The Applicants/Permittees, the U.S. Department of Energy (“DOE”) and Nuclear Waste Partnership, LLC (“NWP”), submitted a Class 2 Permit Modification Request (“PMR”) on January 31, 2018 to differentiate between the way Resource Conservation and Recovery Act (“RCRA”) waste volume is calculated versus the way Land Withdrawal Act (“LWA”) TRU waste volume is calculated for the Waste Isolation Pilot Plant (“WIPP”). Administrative Record (“AR”) No. 180121. After the conclusion of the standard Class 2 applicant-led public comment period prescribed by Class 2 procedures, the Secretary of Environment escalated the PMR to a Class 3 based upon significant public interested and the complexity of the modification being requested. AR No. 180602. In accordance with Class 3 permit modification request procedures, and pursuant to 20.4.1.901.A(3) NMAC, the Bureau issued a draft permit for a 45-day public comment on August 6, 2018. AR No. 180804 - 180805. During the public comment period, the Bureau received approximately 37 public comments, both for and against the PMR, several of which requested a public hearing on the matter (and several of which requested that no hearing be held on the matter). AR No. 180914 – 108914.37ZD. A public hearing was held on October 23 through 25, 2018 in Carlsbad, New Mexico, the area of the state substantially affected by the
proceedings in accordance with 20.4.1.901.F(2) NMAC. Parties to the proceeding were the
HWB, the Applicants, Southwest Research and Information Center ("SRIC"), Concerned
Citizens for Nuclear Safety ("CCNS"), Nuclear Watch New Mexico ("Nuke Watch"), and Mr.
Steve Zappe. All but CCNS and Nuke Watch filed Statements of Intent to Present Technical
Testimony.

As found in both written and oral testimony, the Bureau generally supported the PMR,
but rejected certain requested modifications and added others to ensure that the Permit contained
all necessary components. SRIC, CCNS, Nuke Watch, and Mr. Steve Zappe were in opposition
to the PMR, arguing that it was in violation of federal law and contrary to past Bureau positions

FINDINGS OF FACT

A. THE WASTE ISOLATION PILOT PLANT

1. WIPP is a mined geologic repository in a deep salt formation (the Salado
Formation) sitting approximately 2,150 feet beneath the surface. It is located 30 miles east of
Carlsbad, New Mexico on the Jal Highway, in the Delaware Basin of Eddy County. Applicants
Exhibit 1 at Pages 5, 7, 11; Administrative Record ("AR") No. 180121.09.

2. The U.S. Department of Energy ("DOE") was created by the Department of

of Energy Organization Act, 42 U.S.C. § 7701, 7151(a), grants DOE the authority and the
responsibility to manage radioactive materials including radioactive waste. Applicants Exhibit 1
at Page 8; AR No. 180121.

4. The DOE Assistant Secretary for Environmental Management has tasked the
Carlsbad Field Office with coordinating the Transuranic ("TRU") program at waste-generating
2
sites, national laboratories, and other participants involved in implementing the permanent disposal of TRU waste. Applicants Exhibit 1 at Page 6.

5. DOE is the Owner and Co-Operator of WIPP. Applicants Exhibit 1 at Page 6.

6. Permit Attachment B, RCRA Part A Application Certification states, “The DOE’s RCRA responsibilities are for policy, programmatic directives, funding and scheduling decisions, Waste Isolation Pilot Plant (WIPP) requirements of DOE generator sites, auditing, and oversight of all other parties engaged in work at the WIPP, as well as general oversight.” Applicants Exhibit 1 at Page 7; AR No. 180804.


8. NWP is under contract with DOE and is the Co-Operator of WIPP, with the responsibility for certain day-to-day operations in accordance with general directions given by DOE and the Management and Operating Contract. Applicants Exhibit 1 at Page 7.

9. WIPP was authorized under Section 213(a) of the Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1980, Pub. L. 96-164, 93 Stat. 1259, 1265, as a defense activity of DOE, for the express purpose of providing a research and development facility to demonstrate the safe disposal of radioactive waste materials generated by atomic energy defense activities. Applicants Exhibit 1 at Page 7; AR No. 180121.09; AR No. 180706.03; AR No. 180706.04.

10. The mission of WIPP is to isolate and dispose of DOE’s inventory of defense Transuranic (“TRU”) waste in a manner that protects public health and the environment. AR 180121 at Page 9.
11. For the purposes of regulation under the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6901 et seq., and the New Mexico Hazardous Waste Act, ("HWA"), NMSA 1978, §§ 74-4-1 to -14, WIPP is defined by 20.4.1.100 NMAC (incorporating 40 CFR § 260.10) as a miscellaneous unit. Applicants Exhibit 1 at Page 11.

12. The TRU waste disposed at the WIPP facility includes both mixed waste and non-mixed waste, but the Department manages all waste emplaced at WIPP as TRU mixed waste. Applicants Exhibit 1 at Page 7; Hrg. Trans. 135:7-9, Oct. 24, 2018.


B. THE LAND WITHDRAWAL ACT


15. Section 7(a)(3) of the LWA authorized a total capacity limit of 6.2 million ft³ (175,564 m³) of TRU waste to be emplaced at WIPP. AR No. 180706.03; AR No. 180706.04.

16. Section 2(18) of the LWA defines TRU waste as "waste containing more than 100 nanocuries of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for (A) high-level radioactive waste; (B) waste that the Secretary has determined, with the concurrence of the Administrator, does not need the degree of isolation required by the disposal regulations; or (C) waste that the Nuclear Regulatory Commission has
approved for disposal on a case-by-case basis in accordance with part 61 of title 10, Code of Federal Regulations.” AR No. 180706.03; AR No. 180706.04.

17. Section 2(3) of the LWA defines Contact-Handled TRU waste as “transuranic waste with a surface dose rate not greater than 200 millirem per hour.” AR No. 180706.03; AR No. 180706.04.

18. Section 2(12) of the LWA defines Remote-Handled TRU waste as “transuranic waste with a surface dose rate of 200 millirem per hour or greater.” AR No. 180706.03; AR No. 180706.04.

19. “Transuranic mixed waste” is not defined by the LWA but is referenced twice, in Sections 9(a)(1)(H) and 14(b)(2), both times stating that transuranic mixed waste designated by the Secretary for disposal at WIPP is exempt from the land disposal restrictions described in Section 9(a)(1). AR No. 180706.03; AR No. 180706.04.

20. The LWA is silent on the volumetric calculation method for TRU and TRU mixed waste. AR No. 180706.03; AR No. 180706.04; Hrg. Trans. 149:4-7, Oct. 24, 2018.

21. The LWA does not reference Transuranic mixed waste in Section 7(A)(3) Capacity of WIPP. AR No. 180706.03; AR No. 180706.04; Hrg. Trans. 228:3 to 229:3.

22. Section 8 of the LWA required the U.S. Environmental Protection Agency (“EPA”) to establish disposal regulations, which have been codified in the Environmental Radiation Protection Standards for management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes at 40 C.F.R. § 191 et seq. Bureau Exhibit 2 at Page 3; AR No. 180706.03; AR No. 180706.04.

23. The EPA requires that the DOE “shall demonstrate in any compliance application that the total inventory of waste emplaced in the disposal system complies with the limitations on
transuranic waste disposal described in the WIPP LWA.” 40 CFR § 194.24(g). Applicants
Exhibit 1 at 9.

24. Radioactive materials are regulated by DOE in accordance with the Atomic Energy

25. The NMED does not regulate radioactive waste. October 25, 2018 Transcript at p. 82,
ll. 14-18. The Atomic Energy Act, as amended by the Department of Energy Organization Act
(AR-180121.09) grants DOE the responsibility and authority to manage radioactive waste. R.
Kehrman Testimony, at p. 8.

26. The WIPP LWA (AR-180706.03 and AR-1807606.04) defines the responsibilities of
the U.S. Environmental Protection Agency (EPA) associated with the WIPP project. The LWA
did not reassign the responsibility to track the volume of the TRU waste disposed from the DOE
to the EPA. R. Kehrman Testimony, at pp. 8-9.

27. DOE has the responsibility to track and report specific waste information controlled
by the LWA, including the waste inventory relative to the LWA capacity limit. R. Kehrman
Testimony, at p. 9.

C. RESOURCE CONSERVATION AND RECOVERY ACT

28. RCRA was enacted as an amendment to the Solid Waste Disposal Act of 1965, 42

29. RCRA contains a State Authorization process for states to assume primary
authority for implementing the RCRA hazardous waste program within its boundaries in lieu of
EPA. For a state to become authorized, it must promulgate a hazardous waste program that is to
be “equivalent to” or no less stringent than the federal program/regulations. 42 U.S.C. § 6926(b).
Bureau Exhibit 2 at 2.
30. NMED was authorized by EPA to implement the base RCRA program on January 25, 1985. Bureau Exhibit 2 at Page 3.


32. Transuranic mixed waste contains both radioactive waste and hazardous wastes. Hazardous wastes are defined and regulated pursuant to RCRA and the HWA. Radioactive materials are regulated by DOE in accordance with the Atomic Energy Act of 1954. Applicants Exhibit 1 at Page 8.

