

FALL 2002

CAB

SAVANNAH RIVER SITE CITIZENS ADVISORY BOARD

# Board Beat

## CAB reaches decision on F-Canyon Suspension

After a thorough evaluation of related issues, the Nuclear Materials (NM) Committee presented a draft motion to the Citizens Advisory Board (CAB) in support of DOE's proposal to proceed with F-Canyon Suspension. This motion was adopted unanimously by the CAB during the Quarterly Board meeting held in Columbia, SC on July 23, 2002.

Located in F Area, F-Canyon is one of two chemical separations areas at SRS. Constructed in the early 1950s, F-Canyon operations recovered plutonium-239 (Pu-239) and uranium-238 (U-238) by a chemical separations process after dissolving aluminum-based irradiated fuel slugs or rods from the site's production reactors and other test and research reactors.

The decision to support F-Canyon Suspension wasn't made hastily. It is the result of extensive research conducted by the committee. Ken Goad, NM Committee Chair, explained, "This action was presented as a cost-savings, but we didn't want to see the canyon shut down prematurely just because of costs. We weren't going to rubber stamp the decision based on money alone. We felt it was important that despite the fact F-Canyon is aging and expensive to maintain, operations shouldn't be suspended if there were still nuclear materials to be stabilized that required F-Canyon." DOE has projected that accelerated deactivation of F-Canyon will result in up to 90 percent reduction in operating costs and potentially save taxpayers \$250 million dollars over the next 10 years.

The NM Committee first heard from DOE about the proposed stages of F-Canyon

Suspension at its January 2002 meeting. As part of their research, committee members took the opportunity over several months to hear from different sources the impact of the proposed suspension action.

During the February Combined Committee meetings, the NM Committee was provided with specific details included in the proposed Cleanup Reform Appropriations. One of the NM initiatives in the appropriations addressed the accelerated facility closure of both Pu processing facilities in F Area. Under that proposal, FB-Line would complete its Pu packaging mission in 2007, but F-Canyon's mission would complete its stabilization of Pu-bearing materials in March 2002 and suspension activities would begin.

To gain a different perspective, the NM Committee sought input from representatives from the Defense Nuclear Facilities Safety Board (DNFSB). The committee learned more about the concerns relative to the proposed suspension, which were also detailed in a March letter from the DNFSB to DOE.

DOE, in collaboration with WSRC representatives, presented a detailed explanation of suspension plans at the May NM Committee meeting. This well-attended meeting provided NM Committee members with an opportunity to ask specific questions about the differences between F- and H-Canyon to increase their understanding of the proposed canyon utilization policy. They also heard about the key issues that must be resolved in order to reach full suspension such as the disposition

*(Continued on page 2)*

### Inside this issue:

A Progress Report from the SRS CAB	2
Recent Recommendations	3
Education Retreat 2002	4
Focus on Technology	4
"Is it the name or is it the flame?"	5
Ex-Officio Representatives in the Spotlight	6
New CAB committee to focus on long term stewardship	7

### Special points of interest:

- *F-Canyon Suspension*
- *2002 schedule promotes involvement*
- *New Frit to save time and money*
- *Leading incineration alternatives discussed*
- *Public involvement sought for stewardship*

## CAB reaches decision...

(Continued from page 1)

tion of process solvent and depleted uranium solutions. Specific actions were detailed about planned actions to reduce existing hazards and to ensure a safe, long-term end state. The committee was assured that no irreversible suspension actions would be taken until the DNFSB concerns were addressed.

Research by the NM committee continued the next month with a tour of F-Canyon and additional information on each of the key suspension issues. The NM Committee members spent time discussing specific issues with representatives from DOE, WSRC, and the DNFSB in conjunction with the tour.

During June and July, DOE hosted a series of workshops on the pre-decisional draft Environmental Performance Management Plan also known as the PMP. The PMP was also highlighted during a joint NM and Waste Management Committee Meeting. The purpose of the meetings was to gain stakeholder values and concerns that DOE should consider as it moves forward with their risk-based accelerated cleanup strategy. During these workshops/meetings, CAB members learned more about future stabilization activities, which may have had the most impact on the committee.

