UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

Catherine Bohan, EIS Document Manager
West Valley Demonstration Project
U.S. Department of Energy
Ashford Office Complex
9030 Route 219
West Valley, NY 14171

MAR 01 2010

Dear Ms. Bohan:

The U.S. Environmental Protection Agency (EPA) has reviewed the final environmental impact statement (FEIS) for the Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (WNYNSC) (CEQ #20100019). The WNYNSC is a 3,340-acre site located 30 miles south of Buffalo, New York. The WNYNSC was originally licensed by the Atomic Energy Commission in 1966, and closed in 1972. The site was the home of the only operational commercial nuclear fuel reprocessing facility in the United States. This review was conducted in accordance with Section 309 of the Clean Air Act, and the National Environmental Policy Act (NEPA).

In 1980, the West Valley Demonstration Project Act (WVDPA) required the Department of Energy (DOE) to decontaminate and decommission, in accordance with any requirements prescribed by the Nuclear Regulatory Commission (NRC), the waste storage tanks and facilities used in the solidification of high-level radioactive waste, along with material and hardware used in connection with the West Valley Demonstration Project (WVDP). The FEIS consists of an analysis of environmental impacts associated with reasonable alternatives for decommissioning and/or long-term stewardship of WNYNSC, as well as a No Action Alternative. The preferred alternative is the Phased Decision-making Alternative.

Under the preferred alternative, decommissioning would be accomplished in two phases: Phase 1 decisions would include removal of all Waste Management Area (WMA) 1 facilities, the source area of the North Plateau strontium-90 groundwater plume (under the Main Plant Process Building), and the lagoons in WMA 2. Phase 1 activities would also include additional characterization of site contamination and studies to provide additional information in support of the technical approach to be used to complete site decommissioning. Phase 2 would support the completion of decommissioning actions or long-term management. The decision on a Phase 2 action would be made no later than ten years from the release of a Record of Decision (ROD) for this FEIS, and may require additional NEPA evaluations.

As compared to the revised draft environmental impact statement (DEIS), the FEIS has reduced the expected time of completion for Phase 1 activities from 30 to 10 years. This change was made in response to stakeholder's comments, and in order to keep the skilled labor on the jobsite during the transition from Phase 1 to Phase 2. EPA understands DOE's reasons for shortening the Phase 1 timeframe; however, EPA has identified some concerns regarding long term storage of high-level radioactive waste (HLW), Greater Than Class C radioactive waste (GTCC), Spent Nuclear Fuel (SNF), and other long-lived radioactive wastes. These issues are articulated in a September 1, 2009 letter from Paul Giardina, Chief of EPA Region 2's Radiation and Indoor Air Branch to the DOE (copy enclosed).

The time frame for a suitable disposal site for these wastes has changed substantially since the DEIS was released at the end of 2008. In February 2009, DOE Secretary Steven Chu stated that Yucca Mountain was no longer an option as a repository for HLW and SNF. In June 2009, the Commissioners of the NRC issued a revision to their "Waste Confidence Decision Update" revising Finding 2 to say, "The Commission finds reasonable assurance that sufficient mined geological repository capacity will be available within 50 – 60 years beyond the licensed life for operation of any reactor to dispose of the commercial high-level radioactive waste and spent fuel originating in such reactor and generated up to that time." These actions set a practical time frame for a geological repository by approximately 2100.

When the DEIS was released to the public at the end of 2008, it was believed that the Yucca Mountain repository would be open and accepting waste from the WVDP 30 years from a proposed 2010 target date for a ROD, i.e., approximately 2040. It was also thought that GTCC disposal capacity for the WVDP wastes would also be available before the 2040 time frame. In other words, the off site disposal of HLW, SNF, GTCC, and other long-lived radioactive wastes by the end of the Phase 1 30-year time frame was realistic.

Now, without disposal capacity, HLW, SNF, and GTCC will need to be stored on site for a longer period of time than anticipated when the DEIS was issued. As a result the EPA has requested that Phase 1 studies be designed to assure that the storage of these wastes be in compliance with the EPA's Standards for the Storage and Disposal of High-Level Radioactive Waste (40 CFR 191).