33. The federal RCRA regulations have been adopted by reference in the New Mexico Hazardous Waste Management Regulations, 20.4.1 NMAC, including the “Permit modification at the request of the permittee” regulations found at 40 C.F.R. § 270.42. Bureau Exhibit 2 at Page 3.

34. Pursuant to the LWA, the U.S. Secretary of Energy is required to comply with the Solid Waste Disposal Act, 42 U.S.C. § 6901 et seq., which includes RCRA, at WIPP, except for treatment standards and land disposal prohibitions found within RCRA. Bureau Exhibit 2 at Page 3; Applicants Exhibit 1 at Pages 9-10.

D. THE HAZARDOUS WASTE BUREAU

35. NMED, through the Bureau, and pursuant to its authority to implement RCRA, has regulatory authority over the hazardous waste portion of TRU mixed waste. Applicants Exhibit 1 at Page 10.

36. The Bureau directly regulates WIPP, and generators of TRU-mixed wastes within New Mexico that send waste to WIPP for disposal, as well as other facilities in the State.
permitted for the treatment, storage, and disposal of hazardous waste. Bureau Exhibit 2 at Page 3; Applicants Exhibit 1 at Page 10.

37. The Bureau does not regulate the generators of TRU-mixed wastes outside of New Mexico that send wastes to WIPP for disposal. However, the out-of-state generators must comply with the characterization requirements in the WIPP Permit for their waste to be accepted for disposal. Bureau Exhibit 2 at Page 3; Hrg. Trans. 79; 15 to 80; 4, Oct. 24, 2018.

38. NMED, through the Bureau, is authorized by the HWA to issue, issue with conditions, or deny permits for new and existing hazardous waste facilities based on information submitted in a permit application and relevant information received during a public hearing. NMSA 1978, § 74-4-4.2. Bureau Exhibit 2 at Page 3.

E. THE WIPP PERMIT

39. In 1996, per the requirements under 20.4.1.900 NMAC (incorporating 40 CFR Part 270), the Applicants submitted a permit application to NMED for the storage of hazardous waste in two units of WIPP (Parking Area Unit and Waste Handling Building Unit) in accordance with 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart I), and for the disposal of hazardous waste in accordance with 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart X). Applicants Exhibit 1 at Page 10.

40. Hearings on the draft Permit occurred in February and March 1999 and NMED issued a 10-year Permit for the WIPP facility in October 1999. Applicants Exhibit 1 at Page 10.

41. The Permit authorized the Permittees to analyze, ship, manage, store, and dispose any TRU mixed wastes that meet the technical standards of the Permit Waste Analysis Plan. Applicants Exhibit 1 at Page 10.
42. The Permit was renewed on November 30, 2010 for an additional 10 years. Applicants Exhibit 1 at Page 10.

43. In the 1996 Permit Application, the Permittees anticipated the emplacement of 6.2 million ft$^3$ (175,564 m$^3$) of TRU mixed waste, based on the design of the facility as documented in the Design Validation Report which was provided as Appendix D1 of the Permit Application. Applicants Exhibit 1 at Page 12; AR No. 180706. The maximum repository capacity limit currently stated in the Permit was based on the assumptions by Permittees that waste containers would be full of TRU mixed waste and that the total waste volume to be disposed of in the repository should be based on the WIPP LAW total capacity of 6.2 million cubic feet of TRU waste as authorized by the United States Congress. R. Kehrman Testimony, at p.3.

44. In practice many containers shipped from the generator/storage sites are overpacked, which involves placing a waste container into a larger container, creating a significant void space that is made of air and/or dunnage (inert material), which is not waste. Applicants Exhibit 1 at Page 16.

45. At the time the volume limit was established in the original Permit, the Permittees did not account for the significant amount of overpacking that would occur as waste was retrieved and prepared for shipment to the WIPP facility for disposal, and they did not recognize that by equating the maximum TRU mixed waste volume to the WIPP LWA TRU waste limit, they were “creating a de facto limit that could result in underutilizing the WIPP facility.” Applicants Exhibit 1 at Pages 15-16.

46. NMED has updated the Permit several times to incorporate Permit modifications. Applicants Exhibit 1 at Pages 10, 12-13.
47. Permit modification is a regulatory option included in the RCRA regulations. When promulgating these regulations, the EPA stated: “The Agency believes that permits must be viewed as living documents that can be modified to allow facilities to make technological improvements, comply with new environmental standards, respond to changing waste streams, and generally improve waste management practices.” 53 FR 37912. Applicants Exhibit 1 at Page 12.

48. The Permit sets forth the technical requirements for receipt and management of hazardous waste as required by 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subparts A to G). Applicants Exhibit 1 at Page 10.

49. The Permit consists of eight “Parts,” which set forth the Permit conditions and technical environmental performance standards applicable to the facility, and 38 “Attachments,” which support the parts by providing additional Permit detail pertaining to implementation of Permit conditions. Applicants Exhibit 1 at Pages 10-11.

50. The WIPP Project is currently in the Disposal Phase, which includes receiving, handling, and emplacing TRU and TRU mixed wastes in the WIPP geologic repository. Applicants Exhibit 1 at Page 11.

51. Permit Part 4, Section 4.1.1, Underground hazardous Waste Disposal Units, defines the Hazardous Waste Disposal Units (“HWDUs”) at WIPP as being “located at the WIPP facility approximately 2150 feet (665 meters) below the ground surface within the Salado formation. An Underground HWU is a single excavated panel, consisting of seven rooms and two access drifts, designated for disposal of TRU mixed waste containers.” Bureau Exhibit 2 at Page 6; Applicants Exhibit 1 at Page 11; AR No. 180121.
52. The HWDUs designated as Panels 1 through 6 are filled, and waste disposal is currently progressing in Panel 7. Applicants Exhibit 1 at Page 11.

53. The authority to dispose of waste in Panel 8 was provided through the Permit renewal in 2010 and the mining of Panel 8 is currently underway. Applicants Exhibit 1 at Page 11.

54. As of August 2018, the Permittees have disposed of a total of approximately 94,000 cubic meters of TRU mixed waste in Panels 1 through 7. Applicants Exhibit 1 at Page 11.

55. The Permittees anticipate the need for requesting additional HWDUs until the WIPP LWA TRU waste total capacity limit of 6.2 million ft$^3$ (175,564 m$^3$) can be disposed. Applicants Exhibit 1 at 16.

56. The method of determining the WIPP TRU mixed waste volume is not currently explicitly stated in the Permit. Applicants Exhibit 1 at Pages 13-14.

F. PERMIT MODIFICATION REQUEST

57. The PMR was originally submitted as a Class 2 PMR on January 31, 2018, for the WIPP Hazardous Waste Facility Permit ("Permit") Number NM4890139088-TSDF. Applicants Exhibit 1 at Page 13; AR No. 180121 at Page 1.

58. The PMR proposes to distinguish between “TRU Mixed Waste Volume” and “Land Withdrawal Act TRU Waste Volume of Record” by creating a new definition for each in Part 1 of the draft Permit as follows:

a. The TRU mixed waste volume is determined by the gross internal volume of the outermost disposal container (Permit Part 4, Section 4.3.1) and is tracked and reported by the Permittees in Permit Part 4, Table 4.1.1 in accordance with Permit Part 6, Section 6.10.1., Panel Closure, pursuant to the Resource Conservation and Recovery Act ("RCRA"); and
b. The WIPP LWA TRU waste volume is the volume tracked and reported by the U.S. Department of Energy ("DOE"), separate from the Permit, so that the WIPP LWA total capacity limit for TRU waste of 6.2 million ft\(^3\) (175,564 m\(^3\)) is not exceeded, pursuant to the Land Withdrawal Act ("LWA").

Bureau Exhibit 2 at Page 6; Applicants Exhibit 1 at Pages 3, 17; AR No. 180121.

59. The PMR proposes to clarify how the final TRU mixed waste volumes are calculated, requesting changes to the following parts and attachments:

a. Part 1, Section 1.5, Definitions;
b. Part 3, Section 3.3.1.8., Shielded Container;
c. Part 4, table 4.1.1, underground HWDUs;
d. Part 6, Section 6.5.2., Final Facility Closure;
e. Part 6, Section 6.10.1., Panel Closure;
f. Attachment A1, Section A1-1c(1), Waste handling Building Container Storage Unit (WHB Unit);
g. Attachment A1, Section A1-1f(1), Secondary Containment Requirements for the WHB Unit;
h. Attachment A2, Section A202a(3), Subsurface Structures;
i. Attachment B, Hazardous Waste Permit Application Part A;
j. Attachment C, Section C-8, Reporting;
k. Attachment G, Section G-1, Closure Plan;
l. Attachment G, Section G-1c, Maximum Waste Inventory;
m. Attachment H, Section H-1a(2), Monitoring;
n. Attachment H1, Introduction; and
o. Attachment j, Table J-3, underground Hazardous Waste Disposal Units.

Bureau Exhibit 2 at Pages 5-6; AR No. 180121.