CAB Chair, Wade Waters, serves as a member of the NM Committee. Mr. Waters said, "During our evaluation, we learned that although H-Canyon will continue on for more than ten years, there

will be spent nuclear fuel shipped to the site even after that time. This spent fuel has no clear pathway for safe stabilization and it needs to be addressed."

It was for this reason the NM committee felt that DOE should begin planning for future stabilization activities now.

In its recommendation, the CAB recommended to DOE that it only implement activities that can be reversed until the DNFSB concerns are resolved, to provide a material management plan to the CAB, and to begin immediate planning for alternatives to meet future processing needs. Currently, suspension activities are underway, including flushing of canyon vessels and piping, decontaminating solvent and consolidating depleted uranium solutions for future shipments out of F-Canyon

*The CAB recommended to DOE that it only implement activities that can be reversed until the DNFSB concerns are resolved*

## A Progress Report from the SRS Citizens Advisory Board

The SRS Citizens Advisory Board has been in existence since February 1994. With changing membership comes changing times and the year 2002 has seen its fair share, all dedicated to enhancing Board operations to become more effective and efficient. Two lowcountry CAB members, Wade Waters of Pooler, GA and Jean Sulc of St. Helena Island, SC took over the helm as Chair and Vice Chair of the Board in January 2002. They immediately began looking at ways to streamline board functions, provide for more focused education of new CAB members and adjust the Board's meeting schedule to better meet the needs of the CAB.

With the approval of the full Board, the Education Committee was disbanded and the functions of the committee moved under the Executive Committee. In her new role as Vice Chair, Jean Sulc continues to lead the education efforts. A two-day educational retreat was held September 23-24 in Charleston, SC to provide basic information for new members and refresher training for veteran members (see related Education Retreat article on page 4). In April 2002, the Long Term Stewardship Committee was formed to focus necessary attention on this topic of interest to the CAB. Nancy Ann Ciehanski of Sun City, SC chairs this new committee.

As in the past, issues-based committees continue to conduct the bulk of the SRS CAB work. The SRS CAB has maintained a fairly consistent structure over the years, which reflects the SRS organizational approach. These committees investigate and frame issues for the board and draft motions for full Board approval as official CAB recommendations. Five committees review the following topical areas: Environmental Restoration, Waste Management, Nuclear Materials, Strategic Initiatives and Long Term Stewardship.

Concurrent issues-based committee meetings were an issue for some CAB members who wanted to participate in more than one committee. In response to this concern, the SRS CAB piloted a quarterly full Board meeting schedule followed by quarterly combined committee meetings. A new approach is planned for 2003. The Board will return to bi-monthly full board meetings, however issues-based committees will no longer meet concurrently on Monday evenings. Instead, all committees will meet in combined session beginning at 1 p.m. on Monday afternoons. Public comment sessions will still be conducted on Monday evenings.

Outreach continues to be a major objective of the Board. Several members participate in the Board's Speakers Bureau; the CAB website was redesigned in 2002 to

(Continued on page 6)

(Continued on page 3)

# Recent Recommendations Highlighted

## Cleanup Reform Appropriation

The Board supports SRS initiatives for environmental restoration and asked DOE-Headquarters to fund proposal requests. They also requested a plan of action from SRS and the opportunity to be involved in the review of integrated priority lists and scope revisions involved in ER cleanup effort for out-year budgets.

## General Separations Consolidation Unit

The SRS CAB recommended that SRS utilize the Cleanup Reform Appropriation to request additional funds to accelerate ultimate closure of the General Separations Area Consolidation Unit and that SRS provide the CAB a briefing on the proposed plan including milestones and cost estimates by June 18, 2002. It also asks for a list of any and all additional areas where the consolidation unit cleanup approach can be utilized in an accelerated manner.

## PUREX Waste Alternative Treatment Evaluation

The Board asked DOE to verify in writing its plan to blend PUREX aqueous waste into the Saltstone feed as soon as

practical after the Saltstone Processing Facility is restarted and that the process be targeted for completion by the end of FY03. The motion also asked for an updated schedule of planned activities to treat PUREX organic waste by direct stabilization by August 27, 2002.

