

IN THE COURT OF APPEALS
FOR THE STATE OF NEW MEXICO

IN THE MATTER OF REQUEST FOR A CLASS
3 PERMIT MODIFICATION FOR CORRECTIVE
MEASURES FOR THE MIXED WASTE LANDFILL
SANDIA NATIONAL LABORATORIES
BERNALILLO COUNTY, NEW MEXICO,
EPA ID NO. NM5890110518.

COURT OF APPEALS OF NEW MEXICO
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Jim M. Hester

CITIZEN ACTION,

Court of Appeals No. 25,896

Appellant,

vs.

SANDIA CORPORATION, and/or on behalf of SANDIA
NATIONAL LABORATORIES, and the NEW MEXICO
ENVIRONMENT DEPARTMENT,

Appellees.



**ANSWER BRIEF OF
APPELLE NEW MEXICO ENVIRONMENT DEPARTMENT**

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SUMMARY OF PROCEEDINGS

I. NATURE OF THE CASE

This is an appeal of a Final Order of the Secretary of the New Mexico Environment Department ("NMED") approving corrective action for the Sandia National Laboratories' ("SNL") Mixed Waste Landfill ("MWL").

II. COURSE OF PROCEEDINGS

On January 23, 2004, SNL submitted a request to NMED to modify SNL's hazardous waste permit ("Permit") to select a remedy for the MWL. Administrative Record ("AR") 001084. SNL is owned by the United States Department of Energy ("DOE") and co-operated by Sandia Corporation ("Sandia"). AR 001093. SNL proposed a vegetative soil cover as the remedy. *Id.* On January 30, 2004, SNL published notice of its request to modify the Permit, and the setting of a 60 day public comment period and a public meeting. *Id.*

On August 11, 2004, NMED issued a Draft Permit proposing a remedy for the MWL. AR 001089-91. NMED proposed a remedy different from SNL, proposing a vegetative soil cover with a bio-intrusion barrier together with long-term monitoring of ground water, maintenance of the cover, and a contingency plan. *Id.* NMED provided for a 90 day public comment period on the Draft Permit and set a public hearing. AR 001083-87.

On December 2, 3, 8 and 9, 2004, NMED held an evidentiary hearing on the Draft Permit in Albuquerque, New Mexico. *See generally* Transcript of Proceedings ("Tr."). Five parties presented technical evidence: NMED, SNL, Citizen Action, Eric Nuttal, Ph.D., and WERC: A Consortium for Environmental Education and Technology Development ("WERC"). *Id.* SNL supported NMED's Draft Permit. AR 000011. Citizen Action proposed excavation and disposal of the waste. AR 000164. Dr. Nuttal proposed that SNL develop a fate and transport model to

assess the risk of contaminant migration to ground water. AR 000201.¹ WERC's position was "neutral" as to the remedy, but it provided information to the hearing officer based on its analyses and recommended development of a fate and transport model. AR 000207, 000217.

Approximately 30 members of the public provided testimony at the hearing; approximately 15 persons provided written comment; and approximately 350 persons submitted postcards in support of excavation of the MWL. AR 000814, NMED Response to Comments (attached to Notice of Appeal (Aug. 31, 2005)).

After allowing the parties to submit proposed findings of fact and conclusions of law, the Hearing Officer issued a Hearing Officer's Report, Proposed Findings of Fact and Conclusions of Law, and a Proposed Final Order on April 20, 2005. AR 000770-855. After allowing the parties to comment on the Hearing Officer's recommendations, the Secretary of NMED issued a Final Order on May 26, 2005. AR 000901-07. In the Final Order, the Secretary: (1) selected as the remedy for the MWL a vegetative soil cover with a bio-intrusion barrier; (2) ordered SNL to conduct long term monitoring of the vadose zone and ground water; (3) ordered SNL to develop a comprehensive fate and transport model to analyze future movement of contaminants and their potential to migrate down the vadose zone and into ground water; (4) ordered SNL to develop triggers for future action that require additional testing or implementation of an additional or different remedy; (5) ordered NMED and SNL to ensure that documents relating to the MWL are

¹ Citizen Action incorrectly asserts that Dr. Nuttal recommended a vegetative cover with future excavation. Brief-in-Chief, p. 10 (citing Tr. 198). Dr. Nuttal stated instead that WERC had recommended that SNL "consider[]" the "cover with future excavation alternative," Tr. 198-99, an alternative that SNL did evaluate, AR 001187-88.

accessible to the public and that the public has an opportunity to comment on major documents; and (6) ordered SNL to prepare a report every 5 years re-evaluating the feasibility of excavation and the continued effectiveness of the remedy selected. *Id.*

On June 24, 2005, Citizen Action appealed the Secretary's Final Order. On August 31, 2005, Citizen Action appealed NMED's Response to Public Comments from the hearing. On September 2, 2005, the Court consolidated the appeals.

III. SUMMARY OF FACTS RELEVANT TO APPEAL²

A. Statutory and Regulatory Framework

1. RCRA and New Mexico's base authorization

The federal Resource Conservation and Recovery Act ("RCRA") governs the storage, treatment and disposal of hazardous waste. *See* 42 U.S.C. §§ 6901-6992k. The United States Environmental Protection Agency ("EPA") has authority to implement RCRA, and may authorize eligible states to manage the program. 42 U.S.C. §§ 6911, 6926.

The State of New Mexico received authorization from EPA to administer and enforce the State's hazardous waste program on April 16, 1985. AR 001096. New Mexico administers its program pursuant to the New Mexico Hazardous Waste Act ("HWA"), NMSA 1978, §§ 74-4-1

² The factual, technical and regulatory background related to the MWL is complex. The Administrative Record is over 21,000 pages. The Hearing Officer issued a 42 page Hearing Officer's Report and 30 pages of Proposed Findings of Fact and Conclusions of Law. *See* AR 000770-855. NMED, for example, filed over 115 pages of technical testimony from four expert witnesses. *See* Testimony of Carolyn Cooper, AR 001110-31; William McDonald, AR 001136-45; William Moats, AR 001151-1224; and Paige Walton, AR 001236-52.

to -14, and the New Mexico Hazardous Waste Management Regulations, 20.4.1 NMAC (which substantially incorporate by reference the federal RCRA regulations at 40 C.F.R. §§ 260 - 280).

2. Corrective action and state authorization

In 1984, the Hazardous and Solid Waste Amendments (“HSWA”) expanded the authority under RCRA to require “corrective action” to provide for clean up at hazardous waste sites. See 42 U.S.C. § 6924(u) & (v). Corrective action is required “as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit [or “SWMU”] at the facility” 40 C.F.R. § 264.101(a) (incorporated by 20.4.1.500 NMAC). A SWMU is “any discernible unit at which solid waste has been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous wastes.” *Corrective Action for Solid Waste Management (SWMUs) at Hazardous Waste Management Facilities*, 55 Fed. Reg. 30,798, 30,808 (July 27, 1990); AR 001404. A discernible unit includes all of types of units typically used for waste management, including landfills. *Id.*

New Mexico received authorization from EPA to enforce corrective action requirements on January 2, 1996. 60 Fed. Reg. 2,450 (Oct. 17, 1995); see also NMSA 1978, § 74-4-4.2(B) (1992) (providing for corrective action); 20.1.4.500 NMAC (incorporating 40 C.F.R. § 264.101).

