



Oak Ridge Site Specific Advisory Board

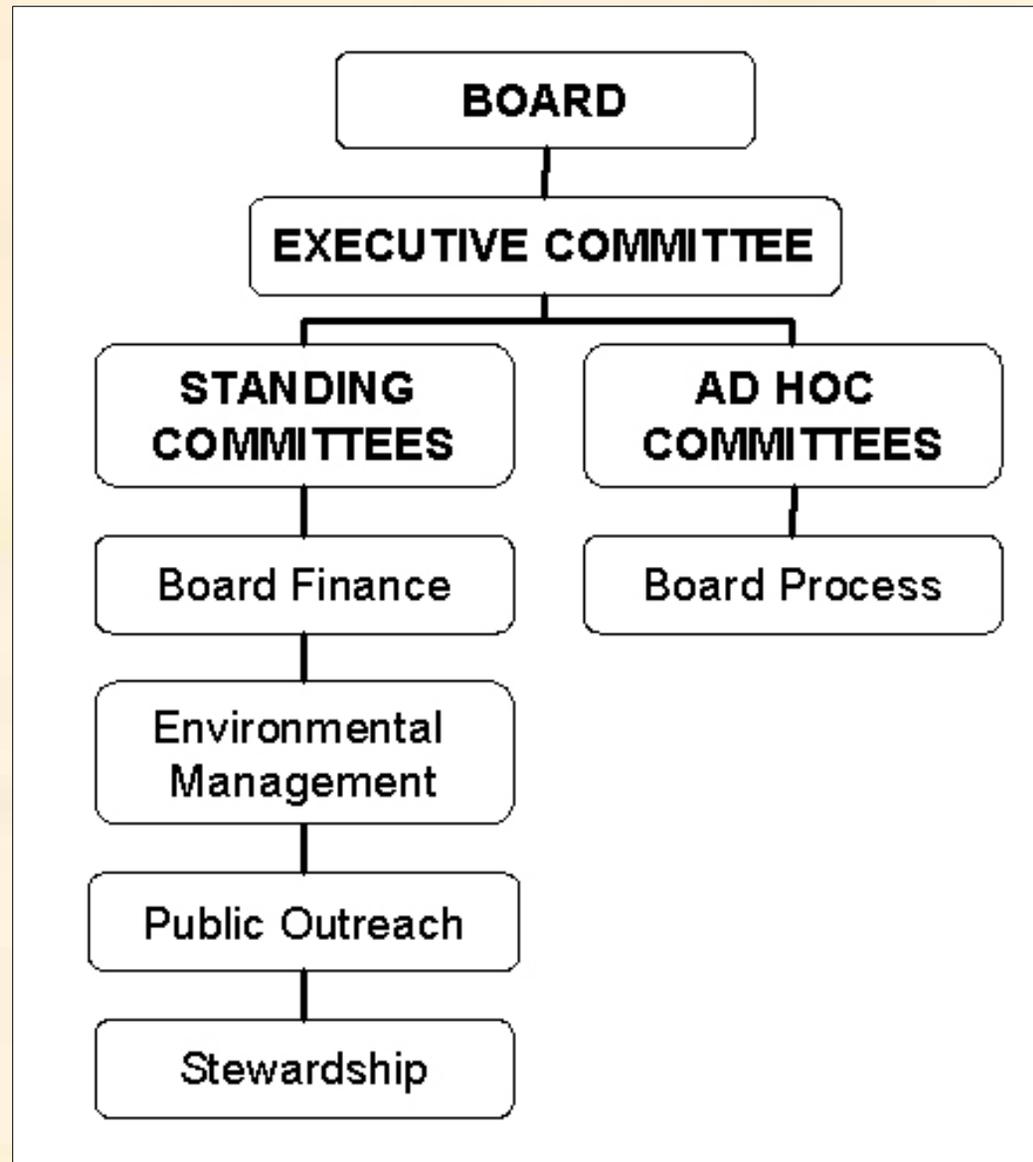
Lance Mezga, Chair



Presentation to Environmental Management Advisory Board

March 7, 2007

Organization



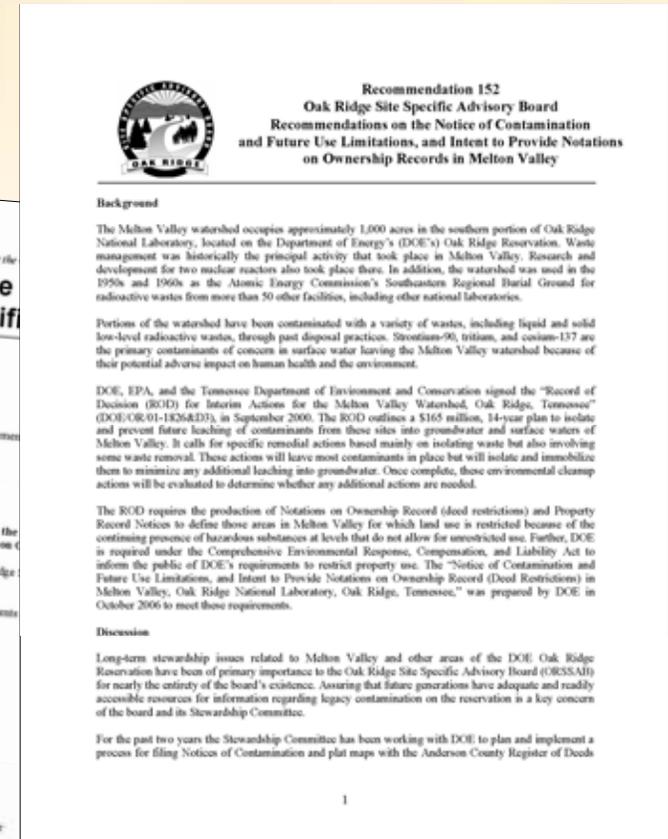
Recommendations

- ↪ Since 1995, 153 recommendations have been made on topics ranging from broad policy statements to the nuts and bolts of cleanup actions and document reviews
- ↪ Recent recommendations:
 - Independent verification at the East Tennessee Technology Park (to support reindustrialization)
 - Proposed method of accomplishment for decontamination and decommissioning of Buildings K-25 and K-27
 - Endorsement of Class 3 modification to the WIPP Hazardous Waste Facility Permit
 - Use of the NRDA process to determine and address the resource damages from residual contamination
 - Support for funding of Integrated Facility Disposition Project



Recommendations

- Notice of contamination and future use limitations, and intent to provide notations on ownership records in Melton Valley
- Recommendations for long-term stewardship of contaminated areas on the Oak Ridge Reservation
- Voting next Wednesday on “Reaffirmation of DOE Secretarial Policy to Provide Stewardship at Ongoing Mission Sites with Residual Contamination”



Recent Activities

- **Stewardship Education Resource Kit**

Available online at
www.oakridge.doe.gov/em/ssab/Stewardship-Kit/kit.htm



Recent Activities

- Teacher's workshop



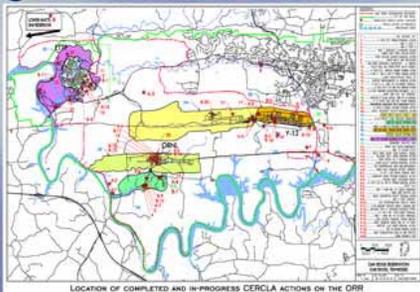
