
Savannah River Site Citizens Advisory Board (CAB)



2003 ANNUAL WORK PLAN

February 28, 2003

INTRODUCTION

The Savannah River Site (SRS) Citizens Advisory Board (CAB) is composed of 25 individuals from South Carolina and Georgia. Originally chosen by an independent panel of citizens from approximately 250 applicants, the board members reflect the diversity of the population affected by SRS. The members, who can serve up to three consecutive two-year terms, represent business, academia, labor, local government, environmentalists, special interest groups, and the general public. Two of the members specifically represent economically disadvantaged persons.

The Board is sponsored by the U.S. Department of Energy Office of Environmental Management and is chartered under the Federal Advisory Committee Act. The CAB provides advice and recommendations to the Department of Energy (DOE), the Environmental Protection Agency (EPA) Region IV, and the South Carolina Department of Health and Environmental Control (SCDHEC) on environmental restoration, waste management and related issues. The CAB uses issues-based Committees to focus on various topics. These issues-based Committees may form working groups or public focus groups to concentrate on a specific issue. The five issues-based Committees of the CAB are:

- Strategic Initiatives
- Waste Management
- Environmental Restoration
- Nuclear Materials
- Long Term Stewardship

Although there are a wide variety of issues of interest to the CAB, there are limits to available time and resources. The purpose of this Work Plan is to establish priority issues for each of the Committees, and therefore for the CAB. It allows all Board members to be involved in setting the direction of the CAB, even for the Committees of which they are not members. It allows the CAB to prioritize resource expenditures (people and dollars), and also control the establishment of focus and working groups.

The Work Plan covers approximately one calendar year and identifies the “Top Ten” priority issues for the CAB. It also identifies additional issues for each committee. The Committee chairs will strive to structure their activities to focus on the Top Ten priority issues. It is understood that other issues may present themselves, resulting in deviation from the Work Plan. Deviating from the Work Plan is at the discretion of the Committee Chairs, however, they should inform the CAB when this is required.

SRS CAB “TOP TEN” LIST

This “Top Ten” list is the result of a survey taken of the CAB members at the January 2003 CAB meeting in Hilton Head Island, South Carolina. The CAB members were given a list of 22 issues developed by the issues-based committees the day before, and asked to rank them in order of priority, with 1 being the highest priority and 22 being the lowest priority. The results of the surveys were compared, resulting in the following Top Ten issues. The issues are listed and described below in order of priority ranking.

1. Deactivation and Decommissioning (D&D) – Environmental Restoration Committee

Issue Description. Deactivation includes actions taken to reduce risk and costs, following shutdown of a facility. A resulting condition of deactivation can be safe storage. Safe storage is defined as a low risk/low cost condition of a facility following deactivation while waiting decommissioning. It is not considered an end state but can be an appropriate long-term condition. Decommissioning includes actions that are taken to place a facility in its final end state. The end state of a facility involves two choices, either demolition or entombment. The Savannah River Site is accelerating its D&D activities in 2003 and the CAB is very interested on closely following these activities.

CAB Approach. The Environmental Restoration Committee will follow the D&D activities closely with scheduled progress updates. As the Closure Business Unit moves forward and as risk models and plans for D&D activities become available the CAB shall become more involved through the work of its committees.

2. End State Vision for Environmental Management Including D&D and Future Land Use - Long-Term Stewardship Committee

Issue Description. An end-state vision is the agreed-to vision for land use at the end of cleanup. Knowing the end-state will enable the site to determine what is required to ensure adequate protection of human health and the environment for that intended use. It will be important to determine the boundaries of these land uses, so that points of compliance can be determined and that actions taken by DOE are protective of human health and the environment at those points of compliance. There are three primary components that must be considered in the analysis of end state risk: the expected land use, the remaining hazards, and the primary receptors. It is important to have the end state vision supported by the site regulators and stakeholders.

CAB Approach. The Long Term Stewardship Committee will monitor and suggest recommendations for the DOE-Headquarters End-State Vision Policy and Guidance that is currently being developed. The Committee will also review and monitor End-State Visions from other sites. The SRS End State Vision first draft should be available for comment by mid-year. The committee will work closely with the Environmental Restoration Committee

to review the Deactivation and Decommissioning Program End State Plan and assure that it is consistent with the SRS End State Vision. In addition, current and new mission projects will be closely monitored to assure that they are driving towards defined end-state goals in the SRS End State Vision.

