

Savannah River Site Citizens Advisory Board: Elements that Have Contributed to Our Success-11188

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Abstract-11188

The Savannah River Site (SRS) Citizens Advisory Board (CAB) was established by Department of Energy (DOE)-Environmental Management (EM) in 1994 with the goal of improving cleanup decisions by reflecting the priorities and concerns of stakeholders and generally improving communication with the public, particularly in the areas most impacted by Site operations.

The SRS CAB has a notable record of accomplishments with approximately 275 recommendations during its history. Many of these recommendations have been very specific and have impacted Site priorities on issues of concern to the public. The CAB has raised community interest and has an abundance of members willing to serve. Furthermore, the CAB has established good working relationships with the regulatory agencies for SRS such as the Nuclear Regulatory Commission (NRC), Environmental Protection Agency (EPA), South Carolina Department of Health and Environmental Control (DHEC), and Georgia Department of Natural Resources (DNR).

Key elements that have contributed to the success of the CAB over the 16-year history include the unusual and remarkable opportunity to be involved in such a significant cleanup effort, quality of SRS CAB members, management interest by senior DOE and Contractor management, support provided to SRS CAB, close involvement with SRS regulatory agencies such as EPA, SC DHEC, GA DNR, and NRC, bold proactive ideas for CAB meetings, support for and endorsement of informational meetings, development and use of simplified graphics for training and ease of understanding of complex processes, and an extensive website that is used for CAB Activities.

Introduction

While the SRS CAB has many of the trappings of a typical advisory panel, it is a bit unique in many aspects of its operation. It consists entirely of volunteers, and its effectiveness is due to a different set of dynamics, compared to the workings of a comparable organization in a similar setting. I will describe the background and setting for the Board and then relate the elements that have contributed most significantly to the success of the Board. Further, I would like to present some of the indicators that reflect the success of the SRS CAB. With that backdrop I would like to begin with a few words of introduction to both SRS and the CAB.

Savannah River Site

SRS is located in South Carolina, just south of Aiken, SC and across the Savannah River from and in proximity to Augusta, GA. The Site has 310 square miles and is approximately circular in shape with a diameter of 20 miles. **Figure 1**, shown below, is a view of the Site layout and boundary. SRS dates back to 1950 when the nation made the commitment to the hydrogen bomb and needed the capacity to produce tritium and plutonium. Reactor production activities at the Site began in December 1953 and continued until the early 1990s when, with the end of the cold war, the need for such nuclear materials was greatly diminished. At the height of production the Site had five production reactors, two chemical separations plants, a tritium extraction facility, a heavy water plant, nuclear materials fabrication facilities, a significant Savannah River Laboratory organization, and numerous related support facilities such as power generation and environmental research activities. Employment at the Site over its 60-year history has typically ranged from approximately 10,000 employees during production slowdown times to greater than 20,000 employees during reactor startup activities in the late 1980s. The Site is a huge employer for the area and has a massive economic impact on the surrounding area. The Site employment today totals approximately 11,000 employees.