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Recent Activities

- Land use records

TWO COUNTIES - ONE CITY: LONG-TERM STEWARDSHIP INFORMATION FOR ANDERSON COUNTY, ROANE COUNTY, AND THE CITY OF OAK RIDGE, TN

1 THE COMPLEXITY OF OAK RIDGE



The Department of Energy (DOE) Oak Ridge Reservation (ORR) was established in late 1942 as the Clinton Engineer Works, a part of the Manhattan Project, to produce bomb-grade enriched uranium and carry out reactor research and development. During the Cold War, plants continued and expanded their endeavors. This wide range of activity gave rise to a diverse range of disposed wastes (millions of pounds) and significant levels of radioactivity. Coupled with the disposal of wastes was the nature of the East Tennessee geology and climate (annual precipitation=55 inches) which results in a shallow water table. During seasonally heavy rainfall, the waste is in contact with the groundwater, not above it. These sites are being remediated by the DOE Environmental Management (EM) Program. There are hundreds of remediation sites comprising a significant number of projects.

The DOE ORR lies in two Tennessee counties (Anderson and Roane) and entirely within the City of Oak Ridge. The closest approach of residential neighborhoods to the production areas is about 2000 feet (see map on left). This means that in addition to the federal agencies involved, there are four state and local jurisdictions that have a stake in the safe remediation of the many ORR contaminated areas.

