



Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

May 20, 2008

Mr. Steve McCracken
Assistant Manager for Environmental Management
DOE-Oak Ridge Office
P.O. Box 2001, EM-90
Oak Ridge, TN 37831

Dear Mr. McCracken:

Recommendation 170: Recommendation on Remedial Investigation/Feasibility Study for East Tennessee Technology Park

At our May 14, 2008, meeting, the Oak Ridge Site Specific Advisory Board approved the enclosed recommendation.

We appreciate your consideration of this recommendation and look forward to receiving your response by August 14, 2008.

Sincerely,

A handwritten signature in black ink, appearing to read "Lance J. Mezga".

Lance J. Mezga, Chair

Enclosure

cc/enc: Dave Adler, DOE-ORO
Mike Farmer, Roane County Mayor
Doug Frost, DOE-HQ
Pat Halsey, DOE-ORO
Connie Jones, EPA Region 4
Rex Lynch, Anderson County Mayor
James O'Connor, Oak Ridge City Manager
Melissa Nielson, DOE-HQ
John Owsley, TDEC



Oak Ridge Site Specific Advisory Board Recommendation 170: Recommendation on Remedial Investigation/Feasibility Study for East Tennessee Technology Park

Background

The Oak Ridge Gaseous Diffusion Plant began operations during World War II as part of the Manhattan Project to develop the first atomic bombs. The plant's original mission was to produce enriched uranium for use in those weapons. After the war, the plant produced enriched uranium for the commercial nuclear power industry from 1945 until 1985. All operations were shut down at the plant in 1987.

The U.S. Department of Energy's (DOE) long-term goal for the site, now known as East Tennessee Technology Park (ETTP) is conversion to a commercial industrial park. The site is undergoing environmental cleanup, which includes remediation of contaminated soils on the site and the decontamination and decommissioning (D&D) and demolition of unneeded buildings and facilities.

DOE has signed two of three Comprehensive Environmental Restoration, Compensation and Liability Act records of decision (ROD) with the Tennessee Department of Environment and Conservation (TDEC) and the Environmental Protection Agency (EPA) authorizing environmental restoration of 2200 acres of land at ETTP. This area encompasses about 1400 acres known as Zone 1 that surrounds a large portion of the main plant area and about 800 acres of plant area designated as Zone 2.

The primary objectives of these two decisions are to protect future industrial workers and underlying groundwater from contamination in soils, slabs, and subsurface structures.

Development of a final sitewide ROD for groundwater, surface water, and ecological soil risk remains to be developed. Before the final sitewide ROD can be written a remedial investigation/feasibility study (RIFS) is conducted, which is used to develop the proposed plan to implement the sitewide ROD.

In May 2007 DOE issued a D2 version of the RIFS for review by EPA and TDEC. DOE provided the RIFS to the Oak Ridge Site Specific Advisory Board (ORSSAB) for review as well.

Because of the complexity of the document ORSSAB engaged the services of ARCADIS to review the document and provide a report to the ORSSAB Environmental Management (EM) Committee. ARCADIS provided the report in July 2007.

In the meantime, TDEC and EPA offered a number of comments to DOE on the D2 version of the RIFS. Those comments were included in a D3 version of the RIFS. The comments were significant enough that again ORSSAB engaged ARCADIS to review the D3 RIFS and provide a summary and assist the committee in preparing ORSSAB comments or recommendations on the D3.

ARCADIS provided its report on January 16, 2008. EM Committee Vice Chair Tim Myrick reviewed the report and suggested that ARCADIS provide a more detailed report on three aspects of the report:

- Maximum Contaminant Levels as Remedial Goals (MCLs)
- Monitored Natural Attenuation Remedy Duration to Closure (MNA)
- Technical Impracticability (TI)

Discussion

Representatives of ARCADIS attended the February 20, 2008 EM Committee meeting to more fully explain the three issues noted above. Due to the need to provide immediate feedback to DOE as part of their ongoing negotiations with TDEC and EPA on the draft document, the ARCADIS comments on the D3 version of the RIFS dated January 16, 2008 were provided to DOE-Oak Ridge EM.

MCLs are used in the ETTP RIFS to set remediation goals, identify areas that require remediation, consider possible remedies, and are integral in determining implementation, cost, and effectiveness.

The alternative to MCLs is risk-based remedial goals (RBRG), which are calculated in a risk assessment and are typically higher limits than MCLs.

MNA is a naturally occurring process that acts without human intervention to reduce contamination over time. However relying on MNA as a remediation technique is not a walk away approach. MNA targets dissolved phase concentrations; it is acceptable if concentrations reach remediation goals within 100 years; the time for remediation is calculated on site-specific conditions; and contingency plans are required if MNA is ineffective. The issues associated with MNA include deciding if the 100 year duration is acceptable and what the course of action is if the calculated duration increases after implementation.

A TI waiver is a document that can be issued when compliance with applicable or relevant and appropriate requirements (ARAR) is technically impracticable from an engineering standpoint within a reasonable timeframe. A TI can be applied anytime during remediation. Some key points for using TI include:

- A TI decision waives ARARs in a record of decision or amendment
- Is not necessarily applied over an entire contamination plume
- Is not a walk away remedy
- It can be implemented before or after remediation is begun
- It can be used to revisit remedies when cleanup goals cannot be met
- It does not inhibit the use of innovative technologies
- It can be used to set achievable remedial goals

Recommendation

Using the information provided by ARCADIS, the EM Committee developed the following recommendations for DOE to consider in developing the proposed plan for the ETTP Sitewide ROD:

1. ORSSAB recommends the selection of risk-based remedial goals rather than maximum contaminant levels to facilitate active remediation options for groundwater and to allow the establishment of achievable goals.
2. ORSSAB recommends a re-evaluation of the 100-year duration for the monitored natural attenuation activities with a focus on a more reasonable timeframe of 30 to 50 years.
3. ORSSAB realizes that a technical impracticability waiver may be necessary to address the source term in some of the contaminated areas, however, doing so without a source action at those sites may jeopardize successful application of monitored natural attenuation. A technology demonstration should be considered for at least one of the critical areas prior to a final decision to employ a technical impracticability waiver.

4. While final decisions on technology options and subsequent proposed plans for ETP groundwater cleanup will require completion of the recommended technology demonstrations, ORSSAB believes that it is very important to complete the regulatory approval of the current RIFS document as a baseline for future decision documents.