## TRU Waste Priority and Offsite Shipments

The SRS CAB requested that DOE-HQ allocate the necessary number of TRU-PACT II containers for SRS to meet its FY02 commitment of a minimum of 12 shipments. It also requests that DOE-HQ accelerate shipments of TRU waste from SRS by expanding capabilities such as HANDSS-55 and authorizations to package higher loading of Pu-238 and Pu-239 to maximize SRS risk reduction.

## Full-scale Dynamic Underground Stripping

The SRS CAB recommended that DOE approve and immediately appropriate the necessary funding to fully implement the DUS full-scale project at SRS and meet baseline schedules and milestones. It also asked DOE to promote exchange of DUS successes at other

sites and to provide information to the SRS CAB by December 31 regarding the effects of elevated temperatures in the subsurface to the indigenous microorganisms in the soil.

## TRU Waste Shipment Acceleration

The SRS CAB requested that DOE provide the resources to implement the accelerated schedule and for DOE to review DOE Order 435.1 and related documents and report to the SRS CAB by January 21, 2003, on the possibility of expected ramifications of raising the TRU waste threshold level. It also requests DOE review of the available disposal paths for newly defined waste streams and any potential disposal paths for current TRU wastes besides WIPP that are environmentally acceptable with no increase in risks to SRS workers or the public.

## F-Canyon Suspension

SRS CAB supports the suspension of F-Canyon operations but recommended that DOE only implement suspension activities that can be reversed until the concerns raised by the Defense Nuclear Facilities Safety Board have been resolved. (See lead story on page 1)

## CAB reaches decision...

*(Continued from page 2)*

pending a final decision on the facility's utilization. No irreversible measures are being taken until the concerns voiced by the DNFSB are fully resolved to both agencies' satisfaction. DOE responded to the DNFSB in a letter dated June 24, 2002 in which Secretary Spencer Abraham detailed DOE's materials management strategy. Both DOE and DNFSB representatives are hopeful that resolution of canyon utilization issues will be reached this fall.

The NM Committee will continue to monitor F-Canyon activities and will seek quarterly updates on the status of suspension planning and implementation.



*New Acting Site Manager Jeff Allison joins the CAB in Columbia, SC. (Pictured on the left, Jeff Allison and on the right, Jimmy Mackey, CAB member).*

# Education Retreat 2002

Savannah River Site Citizens Advisory Board members participated in a two-day educational retreat in Charleston, SC on September 23 and 24, 2002. The purpose of the retreat was to provide a broad-based overview of technical subjects and concepts related to the issues that the CAB members deal with in committee and board meetings. The CAB has not participated in any focused educational activities for several years and they decided that this would be a good opportunity for newer members to "get up to speed" and also allow the experienced members an opportu-

nity to refresh some of the technical concepts that they have not been exposed to recently. The presentations did not include programmatic issues at the site as these are covered routinely at Board and committee meetings.

The retreat was facilitated by Mike Schoener, the CAB facilitator, and covered a variety of topics including:

- SRS Overview
- Hazards and Risk (nuclear and non-nuclear)
- Nuclear Materials
- Waste

- Long-Term Stewardship
- Environmental Restoration and Regulations

The instructors included personnel from the site, CAB members and representatives from the regulators that are ex-officio members of the Board. The format was interactive with lots of participation, discussion, audio-visuals, display items, etc. The feedback from the retreat was very positive and CAB members expressed an interest in continuing these types of activities in the future.

## Focus on Technology

### New technologies accelerate work at DWPF

Researchers at the Savannah River Technology Center (SRTC's applied research and development lab) have put science to work to develop two new technologies for accelerating the work of the Defense Waste Processing Facility (DWPF). Together, these technologies will allow DWPF to produce glass faster with more waste incorporated into each batch of glass – improvements that may significantly reduce the price of vitrifying the site's inventory of high-level radioactive waste. The work was accomplished in cooperation with DOE's Pacific Northwest National Laboratory (PNNL).

