

Necessary Information for the WIPP Ten Year Renewal Application, Part B

The New Mexico Hazardous Waste Act requires general and specific information when either applying or reapplying for a hazardous waste permit. General and specific information requirements are addressed in the order they appear in the federal regulations as adopted by the New Mexico Hazardous Waste Management regulations and are identified by the number of the federal hazardous waste management citation.

§270.14 Contents of part B: General requirements

(a) Part B of the permit application consists of the general information requirements of this section, and the specific information requirements in §§270.14 through 270.29 applicable to the facility. The part B information requirements presented in §§270.14 through 270.29 reflect the standards promulgated in 40 CFR part 264. These information requirements are necessary in order for NMED to determine compliance with the part 264 standards. If owners and operators of HWM facilities can demonstrate that the information prescribed in part B cannot be provided to extent required, the Secretary of the NMED may make allowance for submission of such information on a case-by-case basis. Information required in Part B shall be submitted to the Secretary and signed in accordance with the requirements of §270.11. Certain technical data, such as, design drawings and specifications, and engineering studies shall be certified by a qualified Professional Engineer. For post-closure permits, only the information specified in §270.28 is required in part B of the permit application.

The Permittees have determined that none of the information submitted in this Renewal Application requires a certification beyond that required by §270.11.

(b) *General information requirements.* The following information is required for all HWM facilities, except as §264.1 provides otherwise:

(1) A general description of the facility.

There is no proposed change to the description of the facility in the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit*, Permit # NM489019088-TSDF, as modified in accordance with NMAC 20.4.1.901 incorporating §40 CFR 270.42. The Renewal Application requests authorization for disposal of transuranic (TRU) mixed waste in Panel 8. Currently, only the construction and certification of Panel 8 is allowed by the Waste Isolation Pilot Plant (WIPP) Permit. See Renewal Application Appendices M2 and M3 for a specific description of the construction of the disposal panels (hazardous waste disposal units (HWDUs)). See Renewal Application Chapter A, Appendices M1, M2, and M3 for a description of the facility.

In this Renewal Application, the U.S. Department of Energy (DOE) is seeking authorization to continue the disposal of TRU mixed waste at the WIPP facility. Waste disposal has occurred in the underground portion of the WIPP facility in areas designated as Panels 1 through 5. Currently, TRU mixed waste disposal is permitted in

1 Panels 1 through 7 and construction of Panel 8 is also permitted. Each panel consists of
2 seven rooms and two access drifts mined in a salt bed 2,150 ft (655 m) below the
3 surface. The legal description of the facility is:

- 4 • Township 22 South, Range 31 East;
 - 5 ○ Sections 15 to 22
 - 6 ○ Sections 27 to 34

7 During the term of this and the preceding Permit, the volume of contact-handled (**CH**)
8 TRU mixed waste emplaced in the repository will not exceed 4,920,746 ft³ (139,340
9 m³) and the volume of remote-handled (**RH**) TRU mixed waste shall not exceed 93,050
10 ft³ (2,635 m³). CH TRU mixed waste will be disposed of in Underground HWDUs
11 identified as Panels 5 through 8 and in any currently active panel. The RH TRU mixed
12 waste may be disposed of in Panels 4 through 8.

13 Descriptions of the containers to be used and associated operations during the Disposal
14 Phase are presented in Renewal Application Appendix M1, *Container Storage*. The
15 TRU mixed waste that will be disposed at the WIPP facility results primarily from
16 activities related to the reprocessing of plutonium-bearing reactor fuel and fabrication of
17 plutonium-bearing weapons, as well as from research and development. This TRU
18 mixed waste consists largely of such items as paper, cloth, and other organic material;
19 laboratory glassware and utensils; tools; scrap metal; shielding; and solidified sludges
20 from the treatment of wastewater. Much of this TRU mixed waste is also contaminated
21 with substances that are defined as hazardous under 20.4.1.200 NMAC.

22 (2) Chemical and physical analyses of the hazardous waste and hazardous debris to be handled
23 at the facility. At a minimum, these analyses shall contain all the information which must be
24 known to treat, store, or dispose of the wastes properly in accordance with part 264 of this
25 chapter.

26 The Permittees are proposing changes to the Waste Analysis Plan (**WAP**) with regard to
27 the nomenclature used to describe waste generators, waste characterization
28 organizations, and with regard to how some methods are used. These changes are found
29 in redline/strikeout text in the chapters and appendices of the attached Waste Analysis
30 Plan. The changes proposed to the WAP are summarized in the WAP Reviewer's
31 Guide located in the *Summary of Proposed Changes*. The Reviewer's Guide contains a
32 description of the change and identifies the Section number of the WAP where the
33 change is located.

34 The Permittees are not proposing a change to the list of hazardous waste numbers for
35 disposal at the WIPP facility. The Permittees are not proposing to change the methods
36 used to conduct chemical and physical analysis of the waste. The Permittees are not

1 proposing to change the chemical or physical characteristics of waste expected for
2 disposal at the WIPP facility.

3 Please see Renewal Application Waste Analysis Plan (Chapter B, Appendices B1
4 through B7, and Addendum B1 and B2) for complete information on the chemical and
5 physical analysis of hazardous waste.

6 The Permittees will continue to ensure that there are no incompatible wastes by
7 ensuring that only waste with acceptable hazardous waste numbers (**HWNs**) are
8 shipped to the WIPP facility and that there are no prohibited items as specified in the
9 Treatment, Storage, Disposal Facility-Waste Acceptance Criteria (**TSDF-WAC**), such
10 as liquids in excess of TSDF-WAC limits; compressed gases; or ignitable, corrosive, or
11 reactive waste. The definition of prohibited liquids has been clarified to address
12 inconsistencies in identification of prohibited liquids. Please see Renewal Application
13 Chapter B and Appendix B1 for the clarification of the liquid prohibition. Identification
14 of the chemical and physical properties of the waste will be done by use of Acceptable
15 Knowledge, representative chemical sampling, visual examination, and/or radiography.
16 The Permittees will continue to review Waste Stream Profile Forms to ensure that the
17 waste contains no ignitable, corrosive, or reactive waste; and that only allowed U.S.
18 Environmental Protection Agency (**EPA**) hazardous waste numbers are accepted for
19 storage and disposal at the WIPP. The Permittees will continue to monitor airborne
20 volatile organic compounds underground to demonstrate compliance with the
21 environmental performance standards.

