INL Site Environmental Management

CITIZENS ADVISORY BOARD

Meeting Minutes

March 16, 2010

The Idaho National Laboratory (INL) Site Environmental Management (EM) Citizens Advisory Board (CAB) held its bi-monthly meeting on Tuesday, March 16, 2010, at the Hilton Garden Inn, Idaho Falls, Idaho. An audio recording of the meeting was created and may be reviewed by phoning Support Services at 208-419-4158.

Members Present

R. D. Maynard, Chair
Richard Buxton
Doc DeTonancour
Harrison Gerstlauer
Fred Sica
Tami Sherwood
Nicki Karst
Seth Beal
Bruce Wendle
Robert Rodriguez
Teri Tyler
Damond Watkins
April Mariska
Willie Preacher

Deputy Designated Federal Officer, Federal Coordinator, and Liaisons Present

Rick Provencher, Deputy Designated Federal Officer, U.S. Department of Energy Idaho Operations Office (DOE-ID)
Bob Pence, Federal Coordinator, DOE-ID
Matt Wilkening, U.S. Environmental Protection Agency (EPA), Region 10
Brent Rankin, CWI

Others Present

Lisa Aldrich, Project Manager
Ceri Chapple, Support Services
Lori Isenberg, Support Services Facilitator
Natalie Packer, ICP
Carl Lovell, ICP
Bruce Culp, ICP
Jeff Perry, DOE
Dave Sanderlin, Naval Reactors Facility (NRF)
Bruce LaRue, DEQ
Bruce Begg, INL
Mark Hutchinson, NRF
Jim Floerke, ICP
Jeff Perry, DOE
Ron Ramsey, DOE
Mark Arenez, DOE
Marcus Pinzel, DOE
Brant Meagher, ICP
Jim Cooper, DOE
Jean Holdren, ICP
Jessica Anderson, ICP
Jeff Miller, DOE
Bill Roberts, Public
George Saulnier, Areva
Mike Spry, Portage
Joseph Campbell, ICP
John Tanner, Coalition 21
Peggy Hinman, Public
Jean Taylor, Public
Michael Ebben, ICP
Greg Bass, DOE
Mike Bemski, Areva
Kirk McKinley, WGI Inc.

Opening Remarks

Chairman R. D. Maynard welcomed everyone to the meeting. Mr. Provencher welcomed everyone, thanked the CAB for their efforts, and provided brief updates. Additionally, the liaisons provided brief updates.

Recent Public Involvement

Mr. Provencher provided an overview of public involvement since the last meeting.

Progress to Cleanup

Mr. Provencher provided a status of the cleanup progress with active discussion among the CAB. The status included safety performance (CWI and Advanced Mixed Waste Treatment Project [AMWTP]), transuranic (TRU) waste disposition and the AMWTP. He outlined the accomplishments since January. They completed start up and initiated operation of RH-TRU repackaging in CPP-666 and received EPA and CBFO approval on additional RH TRU waste streams; resumed shipment of RH TRU to WIPP on 17 February 2010. The project to date has received 96 of 103 HFEF-5 canisters from Materials and Fuels Complex (MFC) and placed into interim storage and has received 68 of 68 RH TRU Sludge Pan Containers from NRF and placed into interim storage. In addition, the project to date has shipped nearly 11,000 drums of CH TRU to WIPP from WAG 7 exhumation. Some upcoming activities include: the completion of shipping RH-TRU target by July/September 2010 and to first ship HFEF-5 RH-TRU waste to WIPP in March 2010.

Mr. Provencher briefed the CAB on the Advanced Mixed Waste Treatment Project accomplishments Since December. Since the Oct. 1, 2009 contract extension, they have shipped 1,649 cubic meters of stored transuranic radioactive waste out of Idaho (through Feb. 16, 2010), 38,202 cubic meters of stored transuranic waste has shipped since 1999 from INL site (through Feb. 16, 2010), and 6,216 cubic meters of historically managed TRU waste reclassified as mixed low-level waste and shipped out of Idaho (through Feb. 16, 2010). Employees have worked six years – more than 9.7 million hours – without a lost time accident. All offsite waste received from Nevada Test Site has been shipped to WIPP in January 2010 meeting requirements of the Settlement Agreement. Work on FY2010 ARRA goals are continuing before the March 31, 2010 extension ends. They have started the initial communications and actions required for transition, while awaiting DOE announcement of next AMWTP contractor.

Mr. Provencher outlined the Waste Area Group (WAG) 7 project objectives. They have conducted Non-Time Critical Removal Actions at the Accelerated Retrieval Projects (ARP) I, II and III. They will exhume targeted waste material from the Subsurface Disposal Area and disposition the targeted waste (i.e., Rocky Flats 741, 742 and 743 sludges, graphite waste, roaster oxides, filters/prefilters). The remediation work will be completed in accordance with the Record of Decision (ROD) for OU 7-13/14. In-situ grouting will be conducted in the SDA as per OU 7-13/14 Record of Decision through American Recovery and Reinvestment Act (ARRA) funding.

Mr. Provencher continued by briefing the CAB on the WAG 7 project. Some accomplishments since January include: the beginning of waste excavation in ARP IV and the completed waste exhumation of 1.22 acres; packaged ~17,000 drums of targeted waste. There were shipments delayed due to Volatile Organic Compounds (VOC) issues at WIPP. The In-situ Grouting Phase II work Plan has been accepted by EPA and DEQ, a subcontractor has been selected and work is scheduled to start in the spring. Some upcoming activities include: the complete construction of ARP V (Pit 9), evaluate the mitigation of WIPP, and address the VOC issues.

Mr. Provencher continued by outlining other CERCLA remediation project objectives such as TAN Groundwater remediation, remediation at the INTEC CERCLA sites (e.g., Tank Farm soil remediation, remediation of releases located outside of Tank Farm, perched water reduction), and the remediation of the WAG 10 CERCLA sites (e.g., groundwater monitoring, contaminated soil remediation, unexploded ordnance (UXO) remediation, ecological monitoring). The Idaho CERCLA disposal facility accomplishments since January are as follows: they received 2,500 cubic yards of D&D debris into the ICDF Landfill and received 1,650 gallons of water into the ICDF Evaporation Ponds. Upcoming remediation includes the receipt and disposal of D&D debris from various site areas.

Mr. Provencher explained the ongoing activities at INTEC-Waste Area Group 3. They are monitoring perched water levels with radio controlled telemetry system. They have been monitoring water usage to prepare facility water balance. Inflows are compared to outflows to calculate water loss. They have eliminated 2.4 million gallons of perched water and identified another 2.4 million gallon source. Upcoming activities include the completion of

Phase I part II of the OU 3-14 remedy. The project includes lining 300 feet of existing drainage ditch with HDPE or concrete, continued elimination of sources of facility water releases to the perched water in Northern INTEC.