3. TRU Waste Program - Waste Management Committee

Issue Description. With the completion of the Carlsbad audit, DOE began shipments of its TRU waste to the Waste Isolation Pilot Plant (WIPP) in 2001. DOE is also developing technology and planning for facilities to prepare other TRU wastes such as Pu-238 waste for shipment to WIPP. DOE will continue to accelerate shipments of TRU waste to WIPP and provide updates on all activities related to the TRU waste from Mound program. Significant public participation is expected given that under current transportation requirements, the Mound waste stream cannot go directly to WIPP without consolidating assay, sorting, segregating and repackaging activities at SRS. The lack of available shipping packages required to transport the SRS high activity Pu-238 waste and waste in large containers such as boxes are other issues requiring Board attention.

CAB Approach. The Committee will continue to closely follow the shipments of TRU waste from SRS. They will stay abreast of National Academy of Science recommendations and comments pertaining to TRU and will closely track progress through quarterly updates.

4. Treatment of Salt Waste - Waste Management Committee

Issue Description. The Savannah River Site's activities supporting the processing and disposal of salt waste from the high level waste (HLW) system are key to the accelerated cleanup strategy. SRS has developed a three-pronged approach that will remove the majority of the radioactivity from the salt waste and prepare it for disposal in vaults at the Saltstone Facility. The three processes are: 1) low curie salt (LCS) processing; 2) actinide removal processing (ARP); and 3) the Salt Waste Processing Facility (SWPF). The LCS program has been underway since late 2002 and will result in approximately one third of the salt waste being disposed at the Saltstone Facility. The ARP is currently being installed in an existing unused facility at SRS formerly referred to as the Late Wash Facility. It is expected to begin operation in 2004 and will also treat approximately one third of the salt waste for disposal at the Saltstone Facility. Two Engineering, Procurement, and Construction (EPC) contractors are presently designing the SWPF, which will employ the caustic side solvent extraction (CSSX) technology to treat salt waste. DOE will select one EPC contractor to complete the design and construct the SWPF such that it is operational by 2009. This facility will prepare the remaining one third of the salt waste for disposal at the Saltstone Facility.

CAB Approach: The CAB has agreed to the SRS direction on this issue and the Committee will receive quarterly status reports to stay abreast of progress and issues. Regulatory and

legal concerns restrain the committee somewhat. Based on schedule progress, a recommendation may be needed.

5. Canyon Utilization – Nuclear Materials Committee

Issue Description. F-Canyon PUREX activities were concluded in 2003 and a safe suspension process was implemented. The National Defense Authorization Act requires DOE and the Defense Nuclear Facilities Safety Board (DNFSB) to provide joint certification for decommissioning of F-Canyon and there is an ongoing dialogue between the agencies on the timing of this certification. A deactivation plan is currently under review by DOE. If approved, activities conducted under this plan will lead to the eventual shutdown of F-Canyon.

Discussions are now underway to determine how long H-Canyon will remain in service to support EM activities. The eventual shutdown date for H-Canyon is dependent, in part, on a determination of the need for H-Canyon to stabilize and/or disposition additional materials. H-Canyon is able to dissolve and process significant quantities of enriched uranium including material that is up to 93% enriched U-235. It also can handle plutonium and uranium oxides, metals, pellets, and neptunium targets.

CAB Approach. The Canyons provide a vital national capability and the determination of when they should be closed should be carefully evaluated to ensure the timing of closure is appropriate. The Nuclear Materials Committee will closely track the status of the canyons through quarterly updates. As accelerated cleanup continues, the CAB wants to ensure that a closure of either Canyon does not lead to having nuclear materials at SRS without a clear disposition path. The open Recommendation regarding F-Canyon Suspension will require close monitoring, and follow-up may be needed.

6. Disposition of Plutonium Not Suitable for MOX - Nuclear Materials Committee

Issue Description. Changes to the Mixed-Oxide Fuel (MOX) Program during FY'02 led to the cancellation of the proposed Immobilization facility. The decision has left the National Nuclear Security Administration (NNSA) and EM with a joint responsibility to determine a new disposition path for non-weapons grade plutonium. EM will disposition the 2 tons of weapons grade plutonium that is not acceptable for MOX, as well as the approximate 3.6 metric tons of non-weapons grade plutonium. The specific disposition path for this material is currently under review and a proposed strategy is expected during the coming year.

CAB Approach. DOE EM has an obligation to ensure a clear disposition path for the Pu. The Nuclear Materials Committee will closely monitor the status of the DOE-HQ team reviewing Pu alternatives and request periodic status updates. Based on the results, a recommendation may be needed.

