

Meeting Minutes
SRS Citizens Advisory Board – Combined Committees Meeting
Savannah, Georgia
May 21, 2012

Monday, May 21- Attendance:

CAB

Thomas Barnes
Artisha Bolding
Dr. Donald Bridges
Ed Burke
Louie Chavis
Mary Davis-*Absent*
Robert Doerr
Kathe Golden
Dr. Rose Hayes
Nina Hazen
Stanley Howard
Travis Johnson-*Absent*
Cleveland Latimore
Clinton Nangle-*Absent*
Dr. Marolyn Parson
Dr. William Rhoten
Dr. Paul Shieh
Earl Sheppard
Harold Simon
John Snedeker
George Snyder
James Streeter
Ed Sturcken-*Absent*
Dr. Gerald Wadley-*Absent*
Sarah Watson

Agency Liaisons/Regulators

Jennifer Hughes, SCDHEC
Shelly Wilson, SCDHEC
Thomas Rolka, SCDHEC
Heather Cathcart, SCDHEC
Rob Pope, EPA
Kyle Bryant, EPA

Contractors

Dr. Terry Michalske, SRNL
David Rose, SRNS
Lee Fox, SRNS
Jeannette Hyatt, SRNS
Dave Olson, SRR
Nancy Bethurem, SRR
Steve Thomas, SRR
Ginger Dickert, SRR
Kim Hauer, SRR
Tom Coleman, AREVA
Erica Williams, V3
Ashley Whitaker, V3
James Tanner, V3
Kole Helvie, V3

DOE

Dr. Dave Moody, DOE-SR
Pat McGuire, DOE-SR
Terry Spears, DOE-SR
Doug Hintze, DOE-SR
Bill Taylor, DOE-SR
Gerri Flemming, DOE-SR
Anna Murphy, DOE-SR
Rich Olsen, DOE-SR
Wade Whitaker, DOE-SR
Maxcine Maxted, DOE-SR
Soni Blanco, DOE-SR
David Hoel, DOE-SR
Chris Upshaw, DOE-SR

Stakeholders

Tom Clements
Gary Zimmerman
Karen Patterson
Donna Antonucci
Judy Greene-McLeod

Erica Williams, Facilitator, began the meeting by reminding everyone to sign-in, to come up to a microphone when making comments, and that there would be a public comment period at the end of the day. She reviewed the Meeting Rules of Conduct, and introduced the CAB Chair, Donald Bridges.

CAB Chair Donald Bridges said it would be the last meeting where the CAB would be working with Mr. Doug Hintze, DOE-SR, who was rotating off as co-DDFO. CAB Chair Bridges thanked Mr. Hintze and welcomed the new co-DDFO, Mr. Terry Spears, DOE-SR. CAB Chair Bridges said the meeting would be “slightly unusual” as the CAB had a lot of recommendations to discuss; he said he would like the CAB to force itself to think of new recommendation ideas.

Dr. Dave Moody, SRS Manager-DOE-SR

Dr. Moody spoke to the CAB about monitors being used at the meeting in lieu of paper handouts. He said it was part of the Department of Energy’s initiative to “go green.” He said an extraordinary amount of paper is generated in the administration of CAB meetings. He said all CAB presentations would be posted on the CAB’s website at cab.srs.gov and copies would be made available for the public at the back table during meetings.

CAB member Rose Hayes asked what would be on the monitor screens in front of them. Dr. Moody said it would be the same presentations projected on the large screen. He said this is for those who have difficulty seeing the large screen and if they want to follow along, or take notes, they can do so by looking

at the monitor. CAB member Hayes asked if there would still be hard copies of presentations being provided to the CAB. Dr. Moody said the monitors are being used in an effort to do away with printed copies of presentations.

CAB member Stan Howard asked if the monitors would be interactive. Dr. Moody said the CAB members would only be able to see what is on the screen, but as the technology improves they may be able to move on to the other options that are more interactive. He asked everyone to check out the monitors and give feedback. He said they planned to have all the monitors in use by the next meeting.

Facilities Disposition & Site Remediation (FD&SR) Overview-Marolyn Parson, Chair

PRESENTATIONS: Federal/State Regulatory Oversight of Cleanup Activities-Rob Pope, Environmental Protection Agency (EPA), Shelly Wilson and Jennifer Hughes, South Carolina Department of Health and Environmental Control (SCDHEC)

EPA's Role in the Site Remediation and Cleanup Programs at SRS- Rob Pope, EPA

Rob Pope, EPA, began his presentation by stating he would introduce EPA, the origin of Superfund and how it applies to SRS, and EPA's involvement in the SRS remediation program. He said the mission of the EPA is "to protect human health and the environment." He continued by stating EPA is an independent agency and was formed in 1970. He said Congress writes environmental laws and EPA writes the legislation to implement those laws, and enforces those legislations while setting national standards.

Mr. Pope reviewed the different regions within EPA, stating SRS is in Region 4, which encompasses the Southeast. He said EPA Headquarters (HQ) is in Atlanta. He then reviewed the origins of Superfund, defining the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). He said it became law in 1980 and was amended in 1986.

He spoke about the National Contingency Plan (NCP), stating it is part of CERCLA. He explained that the NCP is the set of implementing regulations or rules, and are the procedures for conducting CERCLA response actions. He said the NCPA establishes the risk level that triggers cleanup actions.

CAB member Hayes asked when CERCLA was implemented in 1980, did it also cover federal sites such as the Defense Nuclear Waste and the Spent Nuclear Fuel Nuclear Waste. Mr. Pope said it did not explicitly cover those, so that was addressed with Executive Order 12580. He then reviewed CERCLA's purpose at federal facilities, highlighting Executive Order 12580, which was passed in 1987. He listed DOE facilities in EPA Region 4, including SRS, the Paducah Gaseous Diffusion Plant in Kentucky, the Oak Ridge Reservation in Tennessee, and the Pinellas Plant in Florida. He said all but the Pinellas Plant are on the National Priority List (NPL). He then spoke briefly about the EPA Region 4 Department of Defense facilities.

Mr. Pope spoke about SRS, stating it was added to the NPL in 1989. He said it is required to have a Federal Facilities Agreement (FFA) with the State and EPA. He listed some of the federal statutes for cleanup of federal facilities, which included CERCLA, RCRA, the Oil Pollution Control Act, the Safe Drinking Water Act, the Clean Water Act, and the Clean Air Act. He stated that the SRS FFA was signed in August 1993. He said this three-party agreement, between DOE, EPA, and SCDHEC, governs the investigation and remediation program, roles and responsibilities of each party, schedules and deadlines, enforceable milestones and penalties, procedures for working together and dispute resolution. He reviewed EPA's role in the FFA, stating it has oversight of the remediation actions at SRS, ensures adherence to the NCP, CERCLA and FFA guidance, and provides technical and procedural assistance, as well as training, guidance and information. He said that EPA and SCDHEC concurrence is required to select, implement, and operate remedies, and to determine the success of these remedies. He said EPA's involvement is "early and often."

He listed the EPA SRS Team, which includes James Barksdale, Martha Berry, Diedre Lloyd, Jon Richards, and himself. He reviewed the EPA decision process at the Regional Program Manager (RPM) level, stating that all EPA RPMs are involved in the remedial process via the Core Support Team and Scoping Process. Mr. Pope then spoke about the EPA decision process at the EPA management level, including EPA HQ. He said the EPA RPM represents the SRS Core Team's decision.

He continued to speak about EPA's involvement, stating EPA ensures that the remedy is designed and constructed according to plan, achieving the objectives outlined in the Record of Decision (ROD), and is protective of human health and the environment. He said there is regular effectiveness monitoring and 5-year remedy reviews.

CAB member Hayes asked how the 5-year review plan is protected from the uncertainties of the budget process. Mr. Pope said the 5-year review does not take into account whether they have money or not to fix the problems. He said if a 5-year review finds that a groundwater remedy has completely failed, and a plume is escaping the boundaries of SRS, it will recommend it be fixed. He said the lead agency has to evaluate and make a choice depending on its budget. He added that the lead agencies feel that investigating a problem is not as important as fixing a problem.

He reviewed Three Party Decisions, stating decision documents "belong" to DOE, SCDHEC, and EPA, and that EPA must sign a ROD for it to be final per the requirements of the NCP. He spoke about collaboration, stating a team work approach is employed to ensure meeting all FFA requirements while "streamlining and accelerating" the process. He said this requires dedication and commitment from each of the three parties.

Mr. Pope reviewed the issue of High Level Waste Tanks (HLWT), stating there are 22 non-complaint tanks to be closed by 2022. He said two tanks were closed in 1997, and Tanks 18 and 19 are scheduled to be closed on Dec. 31, 2012. He stated two other tanks were set to achieve complete bulk waste removal by Sept. 30, 2010, which was successful. He explained that individual tank closures are, per South Carolina regulations, using closure modules. He said there is also a general closure plan for each Tank Farm. He said the Tank Farms are considered Operable Units (OU) under CERCLA, and tank closure milestones are subject to dispute if missed. He said DOE prepares a Performance Assessment for each Tank Farm and EPA, SCDHEC, and the Nuclear Regulatory Commission (NRC) comments. He commented that SCDHEC is the lead for tanks up to the Proposed Plan and ROD, and EPA reviews and issues comments to SC on tank documents up to the Proposed Plan and ROD. He continued addressing HLWT, stating a Proposed Plan and Interim ROD is planned for each Tank Farm and regulation of tanks is complex and is done differently at each DOE site. He added that EPA is committed, along with DOE and SCDHEC, to closing the tanks, thusly eliminating the threats associated with liquid waste.

He continued his presentation by speaking briefly about the Superfund Job Training Initiative (SJTI). CAB Chair Donald Bridges asked for the numbers on the SJTI Program. Mr. Pope said that the first round of SJTI resulted in approximately 20 workers eligible to be hired and about 13 who were hired. He said he didn't know how many were still employed. He said the SJTI training was designed to involve parts of the community that wouldn't otherwise have the chance. He said the second round of SJTI resulted in about 32 hired at Savannah River Remediation (SRR).

CAB member Marolyn Parson said when she first got involved with the CAB, she was surprised to hear the agencies (EPA and SCDHEC) receive money from DOE/SRS's budget to provide oversight. She asked for Mr. Pope to explain the process. Mr. Pope said at one point, DOE provided funding to EPA Region 4 for Oak Ridge Reservation and SRS, but now they are only providing funding to the EPA for SRS. He said DOE gives them a grant to cover salaries and overhead for approximately two full time people. He said that prior to that happening, they had two to three RPMs working with SRS, and when they really wanted to accelerate work they were short-handed. He said DOE gives EPA funding to pay for two additional people. He said if DOE did not provide funding, EPA would only have three RPMs. He said this doesn't mean EPA would go away, that SRS would not be a NPL or have to follow CERCLA requirements, if DOE did not give funding. He said the funding from DOE doesn't really influence EPA-if they did not have it, one of the RPMs may have to be relocated to another site, but that would be okay.

He said they would still provide the same oversight, but some things would be more limited. He added that it would be harder for EPA to be so involved in the decision process if there were less RPMs at SRS.

CAB Chair Bridges asked if the lines between SCDHEC and EPA are clearly defined. Mr. Pope said those lines pretty well-defined, but they can run into “fuzzy” areas; however, they work these out during the decision process. CAB Chair Bridges then asked who decides what sites are placed on the NPL. Mr. Pope said EPA decides.

“The South Carolina Department of Health & Environmental Control (SCDHEC) Oversight”-Shelly Wilson and Jennifer Hughes, SCDHEC

Shelly Wilson, SCDHEC, began the presentation by providing a brief overview of what SCDHEC covers and what it does not cover. She explained that SCDHEC does not provide oversight on the storage of Spent Nuclear Fuel (SNF) or nuclear materials; this is exempted by Congress. She said SCDHEC environmental roles include protection, emergency preparedness, improvement, and oversight. She reviewed the subject of protection, stating there are federal and state laws and regulations. She stated that EPA delegates the implementation to the state, and that SCDHEC has authority over the air, water, waste, and cleanup. She said SCDHEC issues permits in accordance with federal and state requirements, inspects for compliance, and takes enforcement action when necessary. She then listed Protection Programs.

Ms. Wilson reviewed emergency preparedness, stating South Carolina has a comprehensive emergency operation plan for man-made and natural disasters. She added that SCDHEC takes extra measures for SRS. She then reviewed the areas of improvement and cleanup, highlighting Hazardous Waste Permits and the Federal Facility Agreement (FFA). She spoke about Legacy Waste, reviewing the Site Treatment Plan, which was enabled by the Federal Facility Compliance Act and requires treatment of legacy waste by an approved schedule. She continued by stating it covers legacy mixed low level, transuranic (TRU) and high level waste (HLW), and requires state approval for any “haz/rad” waste shipment proposed to SRS.

She spoke about HLW, reviewing Section 3116 of the 2005 National Defense Authorization Act (NDAA). She said residuals remaining must be under an Energy Secretary determination, in consultation with NRC, and “a state-approved closure plan or state-issued permit.” She added that HLW is regulated under the State Wastewater Program and is covered by the Hazardous Waste Permit cleanup authority; she said HLW is addressed through the FFA process.

She gave a status on SCDHEC, stating it would maintain permits, inspections, cleanup momentum, emergency preparedness, and oversight. She said SCDHEC will focus on HLW treatment and tank closure, Site cleanup, and TRU waste disposition.

Jennifer Hughes, SCDHEC, began her portion of the presentation by referencing a slide that showed a photo of the DHEC regions. She said she is the Regional Director for SCDHEC Region 5. She explained that Region 5 represents six counties. She said in SCDHEC’s central office, in Columbia, the regions are broken down into bureaus; she listed these bureaus and said she is from the Bureau of Environmental Services. She then listed the core functions of the regional offices, which included environmental monitoring for air, water, and land, emergency response activities, industry inspections and evaluations, and investigating and resolving citizen complaints. She commented that work done out of the Aiken office is both regulatory and non-regulatory. She reviewed the water program, stating the SCDHEC Aiken office performs regulatory activities at SRS over such areas as the wastewater treatment facilities, storm water, sediment and erosion control, drinking water, stream monitoring, and complaints. She reviewed the air program, stating the SCDHEC Aiken office performs regulatory activities at SRS over areas such as air quality, air monitoring, and complaints. She then reviewed the land program, stating the SCDHEC Aiken office performs regulatory activities at SRS over areas such as hazardous waste, solid waste, underground waste tanks, emergency response, and complaints.

Ms. Hughes discussed the FFA Evaluation Program and the Environmental Surveillance and Oversight Program (ESOP). She stated that under the ESOP, which is a grant program, SCDHEC monitors and samples for primary contaminants with the potential for public exposure, compares the results with SRS, and summarizes the findings in annual reports. She stated this provides a mechanism for early release detection.

Facilities Disposition & Site Remediation (FD&SR) Overview, continued- Marolyn Parson, Chair

CAB member Parson thanked the presenters from EPA and SCDHEC, adding she especially liked that someone from the SCDHEC Aiken office was there to address the CAB. She listed the FD&SR Committee members and reviewed the committee's focus. She gave the status of FD&SR Recommendations, stating that 279 is "open," and has been responded to by DOE. She said the committee will wait and see how things go and will review the update on the FFA, to be made in the fall, before closing the recommendation. She then listed and reviewed two "pending" recommendations-283 and 285. She said the CAB received a DOE response to 285 and stated DOE would fulfill one of the commitments from the response during the meeting; Erica Williams, Facilitator, said Doug Hintze, DOE-SR, would present information to the CAB concerning Recommendation 285 the next day during the FD&SR Committee overview.

