INL Site Environmental Management

CITIZENS ADVISORY BOARD

Meeting Minutes

September 14, 2011

The Idaho National Laboratory (INL) Site Environmental Management (EM) Citizens Advisory Board (CAB) held its bi-monthly meeting on Wednesday, September 14, 2011, at the Sun Valley Inn, Sun Valley, Idaho. An audio recording of the meeting was created and may be reviewed by phoning CAB Support Staff at 208-557-7886.

Members Present
Willie Preacher, Chair
Nicki Karst, Vice Chair
Harrison Gerstlauer
Harry Griffith
Mark Lupher
R.D. Maynard
Bill Roberts
Robert Rodriquez
Tami Sherwood
Fred Sica
Teri Tyler

Members Not Present
Herbert Bohrer
Sean Cannon
Bruce Wendle

Deputy Designated Federal Officer, Federal Coordinator, and Liaisons Present

Jim Cooper, Deputy Designated Federal Officer, U.S. Department of Energy Idaho Operations Office (DOE-ID)
Bob Pence, Federal Coordinator, DOE-ID
Dennis Faulk, U.S. Environmental Protection Agency

Daryl Koch, State of Idaho

Mark Lindholm, Idaho Cleanup Project (CWI)

Others Present

Wendolyn Holland
Bob Leyse
M.M. Stewart, Snake River Alliance
Beatrice Brailsford, Snake River Alliance
Joel Case, DOE-ID
Ben Roberts, DOE-ID
Erik Simpson, ICP
Chris Henvit, Naval Reactors
Dan Swaim, ITG
David Haar, ITG
Preston Abbott, Canberra/Areva
Lori McNamara, Support Services
Bryant Kuechle, Support Services Facilitator
Peggy Hinman, Support Services

Opening Remarks

The CAB Chairman, Willie Preacher, welcomed the group to Sun Valley. Jim Cooper, the Deputy Designated Federal Official, also welcomed the group and apologized for missing the last CAB meeting in Twin Falls due to a family member's surgery. Dennis Faulk welcomed the CAB and also apologized for missing the last meeting due to his knee replacement. Mr. Faulk stated that he thinks things are going well in Idaho. He has put in a plug to DOE Headquarters (HQ) for more money for INL clean up so that the work can be completed. He looks forward to the meeting. Daryl Koch, State of Idaho, noted that State of Idaho liaison Susan Burke is in Denver for the Blue Ribbon Commission public meeting. Mr. Koch commented that he is responsible for reviewing the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) activities at the INL site, but that when a new facility comes along, he reviews the documents for the science behind them. He is currently reviewing a proposal for providing replacement capacity for disposal of remote-handled (RH) low-level waste (LLW) at a new facility. Mr. Lindholm, with the Idaho Cleanup Project (ICP), apologized for missing the last meeting. He spoke about safety performance and the uptick in recordable occurrences. Safety standup meetings have been focused on personal protective equipment and working safely. He noted that the Accelerated Retrieval Project (ARP) V, also known as Pit 9, has been completed ahead of schedule and $3 million under budget. The whole exhumation process is about $27 million under budget. Construction at the Integrated Waste Treatment Unit (IWTU) is completed, and testing is underway. The hot nitrogen test will prove system integrity. As far as decontamination and decommissioning (D&D) goes, D&D within the Idaho Nuclear Technology Engineering Center (INTEC) has been completed. They are still working on Experimental Breeder Reactor (EBR) II and sodium treatment. He noted that layoffs are impending as work is being completed. The good news is that they are not losing as many people because of the potential for a contract extension. R.D. Maynard asked what the Pit 9 work cost. Mr. Cooper replied that the cost was about $20 million. R.D. Maynard noted that the original cleanup was planned to be $150 to $200 million. Mr. Sica noted that a Lockheed official had told him that Pit 9 would never be cleaned up.

Recent Public Involvement

Mr. Cooper reviewed public involvement activities between July and September 2011. The Blue Ribbon Commission is holding public meetings on its draft recommendations. Staff of the U.S. Senators and the Snake River Alliance received tours of the site in August. On September 1, 2011, the DOE Idaho Nuclear Energy (NE) organization issued a draft Environmental Assessment (EA) for replacement of RH-LLW disposal capacity for RH-LLW generated at the INL site. The draft EA is out for public comment. Each CAB member has been provided a copy of the draft EA. DOE NE met with the Shoshone-Bannock Tribes on the draft EA. The comment period ends October 18. Mr. Cooper noted that there was media focus on the Pit 9 completion.

Harry Griffith commented that there was an article in the Idaho Mountain Express about the potential for Mackay Dam to fail. He asked if DOE was planning to respond to that article. R.D. Maynard stated that when he worked at the INL, a topographic study was conducted of the area to assess the potential for flooding.