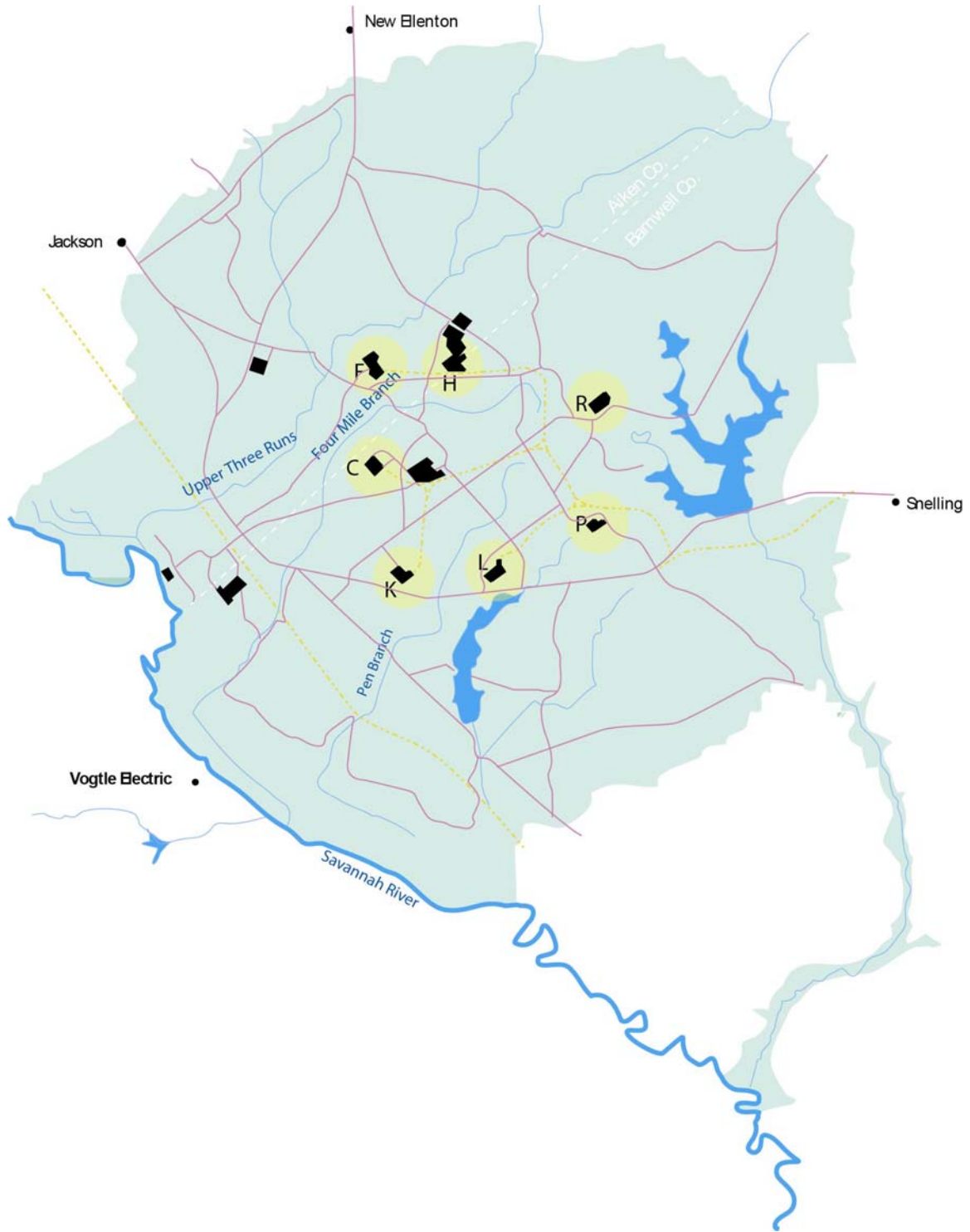


Figure 1: View of Site map and general layout with former production reactors and chemical processing areas highlighted.

The Site continues to have two production missions. One is an ongoing tritium recycle mission for the National Nuclear Security Administration (NNSA) and the other is construction of a Mixed Oxide Fuel Fabrication Facility for the disposition of Plutonium.

The Site is now primarily in a cleanup mode. The cleanup activities for the site are under the aegis of Department of Energy (DOE) Environmental Management (EM) and it is in connection with this work that the CAB was constituted. I will address EM and the Citizens Advisory Board in more detail later. The cleanup activities from the legacy of nuclear materials production are substantial and are projected to extend slightly beyond 2030. The more significant cleanup activities includes treating, stabilizing, and disposing of 37 million gallons of liquid waste generated primarily from the reactor production program and closing all 51 of the waste tanks (2 have been closed to date), consolidation and disposition of Plutonium (up to 13 metric tons), disposition of approximately 15,600 cubic meters of legacy transuranic waste by shipping the material to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, NM, disposition of approximately 138,000 cubic meters of mixed and low level waste, and remediation for soil and water in many areas of the Site along with the deactivation and decommissioning of numerous facilities.

Program and project activities remain well organized and conducted, in spite of the magnitude of the cleanup effort. The impact of past environmental challenges and upsets have for the most part been contained on-site and have had very minor off-site consequences. Further, the Site is attuned to working with the public and public media and keeping the public advised on most aspects of Site operations and activities. Due to both the relatively minor off-site impacts of environmental upsets and the public outreach activities the Site has enjoyed a warm and friendly relationship with the surrounding communities.

As discussed earlier, the Site is a major employer and has an enormous economic impact on the area. Therefore, the media and the public are almost totally supportive of the Site cleanup activities.

SRS Citizens Advisory Board

With that introduction to the Site, I will now address the Citizens Advisory Board (CAB). The CAB is a Board appointed by the Department of Energy (DOE) to provide information, advice, and recommendations to the DOE on issues affecting the Environmental Management (EM) program at SRS. This is an outreach program by EM to receive and provide input from and to the public and to gain public confidence during cleanup activities. EM has such boards in place for a number of DOE sites that have significant cleanup activities underway.

The SRS CAB consists of 25 citizens, who represent a diversity of the community including minority representation, labor organizations, civic groups, business interests, women's representation, environmental groups, academia, local government interests, geographical diversity, and the public at large. It has been my observation that appointments to the Board are done fairly and in the best interests of meeting the

diversity requirements. SRS CAB members receive no payment for their services but are reimbursed for travel expenses for necessary out-of-town travel. CAB members are appointed by the DOE Assistant Secretary for Environmental Management for two-year terms and may serve up to three terms for a total of six years.

