

ATTACHMENT A
GENERAL FACILITY DESCRIPTION AND PROCESS INFORMATION

Waste Isolation Pilot Plant
Hazardous Waste Permit
~~March 2018~~ August 2019

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GENERAL FACILITY DESCRIPTION AND PROCESS INFORMATION

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ATTACHMENT A

**GENERAL FACILITY DESCRIPTION AND
PROCESS INFORMATION**

A-1 Facility Description

Abstract

NAME OF FACILITY: Waste Isolation Pilot Plant

OWNER and CO-OPERATOR: U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88221

CO-OPERATOR: Nuclear Waste Partnership LLC
P.O. Box 2078
Carlsbad, NM 88221

RESPONSIBLE OFFICIALS: ~~Todd A. Shrader~~ Kirk D. Lachman
Acting Manager, DOE/Carlsbad Field Office
Bruce C. Covert
Project Manager, Nuclear Waste Partnership LLC

FACILITY MAILING ADDRESS: U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88221

FACILITY LOCATION: 30 miles east of Carlsbad on the Jal Highway, in
Eddy County.

TELEPHONE NUMBER: 575/234-7300

U.S. EPA I.D. NUMBER: NM4890139088

GEOGRAPHIC LOCATION: 32° 22' 30" N
103° 47' 30" W

DATE OPERATIONS BEGAN: November 26, 1999

1 A-2 Description of Activities

2 The Waste Isolation Pilot Plant (**WIPP**) is a facility for the management, storage, and disposal of
3 transuranic (**TRU**) mixed waste subject to regulation under 20.4.1.500 NMAC. Both contact-
4 handled (**CH**) and remote-handled (**RH**) TRU mixed wastes are permitted for storage and
5 disposal at the WIPP facility.

6 A-3 Property Description

7 The WIPP property has been divided into functional areas. The Property Protection Area (**PPA**),
8 surrounded by a chain-link security fence, which encompasses approximately 34 acres without
9 the New Filter Building (**NFB**) and approximately 44 acres with the NFB and provides security
10 and protection for all major surface structures. The DOE Off Limits Area encloses the PPA, and
11 is approximately 1,454 acres. These areas define the DOE exclusion zone within which certain
12 items and material are prohibited. The final zone is marked by the WIPP Site Boundary (WIPP
13 Land Withdrawal Area), a 16-section Federal land area under the jurisdiction of the DOE.

14 A-4 Facility Type

15 There are three basic groups of structures associated with the WIPP facility: surface structures,
16 shafts and underground structures. The surface structures accommodate the personnel,
17 equipment, and support services required for the receipt, preparation, and transfer of TRU
18 mixed waste from the surface to the underground. There are two surface locations where TRU
19 mixed waste is managed and stored. The first area is the Waste Handling Building (**WHB**)
20 Container Storage Unit (**WHB Unit**) for TRU mixed waste management and storage. The WHB
21 Unit consists of the WHB contact-handled (**CH**) Bay and the remote-handled (**RH**) Complex.
22 The second area designated for managing and storing TRU mixed waste is the Parking Area
23 Container Storage Unit (**Parking Area Unit**), an outside container storage area which extends
24 south from the WHB to the rail siding. The Parking Area Unit provides storage space for up to
25 50 loaded Contact-Handled Packages and 14 loaded Remote-Handled Packages on an asphalt
26 and concrete surface. Part 3 of the permit authorizes the storage and management of CH and
27 RH TRU mixed waste containers in these two surface locations. The technical requirements of
28 20.4.1.500 NMAC (incorporating 40 CFR §§264.170 to 264.178) are applied to the operation of
29 the WHB Unit and the Parking Area Unit. Permit Attachment A1 describes the container storage
30 units, the TRU mixed waste management facilities and operations, and compliance with the
31 technical requirements of 20.4.1.500 NMAC.

32 Four vertical shafts connect the surface facility to the underground. These are the Waste Shaft,
33 the Salt Handling Shaft, the Exhaust Shaft and the Air Intake Shaft. The Waste Shaft is the only
34 shaft used to transport TRU mixed waste to the underground. The WIPP underground
35 structures are located in a mined salt bed 2,150 feet below the surface.