Progress to Cleanup

Mr. Jim Cooper provided a status of the cleanup progress with active discussion among the CAB, including American Recovery and Reinvestment Act (ARRA) work. Mr. Cooper briefed the CAB on Transuranic Waste Disposition, the Advanced Mixed Waste Treatment Project (AMWTP), the Idaho CERCLA Disposal Facility (ICDF), as well as CERCLA remediation: Waste Area Group (WAG) 1 –TAN, WAG 3 – INTEC, WAG 7 Radioactive Waste Management Complex (RWMC), and WAG 10 – Site-wide Miscellaneous Sites/Snake River Plain Aquifer. He continued by outlining the progress related to the D&D at TAN (completed), the Advanced Test Reactor (ATR) Complex, INTEC, RWMC (completed), the Power Burst Facility (PBF) under ARRA funding (completed), and the Materials and Fuels Complex (MFC; ARRA funding). Additionally, Mr. Cooper briefed the

CAB on the Nuclear Materials Completion (completed), the IWTU (Sodium-Bearing Waste), the INTEC Liquid Waste Treatment Facility (Tank Farm Closure), Spent Nuclear Fuel (SNF) Disposition, and Calcine Disposition.

Mr. Cooper started with a status update on the safety performance for CWI and AMWTP. Mr. Sica noted that an important thing to realize about the safety statistics and what is of note is that INL is reporting first aid type cases that are not reportable in other industries. Harry Griffith asked how occurrences get reported from the field and captured. Mr. Cooper replied that at the medical facility, incidents are logged into a table that categorizes occurrences, such as first aid and fractures. The table is put in into a system that captures the data in a graph. Mr. Lindholm noted that the 'SC' categorization on the graph shows the safety classification and how occurrences are rated. Other instances that may not lead to an occurrence are also tracked and trended as a best practice. Mr. Griffith found it encouraging that an employee would report a static shock and that this received attention. Mr. Cooper commented that the CWI safety culture is a teaming approach. Each worker is part of a team that looks out for each other. This helps to maintain performance. Mr. Preacher asked if a fact finding into the cause of the static shock was conducted. Mr. Cooper replied that there is a fact finding investigation and corrective action implemented for each event.

In addition, DOE facility representatives participate in the investigation and track it to make sure it is properly closed. Mr. Maynard asked about the energized cable. Mr. Lindholm replied that the line was a temporary line that had a problem. It was not an underground line. Harrison Gerstlauer noted that many of the instances were associated with electrical issues. Mr. Cooper replied that most of the electrical issues were related to the IWTU construction. Mr. Gerstlauer noted that there were a lot of small things, but that they could lead to bigger issues. He noted that lock out and tag out was a continuing issue. Mr. Cooper commented that there is a 'spaghetti' of electrical, which is a continuing problem to make sure lock out/tag out, is effective. Mr. Roberts commented that he thought the number of instances was small compared to other industries. Mr. Cooper noted that the safety culture is strong and that employees are involved and rewarded for their efforts. Mr. Maynard commented that the CWI extension should help with continued safety improvements. Mr. Gerstlauer identified that the site was involved in the STAR program beginning about 18 years ago, and he feels that this program has improved safety by emphasizing the individuals' role in safety. Mr. Cooper noted that the STAR program is part of the INL culture and it is very important to everyone.

Mr. Cooper provided a summary of the Transuranic Waste Disposition project, listing key activities and upcoming actions. They have shipped 10.34 cubic meters (m3) of RH transuranic (TRU) waste shipments to the Waste Isolation Pilot Plant (WIPP). They have completed off-site transport, treatment, and disposal of EM RWMC RH-TRU waste. They will continue repackaging and shipping RH-TRU waste from the MFC out of Idaho, with a target date for completion of June 2012. They completed transfer of the TRU laboratory to AMWTP.

Mr. Cooper outlined the status of the AMWTP. The AMWTP contract was awarded to the Idaho Treatment Group (ITG). Transition of the AMWTP contract to ITG will be completed by September 30, 2011. Since October 1, 2010, they have shipped 2,471 m3 of stored TRU radioactive waste out of Idaho. The first shipment of mixed low-level waste (MLLW) that was treated using the macroencapsulation technology was shipped on July 26. The final shipment of Hanford offsite waste was made in August. The Retrieval Containment Enclosure construction is complete.

On the subject of TRU waste disposition, Mr. Cooper noted that the site is not as far along due to the needs of other facilities to ship during good weather. Mr. Sica asked about the status of WIPP regarding disposal volume. Mr. Cooper replied that WIPP is not filling as fast as expected. INL plans to ship through 2018 with no issues regarding capacity. Tami Sherwood commented that she attended a presentation on WIPP at the Waste Management Conference in 2010. From this presentation, there is plenty of space for WIPP but more space would need to be permitted to expand. Mr. Cooper noted that the new Acting EM -1, David Huizenga, is planning to meet with the regulators to see about expanding operations at WIPP. Mr. Sica noted that there has been a lot of talk

about Yucca Mountain, and asked if WIPP could take any of the waste that would have gone to Yucca Mountain. Mr. Cooper replied that this was part of the discussions. This would include the potential for Greater-Than-Class C waste. Mr. Griffith asked for a presentation on WIPP and future plans in the next year. Mr. Preacher noted that the CAB had toured WIPP in the past.

Mr. Cooper briefed the CAB on CERCLA remediation project objectives. WAG 1: continue TAN groundwater remediation. WAG 3: complete Phase I, II, and III of the OU 3-14 Record of Decision (ROD); and operate ICDF to compliantly disposition CERCLA waste from CERCLA and D&D actions. WAG 7: exhume 5.69 acres of buried waste. WAG 10: maintain site wide institutional controls, maintain Groundwater Monitoring Program, maintain the site wide CERCLA Ecological Monitoring Program, maintain the New Site Identification Process for future CERCLA sites, and remediate unexploded ordnance (UXO) and explosives.

