



Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

May 12, 2005

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Comments and Recommendations on the Public Health Assessment for the Toxic Substances Control Act Incinerator

Dear Sirs:

At our May 11, 2005, meeting, the Oak Ridge Site Specific Advisory Board approved the enclosed comments and recommendations.

We appreciate your consideration of these comments and recommendations and look forward to seeing the final revisions of the Public Health Assessment for the Toxic Substances Control Act Incinerator.

Sincerely,

A handwritten signature in cursive script that reads "Kerry Trammell".

Kerry Trammell, Chair

Enclosure

cc/enc: Dave Adler, DOE-ORO
Pat Halsey, DOE-ORO
Connie Jones, EPA Region 4
John Kubarewicz, Bechtel Jacobs Company LLC
John Owsley, TDEC
Elizabeth Phillips, DOE-ORO
Sandra Waisley, DOE-HQ



Oak Ridge Site Specific Advisory Board Comments on the Public Health Assessment for the Toxic Substances Control Act Incinerator

BACKGROUND

Since 1942, the U.S. government and contractors have conducted various research and development activities at the Oak Ridge Reservation (ORR), located in Anderson and Roane Counties in Tennessee. These activities were primarily conducted at four separate facilities previously known as the Y-12 plant, the K-25 site, the S-50 site, and the X-10 site. For much of ORR's history, the research and development activities focused on designing and producing materials and components for nuclear weapons. In recent years, however, the ORR facilities' missions have change considerably. While some ORR facilities continue to conduct nuclear research and production projects vital to national security, other ORR facilities devote considerable resources to environmental research and restoration.

The U.S. Department of Energy's (DOE) environmental restoration activities address contamination that remains from past research, development, and production operations. A challenge faced by DOE has been how to handle "mixed wastes," or wastes that contain both chemical and radioactive contamination.

One way DOE and its contractors have addressed the challenge of mixed low level waste is to design and operate an incinerator that treats and reduces the volume of waste materials. The incinerator is located at East Tennessee Technology Park (ETTP), formerly the K-25 site. The incinerator is commonly known as the "TSCA Incinerator" because its operation is authorized under the Toxic Substances Control Act (TSCA) to treat wastes containing PCBs. The incinerator is also permitted under the Resource Conservation and Recovery Act to treat hazardous wastes. Construction of the incinerator was completed in 1989, and it routinely began treating wastes from ORR and other DOE facilities in 1991. The TSCA Incinerator continues to operate today.

A public health assessment (PHA) has been issued by the Agency for Toxic Substances and Disease Registry (ATSDR) that evaluates the public health implications of environmental releases from the TSCA Incinerator, including air emissions, solid wastes, and discharges to surface water. The PHA focuses almost entirely on environmental health concerns; that is, whether local residents living in communities near ETTP have contacted contamination levels that might cause health problems. ATSDR is aware that some residents also have concerns about past and ongoing occupational exposures to contaminants at ORR. However, ATSDR's mandate does not include evaluating most occupational exposure scenarios.

ATSDR concluded that the TSCA Incinerator releases trace levels of contaminants into the environment, but in amounts far below levels associated with health effects. In preparing the PHA, ATSDR observed that regional air quality in the Knoxville area is sometimes poor not as a result from a single source but from industrial and mobile sources over a broad area. Ambient air data for metals gathered by DOE and the Tennessee Department of Environment and Conservation (TDEC) had annual average concentrations for arsenic, cadmium, and chromium greater than health-based comparison values applied by ATSDR. ATSDR recommended that

routine ambient air monitoring be continued and that TDEC should achieve lower detection limits for its metals monitoring. This was seen as an opportunity to verify the quality of DOE's ambient air monitoring for metals. According to ATSDR, TDEC also should continue to issue warnings on days with poor air quality, and residents should heed these warnings as a response to the regional air quality issue to which TSCA Incinerator emissions contribute little.

DISCUSSION

On April 20, 2005, a presentation about the PHA (Public Health Assessment for Oak Ridge Reservation (USDOE), TSCA Incinerator, Oak Ridge, Roane County, Tennessee, EPA Facility ID: TN 1890090003) was made to the Environmental Management Committee of the Oak Ridge Site Specific Advisory by Dr. William Taylor of the ATSDR.