Mr. Provencher outlined the On-Going Activities at Test Area North-Waste Area Group 1. They have restarted the New Pump and Treat Facility operating Monday thru Thursday each week. They are injecting whey and sodium lactate approximately every other month and collecting required groundwater samples to track the progress of the remedial action. Upcoming activities include the development of a new work plan for remediation strategy and beginning operations at the Air Stripper Unit (ASTU).

Mr. Provencher briefed the CAB on current D&D objectives. The plan is to decommission and demolish under the baseline program, 7 high-risk facilities of which 6 are completed and 162 excess facilities of which 136 are completed. They will decommission and demolish 90 facilities under ARRA funding; 5 high risk facilities (MTR Reactor, TRA Hot Cells, EBR-II Reactor, CPP 601, and CPP 640) and 85 excess facilities of which 29 are completed. The ARRA D&D – Advanced Test Reactor Complex (ATRC) project objectives are to demolish 13 excess facilities and two high risk facilities (the MTR Reactor and TRA Hot Cells as well as the Power Burst Facility.

There have been many ARRA D&D - Advanced Test Reactor Complex project accomplishments since January. They have completed asbestos abatement from remaining portions of the Materials Test Reactor (MTR) monolith, continued TRA-603 MTR cleanup from asbestos removal and applied lockdown in preparation for clearance sampling, continued demolition preparation of TRA-604 MTR Building Wing A, completed the final 100 ft of TRA-632 pipe asbestos removal, and completed the physical electrical-isolations of the TRA-632 Hot Cell building concrete floor slab. Some upcoming activities include the continue demolition of the MTR vessel, completion of the MTR "Outer" wall thermal shield removal, the initiation of the TRA-632 Hot Cell drain network floor slab cutting and vent-point installations, completion of the TRA-632 Hot Cell 2 and 3 interior hazards removal, and complete engineering for TRA-632 Hot Cell 1 structural analysis / modeling and feasible deactivation and removal alternatives.

Mr. Provencher explained the ARRA D&D – INTEC project objectives and outlined accomplishments since January. There is continued D&D of CPP-602. They have completed RCRA Closure requirements for the Waste Trench in the basement of CPP-602, completed demolition and waste packaging of the CPP-640 samples blisters, and completed the structural demolition of CPP-640. They will begin exterior demolition of the Fuel Reprocessing Building (CPP-601) and complete demolition of CPP-751, -752, and -796 in February. He outlined the ARRA D&D – Materials and Fuels Complex (MFC) project objectives to demolish 8 excess facilities, demolish 1 high risk facility, and the EBR-II Reactor. A few accomplishments since January include the continued Asbestos abatement in the Sodium Boiler Building (MFC-766), the beginning of lead removal in the Reactor building (MFC-767), and the completed public comment period on the EBR-II EE/CA. Upcoming activities are to complete the final sodium bench scale tests, commence MFC-767 RSCL area lead removal, continue asbestos removal in EBR-II, and issue the EBR-II Action Memo.

Mr. Provencher briefed the CAB on the INTEC Liquid Waste Facility (Tank Farm) closure project, the Spent Nuclear Fuel Disposition Project Objectives, and the Calcine Disposition project objectives. He explained where the ARRA – DOE ($6 Billion) money is being spent and the financial details of the INL Recovery Act projects. He explained the jobs retained/created by the ARRA funding as well as the ARRA performance measures.

Mr. Provencher concluded by outlining items of potential interest. The Blue Ribbon Commission on America's Nuclear Future (the Commission) will hold a kick-off meeting March 25, 2010 in Washington D.C. The new CAB Support Contract period will begin FY 2011.

Discussion

Mr. Willie Preacher asked where the planned destination is for the Calcine. Mr. Rick Provencher explained that the projection is to look at Spent Nuclear Fuel (SNF) and High Level Waste (HLW), the question still remains as to where it will be disposed.

Damond Watkins inquired if part of the workforce could transition to AREVA? Mr. Provencher explained that that would depend on the timing. Construction workers would eventually help to build that facility.

Mr. Seth Beal asked how the large pacts will effect shipments. Mr. Provencher explained that there is a movement to use larger packs; they have some 10 drum Over-packs out there currently and have been instructed to use those. They will, in the near future, need to have many more manufactured. He said he didn't have a cost estimate as to what the manufacturing of the Over-packs will be.

Mr. R.D. Maynard asked if the 300 people to be laid-off between August and December, 2010 are all construction workers. Mr. Rankin explained that the lay-off will include electricians, piping and general laborers, totaling close to 300 jobs. He explained that they have trained 32 Operators; they are currently going through their qualifications and are taking part in the system training. Mr. Maynard asked what the Hot-Ops timeframe is. Mr. Rankin said that they have a 9-12 month startup period, set to start-up by July 2011.

Mr. Maynard asked what the criteria are for a recordable accident. Mr. Provencher explained that the criteria are defined by OSHA, some kind of medical intervention, for example when someone needs a prescription, and/ or involves a fracture or sutures.

Mr. Fred Sica asked if the WAG 3 Remedy Cap will be earthen. Mr. Provencher explained that the interim cap will be asphalt. An earthen cap will eventually be placed over it but not for some time as all of the demolition in that area must be completed first.

Ms. Tami Sherwood asked what they will do with the perched water. Mr. Provencher explained when they perch a well they will drum the water, stabilize it, and then send it to an appropriate facility; which really depends on whether it has radionuclides in it.

Mr. Damond Watkins inquired about the status of the DOE-Idaho manager position. Mr. Provencher explained that it is an ongoing process being handled by the Nuclear Energy Organization. They are going through final interviews; no announcement has been made yet.

Decisions / Disposition

The report satisfied the informational need for the CAB.

Phase 2- In Situ Grouting in the Subsurface Disposal Area

Mr. Mark Arenez, the Federal Project Director for Soil and Water Remediation for the U.S. Department of Energy, gave a detailed overview of the In Situ grouting topics. He reviewed the WAG 7 CERCLA process. He briefed the CAB on the waste they are grouting and why. Additionally, he gave a detailed description of what is known about the jet grouting. He gave a detailed outline of the Phase 2 Remedial Design, answered questions, and provided an updated status on the project.

Mr. Arenez explained the Remedy Selection. Through the CERCLA process, ISG was determined to be part of the appropriate remedy to reduce risk. The following CERCLA documents support the selection: the Remedial Investigation and Baseline Risk Assessment, the Feasibility Study, the Proposed Plan, and the Record of Decision.

