



UNITED STATES ENVIRONMENTAL PROTECTION
AGENCY
Washington, DC 20460



May 4, 2020

OFFICE OF
AIR AND
RADIATION

Mr. Greg Sosson
Acting Manager
Carlsbad Field Office
U.S. Department of Energy
P.O. Box 3090
Carlsbad, New Mexico 88221-3090

Dear Mr. Sosson:

The U.S. Environmental Protection Agency (EPA) has been reviewing the September 29, 2017 Planned Change Notice for the excavation and construction of a new ventilation shaft (shaft #5) at the Waste Isolation Pilot Plant (WIPP), along with the updated information in the 2019 WIPP Compliance Recertification Application (CRA-2019) and the associated deferred performance assessment (DPA). In the Agency's initial response letter dated January 22, 2018 (L. Veal letter to T. Shrader), the EPA indicated that staff would evaluate the planned change in the wider context of the CRA-2019 review, which began in full in January 2020 upon receipt of the DPA.

The EPA recognizes the need for an additional shaft as part of the new Safety Significant Confinement Ventilation System for multiple purposes, including increasing air flow capacity for underground operations. Focusing primarily on the long-term performance of the repository, EPA staff have reviewed the relevant documentation provided in the DPA and other sources, including the original notice and the SHFT-14 analysis that used the CRA-2014 Performance Assessment modeling with the shaft #5 added. We have several outstanding questions and comments which are summarized below. These have been categorized as issues relating to representation of the shaft in the PA modeling, completeness, disclosure and transparency.

Identified issue with PA modeling:

- The representation of the concrete monolith filling the composite shaft in the two-dimensional BRAGFLO model does not extend below the repository level. This representation is inconsistent with the actual design of the largest shafts, which have sumps extending more than 125 feet below the repository level. This issue was identified in the first round of EPA comments for CRA-2019, sent to the U.S. Department of Energy (DOE) on March 20, 2020. See question CC1-34-8: BRAGFLO representation of the plugged shaft in the PA model.

Completeness of information related to implications of larger shaft:

- The planned shaft will be significantly larger than current shafts. What analysis was done that considered the larger dimensions on post-closure performance? How would the increased shaft diameter affect the installation of the closure seals in comparison to the smaller diameter shafts? What will DOE do to ensure that the vertical permeability of the large sealed shaft will be as effective in limiting radionuclide transport as with the smaller shafts?

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Transparency/disclosure items:

- Documentation provided to the EPA indicates that the newly excavated shaft will be used solely as an air intake shaft, but only hints at possible future uses for other purposes, such as a hoist system. The large diameter of the planned shaft also suggests this as does other information we are aware of, such as the August 15th, 2019 Class 3 Permit Modification request to the New Mexico Environment Department (NMED) that states the new shaft is capable of supporting future uses such as a hoist for personnel, materials and salt. The DOE FY2019 Congressional Budget Justification stated that the shaft is expected to be utilized for airflow, salt hoists, waste emplacement, material handling, transporting personnel and emergency egress. Please describe, to the fullest extent possible, the full range of expected uses for the shaft.
- The new shaft is located to the west of the existing repository. Please provide the rationale and context that led to the selection of this location. Specifically, what long-term performance issues were considered? How were these issues weighed against other considerations, such as physical proximity to the anticipated new waste panels?
- Lastly, the EPA requests a current timeline for the excavation and construction of the shaft and associated drifts and facilities.

If you have any questions concerning these questions, please contact Tom Peake at peake.tom@epa.gov (202-343-9765).

Sincerely,

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Lee Ann B. Veal
Director
Radiation Protection Division

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