22 (3) A copy of the waste analysis plan required by §264.13(b) and, if applicable §264.13(c).

23 The Permittees provide a copy of their waste analysis plan as required by §264.13 in
24 Renewal Application Chapter B, and Appendices B1 through B7. Addendum B1 to
25 Chapter B is entitled, *Totals Analysis Versus Toxicity Characteristic Leaching*
26 *Procedure*, Addendum B2 to Chapter B is entitled, *Chemical Compatibility Analysis of*
27 *Waste Forms and Container Material*, and Addendum B3 is entitled, *Dispute*
28 *Resolution*.

29 (4) A description of the security procedures and equipment required by §264.14, or a
30 justification demonstrating the reasons for requesting a waiver of this requirement.

31 The Permittees propose no modifications to security procedures and equipment as
32 detailed in the Renewal Application Chapter C, *Security*; and Chapter D, *Inspection*
33 *Schedule, Process and Forms*, Table D-1, *Inspection Schedule/Procedures*.

34 (5) A copy of the general inspection schedule required by §264.15(b) of this part. Include
35 where applicable, as part of the inspection schedule, specific requirements in §§264.174,
36 264.193(i), 264.195, 264.226, 264.254, 264.273, 264.303, 264.602, 264.1033, 264.1052,
37 264.1053, 264.1058, 264.1084, 264.1085, 264.1086, and 264.1088 of this part.

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1 The Permittees propose no change in the general inspection schedule. The Permittees
2 inspect the WIPP facility for malfunctions and deterioration, operator errors, and
3 discharges which may cause or lead to a release of hazardous waste constituents to the
4 environment or threaten human health in accordance with 40 CFR §264.602,
5 §264.15(b), and the weekly inspection requirements of §264.174. The general
6 inspection schedule is identified in Renewal Application Chapter D, *Inspection*
7 *Schedule, Process and Forms*, Renewal Application Table D-1, *Inspection*
8 *Schedule/Procedures*; Renewal Application Table D-1A, *RH TRU Mixed Waste*
9 *Inspection Schedule/Procedures*; Renewal Application Table D-2, *Monitoring*
10 *Schedule*.

11 The Permittees do not manage hazardous waste in tanks, surface impoundments, waste
12 piles, by land treatment, landfills, have no process vents, have no equipment that
13 contains or contacts hazardous waste, and are exempt from Subpart CC standards for
14 containers, therefore the requirements of §§264.193(i), 264.195, 264.226, 264.254,
15 264.273, 264.1033, 264.1052, 264.1053, 264.1058, 264.1084, 264.1085, 264.1086,
16 264.1088 are not applicable.

17 (6) A justification of any request for a waiver(s) of the preparedness and prevention
18 requirements of part 264, subpart C.

19 No waivers of the preparedness and prevention requirements of part 264, subpart C are
20 being sought by the Permittees.

21 (7) A copy of the contingency plan required by part 264, subpart D. Note: Include, where
22 applicable, as part of the contingency plan, specific requirements in §§264.227, 264.255, and
23 264.200.

24 A copy of Renewal Application Chapter F, *RCRA Contingency Plan*, is included. The
25 WIPP facility does not manage hazardous waste in surface impoundments, therefore the
26 requirements of §264.227 are not applicable. The WIPP facility does not manage waste
27 in waste piles, therefore the requirements of §264.255 are not applicable. The WIPP
28 facility does not manage waste in tanks, therefore the requirements of §264.200 are not
29 applicable.

30 (8) A description of procedures, structures, or equipment used at the facility to:

31 (i) Prevent hazards in unloading operations (for example, ramps, special forklifts);

32 The Permittees propose no change in the manner in which they prevent hazards in
33 unloading operations as detailed in Renewal Application Chapter E, *Preparedness and*
34 *Prevention*, Section E-2a, *Unloading Operations*; Renewal Appendix M1, *Container*
35 *Storage*; and Renewal Application Appendix M2, *Geologic Repository*.

1 (ii) Prevent runoff from hazardous waste handling areas to other areas of the facility or
2 environment, or to prevent flooding (for example, berms, dikes, trenches);

3 The Permittees propose no change in the manner in which they prevent runoff from
4 hazardous waste handling areas to other areas of the facility or environment or to
5 prevent flooding as described in Renewal Application Chapter E, *Preparedness and*
6 *Prevention*, Section E-2b, *Runoff*.

7 (iii) Prevent contamination of water supplies;

8 The Permittees propose no change in the manner in which they prevent contamination
9 of water supplies as detailed in Renewal Application Chapter E, *Preparedness and*
10 *Prevention*, Section E-2c, *Water Supplies*.

11 (iv) Mitigate effects of equipment failure and power outages;

12 The Permittees propose no change in the manner in which they mitigate effects of
13 equipment failure and power outages as detailed in Renewal Application Chapter E,
14 *Preparedness and Prevention*, Section E-2d, *Equipment and Power Failure*.

15 (v) Prevent undue exposure of personnel to hazardous waste (for example, protective clothing);

16 The Permittees propose no change in the manner in which they prevent undue exposure
17 of personnel to hazardous waste as detailed in Renewal Application Chapter E,
18 *Preparedness and Prevention*, Section E-2e, *Personnel Protection*.

19 (vi) Prevent releases to atmosphere.

20 The Permittees propose no change in the manner in which they prevent releases to the
21 atmosphere as detailed in Renewal Application Chapter E, *Preparedness and*
22 *Prevention*, Section-2f, *Releases to the Atmosphere*.

23 (9) A description of precautions to prevent accidental ignition or reaction of ignitable, reactive,
24 or incompatible wastes as required to demonstrate compliance with §264.17 including
25 documentation demonstrating compliance with §264.17(c).

