



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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JAN 10 2000

Jack D. Parrott, Project Scientist  
Office of Nuclear Material Safety and Safeguards  
Mail Stop T-8F37  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Dear Mr. Parrott:

As I indicated at the Public Meeting on the U.S. Nuclear Regulatory Commission's draft policy statement on decommissioning criteria for the West Valley site held on January 5, 2000, at the Ashford Office Complex in West Valley, New York, I am forwarding my full Statement for inclusion in the public record and for your consideration.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jeanette Eng", is written over the typed name.

Jeanette Eng

c: F.X. Cameron, NRC

Enclosure

Statement on  
NRC Draft Policy Statement on the Application of  
10 CFR 20 Subpart E to West Valley Site  
January 5, 2000

Good Evening. I am Jeanette Eng with the United States Environmental Protection Agency's Region 2 office located in New York City. EPA's involvement with the West Valley site goes back to the mid-1970s, when EPA looked into the problems at the commercial low-level radioactive waste disposal area. In addition, EPA assisted in efforts that lead to the West Valley Demonstration Project for the high-level radioactive waste that resulted from the early spent fuel reprocessing that occurred at West Valley. West Valley provided many lessons learned with respect to siting, waste treatment, disposal practices, and now decommissioning.

I would like to offer some comments on the Nuclear Regulatory Commission's draft Policy Statement on the application of the NRC's License Termination Rule, 10 CFR 20 Subpart E, as the decommissioning criteria for the West Valley Demonstration Project and the West Valley site itself.

Because West Valley is a complex and unique site, EPA believes it will be important for federal agencies (NRC, DOE, EPA), New York State and the local community to work together to address foreseeable issues and seek consensus. Our collective goal should be to remediate the West Valley site of all hazardous and radioactive contaminants in a coordinated operation, and to not approach it as an iterative process.

EPA agrees with the NRC draft policy to prescribe decommissioning criteria for the West Valley site before completion of the EIS. By doing so, the U.S. Department of Energy will have a consistent basis to identify, compare and assess various decommissioning options for the site. However, EPA does have concerns on the cleanup standard, waste disposal, groundwater protection, institutional controls, non-radiological contaminants, etc., that EPA believes should be addressed as the DOE proceeds to develop cleanup options and decommissions the West Valley site.

#### Cleanup Standard

Under the Atomic Energy Act, EPA has authority to establish generally applicable standards for protection of human health and the environment. After the NRC license has been terminated and the site has been released from NRC regulatory authority, EPA standards will apply to the site. Therefore, it would be prudent to coordinate and address other conditions and requirements that need to be met in order to avoid the need for future remedial actions once the NRC license at West Valley is terminated.

With respect to the NRC dose criterion for unrestricted release of 25 millirems per year, it is EPA's understanding that NRC expects that at most NRC-licensed sites, the application of the principle to reduce doses to levels as low as reasonable achievable, ALARA, will achieve

cleanup levels that will be within the risk range EPA considers protective. The EPA risk range, as established in the 1990 revisions to the National Contingency Plan and EPA guidance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) for cleanups and remedial actions under the Superfund program, is  $10^{-4}$  to  $10^{-6}$  excess lifetime cancer risk from all radiological and non-radiological carcinogens. We urge the DOE to meet the Superfund risk range.

For restricted release of a site, the NRC License Termination Rule limits are 25 mrem/yr with the institutional controls in-place, and 100 to 500 millirems per year when the institutional controls fail. These specific levels are not protective of public health, and future actions under CERCLA may be necessary. If the site cannot be released for unrestricted use, EPA recommends that the site be reviewed under a five-year cycle to evaluate the effectiveness of the institutional and engineering controls, and the adequacy of the financial and institutional resources to maintain the controls. Although NRC recommends such review at 500 mrem/yr level, EPA recommends the 5-year review be instituted at any level that requires institutional controls to maintain the 25 millirems annual dose, including the 100 mrem/yr level.

More important than these dose numbers will be how the DOE intends to achieve them. Issues such as waste disposal options, how much residual radioactivity remains on-site, institutional controls, financial resources for long-term care, and public acceptance will define the decommissioning choices.

### Groundwater Protection

The EPA and NRC place different emphasis on the protection of groundwater. NRC includes the protection of groundwater in its annual dose criterion of 25 millirems. EPA specifically calls for the protection of groundwater to meet 4 millirems annual dose and the Maximum Contaminant Levels in the Safe Drinking Water Act. EPA would like to see a specific analysis that addresses protection of groundwater at West Valley to Safe Drinking Water Act levels. If significant quantities of residual contaminants are allowed to remain on-site after license termination, long-term monitoring of groundwater needs to be included to ensure groundwater is adequately protected in the future.