The Remedial Investigation and Baseline Risk Assessment for Operable Unit 7-13/14 is DOE/ID-11241, was published in May 2006. It assessed nature and extent of contamination and evaluated the "baseline" risk, that is, risk to human health and the environment if no remedial action is taken. The analysis concluded that without remedial action contaminants in waste buried in the SDA would exceed risk threshold values. The Feasibility Study for Operable Unit 7-13/14, DOE/ID-11268, was published in May 2007. They evaluated five remedial alternatives to mitigate risk: No action (monitoring only), Surface Barrier (two types), In Situ Grouting, Partial Retrieval, Treatment, and Disposal (two sizes), and Full Retrieval, Treatment, and Disposal. All alternatives (except No Action) included continued vapor vacuum and extraction of organic vapors in the vadose zone, a surface barrier, and long-term management and control. The Proposed Plan for Radioactive Waste Management Complex Operable Unit 7-13/14 was published in October 2007. The plan presented the agencies' preferred alternative, an optimized combination of elements analyzed in the Feasibility Study. The preferred alternative will include targeted waste retrieval from 4.8 acres, In situ grouting, vadose zone vapor vacuum extraction and treatment, an Evapotranspiration surface barrier, and long-term institutional controls. During the public comment period more than 200 individuals and organizations commented. During the Remedy Selection in 2008 the Agencies selected the best balance of trade-offs: targeted waste retrieval from 5.69 acres, In situ grouting of specific waste types, vadose zone vapor vacuum extraction and treatment , an Evapotranspiration surface barrier, and long-term institutional controls and monitoring.

Mr. Arenez explained the OU 7-13/14 Record of Decision – Phase 2. In situ grouting will reduce mobility of technetium-99 and iodine-129 to address future threats to the aquifer by providing relatively near-term isolation of the waste pending completion of targeted waste retrievals and installation of the surface barrier over the SDA. In situ grouting addresses the Remedial Action Objective to inhibit migration of contaminants of concern into the vadose zone and the underlying aquifer. Specific cleanup levels are not identified for in situ grouting; each location will be grouted with a buffer and quantities of grout injected into the subsurface will be evaluated to ensure that coverage is achieved. Very specific waste forms that contain releasable technetium-99 (Tc-99) and collocated iodine-129 (I-129) will be grouted. These isotopes are contaminants of concern to the aquifer and they are very mobile in the environment. These isotopes have not been detected in the aquifer and are sporadically detected in the vadose zone. Mr. Arenez provided a map of the vadose zone sampling locations and outlined the vadose zone soil moisture monitoring in 2009; 4,981 analyses of vadose zone soil moisture and perched water were performed in FY 2009. Tc-99 was detected in two locations beneath the landfill. Lysimeter D06:DL01 is 88-ft deep; Tc-99 concentrations are low with no apparent trend. Lysimeter R2004:DL50 is 74-ft deep. Tc-99 concentrations began rising in 2007. On 5/18/09 the sample yielded 18,700 ± 1,160 pCi/L. I-129 is very difficult to detect and is assumed present if Tc-99 is found.

Mr. Arenez briefed the CAB on the grouting studies and applications at the INL Site. In 1985 the Bench-scale evaluation of chemical and particulate (e.g., Portland cement-based) grouts were tested. In 1987 field demonstrations of the Rockwell Hanford Operations vibratory beam method were performed to dynamically compact and grout surrogate waste trenches using micro-fine slag cement grout. In 1994 a proof-of-concept demonstration was performed of ISG of buried waste with Portland cement using single phase, non-displacement jet grouting. In 1994 an evaluation of pressure (jet) grouting of fractured basalt to reduce hydraulic conductivity was executed. In 1995 a field demonstration was conducted of ISG to construct a subsurface retaining wall using Portland cement and to control contaminant spread during hot spot retrieval. In 1996 an evaluation of performance criteria for grouts used for in situ stabilization of buried waste was carried out, as well as a bench-scale testing was performed of proprietary chemical and hydraulic grouts for ISG of transuranic waste. Additionally, in 1996 a field implementability testing was conducted of ISG of transuranic waste by jet grouting using proprietary and generic grouts. In 1997 an ISG of an SDA pit that received liquid waste from various INL operations using a proprietary grout was tested. In 2001 a bench-scale and field implementability testing of proprietary and DOE-developed grouts for ISG of waste, with emphasis on chemical interferences unique to transuranic waste disposed of in the SDA was performed. Also in 2001 a preliminary hazard analysis for ISG to support development of the OU 7-13/14 Feasibility Study was conducted. In 2002 an evaluation of ISG by jet grouting was completed to support development of the OU 7-13/14 Feasibility Study. In 200 a preliminary documented safety analysis was performed

for ISG by jet grouting to support the development of the OU 7-13/14 Feasibility Study. Also in 2003 engineering studies were conducted to support application of ISG in the SDA to stabilize waste or provide a stable foundation for a surface barrier. In 2004 a non-time-critical removal action was conducted using ISG to encapsulate activated beryllium with a proprietary paraffin-based grout. Again in 2004 a study to develop grout selection criteria and recommendations for future ISG in the SDA was performed. IN 2005 a bench-scale evaluation of proprietary and generic grouts for ISG of transuranic and non-transuranic waste buried in the SDA was conducted. Also in 2005 an evaluation of the durability of Portland cement based grout for use in the SDA was conducted. The studies prove that In situ grouting is effective. Laboratory studies demonstrated that grout immobilizes contamination (1985, 1996, 2001, and 2005). Field studies involving surrogate waste that was buried in the ground, grouted, and uncovered, showed that waste was isolated and that surrounding soils were still clean, demonstrating that contaminants are not forced out of the waste into the surrounding soil (1987, 1995, 2002). The studies evaluated grout as a confinement method to enhance waste retrieval (1995, 1997), which was not planned and would require a change to the ROD. Mr. Arenez provided photos of the preparations of the cold test pit and the various grout test columns.

Mr. Arenez briefed the CAB on the Phase 2 Remedial Design. He explained that the Phase 2 Remedial Design/Remedial Action Work Plan (DOE/ID-11405, published January 2010) presents the remedial design for in situ grouting. There are two major design considerations: how to grout and where to grout. Because ISG is a mature technology, how to grout is well established. ISG has been thoroughly tested, including bench-scale studies, field-scale demonstrations, and two actual applications in the SDA.

Mr. Arenez explained how the Grout will be applied. Drill rigs are mounted on excavators; they reach across trenches to apply treatment, creating a monolith. The grout columns will be installed in off-set rows. Early testing (1994) used 24-in. centers, later testing (1996) used 20-in. spacing, eliminating gaps between columns; phase 2 ISG also will use 20-in. spacing. This pattern produces a continuous monolith. Mr. Arenez provided a diagram of the monolith.