26 The Permittees propose no change in the manner in which they take precautions to
27 prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes as
28 required to demonstrate compliance with §264.17 including documentation
29 demonstrating compliance with §264.17(c) as detailed in Renewal Application
30 Chapter E, *Preparedness and Prevention*, Section E-2g, *Flammable Gas Concentration*
31 *Control*, and Section E-2f, *Prevention of Reaction of Ignitable, Reactive, and*
32 *Incompatible Waste*.

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1 (10) Traffic pattern, estimated volume (number, types of vehicles) and control (for example,
2 show turns across traffic lanes, and stacking lanes (if appropriate); describe access road
3 surfacing and load bearing capacity; show traffic control signals).

4 The Permittees propose no change in traffic patterns and no change proposed in access
5 road surfacing and load bearing capacity or traffic control signals as detailed in
6 Renewal Application Chapter G, *Traffic Pattern*.

7 (11) Facility location information;

8 (i) In order to determine the applicability of the seismic standard [§264.18(a)] the owner or of a
9 new facility must identify the political jurisdiction (e.g., county, township, or election district)
10 in which the facility is proposed to be located.

11 [*Comment:* If the county or election district is not listed in appendix VI of part 264, no further information is
12 required to demonstrate compliance with §264.18(a).]

13 There is no change in the applicability of the seismic standard. The WIPP is located in
14 Eddy County, New Mexico. Eddy County, New Mexico is not listed in part 264,
15 appendix VI; therefore, no further information is required to demonstrate compliance
16 with § 264.18(a).

17 (ii) If the facility is proposed to be located in an area listed in appendix VI of part 264, the
18 owner or operator shall demonstrate compliance with the seismic standard. This demonstration
19 may be made using either published geologic data or data obtained from field investigations
20 carried out by the applicant. The information provided must be of such quality to be acceptable
21 to geologists experienced in identifying and evaluating seismic activity. The information
22 submitted must show that either:

23 (A) No faults which have had displacement in Holocene time are present, or no lineations
24 which suggest the presence of a fault (which have displacement in Holocene time) within 3,000
25 feet of a facility are present, based on data from:

26 (1) Published geologic studies,

27 (2) Aerial reconnaissance of the area within a five-mile radius from the facility.

28 (3) An analysis of aerial photographs covering a 3,000 foot radius of the facility, and

29 (4) If needed to clarify the above data, a reconnaissance based on walking portions of
30 the area within 3,000 feet of the facility, or

31 The WIPP is located in Eddy County, New Mexico. Eddy County, New Mexico is not
32 listed in part 264, appendix VI; therefore, no further information is required to
33 demonstrate compliance with § 264.18(a).

1 (B) If faults (to include lineations) which have had displacement in Holocene time are present
2 within 3,000 feet of a facility, no faults pass within 200 feet of the portions of the facility where
3 treatment, storage, or disposal of hazardous waste will be conducted, based on data from a
4 comprehensive geologic analysis of the site. Unless a site analysis is otherwise conclusive
5 concerning the absence of faults within 200 feet of such portions of the facility data shall be
6 obtained from a subsurface exploration (trenching) of the area within a distance no less than
7 200 feet from portions of the facility where treatment, storage, or disposal of hazardous waste
8 will be conducted. Such trenching shall be performed in a direction that is perpendicular to
9 known faults (which have had displacement in Holocene time) passing within 3,000 feet of the
10 portions of the facility where treatment, storage, or disposal of hazardous waste will be
11 conducted. Such investigation shall document with supporting maps and other analyses, the
12 location of faults found.

13 [Comment: The Guidance Manual for the Location Standards provides greater detail on the content of each type of
14 seismic investigation and the appropriate conditions under which each approach or a combination of approaches
15 would be used.]

16 The WIPP is located in Eddy County, New Mexico. Eddy County New Mexico is not
17 listed in part 264, Appendix VI; therefore, no further information is required to
18 demonstrate compliance with § 264.18(a).

19 (iii) Owners and operators of all facilities shall provide an identification of whether the facility
20 is located within a 100-year floodplain. This identification must indicate the source of data for
21 such determination and include a copy of the relevant Federal Insurance Administration (FIA)
22 flood map, if used, or the calculations and maps used where an FIA map is not available.
23 Information shall also be provided identifying the 100-year flood level and any other special
24 flooding factors (e.g., wave action) which must be considered in designing, constructing,
25 operating, or maintaining the facility to withstand washout from a 100-year flood.

26 [Comment: Where maps for the National Flood Insurance Program produced by the Federal Insurance Administration
27 (FIA) of the Federal Emergency Management Agency are available, they will normally be determinative of whether a
28 facility is located within or outside of the 100-year floodplain. However, where the FIA map excludes an area (usually areas
29 of the floodplain less than 200 feet in width), these areas must be considered and a determination made as to whether they
30 are in the 100-year floodplain. Where FIA maps are not available for a proposed facility location, the owner or operator
31 must use equivalent mapping techniques to determine whether the facility is within the 100-year floodplain, and if so
32 located, what the 100-year flood elevation would be.]

33 The WIPP facility does not lie within a 100-year floodplain as defined in 20.4.1.500 NMAC,
34 [incorporating 40 CFR 264.18(b)(2)(i)] and as regulated under 20.4.1.500 NMAC,
35 [incorporating 40 CFR 264.18(b)(1)]. Floodplain information is detailed in Renewal
36 Application Chapter E, *Preparedness and Prevention*, Section E-2b, *Runoff*.

37 (iv) Owners and operators of facilities located in the 100-year floodplain must provide the
38 following information:

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1 (A) Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected
2 to result at the site as consequence of a 100-year flood.

3 (B) Structural or other engineering studies showing the design of operational units (e.g., tanks,
4 incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these
5 will prevent washout.

6 (C) If applicable, and in lieu of paragraphs (b)(11)(iv) (A) and (B) of this section, a detailed
7 description of procedures to be followed to remove hazardous waste to safety before the facility
8 is flooded, including:

9 (1) Timing of such movement relative to flood levels, including estimated time to move
10 the waste, to show that such movement can be completed before floodwaters reach the
11 facility.