3. Mixed waste and state authorization

Until 1986, the regulatory status under RCRA of “mixed waste,” that is a mixture of both hazardous and radioactive waste, was uncertain because RCRA excludes from the definition of “solid waste” “source, special nuclear or byproduct material” as defined by the Atomic Energy Act (“AEA”), and because “hazardous waste” is defined under RCRA as a subset of “solid waste”, AEA radioactive material is exempt from the definition of “hazardous waste” and thus from RCRA. *State Authorization to Regulate the Hazardous Components of Radioactive Mixed*

Wastes Under the Resource Conservation and Recovery Act, 51 Fed. Reg. 24,504 (July 3, 1986) (“1986 Notice”). In 1986, however, EPA clarified that the hazardous component of mixed waste was subject to RCRA regulation and that States with authorized programs must apply to EPA for authorization to regulate the hazardous component of mixed waste. *Id.*; see also *Clarification of Interim Status Qualification Requirements for the Hazardous Components of Radioactive Mixed Waste*, 53 Fed. Reg. 37,045 (Sept. 23, 1988) (“1988 Notice”). New Mexico received authority to manage mixed waste effective July 25, 1990. 55 Fed. Reg. 28,397 (July 11, 1990).

B. Regulatory History of the MWL

In August 1990, SNL submitted a Part A and Part B permit application for the storage of hazardous waste at various units at SNL. AR 001394. A RCRA permit application consists of two parts, Part A and Part B. 40 C.F.R. § 270.1(b). Part A qualifies owners and operators of existing hazardous waste management facilities for “interim status” under RCRA. *Id.*; 42 U.S.C. § 6925(e). Interim status allows owners and operators to be treated as having been issued a permit until EPA or a state makes a final determination on the permit application. 40 C.F.R. § 270.1(b). Part B allows owners and operators to receive a permit for the treatment, storage or disposal of hazardous waste, if qualified. *Id.*; see also 40 C.F.R. §§ 270.14 - 29.

On August 6, 1992, NMED issued hazardous waste facility permit number NM5890110518 to SNL for the storage of hazardous waste. AR 001083, 001084, 001394. The Permit did not include the MWL as a permitted unit. AR 001156. The MWL closed in 1988 and, therefore, was not included in Sandia’s Part B permit application to be permitted as an operating unit. *Id.* For the same reasons, SNL did not submit a Part A permit application for the

MWL for purposes of qualifying to operate as interim status unit. *Id.*³

On August 26, 1993, Module IV of the Permit providing for corrective action under HSWA became effective. AR 021174. EPA, not the State, issued the HSWA module because New Mexico did not obtain HSWA authority until 1996. Under Module IV, EPA designated the MWL as SWMU 76 for which corrective action was required. AR 021247.

During 1989 and 1990, SNL conducted a Phase 1 RCRA Facility Investigation (“RFI”) to determine the nature and extent of contamination at the MWL, the source of contamination, the release and transport mechanisms, and the pathways of contaminant migration. AR 001138-39.

Between 1992 and 1995, SNL conducted a Phase 2 RFI to further define the nature and extent of contamination, identify pathways of contaminant migration, evaluate the potential risks of the contamination, and recommend remedial action. AR 001141. The RFI recommended that no further action be taken. AR 001144-45.

On October 11, 2001, NMED directed SNL to conduct a Corrective Measures Study (“CMS”) to recommend the corrective action to be taken at the MWL. AR 001084. On May 21, 2003, SNL submitted a CMS Report to NMED. *Id.* On January 5, 2004, NMED deemed the CMS Report complete. *Id.* The CMS Report evaluated four alternative remedies for the MWL: (1) no further action with institutional controls; (2) vegetative soil cover; (3) vegetative soil cover with bio-intrusion barrier; and (4) future excavation. *Id.*

³ Citizen Action incorrectly asserts that “NMED itself concedes that the Sandia landfill has *not* complied with either Part A or Part B, and the Hearing Officer so found. HO PFFCL, ¶ 20, AR at 000816.” Brief-in-Chief, p. 24 (emphasis in original). Neither NMED nor the Hearing Officer stated that SNL violated the application requirements. *See* AR 001156, 000816.

On April 29, 2004, NMED, DOE and Sandia executed a Compliance Order on Consent (“Consent Order”) pursuant to the HWA. *See* AR 001381-1472. The Consent Order governs most corrective action requirements for SNL, AR 001401, 001420, and applies to the MWL, AR 001430. Prior to execution of the Consent Order, corrective action at SNL had been undertaken pursuant to Module IV of the Permit. The Consent Order provides that SNL will request a permit modification to remove most corrective action requirements from the Permit so that the Consent Order will be the only enforcement mechanism for corrective action. AR 001421. SNL’s Permit has not been so modified and, therefore, corrective action at the MWL is governed both by the Consent Order and the permit modification at issue before the Court. For the remainder of the regulatory history of the MWL, *see* Course of Proceedings, Section II, above.

C. SNL

SNL is located within the boundary of Kirtland Air Force Base, south of Albuquerque. AR 001094. SNL, in operation since 1945, is engaged in research and development of conventional and nuclear weapons, alternative energy sources, and a wide variety of national security related activities. *Id.* As a result of its activities, SNL has generated solid, hazardous, radioactive, and mixed wastes. *Id.*

D. History of MWL

The MWL, located at SNL Technical Area 3, accepted for disposal radioactive and mixed waste from March 1959 to December 1988. AR 001112. The MWL had two disposal areas: the classified area, consisting of 0.6 acres, and the unclassified area, consisting of 2.0 acres. AR 001113. The pits used for disposal were unlined, and were between 15 to 25 feet deep. *Id.* Waste disposed of in the classified area includes military hardware, multiple fission products, and other materials containing radioactive constituents. AR 001114. Waste was commonly

disposed of using tied, double polyethylene bags, fiberboard drums, wooden crates, cardboard boxes, and 55 gallon steel and polyethylene drums. AR 001114-15.

E. Geology and Hydrology

SNL is located on the eastern margin of the Albuquerque Basin. AR 001115. The Albuquerque metropolitan area uses ground water from the Albuquerque Basin as its principal source of water supply. *Id.* Depth from the ground surface to ground water at the MWL averages about 470 feet. AR 001116.

F. Waste Inventory

SNL prepared a waste inventory for the MWL compiled from classified disposal records from the classified area, unclassified disposal records from the unclassified area, interviews with current and retired employees, solid waste information sheets, and nuclear management records. AR 000820, 001116; *see* 009580-98 (inventory).

NMED staff, with a security clearance, conducted a review of randomly selected classified disposal records to determine whether the published waste inventory prepared by SNL accurately reflected the classified disposal records. AR 000821, 001116. NMED's review found that the classified inventory contained thousands of disposal records from the 1950's to 1988. AR 001117. In contrast, most landfills in operation at the time of the MWL have no disposal records or incomplete disposal records. AR 000821, 001116. NMED staff found that the main difference between the classified and unclassified inventories is that the classified inventory contains information about project names, places and weapons numbers. AR 001117. For each of the 36 records reviewed, NMED was able to trace the specific classified waste item to a waste item published in the SNL waste inventory. AR 000821, 001117.

WERC assessed the completeness of the MWL waste inventory. AR 000214. WERC

was commissioned by Congress to perform an independent peer review to evaluate the MWL and was then commissioned by DOE to evaluate SNL's CMS. AR 000202, 000213. The WERC panel found that the waste "inventory is very good, but not perfect" and that "SNL has done its best at estimating the nature of the wastes, given the data sources available." AR 000214.