Mr. Arenez continued by explaining inventory and mapping. Inventory research identified types of waste containing releasable Tc-99 (e.g., resins and Vycor glass). Inventory (activity in curies) was estimated for each shipment. Disposal locations were mapped and the areas with highest cumulative amounts were identified.

Mr. Arenez provided an example of a disposal record. He explained that it is from ISG Site T36. The primary shipment contains resin waste. The location is in Trench 36 at 8+45 (meaning 45 ft from the 8th 100-ft marker in the trench).

Mr. Arenez explained some aspects of a geophysics study. Geophysical surveys detect metallic or magnetic objects. Two sensitive techniques were applied. Surveys detect very small objects in the top foot of soil and larger objects to a depth of 10 ft. Geophysics data are combined with disposal records and mapped locations. He explained that the ISG Site T36 is a simple site. It contains one primary shipment, no collocated shipments, and 7 other shipments (not shown). Mr. Arenez provided a figure showing the perimeter of the treatment area. He explained that the red line indicates the trench center line based on monuments. The green line is the adjusted center line based on statistical analysis of geophysics. Experienced drill rig operators can detect whether they are drilling in waste or undisturbed soil (i.e., inside or outside of the trench) based on observed drill rig performance. The ISG Site T36 has a well-defined geophysical signature. Mr. Arenez pointed out the column center points and columns. Site T36 will receive a minimum of 57 grout insertions in a 9 by 17-ft area.

Mr. Arenez discussed the grouting locations. Twenty-one locations were identified for ISG based on shipping records and geophysics. These locations encompass: primary shipments containing 50% of the releasable Tc-99 in the SDA, collocated shipments with additional releasable Tc-99, and other shipments with no releasable Tc-99. Locations of neighboring (bounding) shipments also were used to define footprints. Mr. Arenez provided a map of

the twenty-one In situ grouting sites. Mr. Arenez displayed photos of a typical trench excavation—Trench 30 (1963) and remote disposal operations—Trench 55 (1973).

Mr. Arenez explained ISG sites and buffers. Each ISG site contains one or more primary shipments (i.e., shipments targeted for encapsulation). Final ISG footprints include primary and collocated shipments surrounded by a buffer. The purpose of buffers is to ensure complete encapsulation of primary shipments. He provided a diagram of the buffers' conceptual plan view and the side view. Grouting will be applied beyond the ends of primary shipments to ensure complete encapsulation. He also provided a diagram of the buffers' end view. Grouting will be applied beyond the sides of the trenches to ensure complete encapsulation

Mr. Arenez described non-displacement Jet grouting. Jet grouting is started as the drill stem is withdrawn, and proceeds in precise increments while rotating and injecting grout through nozzles located near the bottom of the drill stem. Non-displacement (single-phase) jet grouting does not move or transport soil and waste. Voids (~ 40%) are filled and soilcrete is created within a 12-in. radius of the drill (24-in. column). He went on to describe single-phase Jet grouting. Single-phase jet grouting does not force contaminants out of the area. Field-scale testing with a terbium tracer showed that grout immediately captured contamination within the grout (INEEL/EXT-02-00233). Bench-scale testing using soil spiked with Tc-99 showed that grout substantially reduced subsequent leaching, with best results obtained with grout composed of Portland cement with slag (ICP/EXT-04-00330). Mr. Arenez outlined the operations. Drill insertion points can be grouted in any order because grout does not push contaminants out or down (1987, 1995, and 2002). For each ISG site, the Phase 2 Remedial Design/ Remedial Action Work Plan requires that the injected grout volume be at least 80% of the maximum potential grout volume to be deemed complete.

The Phase 2 Remedial Action objectives are to complete field work by September 2010 and close out Phase 2 in Fiscal Year 2011. Remedy will be documented in an interim completion report provided to the regulatory agencies for review and comment. ISG is a near-term action to reduce contaminant migration in the interim before the cap is constructed. The current project status is as follows: the contract was awarded in December, the work plan was completed in January, the offsite test will be conducted in April, the management self-assessment will be in May, and field work will start in June.

Mr. Arenez summarized the key points of the project. ISG was selected through the CERCLA process. Treatment will provide near-term defense in depth until the cap is constructed. The technology is mature. The basis for selecting locations is sound. Vadose monitoring will continue to evaluate effectiveness of OU 7-13/14 remedy (semiannually).

Discussion

Ms. Sherwood asked if the contaminants could be in the vadose zone and not in the water yet, and whether it the contaminants have been found in the vadose zone. Mr. Arenez explained that the contaminants can and have been found in the vadose zone and not in the groundwater.

Mr. Harrison Gerstlauer asked how dangerous and mobile the Technesium-99 is. Mr. Arenez explained that iodine and Tc-99 have been there for over 50 years and we are fortunate that they are not seeing more of it in the vadose zone. The risk assessment from 2006 looked at slope factors and receptors, concluding that it is imperative that these contaminants do not reach the aquifer. The risks exceed EPA thresholds.

Mr. Fred Sica asked how far down the contaminants have been detected. Mr. Arenez explained that it has been detected at 88ft. below grade. The water table is at 600ft. The grout will immobilize the contaminants.

Mr. Sica asked why they don't put a liner underneath it. Mr. Arenez explained that this area is a legacy landfill and legacy landfills cannot be lined.

Ms. Sherwood asked if the surrogate test demonstrations show that the contaminants are immobilized. Mr. Arenez explained that the field scale used non-radioactive tracers, but the lab tests used real Tc-99 and the grout did immobilize the contaminants.

Mr. Maynard asked if there were any problems with grouting cracking. Mr. Arenez explained that there were some cracks. The grouting will fill columns in coils, at the rate of one foot per minute. They assume they will have 6-10 gallons of grout return. They plan on just placing soil over the top of it as it will not be qualified as nuclear waste; it will be considered non-displacement grout.

Mr. Willie Preacher asked if the grout pushes the contamination downward. Mr. Arenez explained that they haven't seen anything like that in the testing; the grout simply mixes with what is there. Mr. Preacher inquired if any vibrations will be used when placing the grout. Mr. Arenez explained that the grout does not require vibrations to settle. He added that the waste was mapped through accurate disposal records.

Mr. Sica wondered if the EPA was actively involved with the ISG project. Mr. Arenez assured the CAB that the EPA has been actively involved through the entire process. The EPA signed off on the ROD and the work-plan is final.

Mr. Bruce Wendle wondered why grout when a cap is just going to be put over it. Mr. Arenez explained that this is an interim action to reduce the risk of mobility by the contaminants.

Ms. Sherwood commented that communication is the key to understanding; she thought that the presentation was very helpful.