One improvement is the development of a new, faster-melting formula for frit, the glass-forming material used in vitrification. Currently, DWPF is mixing the highly radioactive waste with Frit 200. The mixture is heated until molten and then poured into canisters which can be disposed of in a federal geologic repository. Although Frit 200 produces excellent glass, it takes a long time for the high-level waste sludge and the frit mixture to melt into glass.

Working with colleagues at PNNL, SRTC researchers studied the details of the glassmelting process and applied glass property models to develop the new frit.

In small-scale melter tests with the new formula, Frit 320, the waste melted into glass 20 percent faster than mixtures with the current formula. This improvement in the melt rate will save about \$1.6 billion. Frit 320 also is expected to yield significantly higher melter throughput.

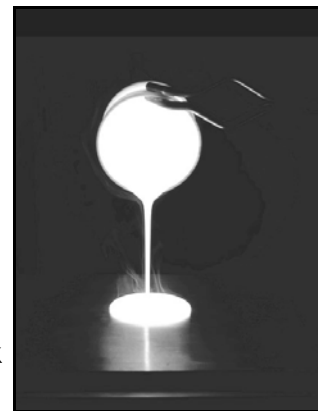
The other new achievement increases the amount of waste that can be loaded in each canister of

glass. In the past, the process model for preventing melt pool crystallization limited the amount of waste that could be loaded: the more waste, the more the tendency to crystallize. Crystallization in the melter is a problem since the crystals can settle to the floor of the melter and block the pour spout, or interfere with the melter's ability to sustain Joule heating, causing the melt pool to solidify.

Now SRTC researchers have enhanced the process model by generating new data and applying a recently developed theoretical physics approach known as "quasi-crystals."

Use of the "quasi-crystalline" approach to model crystallization tendencies in DWPF allows higher waste loadings to be achieved without compromising processing. Higher waste loading allows more waste to be processed per canister, producing fewer canisters for ultimate storage in a geologic repository. Fewer canisters translates into lower overall disposal and operating costs, saving (over the lifetime of the processing facility) between \$100-533 million for each weight percent increase in waste loading.

DWPF plans to begin using Frit 320 this fall. After several weeks with the new frit, they plan to also begin using the new model to increase waste loading.





# “Is it the name or is it the flame?”

At the first meeting following the extension of the Consolidated Incineration Facility (CIF) Focus Group’s charter, Helen Belencan told the members that no single technology discussed at the Denver Alternative Technologies to Incineration Stakeholder Forum establishes a solution for all (each) of the sites in the DOE complex to treat their waste streams.

Referring to a question raised at the Denver forum as to why DOE seemed to hold incineration in disfavor, Ms.

***“Each one (incinerator alternative technologies) has its advantages and disadvantages, and consideration must be given to what each site needs to treat its own waste stream.”***

Belencan said the attendees wanted to know if it was because incineration technology did not work, or was it that DOE decided not to pursue incineration because it was not popular.

Quoting Kathleen Trever of the state of Idaho’s Department of Environmental Quality, Ms. Belencan asked, “Is it the name or is it the flame?” that should determine what technology is selected to address a sites’ waste disposal issues? “Each one has its advantages and disadvantages, and consideration must be given to what each site needs to treat its own waste stream,” Ms. Belencan said.

Helen Belencan, DOE Mixed and Low-Level Waste Program Manager from the Environmental Management Office of Integration and Disposition (EM-22), who is also a member of the CIF Focus Group, spoke at the Aiken Federal Building on August 20, 2002. In her presentation, Ms. Belencan identified the seven “leading incineration alternatives” that were recommended in the Blue Ribbon Panel Report. The report was a product of the task force of the Secretary of Energy Advisory Board created following a dispute over

***Helen Belencan, DOE-HQ discusses the Denver Stakeholder Forum with members of the CIF Focus Group.***



the proposed incineration of radioactive mixed waste at the Idaho National Engineering and Environmental Laboratory (INEEL).