While the disposal records, in all likelihood, are incomplete, NMED concluded and the Hearing Officer found that the SNL waste inventory represents a reasonably complete and accurate inventory of the types of wastes disposed at the MWL. AR 000821, 001116-17.⁴

G. MWL Site Investigation and Characterization

1. Phase 1 RFI, Phase 2 RFI, and CMS Report⁵

During the Phase 1 RFI, SNL collected air, surface soil, and subsurface soil samples to determine whether hazardous or radioactive contaminants had been released to the environment. AR 001139. The sampling included 10 surface soil samples and 285 subsurface soil samples.

⁴ Citizen Action makes claims about the inventory that are not accurate, claiming for example that there is "approximately 50,000 cubic feet of uranium," Brief-in-Chief, p. 6, n.2 (citing AR 002689), when in fact that was the total estimated volume at the time for all radioactive material, AR 002689, and that there are 73 cubic yards of transuranic waste, Brief-in-Chief, p. 18 (citing AR 000746, Table J.1.1.), when in fact the 73 cubic yards refers to an estimate, for purposes of estimating the cost of excavation, of all "soil and debris" associated with the waste, not the waste itself, AR 018752, 018754 (CMS, App. H, Tables J-1 & J-2).

⁵ Mr. McDonald's testimony contains a more complete description of Phase 1 RFI, AR 001138-41, and the Phase 2 RFI, AR 001141-45. Mr. Moats' testimony contains an analysis of each report, AR 001162-67, and a description and analysis of the CMS, AR 001179-90.

AR 001139-40.

Sampling results indicated that tritium was the primary contaminant of concern and it had migrated from the MWL cells into surrounding soil. AR 001140. Elevated tritium levels were detected in the surface area of the classified area (0 to 0.5 feet) and near surface soil (0.5 to 30 feet), with tritium activity greatest in the upper 30 feet of soil. *Id.*

A determination could not be made based on the data collected during the Phase 1 RFI whether contamination had reached ground water. *Id.* Therefore, the Phase 1 RFI concluded that additional investigation would be necessary to determine whether ground water had been contaminated. *Id.*

Investigative efforts during the Phase 2 RFI consisted of reconnaissance radiological surveys, air monitoring, passive and active soil-gas surveys, non-intrusive geophysical surveys, soil sampling for background metals and radionuclides, surface soil sampling, borehole drilling and soil sampling, vadose zone tests, aquifer tests, ground water monitoring, and a risk assessment. AR 001141. The sampling included deploying 94 samplers for passive soil-gas sampling, drilling 43 boreholes to depths of 10 and 30 feet to conduct active soil-gas sampling, and drilling 15 boreholes to collect soil samples. AR 001143-44.

The maximum depth at which tritium was detected was 120 feet below surface. AR 001144. In all but one sample (at 61 feet), the highest tritium activities were found in the upper 9 feet of soil. *Id.* The Phase 2 RFI concluded that tritium was the primary constituent of concern. AR 001144-45. *See* Section III.G.4, Ground Water Monitoring, below for a discussion of why tritium does not, however, pose a threat to ground water.

No evidence of ground water contamination was found based on the results from the 5 ground water monitoring wells existing at the time. AR 000825, 001145. The Phase 2 RFI

recommended no further action was necessary. AR 001144-45.

Although the Phase 2 RFI recommended no further action, NMED instead directed SNL to cover the MWL. AR 001179. NMED directed this remedy based on the fact that there had been no significant releases of contaminants and that future releases were unlikely. AR 001179. However, based on concerns from the public, NMED directed SNL to conduct a Corrective Measures Study to further evaluate remedial alternatives. AR 001180. The CMS identified four remedy alternatives most suitable for the MWL: (1) no further action with institutional controls, (2) vegetative soil cover, (3) vegetative soil cover with a bio-intrusion barrier, and (4) future excavation. AR 001184. Because of public concern about the MWL and at the direction of NMED, SNL also evaluated present excavation of the landfill with off-site disposal, even though this alternative did not pass the CMS screening process. AR 001188.

SNL conducted a baseline risk assessment of the human health and ecological risks at the MWL and a risk assessment associated with each remedial alternative. AR 001239.⁶ Sandia's risk assessment was conducted consistent with EPA policy. AR 001240-41; *see also* AR 000216 (WERC evaluation). The risk assessment showed no unacceptable risks for the vegetative cover with a bio-intrusion barrier in an industrial land use scenario. AR 001251. The greatest risk estimated was to the excavation worker, based on the alternative of excavating the MWL in the next 5 years, which would present an unacceptable radiological risk. AR 001248-49, 001251.

In NMED's view, the risk assessment was adequate. AR 001251. WERC commended SNL for the "general high quality of the Draft CMS." AR 000218.

⁶ The risk assessment is evaluated in detail by Paige Walton, an expert risk assessor retained by NMED. *See* AR 001239-51.

2. Ground water monitoring⁷

The MWL ground water monitoring network consists of 7 wells, including 1 background well. AR 001121.⁸ There have been over 30 sampling events since ground water sampling began in 1990. *Id.* Ground water has been analyzed for a wide variety of parameters, including radionuclides; metals, volatile organic compounds (“VOCs”), semi-volatile organic compounds (“SVOCs”), major ions, and perchlorate. AR 001122. NMED has periodically split samples

⁷ Ground water monitoring at the MWL is described more fully in the testimony of Carolyn Cooper, AR 001121-27; monitoring data is compiled in NMED Exhibit 18, AR 001299-1343; and a map of the monitoring network is found in NMED Exhibit 20, AR 001357-58.

⁸ Citizen Action claims that NMED believed that the monitoring network was not adequate, Brief-in-Chief, p. 4 (citing AR 004832) and p. 17 n.6 (AR 006227), and that monitoring “did not produce reliable water quality data,” Brief-in-Chief, p. 17 n.6 (with no citation to the record). As to the inadequate monitoring network, Citizen Action relies on outdated statements from a draft NMED document. In fact, NMED’s concern regarding the adequacy of the monitoring network and MWL-MW4 in particular was voiced in 1993, when there were only 5 wells in place, and principally had to do with the fact that MWL-MW4 “will not adequately address the issue of potential vertical gradients” of the flow of water, not that the water quality data was inadequate. *See* AR 004832, 006227 (draft NMED comments), 006425 (final NMED comments). SNL

addressed NMED’s concerns by installing the two additional wells in 2000. *See* AR 001121. As to the reliability of the water quality data, Citizen Action has no evidentiary support for its statement that NMED believed the data unreliable, and in fact NMED believes the data is reliable based on split sampling with SNL and its extensive review of the data. *See* AR 001122.

with SNL. *Id.* The results from the split samples are comparable. *Id.* Ground water sampling at the MWL has been extensive, *id.*, and NMED has scrutinized the monitoring data very carefully, AR 000176. The ground water monitoring data as a whole show that there has been no contamination of ground water beneath and surrounding the MWL. AR 001122; Tr. 986.⁹

Dr. Nuttal also was of the opinion that there is no ground water contamination at the MWL. Tr. 155-56. WERC concluded that the MWL has “neither resulted in human exposure to

⁹ Within the extensive monitoring data that exists, there have been sporadic detections of radionuclides and hazardous constituents above background levels. AR 001122. There have not been detections of radionuclides above water quality standards and there have been very few detections of hazardous constituents above standards. *Id.* NMED has analyzed the data in detail and concluded that the detections do not represent actual contamination, but “false positives” and other faulty data. *Id.* NMED’s analysis is found at AR 001123-27.