7. EM Performance Management Plan – Strategic Initiatives Committee

Issue Description. The SRS Environmental Management Program Performance Management Plan (PMP) outlines specific actions that DOE is taking to accelerate the SRS cleanup program to 2030, while targeting an even more aggressive objective of achieving cleanup by 2025. The PMP applies innovative cleanup reform approaches to accelerate cleanup and risk reduction, reduce the life cycle costs of the EM program and enhance Homeland Security.

CAB Approach. The Strategic Initiatives Committee will evaluate updates to the PMP and will closely monitor its status. Any issues or areas of specific concern will be communicated to the appropriate Committee for comment or action, or the Strategic Initiatives Committee will send a recommendation to the full CAB. Significant changes to the PMP will be reviewed and comments provided as necessary.

8. Burial Ground Complex – Environmental Restoration Committee

Issue Description. The closure of the Burial Ground Complex will progress rapidly once the grouting of 22 solvent tanks located within the this complex is completed as an interim action. Once this is complete, the contaminated soils from three inactive basins near H-Area will be removed and consolidated at the Burial Ground Complex as final closure efforts continue.

CAB Approach. The CAB will receive quarterly updates (or more often if necessary) as the work progresses toward the final closure of the burial ground. Recommendations may be provided based on information provided in the updates as well as progress towards closing the Burial Ground Complex.

9. Integration of Accelerated Canyon Closure with HLW Activities - Waste Management Committee

Issue Description. As part of the canyon closure process, waste streams from the canyons are being reviewed for proper classification. Treatment as something other than HLW will reduce waste volumes to the tank farms.

CAB Approach: The Waste Management Committee will coordinate with the Nuclear Materials Committee on this issue and closely follow transfer of waste from canyons to HLW. The Committee(s) will receive periodic presentations from SRS on proper waste classification and treatment.

10. Budget Development/Priorities/Performance Based Incentives - Strategic Initiatives Committee

Issue Description. Funding, risk-based priorities and performance-based incentives are critical for completing the EM mission at SRS. Assuring that SRS has adequate funding and that funding is being allocated to the greatest risk reduction projects is of utmost interest to the CAB and stakeholders. For stakeholder inputs to be of any consequence, early and constant involvement is required in the budget decision process.

CAB Approach. The CAB must obtain information early in the budget process. The Strategic Initiatives Committee will be informed of appropriate information on the budget, on priorities and on performance based incentives throughout the year. Status updates are desired and expected and the Strategic Initiatives Committee will follow the funding path to provide stakeholder input opportunities as early as possible during the budget process. The budget, priorities and initiatives are of high priority for the CAB and SRS should make it a priority to share this information with the CAB.

STRATEGIC INITIATIVES COMMITTEE

Description of the Committee

The Strategic Initiatives (SI) Committee is involved in long-term policy, planning and other strategic matters, including issues that “cross cut” the work of other CAB committees. Its work includes many programmatic topics. Specific areas of interest are development and deployment of technology, the SRS budget decision-making process, future land use, facility disposition and relevant national environmental policy.

Priority Issues for 2003 (other than those on the “top ten”)

Strategic, Comprehensive, and Integrated Infrastructure Program Plan

These three plans are up-dated every two to three years, but there are continuing discussions on matters that are related to these plans. These plans set the mission, vision and infrastructure need for the site. The SI Committee will review and comment on the draft plans, as they become available. The committee will receive periodic updates related to implementation of the plans. Of particular interest is the budget requirements needed to support mission programs and cleanup.

Technology Development

Technology development is of critical importance to reducing costs and finding new methods for environmental clean up. As accelerated clean up becomes a main driver for the DOE complex, new and different technologies will become increasingly required to meet these demands and reduce costs. Technology development is also increasingly important in those instances where there is no safe or effective current technology available to address contamination and disposition problems as DOE sites moves to closure. The SI Committee will concentrate on relevant new technology development. As new and innovative technologies are developed, status updates should be provided. Programs are requested to point out the technologies currently used as well as alternatives considered in developing their projects. The SI Committee should be informed of technology needs so that it may monitor their status and what development work is being accomplished to meet these needs.

WASTE MANAGEMENT COMMITTEE

Description of the Committee

This Committee addresses the treatment, storage and disposal of various waste streams, including transuranic waste (TRU), low-level waste (LLW), mixed low-level waste (MLLW) and high-level waste (HLW). They do this with the goal of reducing the highest risk to the public, workers, and the environment. The Committee also addresses issues related to transportation of waste and Environmental Management Integration (EMI), exclusive of the nuclear materials program.