60. The PMR proposes to revise Permit part 3, Section 3.3.1.8., Shielded Container, to make the text consistent with the new definition of "TRU Mixed Waste Volume" in Permit Part 1, Section 1.5., Definitions, and to specify reporting the gross volume of the outermost container pursuant to the Permit. Currently, the Permit requires the reporting of the inner container volume for shielded containers. Applicants Exhibit 1 at Page 17.
61. The PMR intent is to clarify that the maximum capacity of the WIPP repository, as it pertains to the Permit under RCRA, is based on the TRU mixed waste capacities of the individual HWDUs listed in Table 4.1.1, rather than the WIPP LWA total capacity limit authorized by Congress in the WIPP LWA of 1992. Applicants Exhibit 1 at Pages 3, 14.

62. The PMR proposes to revise Permit Part 4, Table 4.1.1, *Underground HWDUs*, to clarify the column headings relative to the definitions added to Part 4. Applicants Exhibit 1 at page 17.

63. The DOE WIPP Project Website will contain a link to current available information regarding the WIPP LWA TRU waste volume. Applicants Exhibit 1 at page 17.

64. The PMR proposes to revise Permit Part 6, Section 6.5.2., *Final Facility Closure*, and Section 6.10.1., *Panel Closure*, to make the text consistent with the new definition of “TRU Mixed Waste Volume” in Permit Part 1, Section 1.5., *Definitions*, and to clarify that the final TRU mixed waste volume required to be reported once a panel is full is calculated based on the outermost disposal container volumes. The changes are being requested to ensure that references to “waste” in the Permit mean “TRU mixed waste” as defined in Permit Part 1, Section 1.5. Applicants Exhibit 1 at 18.

65. The PMR proposes to revise Permit Attachment A1, Section A1-1c(1), *Waste Handling Building Container Storage Unit (WHB Unit)*, and Section A1-1f(1), *Secondary Containment Requirements*, to make the text consistent with the new definition of “TRU Mixed Waste Volume” in Permit Part 1, Section 1.5., *Definitions*. These changes are being requested to ensure that references to “waste” in the Permit mean “TRU mixed waste” as defined in Permit Part 1, Section 1.5. Applicants Exhibit 1 at 18
66. The PMR proposes to revise Permit Attachment A2, Section A2-2a(3), 
Subsurface Structures, to make the text consistent with the new definition of “TRU Mixed Waste 
Volume” in Permit Part 1, Section 1.5., Definitions; to reference to the “Maximum TRU Mixed 
Waste Capacity” listed in Permit Part 4, Table 4.1.1, Underground HWDUs; and to delete the 
listed TRU mixed waste volumes. This change is being requested to make the authorized TRU 
Mixed Waste capacities of the HWDUs and the total repository capacity consistent with those in 
Permit Part 4, Table 4.1.1. Applicants Exhibit 1 at 18.

67. The PMR proposes to revise Permit Attachment B, Hazardous Waste Permit 
Application Part A, Form OMB#:2050-0024, Section 7, Process Codes and Design Capacity, 
and the continuation page for Section 7 to be consistent with the underground HWDU maximum 
capacities listed in Permit Part 4, Table 4.1.1, Underground HWDUs. The continuation page for 
Section 7 is also being revised to:

a. Change the volume of WIPP wastes categorized as debris waste to a 
percentage of the waste anticipated for disposal in the WIPP repository 
because the final TRU mixed waste volume is not known at this time;

b. Relocate text that explains that, for the purposes of the Part A application, all 
TRU waste is managed as though it were mixed to the beginning of the 
respective paragraph;

c. Revise the listed volume to make it consistent with the design capacities in 
Section 7 B;

d. Revise text to make it consistent with the new definition of “TRU Mixed 
Waste Volume” in Part 1, Section 1.5., Definitions;

e. Clarify that the emplaced TRU mixed waste volume will not exceed the 
design capacity specified in Section 7 B;

f. Clarify that the volume specified in Section 7 B is calculated based on the sum 
of the volumes of the outermost containers and cannot be exceeded for Panels 
1 – 8;

g. Clarify that the WIPP LWA TRU waste volume is tracked and reported by the 
DOE for the purposes of compliance with the WIPP LWA;
h. Clarify that the process design capacities shown in Section 7 B are for the eight HWDUs that are approved for disposal of TRU mixed waste in the geologic repository; and

i. Clarify that the capacity of the Parking Area Unit is based on TRU mixed waste volume.

Applicants Exhibit 1 at Pages 18-19.

68. The PMR proposes to revise Permit Attachment C, Section C-8, Reporting, to make the text consistent with the new definition of “TRU Mixed Waste Volume” in Permit Part 1, Section 1.5., Definitions. These changes are being proposed to ensure that references to “waste” in the Permit mean “TRU mixed waste” as defined in Permit Part 1, Section 1.5. Applicants Exhibit 1 at Page 19.

69. The PMR proposes to revise Permit Attachment G, Section G-1, Closure Plan, to clarify that waste disposal areas are the permitted HWDUs, remove the listed volume capacity, and reference the maximum capacities listed in Permit Part 4, Table 4.1.1., Underground HWDUs. These changes are being proposed to prevent unintended consequences with regard to initiating final facility closure as the result of unfilled HWDUs or HWDUs that are filled before they reach their maximum permitted capacities. Both situations already exist in the WIPP facility. Applicants Exhibit 1 at Pages 19-20.

70. The PMR proposes to revise Permit Attachment G, Section G-1c, Maximum Waste Inventory, to reference Permit Part 4, Table 4.1.1, Underground HWDUs, for the maximum TRU mixed waste volume in a disposal panel; remove the listed maximum TRU mixed waste volumes; and make the text consistent with the new definition of “TRU Mixed Waste Volume”, in Permit Part 1, Section 1.5., Definitions. Referring to Permit Part 4, Table 4.1.1 for the maximum TRU mixed waste volumes eliminates some redundancy. Reference to Permit Part 4, Table 4.1.1 ensures that when the capacities are increased in the repository, the
increase is applied consistently throughout the Permit. These changes are also needed to ensure that references to "waste" in the Permit mean "TRU mixed waste" as defined in Permit Part 1, Section 1.5. Applicants Exhibit 1 at 20.

71. The PMR proposes to revise Permit Attachment H, Section H-1a(2), Monitoring, to make the text consistent with the new definition of "TRU Mixed Waste Volume" in Permit Part 1, Section 1.5., Definitions. These changes are being proposed to ensure that references to "waste" in the Permit mean "TRU mixed waste" as defined in Permit Part 1, Section 1.5. Applicants Exhibit 1 at 20.

72. The PMR proposes to revise Permit Attachment H, Section H-1a(2), Monitoring, to make the text consistent with the new definition of "TRU Mixed Waste Volume" in Permit Part 1, Section 1.5., Definitions. These changes are being proposed to ensure that references to "waste" in the Permit mean "TRU mixed waste" as defined in Permit Part 1, Section 1.5. Applicants Exhibit 1 at 20.

73. The PMR proposes to revise Permit Attachment H1, Introduction, to delete the listed regulated capacity and to clarify that the waste emplacement and disposal phase will continue until initiation of final closure of the facility. These changes are being proposed to ensure consistency with language in Permit Attachment G. Applicants Exhibit 1 at 20.

74. The PMR proposes to revise Permit Attachment J, Table J-3, Underground Hazardous Waste Disposal Units, to delete the reference to the WIPP LWA total capacity limit of 6.2 million ft³ (175,564 m³). These changes are being proposed to ensure consistency with the purposes of the proposed Permit modification. Applicants Exhibit 1 at 20.

75. The Permittees claim the proposed clarification of TRU waste and TRU mixed waste to be for the purposes of reporting and comparing the final TRU mixed waste volumes to
the maximum HWDU capacities prescribed by Permit Part 4, Table 4.1.1, *Underground HWDUs*, so that maximum capacities in the Permit, which are limited by the physical volume of each mined HWDU, are not exceeded. Bureau Exhibit 2 at Page 6; Applicants Exhibit 1 at Page 13; AR No. 180121;

76. The PMR proposes that DOE would track and record the LWA TRU Waste Volume of Record separately from the Permit. Bureau Exhibit 2 at 6; AR No. 180121.

77. The Permittees state that the maximum repository capacity limit currently stated in the Permit was based on the original assumption by the Permittees that waste containers would be full of TRU waste and that the total waste volume to be disposed in the repository should be based on the WIPP LWA total capacity limit of 6.2 million cubic feet of TRU waste. Applicants Exhibit 1 at Page 3; AR No. 180706.03; AR No. 180706.04.

78. The PMR states that the maximum capacity of the WIPP repository, as it pertains to the Permit under RCRA, is based on the TRU mixed waste capacities of the individual HWDUs listed in Table 4.1.1. and is not based on the LWA total capacity limit of 6.2 million cubic feet (ft³) of TRU waste as authorized by Congress in the LWA. Bureau Exhibit 2 at 6; Applicants Exhibit 1 at Page 3; AR No. 180121.