Mr. Maynard commented that the disposal records were quite impressive.

Mr. Seth Beal said that he appreciated the follow-up presentation and the teleconference. He expressed that he still has concerns regarding cost vs. safety, believing that a cap alone would be just as good. He wants to make sure that the grouting will not be the end-state.

Decisions/Disposition

The report satisfied the informational need for the CAB.

EBR II Reactor Report

Mr. Perry began by briefing the CAB on the alternatives being considered for EBR-II end state. Four alternatives are proposed for evaluation in the Engineering Evaluation/Cost Analysis (EE/CA) for the EBR-II Final End-State: Alternative 1— No Action, Alternative 2— No Action: Continued Surveillance and Maintenance, Alternative 3— Grouting the EBR-II Reactor Vessel in place and Demolition of the Containment Building, and Alternative 4— Removal of the EBR-II Reactor Vessel and Demolition of the Containment Building. He provided a photo of the existing facility and the conceptual end state for Alternative 3.

The Public participation period was from January 21, 2010 through February 22, 2010. A public notice was sent to nine different Idaho and Wyoming newspapers that began the public participation period. They received comments from 18 individuals or groups. Of the comments received, 10 concerned maintaining the facility as a historical feature of the INL; five commenters supported the preferred alternative including the Sho-Ban Tribal Council, Coalition 21, and three individuals. Other comments received addressed cost, anti-nuclear sentiment, and support for alternatives one or two. No commenter supported alternative four.

Mr. Perry outlined the response to public comments. With regard to the historical significance issues DOE followed the guidelines set forth in the Cultural Resource Management Plan and worked closely with the State Historical Preservation Office. The Historic American Engineering Record is scheduled to be received in March; its primary author is Susan Stacy (Proving the Principle). It includes original construction drawings and photos. The facility will always be inaccessible to the general public. Additionally, there is a need to demonstrate complete cycle of facilities management for nuclear infrastructure. With regard to advocates choosing Alternative 2, this is only a deferral of costs, not a cost savings. DOE is trying to minimize maintenance costs, the facility is "totally obsolete and will never be used again". Mr. Perry addressed the misunderstanding about sodium cleanup with respect to the EE/CA. The sodium cleanup is addressed by the RCRA closure plan. Worker safety and health with respect to sodium has been addressed. The Historic American Engineering Record (HAER) Report will be submitted to DOE by the end of March. Following a DOE review, the report will be submitted to the National Park Service for approval. The Park Service approval is expected within 30 days.

Mr. Perry described the path forward for the EBRII reactor. The Action Memorandum has been drafted and is in internal review, it is anticipated to be sent to the agencies for review by the third week of March. They anticipate its approval by late April. As far as the MFC D&D Project Status is concerned, they are working on Asbestos Abatement in MFC 766 – Sodium Boiler Building (1.7 linear miles of asbestos covered piping). The West basement is completed and the East basement is underway. In the MFC 767 – EBR-II Reactor lead abatement is underway. They identified approximately 500,000 lbs of lead, and they are continuing to find more.

Mr. Perry reported the project Status for the MFC D&D. The Mechanical and Electrical Isolations are as follows: the MFC 766 – Sodium Boiler Building is 50% complete, MFC 767 is 5% complete, MFC 793 A – Alcohol Recovery Facility Pad and Tanks has not yet started, MFC 793 B – Alcohol Recovery Facility Annex has not yet started, and MFC 795 – Cover Gas Cleanup System is 95% complete. The following buildings have been demolished: MFC 757 – EBR-II Cooling Tower foundation, MFC 757A – EBR-II Cooling Tower System Building, MFC 793E – Sodium Components Maintenance Shop (SCMS) Storage Building, and MFC 793F – SCMS Storage Building.

Mr. Perry briefed the CAB on the sodium treatment. Characterization to date is mostly complete. Most sodium will have been reacted with moist carbon dioxide (i.e., passivated) to form sodium bicarbonate, a much more stable compound than elemental sodium, this is the case in the MFC 766 east piping and in the MFC 767 primary reactor tank and equipment. Non-passivated sodium still exists; it resides mostly in the secondary sodium drain tank and associated piping in the west basement of MFC-766.

Mr. Perry explained the elemental sodium treatment. The steam treatment system was designed by CWI and Creative Engineering. The Skid mounted equipment was built at Premier Engineering. The facility is approximately 50% complete. They will complete startup activities in May. The initial treatment will be completed within a few days.

With regard to the Passivated Sodium Treatment, Mr. Perry, explained that there are two research and development activities. The CAES Facility is performing the chemistry research, focusing on slowing down the reaction. Premier Engineering is performing the bench scale testing of flooding and trickle methods to dissolve the sodium bi-carbonate layer and react the residual sodium. Research is expected to be completed in April. Treatment system design is anticipated in June.

Mr. Perry included some information that was previously asked by CAB members in the prior meeting and subsequent conference call. He explained sodium. It is the sixth most abundant element on Earth, making up 2.7% of the crust. It is a Group 1A Alkali Metal, having only one electron in its outer shell. It does not occur in elemental form in nature. It is extremely reactive with elements like chlorine, fluorine, etc. and compounds like water. Its melting temperature is 208°F and its boiling temperature is 1621°F. It is a shiny, white metal in elemental form. It makes an ideal coolant in a Fast reactor: due to mass of the sodium atoms, it did not moderate or slow neutrons, it's

a good conductor of heat and electricity, its low vapor pressure means low operating pressures lighter weight components and piping, it is inexpensive as a coolant, and has fluid properties similar to water. There are some disadvantages of sodium. In molten form it burns readily in air and reacts violently with water. Mr. Perry explained that they have developed specialized fire fighting techniques to deal with the sodium. Mr. Perry outlined the estimated quantities of sodium remaining in EBR-II. There are less than 500 gallons in the primary sodium tank, less than 350 gallons in the primary sodium tank ancillary equipment, less than 780 gallons in the secondary system (includes the auxiliary systems), less than 150 gallons in the intermediate heat exchanger, and less than 50 gallons in the container storage areas. The total sodium residuals are less than 1830 gallons.

Mr. Perry described NaK, a eutectic mixture of sodium and potassium (78% Potassium, 22% Sodium). It has a freezing point of 10°F and a boiling point of 1445°F. It reacts violently in water and burns readily in air. The estimated quantities of NaK in EBR-II are less than 0.3 gallons in the pressure transmitters (primary and secondary systems) and less than 50 gallons in the shutdown coolers bayonets (includes captive gallons).