The CAB is organized into four issues-based committees, including the Nuclear Materials Committee, the Waste Management Committee, the Facilities Disposition and Site Remediation Committee, and the Strategic and Legacy Management Committee. Members of the public and stakeholders may participate in committee work and may attend full CAB meetings.

While the full CAB meets bi-monthly, each committee may meet as often as twice between CAB meetings and the vast majority of the CAB's work is conducted at these committee meetings. CAB members are expected to serve on at least one committee and many serve on two committees. An individual CAB member might attend one or more of the individual committee work sessions

The prime sources of information for the CAB committees and board are briefings from the DOE, federal and state regulators, and private contractors. Briefings often contain highly technical information and an understanding of the processes involved and informed participation by the CAB membership is essential.

As noted earlier the SRS CAB may provide advice and recommendations to only DOE-EM. Specifically, the CAB may provide input on the following: 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.

In a broad sense, the CAB generally focuses on the progress and priority of cleanup activities.

Record of Accomplishments

The CAB was first established in 1994 and since that time has established a notable record of accomplishments. Since its inception in 1994, the SRS CAB has adopted approximately 275 recommendations. The CAB has generally been very active and involved. Many of these recommendations have been very specific and have raised many issues that are of concern to the public.

For example, the CAB supported and pushed development of a system-wide plan for the disposition of liquid waste that included a schedule showing bottlenecks and critical paths. Further, the CAB has supported DOE for a waste approach that increased the nuclear waste fraction being disposed in High Level Waste glass and decreased the amount being disposed in an on-site Saltstone Facility (under the framework of Section 3116 of the Ronald W. Reagan National Defense Authorization Act for 2005). The CAB

also pressured DOE to move faster and develop a better organization to close the 51 waste tanks. The CAB recommended and was successful in getting funding transferred from the footprint reduction program to the tank closure program to expedite treatment of the high level waste.

To list other examples of the CAB's effectiveness, the CAB was instrumental in developing and implementing more effective SRS cleanup performance metrics than those formerly being used, and in getting an EPA Job Training Initiative for underserved and unemployed individuals extended to provide key training for life and job skills for a most deserving sector of needy individuals. The CAB has also been active in supporting such local capabilities as the Savannah River Environmental Laboratory (SREL), which was faced with severe funding cuts. Currently, the CAB is actively involved in actions to address the matter of disposal of High Level Waste in an approved federal repository, now that the Yucca Mountain project is on-hold.

Elements that Have Contributed to Our Success

Success of an organization such as the CAB is normally achieved through a combination of factors, which includes among others: a noteworthy mission, competent personnel, adequate support, and an informed and involved body with innovative and energetic ideas. The following discussion enumerates the factors that I have considered to be most effective in contributing to the success of the CAB.

A Remarkable and Unusual Opportunity

The cleanup mission at SRS is one of the most daunting cleanup tasks ever undertaken anywhere. When the Site development was announced in 1950 it was a major project with a breath-taking scope, the largest construction project ever in the United States or perhaps even the world. Now that the production mission is nearing completion it is equally fitting that the cleanup task is even more astounding than the original construction. By today's estimates the final cleanup costs for SRS could be as large as \$60-70 Billion. It is clearly a most important effort worthy of involvement.

Risks are acknowledged. For example, the liquid waste in the waste tanks is considered the largest risk in the state of South Carolina. The technology is "first ever-state of the art." The Defense Waste Processing facility, which places high level waste into glass logs inside stainless steel containers, is the first such facility of this type in the world. The technology for the disposition of Plutonium in a productive manner, via the Mixed Oxide Facility, will be the "first ever" facility of its kind in the US. There is equally "high technology" work in many aspects of the Site Soil and Water remediation. The Site will be the first ever to D&D a major reactor facility (P Reactor) in the U.S.

Being a Board member, being a part of and serving to look-over, assess, and provide input to DOE on cleanup activities on such an important program, is an opportunity that many relish and think worthwhile. It attracts many who probably view it as serving the

“higher good.” In my view it is clearly a driver for the involvement of knowledgeable citizens.

Quality of CAB Personnel

One of the reasons for the success of the CAB is the quality of personnel who apply for membership. As noted earlier, there is diversity within the CAB that virtually assures that issues will be assessed from many different viewpoints. However, even beyond the diversity there seems to be a common goal of looking at the issues critically while working to achieve an acceptable resolution.

