

**The US DOE Environmental Management Oak Ridge Site Specific Advisory Board:  
A Review of the ORSSAB's Impact on Cleanup Decisions on the Oak Ridge Reservation – 9395**

Lance J. Mezga  
Past Chairman, ORSSAB  
David Adler  
US Department of Energy  
Oak Ridge

**ABSTRACT**

This paper reviews the impacts of the Oak Ridge Site Specific Advisory Board (ORSSAB), a local citizens advisory group, on the US DOE's decisions regarding environmental cleanup on the Oak Ridge Reservation in East Tennessee. The Board was established in 1995 and has actively participated in the development of project goals and the review of project plans and activities. The Board has provided nearly 200 recommendations to DOE and the State of Tennessee and US EPA. Although not all recommendations have been implemented, DOE has provided a thoughtful response to each indicating either acceptance and a plan for implementation or non-acceptance and the rationale for the decision. As a result, the Board has been an active participant in the cleanup program for the Oak Ridge Reservation and community values have been factored into cleanup plans and actions.

**INTRODUCTION**

The Oak Ridge Site Specific Advisory Board (ORSSAB) is an independent, federally appointed citizens' panel that provides advice and recommendations to the U.S. Department of Energy (DOE) Oak Ridge Office (ORO) on its Environmental Management (EM) Program in Oak Ridge, Tennessee. The Board was formed in 1995 and is composed of up to 20 members, chosen to reflect the diversity of gender, race, occupation, views, and interests of persons living near the DOE Oak Ridge Reservation (ORR). Members are appointed by DOE and serve on a voluntary basis, without compensation. Non-voting liaisons include representatives from DOE-Oak Ridge the U.S. Environmental Protection Agency Region 4, and the Tennessee Department of Environment and Conservation. Non-voting student participants also serve on the Board to represent the viewpoints and concerns of area youth.

**MISSION OF THE ORSSAB**

The Board's mission is to provide meaningful opportunities for collaborative dialogue among the communities surrounding the ORR, EM, and DOE-ORO. The Board provides informed advice and recommendations concerning EM site-specific issues, such as cleanup standards and environmental restoration, waste management and disposition, stabilization and disposition of non-stockpile nuclear materials, excess facilities, future land use and long-term stewardship, risk assessment and management, and cleanup science and technology activities. The Board ensures early, ongoing community access to information (and its interpretation and implications) and dialogue that improves the quality of the decision-making process of EM and ORO.

**HIGHLIGHTS OF THE BOARD'S IMPACT ON CLEANUP DECISIONS ON THE ORR**

Since its formation in 1995, the Board has actively engaged local citizens in the decision-making process related to cleanup actions on the ORR. The Board has made 172 recommendations to DOE on important aspects of the cleanup program, such as land use and reindustrialization; stewardship; cleanup standards, activities, and budgets; and waste management. Recent important recommendations relate to the

application of independent verification of cleanup on the ORR and historic preservation actions for the north tower of the K-25 building.

To ensure that Board recommendations represent the broader public and to provide the public with greater opportunity for participation in decisions, the Board has held numerous topical public meetings and workshops over the years. Several key examples are highlighted below.

### **Community Outreach**

Since its inception the ORSSAB has been a leader in community involvement. The ORSSAB continues to reach out to the community to ensure that it accurately represents community values and interests through its stewardship education initiative, presentations to local civic groups, and participation in events such as Earth Day. The Stewardship Education Initiative provides information packets and training for local area teachers to assist them in teaching classes on environmental stewardship. Presentations to local area citizens groups including Rotary Clubs and similar groups provide an opportunity for Board members to carry the message on cleanup of the ORR to a broader segment of the public and to obtain input. Events such as Earth Day allow the Board to interact with the general public informally and to solicit their input on key clean issues.

In the past year, the Board has provided critical leadership in bringing together key stakeholder groups to address critical issues associated with the oral history program for Oak Ridge. Key issues related to the lack of a central location housing all of the existing tapes, no mechanism to manage an active oral history program in terms of cataloguing and transcribing tapes, no process for identifying and interviewing people, and no means for providing access to material to researchers and other interested parties. As a result of the ORSSAB-sponsored oral history workshop, a comprehensive oral history program, the Center for Oak Ridge Oral History (COROH), has been established under a steering committee made up of local stakeholder groups.

In June 2006, the Board received EPA's Citizens Excellence in Community Involvement Award.

### **Long Term Stewardship**

ORSSAB recognizes that the decisions being made today on the cleanup of the ORR will have long lasting effects that will impact future generations. The Board carefully weighs and considers DOE's plans and actions in the light of their impact on future opportunities. These considerations are reflected in the Board's input on cleanup strategies as documented in Records of Decision as well as plans for historic preservation of these unique DOE facilities. Every major record of decision (ROD) developed to date for the ORR has had heavy ORSSAB involvement. None of the final RODs have been at odds with majority ORSSAB opinions. An indicator of the quality, significance, and representativeness of the Board's recommendations and input is the fact that DOE, EPA, and the State seriously consider ORSSAB's opinions and recommendations and factor them into the decision-making process as a matter of course. ORSSAB provides DOE and its regulators with an important forum for understanding stakeholder perspectives.