CAB member Parson reviewed the last FD&SR Committee meeting and listed who was in attendance. She said she likes the current two-hour meeting time, but is concerned about the small number of people who are in attendance at meetings. She said a good discussion is hard to have with just two people, and in the past, the CAB had two committees meeting on the same night and therefore more CAB members were in attendance. She reviewed the presentations that were given at the last FD&SR Committee meeting and said they spoke about the DOE response to recommendation 283. She stated that the committee decided to not close the recommendation at this time, and the committee asked for DOE to provide further updates at the July Full Board meeting. She then announced the next FD&SR Committee meeting would be on June 19, in Aiken, and listed topics to be discussed.

Nuclear Materials (NM) Committee Overview-Rose Hayes, Chair

CAB member Hayes reviewed the NM Committee's focus, and listed the members of the committee. She announced the next NM Committee meeting would be held on June 26, in Aiken. She then said she understands CAB member Parson's point about the committee meeting attendance. She said NM always has a large and active attendance rate, but it might be easier on everyone to go back to the joint meeting times. She said the online meetings have been a problem for her and she doesn't like them as a substitute for face-to-face interaction. She said the online meeting function takes up funding from other areas that she feels is more important.

PRESENTATION: Spent Nuclear Fuel & Plutonium Storage Risks- Dave Rose, Savannah River Nuclear Solutions (SRNS)

Dave Rose, SRNS, began by reviewing risk analysis. He said risk analysis is used under DOE Orders to address risk and hazards posed by any nuclear facility. He said the process involves a Consolidated Hazard Assessment Process that brings together requirements from a lot of different DOE guides, orders and standards into a consolidated approach where they evaluate the facilities to determine what the hazards are, how to mitigate them, and how to assess a risk at the end of that. He said this process culminates into a Documented Safety Analysis (DSA). He said one of the first actions done within the DSA is a hazard evaluation for facilities in order to categorize them, and this guides the entire process. He reviewed the hazard analysis, stating it includes scenario development and event progression, material-at-risk and source term analysis, prevention features, frequency binning, mitigation features, and consequence analysis. He added that the DSA has an identification of controls to prevent occurrences and mitigate consequences, and defines risks and ensures they are within the established evaluation guidelines.

Mr. Rose reviewed potential initiating events, listing the following: fire, explosion, loss of containment and confinement, direct radiation exposure, nuclear criticality, external events, and natural phenomena. He next reviewed accident prevention, listing examples. He said they divide the controls into two groups: Engineered Controls and Administrative Controls. Listed under the Engineered Controls are building structure, storage rack and bundle designs, cask design, and fuel and cask handling equipment.

CAB Chair Bridges asked if SRS was preparing for a commercial aircraft type of accident. Mr. Rose said the commercial aircraft impacts are part of the analysis that is done and the frequency of these aircrafts comes into play; however, the large robust nature of the steel structure would limit any damage from an aircraft accident.

Mr. Rose stated that listed under Administrative Controls are combustible/flammable/explosive control programs, hoisting and rigging programs, highly structured procedures, and personnel training and qualification. He continued by discussing consequence mitigation, listing examples of Engineered Controls and Administrative Controls. Listed under Engineered Controls are area radiation monitoring system, basin water level, shielding, and fire water supply. Listed under Administrative Controls are fuel receipt and shipping program, emergency response, fire department and manual firefighting, and procedures and training. He then reviewed the results of postulated accident scenarios in the L-Area SNF Storage Facility, referring to a graph showing the accident and corresponding offsite dose. He referred to a Dose Range chart and then addressed the mitigated offsite consequence by reviewing a graph titled "Comparison of Nuclear Material Disposition Facilities to DOE Guides."

He then addressed the risk from SNF and Plutonium (Pu) storage, stating that none of the analyzed accident scenarios resulted in damage to or release of radioactive material from the entire inventory of stored nuclear material. He said this means that the results of consequence analyses are not affected by the total inventory of stored nuclear material. He said the offsite consequences for bounding accidents are categorized as "negligible" and are unaffected by quantity of stored nuclear material. He then showed a photo of the Nuclear Materials Management facility.

Karen Patterson, public, said she knows there is no consequence for the worst accident scenario they can consider, but she thinks one thing the Nuclear Utilities learned from Fukushima is that they weren't conservative enough in consideration of multiple things going bad. She said she can think of situations where a tornado could affect the offsite power and the electric generators. She asked if they have looked at those kinds of things. Mr. Rose said they have, and used the SNF Facility as an example, stating in Fukushima there was a lot of concern about what was happening in their spent fuel pool, and that the pool in L-Area has no active cooling system. He said the fuel is aged enough by the time it gets to SRS that the water is providing shielding for the workers, so a loss of power does not affect the storage of the material. He said he does not credit electric power as a safety feature for protecting the inventory against events and he can go indefinitely without power. Ms. Patterson said she was thinking more of having pumps to pump fire water. Mr. Rose said in the event of a fire, they have a water line that runs through the area that does require some electric power. He said the fire trucks would have to retrieve water. Ms. Patterson then said they wouldn't be able to drive if there were trees in the road. Mr. Rose said it is not ideal to let the fire burn because it is important to protect the asset of the facility, but the fuel stored under the water doesn't really need that building to be protected. Ms. Patterson asked if Mr. Rose could say the same about the stored plutonium (Pu). Mr. Rose said he is not as well-versed on the Pu, but in K-Area, the area that requires fire protection, has a diesel-driven fire water supply pump, so it does not need to be on the Site electrical grid in order to work. Dave Olson, SRR, stated Headquarters has a few pilot programs going on called "Beyond Design Basis," that provides and answers 'what if' scenarios, and that this would be used at SRS.

CAB member Ed Burke asked what the General Services Administration (GSA) Regulation Guideline was. Mr. Rose said that within the DOE Orders, criteria have been established that must be maintained. He said the milirem maximum exposure to the public is a limit that's established as a requirement, and there are controls in place to keep the public below that limit. He said in order to make sure facilities are being built by this exposure guideline, they go through a list of scenarios and look at consequences,

mitigated and unmitigated, and what would be needed to mitigate these scenarios. He said they are always looking at the guides while building facilities.

CAB member Louie Chavis asked if there was any gas present that could cause an explosion at SRS. Mr. Rose said he has to consider the source. He said the only source for gas would be the fuel tank on a truck or tractor. He said where these trucks are allowed, and how much gas can be in the tanks, was considered in the safety analysis.

Tom Clements, public, said he was curious about the worker dose, encompassing what the dose is and how the workers could mitigate an accident. Mr. Rose said they usually look at 100mrem dose for workers. He said they put controls in place to keep the worker dose under 100mrem.

Recommendation Discussions

“Disposition and Dry Storage of Spent Nuclear Fuel”

CAB member Hayes made a few editorial changes to the recommendation.

Karen Patterson, public, commented the recommendation was good, but said she would make it stronger and tell DOE what to do rather than use wording that suggested action be taken. She said that she thought the big issue was the budget, and the CAB will never get something if they don't ask for it, and what they're asking for is that SRS continue processing that fuel through the canyon. She said if they ask for it, it may not be given to them, but if the CAB says 'continue doing it,' then DOE knows exactly what the CAB wants. She said she feels that words such as “planning and budgeting” are “weasel words.”

CAB member Hayes said there have been many discussions over the recommendation, and the CAB is not recommending any process, but would like other processes assessed.

CAB member Parson asked CAB member Hayes why the recommendation uses the term “research reactor spent fuel” as it is not consistently stated in the discussion portion of the recommendation. She asked if they need that term, and if they do, stated it needs to be consistent. CAB Chair Bridges said they do need the term in order to clarify, but it should be consistent.

Pat McGuire, DOE-SR, told CAB member Hayes that they are pursuing a Dry Fuel Storage Research and Initiative as part of the Enterprise SRS and the next month, during the NM subcommittee meeting, there would be a presentation provided on that topic. He said Dry Storage is just an option and opportunity.

CAB Chair Bridges asked Mr. McGuire to give his observations on the last part of the recommendation concerning Highly Enriched Uranium (HEU). Mr. McGuire said they have been very successful in blending down the HEU to be used. CAB Chair Bridges said he was talking about the part where the recommendation discusses getting paid, and asked if that was possible. Mr. McGuire said there are laws, but those can always be changed. He said a portion of the revenue that is generated from the lower enriched uranium that is used in commercial reactors goes back to the U.S. Treasury, not directly to SRS. He said it is possible to change that, but it would take an act of Congress. He said he is currently very happy with the laws and how they are written.

Tom Clements, public, expressed concern about the recommendation, specifically language concerning ‘the global threat reduction initiative.’ He said they are not affirming the global threat reduction initiative. He said SNF should not be brought to SRS without a clear disposition pathway and he thinks the CAB has an opportunity to recognize the contribution of the global threat reduction initiative and the receipt of the material at SRS. He said it is “instructive” on what is happening with the material at Hanford and Idaho. He said he would have a meeting with the post-BRC staffers in Washington the next week, and they would discuss this issue, and he may be able to bring back feedback for the next NM Committee meeting concerning this recommendation.

Mr. McGuire commented that in respect to future presentations to the CAB, next month the CAB would be receiving a briefing on the small modular reactor (SMR) initiative. He said the way the recommendation is worded now, the CAB may be recommending to blend the material down to a low enrichment to be used in Tennessee Valley Authority (TVA). He said, as a consideration, the reusable material may also be beneficial for SMR use, which may be at a higher enrichment. He said he wanted the CAB to be aware of the initiatives going on when writing its recommendations.

CAB member Parson asked if the 50-year mark written about in the recommendation was a configuration for L-Basin, for wet storage, and if there would be a timeframe for wet storage in the new design system. Mr. McGuire said DOE's previous plans were to begin processing the aluminum clad spent nuclear fuel in 2010 through H-Canyon. He said they have not made that final decision yet; therefore, they are going to continue to store it in a wet configuration. He said DOE had the Savannah River National Laboratory (SRNL) do an analysis on whether that is a good thing, if they should get it out of there as quickly as possible, or if it will be safe for another 5,000 years. He said SRNL said the configuration of L-Basin, the water chemistry and management, is good for at least another 50 years, and maybe even longer. He said DOE does not intend to store it in a wet configuration for that long, but from a safety point of view, there are no imminent safety concerns. He said the vulnerable fuel, which is a small part, could pose a risk and they are planning to begin processing that material.

CAB member Hayes said the reason the CAB pushed for the material to be dispositioned through H-Canyon was because it wanted the material off of SRS.

CAB member Stan Howard suggested some editorial changes at the beginning of the recommendation,

"Yucca Mountain as Interim Storage Site"

CAB member Hayes spoke briefly about the history of Yucca Mountain and reviewed what the recommendation was asking. She asked for comments or questions.

Terry Spears, DOE-SR, said the recommendation has a very tenuous link to the EM mission through its request to form a disposal site for HLW from DOE sites, and the CAB's focus should be on the EM Mission. He read through the four requests in the recommendation and said the first one was relevant to the EM mission. He said the part about designating Yucca Mountain as an interim storage site goes far afield, in his opinion, from what the CAB should focus on, which is the EM mission. He said Yucca Mountain has never been, and currently isn't, part of EM's portfolio for facilities. He said no one in EM could make that designation, and there would have to be a lot of evaluation and analysis, just as there was for Yucca Mountain. He reviewed the third item that read "appropriating funding," stating DOE does not appropriate funding, but Congress does. He said he thought the CAB could get its point across, and stay closer to its charter, by focusing on item one of the recommendation and leaving the rest out.

CAB member Hayes said there has been considerable discussion over the topic, and many of the programs that directly involved the CAB had specified that the end point of the programs would be Yucca Mountain. She said it was agreed that since Yucca Mountain was the only candidate to be a national repository, the cleanup involves Yucca Mountain. She stated there aren't any other candidates and no other site has been studied and tested for its appropriateness like Yucca Mountain and there can't be a substitute for Yucca Mountain for the next 30 or more years. She continued that in the interest of trying to identify disposition pathways, which is something the CAB has been asking about for years, it decided to put this recommendation forward as an alternative.

Karen Patterson, public, commented that if they're just talking about HLW at SRS, the Waste Isolation Pilot Plant (WIPP) is an alternative site. She said it is accurate to say there is no identified disposal site for commercial fuel, but she believes DOE is looking at sending SRS waste to WIPP, so there is a site for SRS's waste. CAB member Hayes said the CAB knows this and has addressed it in other recommendations.

CAB member Burke said they would look at that recommendation later that day to approve for the next day's voting. He said he thinks one point that was made earlier, about DOE not appropriating funding, should be removed from the recommendation. He said he agrees with Mr. Spears that the first item on the recommendation is key, but he would also like to keep item two; he said the other two are not critical. CAB member Hayes said she suggests they change item three to say "DOE identify funding." CAB member Burke suggested it say "DOE request funding."

Dr. Dave Moody, SRS Manager, suggested the CAB look back carefully at WIPP. He said it was originally designed for both TRU waste and HLW, and was characterized with both in mind, and so there is another site that has been characterized accurately. He said it would currently require a change in law, but there are also laws that would need to be changed for Yucca Mountain. He said he is not going to try to guide the CAB away from making a recommendation strongly for Yucca Mountain, but he said, from a technical standpoint, there are options. CAB member Hayes asked if that mitigated making Yucca Mountain an option. Dr. Moody said it does not exclude Yucca Mountain, but it does not necessarily mean Yucca Mountain is the only option and by spelling out Yucca as the emphasis of the recommendation, the CAB may be excluding parts of its audience. CAB member Hayes suggested they put wording in that asks that Yucca Mountain be considered as one of the interim storage sites.

Mr. Spears said the BRC recommended to DOE that the repository or interim storage facility be based on the consent of the community. He said by focusing in on Yucca Mountain, or even to say it be one of the options, it goes against the BRC recommendation about having a consent-based repository. CAB member Hayes said they have had discussions on this, and the people at Yucca Mountain turned down the Yucca Mountain repository as a permanent site, but the CAB suggests now that it be an interim site and not a permanent location, so it changes the issue. She reviewed the law that was written concerning sites that become permanent repositories. She said the law was changed in 1987 to designate Yucca Mountain specifically.

Tom Clements, public, said he thinks there are some problems with the recommendation, stating there was an appeal heard earlier that month and the court has not ruled on the NRC's handling of Yucca Mountain's license. He said the CAB seems to be intent on putting forth a recommendation making Yucca Mountain an interim storage site and he thinks the people of South Carolina and Georgia may want to know what the CAB thinks about the SNF storage at SRS because it is a candidate site for one or more consolidated storage facilities. He suggested the CAB take the opportunity to make a comment on SRS, and asked if the CAB plans to do that later.

CAB member Hayes said there have been many discussions along those lines and she thinks there was a general consensus that there isn't any other site that has been tested and studied like Yucca Mountain for long-term or interim storage for these types of materials. She said SRS has not been tested or studied for permanent or long-term storage of the HLW. She said the law says the waste should only be at SRS temporarily and then moved, and that is why the CAB did not put that language into the recommendation.

Erica Williams, Facilitator, announced an agenda change. She said that due to time constraints, Rich Olsen, DOE-SR, would give his presentation the next day rather than presenting that day during the S&LM Committee meeting. She also announced that Kathe Golden, Chair of the Administrative and Outreach Committee, had nothing to report on that day so she decided to wait until the next day to discuss any topics her committee had.