Mr. Perry explained passivation of sodium. After drain of the sodium coolant, the residual elemental sodium in the reactor tank and secondary piping was put in a stable form or passivated with low purge humidified carbon dioxide gas. The advantages to the process are that it slowly reacted the residual sodium and formed a sodium carbonate layer that reduced the hazards with sodium. The disadvantage is that the Carbonate layer inhibits conventional treatment options. The process went on for several years and examination of one of the steam generators in MFC-766 found the several inches of carbonate on top of the elemental sodium. It does not however guarantee all sodium is reacted. Only a handful of plants (Fermi I, Super Phoenix, and Dounreay) have undergone passivation with varied success in processing.

There are three parts to treat at EBR-II: the West sodium boiler building (non-passivated), the East sodium boiler building (passivated), and the reactor tank (passivated) and associated primary sodium process piping. Mr. Perry provided a photo of the MFC-766 Sodium Boiler Building where the Superheated Steam Treatment will be conducted. CWI contracted with Creative Engineers, whom have performed similar operations worldwide at various commercial and DOE sites. They will work only on the non-passivated sodium located in the MFC-766 west basement. Mr. Perry provided a diagram of the secondary drain tank treatment. He also provided a photo of the sodium testing pressure vessel and a photo demonstrating sodium testing. Sodium Testing starts with a series of schedule 40 clear plastic piping and a mild acid solution. Tests are performed with Schedule 40 stainless steel pipe. The test is to be conducted with various shapes with sodium and NaK. The testing was performed at Premier. The test objectives were to gain familiarity with sodium and test ways to safely deal with the sodium under the bicarbonate layer. A test vessel was constructed to test ½ pound samples in various pipe configurations. In conclusion Mr. Perry displayed a diagram of the MFC-766 Sodium Boiler Building (East Side).

Discussion

Mr. Bruce Wendle asked where the lead from EBR-II will be shipped to. Mr. Perry explained that the contaminated lead will be shipped to Energy Solutions in Utah. He emphasized that the uncontaminated lead has been authorized for re-use.

Ms. Sherwood asked if some of the lead will be left in place. Mr. Perry explained that they will try to retrieve all of the lead. He believes that they can remove it all safely and easily.

Mr. Wendle asked if they will remove the asbestos from EBR-II. Mr. Perry said that they will remove as much as practicable, but their main focus is on the lead and sodium treatment.

Ms. Nicki Karst asked how many buildings will be demolished. Mr. Perry explained that there are 5 buildings included in the project scope.

Mr. Doc DeTonancour asked if this project is being funded with ARRA money. Mr. Perry responded yes, the project is included as part of the ARRA scope.

Mr. Willie Preacher expressed tribal concerns regarding long-term monitoring. Mr. Perry explained that the long-term monitoring will show this is a proven concept. He continued by explaining that there is a low risk once the reactor is grouted in place and it will be monitored along with current monitoring.

Mr. Robert Rodriquez wondered if there is any risk of leaching or leaking. Mr. Perry explained that the grout is very flowable; it will surround and encapsulate the reactor. Plus it is inside of a stainless steel tank, there are many layers of protection; this is not seen as a groundwater threat.

Ms. Karst expressed safety concerns for the removal of the dome, wondering why they cannot leave it in place if it isn't contaminated.

Decisions / Disposition

The report satisfied the informational need for the CAB.

Idaho Cleanup Project Life-cycle Baseline Update

Mark Searle briefed the CAB on the near-term project scope. Section 12B- Spent Nuclear Fuel Stabilization and Disposition outlines the completion of wet to dry transfers, the return of Navy fuel (funded by the Navy), and the continuing foreign and domestic research reactor receipts. Section 13 - Solid Waste Stabilization and Disposition addresses the retrieval, characterization, treatment, certification, packaging, loading and shipment of stored TRU Waste (CH & RH) to the Waste Isolation Pilot Plant (WIPP) – supporting the completion of AMWTP by 2015, Low Level Waste (LLW) disposal (CH & RH) and closure of the Sub-Surface Disposal area to CH LLW, and Mixed Low Level Waste (MLLW) disposal off site. Section 14B - Radioactive Liquid Tank Waste Stabilization and Disposition addresses the Calcine disposition project, the treatment of Sodium Bearing Waste, the cleaning of the remaining large tanks, and grouting the remaining large tanks, vaults, and piping. Section 30B - Soil and Groundwater Remediation addresses the Tank Farm soils; the Subsurface Disposal area, and the Voluntary Consent Order at the Idaho CERCLA disposal facility. Section 40B - Nuclear Facility D&D addresses the Power Burst, Materials and Engineering Test Reactors and the Fuel Processing and Waste Disposition Facilities. Section 100 – Idaho Community and Regulatory Support addresses the State of Idaho, the USGS, and the CAB. Mr. Searle provided a table of the near term baseline status. He also provided a graph of the Presidential Budget vs. Appropriations including un-costed balances for fiscal years 2006-2011. Lastly, Mr. Searle exhibited the Integrated Priority List table.

Discussion

Mr. Sica wondered how the site could plan for a $32 million budget shortfall. Mr. Searle explained that the budget shortfall would result in a continuing resolution. There would be no new project startups. A lack of money means shutting down projects as well. They are hoping to get the budget bumped up from $412 million to $450-$460 million.

Decisions / Disposition

The report satisfied the informational need for the CAB.

Calcine Disposition Project

Mr. Ron Ramsey briefed the CAB on the Calcine Disposition Project. He began by explaining the INL's Calcine Programmatic end goals. It's their goal to perform safe and efficient management of all materials within their custody. A very important goal is the protection of the Snake River Aquifer. Additionally, they will work diligently to provide for the completion of the treatment, making it road ready, of all the Calcine waste by a target date of 12/31/2035 to remain per the Settlement Agreement.

Mr. Ramsey explained that Calcine is solidified first and second cycle Raffinate. The waste is converted from its liquid state into a granular solid using a thermal process referred to as calcinations, which result in a 7 to 1 volume reduction. There is the capability of it being safely stored for several hundred years in 43 large shielded bins contained in six bin sets. He briefed the CAB on the condition of the Calcine. It contains hazardous waste constituents and is regulated by the State of Idaho under its RCRA authority and the associated Site Treatment Plan. Calcine is currently stored in Bin Sets under a 10-year RCRA Part B Permit issued November 2006 (Compliance is based on a State-approved exemption from RCRA double containment requirement that requires periodic State approval to remain valid). Mr. Ramsey exhibited a table and a diagram illustrating the Calcine Solids Storage Facility (CSSF) inventory.