The presentation explained the purpose of the TSCA Incinerator and what it was designed to handle. The presentation also explained the purpose of the PHA, how the report was prepared, an explanation of data, and a summary of findings. TDEC and DOE perspectives were also solicited as input during the discussion.

At the meeting, the committee generally endorsed the report and felt it was a good reference on the history and status of the incinerator. However, the committee had a number of questions and comments about the incinerator and ATSDR's findings. A major portion of the discussion was about the need for TDEC's duplication of DOE's ambient air data and the issue of clearly communicating the incinerator's contributions to regional air quality issues. Subsequent to the meeting, further review of the PHA revealed that the report text does carefully qualify incinerator contributions to regional air quality throughout but could always be subject to citation out of context. This may not be easily addressed if ATSDR feels obligated to report and make recommendations on issues that are not site-specific. Also, a review of annual reporting to the public by DOE and TDEC did not disclose that selected metals concentrations in ambient air were above any applicable guideline.

GENERAL COMMENTS AND RECOMMENDATIONS

Comment: The report represents an excellent consolidation of voluminous information compiled to educate the public about the history, operation, and environmental impacts of the facility.

Recommendation: The factual accuracy, conclusions, and recommendations in the report need to be reviewed in the future against any new information from performance tests and risk assessments associated with ongoing permit renewal requirements.

Recommendation: Continuous stack sampling for metals and continuous emission monitoring of particulate matter should be maintained using equipment already installed at the facility and the results used to provide continuing assurance of anticipated performance of emission controls. This may provide for better detection of changed conditions at the incinerator than ambient air sampling and monitoring.

Comment: ATSDR has identified that ambient air concentrations of arsenic, cadmium, and chromium are present at concentrations above their health-based comparison values. Annual reporting by DOE and TDEC has not disclosed the same conclusion to the public and has applied other guidelines (e.g., risk-specific doses from 40 CFR Part 266). DOE, TDEC, and ATSDR should resolve the appropriate comparison standard for the data.

Comment: Regarding ATSDR's recommendation that TDEC should achieve lower detection limits in its metals monitoring network and, after lowering detection limits, compare its data to DOE's metals monitoring data, the Board is uncertain whether value is added beyond that which could be achieved by critical technical oversight of DOE's procedures and review of any proposed changes. The Board, however, recognizes that improvements in TDEC's monitoring capability may be needed to obtain measurements for purposes other than direct comparison to DOE's data and to allow for continuation of data collection if DOE's monitoring should be discontinued.

SPECIFIC COMMENTS

Air emissions, Page 7, Lines 36-38

Comment: The following rewrite is suggested: "The design of an incinerator, including waste and residual handling, largely determines the amount of fugitive emissions that might occur."

Amount of waste treated (see Figure 5), Pages 14-16

Comment: This section implies that the incinerator is operating much below its capacity. Other permit conditions for specific contaminants and parameters in the feed would cause the allowable waste feed rate to be lower than just the limit on liquid and solid mass throughput.

Thermal relief vent (TRV) openings (See Table 2), Page 17

Comment: The rationale for not analyzing any samples since 1996 would appear to need basis from additional criteria other than a management decision that feed and operating conditions were bracketed by previous events. Periodic analysis may be needed more frequently to identify changes in ambient background concentrations and to assure quality of sampling and analytical procedures.

Residents closest to the site, Demographic Information, Page 34, Figure 8

Correction: Correct spelling for "Dyllis" in upper left map.

Episodic releases following TRV openings, Page 45, Lines 19-27

Comment: The fact that samples are collected during all TRV events needs qualification based on analysis decision criteria.

June 1988 RCRA Trial Burn (Engineering-Science 1988b), Page A-5, Lines 14-16

Correction: The report states that an additional trial burn one year later was conducted to better establish permitting limits on key operating conditions. The retest was in fact required after TDEC ruled the test report inconclusive. The reasons that the test report was ruled inconclusive were because some samples were broken in transit to the laboratory and others were not analyzed properly or exceeded the allowed holding time before being analyzed. All samples that were correctly analyzed were within the required performance standards.

Performance Tests, Section A-2

Comment: A new permit issued January 25, 2005, revises the TDEC Permitted Emission Limits. Most of the revised limits reflect application of Maximum Achievable Control Technology standards for pollutants with limits under that regulation. Sulfur dioxide and hydrogen fluoride are unchanged. Beryllium is increased from 0.002 lb/day to 0.02 lb/day.