Citizen Action implies gamma-emitting radionuclides are contaminating ground water and claims “monitoring wells in 1998 showed Strontium-90 activities above historically established levels and DOE guidelines.” Brief-in-Chief, p. 3 n.1 (citing AR 011863, 0013445). Neither of these references, however, supports Citizen Action’s claims. The gamma-emitting radionuclides detected in ground water, *see* AR 011863, 011864, all are within background levels or the range of uncertainty results in zero. The report on strontium-90 actually stated that initial sampling indicated strontium-90 levels were above historical levels and DOE guidelines, but that re-sampling because of the inconsistency with historical levels showed all samples “well below [DOE guidelines] and consistent with historically established levels.” AR 013445; *see also* AR 001199, 001200, 001201 (data show no contamination from strontium-90).

contaminants nor resulted in any significant environmental damage to date.” AR 000210.

Marvin Resnikoff, one of Citizen Action’s experts, testified that he was not certain whether there was ground water contamination underneath the MWL because he did not know the “exact location” of the ground water plumes he referred to in his written testimony. Tr. 693-94.

Future releases of contaminants will not present an unreasonable risk to ground water. AR 001171, 001160, 001162-63, 001193. Future releases will be limited to tritium and radon, which have relatively short-half lives (12.3 years and 3.8 days, respectively). AR 001171, 001163. Releases from tritium and radon will occur because they are highly mobile in vapor form, and do not require a transport mechanism, such as water. AR 001171. Because of its short half-life, the majority of the tritium plume should decay to essentially background conditions within about 35 years. *Id.*; AR 001201. The data show that tritium activity at MWL has decreased over time. AR 001165. Tritium therefore does not threaten ground water. *Id.* Likewise, the current levels of radon are sufficiently low that radon does not present a threat to ground water. *Id.*; *see also* AR 001172-73, 001197-1202) (referring to Sandia Citizens’ Advisory Board study concluding similarly).

The radionuclides with long half-lives, such as uranium, plutonium and thorium, are generally immobile in the environment, provided that large amounts of water are not available for transport. *Id.* Thus, a vegetative soil cover will limit infiltration of precipitation and prevent migration of such constituents from the MWL. *Id.*¹⁰

¹⁰ Citizen Action claims that ground water is likely to be contaminated from migration from the landfill. Brief-in-Chief, p. 3 n.1, p. 6 n.2 (citing AR 003907, 003466, 011863, 013445, 005441-42, 006341, 006344, 006345 et seq., 003744, 003915, 006241, 006405). However, *none* of the

The conclusion that ground water is not threatened was critical to NMED's determination that a vegetative cover, with a bio-intrusion barrier, and long-term monitoring represent a remedy that will protect human health and the environment, and that excavation is not necessary. AR 001122. If ground water were contaminated or likely to become contaminated, NMED would have required a different remedy. *Id.*

H. Adequacy of Remedy Selected

Modeling of the performance of evapotranspiration covers subject to conditions similar to those at the MWL predict that infiltration of water through the cover should be well below a few millimeters per year. AR 001193. As such, a vegetative soil cover minimizes infiltration of precipitation and percolation through the landfill contents to prevent migration of contaminants

references cited by Citizen Action, many of which are older in any event, conclude that that contaminants will likely migrate to ground water. Only a few of the references refer to migration of contaminants, *see* AR 003466, 005441, 006241 (which NMED testified will occur), but none opine that contaminants will migrate to ground water. Citizen Action's refers to EPA's 1987 Comprehensive Environment Assessment and Response Program ("CEARP") which stated that the MWL had a "high potential for migration of wastes from the site." Brief-in-Chief, p. 3 n.1 (citing AR 003466). The CEARP is not in the record, but is referred to in a DOE letter, and is an outdated document, authored in 1987 before any ground water monitoring had occurred.

The Hearing Officer found that NMED effectively refuted many of the technical claims made by Citizen Action's experts, and that its experts did not have expertise in RCRA while NMED's principal witness, Mr. Moats, had extensive RCRA expertise. *See* AR 000838-44 [Findings of Fact 135, 137, 138, 140, 142, 143, 144, 145, 151, 152, 154, 156, 157, 162, 166].

that require water for transport through the vadose zone to ground water. AR 001160, 001188-89. Those radiological contaminants that can migrate in vapor phase are not likely to contaminate ground water because of their relatively short half-lives, AR 001162-63, 001171, and likewise VOCs, because of their low levels, are unlikely to contaminate ground water, AR 001157, 001166. Additionally, a vegetative soil cover also provides protection against exposure to human and ecological receptors to waste in the landfill. *Id.* The bio-intrusion barrier will prevent small animals from burrowing through the cover, coming into contact with waste and contaminated soil, and transporting it to the surface. *Id.*

Long-term monitoring will provide sufficient notice of contamination such that NMED will be able to ensure that SNL takes whatever action is necessary to protect human health and the environment. AR 001172. To detect potential ground water contamination, NMED will impose robust soil and ground water monitoring requirements to ensure early detection of migration. AR 001160, 001172, 001195. Vadose monitoring should provide warning of any unanticipated releases, with sufficient time to implement additional corrective action or implement a new remedy, including excavation. AR 001160, 001172.

The fate and transport model ordered by the Secretary will assist in evaluating whether ground water is at risk. Requiring actions based on future triggers will set checkpoints which will ensure additional monitoring or implementation of an additional or different remedy if necessary. Likewise, by requiring SNL to prepare a report every 5 years, the Secretary has ensured that the adequacy of the remedy will be continually evaluated and modified if necessary to protect the public and the environment. In other words, additional or different remedies, including excavation, are not foreclosed (even after placement of the cover) if future data and information indicate that is necessary to protect human health and the environment.

Excavation is not necessary given the current data and information. Current excavation is not an adequate remedy because it would place excavation workers at unacceptable levels of radiological risk. AR 001248-49, 001251.

ARGUMENT

I. STANDARD OF REVIEW

The Secretary's Final Order is subject to review under Section 74-4-14(C) of the HWA and must be upheld unless arbitrary, capricious, or an abuse of discretion; not supported by substantial evidence in the record; or not in accordance with law. Upon review, the facts should be reviewed in a light most favorable to NMED. *Kerr-McGee Nuclear Corp. v. N.M. Water Quality Control Comm'n*, 98 N.M. 240, 245 n.5, 647 P.2d 873, 878 n.5 (Ct. App. 1982). NMED's factual findings are entitled to deference because of the agency's expertise. *Id.* 98 N.M. at 246, 647 P.2d at 879. NMED's legal conclusions are reviewed *de novo*. *Rio Grande Chapter of the Sierra Club v. N.M. Mining Comm'n*, 2003-NMSC-005, ¶ 17, 133 N.M. 97, 104, 61 P.3d 806, 813.

II. THE MWL IS PROPERLY REGULATED UNDER THE CORRECTION ACTION REQUIREMENTS

A. The Challenge to the Determination That the MWL Is Subject to Corrective Action Is Untimely

Citizen Action's principal argument is that the MWL is subject to the closure and post-closure and of 40 C.F.R. pt. 264, subpt. G (§§ 264.110 – 120) (incorporated in 20.4.1.500 NMAC) and the post-closure requirements of 40 C.F.R. § 270.1(c) (incorporated in 20.4.1.900 NMAC)¹¹ rather than the corrective action requirements for SWMUs set forth in 40 C.F.R. §

¹¹ During the hearing, Citizen Action argued that the closure and post-closure requirements in

264.101 (incorporated in 20.4.1.900 NMAC). *See* Brief-in-Chief, p. 21.