Much of the success of this aspect of the CAB can be attributed to the recruiting process for new members. The vacancies for the CAB are widely advertised in the news media and on the internet. It is not uncommon to have 2 or 3 applicants for each Board vacancy. Applicants are vetted through a screening process before they are submitted to DOE Headquarters for Board Appointment.

This process produces members who seem to be uniquely qualified to serve on such a Board. For example, on the present Board there are 6 PhD's and 6 MS's included in a total of 16 individuals who have engineering and scientific training backgrounds. There is also one person who has legal training. This level of training may stimulate the other members because even the members who have no scientific training make useful, thoughtful input and are essential to the success of the CAB. Thus far this process has resulted in a group of individuals who are knowledgeable, interested, and involved.

Management Interest by DOE and Contractor Managers and Senior Staff

Another reason for success of the CAB is the interest and involvement by senior managers in the process. It is typical for the DOE manager and the principal Contractor manager to attend the full Board Meetings. Further, the managers also usually give the Board a few comments of update on potential items of interest at the start of each meeting. In addition, a senior DOE Official, with the title of Deputy Designated Federal Officer (DDFO), attends the entire scheduled meeting and is available to answer questions and provide feedback on matters raised during discussions. It is clear through these and other interactions that the DOE Manager has personal knowledge of CAB input and the subsequent responses from DOE. Further, the manager has made known on many occasions and settings that the input from the CAB is important to the Department.

Support to the CAB

Another component of the success of the Citizens Advisory Board is the support provided to the CAB during Full Board Meetings, Committee Meetings, and other activities behind the scenes.

There is a full time federal employee known as the Lead Federal Coordinator. This person works on general CAB issues and matters, and generally directs meeting

coordinators and facilitators. A second full time person (usually a contractor) arranges meetings, processes travel, prepares copies of presentations, and conducts miscellaneous other administrative functions. A Technical Advisor (usually part-time), who is technically trained and familiar with Site operations and issues, has the responsibility to assist in developing background information and recommendations. The SRS CAB is the only Citizens Advisory Board to have a Technical Advisor and this technical support is partially responsible for the outstanding recommendations that have been submitted by the CAB to DOE. There is also a facilitator who facilitates full CAB meetings and special meetings such as training.

The infrastructure for conducting CAB meetings is extensive but with the support noted above it can be carried out effectively and efficiently. With such adequate support the CAB members and the public both are encouraged to participate more in the process.

Close Involvement/ Interactions with SRS Regulatory-type Agencies

Close interaction with SRS Regulatory-type agencies may seem to be an unusual attribute to contribute to CAB success but it really seems to make a difference. Many of these organizations routinely attend the CAB meetings and provide status updates to the Board. This includes representatives from the SC Department of Health and Environmental Control (SC DHEC) from both from the Headquarters in Columbia, SC and the local representative in Aiken, SC, a representative from the Georgia Department of Natural Resources (GA DNR), and a representative from the Environmental Protection Agency (EPA) Region IV in Atlanta, GA. SC DHEC, GA DNR, and EPA all are ex officio members of the Board and their representatives attend the two-day Board meeting, and in addition to the updates noted earlier, answer questions, and provide insights on current issues or matters that come into question. These views expressed on relevant issues assist the Board in looking at an issue in a different manner or with a different perspective. Sometimes their view raises an urgency or perspective that wouldn't normally come up otherwise.

In addition to the organizations mentioned above, the CAB also routinely interacts with other overview agencies such as the Nuclear Regulatory Commission (NRC), the General Accountability Office (GAO), and the Defense Nuclear Facilities Safety Board (DNFSB). The NRC has a role in some of the liquid waste disposal and tank closing activities so interactions with them can be fairly common. It is also common to interact with the DNFSB since they overview site nuclear safety activities. Interaction with the GAO is limited to special issues relative to Site operations and nuclear waste disposition, which occasionally arise.

Overall, the interaction with the regulatory-type agencies gives the CAB insights and a perspective that would not normally be presented. The interaction with so many related agencies also serves to highlight the fact the Board is extremely active and engaged. In dealing with a well-trained professional work force such as those at SRS it is useful to have additional resources with different views of an issue.

Bold Proactive Ideas for CAB Meetings and Activities

Even with all the items mentioned heretofore it is essential to have efficient, and effective, meetings if the CAB is to be successful and productive. The SRS CAB has taken what we call a bold proactive approach to meetings to make the meetings more useful and productive.

Meetings are Held Over a Large Geographical Area

The CAB was constituted to obtain input and communicate with all members of the public impacted by the Site's activities; therefore, the CAB holds meetings over a range of locations that could be impacted by the Site. This includes meetings in the Aiken, SC and the Augusta, GA areas and also in outlying areas such as Savannah, GA, Hilton Head, SC, and Charleston, SC and occasionally in Columbia, SC. This sets up a means whereby the public in these outlying areas can receive Site updates and provide input to Site personnel. The diversity of meeting locations has proven to be very popular and is considered to be a successful feature of the CAB program.

