

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Materials Management, Bureau of Hazardous Waste and Radiation Management  
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February 3, 2020

Mr. Paul J. Bembia, Director  
West Valley Site Management Program  
New York State Energy, Research and Development Authority  
9030-B Route 219  
West Valley, NY 14171-9500

Dear Mr. Bembia:

**Re: DEC Radiological Performance Assessment Criteria for the State-licensed Disposal Area (SDA), Western New York Nuclear Service Center**

The New York State Energy, Research and Development Authority (NYSERDA) and the United States Department of Energy (DOE) are developing a Supplemental Environmental Impact Statement (EIS) for the Western New York Nuclear Service Center (West Valley Site). As part of that process these agencies are undertaking performance assessment modeling to evaluate the effects of various EIS closure alternatives for the West Valley Site. The State-licensed Disposal Area (SDA), a pre-10 CFR Part 61 radioactive waste disposal facility, is located within the otherwise federally (radiological) regulated West Valley Site. The SDA is regulated for radiological purposes under the NYS Agreement State Program rather than by the Nuclear Regulatory Commission. It is subject to a radioactive materials license from the New York State Department of Health and a Part 380 permit for maintenance of the disposal site from the Department of Environmental Conservation (Department). As such, state rather than federal radiological performance assessment (PA) criteria apply to the SDA.

Consistent with the "Regulators Communication Plan on Application of Cleanup Requirements for Decommissioning the West Valley Site" (<https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML031400633>), the Department expects that one of the closure alternatives for the site will evaluate the potential for unrestricted release of the entire West Valley Site, inclusive of the SDA, in compliance with NRC's LTR unrestricted release standard. If the SEIS preferred alternative is not an unrestricted release of the entire West Valley Site inclusive of the SDA, State radiological performance criteria must be utilized as part of the assessment of closure alternatives for the SDA.

The radiological PA criteria for the SDA were discussed at the June 2008 West Valley Citizen Task Force meeting, which was open to the public. The DOE and NYSERDA were present at that public meeting. These PA criteria must be used to model the SDA impacts for each of the closure alternatives addressed in the SEIS except a full unrestricted release of the entire West Valley Site.

### SDA Radiological Criteria

Regulatory requirements for closure of a radioactive waste disposal site are fundamentally different from license termination or remediation of a licensed facility in that disposal site regulatory requirements are based on the expectation that such a facility is intended to be the final disposal location for the waste contained therein, and will be closed in-place rather than remediated and closed through a license termination process.

The SDA was sited and operated prior to creation of the current low level radioactive waste classification scheme, and prior to current waste siting and closure criteria. The Department's regulations for the certification of proposed sites and disposal methods (6 NYCRR Part 382) and for the Design, Construction, Operation Closure, Post-Closure, and Institutional Control (6 NYCRR PART 383) are not directly applicable to pre-existing disposal sites, including the SDA. However, requirements of Parts 382 and 383 can be incorporated into a 6 NYCRR Part 380 permit as deemed appropriate by the Department. The following performance assessment requirements from Parts 382 and 383 should be utilized to evaluate the SEIS closure alternatives for the SDA:

- 382.12, protection of individuals from inadvertent intrusion into the waste mass;
- 382.14, stability of the disposal site after closure;
- 383-3.4(h)(2)(i), the analysis period must include dose assessments for a period of 10,000 years unless justification for a shorter time period is provided for consideration;
- 383-3.4(h)(2)(ii), the assessment *must not* rely on an institutional control period of greater than 100 years; and
- 383-3.4(h)(2)(iv), requirements for the analysis of long-term post-closure site stability, including the need to provide reasonable assurance that there will not be a need for ongoing active maintenance of the site.

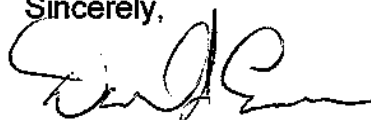
Additionally, in the event that unrestricted release of the entire site in compliance with the NRC LTR is not the closure alternative selected through the SEIS process, the long term potential dose attributable to the SDA to site occupants, inadvertent intruders or offsite members of the public *must not exceed* the requirements in section 382.11 (25 mrem/yr to the whole body, 75 mrem/yr thyroid, 25 mrem/yr to any other organ.)

A complicating factor is that the SEIS process is based upon evaluation of closure alternatives against the NRC requirements that utilize Total Effective Dose Equivalent (TEDE). For purposes of assessment of closure options for the SDA in the overall context of the site SEIS, the Department considers use of a 25 mrem/year TEDE dose is equivalent to the criteria in section 382.11.

The Department emphasizes that the concept of maintaining exposures As Low As Reasonably Achievable (see definition in 6 NYCRR 382.2(a)(5)) is an integral part of this requirement. Therefore, if at the end of the SEIS process any waste or site contamination remains at the SDA, all reasonable efforts must be made to keep any radiation dose from any wastes left at the SDA as far below the dose requirement set forth in 6 NYCRR 382.11 as reasonably achievable.

If you have any questions regarding this information, please contact Mr. Tim Rice at either 518-402-8789 or [timothy.rice@dec.ny.gov](mailto:timothy.rice@dec.ny.gov).

Sincerely,



Daniel J. Evans, P.E., Director  
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