12 (2) A description of the location(s) to which the waste will be moved and demonstration
13 that those facilities will be eligible to receive hazardous waste in accordance with the
14 regulations under parts 270, 271, 124, and 264 through 266 of this chapter.

15 (3) The planned procedures, equipment, and personnel to be used and the means to
16 ensure that such resources will be available in time for use.

17 (4) The potential for accidental discharges of the waste during movement.

18 The WIPP facility does not lie within a 100-year floodplain as defined in 20.4.1.500
19 NMAC, [incorporating 40 CFR 264.18(b)(2)(i)] and as regulated under 20.4.1.500
20 NMAC [incorporating 40 CFR 264.18(b)(1)]. Floodplain information is detailed in
21 Renewal Application Chapter E, *Preparedness and Prevention*, Section E-2b, *Runoff*.
22 Therefore, no response to 11.(iv)(A) through 11.(iv)(C)(4) is required.

23 (v) Existing facilities NOT in compliance with §264.18(b) shall provide a plan showing how
24 the facility will be brought into compliance and a schedule for compliance.

25 (12) An outline of both the introductory and continuing training programs by owners or
26 operators to prepare persons to operate or maintain the HWM facility in a safe manner as
27 required to demonstrate compliance with §264.16. A brief description of how training will be
28 designed to meet actual job tasks in accordance with requirements in §264.16(a)(3).

29 The Permittees propose some changes to the training program as detailed in Renewal
30 Application Appendix H1, *RCRA Hazardous Waste Management Job Titles and*
31 *Descriptions*, and Renewal Application Appendix H2, *Training Course and*
32 *Qualification/Certification Card Outlines* to correspond with some changes made in the
33 Renewal Application Appendix B7, *Permittee Level TRU Waste Confirmation Process*.

1 (13) A copy of the closure plan and, where applicable, the post-closure plan required by
2 §§264.112, 264.118, and 264.197. Include, where applicable, as part of the plans, specific
3 requirements in §§264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601,
4 and 264.603.

5 A copy of the closure plan, Renewal Application Chapter I, and Appendix II through
6 I3, and the post closure plan, Renewal Application Chapter J and Appendix J1 are
7 included as part of the Renewal Application.

8 (14) For hazardous waste disposal units that have been closed, documentation that notices
9 required under §264.119 have been filed.

10 At the time of submittal of this Renewal Application, no HWDUs have been closed and
11 no notices required under §264.119 have been filed.

12 (15) The most recent closure cost estimate for the facility prepared in accordance with
13 §264.142 and a copy of the documentation required to demonstrate financial assurance under
14 §264.143. For a new facility, a copy of the required documentation may be submitted 60 days
15 prior to the initial receipt of hazardous wastes, if that is later than the submission of the part B.

16 Pursuant to 40 CFR 264.140(c), the Federal government is exempt from §264
17 Subpart H, *Financial Requirements*. Additionally, and in accordance with the Military
18 Construction Appropriations Act, 2001, Pub. L. No.106-246, 114 Stat. 511 (2000),
19 Washington TRU Solutions LLC (the co-operator) is not required to post bond or fulfill
20 any other financial responsibility requirement relating to closure or post-closure care
21 and monitoring of the WIPP. Therefore, this provision is not applicable.

22 (16) Where applicable, the most recent post-closure cost estimate for the facility prepared in
23 accordance with §264.144 plus a copy of the documentation required to demonstrate financial
24 assurance under §264.145. For a new facility, a copy of the required documentation may be
25 submitted 60 days prior to the initial receipt of hazardous wastes, if that is later than the
26 submission of the part B.

27 Pursuant to 40 CFR 264.140(c), the Federal government is exempt from §264
28 Subpart H, *Financial Requirements*. Additionally, and in accordance with the Military
29 Construction Appropriations Act, 2001, Pub. L. No.106-246, 114 Stat. 511 (2000),
30 Washington TRU Solutions LLC (the co-operator) is not required to post bond or fulfill
31 any other financial responsibility requirement relating to closure or post-closure care
32 and monitoring of the WIPP. Therefore, this provision is not applicable.

33 (17) Where applicable, a copy of the insurance policy or other documentation which comprises
34 compliance with the requirements of §264.147. For a new facility, documentation showing the
35 amount of insurance meeting the specification of §264.147(a) and, if applicable, §264.147(b),
36 that the owner or operator plans to have in effect before initial receipt of hazardous waste for

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1 treatment, storage, or disposal. A request for a variance in the amount of required coverage, for
2 a new or existing facility, may be submitted as specified in §264.147(c).

3 Pursuant to 40 CFR 264.140(c), the Federal government is exempt from §264
4 Subpart H, *Financial Requirements*. Additionally, and in accordance with the Military
5 Construction Appropriations Act, 2001, Pub. L. No.106-246, 114 Stat. 511 (2000),
6 Washington TRU Solutions LLC (the co-operator) is not required to post bond or fulfill
7 any other financial responsibility requirement relating to closure or post-closure care
8 and monitoring of the WIPP. Therefore, this provision is not applicable.

9 (18) Where appropriate, proof of coverage by a State financial mechanism in compliance with
10 §264.149 or §264.150.

11 Pursuant to 40 CFR 264.140(c), the Federal government is exempt from §264
12 Subpart H, *Financial Requirements*. Additionally, and in accordance with the Military
13 Construction Appropriations Act, 2001, Pub. L. No.106-246, 114 Stat. 511 (2000),
14 Washington TRU Solutions LLC (the co-operator) is not required to post bond or fulfill
15 any other financial responsibility requirement relating to closure or post-closure care
16 and monitoring of the WIPP. Therefore, this provision is not applicable.

17 (19) A topographic map showing a distance of 1,000 feet around the facility at a scale of 2.5
18 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). Contours must be shown on
19 the map. The contour interval must be sufficient to clearly show the pattern of surface water
20 flow in the vicinity of and from each operational unit of the facility. For example, contours with
21 an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of
22 0.6 meters (2 feet), if relief is less than 6.1 meters (20 feet). Owners and operators of HWM
23 facilities located in mountainous areas should use large contour intervals to adequately show
24 topographic profiles of facilities. The map shall clearly show the following:

25 (i) Map scale and date.

