will be processed as permit modifications.

Revised Permit Text:
Attachment M2; Section M2-2a(1)

> <u>Backfill</u>
>
> Magnesium oxide (**MgO**) will be used as a backfill in order to provide chemical control over the solubility of radionuclides in order to comply with the requirements of 40 CFR §191.13. The MgO backfill will be purchased prepackaged in the proper containers for emplacement in the underground. Purchasing prepackaged backfill eliminates handling and placement problems associated with bulk materials, such as dust creation. In

addition, prepackaged materials will be easier to emplace, thus reducing potential worker exposure to radiation. Should a backfill container be breached, MgO is benign and cleanup is simple. No hazardous waste would result from a spill of backfill.

The MgO backfill will be managed in accordance with Specification D-0101 (MgO Backfill Specification). This specification is kept on file at the WIPP facility by the Permittees .~~purchased and received in two different containers: 1) a supersack holding 4,200 lbs (1,905 kg); and 2) a mini sack holding 25 lbs (11.3 kg). Quality assurance requirements, such as material quality and quantity, will be addressed by using current quality assurance procedures in the procurement process and receipt inspection. The filled containers will be shipped by road or rail and will be delivered underground using current shaft and material handling procedures and processes.~~

~~The mini sack will be 34 inches (in.) (86.4 centimeters (cm)) long, 6 in. (15 cm) in diameter and will be fabricated of a single layer of polyethylene or other suitable material. It will have an integral handle/hook attached into the sack closure. Six sacks will be manually placed in the external voids of each 7-pack unit just before the 7-pack is positioned on the waste stack. The mini sack will be lifted up behind the shrink wrap around the top of the 7-pack, slid into place, and held there by the four inch hole in the lower slip sheet. See Figure M2-4. Once the sacks are in place, the 7-pack will be positioned on the waste stack in the normal manner. No new equipment or training of operators is necessary.~~

~~A similar process will be used for SWBs except that the sacks will be hung from the lift clips on these units. See Figure M2-4. Again, no new equipment or training is necessary.~~

Backfill will be handled in accordance with standard operating procedures. Typical emplacement configurations are shown in Figures M2-4 and M2-5. ~~Super sacks will be handled and placed using the slip sheet/Push-Pull technique used for normal waste handling operations. Hence, no new equipment, procedures, or training are required. Once each row of waste units is in place, a layer of 6 super sacks will be placed on top of them. See Figure M2-5. The super sack will be hexagonal, 61" across flats, 25.5" high and will be of multi-wall construction with a vapor/moisture barrier. The super sack will have an integral slip sheet or base attachment so that it can be handled and placed in a manner that is identical to how waste units are emplaced, using a Push-Pull attachment on a lift truck.~~

~~Finally, mini sacks will be manually stacked on the floor in the space between the waste stack and ribside. These sacks can be placed horizontally or vertically as may be convenient and loading rates up to 100 lbs per linear foot (148.8 kg per linear meter) can be achieved.~~

Quality control will be provided within ~~waste handling~~ standard operating procedures to record that the correct number of sacks are placed and that the condition of the sacks is acceptable.

Backfill placed in this manner is protected until exposed when sacks are broken during creep closure of the room and compaction of the backfill and waste. Backfill in sacks utilizes existing techniques and equipment and eliminates operational problems such as

dust creation and introducing additional equipment and operations into waste handling areas. There are no mine operational considerations (e.g. ventilation flow and control) when backfill is placed in this manner.

Item 4

Description:

a. Revise WP 13-1, WID Quality Assurance Program Description (QAPD), from Revision 17 to Revision 18, to incorporate changes required by CAO Corrective Action Report, CAO QA Manager comments, and revisions to CAO QAPD and DOE O414.1A.

b. Revise WP 12-HP110 to provide procedures that reflect current operating conditions.

Basis:

a. WP 13-1 WID to incorporate changes required by CAO Corrective Action Report; CAO QA Manager comments; and revisions to CAO QAPD and DOE O414.1A.

b. This change provides procedures within the permit which more accurately reflect the current conditions at the WIPP site.