36 The WIPP is a geologic repository mined within a bedded salt formation, which is defined in
37 20.4.1.100 NMAC (incorporating 40 CFR §260.10) as a miscellaneous unit. As such, hazardous
38 waste management units within the repository are subject to permitting according to 20.4.1.900
39 and .901 NMAC (incorporating 40 CFR §270), and are regulated under 20.4.1.500 NMAC,
40 Miscellaneous Units.

41 The underground structures include the underground Hazardous Waste Disposal Units
42 (**HWDUs**), an area for future underground HWDUs, the shaft pillar area, interconnecting drifts

1 and other areas unrelated to the Hazardous Waste Facility Permit. The underground HWDUs
2 are defined as waste panels, each consisting of seven rooms and two access drifts. The WIPP
3 underground area is designated as Panels 1 through 10, although only Panels 1 through 8 will
4 be used under the terms of this permit. Each of the seven rooms is approximately 300 feet long,
5 33 feet wide and 13 feet high. Part 4 of the permit authorizes the management and disposal of
6 CH and RH TRU mixed waste containers in underground HWDUs. The Disposal Phase consists
7 of receiving CH and RH TRU mixed waste shipping containers, unloading and transporting the
8 waste containers to the underground HWDUs, emplacing the waste in the underground
9 HWDUs, and subsequently achieving closure of the underground HWDUs in compliance with
10 applicable State and Federal regulations. As required by 20.4.1.500 NMAC (incorporating 40
11 CFR §264.601), the Permittees shall ensure that the environmental performance standards for a
12 miscellaneous unit, which are applied to the underground HWDUs in the geologic repository, will
13 be met. Permit Attachment A2 describes the underground HWDUs, the TRU mixed waste
14 management facilities and operations, and compliance with the technical requirements of
15 20.4.1.500 NMAC.

16 A-5 Waste Description

17 Wastes destined for WIPP are byproducts of nuclear weapons production and have been
18 identified in terms of waste streams based on the processes that produced them. Each waste
19 stream identified by generators is assigned to a Waste Summary Category to facilitate RCRA
20 waste characterization, and reflect the final waste forms acceptable for WIPP disposal.

21 These Waste Summary Categories are:

22 S3000—Homogeneous Solids

23 Solid process residues defined as solid materials, excluding soil, that do not meet the
24 applicable regulatory criteria for classification as debris [20.4.1.800 NMAC, (incorporating
25 40 CFR §268.2(g) and (h))]. Solid process residues include inorganic process residues,
26 inorganic sludges, salt waste, and pyrochemical salt waste. Other waste streams are
27 included in this Waste Summary Category based on the specific waste stream types and
28 final waste form. This category includes wastes that are at least 50 percent by volume
29 solid process residues.

30 S4000—Soils/Gravel

31 This waste summary category includes waste streams that are at least 50 percent by
32 volume soil. Soils are further categorized by the amount of debris included in the matrix.

33 S5000—Debris Wastes

34 This waste summary category includes waste that is at least 50 percent by volume
35 materials that meet the NMAC criteria for classification as debris (20.4.1.800 NMAC
36 (incorporating 40 CFR §268.2)). Debris means solid material exceeding a 2.36 inch (60
37 millimeter) particle size that is intended for disposal and that is: 1) a manufactured object,
38 2) plant or animal matter, or 3) natural geologic material.

39 The S5000 Waste Summary Category includes metal debris, metal debris containing lead,
40 inorganic nonmetal debris, asbestos debris, combustible debris, graphite debris,
41 heterogeneous debris, and composite filters, as well as other minor waste streams.
42 Particles smaller than 2.36 inches in size may be considered debris if the debris is a
43 manufactured object and if it is not a particle of S3000 or S4000 material.

1 If a waste does not include at least 50 percent of any given category by volume,
2 characterization shall be performed using the waste characterization process required for the
3 category constituting the greatest volume of waste for that waste stream.

4 Wastes may be generated at the WIPP facility as a direct result of managing the TRU and TRU
5 mixed wastes received from the off-site generators. Such waste may be generated in either the
6 WHB or the underground. This waste is referred to as "derived waste." All such derived waste
7 will be placed in the rooms in HWDUs along with the TRU mixed waste for disposal.

8 Non-mixed hazardous wastes generated at the WIPP, through activities where contact with TRU
9 mixed waste does not occur, are characterized, placed in containers, and stored (for periods not
10 exceeding the limits specified in 20.4.1.300 NMAC (incorporating 40 CFR §262.34)) until they
11 are transported off site for treatment and/or disposal at a permitted facility. This waste
12 generation and accumulation activity, when performed in compliance with 20.4.1.300 NMAC
13 (incorporating 40 CFR §262), is not subject to RCRA permitting requirements and, as such, is
14 not addressed in the permit.