26 Map scale and map date and contour intervals (as appropriate) are identified on
27 individual maps. A table has been provided to direct the reviewer to the specific map
28 where the required information is located.

29 (ii) 100-year floodplain area.

30 The WIPP facility is not in the 100 year flood plain.

31 (iii) Surface waters including intermittent streams.

32 There are no major surface waters or intermittent streams within 10 miles of the WIPP
33 facility.

1 (iv) Surrounding land uses (residential, commercial, agricultural, recreational).

2 See Figures A through E in *Maps and Illustrations* for the following surrounding land
3 uses:

- 4 • Demographic Figure A: 2007 CY - Mines and Inhabited Ranches within a 10-
5 mile Radius of the WIPP Facility
- 6 • Demographic Figure B: 2007 CY - Maximum Yearly Cattle Density within a
7 50-mile Radius of the WIPP Facility
- 8 • Demographic Figure C: 2007 CY - Natural Gas Pipelines within a 5-mile
9 Radius of the WIPP Facility
- 10 • Demographic Figure D: 2000 CY – Population within a 50-mile Radius of the
11 WIPP Facility
- 12 • Demographic Figure E: 2007 CY – Acres Planted in Edible Agriculture and
13 Commercial Crops within a 50-mile Radius of the WIPP Facility

14 (v) A wind rose (i.e., prevailing wind-speed and direction).

15 Shown in *Maps and Illustrations*.

16 (vi) Orientation of the map (north arrow).

17 All maps and appropriate figures contain a northern orientation compass. A table
18 entitled, *Maps and Illustrations*, is provided to direct the reviewer to the drawings,
19 maps, and illustration providing the information required by 40 CFR 270.14(b)(19).
20 The table also directs the reader to other new or revised illustrated information.

21 (vii) Legal boundaries of the HWM facility site.

22 Shown on Map 2-3 in *Part A Application*.

23 (viii) Access control (fences, gates).

24 Shown on Drawing 24-C-022-W in *Maps and Illustrations*.

25 (ix) Injection and withdrawal wells both on-site and off-site.

26 Shown on Figure 2-3 in *Part A Application*.

1 (x) Buildings; treatment, storage, or disposal operations; or other structure (recreation areas,
2 runoff control systems, access and internal roads, storm, sanitary, and process sewerage
3 systems, loading and unloading areas, fire control facilities, etc.)

4 The map for buildings, storage, or disposal operations; or other structures is located on
5 drawings 24-C-022-W and 22-V-001-W in *Maps and Illustrations*.

6 (xi) Barriers for drainage or flood control.

7 The map of barriers for drainage or flood control is included on drawing 23-C-011-W1
8 in *Maps and Illustrations*.

9 (xii) Location of operational units within the HWM facility site, where hazardous waste is (or
10 will be) treated, stored, or disposed (include equipment cleanup areas).

11 The map for location of operational units within the HWM facility site, where
12 hazardous waste is stored or disposed, is located on Figure 2-3, *Topographic Map with*
13 *Underground Facilities*, March 2008, in *Maps and Illustrations*.

14 (20) Applicants may be required to submit such information as may be necessary to enable the
15 Regional Administrator to carry out his duties under other Federal laws as required in §270.3 of
16 this part.

17 The Permittees will submit information necessary to enable the Secretary to carry out
18 his duties under other Federal laws as required in § 40 CFR 270.3, as requested.

19 (21) For land disposal facilities, if a case-by-case extension has been approved under §268.5 or
20 a petition has been approved under §268.6, a copy of the notice of approval for the extension or
21 petition is required.

22 The WIPP Land Withdrawal Act Amendment of 1996 exempts waste designated by the
23 Secretary of DOE for disposal at the WIPP facility from the Land Disposal Restrictions
24 40 CFR 268.

25 (22) A summary of the pre-application meeting, along with a list of attendees and their
26 addresses, and copies of any written comments or materials submitted at the meeting, as
27 required under §124.31(c).

28 Information to satisfy the requirements of §124.31(c) is submitted with this Renewal
29 Application. Two sets of pre-application meeting were held. The first set of pre-
30 application meetings was held on February 10 and 12, 2009, in Carlsbad, NM, and
31 Santa Fe, NM, respectively. The second set of pre-application meetings was held on
32 May 5, 2009, and May 7, 2009, in Carlsbad, NM, and Santa Fe, NM, respectively.

1 Summaries of the meetings, lists of attendees, written comments, and material
2 submitted at the meetings have been included with this Renewal Application.

3 (c) *Additional information requirements.* The following additional information regarding protection of
4 groundwater is required from owners or operators of hazardous waste facilities containing a regulated
5 unit except as provided in §264.90(b) of this chapter:

6 (1) A summary of the ground-water monitoring data obtained during the interim status period
7 under §§265.90 through 265.94, where applicable.

8 The Permittees have not collected groundwater data under interim status.

9 (2) Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath
10 the facility property, including ground-water flow direction and rate, and the basis for such
11 identification (*i.e.*, the information obtained from hydrogeologic investigations of the facility
12 area).

13 There has been no change in the identification of the uppermost aquifer or aquifers
14 hydraulically connected beneath the WIPP facility property as detailed in Renewal
15 Application Chapter L, *WIPP Groundwater Detection Monitoring Program Plan*.

16 (3) On the topographic map required under paragraph (b)(19) of this section, a delineation of
17 the waste management area, the property boundary, the proposed “point of compliance” as
18 defined under §264.95, the proposed location of groundwater monitoring wells as required
19 under §264.97, and, to the extent possible, the information required in paragraph (c)(2) of this
20 section.

21 There is no change to the delineation of the waste management area, the property
22 boundary, the point of compliance as defined under §264.95, the location of
23 groundwater monitoring wells as required under §264.97, and, to the extent possible,
24 the information required in paragraph (c)(2) of this section (*i.e.*, identification of the
25 uppermost aquifer and aquifers hydraulically interconnected beneath the facility
26 property, including groundwater flow direction and rate) as illustrated in the
27 topographic map in Part A Application, Figure 2-3.

