



Department of Energy
Carlsbad Field Office
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JAN 16 2020

Mr. Kevin Pierard, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Request for a Temporary Authorization for the Referenced Class 3 Permit Modification to the Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Permit Number: NM4890139088-TSDF

Reference: Permittees' Letter CBFO:OEP:MRB:SA:19-0241:UFC 5486.00 from Kirk D. Lachman, U.S. Department of Energy Carlsbad Field Office, and Bruce C. Covert, Nuclear Waste Partnership LLC, to John E. Kieling, Chief, Hazardous Waste Bureau, subject: Class 3 Permit Modification Request for the Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Number NM4890139088-TSDF and Notification of Withdrawal Regarding the December 22, 2017 Determination of Class, dated August 15, 2019

Dear Mr. Pierard:

Pursuant to 20.4.1.900 New Mexico Administrative Code (NMAC) (incorporating Title 40, Code of Federal Regulations (CFR), Part 270.42(e)(2)), the U.S. Department of Energy (DOE) Carlsbad Field Office and Nuclear Waste Partnership LLC, collectively referred to as the Permittees, are providing you with the following temporary authorization (TA) request.

The Permittees are requesting a TA pursuant to the requirements in 20.4.1.900 NMAC (incorporating 40 CFR Part 270.42(e)(2)(i)(B)) for the referenced Class 3 Permit Modification Request (PMR) entitled "Excavation of a New Shaft and Associated Connecting Drifts" submitted to the New Mexico Environment Department (NMED) on August 15, 2019. The underground ventilation system (UVS) upgrade in the Class 3 PMR provides improved management of hazardous waste, pursuant to 20.4.1.900 NMAC (incorporating 40 CFR Part 270.42(e)(2)(i)(B)) as indicated on Page 9 of the PMR which states, "*The addition of S#5 and associated connecting drifts represents an upgrade to the UVS, and will provide a new intake and exhaust system capable of restoring full-scale, concurrent, mining, maintenance, and waste emplacement operations.*"

Pursuant to 20.4.1.900 NMAC (incorporating 40 CFR Part 270.42(e)(2)(ii)(A)), the description of the activities to be conducted under this TA are listed below:

- Excavate a new shaft, Shaft #5 (S#5), approximately 1,200 feet to the west of the existing Air Intake Shaft (AIS).

Pursuant to 20.4.1.900 NMAC (incorporating 40 CFR Part 270.42(e)(2)(ii)(B)), the following provides an explanation of why the TA is necessary and summarizes relevant portions of the PMR associated with this TA:

In addition to improving the management of hazardous waste, this TA request, to excavate a new shaft, S#5, approximately 1,200 feet to the west of the existing AIS, is needed pursuant to 20.4.1.900 NMAC (incorporating 40 CFR Part 270.42(e)(3)(ii)(E)) "to facilitate other changes to protect human health and the environment."

Based on estimated timelines, it will take approximately seventeen months to excavate (sink) the shaft. It will take an additional eight months to mine the connecting drifts from S#5 to the existing repository. The start-up testing will take an additional twelve months to complete. The total estimated time to complete construction and implement the use of the S#5 ventilation system is thirty-seven months. Thus, there is a need on the part of the Permittees to start sinking the shaft as soon as possible so that the upgrade, which includes additional unfiltered ventilation, will be available to the Permittees and their workforce at the earliest possible date.

The new shaft, S#5, is one of two projects referred to as the Permanent Ventilation System (PVS) upgrades. The purpose of the PVS is stated in the Supplement Analysis for the New Permanent Ventilation System (DOE/EIS-0026-SA-11) as follows: *The DOE needs to continue to safely dispose of the TRU waste that has resulted from atomic energy defense activities in a manner that protects the workers, the public health, and the environment. The Proposed Action specifically satisfies the purpose and need by upgrading the existing UVS to support full waste disposal and associated mining operations.* Shaft #5 allows for increased ventilation airflow into the underground and an unfiltered exhaust path through the existing AIS for the Construction Circuit exhaust airflow.

The PVS upgrades allow for concurrent mining, maintenance, and waste emplacement operations to take place. These operations must be conducted in a manner that "*protects the workers, the public health, and the environment*". Underground operations involve using diesel equipment to perform much of the required work. Combustion of diesel fuel generates harmful gases and diesel particulate matter that must be diluted and moved away from the underground worker by the ventilation system in order to comply with applicable underground air health standards. Shaft #5 will become the main air intake shaft for the underground and will help facilitate the removal of harmful gases and diesel particulates, thereby ensuring good air quality and protecting the health of the underground workers.

Shaft #5 will have two intake fans, located on the surface, connected to the shaft. One fan will operate at a time, pushing fresh air through the shaft and into the underground. The fans will have variable frequency drives (VFD) that can be programmed to automatically adjust the airflow to a preselected value. Changing atmospheric conditions (i.e., temperature, relative humidity, and barometric pressure) can impact the airflow in the underground by either reducing or increasing the airflow. In some cases, atmospheric conditions exist that reverse the airflow, posing risk to underground workers. Currently, the Permittees manage these changes with manual adjustments to the ventilation system. With VFDs that are programmed to automatically maintain the airflow within a set range, the Permittees will have improved control over the ventilation air that supports the underground workers, thereby providing assurances that a safe working environment will be maintained for the underground workers.

Shaft #5 will create an unfiltered exhaust path for the Construction Circuit. The unfiltered exhaust path is important in that it will allow the dust laden exhaust air from the Construction Circuit (i.e., mining exhaust airflow) to exit the underground through the AIS. By allowing this exhaust air to exit through the AIS, as opposed to exhausting through the Salt Reduction

Building (SRB) and the high-efficiency particulate air (HEPA) filter system in the New Filter Building, less solid waste will be generated that must be disposed of. There will be less salt to characterize and dispose of from the SRB. Additionally, less salt-laden air will pass through the HEPA filters resulting in fewer filter changes and fewer filters to dispose of. This will further the DOE mission to dispose of waste in a manner that *protects the workers, the public health, and the environment*.

Pursuant to 20.4.1.900 NMAC (incorporating 40 CFR Part 270.42(e)(2)(ii)(C)), the following provides sufficient information to ensure compliance with 20.4.1.500 NMAC (incorporating 40 CFR Part 264 standards):

Other than the requested activity, this TA would not affect any other condition or requirement of the Hazardous Waste Facility Permit. This TA would not impact the Permittees' continued compliance with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR Part 264) because the new shaft location is more than 1,600 feet north-west of the permitted hazardous waste disposal units. Therefore, the activity described in this TA request will have no impact on the existing permitted facility.

We certify under penalty of law that this document and all attachments were prepared under our direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Signatures on File

Gregory Sosson, PE
Acting Manager
Carlsbad Field Office

Sean Dunagan
President and Project Manager
Nuclear Waste Partnership LLC

cc:

R. Maestas, NMED *ED
D. Biswell, NMED ED
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CBFO M&RC

*ED denotes electronic distribution