Mr. Cooper outlined recent actions and upcoming activities. The OU 10-04 Mass Detonation Area (MDA) Surficial Cleanup was completed in August, as was the OU 3-14 Phase I Tank Farm remedial action at INTEC. They have also completed D&D of the MDA Explosives Bunker. They have finalized the OU 1-07B In-Situ Bioremediation Test Plan and consolidated ground water monitoring plan. They have completed ARP V exhumations. Upcoming activities include completing the OU 3-14 Phase II design in November 2011.

Mr. Preacher asked if there were any operations taking place at INTEC. Mr. Cooper replied that the RH-TRU processing was taking place, and there were many fuel transfer operations taking place. There is also the IWTU and design work on the calcine disposition. Mr. Preacher asked about the remote analytical laboratory. Mr. Cooper replied that it is in warm standby and that activities are only taking place in one small area. The stack system is used only for monitoring purposes.

The ICDF accomplishments include the disposal of CPP-602 D&D debris and disposal of TRA-632 Hot Cell #3 waste. Upcoming activities at the ICDF include disposition of debris from the ATR and Naval Reactors Facility (NRF) D&D projects and disposition of the TRA-632 Hot Cell (1.5 million pounds) at the landfill.

Mr. Gerstlauer asked about the weight of the TRA-632 Hot Cell and how it would affect the road. Cooper replied that they will have to be careful with the load to distribute the weight. Ms. Sherwood asked about ICDF. There is about 35% capacity remaining. This should be plenty of volume left. Ms. Sherwood asked if some of the material from NRF could go to ICDF. Mr. Koch replied that it was not suitable for disposition at ICDF. Mr. Cooper noted that there would still be a need by NE to use the facility as actions are completed. There also will be continuing clean up needs. Faulk noted that ICDF is limited to CERCLA waste.

Objectives at WAG 7 are to complete remediation work in accordance with the ROD for OU 7-13/14; conduct targeted waste retrieval at the ARP and disposition waste. ARP I, II, III, IV, and V are completed. ARP VI is about 80% completed. ARP VII will soon be up and going. In situ grouting has been completed. Subsurface solvent vapor extraction, environmental monitoring, and institutional controls continue.

Ms. Sherwood asked it was time to look at the results of the monitoring from the in situ grouting project. It will be added to the list of topics as part of the WAG 7 update. Mr. Cooper commented that ARP VIII will be a very large structure, with risks from wind. Sherwood noted that there is a company in Idaho Falls that can provide the material for ARP – Dome Technologies. Cooper noted that they are in the process of driving the piles for ARP VIII vestibules. ARP VIII will use the facilities at ARP VII for processing, so the vestibule will provide the means of moving the waste from ARP VIII to ARP VII. Mr. Maynard asked if DOE plans to provide temporary caps. Cooper replied that there is no need for an interim cap as a final cap will be placed in the 2016 to 2017 timeframe. Design of the cap will be a significant effort.

Mr. Cooper outlined D&D objectives for the INL Site facilities. At ATR, demolition of the Materials Test Reactor (MTR) main structure was completed in September. D&D of excess facilities will be completed in September as well. Key activities are demolition of TRA-603 (the MTR reactor building), demolition of the TRA retention basin, demolition of TRA-632 (the TRA-Hot Cell), and demolition and re-routing of the TRA-610 fan house. Close out activities remain to be completed.

D&D at INTEC is complete (CPP 1635, CPP 1656, and CPP 654). Project closeout activities remain. Ms. Sherwood commented that although D&D is completed at INTEC, operations continue. Mr. Cooper noted that there are still about 280 facilities at INTEC remaining.

The ARRA D&D activities at MFC include completing passivated sodium treatment in the MFC-766/767 transfer lines using a citric acid solution developed by the D&D project. Upcoming activities include continuing 'melt and drain' operations to heat, liquefy, drain and treat solidified sodium in piping components. The treatment of sodium will take some time. It is estimated it will take until July 2012. This is an extension of the ARRA funding. In reply to a question from Mr. Roberts, Mr. Cooper noted the sodium was not radioactive, but it poses a reactive hazard. There is a sodium crust in the system with elemental sodium beneath it, so care must be taken in the processing to remove the crust without causing the elemental sodium to react.

The IWTU (Sodium-Bearing Waste) project objectives are to design, construct, test, and operate the Sodium-Bearing Waste Treatment Facility and drain all sodium-bearing waste material from the INTEC tanks no later than December 31, 2012. All systems have been turned over to the testing program. The Management Self Assessment for IWTU has been initiated, as has Hot Nitrogen testing. Closure of the tanks at INTEC depends upon completion of IWTU. Mr. Sica asked if there was a fine involved if the 2012 deadline was not met. Mr. Sica asked if a recommendation from the CAB about the need to do this safely would help. Mr. Cooper noted that there are two aspects to the problem. First, is the commitment to DOE HQ to complete a milestone to approve project start up by December 31, 2011. There is a lot hinging on that date. The 2012 date is not as big a concern. The parameters for the system are such that a 10-month campaign is all that is needed for project completion. The 2012 date does not appear to be at risk. Mr. Faulk commented that the regulators have enforcement discretion regarding enforcement of deadlines.