28 (4) A description of any plume of contamination that has entered the groundwater from a
29 regulated unit at the time that the application was submitted that:

30 (i) Delineates the extent of the plume on the topographic map required under paragraph (b)(19)
31 of this section;

32 No plume of contamination has entered the groundwater from a regulated unit.

1 (ii) Identifies the concentration of each appendix IX, of part 264 of this chapter, constituent
2 throughout the plume or identifies the maximum concentrations of each appendix IX
3 constituent in the plume.

4 No plume of contamination has entered the groundwater from a regulated unit.

5 (5) Detailed plans and an engineering report describing the proposed groundwater monitoring
6 program to be implemented to meet the requirements of §264.97.

7 No contamination has entered the groundwater from a regulated unit.

8 (6) If the presence of hazardous constituents has *not* been detected in the groundwater at the
9 time of permit application, the owner or operator must submit sufficient information,
10 supporting data, and analyses to establish a detection monitoring program which meets the
11 requirements of §264.98. This submission must address the following items specified under
12 §264.98:

13 No hazardous constituents have been detected in groundwater in the vicinity of the
14 WIPP facility. The results of groundwater background measurements taken over a five
15 year period have been included in the Permit in order to establish a statistical baseline.
16 Renewal Application Chapter L includes the Detection Monitoring Program that has
17 been established to meet the requirements of §264.98.

18 (i) A proposed list of indicator parameters, waste constituents, or reaction products that can
19 provide a reliable indication of the presence of hazardous constituents in the ground water;

20 There are no changes to the indicator parameters, waste constituents, or reaction
21 products that can provide a reliable indication of the presence of hazardous constituents
22 in the groundwater as listed Renewal Application Chapter L, *WIPP Groundwater*
23 *Detection Monitoring Program Plan*.

24 (ii) A proposed ground-water monitoring system;

25 The Permittees' groundwater monitoring system is detailed in Renewal Application
26 Chapter L, *WIPP Groundwater Detection Monitoring Program Plan*.

27 (iii) Background values for each proposed monitoring parameter or constituent, or procedures
28 to calculate such values; and

29 There has been no change to the background values for each proposed monitoring
30 parameter. The results of groundwater background measurements taken over a five
31 year period have been reported by the Permittees to establish a statistical baseline.
32 Furthermore, if the Permittees identify additional constituents to be monitored, the first
33 four samples are used to establish background values for that constituent.

1 (iv) A description of proposed sampling, analysis and statistical comparison procedures to be
2 utilized in evaluating ground-water monitoring data.

3 The Permittees' sampling, analysis and statistical comparison procedures to be utilized
4 in evaluating groundwater monitoring data are detailed in Renewal Application
5 Chapter L, *WIPP Groundwater Detection Monitoring Program Plan*.

6 (7) If the presence of hazardous constituents has been detected in the groundwater at the point
7 of compliance at the time of the permit application, the owner or operator must submit
8 sufficient information, supporting data, and analyses to establish a compliance monitoring
9 program which meets the requirements of §264.99. Except as provided in §264.98(h)(5), the
10 owner or operator must also submit an engineering feasibility plan for a corrective action
11 program necessary to meet the requirements of §264.100, unless the owner or operator obtains
12 written authorization in advance from the Regional Administrator to submit a proposed permit
13 schedule for submittal of such a plan. To demonstrate compliance with §264.99, the owner or
14 operator must address the following items:

15 (i) A description of the wastes previously handled at the facility;

16 (ii) A characterization of the contaminated groundwater, including concentrations of hazardous
17 constituents;

18 (iii) A list of hazardous constituents for which compliance monitoring will be undertaken in
19 accordance with §§264.97 and 264.99;

20 (iv) Proposed concentration limits for each hazardous constituent, based on the criteria set forth
21 in §264.94(a), including a justification for establishing any alternate concentration limits;

22 (v) Detailed plans and an engineering report describing the proposed groundwater monitoring
23 system, in accordance with the requirements of §264.97; and

24 (vi) A description of proposed sampling, analysis and statistical comparison procedures to be
25 utilized in evaluating groundwater monitoring data.

26 No contamination has entered the groundwater from a regulated unit. Therefore, the
27 informational requirements to items (i) through (vi) do not apply.

28 (8) If hazardous constituents have been measured in the ground water which exceed the
29 concentration limits established under §264.94 Table 1, or if ground water monitoring
30 conducted at the time of permit application under §§265.90 through 265.94 at the waste
31 boundary indicates the presence of hazardous constituents from the facility in ground water
32 over background concentrations, the owner or operator must submit sufficient information,
33 supporting data, and analyses to establish a corrective action program which meets the
34 requirements of §264.100. However, an owner or operator is not required to submit information

1 to establish a corrective action program if he demonstrates to the Regional Administrator that
2 alternate concentration limits will protect human health and the environment after considering
3 the criteria listed in §264.94(b). An owner or operator who is not required to establish a
4 corrective action program for this reason must instead submit sufficient information to establish
5 a compliance monitoring program which meets the requirements of §264.99 and paragraph
6 (c)(6) of this section. To demonstrate compliance with §264.100, the owner or operator must
7 address, at a minimum, the following items:

8 (i) A characterization of the contaminated ground water, including concentrations of hazardous
9 constituents;

10 (ii) The concentration limit for each hazardous constituent found in the ground water as set
11 forth in §264.94;

12 (iii) Detailed plans and an engineering report describing the corrective action to be taken; and

13 (iv) A description of how the ground-water monitoring program will demonstrate the adequacy
14 of the corrective action.

15 (v) The permit may contain a schedule for submittal of the information required in paragraphs
16 (c)(8) (iii) and (iv) provided the owner or operator obtains written authorization from the
17 Regional Administrator prior to submittal of the complete permit application.