Discussion:

The above items are Class 1 permit modifications under Section 270.42, Appendix I, A.1. The changes are most appropriately classified as administrative and informational changes.

a. The WID QAPD has been revised to incorporate changes that are required by DOE/CAO within the CAR 99-087; CAO QA Managers comments and recent revisions to the CAO QAPD and DOE O 414.1A. Incorporation of these changes will allow the site to be in compliance with all DOE/CAO quality assurance requirements.

b. This change allows the update of the Radiological surveys to accurately reflect the current operations at the site.

These changes do not substantially alter the permit conditions or reduce the capacity of the facility to protect the human health and the environment.

Revised Permit Text:

a. Attachment P, WP13-1; Revision 18
Refer to Attachment B, Item 4

b. Attachment P, WP12-HP1100, Radiological Surveys, Revision 3
Refer to Attachment B, Item 4

Item 5

Description:

Move the words “required by this permit” to follow the word “reports” to make the condition consistent with the regulations at 20 NMAC 4.1.900 (incorporating 40 CFR §270.11(a) and (b)).

Basis:

The regulations at 20 NMAC 4.1.900 (incorporating 40 CFR §270.30 (k)) require that certain information be signed by the Permittees as specified in 20 NMAC 4.1.900 (incorporating 40 CFR §270.11(a) and (b)). This section requires that certification statements accompany certain submittals. The language in the Permit extends the requirement for certification beyond certain submittals to all submitals. Certifying all submittals required by the Permit was not intended by the regulations. Making the indicated change would not lessen the Permittees obligation to certify permit applications and reports and would not affect human health and the environment.

Discussion:

The requirement in Condition I.F. dictates that every submittal required by the WIPP Permit be certified in accordance with 20 NMAC 4.1.900 (incorporating 40 CFR §270.11(a) and (b)). This means that such items as letters listing auditors (as required by Attachment B6-3) must be certified. Discussions with NMED have indicated that such certification is not necessary for such lists. The regulations at 20 NMAC 4.1.900 (incorporating 40 CFR §270.11 (a) and (b)) were not intended to require that all submittals be certified. Instead, §270.11(a) and (b) only require that applications and reports required by the permit be certified. It appears that the EPA intended that the phrase “required by the permit” modify only “reports” and not every item required by a permit. Furthermore, §270.11, titled “Signatories or Permit Applications and Reports,” is interpreted to require certification of permit applications and reports required by the permit, but not every correspondence, such as lists and other information.

The item above is a class 1 permit modification under Section 270.42, Appendix I, A.1. This change to the permit is most appropriately classified as an administrative and informational change. The item neither substantially alters the permit conditions not reduces the capacity of the facility to protect the human health and the environment.

Revised Permit Text:

Permit Module I. F.

I.F. <u>SIGNATORY REQUIREMENT</u>

The Permittees shall sign and certify, as specified in 20 NMAC 4.1.900 (incorporating 40 CFR §270.11) all applications, or reports required by this

permit, ~~or~~ and other information ~~submitted to or~~ requested by the secretary ~~or required by this Permit~~. [20 NMAC 4.1.900 (incorporating 40 CFR §270.30(k))]

Item 6

Description:

Revise Attachment B6, Section B6-4 entitled Audit Conduct to delete the term "observations" and add the term "(items corrected during the audit [CDAs] and CARs)." Delete the term "all audit items" and insert the term "deficiencies."

Basis:

These changes will allow the items corrected during the audits (CDAs) and from Corrective Action Reports (CARs) to be utilized as the tracking mechanism for deficiencies identified during such audits.

Discussion:

The above changes are most appropriately classified as Class 1 Permit Modifications under Section 270.42, Appendix I, A.1. The changes are administrative and informational.

These changes simply allow the Permit to specify the items which will be corrected as a result of audits or CARs and neither substantially alters the permit conditions not reduces the capacity of the facility to protect the human health or the environment.

Revised Permit Text:

Permit Attachment B6, Section B6-5

The audit report will be prepared, approved, and issued to the site within thirty (30) days of the completion of the audit by the Permittees. NMED shall receive a copy of the audit report upon issuance for information purposes. A formal final audit report will be provided to NMED which will include WAP-related CAR resolution results and audit results that will include, as a minimum, sections describing the scope, purpose, summary of deficiencies, and observations in narrative format, completed audit checklists, audited procedures, and other applicable documents which provide evidence of WAP implementation. The report will also include an identification of the organization audited, the dates of the audit, and the requested response date. NMED will make the final audit report available for public review and comment. The audit site will respond to any deficiencies and observations within thirty (30) days after receipt of any CARs and indicate the corrective action taken or to be taken. If the corrective action has not been completed, the response must indicate the expected date the action will be completed. CARs applicable to WAP requirements shall be resolved prior to waste shipment. Subsequent audits or specific verifications, announced or unannounced, will determine if the corrective action has been satisfactorily implemented. Deficiencies, ~~observations~~, (items corrected during the audit [CDAs] and CARs) will be tracked to completion according to

established procedure(s). In addition~~, all audit items~~ deficiencies will be trended to determine if similar situations exist system wide. Trend reports will be issued as necessary to provide a “lessons learned” announcement to other sites who might benefit from program improvements implemented as a result of resolutions to the specific situations discovered at the performance of these audits.

Item 7

Description:

Language clarification within Attachment B1; the Waste Stream Profile Form to correctly reflect the waste stream approval process.

Basis:

This change eliminates a discrepancy on the Profile Form as to when waste stream has been approved and when the Waste Stream Profile Form can be submitted to WIPP.

Discussion:

The time when a waste stream has been approved and a waste stream profile form can subsequently be submitted to WIPP occurs only after the audit has been approved by NMED. The Waste Stream Profile Form currently lists the date the site was certified by CAO. Any Waste Stream Profile Form submitted prior to approval of the audit by NMED would be denied and therefore the correct date that should be indicated on the Waste Stream Profile Form is the date the audit was approved by NMED.

Revised Permit Text:

Permit Attachment B1, Figure B-1
Refer to revised Waste Stream Profile Form, Attachment B, Item 7

Item 8

Description:

Language clarification within Attachment B1 so that it is clear as to what equipment is being leak tested.

Basis:

This change eliminates a point of confusion regarding which portion of the headspace gas system is requiring leak testing.

Discussion:

During a discussion of headspace gas sample canisters, some confusion has arisen as to which portion of the system must be helium leak tested. This modification resolves that confusion.

Revised Permit Text:

Permit Attachment B1, Section B1-1a(1)

> Sample canisters, as illustrated in Figure B1-2, are leak-free, stainless steel pressure vessels, with a chromium-nickel oxide (**Cr-NiO**) SUMMA®-passivated interior surface, bellows valve, and a pressure/vacuum gauge. Equivalent designs, such as Silco Steel canisters, may be used so long as the leak proof and inert nature of the canister interior surface is demonstrated and documented. All sample canisters must have VCR® fittings for connection to sampling and analytical equipment. The pressure/vacuum gauge must be mounted on each manifold. ~~It~~The canister must be helium-leak tested to 1.5×10^{-7} standard cubic centimeters per second (cc/s), have all stainless steel construction, and be capable of tolerating temperatures to 125EC. The gauge range shall be capable of operating in the leak test range as well as the sample collection range.

Item 9

Description:

Language clarification within Attachment B1 to restore reference to Table B1-1.

Basis:

In a previous permit modification reference to Table B1-1 was inadvertently deleted.

Discussion:

Table B1-1 contains requirements relative to the management of headspace gas samples. A previous modification was prepared to eliminate reference to sample holding times in this table. This modification was necessary because holding times were not included in the table. However, Table B1-1 contains other relevant information that needs to be referenced within the permit. This modification restores the original sentence and changes the word “times” to “temperatures.” This change aligns the text with the table in the permit.

The above change is most appropriately classified as Class 1 Permit Modifications under Section 270.42, Appendix I, A.1. The change is administrative and informational.

Revised Permit Text:

Permit Attachment B1, Section B1-1b

> For manifold and direct canister sampling systems, field QC samples shall be collected on a per sampling batch basis. A sampling batch is a suite of samples collected consecutively using the same sampling equipment within a specific time period. A sampling batch can be up to 20 samples (excluding QC samples), all of which shall be collected within 14 days of the first sample in the batch. For on-line integrated sampling/analysis systems, QC samples shall be collected and analyzed on a per on-line batch basis. Holding ~~times~~ temperatures and container requirements for gas sample containers are provided in Table B1-1. An on-line batch is the number of headspace-gas samples collected and analyzed within a 12-hour period using the same on-line integrated analysis system. Table B1-2 provides a summary of field QC sample collection requirements. Table B1-3 provides a summary of QC sample acceptance criteria.