2 THE COMPLEXITY OF PROXIMITY



These photographs show another aspect of the complexity of the DOE ORR long term stewardship (LTS) problem. The photo to the left shows plant in the Y-12 National Security Complex which contains several burial grounds and multiple contaminated areas. Over Pine Ridge to the right are the Scarborough Community and a public golf course about 2000 feet distant. On the left are the Chestnut Ridge disposal areas. Far down the valley is the large Bear Creek Burial Grounds, where the new engineered EM Waste Disposal Facility is located, and in the foreground is a public highway. The left side of the plant is bounded by Upper East Fork Poplar Creek, it crosses the foreground to the right, flows under the highway, and becomes the Lower East Fork Poplar Creek, which flows north through Pine Ridge and then west through the residential areas (lower right corner of the picture). The forest throughout the photo is evidence of the 55 inches of precipitation the area is endowed with.

The photo to the right shows the Oak Ridge National Laboratory and its Melton Valley Disposal Area draining into the Clinch River as well as the old Centum Research Fields.

Characteristics of the ORR Stored Wastes

- 1) Half-lives from 30 to 4.5 x 10⁶ years and longer
- 2) A variety of waste types, from low-level waste to remote-handled transuranic waste
- 3) Trenches, pits, silos, tunnels, engineered structures, injected waste slurries
- 4) Some above the water table, some in the range of the seasonal water table
- 5) Adjacent to surface waters used for fishing and drinking waste downstream

3 THE PRIMARY LTS DATA RETENTION SYSTEM

- 1) LTS data required Contamination Notice and Plat Map Information.
- 2) Notarization of a DOE Plat Map is shown on right.
- 3) Register of Deeds adds the information to the perpetual state of records.
- 4) Property Assessor adds the Plat Map to the perpetual state of Tax Records.
- 5) Property Assessor updates the City of Oak Ridge's Geographical Information System (GIS) data quarterly.
- 6) Property Assessor updates the Tennessee State Parcel Mapping System.
- 7) City of Oak Ridge adds zoning information to the Land Parcel.

The LTS information now resides in the systems that society depends on for its very existence, Property Rights and Tax Bills. When those systems are gone, waste contamination will be of small consequence.

Public Access to the LTS Information:

- 1) Manual and on-line searches of the Register of Deeds System.
- 2) On-line searches of the Oak Ridge GIS data, with print-out.
- 3) Hard copy maps available from the State Parcel Mapping System.

The above are current conditions in Anderson County, Roane County are now bringing a similar system into operation, and its testing for LTS suitability is imminent. Public access into their systems is imminent.

4 LTS CONTAMINATION NOTICE & PLAT MAP FLOW



The flowchart illustrates the process: DOE LTS Program (Contamination Notices & Plat Maps) feeds into Anderson County Register of Deeds (Property Assessor) and Roane County Register of Deeds (Property Assessor). Both registers feed into the City of Oak Ridge GIS System (Zoned Waste Parcels). The GIS system feeds into the User Community (Public, tax, law, land use authorities, developers, realtors, etc.). Notices are also sent from the registers to the User Community.

5 WHAT HAVE WE GAINED BY THIS NOTICE AND PLAT MAP CREATION?

- 1) The LTS information has been placed in the same system that is used to ensure property rights and fund the local governments. Arguably, this system will be the last to be abandoned by a civilized society.
- 2) It provides the state and local land use authorities with contamination information that is a part of systems familiar to them and paves the way for their participation in the control of potentially hazardous land.
- 3) The system will transmute the presence of DOE in the ORR future.
- 4) The information is available to all both manually and by computer.
- 5) The CERCLA and land use requirements for filing contamination notices and plats will be enhanced by broader application and improved access.
- 6) The information can serve as a tool in any public education program or as a resource tool for those citizens who would study contamination problems.
- 7) It serves as evidence of the transparency and openness with which DOE addresses the ongoing contamination problems and its concern for public health.
- 8) It reduces the number of questions to which DOE will be required to respond.
- 9) It provides an access route into the voluminous, detailed DOE reports about each contaminated area.

*Comprehensive Environmental Response, Compensation, and Liability Act

6 WHAT ARE THE CHANCES OF ADOPTION BY DOE?

The Oak Ridge public and the DOE Oak Ridge EM program work well together, and the Oak Ridge EM personnel at all levels are well aware of the "feasibility test". They have given it their blessing and have helped locate the data to be used. They are enthusiastic about favorable results. The prognosis is excellent.