The CAB Hosts E-Meetings

The CAB has also taken the proactive step of going to e-meetings online. This affords members of the public an opportunity to selectively be involved in the meetings. In some instances members of the public and some CAB members who live in distant locations choose to tie-in to the e-meetings rather than travel to the meetings. In some instances members of such related organizations such as NRC have chosen to participate by e-meetings rather than travel to the meeting location. At any rate the CAB has determined that e-meetings is a feature that encourages CAB member participation and may enhance public participation. While e-meetings will be evaluated on a continuing basis, it is likely that this will be a desirable feature to retain.

Joint Committee Meetings- Two per day (Late Afternoon-Early Evening)

Another feature that has been added to the CAB planning is the concept of having two committee meetings at a single session. Formerly, meetings (SRS CAB has 4 operational committees) were held on an individual basis. In an effort to increase efficiency and obtain more public participation joint committee meetings are being held. Meetings are now typically scheduled for one committee from 3:00 PM to 5:00 PM with a follow-on committee meeting from 5:30 PM to 7:30 PM. This approach saves travel money, reduces support effort, and is more user-friendly for the CAB member and the public. This feature has been in effect for about a year and is still under evaluation.

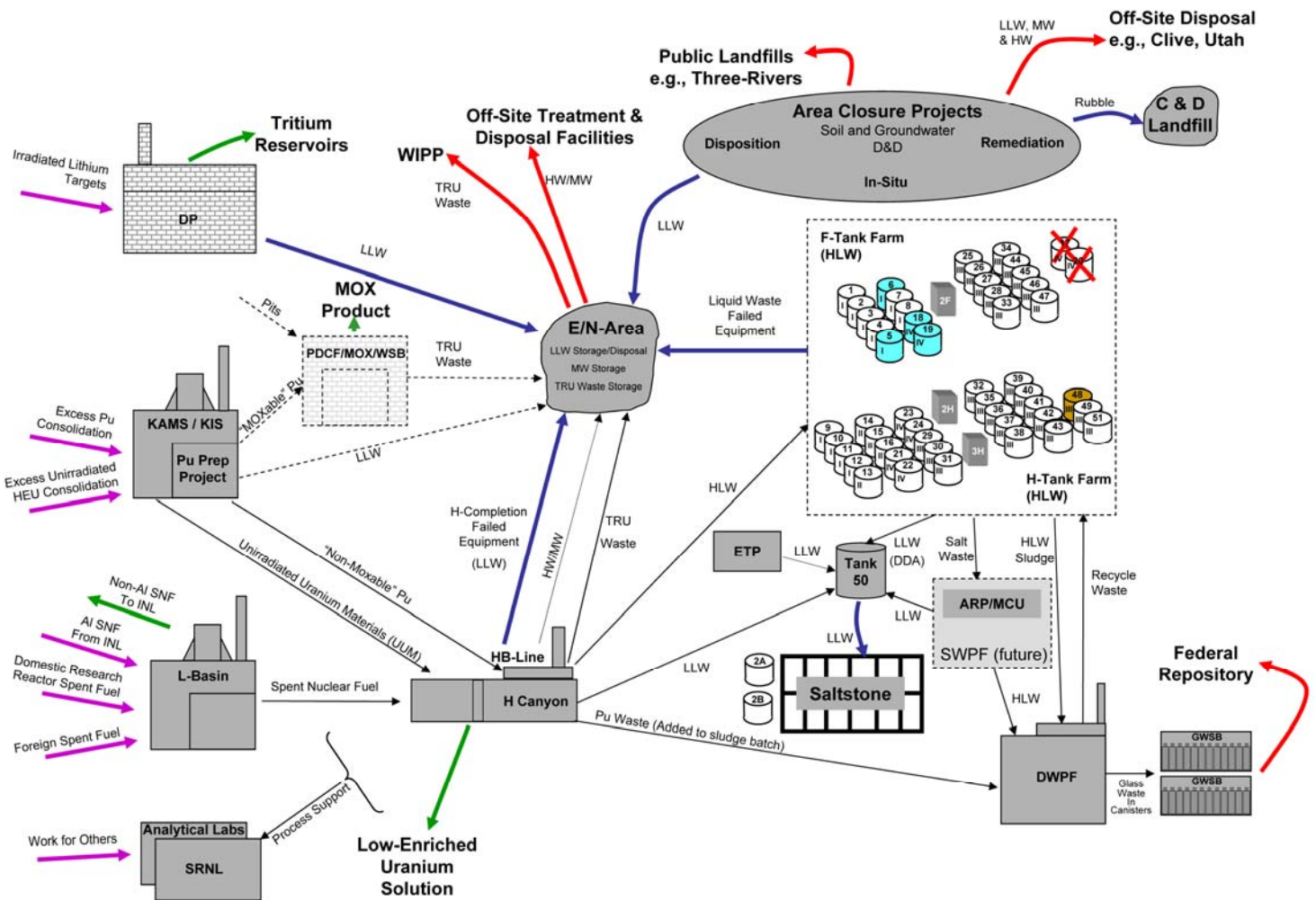
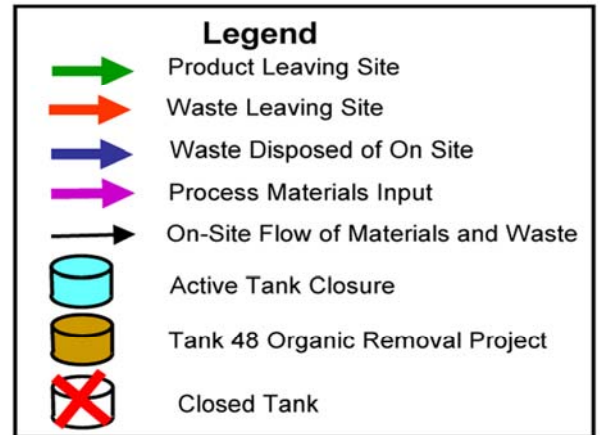
Support For and Endorsement of Informational Meetings Such as Workshops