Strategic & Legacy Management Committee Overview-Harold Simon, Chair

CAB member Harold Simon listed the members of the S&LM Committee, and stated the focus of the committee. He spoke about areas of interest, and addressed the S&LM Work Plan topics. He said the committee's last meeting was on May 1, and spoke briefly about what was discussed. He said the committee has one pending recommendation and it would be addressed at the June 5 S&LM Committee meeting, with the status reported to the Full Board in July. He said two S&LM recommendations would be addressed during the meeting today to be put forward for voting the next day. He announced the next S&LM Committee meeting as June 5; he invited everyone to attend in person or online.

PRESENTATION: EM Program Lifecycle Plan-Anna Murphy, DOE-SR

Ms. Murphy began her presentation by stating its purpose, and what she would address. She referred to a diagram of the components of the Lifecycle Estimate. She listed the four estimate components as: scope, cost, risk, and schedule. She then reviewed the lifecycle cleanup program by functional areas. She listed the four functional areas, characterized by the program baseline summary (PBS) as: nuclear materials, waste disposition, area completion, and site support.

She continued her presentation by stating the SRS Lifecycle Estimate was last updated in 2008. She spoke about the rationale for the lifecycle estimate, stating what has occurred since then. She referred to a diagram labeled as "Integrated Lifecycle 2008 Version." She addressed the lifecycle update development considerations, listing drivers, interdependencies, and other logic considerations. She spoke briefly about primary drivers, program operations, and other support functions. She then referred to a diagram on the Integrated Lifecycle FY2011 Update, and a chart concerning the remaining lifecycle cost profile by PBS.

Ms. Murphy spoke about the impacts of the FY11 lifecycle estimate update, stating it incorporates the site-approved FY11-15 Contractor Performance Baseline, the Liquid Waste System Plan 16, ARRA, and the Salt Waste Processing Facility (SWPF) Facility Line Item Project. She said it accelerated the EM Completion Schedule four years, from FY2038 to FY2034, and had a cost increase of \$5.5 billion. She stated that the Lifecycle Estimate Range is \$55.5 billion to \$65.5 billion with a three year Schedule Contingency. She then listed the primary sources of cost increase.

She reviewed a diagram of the Integrated Lifecycle Update Process, from the first quarter to the fourth quarter. She summarized her presentation by stating the FY11 Lifecycle Estimate fully describes the remaining SRS Scope, the Lifecycle Estimate Process resulted in a high-confidence estimate for the remaining lifecycle, fully describing EM at SRS, and is a key component to the DOE-SR Federal Risk Management Plan Annual Update and the EM Environmental Liability Annual Review. She also stated that as a result of the Strong Lifecycle Estimate Process, SRS gained confidence with the EM Liability Auditors resulting in no findings and reduced emphasis on SRS.

CAB Chair Bridges asked what was the date of start-up for the program and when do they expect to be finished. Ms. Murphy answered the lifecycle estimate started at the beginning of 1997 and the remaining value is \$35 billion.

Rob Pope, EPA, stated that PBS 30 has a "big jump" around 2026, and asked if that jump is from what was previously PBS 40. Ms. Murphy said it was and they would continue to do the surveillance and maintenance for the groundwater source strategy and cleaning up as many waste units and sites as possible throughout the year, but the main "spike" is Decontamination & Decommissioning (D&D), and as operations are completed the D&D will pick up.

CAB member Hayes asked what factors are included in the finding for dry storage of SNF. Ms. Murphy said that is currently being looked at as an "assumption." Maxcine Maxted, DOE-SR, said that since they did not have a decision to process, they didn't believe it was a fair assumption to assume processing for the lifecycle, so they did a dry storage scenario and put those costs from the 2010 report into the lifecycle baseline.

Recommendation Discussions

"Operating History Safety and Environmental Studies Assessment"

CAB member George Snyder served as Recommendation Manager and read over the recommendation, providing background information. CAB member Simon informed the CAB that if anyone had any suggested changes to the recommendation, they should draft the suggestions into precise language that they can insert into the recommendation. He then opened the recommendation for discussion.

CAB member Hayes said she thinks the recommendation is excellent and she fully supports it. She said she has read articles in the paper about long-term workers at SRS filing for compensation claims due to unspecified exposures. She said she feels the recommendation should include data from the Department of Labor Bureau's Labor Statistics & Worker Compensation Program.

Dr. Moody, DOE-SR Manager, said DOE develops a number of reports, but the level of coordinating all of the CAB's request, and then drawing conclusions, may "bring tears to their eyes" in terms of what the cost may be with enlisting the outside epidemiological support to pull it off. He said he appreciates the tenor in which the recommendation is being presented because it is countering some of the negative things that have been circulating, but as the CAB is evaluating bringing the recommendation forward, it should consider the cost. CAB Chair Bridges said it will cost a lot, but if DOE lets this pass and doesn't document what is learned from what is probably the major production site in the U.S., maybe even the world, it's going to be criminal.

CAB member Burke said perhaps the CAB should ask for a little less and then, depending on the results, ask for more. He said the CAB could review the existing studies to see if there is any indication of statistically measurable effects of radiation, and based on that, go for further studies, if necessary. He said the studies out there may not show any significant measurable effects and could answer the CAB's questions. He said he sees Dr. Moody's point in that the recommendation could result in a high cost.

Karen Patterson, public, said she agrees with CAB member Burke and that the recommendation is a "big piece to chew off." She said she thinks the recommendation is good and that the information should be pursued, but like CAB member Burke, she thinks it should be a step-by-step process. She said a few years ago someone performed an epidemiological study of SRS workers to see if there were any excess cancers; she noted the CAB could review that study. She said SRNL does an annual monitoring report every year and that could give the CAB a lot of data. She said SREL has been working at the Site for 60 years and the CAB could get them, and SRNL, to give presentations concerning the environmental impacts at the Site. She said her company makes a living out of evaluating the impacts of nuclear reactors, and the amount of radiation that is released from SRS is so small that when you get offsite, there is no way you can establish that it has any effect on the environment. She said the dose you get just from living is higher. She said there have been many studies over the years and no valid studies have been able to find any effects from radiation on the surrounding communities. She suggested the CAB start with the close-end studies, most of which already exists, and if the CAB still has questions or concerns it can move out beyond that. CAB Chair Bridges said he agrees with Ms. Patterson that the dose is minimal, but they need to put it so the layperson can understand it. He said the paper says people are dying left and right.

Rob Pope, EPA, stated there is an existing public health assessment done by the Agency for Toxic Substances & Disease Registry (ATSDR) that is required of them to do at all NPL sites. He said Carol Connell has presented this report to the CAB before. He said they went outside the Site and looked at subsistence-level receptors, or someone who hunts and fishes out of the Savannah River, and they did almost the exact study that CAB Chair Bridges is asking about. He suggested they invite someone from ATSDR to talk about this assessment. CAB Chair Bridges said he was hoping DOE would do that and pull it all together. Mr. Pope said DOE isn't really tasked to do that by the law, but ATSDR is, and they are an independent agency. He said having DOE do it may cause suspicion with outside sources. Wade Whitaker, DOE-SR, said his group oversees ATSDR and that there are three reports of relevance to the CAB-two are done and one is coming up.

CAB Chair Bridges said everyone is saying all these reports are done, but they should summarize them and put them together. CAB member Hayes said the reason why she said they should include the DOL/BLS data is because any worker who has ever experienced a disease or disorder from working at SRS from day one and filed for Workers Compensation payments has been recorded and the data is free. She said you can "drop down" inside of reports and find out what the worker was doing. She said it could tell the CAB if there was a problem or if there is a problem.

CAB member Simon asked, in light of the number of comments made, if the CAB had enough information to visit the recommendation at the end of the meeting, or if they should revisit later. CAB Chair Bridges said they have offered language, have asked a reasonable question, so if someone else wants to modify the recommendation, he is open to it. CAB member Parson said she is in favor of the recommendation as written, with few modifications, and stated they have heard from DOE itself that there is nobody in the world who knows more about research relevant to the Site than DOE. She said she is hearing about all these studies and research, but she sees no reason why a reasonable satisfaction to the recommendation could not be forthcoming. She said it may take a while, but they should let DOE tell them what is not possible; she said she is in favor of going forward with the recommendation.

CAB member Hayes said she felt that this recommendation could help with outreach to the community because there are many misconceptions among public citizens and this report could help clear those up. CAB member Burke commented that the recommendation may need more work than could be done by the next day of the meeting. He suggested they assemble a catalogue of literature of all the studies that are available and post those on the website. He said they could also ask for an evaluation that could show whether or not there is a reason for further analysis. He said he feels they are asking DOE to collect all of the studies into one place rather than creating a new study.

Judy Greene-McLeod, public, commented that having been involved in a lot of research at the Site over the years, she agrees with the intent and the spirit of the recommendation, but she feels it is overly broad. She said she likes what CAB member Burke said, and perhaps a literature review could be put together to show people where to go for information. She added that Rob Pope also had a good suggestion. She said to do a good job by this recommendation, it would take an incredible amount of effort, and much of the information is already out there.

“CAB Active Involvement in the eSRS 2011 Strategic Initiatives”

CAB member Sarah Watson served as Recommendation Manager and briefly reviewed the recommendation. CAB member Simon opened the recommendation for discussion. Terry Spears, DOE-SR, pointed out some concerns he had with items two and three of the recommendation. He said he understood the motive for the recommendation, but said the second and third item seemed to expect DOE to accept and act on recommendations it had not seen yet or that don't exist. He said the policy says that DOE must either accept or reject recommendations, but DOE cannot interpret them. He suggested the CAB focus item two on a concrete action and to state it in a positive manner. He said item three asked DOE to act on things that don't exist, and it needed to be revised to be more concrete and positive. CAB Chair Bridges said he agrees with Mr. Spears on item two. He said that item was meant to inform DOE to not get so caught up in eSRS initiatives that it loses focus on the mission, but said it could've been worded better.

Waste Management Committee Overview-Ed Burke, Chair

CAB member Burke said he would skip his committee report because there was nothing of importance that day. He announced the next WM Committee meeting as being held on June 12.

Recommendation Discussion

“Assess Feasibility of Disposition of SRS Canisters in WIPP”

CAB member Burke reviewed the recommendation, providing background information.

CAB member Hayes asked if item four in the recommendation was asking for DOE to establish a broad schedule for removal of the canisters from SRS to WIPP, or anywhere. CAB member Burke said the recommendation was addressing WIPP only, and CAB member Hayes said that information should be included.

CAB member Kathe Golden commented that since the first recommendation is asking DOE “assess the viability of using WIPP...,” she thinks number three and four need to be qualified by item one because if they say no to item one, that is the end of discussion. CAB member Burke said he was fine with that.

CAB member Howard commented that item two says “more acceptable,” and maybe it could be worded better. CAB Chair Bridges asked Mr. Spears if some canisters were cooler than others. Mr. Spears answered that some were, and then stated item two could be reworded to say something like “assess which canisters at SRS would be acceptable for disposition at WIPP.” CAB Chair Bridges asked Dr. Moody, DOE-SR Manager, if some of the canisters would be too hot to be dispositioned at WIPP. Dr. Moody said he believes all canisters at SRS would be eligible for dispositioned at WIPP.

Public Comment

There were no public comments.

Meeting Adjourned

Meeting Minutes
SSR Citizens Advisory Board-Full Board Meeting
Savannah, Georgia
May 22, 2012

Tuesday, May 22- Attendance:

CAB
Thomas Barnes
Artisha Bolding
Dr. Donald Bridges
Ed Burke-Absent
Louie Chavis
Mary Davis-*Absent*
Robert Doerr
Kathe Golden
Dr. Rose Hayes
Nina Hazen
Stanley Howard
Travis Johnson-*Absent*
Cleveland Latimore
Clinton Nangle-*Absent*
Dr. Marolyn Parson
Dr. William Rhoten
Dr. Paul Shieh
Earl Sheppard
Harold Simon
John Snedeker
George Snyder
James Streeter
Ed Sturcken-*Absent*
Dr. Gerald Wadley-*Absent*
Sarah Watson

Agency Liaisons/Regulators
Shelly Wilson, SCDHEC
Tom Rolka, SCDHEC
Heather Cathcart, SCDHEC
Rob Pope, EPA
Kyle Bryant, EPA

Contractors
Dr. Terry Michalske, SRNL
Paul Sauerborn, SRNS
Jeannette Hyatt, SRNS
Lee Fox, SRNS
Dave Olson, SRR
Kim Hauer, SRR
Steve Thomas, SRR
Nancye Bethurem, SRR
Ginger Dickert, SRR
Tom Coleman, AREVA
Erica Williams, V3
Ashley Whitaker, V3
James Tanner, V3
Kole Helvie, V3

DOE
Dr. Dave Moody, DOE-SR
Pat McGuire, DOE-SR
Terry Spears, DOE-SR
Doug Hintze, DOE-SR
Gerri Flemming, DOE-SR
Bill Taylor, DOE-SR
Wade Whitaker, DOE-SR
Bert Crapse, DOE-SR
Soni Blanco, DOE-SR
Rich Olsen, DOE-SR
Anna Murphy, DOE-SR

Stakeholders
Karen Patterson
Donna Antonucci
Gary Zimmerman
Glenn Carroll
C. Wu
Judith Greene-McLeod
Tom Clements

Erica Williams, Facilitator, welcomed everyone. CAB Chair Bridges then opened the meeting, and asked if there were any comments on the meeting minutes from the March Full Board; the minutes were unanimously approved. Ms. Williams led the Pledge of Allegiance.

Chair Update-CAB Chair Donald N. Bridges

CAB Chair Bridges began his update by welcoming everyone to the meeting, and stating several former CAB members had attended the meeting the day before; he encouraged them to keep attending. He then listed the locations where the CAB meets, stating they meet annually in Savannah, Hilton Head, Charleston, and every other year in Columbia. The remaining meetings are held in Aiken, North Augusta, or Augusta. He reviewed the committee meeting schedule, listing the committee meetings that took place in April and early May. He said they are still assessing the committee meeting schedule, and they may want to go back to holding joint meetings.

He then addressed the topic of the Site Specific Advisory Boards (SSABs), stating the SRS CAB is one of eight SSABs. He said the most recent semiannual meeting was in Paducah, KY, on April 17-19. He said he and CAB member Parson attended, along with Pat McGuire, DOE-SR, Gerri Flemming, DOE-SR, and Erica Williams, V3. He reviewed the SSAB meeting in Paducah, and provided information about the Paducah site, as well as a brief background on uranium. He made a few comments about the Paducah tour, stating the site is in operational status and enriches uranium to 5 percent for nuclear power plant

use. He said Paducah has many of the same problems as SRS, and briefly reviewed some of the major issues at Paducah.

He gave his observations from the SSAB meeting in Paducah, first reviewing the budget from the EM perspective. He said they received input from Mr. Dave Huizenga, Senior Advisor for EM, on FY2013. CAB Chair Bridges then listed other matters discussed such as the safety culture, contract and project management, and said there was one SSAB product: a recommendation to EM noting the value of the SSAB and discouraging any significant cuts to the SSAB program. He noted that the Paducah meeting was “paperless,” and the attendees had training on iPads for the meeting. He said he believes the CAB will be moving in this direction shortly.

CAB Chair Bridges reviewed the most recent Environmental Justice (EJ) meeting, stating that CAB members Tom Barnes and Mary Davis attended. He announced there would be another EJ meeting that Thursday evening in North Augusta and asked for CAB members to attend. CAB member Nina Hazen volunteered to attend. He said it is important for CAB members to continue to express interest in such public/SRS interactions. He then addressed the Asset Revitalization Initiative (ASI), stating the purpose of is “to facilitate a discussion among DOE nonprofits, tribal nations, the private sector, and other stakeholders to identify reuse approaches and to explore opportunities to reutilize assets for beneficial purposes.” He said there would be a workshop in Oak Ridge on June 13-14.