Priority Issues for 2003 (other than those on the “top ten”)

Tank Closures

In January 2000, the Natural Resources Defense Council (NRDC) and the Snake River Alliance petitioned the Ninth Circuit US Court of Appeals to review and set aside DOE Order 435.1. The petitioners claim the Order is “arbitrary, capricious and contrary to law.” The Court of Appeals review, and potential set aside, of Order 435.1 could delay closing HLW tanks as required by the Federal Facility Agreement. SRS will continue to work with regulators, the public, CAB, and industry to reach agreement on closure methods; to develop closure plans and criteria based on waste characterization, analysis and modeling and design; to build, test and deploy new technology and tools to remove waste from the tanks; to remove residual waste material from the tanks; and to fill with grout for closure. The case is currently scheduled to be heard 5/9/03. The next tanks scheduled for closure are Tank 19 in 3/04 and Tank 18 in 6/04.

DWPF-Outage Updates and Melter Replacements

The DWPF melter is being replaced after being in service for many years over the expected melter life. The replacement is expected to take 6 months. The DWPF melter operated past its expected life, chiefly because of lower than expected quantities of noble metals in the first sludge batches. High concentrations of noble metals eventually short out the melter electrodes. Based on the higher noble metal content of future sludge batches, the forecasted melter life is estimated to be 2-3 years. Melter #2 has been installed and is expected to begin operation in April 2003. Based on the lessons learned from Melter #1, several enhancements have been added. Updates and status will be provided to the CAB as requested.

HLW Tank Space Management

The effective management of tank space is essential to meeting HLW process commitments. For this reason the Tank Farm space management strategy is routinely evaluated and updated. This strategy is based on a set of key assumptions involving canister production rates, influent stream volumes, Tank Farm evaporator performance, and space gain initiative implementation.

Significant changes in any of these key assumptions could impact HLWD's ability to successfully support planned processing commitments due to a lack of tank farm waste storage space.

Saltstone

In CY 2002, saltstone successfully restarted and processed about 800,000 gal of Tank 50 Waste Inventory. At the end of this campaign, accumulated solids were discovered in the bottom of Tank 50. The additional slurry pumps will be installed in Tank 50 and the solids will be slurried using 850,000 gal of either Tank 23 Waste Inventory or water and processed in Saltstone. Low Curie Salt from Tank 41 will be the next waste scheduled for processing at Saltstone.

Solid Waste System Plan Updates

The Solid Waste System Plan approved by DOE, outlines cost-effective use of waste treatment, storage and disposal facilities across the DOE complex. This plan also allows SRS to use the E-Area trenches for low-level waste (LLW) that meets the Waste Acceptance Criteria (WAC).

HLW System Plan Updates

The HLW System Plan documents the operating strategy of the HLW System at the Savannah River Site to receive, store, treat and dispose of approximately 37 million gallons of liquid, high-level radioactive waste.

DWPF Can Production/ Increase Waste Loading in DWPF Canisters

It is important to expedite sludge processing, which is the highest risk component of the HLW to be processed at DWPF. A proposal outlined in the Program Performance Management Plan is based on the breakthrough research, development, and demonstration in SRTC of a specific Frit 320 that allows the glass to melt at a lower temperature. SRTC also developed an improved model relating glass liquidus temperature to waste composition which, when coupled with Frit 320, will increase waste loading. Based on testing, a waste loading increase of ~25% is expected when these initiatives are implemented following the melter replacement. This means that 230 canisters will dispose of the same amount of waste as 280 canisters in the past.

ENVIRONMENTAL RESTORATION COMMITTEE

Description of the Committee

This Committee addresses the remediation of contaminated areas at SRS including various types of waste units, groundwater and surface water contamination. Included under this Committee are issues related to the Federal Facility Agreement (FFA) and risk management/risk assessment, funding issues, regulatory issues and any/all crosscutting issues as they may pertain to environmental restoration.

Priority Issues for 2003 (other than those on the “top ten”)

P-Area Reactor Seepage Basin Remediation

The Record of Decision will continue to demonstrate its value by the cleanup actions to be performed at the P-Area Reactor Seepage Basin in 2003. The CAB will continue to be informed about the progress of this action since it was so supportive of the Plug-In Record of Decision (ROD) concept. As appropriate and timely, the CAB requests that the progress be shared. The CAB shall be notified immediately, should the Plug-In approach be modified for any reason.