The CAB has encouraged considerable further outreach by the Site beyond the CAB meeting structure. Specifically, the CAB has supported and requested topical workshop meetings when the situation is considered opportune. In one instance, the CAB recommended a workshop on remediation of contaminated water plume from the Site when remediation measures moved from an active to a more passive phase. In another instance the CAB supported an Educational Forum on Performance Assessments (PAs) since PAs are so prominent in assessing future environmental impacts in various Site models. Other workshops supported by the CAB have included a workshop on the D&D of the P Production Reactor. While these workshops are not attended by a large population they do attract attention and receive public input. This is another feature that has contributed to the effective interaction with the public.

Development and Use of Graphics that Simplify and Graphically Depict Complex Site Activities While Serving to Educate Both CAB members and the Public

Through the efforts of a former CAB member a series of graphic depictions of many Site activities have been prepared and used as briefing and educational tools. These graphic tools place the overall scheme in perspective and make the process more understandable. Figure 2, shown below, is a depiction of nuclear materials and waste flow paths to and from the Site and within SRS. When a new process or facility is being discussed it is always helpful to see how it fits into the “big picture.” Figure 3 is slightly more specific and provides a schematic of the disposition process for various nuclear materials. Figure 4 shows an overview of the liquid waste system and is useful for discussions on the technology and process for taking waste from H Canyon and ultimately disposing of waste via glass logs in the Defense Waste Processing Facility. These simplified diagrams are useful in educating the CAB members and the public, and are used routinely to focus the attention of the Board during specific briefings. Overall, these graphics have been a real contributor to our developing informed Board members and to the subsequent effectiveness of the Board.

Savannah River Site Waste and Material Flow Path



SRNS-J2000-2008-00016 Rev 3.

Figure 2. This schematic depicts SRS nuclear materials and waste flow to and from the Site and within the Site and is used to orient the members during presentations and problem discussions.