18 No contamination has entered the groundwater from a regulated unit. Therefore, this
19 requirement does not apply.

20 (d) *Information requirements for solid waste management units.* (1) The following information is
21 required for each solid waste management unit at a facility seeking a permit:

22 (i) The location of the unit on the topographic map required under paragraph (b)(19) of this
23 section.

24 (ii) Designation of type of unit.

25 (iii) General dimensions and structural description (supply any available drawings).

26 (iv) When the unit was operated.

27 (v) Specification of all wastes that have been managed at the unit, to the extent available.

28 The NMED determined that no further action is necessary to investigate fifteen Solid
29 Waste Management Units (SWMUs) and eight Areas of Concern (AOCs) at WIPP. A
30 Class 3 permit modification request to remove SWMUs and AOCs from their Permit
31 was approved by the NMED on October 23, 2008. No new SWMUs or AOCs have
32 been identified for inclusion in the Renewal Application.

1 (2) The owner or operator of any facility containing one or more solid waste management units
2 must submit all available information pertaining to any release of hazardous wastes or
3 hazardous constituents from such unit or units.

4 The NMED determined that no further action is necessary to investigate fifteen
5 SWMUs and eight AOCs at WIPP. A Class 3 permit modification request to remove
6 SWMUs and AOCs from their Permit was approved by the NMED on October 23,
7 2008. No new SWMUs or AOCs have been identified for inclusion in the Renewal
8 Application. No new SWMUs or AOCs have been identified for inclusion in the
9 Renewal Application.

10 (3) The owner/operator must conduct and provide the results of sampling and analysis of
11 groundwater, land surface, and subsurface strata, surface water, or air, which may include the
12 installation of wells, where the Director ascertains it is necessary to complete a RCRA Facility
13 Assessment that will determine if a more complete investigation is necessary.

14 The NMED determined that no further action is necessary to investigate fifteen
15 SWMUs and eight AOCs at WIPP. A Class 3 permit modification request to remove
16 SWMUs and AOCs from their Permit was approved by the NMED on October 23,
17 2008. No new SWMUs or AOCs have been identified for inclusion in the Renewal
18 Application.

19 **§270.15 Specific part B information requirements for containers**

20 Except as otherwise provided in §264.170, owners or operators of facilities that store containers of
21 hazardous waste must provide the following additional information:

22 (a) A description of the containment system to demonstrate compliance with §264.175. Show at least
23 the following:

24 (1) Basic design parameters, dimensions, and materials of construction.

25 Containment systems are provided by transportation packaging for unloaded waste and
26 the concrete floor of the Waste Handling Building as described in Renewal Application
27 Appendix M1 Container Storage; Appendix M2, Geologic Repository. The Permittees
28 proposed no changes to the basic design parameters, dimensions, and materials of
29 construction of the containment system

30 (2) How the design promotes drainage or how containers are kept from contact with standing
31 liquids in the containment system.

32 The Permittees propose no changes in the manner in which the containers are kept from
33 contacting standing liquids as detailed Renewal Application Appendix M1, *Container*
34 *Storage*, Section M1-1f, *Containment*.

Black Text = Regulatory Citation

Blue Text = Permittees' Response

1 (3) Capacity of the containment system relative to the number and volume of containers to be
2 stored.

3 The Permittees propose no changes in the capacity of the containment system relative to
4 numbers and volume of containers to be stored, as detailed in Renewal Application
5 Appendix M1, *Container Storage*, Section M1-1f, *Containment*.

6 (4) Provisions for preventing or managing run-on.

7 The Permittees propose no change in the manner in which they manage run-on as
8 detailed in Renewal Application Chapter E, *Preparedness and Prevention*, Section E-2b
9 *Runoff* and Appendix M1, *Container Storage*, Section M1-1i, *Control of Run On*.

10 (5) How accumulated liquids can be analyzed and removed to prevent overflow.

11 The Permittees propose no change to the manner in which accumulated liquids can be
12 analyzed and removed to prevent overflow as described in the Renewal Application
13 Chapter F-4b, *Identification of Hazardous Materials*, and Renewal Application
14 Appendix M1, *Container Storage*.

15 (b) For storage areas that store containers holding wastes that do not contain free liquids, a
16 demonstration of compliance with §264.175(c), including:

17 (1) Test procedures and results or other documentation or information to show that the wastes
18 do not contain free liquids; and

19 The Permittees propose no change. Waste stored at the WIPP facility contains no liquid
20 in excess of TSDF-WAC limits as demonstrated by visual examination, radiography, or
21 acceptable knowledge in accordance with the *Waste Analysis Plan*, Renewal
22 Application Chapter B and Appendices B1 through B5; and is confirmed not to have
23 liquids in excess of TSDF-WAC limits by the process described in Renewal Application
24 Appendix B7, *Permittee Level TRU Waste Confirmation Process*.

25 (2) A description of how the storage area is designed or operated to drain and remove liquids or
26 how containers are kept from contact with standing liquids.

27 The Permittees propose no change. Waste stored at the WIPP facility contains no liquid
28 in excess of TSDF-WAC limits as demonstrated by visual examination, radiography, or
29 acceptable knowledge in accordance with the *Waste Analysis Plan*, Renewal
30 Application Chapter B and Appendices B1 through B5; and is confirmed not to have
31 liquids in excess of TSDF-WAC limits by the process described in Renewal Application
32 Appendix B7, *Permittee Level TRU Waste Confirmation Process*.

1 (c) Sketches, drawings, or data demonstrating compliance with §264.176 (location of buffer
2 zone and containers holding ignitable or reactive wastes) and §264.177(c) (location of
3 incompatible wastes), where applicable.

4 All waste received at the WIPP facility will be determined to be compatible prior to
5 being received at the WIPP. Ignitable, reactive, or corrosive waste (i.e., compressed
6 gases and liquids in excess of the TSDF-WAC) are prohibited in accordance with the
7 TSDF-WAC. Therefore, a buffer zone for containers holding ignitable or reactive
8 wastes and incompatible wastes is not needed.

9 (d) Where incompatible wastes are stored or otherwise managed in containers, a description of
10 the procedures used to ensure compliance with §§264.177 (a) and (b), and 264.17 (b) and (c).