The determination that the MWL is subject to corrective action was made on August 26, 1993 when EPA issued Module IV of the SNL Permit. EPA's determination was required to be appealed within 30 days to Environmental Appeals Board. 40 C.F.R. § 124.19(a) (1993); AR 021104. The corrective action determination was not appealed and, therefore, the determination that the MWL is subject to corrective action is final and not reviewable.¹²

Moreover, the determination to require corrective action set in motion a course of action undertaken by SNL and NMED now spanning 13 years. SNL has conducted the Phase 1 RFI, the Phase 2 RFI, the CMS, and extensive air, vadose zone and ground water monitoring, all of which has been extensively reviewed by NMED. Attacking the determination that the MWL is subject to corrective action at this point is nothing more than a collateral attack on the Permit, after years of work have been completed, and may not be allowed at this late date.

Citizen Action's attack on the SNL Permit is similar to the citizens' attack on an EPA-

either 40 C.F.R. pt. 264, subpt. G or 40 C.F.R. pt. 265, subpt. G applied. *See* AR 000388-89.

While the closure and post-closure requirements under these two subparts are the same, Part 264 applies to units that have a permit while Part 265 applies to units that qualify for interim status.

As such, the two parts apply to entirely different types of units. On appeal, it is not clear whether

Citizen Action believes that the MWL is subject to Part 264 or Part 265 because its Brief-in-Chief refers indiscriminately to both parts. *See, e.g.,* Brief-in-Chief, p. 21 (referring to Part 264

requirements) & p. 26 (referring to Part 265 requirements). Given this lack of clarity, NMED will address the applicability of both parts.

¹² Module IV was appealed by DOE and SNL. *See* AR 021176

issued National Elimination System Discharge Permit (“NPDES”) in *Amigos Bravos v. Molycorp, Inc.*, 166 F.3d 1220 (10th Cir. 1998). In that case, EPA had renewed the NPDES permit issued to Molycorp, Inc. The citizen group did not avail itself of the NPDES appeal procedures, but instead challenged the permit later in a citizen suit action under the Clean Water Act. The appeal procedures for an EPA-issued NPDES permit are similar to those for an EPA-issued RCRA permit. *Compare* 40 C.F.R. §§ 124.74, -75, -91 *with* 40 C.F.R. § 124.19 (1993). The court held that the citizen group was required to pursue its objections to the NPDES permit through the NPDES appeal procedures, and could not later attack the permit. *Id.* Likewise, Citizen Action was required to have pursued its objections to the 1993 SNL Permit, and specifically to the determination in Module IV that the MWL is subject to corrective action, through the RCRA permit appeal procedures. Citizen Actions’ challenge to the 1993 determination is untimely, and its appeal before this Court should be dismissed.

B. Whether a Post-closure Permit Is Required Is Beyond the Scope of the Hearing

Citizen Action argues that the MWL is subject to the post-closure requirements of 40 C.F.R. pt. 264, subpt. G (§§ 264.117 – 120) (incorporated in 20.4.1.500 NMAC) and 40 C.F.R. § 270.1(c) (incorporated in 20.4.1.900 NMAC). Brief-in-Chief, pp. 22-23. However, the subject matter of the hearing before NMED was selection of a remedy for the MWL, not the imposition of post-closure activities. The Public Notice, which sets forth the scope of the hearing, stated that “*only corrective action* at the MWL will be the subject of the public hearing that is to be held on the Permit modification at issue.” AR 001084 (emphasis added). Likewise, the Fact Sheet explaining the basis of the hearing is clear that the action proposed is for “requirements for *corrective measures* for the SNL Mixed Waste Landfill.” AR 001093 (emphasis added).

Remedy selection is quite distinct from post-closure care activities. NMED makes the post-closure care decisions at the time the post-closure plan is prepared, and has not made such a determination under 40 C.F.R. § 270.1(c) for the MWL. AR 001159. Therefore, there is no determination before the Court to review, and it would be premature for the Court to make this determination without NMED first doing so and without a record for the Court to review.

A review of the transcript of the hearing makes it clear that the purpose of the hearing was to select a remedy for the MWL, not to determine post-closure activities. *See generally* Tr. As such, the Hearing Officer found that:

The goal of this hearing was to select a remedy for the mixed waste landfill. Much of the testimony and public comment concerned other matters, including closure standards, post-closure care, appropriate post-closure monitoring and other matters not relevant to selection of a remedy. Some of these other matters will be discussed in the course of design and implementation of the remedy, once it is selected. However, it is premature to decide and detail many of those matters at this time.

AR 000804-05. Thus, the issue of whether a post-closure permit should be issued and, if so, what the terms and conditions of such a permit should be is beyond the scope of the hearing before NMED and therefore is not properly before the Court in this appeal. *Accord Martinez v. Maggiore*, 2003-NMCA-043, ¶13, 133 N.M. 472, 476, 64 P.3d 499, 503 (administrative proceedings conducted subsequent to defective public notice are invalid).

C. The Determination That the MWL Is Subject to Corrective Action Is Correct

1. The MWL is subject to corrective action

Citizen Action fundamentally misapprehends the regulatory scheme which applies to the MWL and SNL. The corrective action requirements for the State provide:

The owner or operator of a facility seeking a permit for the treatment, storage or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or

constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the unit.

40 C.F.R. § 264.101(a) (incorporated by 20.4.1.500 NMAC); *see also* 42 U.S.C. § 6924(u).

On its face, the corrective action requirements apply to the MWL. SNL is a “facility seeking a permit for the treatment, storage or disposal of hazardous waste” because it is a facility required to have a permit for storage of hazardous waste.¹³ A “SWMU” is

[a]ny discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

55 Fed. Reg. at 30,808; AR 001404. The MWL is a solid waste management unit because it is a discernible unit, *i.e.*, a landfill, at which hazardous and mixed waste has been placed and were routinely released. Under the plain meaning of the regulation, the MWL is subject to the corrective action requirements. *Accord Wilson v. Denver*, 1998-NMSC-012, ¶16, 125 N.M. 308, 314, 961 P.3d 153, 159.¹⁴

¹³ Under the RCRA regulations, SNL is a “facility” consisting of “several treatment, storage, or disposal operational units.” 40 C.F.R. § 260.10 (incorporated by 20.4.1.100 NMAC).

¹⁴ Citizen Action argues that 40 C.F.R. § 264.101 does not apply to the MWL because Section 264.101(b) provides that “corrective action will be specified in the permit in accordance with this section and Subpart S of this part.” Brief-in-Chief, p. 27 (emphasis omitted). Citizen Action argues that because Subpart S applies to Corrective Action Management Units or CAMUs, the corrective action requirements do not apply to the MWL because it is not a CAMU. Citizen Action misreads the regulations. While it is true that the MWL is not a CAMU, the corrective

Citizen Action's confusion as to the applicable regulatory framework may arise from its fundamental misunderstanding of the nature of the SNL Permit. Indeed, Citizen Action claims that NMED has not issued a hazardous waste permit to SNL. *See* Brief-in-Chief, pp. 8-9.

That NMED issued a hazardous waste permit to SNL, however, cannot be questioned. *See* AR 004364-4517 (Permit). The Permit, issued to DOE and Sandia, is issued for the SNL facility for the storage of hazardous waste. *Id.* The MWL, as stated above, is not a unit that is permitted to operate under the Permit. *See id.* Indeed, when EPA issued Module IV of the Permit in 1993, the MWL was already closed and no longer operating. Thus, EPA designated the MWL as a SWMU subject to corrective action.

Since EPA issued the HSWA module, NMED has obtained authorization to administer corrective action in the State and to enforce Module IV of the SNL Permit. SNL applied for and NMED granted a permit modification to the HSWA Module so that the terms and conditions for implementing corrective action at the MWL would be part of the Permit.