Nuclear Materials Disposition Process

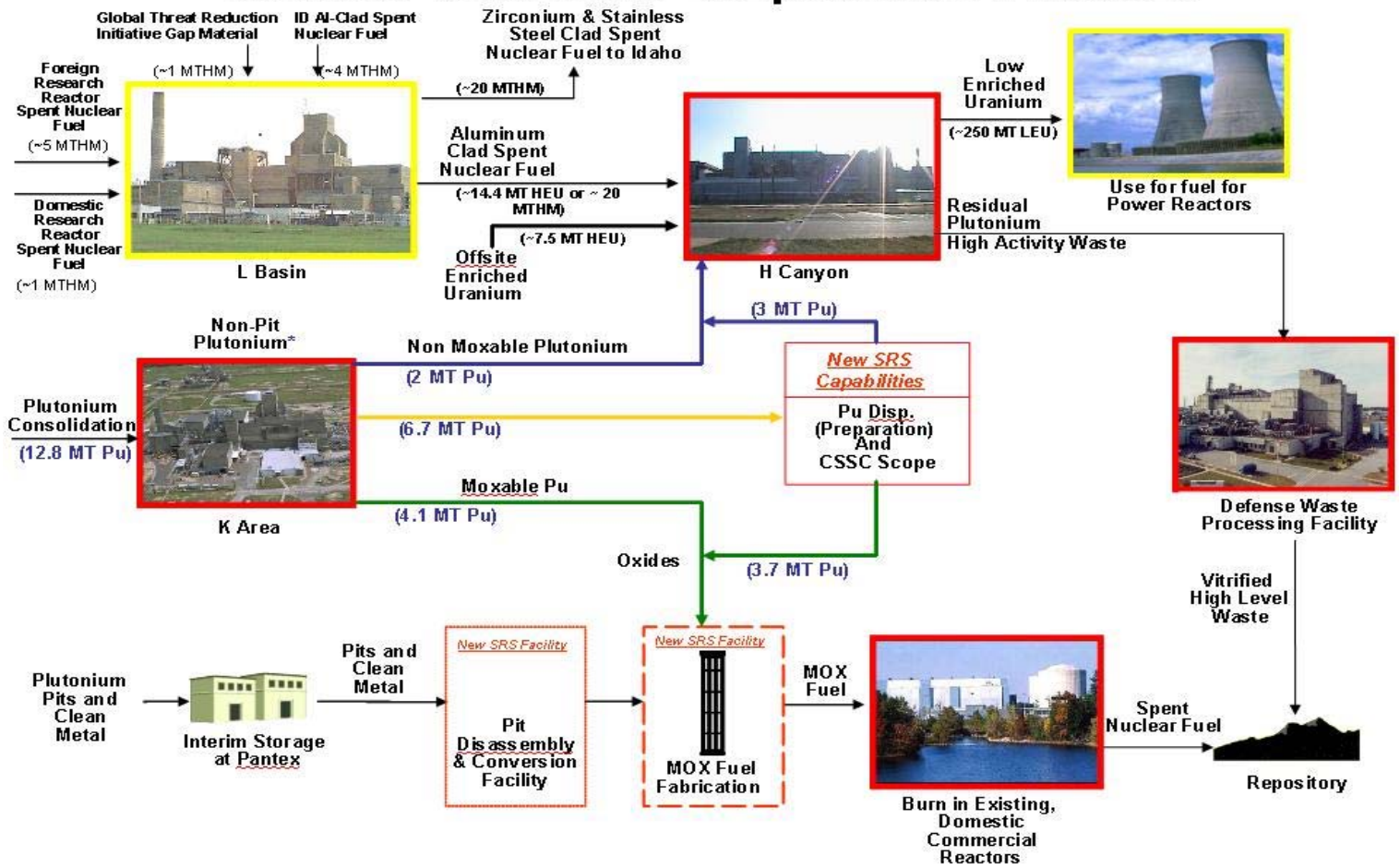


Figure 3: This figure shows the nuclear materials disposition process and indicates type and quantities of materials and relevant facilities.