Mr. Ramsey outlined the project mission and scope. First they design and construct treatment capability using IWTU facility. The shield walls will be built with the Calcine inventory in mind. Then they will retrieve and transport 4,400 cubic meters of Calcine from current storage in the Calcine Solids Storage Facility (bin sets). The Calcine will be treated to eliminate RCRA characteristic wastes, if necessary. Then they will package the resultant treated waste form in canisters (10 foot tall by 2 foot diameter DOE standardized canister). Road ready canisters will be stored pending shipment out of State. Lastly, they will perform RCRA performance-based closure on the existing Calcine Disposition Project (CDP) facilities and perform a clean closure of any new retrieval/treatment/storage facilities.

Mr. Ramsey described the Calcine Project milestones. The Critical Decision (CD)-0 (Approve Mission Need) was signed June 29, 2007. An amended Record of Decision (ROD) selecting Hot Isostatic Pressing (HIP) treatment technology was issued by DOE on December 23, 2009, meeting the December 31, 2009, milestone in the Idaho Settlement Agreement (SA) and the Idaho Site Treatment Plan (STP). TheCD-1 (Approve Preliminary Baseline Range) must be approved by December 31, 2010 per the STP. There are still a couple of remaining SA milestones to complete. The submittal of a RCRA Part B permit application must be submitted no later than December 1, 2012. All Calcine will need to be road ready in compliance with the Settlement Agreement by December 31, 2035.

Mr. Ramsey provided a detailed explanation of the HIP (Hot Isostatic Pressing) Treatment Technology. The HIP technology is a mature process developed over 50 years ago. It has been established in US industry for 30 years. The process produces robust glass-ceramic waste form that meets performance requirements for borosilicate glass while also reducing volume. The process results in large life-cycle cost savings through final disposition. The HIP process is also suitable for future waste management missions. The HIP process was patented in the US by Romp in 1941. Battelle patented the HIP process to diffusion bond nuclear fuel in 1964. The technology consists of a pressure vessel containing an electrically heated furnace. Components are placed in a sealed can inside the furnace and isostatically pressed with argon gas to maximum density. The temperatures reach up to 2,550 degrees C, 1,050-1,200 degrees C required for Calcine treatment. The pressure reaches 30,000 psi, 5,100-7,200 psi required for Calcine treatment. Pressure vessels are built to stringent ASME codes, and include active and passive safety systems. The HIP can isolates pressure vessel from contamination (less than 0.1% failure rate).

Mr. Ramsey explicated the Proof of Concept – Preliminary Test Data. There are two major calcine types: alumina and zirconia. Surrogate calcines were made containing a suite of RCRA metals in the amounts data show them to be present in true calcine. A HIPing recipe was added to complex the metals. Testing was performed by: TCLP (Method 1311) and PCT (ASTM C1285). Tests were run on samples containing: the baseline average constituency,

the maximum constituency, and a transition sample between the two constituencies. Mr. Ramsey displayed a table for the Alumina Calcine and the Zirconia Calcine. He provided a diagram exhibiting the IWTU retrofit for Hot Isostatic Pressing of Calcine (Concept). He also provided diagrams of the Calcine disposition functional and systems breakdown and the HIP process flow.

Mr. Ramsey outlined the work scope through the end of the contract (FY12). They will develop and submit the Critical Decision-1 (CD-1) package (approve alternative selection and cost range) for approval by December 31, 2010 per the STP. The CD-1 comprises 23 sub-packages including the conceptual design. They will initiate development of HIP/calcine treatability studies. Then they will submit the permit modification request (PMR) for RCRA Part B permit by December 1, 2012. The CD-2 package (approve performance baseline) will be developed to the extent necessary to support the PMR. The CD-2 comprises 26 sub-packages including the preliminary design. Mr. Ramsey provided a breakdown of the CDP Work Scope Funding through FY12. He displayed a graph of the Calcine Disposition critical path.

Mr. Ramsey presented the challenges and the risk management response to the calcine disposition project. From a programmatic standpoint the challenge is the cost and schedule in a cost retrenching environment. There will have to be constant project monitoring and adjustments as necessary. The biggest technical challenges include the dust and fines; high heat environment; scale-up in a radiation environment. A detailed design, development, modeling, and review will be needed. The strategic challenges entail meeting treatment, packaging and receipt standards without an established repository. They will need to diligently track the Blue Ribbon Commission (BRC) findings and recommendations, and interaction as appropriate. There is also a need to develop a waste form to meet the most stringent standards. A white paper for BRC will be developed in cooperation with regulators and the CAB.

In conclusion Mr. Ramsey provided a HIP Schematic and a presented a video of a HIP demonstration.

Discussion

Mr. Sica asked if they utilize the HIP process and Yucca Mountain doesn't open can the HLW waste be left in storage facilities at the INL. Mr. Ramsey explained that the Calcine is in a "safe" form currently, however they are required by the Idaho Settlement agreement to have it "Road Ready" by 2035. After the Calcine is put in its compressed form and placed in a stainless steel jacket in a durable container and stored in a state of the art facility, Mr. Ramsey believes the waste could be stored for the foreseeable future. Mr. Sica reiterated the point: the Calcine will stabilized through the HIPing process so that it is in the least hazardous form, so that there is the possibility that it could be stored as opposed to going to a permanent repository.

Mr. DeTonancour asked if the IWTU facility is being considered for reconfiguration. Mr. Ramsey responded that they are not planning for subsequent use; however some interest in other types of waste has evolved from around the DOE complex. Mr. Rankin added that the HIPing process will be evaluated in the white paper and presented to other sites.

Ms. Teri Tyler asked what the challenges are with volume reduction with the zirconia calcine. Mr. McKinley explained that there are two bin sets that have elevated levels of cadmium. The concentrations couldn't pass the TCLP test, a leaching procedure, for cadmium which is a RCRA hazardous metal. By lowering waste loading by 60% they were able to pass the criteria with additives.

In response to Mr. Sica's question regarding canister sealing and gas captured within the can, Mr. McKinley explained that he canister will be vacuum sealed and then it will be baked at 100°C, the excess gas will be baked out.

Mr. Beal asked why the HLW has been disqualified for WIPP. Mr. Ramsey explained that HLW does not fit into the regulatory description for WIPP.

Ms. Sherwood asked if the HIP demonstrate technology has been tested in a pressurized enclosure. Mr. Ramsey explained that the technology is over 50 years old. HIPing is performed in a closed unit which does not allow for excursions or out-gasing. The canister will be sealed during compression. Mr. Jim Cooper added that all HIPing must be performed from a remote perspective.

Mr. DeTonancour asked if the canisters always need to be handled remotely. Mr. Ramsey r confirmed that all canisters will be handled remotely and placed in a shielded storage facility.

Mr. Maynard commented that the waste must be "Road Ready" by 2035, but not necessarily out of the State of Idaho. Mr. Ramsey responded that they are running the risk of not meeting future requirements in order to meet current regulatory standards.