CAB Chair Bridges concluded his update by giving his emphasis for the year, explaining that he wants the CAB to focus on giving more input, on public involvement, and on giving more recommendations to DOE. He advised everyone to divulge their interests and to state what speakers, topics, and insights they wanted to see.

Agency Updates

Dr. Dave Moody, Site Manager, DOE-SR

Dr. Moody welcomed everyone to the meeting and said it was a pleasure to attend. He recognized the DDFOs, Pat McGuire and Terry Spears, and thanked Doug Hintze, a retiring DDFO, for his two years of service. He said there seems to be a lot of interest in HLW so he said it is a good thing that Mr. Spears rotated back on as DDFO; he said he looks forward to spirited discussions. He then spoke about SMRs, saying there is a lot of work remaining in order to bring SMRs to the forefront. He said DOE recently sponsored a conference in Columbia on SMRs and there was a lot of turn-out and press coverage. He said the small regional grids, because of the ratcheting down of the missions, are finding SMRs an attractive replacement for coal-powered power plants. He said Westinghouse has signed a memorandum of understanding (MOM) at SRS looking to further the industry in SMRs.

He continued by addressing CAB Chair Bridges’ comments earlier about Asset Revitalization. Dr. Moody said many things make up assets. He said when it comes to SMRs, SRS has the land, buffer area, the water, grid and characterization. He said he doesn’t want to see the Site in the same situation as Paducah; he wants SRS to move forward and he thinks SMRs will do several things for the Site, including using the Site’s people, which is the greatest asset, and will re-establish America as the forefront of clean energy. He said CAB Chair Bridges mentioned the overrun at MOX, and he said they are also experiencing that at Salt Waste Processing and he said the principle reason for that overrun is the “sad state of manufacturing in America.” He said with 50 years of hiatus on the construction of nuclear power plants, there is no surprise that the industry has disappeared. He said many major construction projects have suffered from the lack of that manufacturing base and he believes they will rebuild that manufacturing base on the back of the SMRs and he thinks it will start near SRS; he noted that is part of their goals. He commented that from the standpoint of Asset Revitalization, SMRs are exactly what they should be doing and it does not detract from the EM mission. He said he feels the SMRs will compliment and co-exist with the current missions, and he looks forward to the CAB’s recommendations. He then spoke briefly about uranium, hitting on the energy needed to enrich uranium, noting that CAB Chair Bridges commented on it during his Chair update.

He said he is very proud that SRS recently hosted the 40th Annual Security Police Officer Training Competition. He said DOE security officers from 11 sites competed, and there were 16 teams total. He stated SRS's Wackenhut Security Professionals won the Secretary of Energy's trophy for the first place finish. He added that on May 9 the Site celebrated the closing of the D-Area Powerhouse.

CAB member Hayes said the CAB has had several short presentations on the SMRs and she knows there is a lot of hope for that breakthrough. She said something that hasn't been mentioned yet is the waste issue. She asked if there is an issue with SMR waste and what the plan is. Dr. Moody said the interesting thing with SMRs is that they get more energy value out of the fuel because they don't operate for 18 months and then exchange out the fuel. He said some of the SMRs are totally maintenance-free with no changes to the fuel for 10 years and after 10 years they will exchange out the entire reactor. He said there will be used fuel that comes from the SMRs just as there is from the commercial reactors today, but the difference is that there is a higher percentage of burn-up in energy value. He said they aren't just using 5 percent of the energy value with 95 percent sitting in the used fuel. He said one thing that is advantageous, and is one of the reasons what they are working with the 11 vendors, is some of them are advanced reactors and have the ability to burn Pu, used fuel, and depleted uranium. He said that with the advanced reactors there is an opportunity to consume some of the waste that was created previously.

Dr. Terry Michalske-Savannah River National Laboratory (SRNL)

Dr. Michalske thanked the CAB for having him at the meeting, and said he would be giving a presentation later that day. He said the safety of his employees is his first priority and the numbers are promising-in the last eight months, the Site has accumulated more than 7 million hours of safe work. He said they are very proud of that. He added that SRNL has achieved 10 million safe work hours. He continued by stating summertime often brings more safety issues for SRS and in the spring, they launched a summer safety campaign to bring a focus and attention to the increased summer safety hazards.

He said H-Canyon is seeing tremendous new growth in missions and operations and has changed its "posture." He spoke about the L-Basin and said the TRU waste program is on schedule, and through the ARRA work, they hope to complete the entirety of that by the end of the year. He then congratulated SRR on its tank closure progress. He said the lab is proud to support them, their missions and objectives. He spoke about the closure of the D-Area Powerhouse, calling it a significant milestone for SRS. He said the Enterprise SRS vision leads heavily on SRNL, and he said he looks forward to discussing this with the CAB in more detail during his presentation later.

CAB Chair Bridges asked what they will be doing with the D-Area Powerhouse now that it has stopped operations. Dr. Moody, DOE-SR Manager, responded they are "mothballing" it for now and have stabilized it and it is powered down.

Mr. Dave Olson, Savannah River Remediation

Mr. Olson said that SRR had a "rough" fall season concerning work safety. He said even though SRR was still better than the industry standard, the expectations were not met relevant to injury and incident rate. He said they turned that around in the first four calendar months of 2012, but they lost their number one position in regards to safety within the DOE complex. He said they are now at number five and are still working forward. He said CAB Chair Bridges mentioned the Waste Treatment Plant Nuclear Safety Culture Concerns. He said SRR just completed a Nuclear Safety Culture Survey and they would share the results with the CAB when they came in. He continued that SRR has "stabilized" at about 2,400 workers, down from a peak of 2,800 during ARRA funding; he said they plan to stay at that number but it is dependent on the budget. He then briefly spoke about the summer intern program, stating SRR just got 31 interns. He invited everyone to the Citizens for Nuclear Technology Awareness (CNTA) monthly breakfast on July 19; he said some interns would speak at that event. He then said SRR spent most of FY2012 converting the Salt Stone plant for the Salt Waste Processing Facility (SWPF) start-up. He said the Defense Waste Processing Facility (DWPF) had its highest production year in its 16-year history in

2011. He said in 2012 they are on target to make 275 canisters, which is another production record, by the end of July.

Mr. Olson then spoke about the closure of waste tanks, saying they had a celebration in April. He said they will have an event to formally celebrate the closure of tanks 18 and 19 on October 1. He said the next two tanks that are up, tanks 5 and 6, are planned to be celebrated late in 2013 and the next two, 4 and 8, may be completed as early as 2014. He then recognized his staff and thanked them for their work. He applauded the CAB for its meeting the previous day, saying it was one of the best he had ever attended.

CAB Chair Bridges asked if the tanks would be easier to clean and close after completing tanks 18 and 19. Mr. Olson said he hopes the next two don't take 22 years like the first two did. He said they do get more experienced and efficient as they continue the work on the tanks. He said they are still on schedule to complete the entire mission by 2026-2028. He mentioned they do publish a weekly report that shows tank closure progress.

Mr. Terry Spears, co-DDFO, DOE-SR

Mr. Spears said it was a pleasure to be back as co-DDFO for the CAB. He said he looked forward to meeting the new CAB members and said he always appreciates the Board's input and recommendations. He then introduced Kole Helvie, a new Support Team member hired by V3 Technical Services to work as Research Associate for the CAB.

He then spoke about the liquid waste program, stating that in liquid waste operations the Site continues to make progress and the DWPF has vitrified more than 3,450 canisters in its lifetime; he called it a reliable facility that continues to operate well. He commented that Salt Stone is in an outage and will continue in an outage. He said they are incorporating upgrades into the system to enhance reliability and they're also completing the start-up activities for the new Salt Stone Disposal Unit II. He said both of those activities remain on schedule for completion so that they can restart the facility approximately mid-August 2012. He added they have chosen to take advantage of the outage to perform some maintenance work on the Modular Caustic Side Solvent Extraction Unit (MCU), which is the interim tool for treating salt waste at the site; he highlighted other maintenance going on. He said the long-term salt processing tool is SWPF. He said Parsons, who is the contractor for design and construction of SWPF, recently submitted to DOE a revised estimate for completion for construction and start-up of SWPF. He said DOE is in the process of evaluating that estimate and will provide information on any potential cost or schedule impacts associated with that revised estimate completion. He said progress is continuing to be made on SWPF in the meantime, and he said they received six of the large processing vessels for SWPF, and those have been safely installed in the central processing area of the facility. He added there are four more large vessels expected to be received, and installed, in mid-June.

Mr. Spears continued his update by talking briefly about nuclear materials stabilization. He elaborated on new missions in H-Canyon, stating H-Canyon continues preparations to provide Pu materials to be used in MOX, which is a NNSA facility. He said preparations are expected to be completed this fiscal year, and operations will begin in FY13 to produce 200 kilograms of Pu for MOX, and then working up to an annual production rate of approximately a metric ton. He said operations to provide Pu to MOX will continue till 2017. He continued that preparations are also underway in H-Canyon and in the L-Area SNF storage basin to process sodium experimental reactor (SRE) fuel. He said the SRE fuel was received a number of decades ago and is part of a subset of fuel classified as "vulnerable." He said vulnerable fuel does not pose an imminent danger to anyone, but it does represent a potential degradation situation, which could contaminate the basin water and therefore make the cleanup activities more difficult. He said they are preparing to process the SRE fuel, and those preparations are expected to be complete this summer, with a decision to begin processing expected prior to the end of this fiscal year. He said they expect for the remaining SRE fuel to be processed during FY13. He then spoke about the HB-Line Facility, stating it is repackaging Pu materials for final disposal. He explained this year there is approximately 70 kilograms of Pu that will be blended with an inert material and placed in "pipe overpack containers." He said these containers allow them to package the material into the TRU Pack shipping containers, and then allow

them to ship those to WIPP for final disposal. He said they expect to make the first shipment of Pu to WIPP in June 2012. He said they plan to continue the TRU waste program at SRS, and they're nearing completion with that. He commented they will complete that program, and once that is done, the pipe overpack containers will provide the feedstock for the TRU shipping program to WIPP.

CAB chair Bridges asked when Mr. Spears would be prepared to share his thoughts on SWPF with the CAB. Mr. Spears said he spoke with Tony Polk, the Federal Project Director for SWPF, and said it would be months before DOE's review is completed, and an independent review requirement for the new estimate of completion must be followed. He continued that although Mr. Polk is the director he is not the final authority, so permission must be received from the chain of command. He said somewhere during the latter end of that process, probably in about three or four months, will be the time to provide a presentation to the CAB. CAB Chair Bridges then requested DOE give the CAB more information on the MOX feed at the next CAB meeting. Mr. Spears said they would be happy to.

Mr. Rob Pope, Environmental Protection Agency (EPA)

Mr. Pope spoke about area cleanup and soil remediation, stating everyone should have received an Environmental Bulletin informing them about an action memorandum about the Lower Three Runs (LTR) Area, and excavations of cesium contaminated sediment and soil that's going to be done there. He added there will be an "explanation of significant difference" to an earlier ROD that puts controls on the whole tail section. He said once the excavations are completed, they'll see a document that informs the public that signs will be put up and fencing will be improved, among other things.

He continued that in the very near future the CAB would see a Proposed Plan for B-Area, which is mostly an administrative area, but it also housed the Heavy Water Components Test Reactor (HWCTR), which was fully addressed under ARRA funding but one of the things left to do was to put formal land use controls on that site because there was some chemicals as well as radioactive isotopes left in place there. He said this plan should come out in the fall timeframe and will be up for comment.

He said the CAB has seen presentations on the use of SRS open areas by the Department of Defense. He said that is continuing and DOE has been very good at keeping EPA and SCDHEC informed of when the military is coming in to use various parts of SRS for training. He said he knows there has been some concern with the CAB about damage being done to remedies being implemented, but DOE is doing a good job at making sure that doesn't happen, and that Army training is a reuse of land at SRS. He said it is a reuse that is vital to the country.

He then spoke briefly about the SJTI Program, stating they are planning to do a third round with Parsons. He also addressed the EJ meetings, stating the next one would be held that Thursday. He invited Kyle Bryant, EPA, to talk briefly about that.

Mr. Bryant stated the 6th, and final, community EJ meeting would be held that Thursday, May 24, at The Carey Hill Resource and Conference Center in North Augusta, SC. He reviewed what would be presented on and discussed, and said they were going to try a new format for the meeting by utilizing a panel format. He said this would be the last meeting for the fiscal year and they would see what would happen the next fiscal year. Mr. Bryant said EPA has collaborated with several other agencies to look at children's environmental health as it pertains to EJ, and that would also be discussed at the meeting on Thursday. He said it is always a plus to have CAB members attend EJ meetings.

CAB Chair Bridges asked Mr. Pope what was the issue or hold-up with having a new round of SJTI. Mr. Pope said, so far, he has been able to hold on to the funding for the training, and he hopes to keep holding it. He said the real determining factor is Parson's having open positions available. He said the positions available will be entry level, so until they have the plant ready to run they won't have those positions available. He said they do not offer training until they have positions to offer.

CAB member Simon asked, in reference to the military training at SRS, if EPA anticipates any potential environmental concerns. Mr. Pope said they do have concerns that the facilities are used correctly so that

they do not impact anything, and when they're having regular discussions with DOE about the training, all of those concerns are being addressed.

Ms. Shelly Wilson, South Carolina Department of Health & Environmental Control

Ms. Wilson congratulated Dr. Moody and SRS for the closure of the coal-fired plants at SRS; she said it was a big deal and it helps the air quality in the region. She then said CAB Chair Bridges expressed concerns about asbestos. She stated SCEHEC regulates asbestos removal during demolition and she hasn't seen any paint used to mitigate asbestos at SRS.

She spoke about HLW and the Tank Farms at SRS, stating they have recently looked at the H-Tank Farm for the general closure plan for the tanks. She said they have already received and approved the F-Tank Farm general closure plan, and that's under SCDHEC's wastewater program. She continued that they have reviewed and sent comments to DOE on the H-Tank Farm general closure plan, and DOE is responding to those comments. She said for the F-Tank Farm closure plan, there were about three rounds of review from SCDHEC and EPA, and responses back from DOE. She said for the H-Tank Farm there was one round, which is evidence that the tank closures are going more quickly. She said there would be an H-Tank Farm general closure plan going out for public review and comment very shortly.

She then reviewed SWPF operations at SRS, noting the Nuclear Regulatory Commission (NRC) recently released a report on the facility that raised questions. She said SCDHEC is looking forward to working with the NRC and DOE while they resolve those questions. She introduced Tom Rolka, SCDHEC, who works in the regional office in the independent monitoring for environmental media, and added he would be presenting at the Thursday EJ meeting.

Heather Cathcart, SCDHEC, gave a brief update on cleanup activities SCDHEC is involved with. She said since the last CAB meeting in March, SCDHEC, in conjunction with EPA and DOE, attended five meetings; she listed these meetings. She then said SCDHEC attended one walk-down in D-Area and has reviewed 12 documents.

Public Comments

Tom Clements, Alliance for Nuclear Awareness (ANA), said he was speaking on behalf of ANA and stated his funding comes from a couple of foundations and from some "aging rock and rollers," such as Bonnie Rait. He spoke about an upcoming concert with Bonnie Rait that would benefit ANA. He said the day prior the issue of taking SNF to SRS was mentioned, but the Site has received spent highly enriched uranium fuel, as the CAB knows. He said the Global Threat Reduction Initiative by DOE is, in part, attempting to convert reactors from highly enriched uranium. He said the Site has received spent fuel research reactor fuel from the Netherlands, from the Petten Reactor, and it was good to see last week that there is an application now to convert that reactor to high density low enriched uranium fuel. He said it is an unheralded program by DOE. He said he doesn't think SRS is directly involved in the conversion, but the receipt of fuel is important. He stated it is a significant international program that SRS is involved with.