Mr. Cooper briefed the CAB on the SNF Disposition Project objectives. They will transfer legacy, EM-owned SNF from wet storage to appropriate dry storage (completed); receive and store SNF from the ATR and receive domestic and Foreign Research Reactor (FRR) SNF for storage; they will prepare the Special Nuclear Materials facilities for transition to another government entity by installing a segregation fence (completed); they will provide safe, regulatory-compliant, routine operations for INTEC SNF handling and storage facilities. Mr. Preacher asked where the fuel from ATR goes. Mr. Cooper replied that it goes to the CPP 666 wet basin. The domestic research reactor and FRR fuel will go to dry storage. Key accomplishments include completing EBR-II fuel loading preparations for cask transfer. The first cask transfer was accomplished September 13. The first 7 of 56 elements from ATR fuel casks have been received and loaded. Repairs to the Nuclear Regulatory Commission (NRC) Three Mile Island (TMI) pads have been initiated. A license extension for the Fort St. Vrain fuel was received. Mr. Gerstlauer asked if there were plans to process the carbon in the Fort St. Vrain fuel. Mr. Cooper noted this was not in the EM scope, but that the Fort St. Vrain fuel had to be dispositioned by 2035 under the Settlement Agreement.

Mr. Cooper provided a table illustrating the ARRA performance measures, and provided a timeline of accomplishments and goals related to key activities and completion dates from 2005 to 2012. The Idaho project milestones, post 2012, were also displayed in a timeline up to 2027. Mr. Cooper noted that no projects were behind schedule; this was a major accomplishment that put INL ahead of the curve on cleanup. On overall cleanup status, Cooper noted that plans were to complete OU 7-13/14 about 9 years ahead of schedule, leading to $867 million in costs savings.

Items of potential interest include EM Idaho staffing changes, workforce layoffs and funding constraints. Funding requests for 2014 are about $5-6 million more than what is needed, but given the total funding picture, this is not a major concern.

Discussion

At the conclusion of the presentation, Mr. Faulk commented that the most critical project under ARRA was the hot cells at TRA, and he had been skeptical that it could be completed. He believed that completion is a major accomplishment.

Bob Leyse commented he no interest in safety issues such as whether someone had sprained their ankle. Remediation of explosives is interesting to him. The only place he saw reference to dollar signs is funding constraints. He saw no reference to dollar signs for what has been spent.

Beatrice Brailsford asked if any facilities at INTEC are being run by NE. Mr. Cooper replied that NE is incorporating the facilities into future plans. There are facilities where materials could be stored. The timeframe is not established yet. Mr. Cooper noted he would be talking about facility transitions later today.

ICP Mission-Relevant Facility Transfers

Mr. Cooper provided a presentation on ICP Mission-Relevant Facility Transfers. Facility transfer plans support the INL Ten-year site plan and the EM 2015 vision. The Ten-Year Site Plan goal is to transform the INL to meet DOE national nuclear R&D goals. The EM 2015 vision is to reduce the EM legacy foot print by 90% by 2015. Initial actions to support facility transfer are to identify mission relevant facilities and to develop a project execution plan. Facilities under consideration are located at INTEC. A project execution plan has been submitted by DOE-ID to NE and EM for review and comment. Proposed facilities include CPP-684, the Remote Analytical Laboratory, a Hazard Category 3 Nuclear Facility that has no current EM mission. It is a 13,100 ft^2 lab building with a hot cell for high radiation sample analysis. Irradiated samples enter the hot cell via cask transfer port of pneumatic system from CPP-666. It also has chemical hoods for non-radiological analysis.

Another facility is CPP-1774, the TMI–2 Independent Spent Fuel Storage Installation (ISFSI). Its current EM mission is dry storage of TMI-2 SNF. It is a NRC licensed fuel storage facility. The Fort St. Vrain ISFSI has a current EM mission of dry storage of Fort St. Vrain SNF. It is a NRC licensed facility located in Colorado and the license was extended to 2031. Mr. Gerstlauer asked if there was any other carbon type fuel in the DOE complex. Mr. Cooper replied that there is some of this fuel at Savannah River. Mr. Gerstlauer commented that storage of this fuel could be a future source of revenue for the site. Mr. Preacher asked if the Fort St. Vrain fuel was included in the INL fuel and Mr. Cooper replied that it was.