The totality of the public's recommendations on LTS will soon be presented to DOE in the following manner: The Oak Ridge Site Specific Advisory Board (SSAB) LTS committee, in consultation with the DOE Oak Ridge LTS liaison and following any DOE guidance documents, will prepare an associated outline of a DOE LTS Implementation Plan to be recommended and forwarded to ORO. This method has four major advantages: 1) it produces recommendations based on DOE guidance and advice unless substantive differences exist; 2) it forces the public to organize and detail the concepts it wishes to promote in terms of the DOE guidance; 3) it promotes an organized discussion of agreements and differences; and 4) it facilitates the DOE conversion of the recommendations directly into the DOE-generated Implementation Plan. The method requires both a strong, self-confident EM and a strong, self-confident public that is willing to work. The Oak Ridge Remediation Effectiveness Report was successfully revised in this manner, satisfying everyone. Similar success is anticipated for the more complex LTS Implementation Plan.

7 ADDITIONAL INFORMATION

- 1) Anderson County Register's Document Retrieval System - <http://www.andersondocs.com>
- 2) City of Oak Ridge GIS data - <http://gis.cortn.org>
- 3) DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge, TN 37830, Phone: (865) 241-4780
- 4) Oak Ridge SSAB Publications - <http://www.oakridge.doe.gov/em/ssh/publics.htm>
- 5) ORR Stakeholder Report on Stewardship, Volume II, December 1999, <http://www.oakridge.doe.gov/em/ssh/publications/stewardship-vol-2.pdf>
- 6) Roane County Register's Document Retrieval System - <http://www.titlesearcher.blineonline.com/>

Authors: Ben Adams is a member of the ORSSAB and chair of the LTS Committee. He is a practicing civil engineer in the City of Oak Ridge. Al Brooks is a citizen member of the LTS Committee and member of other DOE-related committees. He is a retired chemist and computer analyst. Mr Adams and Mr Brooks are long-term and active members of the Oak Ridge community.

8 NOTATION ON OWNERSHIP RECORD FOR CLOSURE OF HAZARDOUS WASTE DISPOSAL UNIT

TYPICAL ORGIS PARCEL MAP & PARCEL INFORMATION



The State's Contamination and Recovery Act (1992 CERCLA) requires that all sites that have been or are being used for hazardous waste disposal and that are subject to remedial action under CERCLA and other federal, state, or local laws, submit to the State a plan and record of the site, location, and quantity of hazardous waste that has been, is being, or will be land applied, under the Act. The plan and record must include information on the location, quantity, and quality of hazardous waste that has been, is being, or will be land applied, under the Act. The plan and record must also include information on the location, quantity, and quality of hazardous waste that has been, is being, or will be land applied, under the Act. The plan and record must also include information on the location, quantity, and quality of hazardous waste that has been, is being, or will be land applied, under the Act.