He then said the Defense Nuclear Facilities Safety Board (DNFSB) has an oversight role at DOE sites, and the good news is that there has been a push-back on an effort to weaken and confuse the oversight role of DNFSB and he thinks that is going to be defeated. He spoke about a Defense Authorization Bill that was before the House, and added Republicans larded back in tons of money to run up the debt in the Bill. He said he doesn't think it is going to succeed, but it was "stunning" to watch how much money was put back into the defense Bill during the debate last year.

Mr. Clements spoke about SMRs, stating he wanted to make sure the CAB knows that part of the scramble and attention on SMRs is in part due to the fact that DOE has two grants for \$452 million "hanging out there." He said that is why they're seeing all the different vendors. He said a vendor is supposed to put up a matching amount of money, and DOE is going to decide which two reactors are chosen to receive part of the \$452 million in September. He said he thinks a lot of the push is going to die

down after then. He said, concerning the MOX program, there is some good news; Congress is “finally” waking up to the cost. He said for a long time the project was getting away with very little oversight. He said the program could have \$20 billion yet to be spent, with an operating cost at almost \$500 million a year, plus other costs. He commented it has “blown through the roof.” He said there are a lot of Republicans who are concerned about it, but there is a fear of challenging the program because of Lindsay Graham in South Carolina.

He submitted two documents to the CAB. (See attachments)

Recommendation and Work Plan Status Report-Kole Helvie, Research Associate (RA) for the CAB

Mr. Helvie began his first presentation as RA by introducing himself and thanking the CAB for welcoming him to the team. He then gave a recommendation status report, stating there were five open recommendations, three pending recommendations, and five draft recommendations. He then listed the five open recommendations, the three pending recommendations, and the five draft recommendations. He reviewed Work Plan progress for all committees, and stated his responsibilities as the RA, including what he could do and what he could not do. He concluded his presentation by giving his contact information to the CAB, and stated that Friday would be his primary CAB work day.

CAB member Simon asked Mr. Helvie if he would be attending committee meetings, and Mr. Helvie said he would. CAB member Simon then asked if the CAB should contact Mr. Helvie directly with questions, or topics to address, or if they should work through the CAB Support Team. Mr. Helvie said the CAB can contact him directly.

Facilities Disposition & Site Remediation (FD&SR) Overview- Marolyn Parson, Chair

CAB member Parson began her update by listing and thanking the members of her committee. She then stated the purpose of the FD&SR Committee and then addressed the DOE Response to Recommendation 285. (Recommendation 285 and the DOE Response are attached).

She read over Recommendation 285, item by item, and the response from DOE. She said the response in its entirety sounds positive. She invited Doug Hintze, DOE-SR, to explain the response and to give some details on the budget.

Mr. Hintze used the below chart during his explanation.

Environmental Management Budget Savannah River Site					
EM BUDGET (\$M)	FY 2011 Plan	FY 2012 Appropriations	FY 2013 Congressional Request	FY 2013 House Mark	FY 2013 Senate Mark
SR Site Risk Management		339			
PBS 11C Nuclear Materials.	261		274	262	274
PBS 12 Used Nuclear Fuel	28		44	44	44
PBS 13 Solid Waste	0		67	67	67
PBS 30 Soil & Water Remediation	0		59	59	59
PBS 14C Radioactive Liquid Tank Waste	605	635	698	677	698
PBS 14C Salt Waste Processing Facility	261	203	23	23	23
Environmental Cleanup	1,165	1,177	1,165	1,132	1,165
PBS 100 Community & Regulatory Support	17	10	17	17	17
PBS 20 Safeguards & Security	128	129	121	121	121
SRS EM Programs Budget Authority	1,300	1,316	1,303	1,270	1,303
Federal Program Direction	50	50	50	50	50
Total SRS EM Budget Authority	1,350	1,366	1,353	1,320	1,353
ARRA Appropriation (2009-2013)	\$ 1,615M				

Mr. Hintze said the above chart shows where they were in FY11, FY12 and where they will be in FY13. He said the numbers are from the latest congressional releases on finances. He first reviewed the FY11 plan, stating the budget is somewhere in the \$1.3 to \$1.4 billion range. He explained this is just the EM Budget, not the total Site budget. He spoke about the effect of the Recovery Act funding in FY11, and said the funding runs out in FY13. He noted that several programs in FY11 were completely funded by ARRA.

He said the big question that was asked in Recommendation 285 was concerning the funding for agencies such as EPA and SCDHC. He said PBS 100, Community & Regulatory Support, is that area of funding. Mr. Hintze said in FY11 it was around \$17 million, but it went down to \$10 million in FY12. He said the question is how to do the same work at this smaller funding level. He said their first idea was to go to Congress and have it reprogram more money into that account; however, it takes a long time to do that, and the support at OMB didn't think it was going to be sufficient for DOE to get it through in a timely manner. He said they instead distributed certain scopes into the other programs. He said the money was already geared to be reprogrammed into PBS 100 anyway. He then reviewed the Congressional Budget Request. He reviewed the graph, speaking on the three columns of FY13 funding, which includes the Congressional request, the House mark, and the Senate mark.

He said when they look at the budgets as they are starting to put together their baselines for FY13, they know it will be somewhere between 1320 and 1353, which is not too bad. He said one of the things that is hidden in these numbers is the pensions, which he said was the most negative impact on the ability to do direct work. He said the pensions this year are going up an additional \$50-70 million, which means that is direct work that doesn't get done. He said they have to fund the pensions off the top. He then said overall, the budget at the Site doesn't look too bad.

CAB member Parson asked what will not be done for PBS 11, 12, 13 and 30 because they're moving money from there down to Community & Regulatory Support. Mr. Hintze said every year, starting in the March-April timeframe, they revise the baseline. He said they have a five-year baseline of all the scope they intend to complete over the next five years, and they are updating that baseline right now. He said the number for FY12 is what they expected to do in their baseline. He continued that even before the year started, they had planned to move that money so it always addressed the scope going on in Community & Regulatory Support and doesn't affect the scope of work in PBS 11, 12, 13 or 30.

CAB member Parson then asked why the House reduced the amount of funding for radioactive liquid waste when it's the highest risk at the Site. Mr. Hintze said he thinks it's because they look at the numbers, say this is a large number and this is a large number, so we can take away a small amount from that large number and not affect the scope too much. He said he doesn't think there is a lot of thinking about what scope of work won't be done.

CAB member Hayes asked, between the PBS categories 11C-14C, if any of the projects or programs inside these categories are on lifecycle funding or all if they are all subject to the vagrancies of the budget process. Mr. Hintze said they only get the amounts needed every year, on a year to year basis, based on the project need. He said some aspects of the program may go away, but most have to be maintained because of safety aspects.

CAB member Parson informed the CAB and meeting attendees that Mr. Hintze's budget chart would be made available on the CAB's website shortly after the meeting, but the CAB Support Team would supply paper copies to the CAB.

CAB member Hayes said it is very helpful to be able to have paper copies of presentations. She asked if the Support Team could still always provide the Chairs of committees hard copies of presentations.

Gerri Flemming, DOE-SR, said it is possible, and is willing to do it if Chairs want them.

Nuclear Materials Committee Overview-Rose Hayes, Chair

CAB member Hayes thanked everyone for attending and reviewed the NM Committee's focus. She listed the members of the committee, and announced the next NM Committee meeting as June 26. She said the committee has three open recommendations-280, 281 and 282; she said all three are about disposition. She thanked the presenters from all the previous meetings, and said the committee was going to take votes on two proposed recommendations.

Recommendation Voting

"Yucca Mountain as Interim Storage Site"

CAB member Hayes reviewed the recommendation and made a motion for the Board to adopt it. CAB member Simon seconded the motion. The recommendation was then opened for discussion. There was no discussion. CAB Chair Bridges called for a vote.

There were 18 votes for approval, and one opposed. The recommendation was approved.

"Disposition and Dry Storage of Spent Nuclear Fuel"

CAB member Hayes reviewed the recommendation and made a motion for the Board to adopt it with the caveat that item four on the recommendation be removed for now. CAB member Burke seconded the motion. CAB Chair Bridges opened the floor for discussion.

CAB Chair Bridges called for a vote.

There were 19 votes for approval of the recommendation. The recommendation was approved.

PRESENTATION: Enterprise SRS Nuclear Material Strategic Initiatives- Pat McGuire, DOE-SR

Mr. McGuire stated that Enterprise SRS is nuclear knowledge for the nation; it encompasses areas such as Environmental Stewardship, Clean Energy, and National Security. He then reviewed Environmental Stewardship.

CAB Chair Bridges commented it's one thing to have enriched uranium and to not know what to do with it, and to have enriched uranium and know what you're going to do with it. He said this is much of what the NM Committee has been discussing. He said DOE should lay out a plan. Mr. McGuire said he agreed, they needed to have a plan, and that new opportunities are arising. He said as new opportunities present themselves, they may change their plan, and if that happens, they will involve and inform the community. He said they need to have a system plan for nuclear materials and that is what they're working towards.

Mr. McGuire continued his presentation by discussing the Enterprise SRS goal and objective area of Clean Energy.

CAB member Paul Shieh commented that he thinks the American Nuclear Society (ANS) has stated that during this whole year many people are talking about SMRs and he guesses the CAB is one of them. He asked if Mr. McGuire had thought of gathering a group of people, such as the old SRS Project Office (PO), and thinking of talking-up the SMR activities at SRS.

Mr. McGuire said CAB member Shieh is referring to many years ago when DOE had five operating reactors. He said they were all shut-down, but back in the 90s they went through a significant effort to potentially begin restarting the K-Reactor. He said when CAB member Shieh referred to the "SRS Project

Office (PO), he was talking about when discussions were ongoing about K-Reactor, a lot of knowledge came from that office. He said they do have workshops in regard to SMRs. He said he'll make sure they continue to communicate and interact with the community as they move forward.

Dr. Moody, DOE-SR, said DOE is negotiating with 11 companies now, and has signed five MOUs with the companies. He said they do have an integrated project team that is looking at how they can accelerate the entire implementation of SMRs. He said this team is being led by SRNL, and the Federal staff is also supporting that team. He said they are investigating everything.

CAB Chair Bridges said Dr. Moody said they have 11 agreements, but he knows SRS is not going to have 11 SMRs. He asked how Dr. Moody saw that "playing out." Dr. Moody stated there is a competition for two to have matching funding from nuclear energy to accelerate the design of licensing. He said DOE is not going to be selfish. He said they just want to make sure they get one of those two, and take advantage of the nuclear energy funding. He said most of the companies DOE is dealing with are not participating in the solicitation, and believe they can accelerate their process more by investing their own capital; they are looking to spending their own funds and that is why they're interested in some of the matching agreements. He said if DOE can purchase power, that can help them within the agreement to attract funding. He said SRS will probably end up with three to five SMRs, realistically. CAB member Hayes asked if SMRs would bring new jobs for people in the community. Dr. Moody said it would and in a number of areas. He said they are not interested just in electricity, and there would be new jobs as they relate to manufacturing the SMRs, fuel management, testing and licensing, and characterization. He said more jobs would be created as the project grows.

Mr. McGuire then reviewed the area of National Security, which is also a an Enterprise SRS objective. He listed the 12 Enterprise SRS Initiatives:

- Deliver Disposition Paths for Nuclear Materials
- Develop Solutions to Close and Better Secure the Nuclear Fuel Cycle
- Accelerate Deployment of Small Modular Reactors
- Establish Center for Applied Nuclear Materials Processing and Engineering Research
- Leverage and Revitalize Site Assets to Solve National and Regional Issues
- Lead Research and Development of Transformational Waste Disposal Technologies
- Increase Helium-3 Supply to Aid Nuclear Nonproliferation
- Reduce Greenhouse Gas Emission via Clean Alternative Energy Projects
- Develop and Deploy Next Generation Cleanup Technologies
- Establish Advanced Center for Nuclear Forensics and Attribution
- Post-TRIM Tritium Technologies
- Expand Reach and Impact of National Center for Radioecology

He stated the nuclear materials strategic initiatives included deliver disposition paths for nuclear materials, develop solutions to close and better secure the nuclear fuel cycle, and establish Center for Applied Nuclear Materials Processing and Engineering Research. He continued his presentation by focusing on these three areas.

Mr. McGuire spoke about the strategic initiative of deliver disposition paths for nuclear materials, summarizing the strategic initiative summary as: deliver storage, processing, beneficial reuse and disposal opportunities for a wide variety of Savannah River, national and international nuclear materials. He then reviewed the objectives.

CAB Chair Bridges asked if Mr. McGuire ever sees any additional Pu coming to SRS, maybe even foreign sources, as part of the programs on-site. Mr. McGuire said yes, explaining there is a "gap program" as part of the global threat reduction initiative, where they want to go to those countries and retrieve material and bring that back into the country and safely store it in the K-Area facilities. He said they are continuing to work with the National Nuclear Security Administration (NNSA), the State Department, and other federal agencies internationally to retrieve material. He said it is beyond SNF.

Mr. McGuire addressed the Path Forward for 2012, stating they plan to complete legacy TRU waste disposition, initiate Pu production for MOX, complete plans to process vulnerable SNF, continue the research reactor fuel receipts, and demonstrate vacuum salt disposition.

He then addressed the strategic initiative of develop solutions to close and better secure the nuclear fuel cycle, summarizing the initiative as: develop solutions with what to do with SNF once it is discharged from a nuclear reactor. He listed the objectives, and then discussed the Path Forward for 2012, stating they plan to develop a business case and preconceptual design package for dry fuel storage of L-Area fuel, begin pursuing partnerships with the Office of Nuclear Energy and the Office of Science, and evaluate the BRC report for opportunities to support America's nuclear future.

He addressed the initiative concerning the Center for Applied Nuclear Material Processing and Engineering Research (CANMPER), summarizing it as it will bridge the gap between promising transformational nuclear materials processing discoveries and large, commercial-scale technology deployment. He listed the objectives. He then addressed the Path Forward for 2012, stating they plan to develop multi-institutional partnerships, develop a governance plan, and identify initial demonstration for H-Canyon.

He summarized his presentation by stating the nuclear material strategic initiatives are integral for achieving the goals of Enterprise SRS.

CAB member Hayes commented it is very encouraging to see the planning that would move SRS from what could be perceived as the "legacy of neglect." She said she hopes they will appoint a committee that can boil the plan down to a presentation that would be appropriate to promote positive attitudes about the Site in the community.

Public Comments

Jeannette Hyatt, SRNS, said she was addressing the meeting attendees as an ambassador for the Waste Management 2013 Symposia. She said it is scheduled for February 24-28. She said there will be new sessions coming up this year specifically focused on addressing nuclear waste that will result from the new nuclear technologies such as the SMRs. She encouraged everyone to go to the website and look at the abstracts where they are calling for papers. She said the Symposia is looking for people like CAB members.