15 A-6 Chronology of Events Relevant to Changes in Ownership or Operational Control

16 December 19, 1997 NMED received notification of a change of name/ownership from
17 Westinghouse Electric Corporation to CBS Corporation. The WIPP
18 Management and Operating Contractor (**MOC**), Westinghouse Waste
19 Isolation Division (**WID**), became a division of Westinghouse Electric
20 Company, which in turn was a division of CBS Corporation. Notification to
21 NMED was made by the permit applicant in a letter dated December 18,
22 1997. The permit application was under review, but a draft permit was not
23 yet issued.

24 September 22, 1998 NMED received notification of a pending transfer of ownership for the
25 MOC, Westinghouse WID, from CBS Corporation to an as-yet-to-be-
26 named limited liability company owned jointly by British Nuclear Fuels, plc
27 and Morrison-Knudsen Corporation. The transfer of ownership was
28 scheduled to occur on or about December 15, 1998. Notification to NMED
29 was made by the permit applicant in a letter dated September 17, 1998.
30 The draft permit had been issued for public comment, but the final permit
31 was not yet issued.

32 March 9, 1999 NMED again received notification of the pending divestiture of the MOC,
33 Westinghouse WID, by CBS Corporation to the limited liability company
34 owned jointly by British Nuclear Fuels, plc and Morrison-Knudsen
35 Corporation known as MK/BNFL GESCO LLC. The new MOC would be
36 renamed to Westinghouse Government Environmental Services
37 Company LLC. Notification to NMED was made by the permit applicant in
38 a letter dated March 2, 1999. The public hearing on the permit was
39 underway, but the final permit was not yet issued.

40 March 26, 1999 NMED received official notification of the divestiture of Westinghouse
41 Electric Company by CBS Corporation to MK/BNFL GESCO LLC
42 effective March 22, 1999. The MOC was renamed Westinghouse
43 Government Environmental Services Company LLC (**WGES**), of which

1 Westinghouse Waste Isolation Division was a division. This transaction
2 constituted a change of operational control under 20.4.1.900 NMAC
3 (incorporating 40 CFR §270.40). Notification to NMED was made by the
4 permit applicant in a letter dated March 24, 1999. The public hearing on
5 the permit was nearly concluded, but the final permit was not yet issued.

6 April 28, 1999 NMED received a revised Part A Permit Application in a letter dated April
7 21, 1999, reflecting that the Westinghouse Waste Isolation Division, co-
8 operator of the WIPP hazardous waste facility, was now a part of WGES.
9 However, the final permit, issued October 27, 1999, did not reflect the
10 change in ownership.

11 July 25, 2000 NMED received a Class 1 permit modification in a letter dated July 21,
12 2000, changing the name in the Permit from Westinghouse Electric
13 Corporation to Westinghouse Government Environmental Services
14 Company LLC (**WGES**), Waste Isolation Division (**WID**). However, this
15 notification did not constitute the required permit modification under
16 20.4.1.900 NMAC (incorporating 40 CFR §270.40) necessary to reflect
17 the transfer of the permit to a new operator.

18 December 15, 2000 DOE announced that it had awarded a five-year contract for management
19 and operation of WIPP to Westinghouse TRU Solutions LLC, a limited
20 liability company owned jointly by WGES LLC and Roy F. Weston, Inc.
21 The announcement further stated that, following a brief transition period,
22 the new contractor would assume MOC responsibilities on February 1,
23 2001. This transaction constituted a change of operational control under
24 20.4.1.900 NMAC (incorporating 40 CFR §270.40) requiring a Class 1
25 permit modification with prior written approval of NMED.

26 February 5, 2001 NMED received a Class 1 permit modification in a letter dated February 2,
27 2001, which notified NMED of an organizational name change of the
28 MOC from Westinghouse Government Environmental Services Company
29 LLC Waste Isolation Division to Westinghouse TRU Solutions LLC.
30 However, this notification did not constitute the required permit
31 modification under 20.4.1.900 NMAC (incorporating 40 CFR §270.40)
32 necessary to reflect the transfer of the permit to a new operator.