79. The PMR proposes to restrict the references to the LWA volume limit in the Permit by removing the references to it in Part 4, as well as in Attachments B, G, H1 and J. Bureau Exhibit 2 at Page 6; Applicants Exhibit 1 at Page 3; AR No. 180121.

80. The PMR does not seek an increase or expansion of the WIPP disposal capacity. Applicants Exhibit 1 at Page 3.

81. The PMR includes the LWA limit reference within the new definition in Part 1, an explanation in the footnote of Table 4.1.1., and a link to the WIPP webpage that will update
this new LWA TRU waste volume at least monthly. Bureau Exhibit 2 at Page 6; AR No. 180121.

82. The PMR states that "[t]he reporting of disposed waste volumes is required by several regulatory drivers, such as RCRA, the LWA, 40 CFR 194, and DOE Orders. Each of these requires volume reporting for different purposes.... The information required to track these volumes is contained in a single database, [the Waste Data System ("WDS")], maintained by the DOE." Applicants Exhibit 1 at Pages 3, 14; AR No. 180121 at Page 2; AR No. 180121.

83. For the purpose of tracking TRU mixed waste volume relative to the authorized RCRA disposal volumes in Permit Part 4, Table 4.1.1, the Permittees record the volume of the outermost disposal container, with the exception of shielded containers, in the WIPP Waste Information System ("WWIS"), a subsystem of the WIPP Waste Data System ("WDS"). Bureau Exhibit 2 at 7; Applicants Exhibit 1 at Page 4; Applicants Exhibit 2; AR No. 180121 at Page 2; AR No. 18021.

84. The WDS is a web-based software system used by the Permittees to gather, store, and process information pertaining to contact-handled ("CH") and remote-handled ("RH") TRU waste. Applicants Exhibit 2 at 2.

85. The WDS currently is used to track and report the Final TRU Mixed Waste Volume pursuant to the draft Permit Part 6, Section 6.10.1. Applicants Exhibit 2 at 4.

86. The proposed changes in the draft Permit do not alter the ability of the WDS and its subsystem, the WWIS, to continue to comply with the Permit’s requirements to track TRU mixed waste volume. Applicant's Exhibit 2 at 4.
87. The WDS incorporates data entry, data administration, and reporting functionality for waste shipments between the DOE generator sites and the DOE sites where waste processing and repackaging are performed. Applicants Exhibit 2 at 2.

88. The WDS is used to store TRU waste information regarding waste containers, shipments, and emplacement at the WIPP facility. Applicants Exhibit 2 at 2.

89. The WDS is used to create associated documentation and reports. Applicants Exhibit 2 at 2.

90. The WDS allows users to upload container data and includes the elements of the WIPP Waste Information System (WWIS) specified in Permit Part 2, Section 2.3.1.7 and described in Permit Attachment C, Section C-5a(1). Applicants Exhibit 2 at 2.

91. The WDS is compliant with and implements the data requirements summarized in DOE/WIPP-02-3122, Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (“WAC”). Applicants Exhibit 2 at 2; AR No. 180706.09.

92. The WAC is a compilation of requirements derived from WIPP Project authorization basis documents and is applicable to transportation, storage, and disposal of CH and RH TRU waste at the WIPP facility. Applicants Exhibit 2 at 2.

93. The DOE authorization basis for disposal of CH and RH TRU waste includes the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980, the WIPP Land Withdrawal Act, and the Permit. Applicants Exhibit 2 at 2; AR No. 180121.09; AR No. 180706.03; AR No. 180706.04.

94. Department of Energy TRU waste generator/storage sites must certify that CH and RH TRU waste payload containers are compliant with the WAC. Applicants Exhibit 2 at 2.
95. The WAC requires the DOE sites to electronically transmit characterization, certification, and shipping data to the WWIS using the WDS. Applicants Exhibit 2 at 2.

96. The Permit-required WWIS is an electronic database and is a subset of the WDS. Applicants Exhibit 2 at 2.

97. The WDS is equipped with software module that implements edit/limit checks to ensure data representing waste payload containers are in compliance with the WAC. Applicants Exhibit 2 at 2.

98. These checks ensure that the container data submitted to the WDS by generator/storage sites are complete, accurate, and usable for tracking and reporting. Applicants Exhibit 2 at 2.

99. The WAC requires sites to transmit required waste characterization, certification, and shipping data via the database before shipping TRU waste payload containers from a Permittee-accepted waste stream to the WIPP facility. Applicants Exhibit 2 at 2.

100. The WDS has the capability to track and report the Final TRU Mixed Waste Volume pursuant to the draft Permit Part 6, Section 6.10.1. (AR180804), in accordance with the reporting requirements in Permit Part C, Section C-5a(1), bullet entitled Waste Emplacement Report. Applicants Exhibit 2 at 2.

101. In order to track individual container volumes, the WDS correlates the specific container with its container type. Applicants Exhibit 2 at 2.

102. When summing waste volumes for any reason, the system applies a volume based on the container type to each container and then adds those values. Applicants Exhibit 2 at 2.

103. When containers are overpacked, the individual overpacked container volumes are not added to the total, but instead the gross internal volume of the overpacking container is
recorded as TRU mixed waste volume reported pursuant to the Permit. Applicants Exhibit 2 at 2.

104. An additional option will be created, apart from the Permit, to obtain container volume totals based on a separate set of values related to the volume of the innermost containers. This process adds another reference volume for each container type and uses the additional value to determine volume totals. Applicants Exhibit 2 at 3.

105. Each container that is not an overpacking container is included in the volume total. Applicants Exhibit 2 at 3.

106. Two possible values for each container type are created by the above process: the Permit TRU mixed waste volume that is currently in the container reference table programmed into the WDS, and an additional LWA TRU waste container volume that is to be added to the WDS during implementation of the draft Permit, if approved. Applicants Exhibit 2 at 3.

107. The values proposed for use as LWA volumes are listed in Table WALE-1 of Applicant Exhibit 2 at page 3. Applicants Exhibit 2 at 3.

108. The LWA volumes are based on multiples of standard drum sizes for overpacks, and volumes determined from the design drawings for the Pipe Overpack Container and Criticality Control Overpack. Applicants Exhibit 2 at 3.

109. Any changes made to the WDS will be performed in accordance with the DOE Quality Assurance Program Document (AR180706.10)2, which incorporates the American Society of Mechanical Engineers Nuclear Quality Assurance NQA-1. Applicants Exhibit 2 at 4.

110. The PMR states that the outermost disposal container volume is the volume that the container occupies within the HWUD and, therefore, is directly related to meeting the disposal unit capacity limits. The PMR also states that there are no changes to the permitted
capacities of the HWDUs needed to implement the proposed Permit modification. Bureau Exhibit 2 at Page 7; Applicants Exhibit 1 at Page 4; AR No. 18021 at Page 2.

111. The PMR states that the LWA TRU waste volume of record will be tracked and reported by DOE relative to the WIPP LWA TRU waste total capacity limit and separate from the RCRA disposal volume tracking. Bureau Exhibit 2 at Page 7; Applicants Exhibit 1 at Page 4; AR No. 18021 at Page 3.

112. The PMR states that the DOE will establish and implement a written policy to formalize the tracking and reporting of the TRU waste volume of record. Bureau Exhibit 2 at Page 7; Applicants Exhibit 1 at Page 4; Applicants Exhibit A; AR No. 18021 at Page 3.

113. The PMR states that the DOE intends to make the status of the WIPP LWA TRU waste volume tracking results publicly available. Bureau Exhibit 2 at Page 7; AR No. 18021 at Page 3.

114. The WIPP LWA TRU waste volume is related to the quantity of waste that resides at the generator/storage sites prior to overpacking and is directly related to the total capacity limit specified in the WIPP LWA. Generator/storage sites overpack TRU mixed waste containers for a number of reasons that are related to protecting the public, workers, and the environment. Overpacking serves as a method of shipment payload management in order to meet transportation and radiological limits. The resulting container volume after overpacking is usually much larger than the WIPP LWA TRU waste volume. The use of overpacks is recorded by the generator/storage sites in the WWIS. The WWIS is the Permittees' database in which generator/storage sites record the necessary information for reporting both the TRU mixed waste volume and the WIPP LWA TRU waste volume. Applicants Exhibit 1 at Page 5.

G. THE PROCEDURAL HISTORY OF THE PMR
115. The Permittees submitted a Class 2 PMR titled “Clarification of TRU Mixed Waste Disposal Volume Reporting,” on January 31, 2018 in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.42(b)). Bureau Exhibit 2 at Page 5; Applicants Exhibit 1 at 21; AR No. 180121.


117. The public notice commenced a 60-day public comment period, which ended on April 3, 2018. Bureau Exhibit 2 at Page 5; Applicants Exhibit 1 at Page 21.

118. The public notice was published in the Carlsbad Current-Argus, the Albuquerque Journal, and the Santa Fe New Mexican, and was also mailed to the WIPP facility mailing list. Applicants Exhibit 1 at Page 22.

119. The public notice included the announcement of the date, time, and place for the public meetings on the modification request, in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.42(c)(4)); the name and telephone number of the Permittees’ contact person; and the name and telephone number of an NMED contact person. Applicants Exhibit 1 at 22.