Glenn Carroll, Nuclear Watch South, said she wanted to say "hello" to the CAB from the outside world, and comment on a few things she heard that day. She said she is working on a new slogan. She said she feels the nuclear industry is winding down, but her slogan will be about the nuclear waste industry: "Jobs for everybody, forever!" She said they really have it going on at SRS, and thinks, unfortunately, the tank waste closure program is not going as quickly as desired and that means they have a large cesium inventory that would be a "dandy" radiation barrier for Pu, particularly the Pu that is "crappy" and wouldn't be a good feed for a production line for fuel. She says she hopes they will overcome and step outside the NNSA/MOX program to use their heads and realize much of that Pu is junk, but is still dangerous. She said it could be used with the vitrification program and that would be turning a liability into an asset. She said the nuclear industry seems to be sunseting. She said America's biggest enemy is China and they seem to be calling for global nuclear disarmament. She said that is clearly the way people want to go and even the greatest potential enemy wants to go in that direction. She said in Rocky Flats they are starting something she would have once thought was just a storybook idea, but they are starting up a nuclear guardianship project to deal with Pu dust blowing around Colorado forever. She then said she placed materials outside in the lobby for the CAB to read and see. She said Nuclear Watch South has many documents posted on its website, and one that may be interesting to the CAB is "Worldwide Trends and Nuclear Power." She said they have already seen what is happening to the Nuclear Renaissance in America. She said the study shows that if all the industry dreams came true and went smoothly, the trend for the industry is still a downward trend. She said any contemplation on the part of SRS to allow the nation's SNF to come to South Carolina with an incredibly high water table....She said someone questioned earlier if it would be permanent. She asked why they would think it wouldn't be permanent.

She said they have been so slack in their atomic history and so slack in dealing with the waste. She stated that an assumption that SRS would do the right thing 50 years from now is not one based on history. She said Nuclear Watch South and other groups advocate that dry storage be utilized on the Sites where the fuel is.

Strategic & Legacy Management (S&LM) Committee Overview- Harold Simon, Chair

CAB member Simon listed the members of his committee, and highlighting the topic of SMRs, which is on the S&LM Work Plan. He said there would be a presentation on SMRs at the June 5 S&LM meeting, and he encouraged everyone to attend.

PRESENTATION: Savannah River National Laboratory (SRNL)- Dr. Terry Michalske, SRNL

Dr. Michalske said SRNL is the safest lab national lab in the DOE complex, eight years running, with 10 million safe hours and counting. He noted there are 1,000 workers employed at SRNL, and \$230 million expected for the FY12 funding forecast. He continued that SRNL supports programs at a national level, and that 65 percent of its funding comes from places off-site from across the nation that seeks out SRNL's expertise. He stated SRNL is a multi-program laboratory and has an expertise in chemical processing, materials, tritium, hydrogen, and environmental science.

He said SRNL works in Environmental Stewardship, National Security, and Clean Energy; he referred to photos of each area. He then reviewed the SRNL organization, highlighting the management of the lab. He said SRNL innovation impacts broad national priorities such as environmental management, national and homeland security, and energy security. He showed photos of programs and missions within these priorities, and spoke briefly about some projects and programs such as the Solvent Extraction Technology for Salt Waste Processing, the FBI Forensics program, porous wall hollow glass microspheres, the Rotary Microfilter, tracking and locating technology, and testing SODAR to measure off-shore wind. He added that the tracking and locating technology was selected for the 2011 DNI Tech Expo.

He then showed a chart of mission growth, stating SRNL has demonstrated the ability to innovate, and bring solutions to customers. He continued by stating SRNL is DOE's EM lab. He said SRNL's original mandate was to conduct research and development to enable SRS's mission of producing nuclear materials for national defense, and that SRNL continues to lead the development and implementation of all major technologies operated on the Site, including those for nuclear waste cleanup and nuclear material disposition. He said SRNL has invented or has been instrumental in advancing almost every major technical process in use in the DOE EM program, and that is why DOE designated SRNL as EM's lab. He said the EM designation means a lot to SRNL and to the region.

He then spoke about the SRNL's core EM capabilities, stating it supports operating waste storage, retrieval, treatment, and immobilization facilities. He said they also work in actinide chemistry and separations, and radiological ecology. He said that was all abstract stuff, but what makes SRNL different is that its experts work hand-in-hand with the contractors who execute that work. He said that is what sets SRNL apart from other national laboratories.

He said SRNL is about solutions, not technologies, and he then reviewed the SRNL approach to developing solutions. He stated that for SRNL, it is really about understanding what the issues and needs are, what's driving it, and this means SRNL has to be part of the planning and the development of the programs. He said they do this in partnership and the decisions need to be transparent and open. He said then they look into what are the best solutions for the problems, and work to deploy them. He stated after all this there is an assessment of solutions. He then showed a diagram of a SRNL-led team solving a cleanup program.

He summarized his presentation by stating that as the EM national lab, SRNL has developed a comprehensive approach to solving cleanup challenges, and that this comprehensive approach includes

an overall plan for cleanup, rigorous development, selection, and deployment of technologies, and science-based regulatory assessment of outcomes. He said SRNL has grown into a true national lab, and has an impact in several areas that are important to national interest.

CAB member Golden asked if Dr. Michalske is finding good, well-qualified applicants for open positions at the lab. Mr. Michalske said he has the luxury of having one of the most experienced workforces, but he has to work on growing that workforce for the future. He said they have struggled a bit in the country because the nuclear industry has gone underground. He said they have to make sure to inform college students how exciting and vibrant the industry is. He said they have been doing well about recruiting good people, but he is a little worried about it. He said they work with the community colleges to give biologists, for example, crash courses in the nuclear field. He said they take people who have great credentials, but who may not have experience in the nuclear field, and then train them in that area.

CAB Chair Bridges asked what year SRNL became a national lab. Dr. Michalske said 2004.

CAB member Hazen asked if SRNL went out and sought partnerships. Dr. Michalske said yes, they do, and that's why he hired a new person to go out and enhance partnerships. He said their job is to go out and form partnerships. He said SRNL realizes it cannot solve national problems all by itself.

CAB member Artisha Bolding noted that Dr. Michalske mentioned a Swedish receipt and she asked if that was something the U.S. previously loaned out. Dr. Michalske said the receipt was an agreement between Sweden and the U.S.

PRESENTATION: Work Scope Descriptions and Glossary Terms- Rich Olsen, DOE-SR

Mr. Olsen, DOE-SR, said the Work Scope Descriptions and Glossary Terms was being provided to the CAB as a reference document for the EM Cleanup Program and is associated with the performance metrics. He stated that a request for the document was made at the March 26-27 CAB meeting, and the intent is to provide high level, yet informative, descriptions of various cleanup activities, as well as understandable glossary terms. He then reviewed the document format and requested feedback.

The Work Scope Descriptions and Glossary Terms is available for download or print on the CAB's website at <http://cab.srs.gov/links.html>

Recommendation Voting

"Operating History Safety and Environmental Studies Assessment"

Recommendation Manager George Snyder summarized the recommendation, highlighting on the first item, which was changed since the first version. CAB member Simon then moved to approve the recommendation. CAB member Hayes seconded the motion. CAB Chair Bridges opened the recommendation for discussion. There was no discussion. CAB Chair Bridges called for a vote.

The recommendation was approved by 17 votes, with one opposed. The recommendation was approved.

"CAB Active Involvement of eSRS Strategic Initiatives"

Recommendation Manager Sarah Watson reviewed the recommendations, detailing any changes that were made since the first draft. CAB member Simon moved to approve the recommendation and another CAB member seconded the recommendation. CAB Chair Bridges opened the floor for discussion. CAB Chair Bridges called for a vote on the recommendation.

The recommendation was approved by 17 votes, with none opposed, and one abstention. The recommendation was approved.

Administrative & Outreach Committee-Kathe Golden, Chair

CAB member Golden listed the members of her committee, and said they have been working really hard. She showed the CAB the newest issue of the Board Beat and thanked the SRS CAB Support Team for their work on the newsletter. She spoke about a membership outreach event that happened May 19 in Evans, GA; she said it was very productive. She then encouraged CAB members to attend EJ meetings as a form of outreach. She spoke about the Speakers Bureau presentation, explaining what the function of the Speakers Bureau is, and stated the Support Team worked the presentation down to about 12 slides. She said the committee tweaked it a bit at its last meeting, and the Speakers Bureau presentation would be shown to the entire board at the July CAB Full Board meeting. She said it should be about a 10 to 15 minute presentation.

She then encouraged everyone to attend live meetings when applicable, and reminded CAB members to encourage friends to apply to the CAB and to reapply if it is their time to do so. She said the deadline is August 15. She spoke briefly about the waste material flow path chart, which was created by CAB members and which is displayed at meetings to help others better understand the process. She said it is very helpful to anyone who is new to the CAB, and she asked speakers to show what area on the chart they are talking about.

Waste Management (WM) Committee-Ed Burke, Chair

CAB member Howard, who is the Vice Chair of the WM Committee, gave the WM report. He spoke about the community outreach event that CAB member Golden mentioned in her report, as he spent many hours passing out materials and talking to public citizens. He then listed the members of the WM Committee, and said they last met on April 10. He said the WM has three open recommendations: 246, 270, and 284, and said all three could be closed. He reviewed the principle goals of the committee, and said the CAB would be voting on a recommendation after Bert Crapse's presentation that day. He said the presentation would aid the committee in developing another recommendation idea that would be discussed June 12 at the next WM Committee meeting.

PRESENTATION: Transuranic (TRU) and Solid Waste Program Update- **Bert Crapse, DOE-SR**

Mr. Crapse first addressed the purpose of his presentation, and reviewed the SRS TRU Waste Program. He defined TRU as "radioactive waste that contains alpha-emitting radionuclides with an atomic number greater than 92 (uranium), half-lives greater than 20 years, in concentrations greater than 100nCi/g, and excludes waste defined as Liquid Waste." He said it has been generated from SRS operations since 1970 and off-site disposal is at WIPP. He stated nearly 12,000 cubic meters of TRU waste was in storage in 2002, and some off-site TRU was received in 2003 through 2005, and is federal and state regulated.

He addressed the TRU waste disposal successes, stating WIPP opened in 1999, the first SRS shipment to WIPP was made on May 8, 2001, that 1,285 shipments of TRU waste have been disposed at WIPP, and approximately 11,500 cubic meters of SRS TRU waste have been disposed of to date. He spoke about box remediation, referring to photos showing waste inside large boxes. He then referred to photos of glove box operations, glove boxes, and a ten drum overpack.

Mr. Crapse addressed the TRUPACT-II containers, showing several photos. He then gave a legacy TRU waste status update, stating there are 2,3000 cubic meters left to be disposed of, with 600 cubic meters left to remediate or package, and remediation activities/certification is to be completed by spring 2012. He continued that shipments to WIPP are to be completed by the end of FY2013 and the last 5,200 cubic meters were funded by ARRA.

He discussed the Solid Waste Disposition Program, stating it manages the treatment, storage, and disposal of: TRU, radioactive low level waste (LLW), mixed low level waste (MLLW), hazardous waste, and sanitary waste. He spoke about the LLW Program, defining it as "any radioactive waste not classified

as SNF, LW, or TRU. It does not contain chemically hazardous constituents.” He said the waste is generated from SRS operations, D&D, and environmental cleanup, and is disposed of on-site. He showed two photos of a LLW disposal trench.

He continued his presentation by addressing the Hazardous Waste (HW) and MLLW Program, defining it as “HW is any toxic, corrosive, reactive or ignitable material that could damage the environment or negatively affect human health according to RCRA. MW contains both radioactive and chemically hazardous constituents, as defined by RCRA.” He explained it is generated from SRS operations, legacy TRU waste, MLLW, and environmental cleanup. He said it is disposed of off-site.

He summarized his presentation by stating Solid Waste Operations remain regulatory compliant and efficient, the ongoing low level, mixed, and hazardous waste operations are keeping pace with SRS demands, and legacy TRU waste disposition is on pace to be completed by FY13.

Recommendation Voting

“Assess Feasibility of Disposition of SRS Canisters in WIPP”

CAB member reviewed the recommendation and asked if anyone had any questions. He moved to approve the recommendation. CAB Chair Bridges asked if there was a second; a CAB member seconded the recommendation, and CAB Chair Bridges opened the floor for discussion. There was no discussion. CAB Chair Bridges call for a vote.

There were 17 votes for approval, none opposed, and no abstentions. The recommendation was approved.

Public Comments

Gary Zimmerman, public, said he heard there is a little bit of controversy about SNF being legally defined and UNF being not being legally defined, but he said they could just call “poisoned nuclear fuel.” He said it starts off as a little bit poisoned but ends up really poisoned. He said when one says “spent” or “used” it doesn’t sound as bad when it is actually worse than it was before it was used.

Tom Clements, ANA, commented on the last recommendation the CAB approved, and he thinks the capacity, under the land withdrawal act for WIPP, is 175,500 cubic meters, more or less. He suggested the CAB look at the laws before writing or approving recommendations. He said he is not so sure the CAB did that in this case, but perhaps the new RA will look at those kind of things. He said the CAB made a recommendation to take canisters out there, but he thinks there is already a “field test heater initiative” or “Salt Disposal Initiative (SDI)” where simulated HLW with electric heaters are being tested. He said this is controversial because the Nuclear Waste Technical Review Board has asked why they used salt as a potential disposal option for HLW versus some other geologic disposal method. He said the review board knows these tests are going on, but they have some concerns and questions. He said the CAB needs to get this technical information when making recommendations and he suggested they look a little deeper before writing or passing other recommendations.

CAB Chair Bridges thanked everyone and adjourned the meeting.

Meeting adjourned

Attached:

- DOE Memo, provided by Tom Clements
- Article from knoxnews.com, provided by Tom Clements
- DOE Response to Recommendation 285
- CAB Recommendations 286-290

TVA should jettison plutonium project

Tom Clements is the nonproliferation policy director for the Alliance for Nuclear Accountability in Columbia, S.C. He may be reached at www.ananuclear.org or tomclements@hotmail.com.

Saturday, May 19, 2012

The Tennessee Valley Authority is quietly deliberating participation in a risky, expensive and controversial program: use of experimental reactor fuel made from surplus weapons plutonium.

TVA's interest is due to a U.S. Department of Energy program that began studying the use of plutonium-uranium mixed oxide fuel (MOX) in the mid-1990s as a way to dispose of surplus weapons materials.

In spite of growing financial and technical problems in implementing the program, DOE is focused on convincing TVA to take on the increasingly questionable MOX mission. TVA should be skeptical about participating.

Use of MOX fuel from weapons-grade plutonium poses serious nonproliferation and technical challenges. It makes a reactor harder to control, is thermally hotter inside the reactor than traditional fuel, and spent MOX is much hotter than uranium fuel, presenting storage challenges. MOX fuel produces more gases and could lead to higher radiation exposure in an accident. It is also much more expensive than traditional uranium fuel so will have to be heavily subsidized, but TVA could be stuck with additional costs and risks.

Although MOX fuel made from weapons-grade plutonium has never been used on a commercial scale, construction of a costly MOX fabrication facility is under way at DOE's Savannah River Site in South Carolina. When Duke Energy dropped out of the program in 2008 after an aborted MOX test in one of its reactors, DOE began a frantic search to find other utilities willing to consider MOX.

In June 2009, TVA signed an agreement with DOE's contractor at SRS to consider using MOX in the aging Browns Ferry and Sequoyah reactors. A joint DOE-TVA Environmental Impact Statement on MOX use is under way, and hearings where the public can voice opinions are anticipated this summer.

MOX boosters hope that TVA can avoid the in-reactor testing required by the Nuclear Regulatory Commission, but it is inconceivable that MOX could be used without the testing required of new fuel forms. That the NRC would make a licensing decision absent actual testing in the U.S. would represent an unacceptable weakening in regulations for political purposes.

Pressure by DOE on TVA to use MOX is growing as projected costs of the program are skyrocketing and congressional concern intensifying. The House Appropriations Committee stated in late April that MOX plant construction "will overrun its projected completion date by months if not years" and that the "projected annual operating costs of the MOX facility have skyrocketed and are now 2.5 times the projections of just two years ago," or a whopping \$499 million per year for the 20-year life of the plant.