### Hazardous Waste

Again, in the desire to avoid future, additional remedial actions, the DOE should be cognizant and address non-radiological contaminants during the decommissioning designed to meet the NRC License Termination Rule. EPA has authority under the Resource Conservation and Recovery Act (RCRA) to regulate hazardous waste. Mixed waste, waste that contains radioactive materials and hazardous constituents, is jointly regulated by the NRC and EPA, or the respective Agreement/Authorized State. Hazardous waste is regulated solely by the EPA or RCRA Authorized State which New York State is one.

### Radionuclide Air Emissions

Since the enactment of air emissions standards for radionuclides under the National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, Subpart H, the DOE has obtained permits and operated well below the radionuclide air emissions dose limit of 10 millirems per year. EPA expects that the DOE will continue to comply with these regulations as it moves forward with decommissioning activities at the West Valley site.

### Conclusion

Let me conclude by reiterating that EPA believes it will be important for EPA, NRC, DOE, New York State and the local community to work together to address foreseeable issues and seek consensus. Our collective goal should be to clean up the West Valley site of hazardous and radioactive contaminants in one coordinated operation, and to not approach it as an iterative process. EPA stands ready to participate with other stakeholders in ensuring the decommissioning and cleanup activities at West Valley are protective of public health and the environment.

**Summary of Discussion and Agreement**  
**from**  
**Telephone Conference held October 13, 2000, 10:00 - 11:30 a.m.**  
**Concerning Cleanup Standards for the West Valley Demonstration Project**

Parties present were: New York State Department of Environmental Conservation (Paul Merges, Tim DiGiulio, Tim Rice, Barbara Youngberg); New York State Department of Health (Adela Salame-Alfie); U.S. Nuclear Regulatory Commission (Robert Nelson, Jack Parrott, Amy Snyder); and U.S. Environmental Protection Agency (Paul Giardina, Jeanette Eng).

The agenda for the telephone conference is attached to this summary. The goal of the call was to begin a dialogue that will hopefully yield an understanding of the appropriate State and Federal regulatory radionuclide cleanup standards for all pathways to be used at the West Valley Demonstration Project (WVDP).

Each agency gave a brief overview of its regulation, standard or guidance that either applies or would likely apply to the WVDP managed by the U.S. Department of Energy (DOE).

The U.S. Environmental Protection Agency (EPA) began by stating that cleanup of radiation sites under the authority of the EPA should meet the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) risk range of  $10^{-4}$  to  $10^{-6}$ . If the residual risk from contaminants on a site is within this risk range, the remedial action is considered protective of human health. Since radionuclides are present in the natural environment, achievable radiation risk is closer to the upper end of the risk range ( $10^{-4}$ ), rather than one-in-a-million risk ( $10^{-6}$ ). The cleanup of radiation sites under the authority of the EPA should also result in protection of drinking water consistent with the Safe Drinking Water Act (SDWA).

The U.S. Nuclear Regulatory Commission (NRC) pointed out that it has not completed its process to finalize the decontamination and decommissioning (D&D) criteria for the WVDP. The NRC staff's proposal that was the subject of public comment is to apply the license termination rule (LTR), 10 CFR 20, Subpart E, Radiological Criteria for License Termination, to West Valley. For the purpose of this telephone conference discussion, NRC was willing to assume that the NRC staff's proposed final draft policy statement for the WVDP will be applicable. The NRC summarized its criteria for unrestricted release to be 25 mrem/yr (all pathway dose) including that from ground water sources of drinking water and the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). In addition, 10 CFR 20, Subpart E allows for 100 and 500 mrem/yr (all pathway dose) levels for restricted release.

The New York State Department of Environmental Conservation (DEC) summarized its Technical Administrative Guidance Memorandum (TAGM) which was established seven years ago for evaluating cleanup plans for sites under DEC's authority with soils contaminated with radioactive materials. The guidance is for the total effective dose equivalent from residual radioactive materials remaining at a site to be ALARA and less than 10 mrem/yr for a maximally exposed individual under conservative, but realistic, exposure scenarios. With respect to ground water, the DEC presumes all saturated ground water units to be potable unless a specific declaration as a non-potable aquifer is made.

The agencies turned to discussing the application of their respective criteria to West Valley.

In most cases, EPA believes that a site cleaned up, for unrestricted release, to Derived Concentration Guideline Limits (DCGLs) that are developed consistent with NRC's guidance for deriving concentration limits to meet the NRC's annual limit of 25 mrem TEDE (total effective dose equivalent) will result in a residual risk within the CERCLA risk range of  $10^{-4}$  to  $10^{-6}$  when calculated in accordance with EPA's Risk Assessment Guidance for Superfund. With respect to meeting the dose limit and/or Maximum Contaminant Levels (MCLs) under the SDWA, Mr. Giardina noted that at West Valley it may be possible to achieve an effective dose equivalent of mrem/yr from beta-photon emitters but perhaps not some of the derived radionuclide concentration limits established in 1976 based on a critical organ dose of 4 mrem/yr.