120. The PMR and any supporting documentation were made available to the public on the DOE WIPP Project Website at http://www/wipp.energy.gov and at the WIPP Information Center at the Skeen-Whitlock Building in Carlsbad, New Mexico. The notice also informed the public that copies of the PMR were available at NMED Hazardous Waste Bureau with their address provided. Applicants Exhibit 1 at 22.

121. The notice contained the statement: “The Permittees’ compliance history during the life of the permit being modified is available from the NMED.” Applicants Exhibit 1 at 22.
122. Pursuant to 40 C.F.R. § 270.42(b)(4), the Permittees held public meetings on March 6th and 8th, 2018, in Carlsbad and Santa Fe, New Mexico, respectively, to discuss the PMR. Bureau Exhibit 2 at Page 5; Applicants Exhibit 1 at Page 22.

123. Between February 6, 2018 and April 3, 2018, 78 public comments were received, including 20 duplicated environmental groups letters and an additional 29 public comment cards/letters from various citizens that were received after the deadline. AR No. 180402.01 to 180402.59; AR No. 180404.1.

124. On June 1, 2018, pursuant to 40 C.F.R. § 270.42(b)(6)(i)(C), the Secretary of Environment elevated the Class 2 PMR to a Class 3 PMR based on significant public concern and the complex nature of the proposed changes. Bureau Exhibit 2 at Page 5; Applicants Exhibit 1 at Page 22; AR No. 180602.

125. The Bureau continued to review the modification under the Class 3 procedures found in 40 C.F.R. § 270.42(c). Bureau Exhibit 2 at Page 5.

126. On June 22, 2018, pursuant to 20.4.1.900 NMAC (incorporating 40 C.F.R. § 270.42(c)), the Bureau issued an Administrative Completeness Determination, after determining the application to be administratively complete and timely. Bureau Exhibit 2 at Page 5; Applicants Exhibit 1 at Page 22; AR No. 180617.

127. On June 27, 2018, the Bureau issued a Technical Incompleteness Determination ("TID"), pursuant to 20.4.1.900 NMAC (incorporating 40 C.F.R. § 270.42(c)), requesting clarification and additional information on the PMR. Bureau Exhibit 2 at Page 5; Applicants Exhibit 1 at 22; AR No. 180622.

128. On July 12, 2018, the Permittees responded to the TID and provided the information requested. Bureau Exhibit 2 at Page 5; Applicants Exhibit 1 at 22; AR No. 180706.
129. The Bureau reviewed the response and determined no additional information was required. Bureau Exhibit 2 at Page 5.

130. On August 6, 2018, the Bureau issued a draft Permit for public comment. Bureau Exhibit 2 at Page 5; AR 180804.

II. THE BUREAU’S RECOMMENDATION AND DRAFT PERMIT

131. The Bureau, on behalf of the Resource Protection Division, recommends approval of the Draft Permit issued for public comment on August 6, 2018, along with two subsequent modifications that were the result of the September 24-25, 2018 discussions. Hazardous Waste Bureau’s Statement of Intent to Present Technical Testimony at 1; Bureau Exhibit 2 at Pages 7, 10-11; AR No. 180809; Hrg. Trans. 73; 14-16, Oct. 24, 2018.

132. The Bureau supports the Permittees’ premise in the PMR that Congress intended DOE to have the responsibility to define the method used for calculating the LWA capacity limit. However, NMED does not concur that DOE has the sole authority to track and report against this volume capacity for the WIPP facility. Bureau Exhibit 2 at Page 7; Hrg. Trans. 122; 22 to 123; 2, Oct. 24, 2018.

133. The Bureau supports the creation of two new distinct volume calculations in Part 1 of the draft Permit. The first type of calculation is based on the outermost disposal container and directly pertains to RCRA requirements. The second type of calculation is based on the waste inside the disposal containers and pertains to the LWA capacity limit. Bureau Exhibit 2 at Pages 7-8; AR No. 180804.

134. The Bureau has found no evidence that the LWA volume limit must be tied to the dimensions of the outer disposal container. Therefore, NMED has added definitions of “RCRA TRU Mixed Waste Volume” and “LWA TRU Waste Volume” to clearly distinguish between the
two calculations and to avoid the appearance of unequal weight that the term “Volume of Record” gives to the latter definition. Draft Permit Part 1, Sections 1.5.21 and 1.5.22. Bureau Exhibit 2 at Page 8; AR No. 180804; Hrg. Trans. 71;23-25 to 72;1-4, 88;10-16, Oct. 24, 2018.

135. The Permit is concerned with volume to the extent that the HWDUs have established maximum volume capacities that are necessarily based on the footprint of the HWDU and, therefore, the outermost disposal container. Bureau Exhibit 2 at Page 8.

136. The outer containers surrounding waste emplaced at WIPP account for a large portion of the volume currently counted in the Permit against the LWA limit. Bureau Exhibit 2 at Page 8.

137. The outermost disposal containers equate to 30% more volume based on packaging alone. Bureau Exhibit 2 at Page 8.

138. The outer waste containers are used to meet shipping standards of the U.S. Department of Transportation (“DOT”), and the U.S. Nuclear Regulatory Commission (“NRC”), and are standardized for shipping, integrity, and payload management purposes but do not represent the actual volume of TRU waste emplaced. Bureau Exhibit 2 at Page 8.

139. Payload management is used by DOE to assure TRU alpha activity concentrations for a given shipment meet the WIPP Waste Acceptance Criteria (“WAC”). Bureau Exhibit 2 at Page 8.

140. The Permittees stated in their TID Response dated July 12, 2018 that “[p]ayload management does not increase the total TRU alpha activity concentration for the waste stream and therefore does not change the VOR [LWA TRU Waste Volume counted against the LWA capacity limit]. This is because the calculation for TRU alpha activity is unrelated to the waste
volume (i.e., it is based on the weight of the waste and the TRU alpha activity)....” Bureau Exhibit 2 at Page 8; AR No. 180706.

141. Outer packaging is also necessary for drums with integrity issues. If drums with integrity issues are overpacked, the outermost containers represent both the RCRA TRU mixed waste and the LWA TRU waste volume (because the overpacked container has potential contamination and the inner containers have become waste). Bureau Exhibit 2 at Page 8; Hrg. Trans. 165:4-10, Oct. 24, 2018.

142. In approving a RCRA Treatment, Storage, and Disposal ("TSD") Permit, regulators must determine the authorized maximum capacities of individual HWDUs. This is accomplished by calculating the volume based on the outermost disposal containers that would be emplaced in the HWDUs. Bureau Exhibit 2 at Page 9; Hrg. Trans. 96:11-22, 167:16-18, Oct. 24, 2018.

143. The total volumetric waste capacity of a facility is not necessarily based on the outer disposal containers. There is no federal regulation in RCRA stating that the outer container must be the volume used for emplacement volume calculations. Bureau Exhibit 2 at Page 9.

144. The outer container volume is only significant for the emplacement footprint of waste in a disposal cell at the facility. Bureau Exhibit 2 at Page 9.

145. Similarly, the RCRA definition of an empty container is defined by volume inside the container. 40 C.F.R. §261.7(b)(1)(iii) defines a container as empty if "no more than 3 percent by weight of the container remains for containers with a capacity of 119 gallons or less, and no more than 0.3 percent by weight remains for containers with a capacity greater than 119 gallons...". Bureau Exhibit 2 at Page 9.
146. It is understood that internal DOE management practices for TRU mixed waste have historically made a distinction between container volume and actual volume. Guidance in DOE's Implementation Guide for use with DOE Order 435.1, Chapter III Transuranic Waste Requirements, p. III-66 states, "...[v]olume and weight information is necessary for proper control of storage and disposal facility capacities as well as proper payload control for transportation and handling systems. Typical parameters include: Container volume, measured as the external volume of the waste container which represents the volume that will be occupied in a storage or disposal facility (e.g., 55 gallon drum or 120 cu ft (for a 4 x 5 x 6 box)); Actual waste volume, including stabilization media..." This language clarifies that the container volume is measured to represent the physical space taken up by the waste in a disposal facility while the total volumetric capacity of a facility is based on the actual waste volume. Bureau Exhibit 2 at Page 9.

147. The Bureau supports the new definition for the LWA TRU waste volume in part due to the Permittees' commitment to calculate this volume based on inner containers with a known geometry. Bureau Exhibit 2 at Page 9.

148. The Permittees stated in the July 12, 2018 TID Response that "[t]he Policy will not instruct the use of "fill factors" in performing the data collection." Bureau Exhibit 2 at Page 9; AR No. 180706; Hrg. Trans. 104;6-16, 129;5-19, Oct. 24, 2018.

149. The methodology is already in place to calculate these volumes based on inner containers since these inner containers have a known geometry. Bureau Exhibit 2 at Page 9.