33 December 31, 2002 NMED received a Class 1 permit modification in a letter dated December
34 27, 2002, which changed the name of the MOC from Westinghouse TRU
35 Solutions LLC to Washington TRU Solutions LLC. Again, this notification
36 did not constitute the required permit modification under 20.4.1.900
37 NMAC (incorporating 40 CFR §270.40) necessary to reflect the transfer of
38 the permit to a new operator.

39 February 28, 2003 NMED received a Class 1 permit modification requiring prior agency
40 approval in a letter dated February 28, 2003, to satisfy the requirements
41 specified in 20.4.1.900 NMAC (incorporating 40 CFR §270.40) to reflect
42 the transfer of the permit to a new operator.

- 1 September 16, 2004 NMED received a Class 1 permit modification requiring prior agency
2 approval in a letter dated September 16, 2004, describing a change of
3 ownership of Washington TRU Solutions LLC (**WTS**). WTS is owned
4 jointly by WGES, managing member, and Weston Solutions, Inc. WGES
5 had been owned jointly by Washington Group International, Inc. (**WGI**),
6 and BNFL Nuclear Services, Inc. However, WGI has acquired BNFL's
7 prior interest in the former Westinghouse government services
8 businesses, which includes BNFL's prior interest in WGES.
- 9 August 6, 2007 NMED received notification in a letter dated August 2, 2007 of the
10 pending acquisition of WGI by URS Corporation at an unknown future
11 date. This acquisition would be related to operational control, because
12 WGI is the sole owner of WGES, managing member of the joint venture,
13 along with Weston Solutions, Inc., that owns WTS, the WIPP MOC. This
14 notification was submitted to assure compliance with 20.4.1.900 NMAC
15 (incorporating 40 CFR §270.40(b)).
- 16 November 26, 2007 NMED received a Class 1 permit modification requiring prior agency
17 approval in a letter dated November 19, 2007, describing a change of
18 ownership of WTS. On November 15, 2007, WGI was acquired by URS
19 Corporation. WTS is owned jointly by WGES, managing member, and
20 Weston Solutions, Inc. WGES, formerly owned by WGI, is now owned by
21 URS Corporation.
- 22 October 1, 2012 NMED received a Class 1 permit modification requiring prior agency
23 approval in a letter dated June 25, 2012 describing a change in the MOC
24 for the WIPP facility. The new MOC for the WIPP facility will be Nuclear
25 Waste Partnership LLC. The new MOC is comprised of URS Energy &
26 Construction, Inc. and Babcock and Wilcox Technical Services Group,
27 Inc.
- 28 April 1, 2014 URS announced an organizational realignment to move Global
29 Management and Operational Services Group (GMOS) from URS Energy
30 & Construction to URS Federal Services Division. Nuclear Waste
31 Partnership LLC is part of GMOS and remains in this group. The MOC is
32 comprised of URS Federal Services, Inc. and Babcock and Wilcox
33 Technical Services Group, Inc.
- 34 January 5, 2015 On January 5, 2015 URS merged with AECOM. The WIPP Management
35 and Operating Contractor (MOC), Nuclear Waste Partnership LLC, is
36 comprised of URS Energy & Construction, Inc. (an organization within
37 AECOM) and Babcock and Wilcox Technical Services Group, Inc. This
38 merger is therefore not related to a change in operational control because
39 URS Energy & Construction, Inc. continues to be 70% owner of
40 Nuclear Waste Partnership LLC.
- 41 July 1, 2015 On June 8, 2015 the Babcock & Wilcox Company announced its intent to
42 change the name to BWXT Technical Services Group, Inc. (BWXT TSG).
43 This change was effective July 1, 2015. No changes are being made to
44 the Management and Operating Contractor (MOC). The MOC is

1 comprised of URS Energy & Construction, Inc. and BWXT Technical
2 Services Group, Inc.

3 September 19, 2016 URS Energy & Construction, Inc. changed its name to AECOM Energy &
4 Construction, Inc. This name change was effective September 19, 2016.
5 No changes are being made to the Management and Operating
6 Contractor (MOC). This is a name change only; there was no change in
7 operational control. The MOC, Nuclear Waste partnership LLC, is
8 comprised of AECOM Energy & Construction, Inc. and BWXT Technical
9 Services Group, Inc. This change does not constitute the required permit
10 modification under 20.4.1.900 NMAC (incorporating 40 CFR §270.40)
11 necessary to reflect the transfer of the permit to a new operator.