2. SNL was not required to file a Part A or Part B application for the MWL

The MWL is not subject to the closure permit requirements of Part 264, Subpart G because the landfill closed prior to the date that New Mexico received authorization to manage mixed waste. There is no dispute that the MWL closed in 1988.¹⁵ There is also no dispute that

action requirements do not apply only to CAMUs. Indeed, they apply in the first instance under the regulations to SWMUs, which is the regulatory designation of the MWL. *See* 40 C.F.R. § 264.101(a). Subpart S merely sets forth the requirements for corrective action when and if such action is being undertaken at a CAM. *See* 40 C.F.R. §§ 264.550 – 555.

¹⁵ Citizen Action implies that the MWL was open until 1993 stating that the "Sandia landfill

the State of New Mexico did not have authority to manage mixed waste until July 25, 1990. In its 1986 Notice, EPA stated that:

... currently authorized State programs do *not* apply to radioactive mixed wastes.

Thus, radioactive mixed wastes are not currently subject to Subtitle C [hazardous waste] regulations in authorized States. . . .

... States that already have authorized programs must revise their programs (if necessary) and must apply for authorization for hazardous components of radioactive mixed wastes.

51 Fed. Reg. 24,504 (emphasis in original; footnote omitted). Thus, according to EPA, states only have authority to manage mixed waste upon application to and authorization from EPA.

A closure plan under Part 264, Subpart G must be filed “where applicable” with a facility’s Part B application for a permit. 40 C.F.R. § 270.14(b)(13) (incorporated by 20.4.1.900 NMAC). SNL’s Part B application to NMED could not have included the MWL because the State of New Mexico did not have authority over mixed waste until 1990, after the landfill had closed and, in fact, the SNL Part B application did not include the MWL. AR 001156.

Likewise, the MWL would not have qualified for interim status for purposes of Part 265 closure requirements. In its 1988 Notice, EPA clarified the requirements for interim status as

continued in use by SNL until at least 1993 for the storage of containerized low-level radioactive wastes. AR at 004495, 004828.” Brief-in-Chief, p. 2. The Administrative Record references cited by Citizen Action, however, show that the MWL was not “in use” until 1993. Rather, SNL used that area as the Interim Status Storage (“ISS”) Unit for above-ground storage of mixed waste. AR 001200. SNL filed a permit application to operate the ISS Unit, AR 001394, and closed in 2002. AR 001394, 001200. The MWL and the ISS are distinct units and, as such, the MWL was not “in use” until 1993.

they applied to management of mixed waste. *See* 53 Fed. Reg. 37,045. EPA clarified that facilities in states, like New Mexico, with base programs in place as of July 3, 1986 were required to submit a “revised Part A application reflecting their radioactive mixed waste activities within six months of the State’s receipt of authorization for radioactive mixed waste.” *Id.* at 37,047. Thus, SNL was not required to submit a Part A application for mixed waste activities until six months after July 25, 1990. Because SNL ceased disposal at the MWL in 1988, SNL was not required to amend its Part A application to include the MWL, and the MWL was not eligible for interim status.

Significantly, EPA noted in its 1986 Notice that if “hazardous components of radioactive mixed wastes are not RCRA-regulated under authorized State RCRA programs, radioactive mixed waste will be considered to be a ‘solid waste’ for purposes of corrective action at solid waste management units.” 51 Fed. Reg. 24,504, n.1. EPA thus recognized that units with mixed waste that did not fall within State mixed waste authority could nonetheless be regulated as SWMUs subject to corrective action.

Prior to HSWA, EPA and the States had limited authority to require cleanup at hazardous waste facilities. One effect of HSWA was to authorize cleanup of contamination regardless of when a release occurred. The MWL provides a prime example of the need for HSWA because of the regulatory gap that NMED would have faced as a result of NMED obtaining authority over mixed waste after closure of the MWL. HSWA thus provides the regulatory mechanism to ensure that the MWL is remediated to protect human health and the environment.

D. The Requirements for Corrective Action Are Substantially Equivalent to the Requirements for Closure, and Imposing Closure Requirements Would Not Change the Remedy Selected

Citizen Action argues for imposition of the Part 264 closure requirements. However, it

does not articulate what difference imposition of the closure requirements would make to selection of the remedy at the MWL. Mr. Moats, Albuquerque Group Manager for the Permits Management Program for the NMED Hazardous Waste Bureau, is a highly qualified geologist with substantial regulatory expertise in RCRA. *See* AR 001147-49, 001151-55. Mr. Moats testified in detail how the requirements for corrective action are similar to the closure requirements under Part 264 and 265. AR 001156-58. Mr. Moats concluded that, "the Draft Permit and the information provided in the Phase 2 RFI Report in combination address all of the main technical elements of a closure plan." AR 001158.

The Hearing Officer agreed, and found that the requirements for corrective action and closure were "technically equivalent." AR 000840. While Citizen Action argues that the Hearing Officer's finding is "impossible to decipher" and "inexplicab[e]," Brief-in-Chief, pp. 11, 29, Citizen Action did not rebut Mr. Moats' extensive testimony, and has not articulated in its Brief-in-Chief why imposition of the closure requirements would make any difference to the remedy selected. The Hearing Officer's finding is supported by substantial evidence.

Most significantly, whether the closure requirements of Part 264 are applied or whether the corrective action requirements are applied, the remedy for the MWL, given the data that exists, would be the same: a vegetative cover with a bio-intrusion barrier. The remedy of excavation would not be selected if the closure requirements were applied because the underlying evaluation to determine how to remediate the MWL to ensure that human health and the environment are protected is the same for both sets of regulatory requirements. Applying the closure requirements, therefore, would serve no useful purpose and would instead waste the

resources of the State, SNL, and all parties involved.¹⁶

III. THE REMEDY SELECTED IS PROTECTIVE OF HUMAN HEALTH AND THE ENVIRONMENT

A. NMED's Remedy Satisfies the Corrective Action Standard

Citizen Action challenges the Hearing Officer's conclusion that "[a]ny remedy that is protective of human health and the environment may be selected; Sandia is not required to select the most protective remedy." *See* AR 000830. However, under the regulations, facility owners and operators must "institute corrective action as necessary to protect human health and the environment" 40 C.F.R. § 264.101(a) (incorporated by 20.4.1.500 NMAC). Thus, by its plain terms, the standard for corrective action is that human health and the environment are protected, precisely what the Hearing Officer concluded. The regulations should be interpreted to give them their plain meaning.

According to EPA, "The ultimate goal of corrective action is to satisfy the 'protection of human health and the environment' standard." *Final Guidance on Completion of Corrective Action Activities at RCRA Facilities*, 68 Fed. Reg. 8757, 8761 (Feb. 25, 2003). The standard is not that the most protective remedy no matter the cost or feasibility must be selected. Such a

¹⁶ Citizen Action also argues that the Consent Order is not an "enforceable document" that may be used in lieu of a closure or post-closure plan pursuant to 40 C.F.R. § 265.110(d) or in lieu of a post-closure permit pursuant to 40 C.F.R. § 270.1(c)(7). *See* Brief-in-Chief, pp. 25-27. While the Consent Order states that it is an "enforceable document" which may be enforced through applicable law, AR 001419, NMED has never claimed that the Consent Order is an "enforceable document" for purposes of 40 C.F.R. § 265.110(d) (or for purposes of 40 C.F.R. § 264.110(d) (applying to permitted units)) or for purposes of 40 C.F.R. § 270.1(c)(7).

standard would be impractical for industry and other facility owners to undertake, and in many instances impossible to achieve because of the high cost or technical infeasibility. While RCRA corrective action requirements require facilities to bear the burden of their releases of hazardous contaminants to the environment by remediating the site so that the public and the environment are protected, facilities are not required to implement a more expensive remedy if a less expensive remedy will ensure protection of human health and the environment.