150. The WDS database, used by the Permittees to track shipments emplaced at WIPP, already contains complete information on the types of outer and inner containers being shipped to WIPP. Bureau Exhibit 2 at Page 9.
151. The Permittees stated in their July 12, 2018 TID Response that “[t]here are no conversion factors involved. The internal container volume of approved containers in the Permit Part 3, Section 3.3.1., will be used. These container volumes already reside in the Waste Data System (WDS). For containers that do not contain sufficient detail in the Permit (e.g., pipe-overpack containers), their internal container volumes will be programmed into the WDS. The volumes to be used for authorized containers are listed in Table 1 [included in TID Response]. The list of authorized containers in Table 1 is taken from the TRU Waste Acceptance Criteria (WAC) for the Waste Isolation Pilot Plan, Revision 8. The container volumes not listed in the WIPP Permit are based on the physical dimensions of the container. The list of overpack container configurations in Table 1 is not exhaustive. Configurations that use dunnage (empty) containers will not include the dunnage container volumes in the VOR volume determination.” Bureau Exhibit 2 at Pages 9-10; AR No. 180706; Hrg. Trans. 104;6-16, Oct. 24, 2018.

152. The Bureau approves calculating the LWA volume change retroactively as noted in the TID Response. “The policy will be implemented retroactively in order to apply this process to previously emplaced waste (waste emplaced since 1999).” Bureau Exhibit 2 at Pages 9-10; AR No. 180706.

153. When tracking the LWA volume separately from the RCRA disposal volume, it could be possible for the emplacement footprint using outermost container to increase by approximately 30%. Bureau Exhibit 2 at Page 10; Hrg. Trans. 90;3-13, Oct. 24, 2018.

154. The correlation between the volumes being reported against the LWA by DOE internally and the RCRA volumes based on the outermost disposal containers must be clearly identified in the Permit for the Bureau to be able to accurately review the facility’s volumetric capacity. Bureau Exhibit 2 at Page 10.
155. The Permittees would have to submit a PMR for the construction and use of any additional HWMUs to accommodate any increase in emplacement footprint. Bureau Exhibit 2 at Page 10.

156. The transparency in the correlation between the volumes being reported will enable the Bureau to accurately review future requests for new HWDUs and to correctly permit their maximum capacities. Bureau Exhibit 2 at Page 10.

157. Table 4.1.1 represents the Bureaus’ oversight of the RCRA volume maximum capacities of the HWDUs and, therefore, also the correlated LWA limit. Bureau Exhibit 2 at Page 10; Hrg. Trans. 126;2-16, Oct. 24, 2018.

158. The Bureau does not concur with the Permittees’ conclusion that the new LWA TRU waste volume should wholly be tracked and reported separately from the Permit. Bureau Exhibit 2 at Page 10.

159. NMED, as the issuing agency of the WIPP RCRA Permit, is concerned with permitting the proper volumetric capacity for the WIPP facility. It is expected that all Permittees comply with all other applicable state and federal regulations, including the LWA. 20.4.1.901.A(11) NMAC. Therefore, the Bureau supports retaining original Permit language that includes references to the LWA capacity limit. Bureau Exhibit 2 at Page 10.

160. The Bureau has made changes to Part 4, Table 4.1.1 to include a column to track this new LWA TRU waste volume side-by-side with the RCRA TRU mixed waste volume. Bureau Exhibit 2 at Page 10; Hrg. Trans. 72;5-12, Oct. 24, 2018.

161. The column in Table 4.1.1, along with the link to the WIPP webpage in which the LWA volume will be reported at least monthly, will provide necessary information for the Bureau and the public as to how much LWA TRU waste volume has been used in relation to
both the LWA capacity limit and the RCRA mixed waste limit associated with the HWMUs.


162. The capacity of the HWDUs correlates to the overall LWA limit. NMED must ensure that when it approves disposal units in the future that those volumes associated with those new panels do not exceed the federal law of the Land Withdrawal Act capacity limits, and it must ensure that the permits it issues comply with all federal laws and regulations in addition to the state RCRA permit. Bureau Exhibit 2 at Page 10; Hrg. Trans. 110;19-25, 122;4-12, 123;8-15, Oct. 24, 2018.

163. References to the LWA capacity limit in the Permit have been retained in Part 4, and in Attachments B, G, H1, and J. Bureau Exhibit 2 at Page 10.

164. The draft Permit increases the total disposed RH TRU waste volume in Panel 6 to be consistent with the new DOE policy to report the gross volume of the outermost disposal container. Currently, the shielded container uses an internal container volume for reporting which results in an increase of 100 cubic feet to the total volume reported. Applicants Exhibit 1 at Page 17.

165. The draft Permit clarifies the footnotes on Permit Part 4, Table 4.1.1 and commits to put the WIPP LWA TRU waste information on the DOE WIPP Project Website. This change is needed to provide transparency with regard to achieving the WIPP LWA total capacity limit. The Permittees' comment revises footnote 3 to include reference to the WIPP home page as a source of information regarding the WIPP LWA TRU waste volume. The comment also deletes footnote 4 which is related to the deleted column in Table 4.1.1. Applicants Exhibit 1 at 18.

166. The August 6, 2018 draft Permit meets the regulatory requirements of the HWA and the HWMR. Bureau Exhibit 2 at Page 11; AR No. 180804.
I. PUBLIC NOTICE & PUBLIC COMMENTS RECEIVED

167. Pursuant to 20.4.1.901.A(3) NMAC, the issuance of the draft Permit initiated a 45-day comment period and the Bureau issued a Notice of Public Comment Period and Opportunity to Request A Public Hearing, in both English and Spanish, in the Albuquerque Journal and on the NMED website. The Public Comment Period began on Monday, August 6, 2018 and concluded on Thursday, September 20, 2018. Bureau Exhibit 2 at Page 5; AR No. 180805.

168. Along with the Public Notice on August 6, 2018, the Bureau issued the Fact Sheet and an Index to the Administrative Record, pursuant to 20.4.1.901 NMAC. Bureau Exhibit 2 at Page 5; Applicants Exhibit 1 at Page 22; AR No. 180805; AR No. 180806; AR No. 180809.

169. The draft Permit was made available at the offices of the Hazardous Waste Bureau, 2905 Rodeo Park drive East, Bldg. 1, Santa Fe, NM 87505, and the NMED DOE Oversight Bureau, 406 N. Guadalupe, Suite C, Carlsbad, NM 88220, coinciding with the issuance of the August 6, 2018 Public Notice that began the public comment period through the conclusion of the public hearing process. Bureau Exhibit 2 at Page 4; AR No. 180804; AR No. 180805.

170. The draft Permit, Public Notice, Fact Sheet, Administrative Record Index, and Hearing Notice are available on the NMED website. Bureau Exhibit 2 at Page 4.

171. Between August 8, 2018 and September 20, 2018, thirty-seven public comments were received, twenty-four in opposition and twelve in support for the approval of the PMR. Six comments requested a public hearing. Eight comments specifically requested that there not be a hearing and of those, and four requested that if there is a hearing that it be in Carlsbad. AR No. 180914.01 to 180914.37.
172. The Bureau reviewed and analyzed the comments and requests for a public hearing as they were submitted during the 45-day comment period. Bureau Exhibit 2 at 5.

173. No ruling shall be made on permit issuance or denial without an opportunity for a public hearing, at which all interested persons shall be given a reasonable chance to submit significant data, views or arguments orally or in writing and to examine witnesses testifying at the public hearing. Bureau Exhibit 2 at Page 4.

174. A public hearing shall be scheduled if the Secretary issues a draft permit, a timely request for public hearing is received from any person opposed to the granting of a permit, and such person does not subsequently withdraw the request. 20.4.1.901.A(5)(b) NMAC. Bureau Exhibit 2 at Page 4.

175. On September 21, 2018, the Bureau sent a memo to the Secretary of Environment recommending that a public hearing be held on the draft Permit, pursuant to 20.4.1.901.A(5)(b) NMAC. Bureau Exhibit 2 at Page 5; AR No. 180919.

176. On September 22, 2018, in accordance with 20.4.1.901.A(5) NMAC, a Notice of Public Hearing and Opportunity for Public Comment on Draft Hazardous Waste Facility Permit was issued by NMED, in both English and Spanish, for a public hearing to begin on October 23, 2018. The Notice was published in the Carlsbad Current-Argus and the Albuquerque Journal. Announcements were sent to various radio stations and also made available at the NMED offices in Santa Fe and in Carlsbad, as well as on the NMED website. Bureau Exhibit 2 at Page 5; AR No. 180928; Hrg. Trans. 70;16-25, Oct. 24, 2018.

177. The Notice of Hearing contained the following information: The date, time, and location of the hearing; a brief description of the nature and location of the action to be considered in the draft Permit, including the name and address of the Applicant; the name,
addresses, and contact information of a person from whom further information, including a copy of the draft Permit, may be obtained; a description of the hearing procedures pursuant to 20.1.4 NMAC, including requirements for filing an entry of Appearance, a Statement of Intent to Present Technical Testimony, and a general written or oral statement; contact information to obtain copies of applicable rules or additional information; and locations for public review of the draft Permit. Bureau Exhibit 2 at Page 4; AR No. 180928.