Another facility is CPP-2707, with a current mission of dry storage of spent fuel. It is a Hazard Category 2 nuclear facility. Ms. Sherwood asked how much fuel was there now. Mr. Cooper replied that about 40% of the spaces for storage of fuel are available. CPP-749 is the Peach Bottom Fuel Storage Facility with a current mission of dry storage. It is a Hazard Category 2 nuclear facility. The current mission in the CPP-666 FDP/FAST facility is spent fuel storage and shipment, Navy returns, EBR-II returns, and ATR returns. It is a Hazard Category 2 nuclear facility that includes a fuel storage pool and hot cell. In response to a question from Mark Lupher, Cooper clarified that Fort St. Vrain is located near Denver Colorado. Mr. Preacher asked about a news article about INL receiving spent fuel from commercial reactors. Mr. Cooper noted that this was looking forward to the future. Mr. Preacher stated that this article stirred up the Tribes. Mr. Preacher asked how much weight the Settlement Agreement has. Mr. Cooper replied that the Settlement Agreement drives his funding. It has been changed, but that is not easy. CPP-603 is the irradiated fuel storage facility with a mission of dry storage. It is a Hazard Category 2 nuclear

facility, which conducted routine spent fuel monitoring and fuel receipts. CPP-684 is identified as a first facility to transfer. This will be the prototype transfer to refine the transfer process, and lessons learned will be added to the project plan for future transfers.

Other facility transfer dates are being evaluated to ensure EM customer mission to support Navy fuel returns, RH-TRU, and EBR-II transfers is not affected. DOE is identifying required INTEC infrastructure to be included in the facility transfer project. Budget needs for facility inspections and corrective maintenance must be established as part of the transfer. The project execution plan will be revised based on comments received from EM and NE. A facility transfer schedule is being developed.

Discussion

Mr. Sica commented that John Sackett, a former INL manager, had headed up a committee that issued a report on facilities that could be transferred for DOE. Nicki Karst noted that the transfers would include SNF. Ms. Karst identified a concern about that because right now, EM has the public involvement aspect of spent fuel. She is concerned that public input may be less when the facility transfers to NE. Mr. Cooper commented that NE has all the information on spent fuel that EM has. Ms. Karst noted a concern that NE would share the information. Mr. Cooper noted that NE does not have a citizens advisory board. The DOE manager is a proponent of talking to the public. Mr. Cooper stated that if EM were to maintain ownership of the fuel, the mission would be going away. He views transfer to NE as a continued mission for the INL. He believes research and development for spent fuel disposition will be a major endeavor. It should keep employment up. Ms. Karst asked if NE wanted the fuel. Mr. Cooper clarified that NE may not take all the fuel that would not fit its mission. The infrastructure to maintain the fuel will be required, and it may make sense for NE to take it all. DOE is looking at all its options and alternatives to try to keep the workforce at the site. Mr. Preacher asked what would happen if the spent fuel is transferred to NE. Mr. Cooper explained that this is a paper transfer, not a physical transfer.

Ms. Sherwood commented that it seems there is a forward looking vision to the mission for the INL as an NE lab. It makes sense to transfer the fuel to NE if it is only to conduct research to plan for future disposition. Mr. Cooper clarified that the obligation to have fuel transferred by 2035 is an obligation of the INL; it is not limited to EM. Mr. Griffith commented that there are plans to reduce the federal budget. He wonders whether there will be some new process to push the DOE to move forward without consideration of the Settlement Agreement. Mr. Cooper replied that this is something he thinks about. He believes there are facilities at INTEC that make the area viable for future missions that should not be knocked down. It would save money to take over operational facilities instead of constructing new facilities. This could be a winning scenario. Mr. Sica commented that what hits him strongest is that some of the INL facilities are unique in the world. They were built 10 or 15 years ago, and to rebuild them today would be astronomical. Depending on the direction the nation goes, these facilities could be invaluable.

Mr. Gerstlauer commented that the unfinished Fuel Processing Restoration facility could also be a candidate, and Mr. Cooper agreed. Mr. Griffith commented he thinks the DOE is looking long term and this is important. However, he wonders that there may be a point at which there is opposition to the transfer and that the CAB could weigh in on this. Mr. Cooper noted that at the INL level, the transfer is viewed positively, but that may change as the process goes up the chain. Mr. Lupher asked what flexibility is available under the Settlement Agreement for treatment and reuse of the spent fuel. Mr. Cooper replied that the NE program would have to negotiate these matters. There is time to resolve these issues before 2035. NE will have to look at the milestones in the Settlement Agreement and site treatment plan and determine if changes should be sought. Mr. Cooper understands that NE is planning to meet with the state to discuss its plans and mission. Mr. Lupher asked if Mr. Cooper is comfortable with the safety aspects of the current storage between now and 2035. Mr. Cooper replied that he was; as a result of the events in Japan, safety has been reviewed. There is some maintenance and upgrades needed to make sure all systems are in a state of readiness over the years.

Idaho Treatment Group, LLC

Dan Swaim and Dave Haar provided a presentation on the Idaho Treatment Group, LLC (ITG) contract for the AMWTP. Mr. Swaim noted that ITG was pleased to join a successful team at AMWTP. He discussed who ITG is, what its commitments are, and how it plans to meet those commitments. The ITG team includes Babcock and Wilcox (B&W), URS and Energy solutions as well as 4 small business subcontractors. B&W is a leading DOE high consequence nuclear contractor safely operating 77 category I, II, and III facilities. It is a renowned nuclear owner operator safely managing all NRC category I facilities. URS is the ENR 2008 #1 Hazardous Waste Contractor. It is a premier ISMS and safety leader with 13 VPP STAR status sites and is a foremost TRU waste expert. Energy Solutions is the ENR 2008 #1 All-Environmental Firm. It is the premier MLLL/LLW steward – the largest US nuclear waste disposer and a global nuclear lifecycle manager. Most current subcontracts will transfer to ITG.