If the most protective remedy had to be imposed, facilities would always be required to “clean close,” that is, leave no contamination in place. However, clean closure is not the standard, according to EPA’s guidance on completing corrective action. *See id.* According to EPA, there are two types of completeness determinations: corrective action complete without controls and corrective action complete with controls. *Id.* Corrective action complete without controls occurs when a remedy requires treatment or removal of waste and contaminated media to levels that allow the facility to be used in an unrestricted manner. *Id.* Corrective action complete with controls occurs when:

a remedy allows contamination to remain on site, but imposes ongoing obligations concerning, for example, operation and maintenance of engineered controls (e.g., a landfill cap), and compliance with institutional controls (e.g., a restriction that land be used for industrial purposes only). Thus, in these situations, the goal of “protection of human health and the environment” often is achieved through use of a remedy . . . that allows some contamination to remain in place, but requires controls . . . to prevent or limit the risk of exposure through releases of contamination that remains following cleanup.

Id. Thus, leaving contamination in place is acceptable under the corrective action requirements so long as the “protection of human health and the environment” standard has been achieved.” *Id.*

As described in Section III.H above, NMED’s remedy protects human health and the

environment and therefore satisfies the corrective action standard, consistent with EPA guidance.

B. Current Excavation Does Not Meet the Corrective Action Standard

In contrast, the remedy of current excavation is not protective of human health because excavation workers would be subject to an unacceptable level of radiological risk. AR 001247-48, 001251. Citizen Action did not dispute this finding. Current excavation, therefore, would not meet the standard for corrective action, assuming radiological risk may be taken into account.

IV. THE DECISION REQUIRING SNL TO DEVELOP A FATE AND TRANSPORT MODEL AFTER REMEDY SELECTION IS REASONABLE

Citizen Action's complaint that the Secretary directed SNL to develop a fate and transport model is two-fold: first, Citizen Action claims that the Hearing Officer believed that she did not have authority to require SNL to undertake a fate and transport model prior to imposition of the remedy and, second, Citizen Action claims that the fate and transport model must be developed prior to remedy selection to be effective. Neither of these arguments related to the timing of the fate and transport model has merit.

First, the Hearing Officer never concluded, explicitly or implicitly, that she was without authority to require development of the fate and transport model prior to remedy selection. Thus, Citizen Action objects to a conclusion that the Hearing Officer never made. Indeed, the Hearing Officer implicitly determined that she had authority to combine remedies proposed by the various parties by the fact that she recommended the fate and transport model be undertaken, a proposal that was not part of the Draft Permit proposed by NMED staff. Indeed, the Hearing Officer recommended and the Secretary ordered SNL to develop the model over NMED staff's objection. Also, the Hearing Officer recommended and Secretary ordered SNL to undertake additional actions that were not proposed by NMED staff in the Draft Permit. These actions

include requiring a convenient method for the public to review major MWL documents and provide comment on those documents and requiring SNL to prepare a report every 5 years analyzing the effectiveness of the remedy selected. Plainly, the Secretary and Hearing Officer believed it within their authority to combine proposed remedies and in fact did so.

Second, the Secretary did not act arbitrarily by ordering that a fate and transport model be undertaken after implementation of the cover remedy. The Secretary's order makes it clear that the remedy is to be continually evaluated to make sure that it is protective of human health and the environment and, if the data indicate a different remedy is necessary, a different remedy may be required in the future. Data from the fate and transport model are to be considered in this re-evaluation. Thus, the fate and transport model will not be ineffectual, but will be used in the ongoing evaluation of the adequacy of the remedy. Indeed, Dr. Nuttal, who was the strongest proponent of the fate and transport model, acknowledged that the model could be developed after selection of the cover as a remedy, concluding that, "Yes, it certainly could. . . . It's never too late to do that" Tr. 156-57. Directing SNL to implement the cover remedy and to undertake the fate and transport model is not arbitrary.

V. NMED'S ISSUANCE OF ITS RESPONSE TO PUBLIC COMMENTS IS APPROPRIATE

Citizen Action complains that NMED's issuance of its response to public comments two months after the Secretary issued his Final Order is error. Brief-in-Chief, 30-31. NMED's Response to Public Comments is attached to Citizen Action's August 31, 2005 Notice of Appeal.

Pursuant to Section 20.4.1.901.A(9) NMAC, the Secretary must issue a response to public comments "[a]t the time that any final permit decision is issued" The regulation thus does not require NMED's response to comments to be issued "on the same day" or "at the same time"

as the final permit decision, but “at the time,” a more general temporal requirement. The regulation does not require NMED’s response to comments be issued on the exact day as the Secretary’s final decision because, as a practical matter, that is not possible. NMED’s response to comments is not prepared by the Secretary, but is prepared by staff and approved by the Secretary. Staff is not able to prepare a response to comments for the Secretary’s approval until a final permit decision is issued by the Secretary and becomes known to staff; otherwise staff and the Secretary would run afoul of the proscription against *ex parte* contact during a permit proceeding. *See* 20.1.4.100.G NMAC. Thus, reading both regulatory provisions together, NMED’s response to public comments will necessarily be issued at a “time” after the Secretary issues his final permitting decision, but not on the same day. This procedure results in no harm or prejudice to any party. Indeed, Citizen Action has been able to appeal NMED’s response to comments, although it raises no substantive issues in its Brief-in-Chief on the merits on NMED’s highly detailed Response to Comments.

That NMED did not issue its formal response to public comments until after the Final Order was issued does not mean that the Hearing Officer and the Secretary did not consider the public’s comments, much of which was submitted by Citizen Action. *See* NMED Response to Public Comments. The Hearing Officer both set forth testimony received from members of the public and Citizen Action, AR 000783-87, 000787-97, and analyzed the public’s and other parties’ testimony, AR 000837-44. Thus, as a substantive matter, both the Hearing Officer and the Secretary considered public comment prior to the Secretary issuing his Final Order. There is no error in the manner in which the Secretary considered public comment from the hearing and issued NMED’s Response to Public Comments.

VI. SUBSTANTIAL EVIDENCE SUPPORTS ALL FINDINGS CHALLENGED

A. The Waste Inventory Is Reasonably Complete and Accurate

Citizen Action challenges the Hearing Officer's finding that the waste inventory for the MWL is "reasonably complete and accurate considering the age of the records, length of time the landfill operated, and the types of wastes routinely disposed of in the landfill." This finding, however, is supported by substantial evidence. Indeed, while most older landfills such as the MWL have no or incomplete records, the MWL waste inventory is based on thousands of classified disposal records from the classified area, unclassified disposal records from the unclassified area, interviews with current and retired employees, solid waste information sheets, and nuclear management records. AR 000820, 001116, 001117. While the inventory is likely not complete, given the substantial documentation that exists, substantial evidence supports the conclusion that the inventory is reasonably complete.

As to the accuracy of the classified inventory, NMED conducted a random sampling of the records and found that for each specific classified waste item there was a waste item published in the SNL waste inventory. AR 000821, 001117. Therefore, substantial evidence supports the conclusion that the inventory is reasonably accurate.

Moreover, given the extensive air, vadose zone, and ground water monitoring that has been and will continue to be conducted at the MWL, if there are releases from unknown wastes, SNL will be able to detect those releases and, therefore, a somewhat incomplete inventory does not require selection of a different remedy.