Decisions / Disposition

The report satisfied the informational need for the CAB.

FFTF Spent Fuel Treatment at the INL

Mr. Gregory Bass briefed the CAB on the Fast Flux Test Facility (FFTF) spent fuel treatment at the INL. The FFTF is the Fast Flux Test Facility located at the DOE Hanford Site in the State of Washington. The FFTF was a sodium-cooled research reactor that operated from 1982 to 1992 to test various types of nuclear fuels. FFTF is shut down and was de-fueled as a part of its deactivation in 1997. A small part (250 kgs. or 551 pounds) of its spent fuel is composed of sodium-bonded rods of uranium metal. Mr. Bass presented figures displaying the FFTF Sodium-Bonded fuel element and the FFTF fuel assembly.

Mr. Bass explained that treatment of Sodium-Bonded fuel is required. Metallic sodium bonds the uranium to the stainless steel tube, or cladding, to improve heat transfer. Metallic sodium is reactive with water and moist air, and must be chemically deactivated prior to disposal. The recovered uranium can be reused by the commercial nuclear fuel industry.

Mr. Bass outlined the selection of INL for FFTF SNF treatment. The INL was selected in the Record of Decision from the June 2000 Sodium-Bonded Fuel EIS. There were 12 spent fuel shipments from Hanford to Idaho forecast in the 1995 DOE/State of Idaho Settlement Agreement. The FFTF fuel amounted has been reduced to 8 shipments. The FFTF shipments were made to the INL from October 2007 to May of 2008.

Mr. Bass explained that the INL has a unique capability to treat Sodium-Bonded SNF. The INL Fuel Conditioning Facility has treated sodium-bonded SNF from the shutdown EBR-II since 1996. The treatment involves deactivating sodium and extracting useful uranium from the SNF. Radioactive wastes in the SNF are segregated into two durable solid waste forms. Mr. Bass provided a photo of the Fuel Conditioning Facility at the INL Materials and Fuels Complex.

Mr. Bass provided a diagram and walked the CAB through the Electrometallurgical treatment process. He explained the product and waste created from the EMT process. Extracted uranium metal comes from FFTF and EBR-II sodium-bonded spent fuel. A ceramic high-level waste ingot made from zeolite mineral, glass, chloride salts, fission products and long-lived isotopes such as plutonium-239, americium-241and Neptunium-237 is produced. In addition, a metal high-level waste ingot made from melted chopped steel cladding hulls, zirconium, and shorter-lived fission product isotopes is created. Products and waste from the FFTF SNF treatment would be merged with that from EBR-II fuel treatment. About 3,306 pounds of low-enriched uranium will result from the treatment of 551 pounds of FFTF SNF. This is due to "downblending" with depleted uranium. 5,550 pounds of ceramic high-level waste (HLW) will be generated from the FFTF SNF. 1,320 pounds of metal high-level waste will be generated from the FFTF SNF. By comparison, EBR-II SNF treatment will result in 89,294 pounds of low-enriched uranium,

67,420 pounds of ceramic HLW, and 11,908 pounds of metal HLW. Mr. Bass presented a graph of the waste and products from EBR-II and FFTF spent fuel treatment.

Mr. Bass outlined the disposition of products and waste. Extracted uranium from the EBR-II Driver fuel is stored in a warehouse at the Materials and Fuels Complex (MFC). DOE plans to send uranium to the commercial nuclear fuel industry for use as feedstock. The ceramic waste ingots are stored in dry steel liners at the MFC Radioactive Scrap and Waste Facility (RSWF). The metal waste ingots are also stored in dry steel liners at the RSWF. Both the ceramic and metal high-level waste forms are extremely durable and were designed for the Yucca Mountain geologic repository. Both will remain at RSWF until an alternate disposal path becomes available. Mr. Bass provided a slide with a number of photos of the Radioactive Scrap and Waste Facility.

Mr. Bass concluded by summarizing the FFTF SNF treatment schedule. DOE has adequate funding to treat the FFTF SNF. The FFTF fuel bundle dismantling equipment has been installed and is currently in operation. The actual treatment of the FFTF fuel will begin in the FCF on or before September of 2010, and will continue for 12-15 months.

Discussion

Mr. Sica asked if the Low Level Waste (LLW) was stored in a warehouse. Mr. Bass explained that the LLW is in shielded and monitored storage.

Mr. Beal asked how the LLW is monitored. Mr. Bass explained that they have a methodic test system. A canister is pulled once every four years and checked for corrosion. There are safeguards and securities 24/7 for other more sensitive nuclear material.

Decisions / Disposition

The report satisfied the informational need for the CAB.

Public Comment

No public comment was provided.

Announcements and Other Board Business

The CAB tour of the INL will be May 11, 2010. The next meeting will be held May 12, 2010, in Idaho Falls, Idaho at the Hilton Garden Inn.

CAB Work Session

The CAB elected Willie Preacher as the Vice-Chair.

The following members along with R.D. Maynard will be attending the Spring EM SSAB Chair's meeting April 26-29, 2010 in Oakridge, Tennessee: Willie Preacher, Bruce Wendle, Harrison Gerstlauer, and Teri Tyler.

The CAB developed an agenda for topics of the July meeting:

- ½ day Orientation and Radiation Educational Presentation
- White Paper for the Blue Ribbon Panel
- Briefing for other Site Plans for HLW and SNF Reprocessing
- CERCLA 5 year Review
- Draft 10-08

The CAB developed two recommendations:

#145: Engineering Evaluation/Cost Analysis for Experiment Breeder Reactor (EBR) II D&D

#146: Work-plan for Fiscal Years 2011 and 2012

The CAB developed the Top Three Issues and One Board Accomplishment to be presented at the Spring EM SSAB Chair's meeting. Top Three Issues: 1) Budget/ Funding to reach regulatory Milestones, 2) HLW/ Repository, 3) Long-funded Liability/ Unfunded Liability. Accomplishments: Recommendations #145 & #146.

Action Items:

1. Lisa Aldrich will finalize Recommendations #145 & #146.
2. Support staff will coordinate and distribute travel information to CAB members attending the Spring EM SSAB Chair's meeting
3. Support staff will coordinate and distribute travel information to CAB members attending the May meeting and tour in Idaho Falls, Idaho.

Members provided written feedback forms to support services at the conclusion of the meeting.
Attachments (8) to these minutes are available on request from the INL Site EM CAB support office.

I certify that these minutes are an accurate account of the January 20, 2010, meeting of the Idaho National Laboratory Site Environmental Management Citizens Advisory Board.

R. D. Maynard, Co-Chair 06/08/2010

Idaho National Laboratory Site Environmental Management Citizens Advisory Board
RDM/cc