Mr. Swaim presented the organization chart for ITG. The organization has been mapped out to every process and person. The ITG approach addresses all waste forms, all processing and all disposal sites. The goals are to ship 26,600 meters^3 by 2015 with the lowest credible lifecycle cost and extensive small business involvement. ITG's goal is to have zero orphan wastes, zero accidents and to sustain AMWTP as a robust processing asset for future DOE missions. The ITG major milestones include completing facilities upgrades and improvements in 2012. Early years will be devoted to maximizing the amount of MLLW that can be identified for disposition. This will allow the remainder of the project to focus on the most difficult waste streams that remain. The schedule in the presentation is about 6 months early due to contract delays, but the plan is to complete the work by early 2015.

The ITG contract is a new contract type. It includes a detailed estimate for the entire waste inventory; a project baseline with an Earned Value Management System; payment only when waste leaves the State of Idaho; and significant penalties for underperformance in the areas of safety, quality, schedule and cost. For this contract ITG and DOE must formally change scope. Mr. Maynard asked whether the payment process would be the same for material that comes from out of state. Mr. Swaim replied that waste from out of state has a driver of leaving within 6 months of coming in. Mr. Haar noted that costs of out of state wastes would be recovered through back-charging to the facility that sends the waste. No direct fee will be paid for out of state waste. Mr. Haar noted that out of state waste is estimated at 100 meters^3, which is very small compared to the overall waste. The contract terms that provide no fee for out of state waste processing were accepted by ITG. Fee will be made by shipping the waste in storage at Idaho. Mr. Maynard asked if ITG was required to accept out of state waste if, for example, AMWTP fell behind on operations. Mr. Swaim replied that in general, ITG is contractually obligated to accept this waste. If it cannot accomplish both the Idaho disposition as well as out of state waste disposition, this would have to be revisited by ITG and DOE. Mr. Sica commented that he has heard these discussions before. He said the CAB supports ITG, but his questions have to do with experience and governance.

Ms. Sherwood asked how ITG planned to disposition its backlog. Mr. Swaim commented that a backlog is a good thing because it allows planning for optimized shipments. A current shortcoming is that assay stations may not have a backlog. A backlog is desired and does not mean that the project is behind. What he wants is to have all the waste out of the ground and plans in place for how processing activities will be managed to handle all the waste. Ms. Sherwood noted that there was a time when shipments needed to be stopped due to too much heat being generated. Mr. Haar commented that the issue at the time was a particular volatile organic compound in the waste. WIPP has an issue with this and shipments are organized and monitored to control the emissions. Mr. Haar noted that the backlog is being consumed at Idaho as a result of the ARRA funding. The project will have to work hard to reestablish the backlog. Mr. Swaim commented that having a backlog provides flexibility in planning shipments. Mr. Griffith asked whether penalties for performance are incentivized differently. Mr. Swaim replied that there are nine areas where there could be penalties for underperformance, and that no area is rated higher than the others. It is up to the contracting officer to determine the penalties.

New approaches to waste processing include a master plan that addresses the entire waste inventory, streamlining the MLLW/LLW process, early removal and shipment of MLLW, reorganize storage modules to simplify container handling, co-location of program personnel with plant operations, increased flexibility of assay/examination resources, and improved information technology integration between waste programs and plant operations. Planned facility improvements include decontamination and size reduction capability inside and outside the treatment facility; repackaging capability for non-compactable waste (solids); a single auger shredder; ISOCs (in situ characterization system) assay capability for large items; and BROKK upgrades and reduced demand. The results are a $417 million life cycle cost baseline with all waste shipped by September 2015; ITG begins operation with a workforce of 620 to 670; and a treatment facility maintained to support future mission needs. Currently there are about 873 people at AMWTP.

Ms. Sherwood asked how all systems would be optimized with a smaller workforce. Mr. Haar replied that to date, almost all the waste processed through AMWTP has gone to WIPP because it is TRU waste. However, about 50% of the waste in storage is not considered TRU waste that can be disposed elsewhere. The main change is to have a single process that will process waste so it can be disposed at any of the available disposal facilities. This will eliminate the need to reprocess waste that cannot go to WIPP. The productivity improvements from this change will allow more work to be done in years 2 and 3. Further reductions in the workforce are planned as the work is accomplished. ITG hopes that more waste and new missions will be identified, but the baseline plan is for completion in 2014. ITG will operate the treatment facility 12 hour days 7 days a week. The supercompactor and some assay equipment will be operated 24 hours 7 days a week. There is one change being evaluated, and it is operation of a sludge treatment line. ITG is evaluating the schedule for operation of this line. Teri Tyler asked if there were plans to shut down for maintenance. Mr. Haar replied that maintenance will be conducted during down time at the facility.