In addition to the Denver Stakeholder Forum, Ms. Belencan also discussed the Alternative Technologies to Incineration Committee (ATIC), which is a subset of the Environmental Management Advisory Board (EMAB). Three members of the CIF Focus Group are members of the ATIC. With the appointment of a new chair to the EMAB, Ms. Belencan said she was uncertain about the future of the ATIC. However, Wade Waters said, “At this point in time, each site in the DOE complex already knows the direction it is headed and stakeholders have already provided public participation into the DOE decision-making process at the forum so

perhaps the point may have been reached where it is time to consider closure for the ATIC.” Ms. Belencan thanked Mr. Waters for his insight and said she would take his message back to Washington.

While the group was pleased to also hear a progress report on the ongoing work of the SRS team dedicated to ensuring disposal of the legacy PUREX (SRS is pursuing a stabilization process for disposal), the members expressed an interest in hearing more about the 60,000 gallons of the solvent waste stream that will be coming from F-Canyon in 2003. Bill Willoughby, Administrative Lead for the Focus Group invited program personnel from the F-Canyon to speak to the CIF Focus Group at its next meeting, which is being planned for January 2003.



***Marshall Looper, Solid Waste Division, provides an update on the schedule for the treatment of SRS's PUREX organic waste to members of the CIF Focus Group.***

## Ex-Officio Representatives in the

# Spotlight



### Thomas Heenan

Tom Heenan is the Assistant Manager for Environment, Science & Technology for the Department of Energy Savannah River Operations Office. He has served as Ex-Officio member and Designated Federal Official since the board's inception in 1994. Mr.

Heenan has 34 years of experience in the Department of Energy and its various predecessor agencies, with over one-half of this experience at the executive level where he has been responsible for environmental, scientific, and energy programs. Recently, the Board recognized Mr. Heenan for his contribution to the SRS CAB as he plans to retire at yearend.



### James Barksdale

Jim Barksdale is the most recent ex-officio appointed to the SRS CAB this summer. He came to work for the Environmental Protection Agency in 1980 and has worked with the Superfund Program since that time. Mr. Barksdale is a Senior Remedial Project Manager and belongs to the EPA Region IV Groundwater association. He lives in the metro Atlanta area in Conyers, Georgia.



### James Sanders

Jim Sanders was appointed to represent the State of Georgia in April 2002. He is the Director of the Skidaway Institute of Oceanography in Savannah, Ga. Dr. Sanders is known for his interests within the area of trace element biogeochemistry: how trace elements are transported through coastal zones, transformed by chemical and biological reactions during transport, and how they can impact aquatic ecosystems. He serves as a consultant to federal and state science agencies and industrial groups.



### Charles Anderson

Charlie Anderson is the Assistant Manager for High Level Waste for the Department of Energy Savannah River Operations Office. He has served as Ex-Officio member of the SRS CAB since April 2002, however, he has been involved in Board activities for many

years. Mr. Anderson's career spans more than 20 years of experience in executive, technical, operations, program management and project management of nuclear materials production, waste management and disposition with DOE and the Tennessee Valley Authority.



### Keith Collinsworth

Keith Collinsworth is the Federal Facilities Liaison for the South Carolina Department of Health and Environmental Control. He has served as Ex-Officio member of the SRS CAB since October 2000, however, he has

been involved in Board activities since the Boards inception in 1994. Mr. Collinsworth has over 13 years of experience in the South Carolina Department of Health & Environmental Control where, for 7 years, he was responsible for both regulatory and technical oversight of the cleanup program at the Savannah River Site. Mr. Collinsworth is a South Carolina registered Professional Geologist and lives in Columbia, South Carolina.

## A Progress Report...

*(Continued from page 2)*

provide a more user-friendly format, advertising was modified to place emphasis on issues of interest, and the "Board Beat" reached an audience of approximately 3500.

While 2002 saw several changes, there will be more in store in 2003 as a quarter of the Board membership changes in January. At least seven new members will be elected. Three current members have fulfilled their maximum number of terms and four have decided not to run for re-election. With a combination of both new and experienced members, the SRS CAB will

continue to be a positive force working to ensure that protection of the public and worker health; safety and the environment are the foremost considerations in the cleanup, stabilization, disposition and long-term stewardship policy decisions at SRS.

