

**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.