B. The Presence of Transuranic Waste and Greater Than Class C Level Waste Does Not Require a Different Remedy

Citizen Action argues that NMED did not take into account the presence of transuranic

waste and greater than Class C level waste in the MWL. There are two responses to Citizen Action's claim: first, NMED is authorized to regulate the hazardous component of mixed waste, but is not authorized to substantively regulate the radioactive component because AEA material is exempt from RCRA regulation. Second, notwithstanding the limits on NMED's authority to substantively regulate radioactive material, NMED did consider the risk of the radioactive material in the MWL in selecting a remedy.

As to NMED's regulatory authority, AEA material is exempt from the definition of "solid waste" and therefore exempt from the definition of hazardous waste, which is a subset of "solid waste." NMSA 1978, § 74-4-3(I), (M); *see also* 42 U.S.C. § 6903(5), (27). Thus, RCRA exempts AEA material from EPA and state regulatory authority over hazardous waste. It is this exemption that created confusion as to whether mixed waste was regulated under RCRA and why EPA needed to clarify in its 1986 and 1988 Notices that RCRA authority extended to the "hazardous component" of mixed waste, although not to the radioactive component. The SNL Consent Order mirrors EPA's guidance, providing that its provisions apply to the hazardous portion of mixed waste, but not to the radioactive portion. AR 001388.

Citizen Action concedes that transuranic waste and greater than Class C waste is AEA material, but argues that NMED can substantively regulate AEA material. Brief-in-Chief, pp. 32-34. In support of this argument, Citizen Action cites *United States v. New Mexico*, 32 F.3d 494 (10th Cir. 1994) for the proposition that NMED can regulate the radioactive portion of mixed waste. Brief-in-Chief, p. 32. Citizen Action, however, misstates the holding in that case. In *United States v. New Mexico*, the court found that permit conditions imposed by NMED's predecessor on incineration by the Los Alamos National Laboratory of hazardous and radioactive waste that required monitoring of radioactive emissions were not an attempt of the State to

“substantively regulate radioactive waste,” but rather were necessary to ensure that only permitted hazardous waste was being burned in order to implement the State’s statutory and regulatory hazardous waste authority. *Id.* at 498-99. Likewise, the other case cited by Citizen Action, *Sierra Club v. U.S. Dept. of Energy*, 734 F. Supp. 946 (D. Colo. 1990) does not stand for the proposition that RCRA provides authority to substantively regulate AEA material. There the court held that the waste in question “except plutonium,” the AEA regulated material, was subject to RCRA. 734 F.3d at 952.

Notwithstanding the foregoing, NMED has extensively evaluated the risks posed by the radioactive material in the MWL in its remedy selection. Air, vadose zone, and ground water monitoring required by NMED have all included monitoring of radionuclides. Likewise, the Phase 1 and 2 RFIs and the CMS Report, including the risk assessment, evaluated by NMED all have included analysis of the risk of radionuclides. Based on analysis of the volumes of data available, NMED has concluded that ground water is not contaminated nor is it likely to become contaminated either by hazardous constituents or radionuclides, and that the remedy selected by NMED is protective of human health and the environment taking the risk posed by the radioactive material fully into account.

C. VOCs from the MWL Do Not Pose an Unacceptable Risk to Human Health and the Environment

Citizen Action argues NMED failed to address the “uncontroverted evidence” that the only remedy to prevent the escape of VOCs and SVOCs from the MWL, and comply with 40 C.F.R. § 264.111, is excavation. Brief-in-Chief, p. 34. This argument, however, has no merit.

First, 40 C.F.R. § 264.111 does not apply because the closure requirements of Part 264, Subpart G do not apply to the MWL for the reasons set forth above. Second, even though the

regulation does not apply, its substantive requirements have been met, and substantial evidence in the record supports that finding. 40 C.F.R. § 264.111 requires, *inter alia*, the facility to “control[], minimize[] or eliminate[], to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste [and] hazardous constituents . . . to the atmosphere . . .” Mr. Moats testified that:

An active soil-gas survey conducted at the MWL indicates that VOC vapors occur in low concentrations in the subsurface soil. The maximum total VOC concentration in soil gas is 30.7 parts per million by volume (ppmv). Of 86 soil-gas samples collected at depths of about 10 and 30 feet, 84 have concentrations of total VOC vapors of less than 10ppmv; and only 6 samples had vapor concentrations less than 5 ppmv. None of these levels of contaminants represent an unacceptable risk to human health or the environment under an industrial land use scenario.

Nor do these levels of VOCs represent a risk to ground water. In NMED’s experience, total VOC concentrations of less than 10 ppmv are unlikely to cause ground water contamination in excess of water quality standards. This rule of thumb was established using trichloroethylene (TCE) as a representative VOC, by applying Henry’s law and a dilution attenuation factor of 20, 10 ppmv of TCE vapor would be required to reach 5 micrograms per liter ($\mu\text{g/L}$), which is the drinking water standard for TCE and general represents a conservative level of VOCs acceptable in drinking water.

By way of comparison, at the SNL Chemical Waste Landfill, TCE concentrations in soil vapor ranged up to several hundreds to several thousands ppmv. There TCE was found in ground water at approximately the ground water quality standard of 5 $\mu\text{g/L}$.

AR 001166 (reference omitted); *see also* AR 001169.

Citizen Action, on the other hand, cites no evidence contradicting Mr. Moats’ testimony.

The evidence cited to by Citizen Action supports NMED’s testimony that low levels of VOCs have been found in soil.¹⁷ None of the evidence cited by Citizen Action supports, directly or

¹⁷ Citizen Action cites to AR 000751-54 (Citizen Action findings); AR 08260 [Phase 2 RFI]; AR 001143 [NMED Ex. 7, p. 8 (McDonald Testimony)]; AR 00114 [NMED Ex. 9, p. 16 (Moats

indirectly, Citizen Action's allegation that VOCs (and SVOCs) will be released to the atmosphere at levels that present an unacceptable risk to the public or the environment. Indeed, Citizen Action misrepresents Mr. Moats' testimony regarding VOCs found at the SNL Chemical Waste Landfill, recited above, alleging that "one of the volatiles found at the landfill, trichloroethylene (TCE), had previously leaked from the chemical waste landfill at [SNL] and reached groundwater." Brief-in-Chief, pp. 19-20, n.8. That TCE, found at the Chemical Waste Landfill at levels orders of magnitude above those at the MWL, reached ground water has no bearing on whether TCE has or is likely to reach ground water at the MWL, a site with different hydrogeologic characteristics. *See* AR 001167-69 (Mr. Moats' testimony distinguishing MWL from Chemical Waste Landfill, and terming Citizen Action's expert's comparison "technically indefensible.") Finally, Citizen Action cites to detections of phenolics, acetone, and toluene in support of its argument. Brief-in-Chief, p. 20. Apart from the convincing evidence in the record that those detections were laboratory error or false positives, AR 001123-25, Tr. 1086-87, those were detections found in ground water, which averages 470 feet below surface. There is no evidence in the record that VOCs found at that depth pose a risk of release to the atmosphere. In sum, Citizen Action's claim that the "uncontroverted evidence" that VOCs pose a risk to human health and the environment through release to the atmosphere has no technical basis, but is simply a mischaracterization of the technical evidence presented.

CONCLUSION

Based on the foregoing, NMED respectfully requests the Court to affirm the Secretary's Final Order in this matter.

Testimony)]. Brief-in-Chief, pp. 19-20 & n.8.

Respectfully submitted,

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