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**Visit our web site at [www.srs.gov](http://www.srs.gov) and  
click on Outreach Programs**

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## New CAB committee to focus on long term stewardship

The Savannah River Site (SRS) Citizens Advisory Board (CAB) has recently created the Long Term Stewardship Committee as its newest issues-based committee. CAB member, Nancy Ann Ciechanski was appointed its first chair.

Jessie Roberson, Assistant Secretary for Environmental Management, has defined long term stewardship as "Long Term Stewardship includes all activities necessary to ensure adequate protection of human health and the environment following the completion of cleanup, disposal, or long-term stabilization at a site or portion of a site."

**Additional information on these and other CAB meetings may be obtained by calling 1-800-249-8155 or visit our web site at [www.srs.gov](http://www.srs.gov) and click on Outreach Programs.**

The CAB had been monitoring stewardship issues through its Stewardship Subcommittee that was a part of the CAB's Strategic and Long Term Issues Committee. According to Wade Waters, CAB Chair, the change was made in recognition of the increasing importance of accountability for long term stewardship.

Waters said, "While we had been well served by the subcommittee, other Department of Energy (DOE) sites are now actively closing across the complex. By going to a full scale committee it will put us in a better position to work with and learn from other sites that are devoting much time and resources to long term stewardship is-



*Approximately 20 people from the SRS CAB and general public actively participate on the new committee.*

sues. Although some may think it is not critical for SRS at this time, we want to ensure that DOE considers long term stewardship as an integral part of their planning as new missions are brought to SRS as well as when specific facilities are closed."

As a designated issues-based committee, a work plan for the Long Term Stewardship Committee is under development. It will be used as the basis for the coming year's activities. The committee's priorities will be established based on CAB interests, concerns raised by the public, and issues offered for consideration by ex-officio members from the Environmental Protection Agency (EPA) - Region IV and the South Carolina Department of Health and Environmental Control (SCDHEC) as well as DOE. Some of the issues that are under consideration include records legibility, storage and retrievability as well as the establishment of a dedicated stewardship budget separate from the annual appropriations for each site.

As the Long Term Stewardship Committee Chair, Ciechanski is encouraging the general public to become actively involved in her committee and to attend meetings. "We think it is essential for those who are interested to come forward. I encourage not only those who live close to the site but also those who live downstream of the site who care about the quality of their surface and ground water to join us." Ciechanski went on to say meetings would be planned for various locations in the local and low country area to encourage involvement.

### **Is your organization looking for interesting speakers?**

*Members of the SRS CAB are available to provide*

- A brief history of SRS
- A description of the various environmental management programs
- Information about how the public can get more involved in important cleanup decisions.

**Call 1-800-249-8155 for more information**



## SAVANNAH RIVER SITE CITIZENS ADVISORY BOARD

Key criteria for Board membership includes a time commitment and the desire and ability to work towards better and informed recommendations.

To apply for membership to the Citizens Advisory Board, please call 1-800-249-8155.

"Board Beat" is published semiannually by the Savannah River Site Citizens Advisory Board. Content is provided by Board members and support staff. Please send your comments and suggestions to:

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## Upcoming 2002-2003 Board Meetings

<b>November 12, 2002</b>	Combined Committee	Aiken Municipal Conf. Cntr, Aiken, SC
<b>January 13-14, 2003</b>	Bi-Monthly Board	Hilton Oceanfront, Hilton Head, SC
<b>March 24-25</b>	Bi-Monthly Board	Sheraton Augusta Hotel, Augusta, GA
<b>May 19-20</b>	Bi-Monthly Board	Hyatt Regency Hotel, Savannah, GA
<b>July 21-22</b>	Bi-Monthly Board	Adams Mark, Columbia, SC
<b>September 22-23</b>	Bi-Monthly Board	Houndslake Country Club, Aiken, SC
<b>November 17-18</b>	Bi-Monthly Board	Embassy Suites, N. Charleston, SC

NOTE: Individual committee meetings will be held as required.

### **Mailing List**

Name \_\_\_\_\_

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