Recent Activities

- National EPA award

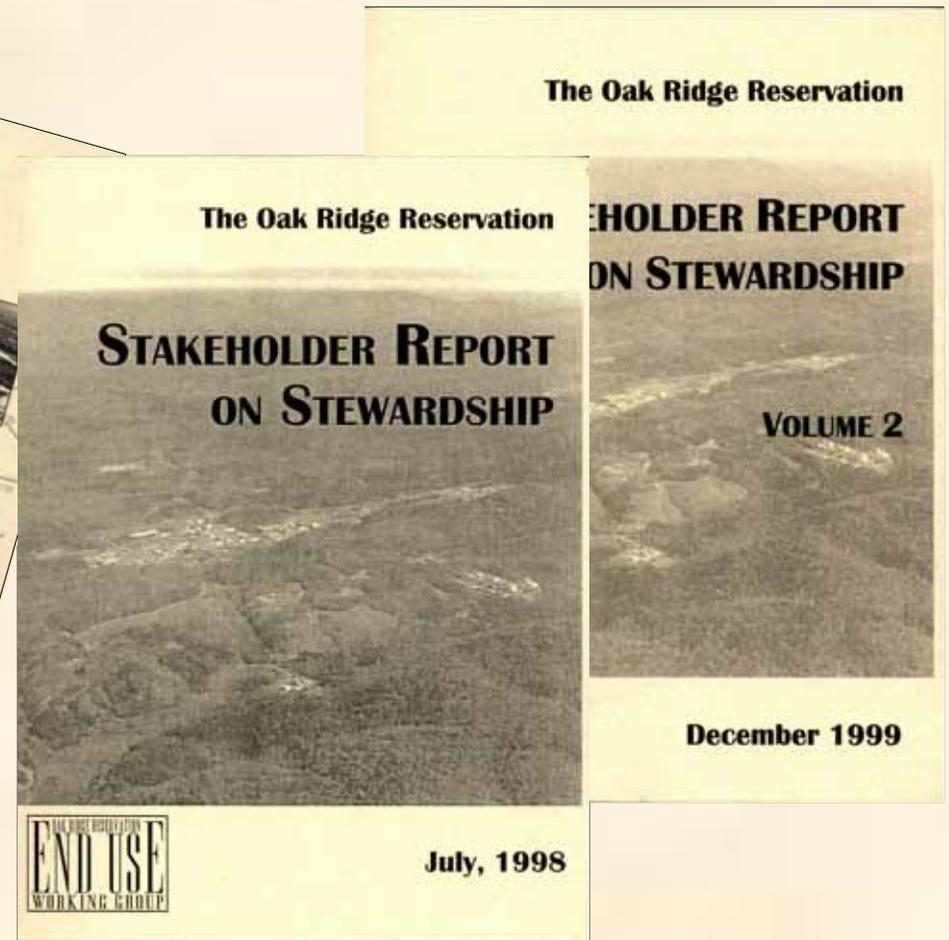
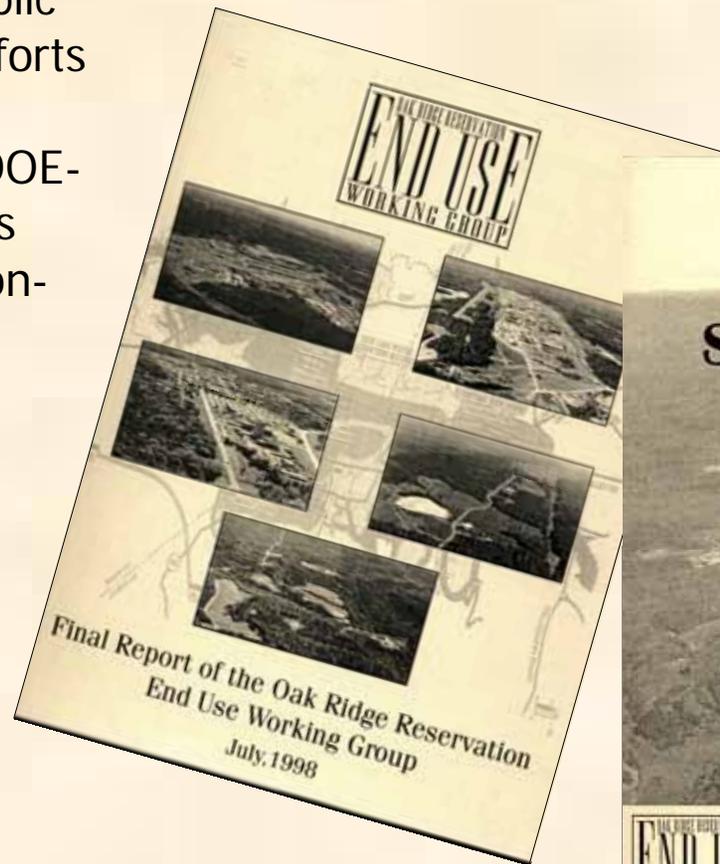


Oak Ridge Site Specific Advisory Board

Current "Top Issues"

Stewardship

- Monitor development of the reservation LTS Implementation Plan/Directive
- Continue public education efforts
- Press for a DOE-Headquarters liaison for non-closure sites



Current “Top Issues”

Groundwater/Surface Water Monitoring

- Ensure that groundwater/surface water monitoring of completed projects (to demonstrate effectiveness of the solutions) and of watershed areas are continued to form basis of development of the long-term RODs for all the remaining contaminated areas
- Keep stewardship high on the screen and don't forget the groundwater RODs



Current “Top Issues”

Waste Management

- For any new projects, that consideration be given on the front end to waste management issues to minimize potential for contamination

Safety

- Make sure projects are executed safely and with reasonable, cost-conscious environmental controls



Current "Top Issues"

Completeness of Reservation Remediation

- Follow process to ensure completeness "Leave no building behind"
- Address projects not included in Accelerated Cleanup scope
- Address other projects not included in Oak Ridge EM scope (~200 buildings at Y-12 and Oak Ridge National Laboratory)



Current “Top Issues”

East Tennessee Technology Park Closure & Reindustrialization

- Monitor independent verification of cleanup
- Critique land transfers
- Closely oversee and evaluate final site wide ROD