11 The Permittees propose no change to the compatibility determination as identified in
12 Renewal Application Chapter B, Addendum B2, *Chemical Compatibility Analysis of*
13 *Waste Forms and Container Materials*. Furthermore, the TSDF-WAC in Renewal
14 Application Chapter B prohibits the receipt of incompatible waste and Renewal
15 Application Chapter F requires the evaluation of compatibility.

16 (e) Information on air emission control equipment as required in §270.27.

17 Pursuant to 40 CFR 264.1080(a)(6), air emission controls for containers do not apply to
18 radioactive mixed waste. Therefore, this requirement is not applicable.

19 **§270.23 Specific part B information requirements for miscellaneous units**

20 Except as otherwise provided in §264.600, owners and operators of facilities that treat, store, or
21 dispose of hazardous waste in miscellaneous units must provide the following additional information:

22 (a) A detailed description of the unit being used or proposed for use, including the following:

23 (1) Physical characteristics, materials of construction, and dimensions of the unit;

24 There are no changes in the physical characteristics, materials of construction, and
25 dimensions of the units. Through this Renewal Application, the Permittees are
26 proposing the authorization to dispose of TRU-mixed waste of both CH and RH
27 TRU-mixed waste in Panel 8. In a previously approved Class 3 permit modification
28 request (May 2003), the New Mexico Environment Department approved the
29 construction and use of Panels (i.e., Hazardous Waste Disposal Units) 4 through 7 and
30 the construction of Panel 8. The use of Panel 8 for disposal of TRU mixed waste was
31 not authorized at that time. Prior to using Panel 8 for TRU mixed waste disposal, the
32 Permittees will submit to the Secretary, by certified mail or hand delivery, a letter
33 signed by the Permittees and a New Mexico registered professional engineer stating
34 Panel 8 has been constructed in compliance with the Permit, and the Permittees will not

1 manage any hazardous waste in Panel 8 until the Secretary has either inspected the
2 modified portion of the facility and finds it is in compliance with the conditions of this
3 Permit; or waived the inspection or, within fifteen calendar days of the date of
4 submission of the letter required above, has not notified the Permittees of his intent to
5 inspect.

6 (2) Detailed plans and engineering reports describing how the unit will be located, designed,
7 constructed, operated, maintained, monitored, inspected, and closed to comply with the
8 requirements of §§264.601 and 264.602; and

9 The Permittees are not proposing any changes to detailed plans and engineering reports
10 describing how the unit will be located, designed, constructed, operated, maintained,
11 monitored, inspected, and closed to comply with the requirements of 264.601 and
12 264.602, as described in Renewal Application Appendix M1, *Container Storage*; M2,
13 *Geologic Repository*; Chapter D, *Inspection Schedule, Process and Forms*; Appendix
14 D1, *Inspection Sheets*, Chapter L, *WIPP Groundwater Detection Monitoring Program*
15 *Plan*; Chapter N, *Volatile Organic Compounds Monitoring Plan*; Appendix N1,
16 *Hydrogen and Methane Monitoring Plan*; and the WIPP facility Closure Plan
17 documents: Renewal Application Chapter I through Appendix I3, and Post-Closure
18 Plan documents: Renewal Application Chapter J and Appendix J1.

19 (3) For disposal units, a detailed description of the plans to comply with the post-closure
20 requirements of §264.603.

21 There are no changes to the plans to comply with the post-closure requirements of
22 §264.603 as detailed in Renewal Application Chapter J.

23 (b) Detailed hydrologic, geologic, and meteorologic assessments and land-use maps for the region
24 surrounding the site that address and ensure compliance of the unit with each factor in the
25 environmental performance standards of §264.601. If the applicant can demonstrate that he does not
26 violate the environmental performance standards of §264.601 and the Director agrees with such
27 demonstration, preliminary hydrologic, geologic, and meteorologic assessments will suffice.

28 There are no changes to the detailed hydrologic, geologic, and meteorologic
29 assessments and land-use maps for the region surrounding the site that address and
30 ensures compliance of the unit with each factor in the environmental performance
31 standards of §264.601. However, updated information is provided in Renewal
32 Application Addendum L1, *Site Characterization*.

1 (c) Information on the potential pathways of exposure of humans or environmental receptors to
2 hazardous waste or hazardous constituents and on the potential magnitude and nature of such
3 exposures.

4 Since the original permit application was submitted, there have been changes to the
5 conceptual models that predict repository behavior. The Permittees have reevaluated the
6 performance demonstration information submitted with the original Part B Application.
7 Accordingly, Illustrations from the original Part B Application regarding the 300-year
8 performance demonstration have been updated. The updated figures are provided in
9 Renewal Application Addendum N1, *300-year Performance Demonstration Re-Evaluation*.
10 The figures illustrate the following information:

- 11 • Predicted Change in Disposal Region Pressure Following Shaft Sealing
- 12 • Predicted Cumulative Volume of Gas Generated Per Drum of Waste
- 13 • Predicted Cumulative Brine Flow Into a Closed Waste Panel
- 14 • Predicted Change in Panel Pore Volume Due to Creep Closure
- 15 • Predicted Average Brine Saturation Within the Repository

16 There is no change to the conclusions reached in the original permit application, that is, the
17 only viable mechanism for a release from the repository is the air emissions pathway. This
18 pathway exists prior to final closure. No viable releases along soil or water pathways were
19 identified. There is no change to the potential exposure of humans or environmental receptors
20 to hazardous waste or hazardous constituents or to the magnitude and nature of such exposures.

21 (d) For any treatment unit, a report on a demonstration of the effectiveness of the treatment based on
22 laboratory or field data.

23 The Waste Isolation Pilot Plant facility does not operate any treatment units.

24 (e) Any additional information determined by the Director to be necessary for evaluation of
25 compliance of the unit with the environmental performance standards of §264.601.

26 Any additional information determined by the Director to be necessary for evaluation of
27 compliance of the unit with the environmental performance standards of §264.601 will be
28 provided as requested.