J. NEGOTIATIONS

178. The HWMR stipulates that “[i]f the Secretary issues a draft permit, and a timely written notice of opposition to the draft permit and a request for a public hearing is received, the department, acting in conjunction with the applicant, will respond to the request in an attempt to resolve the issues giving rise to the opposition. If such issues are resolved to the satisfaction of the opponent, the opponent may withdraw the request for a public hearing.” 20.4.1.901.A(4) NMAC. Bureau Exhibit 2 at Pages 10-11.

179. The Bureau, in conjunction with the Permittees, moderated negotiations on September 24 and September 25, 2018, in an attempt to resolve some or all of the issues raised in the comments received by commenters who requested a public hearing. Bureau Exhibit 2 at Page 11.

180. The negotiations included representatives from NMED, the Permittees, three non-governmental organizations (Southwest Research and Information Center (“SRIC”), Concerned Citizens for Nuclear Safety (“CCNS”), and Nuclear Watch New Mexico), and a private citizen (Mr. Steve Zappe). Bureau Exhibit 2 at Page 11.

181. SRIC was previously delegated settlement authority by the Environmental Law Center and the Albuquerque Center for Peace & Justice. Bureau Exhibit 2 at Page 11.
182. As a result of the negotiations, all parties agreed to the revised language for the definition of “Shielded Container” in Permit Part 3, Section 3.3.1.8, and Permit Attachment A1, Section A1-1b(2). Bureau Exhibit 2 at Page 11; Bureau Exhibit 3; Hrg. Trans. 72:20-24, Oct. 24, 2018.

183. At the conclusion of the negotiations, the requests for public hearing were not withdrawn. Bureau Exhibit 1 at Pages 10-11.

**K PUBLIC HEARING**

184. On October 9, 2018, the Bureau, the Applicants, Southwest Research and Information Center (“SRIC”), and Steve Zappe each submitted Statements of Intent to Present Technical Testimony (“SOI”).

185. Concerned Citizens for Nuclear Safety (“CCNS”) and Nuclear Watch New Mexico (“Nuke Watch”) filed Entries of Appearance in this matter, but did not submit SOIs. Both CCNS and Nuke Watch provided public statements and participated in cross examination at the public hearing, with CCNS stating that it was also speaking on behalf of Ms. Deborah Reade. Hrg trans 22:11-16 Oct. 25, 2018.

186. The Bureau’s NOI included the Written Technical Testimony of Ricardo Maestas, the resume of Ricardo Maestas, the Language Amendments for 20.4.901.A(4) NMAC, and the Administrative Record Index. Bureau Exhibits 1-4.

187. The Applicants’ NOI included the Written Testimony of Robert F. Kehrman with attachments, and the Written Testimony of Michael R. Walentine. Applicants Exhibits 1, 1A-1F, 2.

188. SRIC’s NOI included the Written Testimony of George Anastas including 11 attached references, the Curriculum Vitae of George Anastas, and the Radioassay Data for
LANL Drum 68660.6.6.14; and the Written Testimony of Don Hancock including 10 attached references, the resume of Don Hancock, and a summary of technical materials and references. SRIC’s Statement of Intent to Present Technical Testimony on Behalf of Southwest Research and Information Center, Statement of Don Hancock, Hancock Appendix A, Statement by George Anastas on Behalf of Southwest Research and Information Center, Anastas Appendix A, Anastas Appendix B.


190. The hearing was held at New Mexico State University-Carlsbad, and began at approximately 9:00 AM on October 23, 2018. Hrg. Trans. 1; 18, Oct. 23, 2018.

191. On October 23, 2018, oral direct testimony was provided by Robert F. Kehrman, after which cross examination of the witness was allowed. Hrg. Trans. 38; 1 to 220; 10, Oct. 23, 2018.


193. Seventeen individuals provided public comment on October 23, 2018, including Dale Janway, Mayor of Carlsbad, NM; Edward T. Rodriguez, City Counselor for Ward One in Carlsbad; Jason Shirley, City Counselor for Ward Three in Carlsbad; Richard Lopez, Fire Chief for Carlsbad Fire Department; John Heaton, Chairman of the Carlsbad Mayor’s Nuclear Task Force; Russell Hardy, Carlsbad citizen; Robert Defer, CEO of the Carlsbad Chamber of Commerce; Janet Greenwald, coordinator of Citizens for Alternatives to Radioactive Dumping (“CARD”); Noel Marquez, Artist from Artesia, NM; John Waters, Executive Director of the
Carlsbad Department of Development; Alfredo Dominguez; Norbert Rempe, Citizen of Carlsbad and Retired WIPP employee; Jody Knox, Nursing Home Administrator; Wanda Durham, Carlsbad resident and business owner; Cathrynn Novich Brown, State Representative for District 55 in New Mexico; Roxanne Lara, Carlsbad resident, business owner and former County Commissioner; and Anthony Alanzo, WIPP employee. Hrg. Trans. 5;13 to 6;22, 223;5 to 268;4, Oct. 23, 2018.

194. Of the seventeen people who provided comments on October 23, 2018, thirteen were in support of the permit modification. Three opposed the permit modification, and one commenter remained "agnostic." Hrg. Trans. 223;5 to 268;4, Oct. 23, 2018. The public hearing continued on October 24, 2018, beginning at approximately 9:00 AM. Hrg. Trans. 1, Oct. 24, 2018.


196. After Mr. Kehran’s cross examination, oral direct testimony was provided by Michael Walentine, after which cross examination of the witness was allowed. Hrg. Trans. 16;16 to 64;5, Oct. 24, 2018.

197. After Mr. Walentine’s cross examination, oral direct testimony was provided by Ricardo Maestas, after which cross examination of the witness was allowed. Hrg. Trans. 68;8 to 179;2, Oct. 24, 2018.


199. Four individuals provided public comment on October 24, 2018, including Susan Crockett, County Commissioner for Eddy County; Jay Jenkins, Carlsbad businessman; John
Gratton, President of NMSU-Carlsbad; and Jason Chavez, Carlsbad City Counselor. Hrg. Trans. 5; 12-19, 180;20 to 190;11, Oct. 24, 2018.

200. Of the four individuals who provided public comment on October 24, 2018, all supported the permit modification. A letter of support from the entire Board of Eddy County Commissioners was also entered into the record. Hrg. Trans. 180;20 to 190;11, Oct. 24, 2018.


203. After Mr. Maestas’ cross-examination, oral direct testimony was provided by Steve Zappe, after which cross examination was allowed. Hrg. Trans. 54;2 to 125;25, Oct. 25, 2018.

204. After Mr. Zappe’s cross examination, oral direct testimony was provided by George Anastas, after which cross examination was allowed. Hrg. Trans. 127;1 to 175;3, Oct. 25, 2018.

205. After Mr. Anastas’ cross examination, oral direct testimony was provided by Don Hancock, after which cross examination was allowed. Hrg. Trans. 176;1 to 239;25, Oct. 25, 2018.

206. A moment of silence was observed in honor of Kathy Townsend. Hrg. Trans. 19;22 to 20;7, Oct. 25, 2018.


J. ARGUMENT AND EVIDENCE SUBMITTED IN OPPOSITION TO APPROVING THE DRAFT PERMIT.
208. The parties opposing the approval of the Draft Permit have argued that the Draft Permit should not be approved because the quantities of waste that DOE would calculate as "waste emplaced" are not the measurements that Congress intended or authorized when it enacted an absolute limit of 6.2 million ft\(^3\) for transuranic waste disposal at WIPP. But those parties have not presented any direct evidence of Congress' intent on this issue and in fact the record is clear that Congress did not express any intent as to how the volume of waste was to be measured when it enacted LWA. Significantly, language pointed to in the legislative history did not go towards what was ultimately included in the final bill that became law. In fact, the language allegedly supportive of the parties' position was specifically deleted from the final bill. Compare SRIC Exhibits 8–9C with AR 180706.03 and AR 180706.04. Lacking any direct evidence of Congress' intent of how waste was to be measured, the parties opposing approval of the Draft Permit have cited a pattern of practice to support an argument that Congress "understood" that the internal dimension of the outer container was the standard by which waste was to be measured. And the evidence cited by these parties does indeed establish that the internal dimension of the outer container has been the method historically used to measure the volume of waste emplaced in WIPP.

209. However, again as the DOE and the Bureau have argued and the record establishes, the LWA is silent as to how the waste is to be measured. Congress was certainly capable of including language in the LWA that would have specified how the waste was to be measured but it did not. See, *Meghrig v. KFC*, 516 U.S. 479, 4985 (1996). What is clear is that Congress authorizes and designed WIPP to accommodate 6.2 Million ft\(^3\) of TRU waste when it enacted the WIPP Land Withdrawal Act. The LWA clearly states:

**CAPACITY OF WIPP.—** The total capacity of WIPP by volume is 6.2 million cubic feet of transuranic waste. AR 180706.03, § 7(a)(3).
210. This figure was confirmed in 1987 in the Second Modification of the Consultation and Cooperation Agreement that incorporated the volume limitation of 6.2 million ft$^3$ of TRU waste into that agreement. AR 180706.02, p. 56 of PDF (August 4, 1987).

