



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

Mr. John R. Tappert, Director
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards
U.S Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Mr. Tappert:

I am writing in response to your letter of August 24, 2016, regarding the Zion Nuclear Power Station, Units 1 and 2, in Zion, Illinois. The August 24 letter notified EPA that the Zion site triggers an NRC consultation with EPA in accordance with the 2002 Memorandum of Understanding (MOU) entitled: "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites" (OSWER No. 9295.8-06, signed by EPA on September 6, 2002, and NRC on October 9, 2002). This letter responds to the notification in accordance with Section V.D.1 of the MOU. When NRC requests EPA's consultation on a decommissioning plan or a license termination plan, EPA is obligated to provide written notification of its views within 90 days of NRC's notice.

Your letter constitutes a Level 1 consultation as specified in the MOU because the consultation is concerning proposed derived concentration guideline levels (DCGLs) for certain radionuclides in the License Termination Plan (LTP) that exceed soil concentration values in Table 1 of the MOU for residential use.

The views expressed by EPA in this letter regarding NRC's decommissioning are limited to discussions related to the MOU. The comments provided here do not constitute guidance related to the cleanup of sites under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).¹ EPA's views on the matters addressed by this letter were developed from information furnished by NRC in the August 24 letter, other materials provided by NRC, and staff discussions.

¹Please see the memorandum entitled: "Distribution of Memorandum of Understanding between EPA and the Nuclear Regulatory Commission" (OSWER No. 9295.8-06a, October 9, 2002) which includes guidance to the EPA Regions to facilitate Regional compliance with the MOU and to clarify that the MOU does not affect CERCLA actions that do not involve NRC (e.g., the MOU does not establish cleanup levels for CERCLA sites). This memorandum may be found on the Internet at: <http://www.epa.gov/superfund/resources/radiation/pdf/transmou2fin.pdf>.

EPA Consultation Views

This response is limited to those matters that initiated NRC's request for consultation in its letter of August 24. NRC initiated this consultation because the proposed soil concentrations for cobalt-60 and cesium-137 exceed the MOU trigger values. It is EPA's understanding that DCGLs are generally developed for all radionuclides that a licensee was permitted by NRC to use. It is also our understanding that the remediation activities associated with NRC's decommissioning process are likely to significantly decrease the levels of those radionuclides that are present to residual levels below the DCGLs.

Soil: Land Use

NRC triggered the consultation for soil on the basis of DCGLs for cobalt-60 and cesium-137 exceeding the residential Table 1 values in the MOU. It is EPA's understanding that the future land use for this site after NRC decommissions it has not yet been determined.¹ Table 1 contains trigger values for both residential and industrial/commercial land use. At CERCLA sites and at some Resource Conservation and Recovery Act (RCRA) sites, EPA generally uses the guidance "Land Use in the CERCLA Remedy Selection Process" (OSWER Directive No. 9355.7-04, May 25, 1995) to determine what constitutes a reasonably anticipated land use. This guidance document may be found on the Internet at:

<http://www.epa.gov/superfund/community/relocation/landuse.pdf>.

NRC is planning to release the site for unrestricted use. However, a more restrictive land use, such as industrial, could be chosen. Ensuring continuance of a restricted land use, such as industrial, however, is likely to involve the use of institutional controls. For further information regarding how EPA selects institutional controls, see "Institutional Controls: A Site Manager's Guide to Identifying, Evaluating and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups" (OSWER Directive 9355.0-74FS-P, September 2000). This guidance document may be found on the Internet at:

<http://www.epa.gov/correctiveaction/resource/guidance/ics/icfactfinal.pdf>.

Soil: Modeling

The Table 1 soil values in the MOU, that NRC's DCGLs may exceed at this site, are based on a 1×10^{-4} cancer risk developed using an electronic calculator entitled: "Radionuclide Preliminary Remediation Goals (PRGs) for Superfund." This calculator generates PRG concentrations at the 1×10^{-6} risk level. The PRG value at 1×10^{-6} was multiplied by 100 to derive the 1×10^{-4} value for Table 1 consultation triggers. (At CERCLA sites, PRGs based on cancer risk should continue to be developed at the 1×10^{-6} level.) The soil concentration values were developed using conservative default parameters. At most sites, higher soil concentrations corresponding to a given risk level may generally be justified using site-specific parameters. The radionuclide PRG calculation tool may be found on the Internet at: <http://epa-prgs.ornl.gov/radionuclides/>.


¹ Please note that, in accordance with section 121(c) of CERCLA, EPA, when remediating a site for an industrial/commercial land use, is also likely to review the site for continued protectiveness at least every five years.

In EPA's view, if the licensee is unable to meet the Table 1 soil values for residential use, NRC should consider the use of a more restricted land use, such as industrial, and appropriate institutional controls. In addition, NRC should consider determining if the use of site-specific parameters was justified in modeling at this site. The use of site-specific parameters would not alter NRC's obligation to possibly trigger a Level 2 consultation, if Table 1 soil values were found to be exceeded after the Final Status Survey measurements. If a Level 2 consultation is needed, NRC should furnish any site-specific parameters used and their rationale for allowing their use during the dose assessment for the site, in order to facilitate EPA offering its views with a more accurate estimate of the risks posed by residual contamination at the site.

Conclusion

EPA staff will remain available to NRC for consultation if needed at the site. If you have any questions regarding this letter, please contact Stuart Walker of my staff at (703) 603-8748.

Sincerely,

for 
Dana Stalcup, Director
Assessment and Remediation Division
Office of Superfund Remediation and
Technology Innovation