EPA is also concerned that the New York State Energy Research and Development Authority (NYSERDA) has not agreed to ensure that the end state of the State-licensed disposal area (SDA) would be the same as that which DOE will prescribe for the NRC-licensed disposal area (NDA). The SDA and the NDA are located on the South Plateau of the WVDP site and contain low-level radioactive waste as well as long-lived radioactive wastes such as GTCC, SNF, and perhaps HLW. In August 2009, severe

weather caused significant erosion in areas directly adjacent to the SDA. Considering the time frame that now must be envisioned for the storage of wastes on this site, EPA believes that adequate and similar closure plans which comply with all applicable Federal and State regulations, including 40 CFR 191, should apply to both disposal areas.

Additional technical comments requiring clarification are presented in Enclosure 2.

Thank you for the opportunity to comment on this project. If you have any questions concerning our comments, please contact Lingard Knutson of my staff at (212) 637-3747.

Sincerely yours,

John Filippelli

John Filippelli, Chief
Strategic Planning and Multi-Media Programs Branch

Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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SEP 0 1 2009

Mr. Bryan C. Bower, Director
West Valley Demonstration Project
U.S. Department of Energy
10282 Rock Springs Road
West Valley, NY 14171-9799

Dear Mr. Bower:

The purpose of this letter is to provide further EPA programmatic guidance to the U.S. Department of Energy (DOE), taking into account events that have occurred between October 2008, when EPA, as a member of the Core Team, signed off on the release of the revised draft environmental impact statement (RDEIS) for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project (WVDP) and Western New York Nuclear Service Center (WNYNSC) (CEQ #20080489), and the present. This guidance concerns decisions that would be made as part of Phase 2 if the Preferred Alternative were to be chosen.

EPA concurred with the Preferred Alternative contained in the RDEIS and was a cooperating agency in the development of the RDEIS which was prepared through the use of a DOE Core Team approach. Phase 1 proposes disposing off-site over six million cubic feet of radioactive waste in 8 years and concurrently allowing a period of <u>no more than 30 years</u> to investigate additional geologic studies, seek advancements in waste management, and make a Phase 2 decision. Making a Phase 2 decision in a shorter period is consistent with the Preferred Alternative as described in the RDEIS but disparate treatment of the State licensed disposal area (SDA) and the NRC licensed disposal area (NDA) either from an ultimate timing perspective or an end state perspective is not. The final concurrence meeting for the RDEIS occurred in October 2008.

Subsequently, during Core Team meetings held on August 19 and 20, 2009, the New York State Energy Research and Development Authority (NYSERDA) requested that the Phase 1 portion of the Preferred Alternative be shortened from thirty years to ten. Further, NYSERDA announced that it did not plan to decide on the ultimate fate of the SDA at the WNYNSC during the 10-year period it proposes for Phase 1, but instead would maintain it as a licensed, closed, low-level radioactive waste burial site indefinitely. In addition, NYSERDA indicated that it would not find the same arrangement acceptable for the NDA, which is immediately adjacent to the SDA and which is, in part, a Federal responsibility under the West Valley Demonstration Project Act (WVDPA).

Because the viability of Yucca Mountain as a high-level radioactive waste repository has been called into question, the disposition for the 275 high-level radioactive waste canisters off-site is uncertain and is likely to remain so for the foreseeable future. The availability of off-site waste disposal capacity for other wastes at the WNYNSC site is also uncertain. This means that both the high-level waste canisters currently located at the West Valley site and other wastes at the SDA and the NDA would require long-term care.

It is the position of the EPA that certain radioactive wastes located at the site require a level of protection equivalent to that which would have been provided at a designated storage or disposal site for spent nuclear fuel and high-level waste. As such, we recommend that 40 CFR 191 now be considered as the equivalent of an Applicable or Relevant and Appropriate Requirement (ARAR) for the WNYNSC site and that the FEIS contain a discussion of this standard. For wastes remaining on the site for periods longer than 10,000 years, the only precedent is the standard mandated by Congress through the Energy Policy Act of 1992. These are 40 CFR 197 and apply only to the proposed Yucca Mountain Repository. Any planning for Phase 2 of the Preferred Alternative needs to address this issue.