With respect to ground water protection, DEC stated that it is New York State's policy that all water sources are considered potable. For a specific aquifer to be exempted as potable, there must be an assessment and clear demonstration that the unit is non-potable now and in the future. With respect to the (EPA's) drinking water dose limit of 4 mrem/yr, there may be merit in exploring ways to limit use of ground water during the time period when the 4 mrem/yr dose is exceeded. DEC reminded that Cattaraugus Creek is a source of surface drinking water and must meet the drinking water dose and MCL limits.

DEC and New York State Department of Health (DOH) are concerned about the scenario assumptions used to derive concentration limits to meet the annual dose limit of 10 or 25 mrem. For example, the U.S. Army Corps of Engineers Buffalo District uses non-conservative assumptions and has thus developed high concentration numbers that purportedly meet a dose limit of 25 mrem/yr and a risk range of  $10^{-4}$  to  $10^{-6}$ . For example, the Corps assumes that ground water underlying the Formerly Utilized Sites Remedial Action Program (FUSRAP) sites in Tonawanda, New York, is not potable and that these sites will remain industrial/commercial forever with no institutional controls.

The NRC responded that the demonstration of West Valley's ability to meet the NRC D&D criteria is the responsibility of the DOE. Although the NRC will be establishing the cleanup criteria to be used by the DOE, the NRC cannot require the DOE to follow NRC's approach in deriving DCGLs. Dr. Merges noted that DOE procedures are usually very similar to NRC guidance. The NRC noted that Environmental Impact Statements (EISs) are usually general, but perhaps DEC and EPA can ask for a higher level of detail to be provided in a separate document where the agencies can review the dose modeling assumptions and parameters.

The discussion turned to the applicability of NRC's cleanup standard (decommissioning criteria) to the NRC-licensed Disposal Area (NDA) and the State-licensed Disposal Area (SDA).

DEC pointed out that the cleanup criteria of 25 mrem/yr, for unrestricted release, should apply to the entire site including the NDA and SDA and that it would not be fair to have the entire site's annual dose of 25 mrem be from the WVDP including the NDA but allow no dose contribution from the SDA. DEC continued by stating that the SDA contains radium and perhaps FUSRAP

waste. DEC said that DOE has done a reassessment of the NDA waste inventory and will be doing one for the SDA. The NRC said that the EIS dose assessment will consider dose contribution from the SDA because of the National Environmental Protection Act (NEPA), but the NRC staff has recommended to the Commission that the LTR criteria not be applied by NRC onto the SDA. NRC said this is an issue that is on the agenda of next week's NRC's Advisory Committee on Nuclear Waste (ACNW) meeting. DEC continued that if the New York State Energy Research and Development Authority (NYSERDA) decides to close the SDA, it will have to meet the low-level radioactive waste regulation, 10 CFR 61. DEC stated that for now, NYSERDA is assuming the NDA and SDA will remain closed, but under license.

Additional discussion was held on applying drinking water standards to the West Valley site. DEC stated that it appears that the current drinking water pathway is from surface water. The shallow aquifer is currently not a drinking water source. DEC noted that further assessment is needed to determine if there is a potential for long-lived radionuclides to impact drinking water aquifers. The NRC said its LTR criteria do not set aside a portion of its dose for drinking water. Mr. Giardina asked if the NRC would object if EPA or the State required 4 mrem/yr for the drinking water pathways (at the WVDP). The NRC responded that it could not object to other agencies exercising their regulatory authorities and standards, as long as the site also met the NRC standard.

In response to a question on releasing part of West Valley for unrestricted use and maintaining an NRC license at the NDA, the NRC responded that the staff will be briefing the ACNW on this shortly.

Agreement: It was recognized that different Federal and/or State agencies have different cleanup standards which must be satisfied. Participants agreed that it is a desirable goal to have the separate agencies with different authorities at the West Valley site work together to present their respective requirements in a clear and coordinated way to DOE. Such efforts may help DOE, as well as other stakeholders and the public, clearly understand what standards apply, when they apply, and what is needed to demonstrate compliance. Moreover, it may help to facilitate the EIS planning and decision making processes, eliminate redundancy, and make better use of resources.

Next Steps: EPA agreed to prepare a summary of this telephone conference and circulate it for review to those present on this telephone conference call. DOH expressed concern that the DOE may not be sufficiently aware of the level of detail needed for others to evaluate the DCGLs and residual dose. NRC suggested that DOE be made aware of the non-NRC cleanup goals so the DOE can focus on addressing them in the EIS development. After the summary of this call and the agreement contained herein are finalized, EPA will contact DOE and suggest the State and EPA meet with DOE. NRC will provide a copy or the electronic address to obtain the transcripts of the ACNW discussions of the WVDP.