Reactor Groundwater Characterization

Groundwater Characterization below the reactor buildings begin with schedules for cleanup to be developed in 2003. As these plans evolve, the CAB shall given briefings.

NUCLEAR MATERIALS COMMITTEE

Description of the Committee

This committee was established to study issues that involve nuclear materials (generally uranium and plutonium) that have an impact on present or future SRS activities, including spent nuclear fuel program activities, nuclear materials management, and nuclear materials integration.

Priority Issues for 2003 (other than those on the “top ten”)

EM Vision on Plutonium Consolidation at SRS

Assistant Secretary Jessie Roberson has created a series of teams to evaluate specific areas of concern as part of the Top-to-Bottom Review. One of these teams is working to find ways to expedite the disposition of all EM nuclear materials including Pu. Conclusions reached by this team may change some previously identified disposition pathways for nuclear materials throughout the DOE Complex. Cost effectiveness and security aspects of consolidation are some of the issues that are being evaluated and while no decision has been made, SRS may play a role in future consolidation efforts.

Spent Fuel Disposition

The project to support the Melt and Dilute Technology for Spent Nuclear Fuel (SNF) Stabilization was suspended during FY'02. The EM team evaluating nuclear materials will determine a suitable disposition strategy for SNF.

HEU Blend Down Project

Uranium solutions have been accumulated over the last several years as a result of the processing of spent fuel rods from SRS reactors and some offsite reactors. These solutions are a viable source material for commercial fuel fabrication when mixed with natural uranium. H-Canyon is facing a challenge to manage tank space until shipments to Tennessee Valley Authority (TVA) are initiated of the highly enriched uranium that will be used as fuel in a commercial power reactor. H-Canyon is expected to receive authorization to proceed with processing and begin a 55-month shipping campaign of 295 shipments beginning in late March 2003.

Progress of FB-Line Plutonium Packaging and Stabilization Project

Modifications of FB Line to meet DOE long-term storage capabilities for Pu are underway. Startup of the outer can packaging phase is projected for April 2003 with the oxide stabilization process ready to startup in October 2003. Packaging activities should be completed by December 2005.

HB-Line Neptunium Stabilization Project

Preparations are underway to begin HB-Line facility modifications to process Neptunium during 2003. The stabilization of the Neptunium solutions will result in material that will be used as a fuel source for future space exploration by NASA.

Receiving Basin for Offsite Fuels (RBOF) Deinventory

The Receiving Basin for Offsite Fuels (RBOF) is undergoing deinventory efforts as part of accelerated cleanup. Currently the plan is to transfer all RBOF fuel to 1 basin and to stop operation of the facility. Such a consolidation would free up funds used to operate and maintain RBOF.

LONG TERM STEWARDSHIP COMMITTEE

Description of the Committee

The CAB and the general public are very interested in what will happen to the site and the land under the jurisdiction of DOE. The committee works to ensure that the DOE takes a constructive and comprehensive view of protection of the site for future generations and for the ecology of the site. The Committee will be involved in the stewardship process complex wide and bring to the attention of the CAB, those major policy issues concerning stewardship of which action by the CAB is appropriate. It will encourage CAB committees to integrate the notion of long-term stewardship into its issue deliberations and CAB recommendations.

Priority Issues for 2003 (other than those on the “top ten”)

Long Term Stewardship with Emphasis on Groundwater Protection; Storage at SRS; Public input in Planning Documents; and Budget. – Long-Term Stewardship Committee

Long-term stewardship is an emerging mission with the DOE. With the initiation of a new Office of Legacy Management at DOE, understanding how SRS fits into the long-term stewardship program is important. Monitoring sites in the DOE complex that are being closed by 2006 will be of interest. The Long-Term Stewardship Committee will continue to monitor documents that are generated by DOE-HQ and those sites closing by 2006 to determine how to implement long-term stewardship at SRS. Programs at SRS will be monitored to be assured that long-term stewardship initiatives are included in documents and in program plans.

National Environmental Research Park

A National Environmental Research Park (NERP) is a DOE land holding and outdoor laboratory open to environmental research, especially energy-related studies. SRS was designated as the first NERP in 1972. There are six other sites that are NERPS. There is an effort by a group of public citizens attempting to institutionalize SRS as a NERP. The purpose of the group's initiative is to keep the boundaries of the site as they are today. The LTS Committee will support the efforts of this group. A resolution is being initiated by the group and will be brought before the committee for approval. Upon approval, the committee will forward it to the full CAB for their approval. The committee will monitor the status of the resolution.