Without disposal capacity for the 275 high-level waste canisters, as well as certain other wastes, the site-wide cleanup of the West Valley storage site is not possible. EPA believes that changing the time frame for decision-making on the course of action to be pursued in Phase 2 of the Preferred Alternative from 30 years to 10 years is ill-advised since disposal capacity for these wastes is not likely to be available in so short a time. Further, whatever time frame is chosen for decision-making on Phase 2 and whatever outcome is chosen for the wastes in the SDA must be consistent for the NDA.

If you have any questions, please feel free to call me at (212)-637-4010.

Sincerely yours,

Paul A. Giardina, Chief
Radiation and Indoor Air Branch

cc: P.J. Bembia, NYSERDA
K.I. McConnell, NRC
E.E. Dassati, NYSDEC
G. Baker, NYSDOH

February 25, 2010

Enclosure 2

Additional EPA Region 2 Comments to the Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center FEIS

1. Section 2.4.3.7 and Figure 2-8 describe the time sequencing of decommissioning activities for the Phased Decision-making Alternative as "if [*emphasis added*] the Phase 2 decision is made" in 10 years or at year 10. Now that the time frame for Phase 1 was changed throughout the FEIS from 30 to 10 years, it should be corrected in this section on time sequencing for the Phased Decision-making Alternative.

2. Table 4-46 states that "much of the low-level radioactive waste is low-specific-activity (LSA) waste that would have no adverse impact on DOE or commercial disposal facility capacity." This is not categorically true or at least requires some explanation or clarification, since disposal capacity even for low-specific-activity and Class A wastes is limited. According to Table 4-47, 46 million cubic feet (1.2 million cubic meters of LSA and 120,000 cubic meters of Class A) will need to be disposed for the Sitewide Removal "commerical" option. The total remaining capacity at EnergySolutions is roughly 140 million cubic feet with an estimated 485 cubic feet of potentially licensable additional capacity. Even the smaller disposal volume for Phase 1 of the Phased Decision-making Alternative would consume nearly five percent of the current remaining capacity at EnergySolutions in the 8-year decommissioning period. Some qualification of "no adverse impact" would be useful.

3. An additional explanation of the "peak lifetime risk" and "year of peak risk" would be useful. Lifetime risk is calculated assuming continued (but not necessarily the same amount of) exposure over a period of years with EPA typically applying a 30-year exposure period when conducting CERCLA risk assessments. Page H-33 states that the "risk is calculated assuming a lifetime exposure at the peak predicted dose rate." However, when using radionuclide-specific factors, radionuclides giving the highest annual dose do not necessarily correlate with those giving the highest lifetime risk, so it is possible that the peak risk would not coincide with the peak dose. Further, it is unclear whether the "year of peak risk" represents the beginning, middle, or end of the lifetime exposure period. The time step used in the modeling affects the precision with which a "lifetime" risk can be estimated. It appears that the models are using a one-year time step up to year 100, with 100-year increments thereafter.

4. In the Response to Comments Document, Section 2.3 refers in Footnote 1 (page 2-6) to tritium releases from the Leachate Treatment Facility, stating "the same quantity of tritium would be discharged" during the respective 60 and 7 years for decommissioning under the Sitewide Removal and Sitewide Close-in-Place Alternatives. It is not clear that this would be true. Assuming that the source term for tritium is set (i.e., that no

additional tritium is being produced), it is likely that far less tritium would be discharged under the Sitewide Removal Alternative given that any remaining tritium will have passed through five half-lives, decaying by roughly 98 percent, by year 60. Some qualification of the assertion that "the same quantity of tritium would be discharged" would be useful.

5. The summary of transportation impacts in Sections 4.1.12.3 - 4.1.12.6 could be clarified with respect to the impacts of transporting construction materials and hazardous waste. It may seem counterintuitive that the Sitewide Removal Alternative should have less impact than the Sitewide Close-in-Place Alternative, when so much more hazardous waste is being shipped off site under the former. However, when one considers the estimated volumes of materials being brought on site for construction and erosion control for the latter, it becomes clearer why this would be so (see Tables 4-5 and 4-61). This point should be made more explicitly.

- Editorial Comments: Page 4-54 refers to the "Comprehensive Emergency Response, Compensation, and Liability Act" (it is correct in the acronym list)
- Page 4-78 states that drinking water MCLs were promulgated under the Clean Water Act (Appendix H correctly cites the Safe Drinking Water Act)