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

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

SEP - 9 2009

Mr. Larry W. Camper, Director,
Division of Waste Management
And Environmental Protection
Office of Federal and State Materials
And Environmental Management Programs
U.S Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Mr. Camper:

I am writing in response to your letter of June 22, 2009, regarding the Mallinckrodt Inc., site in St. Louis, Missouri. The June 22 letter notified EPA that the Mallinckrodt site has triggered a Nuclear Regulatory Commission (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 request received pursuant to Section V.D.1 of the MOU. This section provides that when NRC requests EPA's consultation on a decommissioning plan or a license termination plan, EPA will provide written notification of its views within 90 days of NRC's request.

The June 22 letter constitutes a Level 1 consultation as specified in the MOU because the consultation involves proposed derived concentration guideline levels (DCGLs) for certain radionuclides in the Decommissioning Plan (DP) which exceed soil concentration values in Table 1 of the MOU for industrial use.

The views expressed by EPA in this letter regarding NRC's decommissioning are limited to discussions related to the area specified in the MOU. The comments provided here do not constitute guidance related to the cleanup of sites under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authority.[1] EPA's

[1] Please 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/health/contaminants/radiation/pdfs/transmou2fin.pdf.

views on the matters addressed by this letter were developed from information furnished by NRC in the June 22 letter, other materials provided by NRC, and staff discussions.

EPA Consultation Views

This response is limited to those matters that initiated NRC's request for consultation. NRC initiated this consultation because the derived concentration guideline levels (DCGLs) in the decommissioning plan exceeded the MOU trigger values for four radionuclides in soil. 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 many of these radionuclides may not be present in the media (soil) discussed in this letter, and 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 radium-226, thorium-232, total uranium, and uranium-238 exceeding the residential Table 1 values in the MOU. It is EPA's understanding that the future land use for portions of this site with significant soil contamination is likely to continue to be industrial use after NRC decommissions the site.[2] Table 1 contains trigger values for both residential and industrial/commercial land use. At CERCLA sites and at some 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 is a reasonably anticipated land use. This guidance document may be found on the Internet at: http://www.epa.gov/superfund/community/relocation/landuse.pdf.

As your letter states, NRC is planning to release the site for unrestricted release while the planned land use is industrial use. 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

[2] 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.

multiplied by 100 to derive the 1 x 10^{-4} value for Table 1 consultation triggers. (At CERCLA sites, PRGs based on cancer risk should continue to be developed at the 1 x 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/.

In EPA's view, if the licensee is unable to meet the Table 1 soil values, NRC should consider the use of a more restricted land use 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 are available to NRC for consultation if needed at the Site. If you have any questions regarding this letter, please contact me or have your staff contact Stuart Walker of my staff at (703) 603-8748.

Sincerely,

Elizabeth Southerland, Director
Assessment and Remediation Division
Office of Superfund Remediation and
Technology Innovation