211. The parties opposing approval of the Draft Permit are obviously confusing engineering design considerations with Congressional intent. The mission of WIPP is to isolate and dispose of a defined quantity of TRU waste, i.e., 6.2 million ft$^3$ of DOE’s inventory of defense Transuranic (“TRU”) waste in a manner that protects public health and the environment. AR 180121 at Page 9.

212. The TRU Waste destined for WIPP had to be put in some type of container before it could be transported and stored. In this case the initial decision was apparently made that the containers to be used would be 55-gallons drums that were assumed to be full of waste. The number of drums of waste and their size are thus only incidental to achieving the Congressional intent of designing a facility within which 6.2 million ft$^3$ of TRU waste could be stored, i.e., the facility had to be designed to accommodate a certain number of drums. There is nothing in the record and no reason to assume that if Congress had proceeded on the assumption that each 55-gallon drum of waste would have only been only half full when shipped that Congress would not have authorized the excavated size of WIPP to have been larger than it currently is to accommodate the space necessary to store the 6.2 million ft$^3$ of TRU waste. Congress’ intent was to dispose of a defined volume of TRU waste not to dispose of a fixed number of containers.

213. It also is not logical to assume that when Congress determined that it would take 850,000 55-gallon drums to hold the 6.2 million ft$^3$ of TRU waste and when Congress subsequently discovered after 850,000 drums of waste had been emplaced, that for reasons that were not initially anticipated many of those drums were not fully packed and therefore not all of
the 6.2 million ft$^3$ of waste had been disposed of, that Congress would have intended that the number of drums emplaced and not the actual volume of waste disposed of was to be the critical measurement of completing the mission of WIPP. The historical record thus is not a basis upon which the Draft Permit should not be approved.

214. The parties also argue that DOE has no independent authority under the LWA to interpret the volume limitation in LWA § 7(a)(3), which states: “The total capacity of WIPP by volume is 6.2 million cubic feet of transuranic waste.” (AR 180121, PMR at 9-10). That argument might have some merit if the total capacity limit of WIPP as authorized by the LWA were ambiguous, but clearly it is not. The U.S. Supreme Court has held that if the statutory language is unambiguous, and in absence of a clearly expressed legislative intent to the contrary, language must ordinarily be regarded as conclusive. U.S. v. Turkette, 452 U.S. 576, 580 (1981). Here the language of the LWA is not ambiguous and thus conclusively establishes that the volume limit of WIPP is 6.2 million ft$^3$. DOE is, therefore, not interpreting the volume limitation in LWA but simply relying on what is unambiguously stated. Moreover, The Atomic Energy Act (AEA) and the Department of Energy Organization Act (AR180121.01) grant DOE the responsibility and authority to manage certain radioactive materials including radioactive waste, and while neither Act specifically grant DOE the authority to “to interpret the volume limitation in LWA”, the Acts would appear to grant DOE authority to make decisions related to carrying out its responsibility of disposing of the defense TRU waste.

215. SRIC also argues that the DOE claims that it can apply its own measurement methods to the statutory limit of 6.2 million ft$^3$ and can tell the rest of the world, including NMED and EPA, what waste containers do or do not constitute 6.2 million ft$^3$ of TRU waste. That assertion is refuted by the record. Doe has clearly articulated the method that be will
utilized to determine the volume of waste in containers emplaced in WIPP. See Findings of Facts paragraphs 87-108 and 141-144 above.

216. SRIC argues that if the PMR is approved and DOE starts asserting its "LWA volume of record" calculations for amounts of waste emplaced, there would clearly be a conflict between DOE's waste volume data and the waste volume data compiled by NMED. Mr. Kehrman said that the purpose of the PMR is to "remov[e] the nexus" between the LWA volume and the TRU mixed waste volume" regulated by the Permit. 10/23/18 Tr. 79, ll. 16-18 (Kehrman). However, I find that this "conflict" is one SRIC has created. If the PMR is granted there will simply be two methods of measuring the volume of TRU waste emplaced in WIPP for two different purposes.

217. The parties argue that the how Congress intended to measure the volume of waste to be emplaced in WIPP is to be gleaned from the legislative history of the enactment of LWA. According to applicable federal case law, in order to appropriately apply a legislative intent argument, it must be found that the meaning of the statute is ambiguous. In Navajo Nation v. Dalley, 896 F.3d 1196,1211 (10th Cir. 2018), the court determined that it does not need to consider legislative history when the statutory language is unambiguous. Moreover, the court in U.S. v. Saenz-Gomez, 472 F.3d 791, 794 (10th Cir. 2007) held "when the meaning of the statute is clear, it is both unnecessary and improper to resort to legislative history to divine congressional intent." Further, the U.S. Supreme Court has held that if the statutory language is unambiguous, and in absence of a clearly expressed legislative intent to the contrary, language must ordinarily be regarded as conclusive. U.S. v. Turkette, 452 U.S. 576, 580 (1981). Here, considering the legislative intent of the LWA is inappropriate because there is no ambiguity in
the statute. The LWA unambiguously states that "[t]he total capacity of WIPP by volume is 6.2 million cubic feet of transuranic waste[,]" and transuranic waste is "waste containing more than 100 nanocuries of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years...." SRIC has failed to present any argument based on the statutory language of the LWA that supported their position. The language of the LWA is unambiguous and must be followed as written. Accordingly, consideration of legislative intent is unnecessary and improper.


A ‘settled course of behavior embodies the agency’s informed judgment that, by pursuing that course, it will carry out the policies committed to it by Congress. There is, then, at least a presumption that those policies will be carried out best if the settled rule is adhered to.’” Atchison, T. & S. F. R. Co. v. Wichita Bd. of Trade, 412 U.S. 800, 807-808 (1973). Accordingly, an agency changing its course by rescinding a rule is obligated to supply a reasoned analysis for the change beyond that which may be required when an agency does not act in the first instance.

SRIC then argues that neither DOE nor NMED has offered a reasoned explanation for the change that DOE seeks in the interpretation of the LWA limit and such an unexplained reversal of a longstanding position deserves no support. The record of course clearly refutes this assertion. The DOE has explained in the PMR that the assumptions upon which the original method of measuring waste emplaced in WIPP have with experience proven to be wrong and without the changes embodied in the PMR the DOE will not be able to complete the purpose for which WIPP was authorized by Congress.

219. Support for DOE’s position is to be found in the RCRA, its implementing regulations, the New Mexico Hazardous Waste Act, and its implementing regulations all of
which specifically allow for modifications of hazardous waste permits. *R. Kehrman Testimony*, at p. 12; *R. Maestas Testimony*, at p. 3; *October 25, 2018 Transcript*, at p. 75, ll. 1-3. Hazardous waste facility permits are living documents that can be modified to allow facilities to make technological improvements, respond to changing waste streams, add capacity, and improve waste management practices. *R. Kehrman Testimony*, at p. 12; *October 24, 2018 Transcript*, at p. 145, ll. 12-20; *October 25, 2018 Transcript*, at p. 75, ll. 4-6; p. 59, ll. 2-3. *October 25, 2018 Transcript*, at p. 222, ll. 18-20.

220. I also find that the WIPP safety and maintenance issues raised by Mr. Anastas’s testimony while obviously of critical importance were not developed fully enough in the hearing to be considered in arriving at the recommended disposition of this case.

221. I find any arguments and proposed findings of fact and conclusions of law presented by Mr. Zappe and not addressed above to be non-persuasive.

222. I find any arguments and proposed findings of fact and conclusions of law presented by the Concerned Citizens for Nuclear Safety to be either non-persuasive or irrelevant.

**CONCLUSIONS OF LAW**

1. The Secretary of the New Mexico Environment Department has jurisdiction over the subject matter of the Application and the parties to this proceeding and is authorized by the HWA to issue or issue with conditions a permit based on information submitted in a permit application and relevant information received during a public hearing. NMSA 1978, § 74-4-4.2.

2. The PMR complied with the regulatory requirements of RCRA, the HWA, and the HWMR.
3. The August 6, 2018 draft Permit, including the agreed upon language for the definition of “Shielded container,” meets the regulatory requirements of the Hazardous Waste Act and the Hazardous Waste Management Regulations.

4. The Bureaus amendments to the PMR, as reflected in the draft Permit, are reasonable.

5. Issuance of a permit, as requested in the PMR, and with the Bureaus amendments set forth herein, is in conformance with RCRA, the HWA, and the HWMR.

6. All public notices in this matter were done in conformance with the HWA and the HWMR.

7. Issuance of the Draft Permit will have no adverse impact on human health or the environment as it relates to the WIPP facility operations. 42 U.S.C.A. §6902 (a) (4); NMSA 1978, §74-4-4 A; §74-4-4.2C42

**CONCLUSION**

Based on the information contained in the PMR, the evidence presented at the public hearing, and the applicable law, I recommend that that Secretary approve the August 6, 2018 draft Permit. AR-180804.

December 10, 2018.

*Max Shepherd*

Hearing Officer