Discussion

Mr. Sica noted that Idaho Falls is a small community and that the workforce has worked hard and safely. Now it seems that fewer people are going to be needed. When there was an announcement of the change in the workforce, the fear is that jobs are in jeopardy and the atmosphere will have a negative effect on the community. Mr. Sica observed that there needs to be some basic recognition of the changes and their affect. Mr. Swaim replied that these concerns are well understood. ITG has the highest regard for the work that has been done. ITG embraces the concept of a high performing team and believes that improved results will be gained. Mr. Swaim understands the fears of the workforce and the concerns about safety and the fact that ITG is considered a newcomer. ITG wants and values the input of the workers. They will reemphasize the desire to include the workforce in implementing changes. At the end of the day, ITG's job is to provide the best value for accomplishing the work. Mr. Gerstlauer asked if workers would be offered the opportunity to stay at their job under the new contract. Mr. Swaim replied that the contract requires ITG to hire personnel from the workforce except for 6 key personnel. ITG is going through a selection process to down select the top level of performers that match the work that is planned. In the bargaining unit, it will be based on seniority. Mr. Swaim commented that the workforce's training remains intact and there is not a need for new training to be conducted. Ms. Karst asked if there would be any workforce training or enhanced separation benefits offered to employees. Mr. Swaim clarified that BBWI will be terminating its employees, not ITG. Then ITG will be hiring the employees. Mr. Preacher commented that there is a concern that additional stress may be placed on the operators who remain. Mr. Swaim noted that the plans do not include overtime. The impacts of excessive overtime are understood with regard to effects on aspects such as quality and safety. Mr. Preacher also commented that the CAB would like to hear about lessons learned.

Public Comment

Bob Leyse stated that the comment should have been held at 11 a.m. as scheduled. He pointed out that the word 'effected' in the presentation should have been affected. He noted there was a lot of questioning of speakers at the

ITG presentation. In future meetings he would like to see questions on costs. He would like more discussion of hydrogen. He would like more questions on fuel inventories. He would like to hear more about the zirconium inventory. Lightening protection at facilities where zirconium is stored is important. Public comment during the meeting was provided by Bob Leyse. Mr. Leyse commented that he was not very interested in safety issues such as sprained ankles. He was interested in how explosives were being remediated. He also commented that information was provided on the cost of cleanup that remained, but that he was interested in what dollars have already been spent on cleanup. He noted there was a lot of questioning of speakers at the ITG presentation. In future meetings he would like to see questions on costs. He would like more discussion of hydrogen generation. He would like more questions on fuel inventories. He would like to hear more about the zirconium inventory. He felt that lightening protection at facilities where zirconium is stored is important.

Integrated Waste Treatment Project Update

Joel Case, DOE-ID, provided an update on the IWTU, also known as the Sodium-Bearing Waste Treatment Project. This is a new facility to treat 900,000 gallons of radioactive liquid waste currently stored in underground tanks at the INTEC Tank Farm. The Idaho Settlement Agreement Requires Treatment of Tank Waste by December 2012. The Consent Order requires the remaining INTEC Tank Farm tanks to be emptied by December 2012. The tank farm tanks' secondary containments are non-compliant with RCRA. Mr. Case provided a summary of the current project status. Project construction was completed on June 3, 2011. Overall project completion is approximately 96%. All systems are in testing. A contractor management self assessment was initiated August 8, 2011. Hot nitrogen integrated systems testing was initiated August 15, 2011. Hot nitrogen will be used as a stimulant to verify that the project works. The main processing system (reforming process and material handling) has been heated. The project is interfacing with the contractor operational readiness review and the DOE operational readiness review team leads regarding the hot nitrogen operations run. The contractor operational readiness review is planned for early November, followed by a DOE operational readiness review and issuance of an authorization agreement to operate in December 2011. The presentation included photographs of the progress of construction and the various systems to be tested prior to startup.

Discussion

Mr. Griffith asked what sorts of instances have been found during testing, such as leaks. Mr. Case replied that there were reliance and calibration issues prior to the hot nitrogen test. Pressurization and operation of actuators were problems. Mr. Cooper identified that there were leaks around some of the tubing and instruments in the support systems that needed to be corrected. Some thermocouplings were not working and needed to be replaced. There are no major flaws, just lots of fixes that need to be accomplished. Mr. Cooper commented that the punch list was as large as 5,000 items. Punch list items are generated as the testing process goes on. Mr. Maynard asked if the air pallets had been tested. Mr. Case replied that they had been tested and one problem was corrected. A backup pallet was ordered. Mr. Griffith asked what plans were being made for media involvement. Mr. Cooper replied that a team at DOE HQ was working to organize the event. Mr. Griffith noted that he would like to have some flyers to hand out to concerned members of the community.

Mr. Case noted that DOE is working with the state on emissions and a systems performance test to verify that the emissions monitoring program will meet requirements. Case noted that the start-up plan is for starting at one-half the process rate. 55 days of outage time are planned plus two weeks to change out the filters. The focus is to get started and then to evaluate how long the process will be operated. Mr. Lupher asked what the output level is planned from the 900,000 gallons of waste. Mr. Case estimated that about 750 meters^3 would be produced, which is about a 40% reduction. Mr. Sica asked what the life of the filters is and how they will be changed. Mr. Case identified that the filters are outside the processing cell and can be changed out with little radiation exposure. The filters will be disposed as LLW. Mr. Gerstlauer asked whether steam to be used was from the INTEC steam plant. Mr. Case replied that the facility will have its own steam generator. Mr. Cooper noted that the superheater will be