Further, the House Appropriations Committee acknowledged huge increases in the cost of the MOX plant, which has grown from an estimate of \$1.6 billion in 2004 to nearly \$6 billion today. The program mainly appears to be an inefficient jobs program for South Carolina, backed by politicians, such as Sen. Lindsey Graham, who are letting parochial interests trump fiscal conservatism and sound nonproliferation policy.

With as much as \$20 billion yet to be spent on the overall MOX program, Congress is waking up to the fact that the MOX program may be headed toward failure.

Given technical and cost risks that are garnering growing attention from budget-cutting hawks in Congress, the MOX program adds up to a bad gamble, and the sooner TVA halts its review of MOX the better.



© 2012 Scripps Newspaper Group — Online

Knoxville (Tennessee) News Sentinel

<http://www.knoxnews.com/news/2012/may/19/tom-clements-tva-should-jettison-plutonium/>



Department of Energy

Washington, DC 20585

MAR 12 2012

MEMORANDUM FOR DISTRIBUTION

FROM: TERESA TYBOROWSKI *T. Tyborowski*
ACTING DEPUTY ASSISTANT SECRETARY FOR
PROGRAM PLANNING AND BUDGET

SUBJECT: Fiscal Years 2014 through 2018 Initial Budget Formulation "Kick-Off"

The purpose of this memorandum is to "kick-off" the Office of Environmental Management's (EM) fiscal years (FY) 2014 through 2018 budget formulation activities. Attachment A provides you with a Tentative Schedule and Action Plan for the Corporate Budget Process that will occur over the next several months and is also summarized below. Guidance related to Technology Development will be provided under separate cover.

Site Briefings

Similar to last year, the FY 2014 through FY 2018 budget process will begin with Site Overview briefings the week of March 26, 2012, via video-conference. Each site will be contacted within the next few weeks by Ms. Judith McCulley (judith.mcculley@hq.doe.gov) to schedule their briefing time. It is imperative that we complete all of the briefings during this week, so I ask that you be flexible while working with Judi in achieving this goal. Sites must submit their completed briefing packages to their Headquarters Budget Analyst point-of-contact no later than close-of-business Thursday, March 22, 2012. This will allow time for the various Headquarters participants to review the material in advance of the briefings. Where possible, please coordinate with the Headquarters Mission Units before transmittal to the Office of Budget. Specific requirements for the briefing slides are provided within each slide in the briefing template (Attachment B).

Funding Scenarios

Sites will be asked to brief three funding scenarios:

- 1) Levelized "Base" Funding Case to FY 2013: Sites should prepare a funding case that assumes a FY 2014 through FY 2018 funding target level to the site's total FY 2013 Congressional Budget Request with no inflation. It is assumed that this scenario will closely align with the planning data you recently provided to the Office of Strategic Planning and Analysis.
- 2) Full Compliance Case: Using Scenario One as a base, sites should prepare an incremental funding case needed to support existing Compliance requirements. Specifically, sites should identify funding needed to meet enforceable milestones due in FY 2014 and separately address funding needed to support all outyear enforceable



milestones. Your briefing should delineate all aspects of your compliance posture, specifically discussing whether the regulators will be philosophically and politically open to renegotiation or not. We are trying to ascertain the degree to which EM may be non-compliant in FY 2014 and in the outyears, assuming FY 2013 flat funding. Follow-on compliance discussions may be required at a later date on a site-by-site basis.

- 3) Optional Investment Case: Sites should prepare a funding case that uses a 10 percent increase above the FY 2013 Congressional Budget Request level as a guideline. Within this case:
 - a. Sites may include discussion of investments (innovations or improvements) that could be initiated in FY 2014 to create potential cost savings (Return on Investment). Separate guidance on the innovative (Technology Development) aspect of the process will be distributed under separate cover from Alice Williams, the Associate Principal Deputy Assistant Secretary, EM-2.1.
 - b. Sites should discuss energy efficiency improvement investments (including but not limited to areas such as Heating Ventilation and Air Conditioning, process energy consumption, lighting, greenhouse gas reduction, etc) that could be initiated in FY2014 and that would reduce out-year energy and operational costs and contribute to DOE sustainability goals.
 - c. Sites do not need to use Scenario One as their “base” case starting point.
 - d. Sites should not limit their focus on compliance needs, but rather develop an overall approach that makes progressive investments for the site as a whole.

For all three cases, please provide a breakout of your direct vs indirect costs (i.e., pension, G&A, fee, etc.). This will facilitate review of your direct funding requirements.

Collaboration With Mission Units

The Office of Program Planning and Budget will be working collaboratively with the newly-established Mission Units (the Office of Site Restoration, the Office of Tank and Nuclear Material, and the Office of Waste Management) throughout the budget process. Each of these offices will be actively involved in guidance development and will participate in the site briefings. Once these briefings have been completed, representatives from various Headquarters offices will work together to establish site targets, and the EM Office of Budget will transmit detailed budget guidance that will become the basis for your Integrated Priority List (IPL) development.

Schedule

Our goal is to have detailed budget guidance distributed in draft the week of April 2, 2012. This will then be followed up with a Spring Conference (HQ and Field) the week of April 9, 2012. Post-conference, final guidance will be distributed, and sites will be given approximately two weeks to develop and submit their IPLs to Headquarters. IPLs will undergo a detailed review by the Headquarters Mission Unit offices which may result in real-time modifications with site offices as areas of concern are identified, ultimately reaching our objective of submitting FY 2014 budget deliverables to the Chief Financial Officer (CFO) in late May.

Engagement with Regulators, the EM Site-Specific Advisory Board and Other Stakeholders

At this point in the formulation cycle, sites should have initiated discussions with regulators and stakeholders, including local advisory boards. Initial discussions should focus on prioritization of specific site cleanup activities and deviations between stakeholder/regulator priorities and EM's overall prioritization scheme. Specifically, field sites should:

- schedule a briefing with the regulators and stakeholders to discuss planned accomplishments for the work scope, cleanup priorities, schedules/milestones, and compliance projections at approved site baseline levels;
- provide an opportunity for regulators and stakeholders to provide input on the sites' prioritized activities for FY 2014 by establishing an agreed-upon timeframe to allow for stakeholder involvement in the site's proposed budget submission;
- advise regulators and stakeholders that multiple profiles may be created in an effort to achieve the best scope of work; however, only one "Recommended Profile" will be submitted to HQ, which should prioritize each IPL element to reflect an optimal/balanced budget request; and
- submit the regulators' and stakeholders' recommendations as supplemental data to the budget submittal to DOE HQ.

Minimum Safe and Essential Service Guidance

When developing your IPL, you are to apply the following "Hot Standby" definition for Minimum Safe/Essential Site Services (Min Safe/ESS). Your FY 2014 IPL should reflect a refinement in your cost estimates based on the use of the following definition.

Hot Standby is defined as:

- **Operating Facilities:** Minimum safe operations and essential site service activities necessary to maintain operating facilities or systems in a state of operational readiness.
- **Surplus Facilities:** Maintain surplus facilities planned for deactivation and decommissioning in a state which prevents significant deterioration resulting in more costly D&D, potential contamination release or physical hazard from structural failure.
- **Non-Facility:** Encompasses all other non-facility related activities that are necessary but do not advance the mission. Activities include minimum safe operations and essential site services necessary to maintain infrastructure, operating systems, structures, and control of existing material and equipment.

Program management, field support, and operational support efforts that are not directly related to the min safe/ESS component of these activities must be excluded.

Attachment C provides more detail and examples of the new minimum safe guidance that is to be utilized during your overall budget development.

Technology Development Guidance

For the FY 2014 process, a total of \$100-\$150M is potentially being set aside for Technology Development investments. To that end, your Investment Case should reflect any potential opportunities that could be applied to research and technology. As a starting point, consider an amount equivalent to 3% of your total FY 2013 request amount specifically for technology development. The entire Investment Case should be approximately 10% of your total FY 2013 request amount. Detailed guidance on this aspect of the process will be distributed under separate cover.

Contacts

Questions regarding the upcoming process should be directed to Ms. Connie Flohr, Director, Office of Budget, at (301) 903-0393, or Ms. Robin Osik, Budget Formulation Lead, Office of Budget, at (301) 903-4825. Questions related specifically to min safe/essential services should be directed to Tom Fekete, Deputy Director, Office of Budget, at (301) 903-7731.

Attachments

cc: Field Managers and Deputy Managers
Randy Scott, NA-173
Bob Fleming, NA-173

bcc:

D. Huizenga, EM-1

M. Neu, EM-1

C. Trummell, EM-1

T. Mustin, EM-2

A. Williams, EM-2.1

C. Jones, EM-3 (Acting)

M. Gilbertson, EM-10

B. Levitan, EM-10

K. Picha, EM-20 (Acting)

J. Rhoderick, EM-20

F. Marcinowski, EM-30

C. Gelles, EM-30

M. Moury, EM-40

J. Hutton, EM-40 (Acting)

J. Surash, EM-50

C. Flohr, EM-61

T. Fekete, EM-61

R. Osik, EM-61

S. Waisley, EM-70

Distribution

Mark Coronado, Richland
Kathy Andrews-Smith, Richland
Pam Zimmerman, Richland
Thomas Toon, Office of River Protection
Robert Chase, Office of River Protection
Kriss Nielsen, Savannah River Operations Office
Doug Hintze, Savannah River Operations Office
Pat Petty, Savannah River Operations Office
Karen Richardson, Carlsbad Field Office
David Hoffer, Carlsbad Field Office
Lucky Briggs, Carlsbad Field Office
Shelly Haynie-Sparks, Portsmouth/Paducah Project Office
Philip Pipes, Portsmouth/Paducah Project Office
David Arvin, Director, Consolidated Business Center Ohio
Kevin Bazzell, Consolidated Business Center Ohio
Trish Pennington, Consolidated Business Center Ohio
Margaret Marks, Consolidated Business Center Ohio
Cindy Lockwood, Nevada National Security Site
Mark Searle, Idaho Operations Office
Jeff Miller, Idaho Operations Office
Jaime Standridge, Oak Ridge Office
Jenifer Hackett, Oak Ridge Office
Bryan Bower, West Valley Demonstration Project Office
Bob McGonigle, West Valley Demonstration Project Office
James McConnell, National Nuclear Security Administration



Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, South Carolina 29802

MAY 14 2012

Dr. Donald Bridges, Chairperson
Savannah River Site Citizens Advisory Board
P.O. Box A
Aiken, SC 29802

Dear Dr. Bridges:

SUBJECT: Citizens Advisory Board (CAB) Recommendation # 285 - Reallocation of Funds for Regulatory Support in Fiscal Year (FY) 2012 Appropriations and Request for Increase in FY 2013 (Letter, Bridges to Moody, March 28, 2012)

The Department of Energy Savannah River Operations Office (DOE-SR) is pleased to receive the referenced recommendation concerning Savannah River Site Funds for Regulatory Support.

CAB Recommendations

1. Take steps to restore funding in FY 2012 for regulatory support appropriate to the scope of work needed to meet FY 2012 clean up goals.

DOE-SR has developed an approach to ensure adequate funding levels in FY 2012 for both the South Carolina Department of Health and Environmental Control (SCDHEC) and the Environmental Protection Agency (EPA) regulatory oversight support.

2. Provide information at the May 2012 CAB meeting will describe what steps are being taken to restore the budget for regulatory support.

DOE-SR will provide information at the May 2012 CAB meeting to explain actions taken to ensure SCDHEC and EPA funding levels appropriate to achieve the planned scope.

3. Supply, if funding is not restored:
 - a. Details on how the reduced budget would impact the ability of the regulators to be onsite on a regular basis and to maintain the current level of cleanup oversight, and
 - b. Information on strategies that will be initiated to assure that oversight from the Regulators is not weakened

DOE-SR has been able to maintain funding in FY 2012.

MAY 14 2012

4. Make a commitment that the FY 2013 budget will be prepared to restore funding for regulatory support appropriate to the scope of work needed to meet FY 2013 clean up goals.

DOE-SR has included funding levels for regulatory support in the FY 2013 budget submission appropriate to the scope of work needed to meet FY 2013 clean up goals.

If you have any questions, please contact me at (803) 952-9468 or Doug Hintze of my staff at (803) 952-8422.

Sincerely,



David C. Moody
Manager

AMIP-12-005

cc: M. Nielson, (EM-42), DOE-HQ
C. Alexander, (EM-42), DOE-HQ
R. King, SCDHEC
G. Keyes, EPA
A. Frazier, GADNR

**Savannah River Site
Citizens Advisory Board**

Recommendation # 286
Yucca Mountain as Interim Storage Site

Background

The U.S. has grappled with development of a national long-term geologic repository since the early 1980s. In 1982, Congress passed the Nuclear Waste Policy Act (NWPA) specifying that a geologic repository would be developed. The repository's disposal limit was set at 77,000 tons, most of which (69,300 tons, or 90 per cent) was designated for nuclear fuel assemblies from commercial power reactors. The remaining 10 per cent of repository space was designated space for legacy plutonium, spent fuel from Navy ships and submarines, research reactors, and reprocessing projects, and other radioactive waste that requires special containerization techniques.

One site was ultimately selected in 1985; Yucca Mountain. The interior of the mountain was to be converted into a maze of tunnels that could permanently entomb and secure the nation's nuclear waste. The life cycle cost, covering the period 1983-2035, was estimated to be \$58 billion. Over a period of nearly 30 years, more than \$10 billion was spent to study and test Yucca Mountain and finally declare it scientifically viable as a national long term geologic repository for U.S. radioactive waste. President George W. Bush and Energy Secretary Spencer Abraham signed the final impact document, permitting the license application to be submitted to the Nuclear Regulatory Commission (NRC).

In 2010, Secretary of Energy Stephen Chu terminated the Yucca Mountain project with the withdrawal of the license application and cancellation of project funding. The official explanation by the Department of Energy (DOE) is that a successful approach must be both scientifically sound and achieve consensus of the affected communities. Subsequently, the administration established a Blue Ribbon Commission (BRC) to provide recommendations for developing a safe, long-term solution to managing the nation's used nuclear fuel and other nuclear waste, as well as identifying pathways to America's nuclear future.

The BRC issued its final report in January 2012. Among its recommendations is the establishment of interim storage sites as repositories for America's high-level radioactive wastes while permanent technological solutions are found.

Comments

While the NRC's Safety Evaluation Report (SER) has not been released, Volume III is a comprehensive technical evaluation of site safety which is requisite for the issuance of a site license and construction of the Yucca facility. According to an evaluation of the SER Volume III by members of House Science, Space and Technology Committee (SSTC),

the license application meets all NRC required safety and performance objectives. The SSTC evaluation joins other claims that there is no evidence that Yucca Mountain is not scientifically sound or safe for the repository mission.

Meanwhile, taxpayer liabilities under the NWPA are increasing, nuclear waste sits at over a hundred commercial sites and several national laboratories across the country with no plan for disposition, and the lack of a nuclear waste management policy ultimately threatens the future of the nuclear energy industry to help meet America's growing energy demands and the world's need for clean, safe and cheap power. After intensive study and testing by experts in nuclear technologies, there appears to be no evidence that the site would not be an appropriate, even leading candidate, as an interim storage site. Additionally, there is no language in official documents regarding the site that it is an inappropriate or unsafe candidate for an interim storage repository. Designation of Yucca Mountain as an Interim Storage Site would also save taxpayers the burden of repeating tests and studies already conducted at the site (estimated at more than \$10 billion to date).