This past year, the Board co-sponsored along with the Local Oversight Committee a special public meeting on historic preservation plans for the K-25 North Tower. Approximately 200 members of the public attended the meeting which was also covered by local television and newspapers and provided their input on options for preserving the history of the K-25 Site. Based on the input received during the meeting the Board developed a recommendation to DOE which is still under consideration. The message from the public was clear: preservation of the history of these sites is important.

In another example of keeping an “eye on the future,” the Board has worked with the Anderson County Register of Deeds and Property Assessor’s Office to plan and implement a process for filing Notices of Contamination and plat maps to assure that information regarding residual environmental contamination is not lost. This process is also being worked with Roane County and the City of Oak Ridge.

## **CLEANUP OF THE ORR**

### **Upper East Fork Poplar Creek**

The ORSSAB has been actively engaged in the technical issues of cleanup of the ORR since its inception. Perhaps the most defining example of the impact of the Board’s participation in the decision process relates to the cleanup of east Fork Poplar Creek. Remediation of the Lower east Fork Poplar Creek was completed in December 1997. The Creek was contaminated with mercury as a result of operation of lithium isotope separation processes at the Oak Ridge Y-12 Plant. This operation resulted in the release of thousands of pounds of mercury and other contaminants into the Creek.

Early plans assumed the creek was contaminated with highly soluble mercuric chloride and called for the removal of any floodplain soils with contamination of 10 parts per million or higher. The contamination level was raised to 50 parts per million in the early stages of the risk assessment process. However, later studies revealed that most of the contamination was mercuric sulfide, a form much less soluble in water and less likely to be absorbed by humans.

As a result, DOE worked with the public who was concerned about the costs of the stringent cleanup levels and proposed a cleanup level of 400 parts per million. This level required less excavation and was less destructive of habitats. Federal and state regulators approved the cleanup level. The cost of cleanup was reduced from \$140 million to less than \$7 million.

"The remediation of Lower East Fork Poplar Creek is a prime example of how public involvement has been an essential element in doing work at the Oak Ridge Reservation," said James C. Hall, Oak Ridge Offices Manager. "Due primarily to public input, we have remediated the Creek to a level that protects human health and the environment, and saved millions of dollars (DOE, 1997)."

Since that time, the Board has reviewed virtually every major technical cleanup project planned for the ORR. In 2004, DOE proposed to change the method of accomplishment from in situ vitrification to grouting of Trenches 5 and 7 in Melton Valley. The Board agreed with the proposed change and further recommended that either the change be completed under an Explanation Of Significant Difference or that the record of Decision Amendment process be accelerated to assure that remediation was completed in a timely manner. As a result of the Board’s recommendation, approximately One year was saved on the project schedule.

### **Depleted Uranium Hexafluoride Cylinders**

During gaseous diffusion activities at the K-25 Site, depleted uranium hexafluoride was packaged in approximately 7,000 cylinders and placed in six outdoor storage yards. After diffusion activities at K-25 were shut down in 1987, the condition of the cylinders deteriorated, posing a potential threat of release of radioactive and toxic contaminants to the environment and a risk to onsite workers and offsite public. In addition, surveillance and maintenance of the cylinders contributed heavily to K 25’s already significant landlord costs.

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Since 2001 ORSSAB expressed concern about the condition of the cylinders, making their expedited removal from the site a priority. When DOE's Accelerated Closure Program was put in place at the Oak Ridge Reservation, the board weighed in with its "Recommendation Concerning the Depleted Uranium Hexafluoride Disposition Program at ETTP" in July 2003, and again in January 2004 with its "Comments on the Draft Environmental Impact Statements for Depleted Uranium Hexafluoride Conversion Facilities."

The board's goals were finally met in December 2006 when the acres of cylinder storage yards were finally emptied. Almost 5,000 separate shipments of cylinders were required to transfer the cylinders to DOE's Portsmouth, Ohio, site where a uranium hexafluoride conversion facility is being constructed.

### **Independent Verification of Site Cleanup**

In early 2007, substantial progress had been made in the removal of old buildings and site remediation at the K-25 site. However, the Board was concerned about releasing land to the public and local governments without first verifying that cleanup objectives had been met. After reviewing the post-cleanup activities conducted at Rocky Flats, the Board recommended that Independent verification of cleanup be performed prior to the transfer of parcels. DOE accepted that recommendation and subsequently contracted with the Oak Ridge Institute for Science and Education to perform the assessment.

### **SUMMARY AND CONCLUSIONS**

The Oak Ridge Site Specific Advisory Board has been in existence since 1995 and since that time has been an effective vehicle for assuring that community values and concerns are considered in the decision making process for cleanup of the Oak Ridge Reservation. The Board's initiative and leadership have resulted in improved communication with the community, better technical solutions to complex cleanup problems on the ORR, and often have resulted in cost and schedule savings compared to the project baselines. As a result, the Board has been an active participant in the cleanup program for the Oak Ridge Reservation and community values have been factored into cleanup plans and actions.

### **REFERENCES**

DOE, "Lower East Fork Poplar Creek Remediation Complete; Upper East Fork Next," Press Release (December 11, 1997).