Liquid Waste Overview

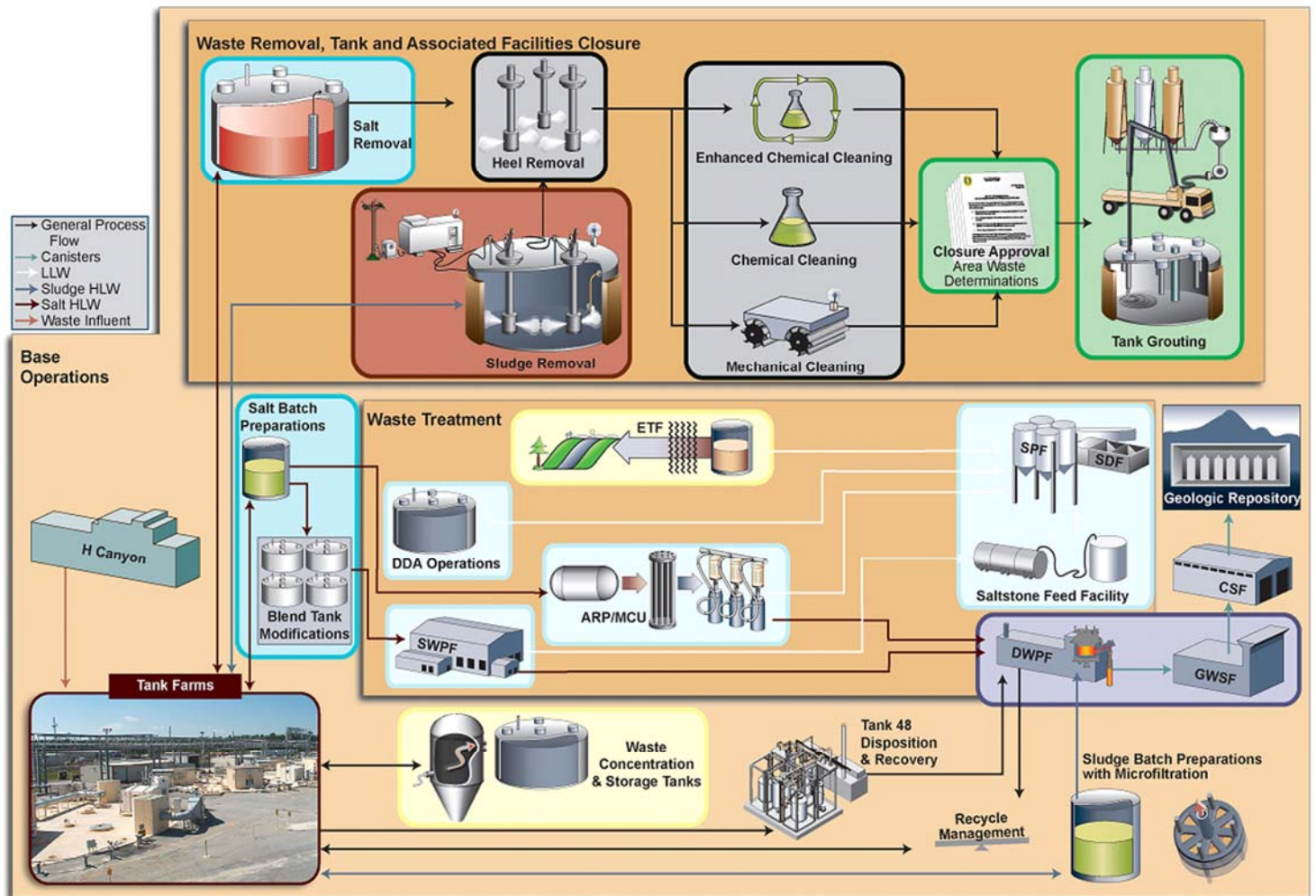


Figure 4: This graph provides an overview of the liquid waste disposition system and was used in a presentation at a recent CAB meeting.

Extensive Website for CAB Activities

The CAB staff has developed an extensive and informative web site for the CAB activities. It is an invaluable source of information for all aspects of the CAB activities including meeting schedules and locations, recommendations and recommendation responses, CAB member backgrounds, CAB Charter, and miscellaneous administrative information about the CAB. This web site is used extensively and is considered essential for effective communication with the public and the CAB members.

Indicators of Success

In spite of the effective aspects of the CAB activities noted above the CAB is continually confronted with a question regarding the success and effectiveness of the CAB. Just how well are we doing? In our assessment the CAB is considered to be a real success story.

Number of Individuals Willing to Serve

During recruitment drives the CAB consistently has a pool of talented individuals willing to serve. In some instances applicants have to apply several times before being appointed to the CAB. Overall this level of talent is a definite measure of success. However, in some instances we have experienced some difficulty in meeting all the diversity requirements such as union representation. In any event the level of community participation in the CAB is considered a success.

Number of Recommendations

The CAB has made approximately 275 recommendations in its 16-year history. That is a substantial body of input by any measure. The number of recommendations alone is not the single telling indicator but it is indicative of a significant body of work and is worthy of praise.

Quality of Recommendations

The CAB has made a significant number of quality recommendations. In many cases the recommendations have considerable insight and technical detail. They have involved issues of substance and have impacted the Site's programs and priorities.

Close Working Relationship with Other Agencies Such as NRC, EPA, DHEC, GA DNR, GAO, and DNFSB

The fact that the CAB works closely and effectively with so many regulatory type agencies speaks well for the effectiveness of our activities. It is an indication that the Board is involved and routinely deals with these bodies on matters of substance.

Distinct Impact on SRS Program Priorities and Progress

Over the 16-year history of the Board the CAB has impacted significantly the priorities and progress on programs at SRS. As a result of CAB input much more focus has been put on programs at the Site. This would include such programs as Plutonium consolidation at the Site, liquid waste processing activities, Plutonium disposition, separations canyons operations, etc. The activities of the Board have truly reflected public input and involvement in cleanup activities at SRS.

Positive Feedback from DOE

DOE has told us that the CAB has effectively applied pressure and influenced DOE to accelerate or emphasize programs, which have resulted in lowering risks and increasing cost savings.

Summary

The Citizens Advisory Board was envisioned as a body of private citizens who looked at cleanup activities of the Site and reflected the public view and input as the Site carried out the EM mission. In my view this body has carried out that mandate. Over its 14-year history the CAB has been diligent in its duties and enthusiastic in its involvement. The CAB has been energetic, active, and innovative in their work. Their work has resulted in numerous recommendations that have led to many improvements in Site cleanup. By any measure the work of the CAB is a noteworthy success.