The Citizens Advisory Board (CAB) recognizes that Section 135a (2) of the 1982 Nuclear Waste Policy Act (NWPA) restricts designation of any federal or non-federal site from consideration for nuclear waste storage where there exists a candidate site for a repository. However, Secretary Chu has declared that Yucca Mountain is not an appropriate site for a permanent national repository and has proceeded to withdraw application to the Nuclear Regulatory Commission (NRC) to license the site. The NWPA provides that restriction of candidacy does not apply once the Secretary "decides that such candidate site is no longer a candidate site under consideration as a repository", thereby making Yucca Mountain again a viable candidate for designation as an Interim Storage Site.

Should Yucca Mountain be designated as an interim site and should the Secretary subsequently reverse his position on Yucca Mountain's ineligibility as a national permanent repository, the restriction would once more apply. However, the point would become moot since the site has already been designated as the permanent national repository through the 1987 congressional modification of the 1982 NWPA.

Finally, it is within DOE's Environmental Management (EM) responsibility to assure that the EM program is on a path to decommissioning its national laboratories and other facilities housing radioactive wastes, including the Savannah River Site (SRS). Radioactive waste remaining at SRS after 2034 may affect the decommissioning of the Site. Consequently, the possibility of establishing Yucca Mountain as an interim storage site, which would provide a disposition pathway from SRS for currently stored radioactive waste, becomes a valid concern of the Site Specific Advisory Board.

Recommendations:

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Accept the BRC's recommendation to establish one or more interim storage sites for U.S. high-level nuclear wastes.
2. Designate Yucca Mountain as one potential interim storage site for U.S. high-level nuclear waste.
3. Request funding for the completion of Yucca Mountain as an interim storage site.
4. Develop and publicize an action plan for opening Yucca Mountain to receive interim storage radioactive waste.

Recommendation # 286

Adopted May 22, 2012

Sponsored by the Nuclear Materials Committee

**Savannah River Site
Citizens Advisory Board**

Recommendation # 287

Disposition Planning and Dry Storage of Spent Nuclear Fuel

Discussion

The receipt of Spent Nuclear Fuel (SNF) from foreign and domestic research reactors is an ongoing program at Savannah River Site (SRS) and has been for many years. Current planning indicates that such shipments will continue for a number of years in the future. Much of the spent nuclear fuel has Highly Enriched Uranium (HEU).

These HEU material receipts will be stored in the L-Basin pool, built in 1956, along with some 14 metric tons of existing used fuel assemblies (1,500+) that began arriving in the facility in 1996 as part of the National Nuclear Safety Administration's Global Threat Reduction Initiative. Current rack positions in the L-Basin pool are approximately 90 percent full and future receipts of domestic and foreign fuel will require costly re-racking (tens of millions of dollars).

According to SRS management (CAB presentation 3/29/11), rack capacity for Material Test Reactor (MTR) units is 15,515 with 12,540 filled. High Flux Isotope Reactor (HFIR) capacity is 120 with 117 filled. A total capacity of 17,015 MTR racks and 220 HFIR racks is proposed. An additional 1100 racks are proposed for Canadian National Research Universal/National Research Experimental (NRU/NRX) receipts. All told, an additional 4,884 assemblies have been identified for shipment to South Carolina.

It is not clear at this point how this SNF will be ultimately dealt with from a disposition standpoint. The decision on how to proceed in this matter is part of the larger picture on how DOE will dispose of such SNF in light of the Blue Ribbon Committee Report recommendations issued in January 2012. The Citizens Advisory Board has expressed strong support for processing the SNF through H-Canyon to recapture the remaining HEU for reuse in nuclear power plants and processing the waste in the Site Liquid Radioactive Waste Program, which is a well-established and controlled disposition pathway.

Comments

At this point there is no disposition path for the SRS spent nuclear fuel.

Public safety and worker risks increase with additional receipts of HEU materials for L-Basin. L-Basin already has 36 cans of 50-year old spent nuclear fuel (SNF), some contained within corroded and leaking containers which originated from the world's first nuclear core meltdown in the 1950s. Some containers have vulnerabilities for long term storage. Three have ruptured due to excessive fuel corrosion which caused high cesium-137 contamination within the containers and uranium fuel in one can is so corroded that it left 36 kilos of oxide sludge at the bottom of the container. Some of these containers have not been inspected by the Department of Energy (DOE) since they were packaged decades earlier.

The CAB is aware that the FY 2012 budget does incorporate plans to process a portion of the SNF (the most vulnerable at-risk SNF) through H-Canyon and we strongly support processing all of the SNF in L-Basin that can be processed through H-Canyon.

The initial disposal plan for processing the L-Basin nuclear waste materials was to use a "melt and dilute" process which was cancelled due to high costs. In 2000, the designated backup plan was processing the materials through H-Canyon for disposal. This plan has also not been initiated. H-Canyon is the only

hardened nuclear chemical separations plant still in operation in the United States. The H-Canyon and its experienced personnel can also process certain types of plutonium, HEU, and aluminum-clad foreign and domestic SNF for disposal.

From our discussions with DOE we have been advised many times that the SNF can be stored in the present configuration of underwater storage safely for greater than 50 years. The tone of these discussions seems to indicate that DOE is prepared to accept long term SNF storage.

The CAB would like to express a degree of urgency on two counts:

1. SNF Disposition Pathway- SNF should not be brought into the Site on a continuing basis without some disposition pathway being established in the reasonably near future. If H-Canyon is to be used then the SNF processing needs to be meshed into the final stages of the Defense Waste Processing Facility schedule. If H-Canyon is not feasible or affordable some other disposition scheme should be developed and publicized. Bringing nuclear waste into the Site without a disposition plan reflects poorly on DOE planning.
2. SNF Dry Storage- If DOE determines that long-term storage plans (on the order of 50-year storage) for the SNF is necessary then the CAB feels that the Dry Storage option should be assessed. Extended underwater storage offers the increased vulnerability of SNF corrosion and water chemistry control and the potential loss of the water shielding during certain events. Dry storage assessment may offer some extended storage options.

Recommendations:

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Continue to disposition all research reactor spent nuclear fuel stored in L-Basin using the H-Canyon and considering the highly enriched uranium which can be utilized by the private nuclear power industry.
2. Assess the status of SNF disposition planning and advise the CAB when disposition plans can be developed for both SNF presently at SRS and the remaining SNF yet to be received.
3. Assess the feasibility of SNF dry storage and advise the CAB which if any of the SNF should be placed in dry storage with an emphasis on SNF slated to remain at SRS in an extended storage configuration.

Recommendation # 287

Adopted May 22, 2012

Sponsored by the Nuclear Materials Committee

**Savannah River Site
Citizens Advisory Board**

Recommendation # 288

Citizens Advisory Board Active Involvement in the Enterprise SRS 2011 Strategic Initiatives

Overview

The Savannah River Site (SRS) Strategic Plan dated September 2011 outlines 12 Strategic Initiatives which build on the capabilities and assets of the SRS. Many of these initiatives tie directly to the experience or facilities used to complete existing SRS Environmental Management (EM) missions. The Citizens Advisory Board (CAB) is interested in better understanding the relationship between existing EM missions and the 12 Strategic Initiatives and ensuring the current EM missions are not negatively impacted by these 12 new initiatives.

Comments

The mission of the CAB is to provide advice and recommendations concerning EM site-specific issues. The CAB has a Position Statement concerning the DOE cleanup activities at SRS, as outlined in the Savannah River Site Strategic Plan. Without a complete understanding of the Strategic Initiatives and the cost, effort, direction, and schedule required to bring the initiatives to fruition and fulfill the future missions, the CAB cannot formulate recommendations related to the new strategic initiatives.

Recommendations:

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Prepare and present to the CAB at scheduled Board Meetings and issues-based Committee Meetings as appropriate, comprehensive information on the concept, status and schedule of each of the 2011 Strategic Initiatives, with the exception of those where National Nuclear Security Administration has leadership responsibility.
2. Ensure that EM's prime missions at SRS are not compromised as efforts are focused on the strategic initiatives.
3. Consider carefully CAB recommendations on all aspects of EM's plans and efforts to fulfill the strategic initiatives, particularly should the CAB feel they are not in the best interest of, or can better serve, the stakeholders/citizens.

Recommendation # 288

Adopted May 22, 2012

Sponsored by the Strategic & Legacy Management Committee

**Savannah River Site
Citizens Advisory Board**

**Recommendation # 289
Operating History, Safety and Environmental Studies Assessment**

Background

Savannah River Site (SRS) has had a long history of production in support of the nation's nuclear weapons program. During the period 1953 through 1991 anywhere from one to five nuclear reactors at the SRS were engaged primarily in the production of plutonium and tritium. In addition to the production reactors, other aspects of the Site were also engaged in support activities such as nuclear fuel fabrication facilities, chemical reprocessing work, tritium separation facilities, supporting laboratory activities, etc. The Site has been engaged in nuclear activities that essentially represent the nuclear fuel cycle from start of the cycle to end of cycle including:

- nuclear fuel fabrication
- nuclear fuel irradiation
- nuclear fuel separations
- nuclear fuel radioactive waste processing for final disposition.

During this period of very intense nuclear activities, the Site has maintained an excellent safety and environmental management record. The Site has consistently been named the "safest plant in South Carolina", had the best safety record among the DOE sites, and has been cited for its excellent environmental programs. The Site has also never had an accidental nuclear criticality or a major nuclear accident. Much of this performance has been documented in many studies.

Beginning in the early 1990s, the Site moved from a production site to a "cleanup site." While some limited production activities occur at SRS, the majority of the Site activities are engaged in cleanup. The Site cleanup effort is likely to take about 40 years and the program is now nearing the midpoint of its overall effort. The SRS Citizens Advisory Board was established in 1994 to provide public input into the cleanup programs and priorities. Using 1994 as a starting time the Site is now 18 years into the approximately 40-year cleanup timeframe.

Discussion

The SRS is now in what the CAB considers to be an advanced state of cleanup and it may be useful at this time to reflect on what can be learned from these many years of operations. An in-depth impact assessment of radiation to worker and surrounding community population would likely be useful to the nation, the public at large, and the nuclear industry.

For example, off-site radioactive releases have been measured carefully and thoughtfully for large areas around the Site and downstream in the Savannah River and radiation

exposure impacts have been continually assessed on Site workers. The bigger question is now what does all this mean and what result did it have?

Now that a major nuclear production program of approximately 40 years has been completed and cleanup is now well-defined and underway it would be useful to make some summary conclusions on the impacts. For example:

- What was the impact of the low levels of radiation exposure to Site workers over this 40 year period?
- What was the impact of the low levels of off-site radiation to the surrounding communities?
- What was the impact of other environmental hazards to areas away from the Site?

The Site had done many studies during its history to answer just these types of questions. The CAB has been told that a number of epidemiological studies have been conducted to determine the impacts and for the most part these impacts have been minimal.

It is our view that it would be useful to publish some sort of report that summarizes these findings and conclusions. Further, we feel that it would be useful to involve other outside agencies or parties to add independence and credibility to the findings of such a report.

Recommendations:

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Assess existing studies and reports to determine:
 - What is the impact of the low levels of radiation exposure to Site workers over the Site's 40-year production period; including Department of Labor Bureau of Labor Statistics data on SRS worker compensation cases by year, beginning with the opening of the site and ending with the most current available data?
 - What is the impact of the low levels of off-site radiation to the surrounding communities?
 - What is the impact of other environmental hazards to the areas away from the Site?
2. Determine if any additional studies would be necessary to provide any additional useful information.
3. Develop a summary report which will list and summarize results and findings from the necessary supporting data.
4. Provide a list of definitive statements on the impacts of Site operations.
5. Involve other external parties in the preparation of such a summary report and the review of underlying supporting data.

Recommendation # 289

Adopted May 22, 2012

Sponsored by the Strategic & Legacy Management Committee

**Savannah River Site
Citizens Advisory Board**

Recommendation # 290

Assess Feasibility of Disposition of SRS Canisters to WIPP

Background

SRS is presently involved in a massive cleanup effort that could take approximately 40 years to complete and cost in excess of \$60 Billion. As the Site nears the midpoint of that cleanup which began in the early to mid 1990s one aspect of the planning for cleanup has recently been brought into question. That is the manner in which the canisters containing the radioactive waste from the nuclear material separation program are handled and ultimately disposed of in some national repository.

Probably the most significant aspect of cleanup (and certainly the most hazardous) is the liquid radioactive waste generated when the products of years of production (plutonium) were chemically processed. This led to an extensive liquid waste treatment program known as the High Level Radioactive Waste. The most dangerous waste from this process is ultimately placed in a glass form (for chemical stability) in stainless steel containers in the Site Defense Waste Processing Facility (DWPF).

For many years the long-range plan was to store these canisters at SRS in special seismic-resistant buildings until these canisters could be removed and shipped to a national repository for final disposition. All of this changed in 2010 when the Obama Administration made the decision that the planned repository known as Yucca Mountain was no longer acceptable and a new approach would be developed. This in essence wiped out 30 years of repository planning and construction activity with it attendant billions of cost.

SRS is now storing these canisters with no known final disposition path. At the present time the Site has produced approximately 3,100 canisters of the 7,550 canisters anticipated needed for final cleanup. These canisters are being stored in two glass waste storage buildings, but an additional building will be needed in the next 4 to 5 years (at a cost of \$10M to \$20M) if shipments off site are not begun.

The indefinite storage of these completed and “ready for shipment” canisters has not been accepted well by the surrounding communities. The entire planning basis has been undermined and the credibility of DOE to handle this matter has been brought into question.

Discussion

The CAB is concerned that the planning for another repository will take many years of effort (possibly another 30 years) with it attendant scientific and financial uncertainties. In the meantime the Site will continue to store material that should have been removed (by earlier credible planning) many years earlier.

It is the view of the CAB that DOE should take measures to assess if some or all of the SRS high level radioactive waste canisters could be disposed of at the alternative waste site known as Waste Isolation Pilot Plant (WIPP). The WIPP site was designed for the disposition of these type

canisters but only licensed for the disposition of transuranic wastes (smaller and less concentrated amounts of plutonium and other similar nuclides). We further understand that any such revised disposition plan would likely require congressional approval.

However, from our limited understanding the WIPP site would be technically feasible and it seems to have an astounding amount of capacity to accept radioactive waste. Further, removing canisters from SRS would have an immediate positive impact on the surrounding communities. It would be a show of “good faith” for removal of waste from SRS and further it may result in real cost savings to the Site. For example, if shipments of canisters could be undertaken in a timely manner it may be that the third planned storage building for the canisters would not be necessary.

One other consideration is offered up. We are aware that when the Site began processing the radioactive waste into the glass form the first material processed was sludge from the storage tanks. Some of this sludge material did not contain extremely high levels of radioactivity and hence are likely to be much “cooler” in terms of heat load and radiation exposure. We therefore suggest that perhaps these less radiation-intensive canisters would be more amenable for shipment to WIPP, at least in the first stages of any such program as noted above.

At any rate, in view of the uncertainties surrounding a federal repository and canister removal from SRS it would be a dramatic and positive measure for the Site to develop (or at least assess) plans for the removal of the DWPF canisters to an alternative location rather than another 30 year wait for a federal repository.

Recommendations:

The Savannah River Site Citizens Advisory Board recommends that:

1. DOE assess the viability of using WIPP as a disposition site for canisters such as those at SRS.
2. SRS assess which, if any, of the canisters at SRS would be acceptable for disposition at WIPP.
3. If WIPP is found to be acceptable, DOE evaluate the feasibility of making shipments of canisters to WIPP in lieu of building a third canister storage building.
4. If WIPP is found to be acceptable, DOE develop in the broadest sense a schedule for removal of the canisters from SRS.

Recommendation # 290

Adopted May 22, 2012

Sponsored by the Waste Management Committee