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

DEC 21 2004

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Jack R. Strosnider
Director, Office of Nuclear Material
Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Mr. Strosnider:

I am writing in response to your letter of October 27, 2004, regarding the Kerr-McGee, Cimarron site in Crescent, Oklahoma. The October 27 letter notified EPA that the Kerr-McGee site would have triggered 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.

The October 27 letter does not constitute a Level 1 consultation as specified in the MOU because a Site Decommissioning Management (SDMP) Action Plan had already been issued for the site. NRC initiated the consultation on this site in the spirit of the MOU. EPA is providing its views in a manner equivalent to what we expect to provide for in future Level 1 consultations, similarly, in keeping with the spirit of the MOU.

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 October 27 letter, other materials provided by NRC, and staff discussions.

[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/resources/radiation/pdf/transmou2fin.pdf.

EPA Consultation Views

Today's response is limited to those matters that initiated NRC's request for consultation in its letter of October 27. NRC initiated this consultation because the derived concentration guideline levels (DCGLs) in the SDMP Action Plan exceed the MOU trigger values for one radionuclide in soil and two radionuclides in groundwater. 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 and groundwater) discussed in this letter, and that the remediation activities associated with NRC's decommissioning process are likely to significantly decrease below the DCGLs the residual levels of those radionuclides that are present.

Soil: Land Use

NRC triggered the consultation for soil on the basis of DCGLs for total uranium exceeding the residential Table 1 value in the MOU. NRC staff informed EPA in conversations that the uranium isotopes present at the site are uranium-234, uranium-235 and uranium-238. EPA was unable to determine in conversations with NRC staff if the DCGLs for uranium actually exceed the Table 1 values since these concentrations were reported in the SDMP Action Plan in terms of activity for total uranium. To allow comparison between the DCGLs for uranium and the Table 1 value, the DCGL concentrations should be expressed both in terms of mass for total uranium, and in terms of activity per uranium isotope.[2] The remainder of EPA's views on soil land use and modeling issues assume that the DCGL for either uranium-235, uranium-238, or total uranium does exceed at least one Table 1 value, which may be an inaccurate assumption.

Table 1 contains trigger values for both residential and industrial/commercial land use. It is EPA's understanding that the future land use for portions of this site with significant soil contamination are likely to continue to be industrial use after NRC decommissions. At CERCLA 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/resources/landuse.pdf.

In EPA's view NRC should consider determining if the reasonably anticipated land use for the site is industrial/commercial. If the future use of the site is reasonably anticipated to be industrial, rather than residential, it is more likely that the site will not exceed Table 1 trigger

[2]A DCGL of 30 pCi/g in soil for uranium -235 would exceed the Table 1 residential soil value for uranium-235 but not for total uranium, while 30 pCi/l of uranium-238 would not exceed the Table 1 value for uranium-238 but would exceed the total uranium value. A DCGL of 180 pCi/l in groundwater for uranium-238 would exceed the MCL, while 180 pCi/l of uranium-235 would not exceed the MCL. The relationship of mass to activity for radionuclides is discussed in Appendix B to the "Soil Screening Guidance for Radionuclides: Technical Background Document" (OSWER Directive 9355.4-16, October 2000) which may be found on the Internet at: http://www.epa.gov/superfund/resources/radiation/tbd-appendix-b-clean.pdf.

values in accordance with that land use.[3] 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/superfund/action/ic/guide/guide.pdf

Soil: Modeling

The uranium-235 Table 1 soil value in the MOU that NRC's DCGLs may exceed at this site is 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 total uranium Table 1 soil value in the MOU that NRC's DCGLs may exceed at this site is based on a noncarcinogenic hazard index (HI) quotient of 1, developed using an electronic calculator entitled: "Soil Screening Guidance for Chemicals." 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/. The Soil Screening Guidance for Chemicals calculation tool may be found on the Internet at: http://risk.lsd.ornl.gov/calc_start.shtml

In EPA's view, NRC should consider determining if the use of site-specific parameters were justified in modeling at this site. The use of site-specific parameters would not alter NRC's obligation to possibly trigger a future Level 2 consultation, if Table 1 soil values were found to be exceeded after the Final Status Survey (FSS). However, during a potential Level 2 consultation, if NRC is able to furnish such site-specific parameters and their rationale for allowing their use during the dose assessment for the site, such information may facilitate EPA offering its views with a more accurate estimate of the risks posed by residual contamination at the site.

Ground water:

NRC triggered the consultation for groundwater on the basis of DCGLs for two radionuclides in the SDMP Action Plan exceeding Maximum Contaminant Levels (MCLs) under the Safe Drinking Water Act. As noted previously for soil, EPA was unable to determine in conversations with NRC staff if the DCGLs for uranium actually exceed the MCL since these concentrations were reported in the SDMP Action Plan in terms of activity for total uranium. EPA's views below on groundwater issues would apply whether the MCL for total uranium is exceeded, since the MCL for Technetium-99 is exceeded.

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[3]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.

It is EPA's understanding that NRC is planning to first implement a source control remediation strategy that may also address groundwater contamination. At CERCLA sites, EPA often uses such a phased approach for remediating groundwater. In addition to source control, EPA may employ active remediation measures (e.g., pump and treat), passive remediation measures (e.g., monitored natural attenuation), as well as evaluating the potential applicability of program flexibilities (e.g., alternate concentration limits, technical impracticability waivers, or aquifer classification exemptions) under EPA's phased approach to addressing groundwater contamination. At CERCLA sites, EPA often uses the guidance "Presumptive Response Strategy and Ex-Situ Treatment Technologies for Contaminated Ground Water at CERCLA Sites, Final Guidance," (OSWER Directive 9283.1-12, October 1996) to implement its phased approach. This guidance document may be found on the Internet at: http://www.epa.gov/superfund/resources/gwguide/index.htm.

In EPA's view, a strategy should be developed for the remaining ground water contamination in the event the planned source control remedy does not reduce contamination in ground water to MCLs. While conducting a ground water response action , EPA would typically encourage State or local governments to implement use controls to prevent well drilling or drinking the ground water with contamination above the MCLs. In some cases, EPA may provide an alternative drinking water source.

Conclusion

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

Sincerely,

Michael B. Cook, Director
Office of Superfund Remediation
and Technology Innovation