up to about 600 degrees. Robert Rodriguez asked why mercury absorbers were needed. Mr. Case replied that there is mercury in the waste and that at the temperatures planned the mercury will volatize. Mr. Roberts asked why coal was being used. Mr. Case replied that coal was determined to be more efficient and cheaper. Mr. Preacher asked about remotely handling the equipment. Mr. Case replied that the only movements within the cell will be the transfer bell and the vaults. The shield bell on the crane was tested extensively. It is laser controlled. Mr. Gerstlauer asked what the design life of the facility was. Mr. Case replied that it is a 20 year facility with a very robust design. Mr. Leyse asked what waste was going in. Mr. Case replied that it is nitric acid based with radioactive material from D&D plus a small fraction of high level waste from reprocessing activities. The tanks are stainless steel and double contained. The process lines in the facility are all double contained and made of material that will not corrode. Mr. Lupher asked what the cost of the project is. Mr. Case replied that total project cost is about $532 million. Ms. Brailsford asked if NRC had another round of evaluation to conduct. Mr. Case replied that there is a monitoring requirement for tank closure. The paperwork has been submitted for closure.

Status of ARRA Work

Mr. Cooper provided a presentation on the status of ARRA work at the INL Site. He reviewed the performance metrics set in April 2009 and accomplishments predicted through September 30, 2011. No performance goals were missed. One additional facility was added as additional work scope. In addition, cost savings were directed to complete D&D of EBR-II. For RH-TRU waste, the goal was to repack and ship 21.6 meters^3 of waste. This was completed in August 2011. Cost savings were found with this work, allowing additional waste to be processed into FY 2012 and providing for the retention of approximately 20 employees. At AMWTP, the goal was to dispose of 3,195 meters^3 of MLLW/LLW. By the end of September 2009, 3,537 meters^3 had been dispositioned. This accelerated MLLW/LLW shipments out of Idaho, created 80 jobs and allowed AMWTP to maintain 56 of those 80 jobs. The goal for D&D was 85 facilities, for a total of 759,701 ft^2. Eighty-six (86) facilities have gone through D&D, for a total of 762,759 ft^2. A benefit is that 250 jobs were retained and 180 jobs were created. DOE hopes to transfer these crews (120 jobs) to the ARP VIII. Accelerated retrieval goals were to exhume 0.91 acres and construct ARP-VII. The 2.05 acres have been exhumed and ARP VII is constructed. The benefits of this project were acceleration of retrieval, maintaining 80 jobs, and creating 50 new jobs. The 8.1 mile MFC/INTEC haul road is scheduled to be completed this week. Final grading needs to be conducted, weather permitting, and gates are being installed. This was a small business contract and 40 jobs were created.

Discussion

Ms. Brailsford asked about the facility transfers involving EM fuel returns and how that was involved with the Navy recapitalization project. Chris Henvit, a representative from the Naval Reactors Facility, noted that fuel was being returned to the Navy and is scheduled to be complete the end of December 2017. Ms. Brailsford asked what would happen to the facilities at INTEC that NE does not want. Mr. Cooper provided the example of the New Waste Calcine Facility that is not wanted by NE. EM is working on closure of the facility. Plans are to have the facility D&D done by the 2015 or 2016 time frame. The other facilities are mostly offices or administrative type buildings. NE is interested in the former Fuel Reprocessing Restoration building. Ms. Brailsford noted that spent fuel storage at MFC was not mentioned. Mr. Cooper replied that EM has no spent fuel storage facilities at MFC. Cooper agreed that spent fuel storage at MFC is part of the mix, but it is currently under the control of NE.

Ms. Brailsford commented that INL wants to get everything in place in case the nuclear renaissance is born again; INL needs to think through where it needs to be nationally not just in the next 10 to 15 years. She stated that she respects and understands the commitment to keep a future mission for INL, but if this does not contribute to the future mission of the country that needs to be known. She observed that the INL is putting resources into something that has no broad national interest. Mr. Cooper responded that without plans for people to consider, there is no way of knowing if the plan will be accepted. He recognizes that this will be a national plan. If the plan is not achievable, DOE EM will be there to clean up the site, but he believes that NE should be given the

opportunity. Ms. Brailsford commented that NE is pushing an R&D mission in an aged production facility. Mr. Cooper noted that the facilities were designed for a long life. These facilities could be a stepping stone to a new mission. Ms. Sherwood commented that we do not know the future, but we know that energy demands continue to rise and solutions are not known. Ms. Sherwood believes nuclear energy has to be part of the plan and that R&D needs to be done to extract more fuel. Ms. Brailsford commented that she respects these views but the plan for INTEC is for quantities of fuel above what is needed for research. Mr. Sica commented that he appreciates the open and respectful dialogue that is taking place on these issues.

Public Comment

No public comment was provided.

Remote-Handled Transuranic Waste Status

Ben Roberts provided a presentation on RH-TRU waste status. RH-TRU is waste that requires special handling and is contaminated with elements having atomic numbers greater than uranium (i.e., plutonium, americium, etc.). It is different from CH-TRU in that it has high radiation fields (>200 mR/hr on contact). It requires shielding and remote handling to limit personnel exposure. There is increased time and cost compared to contact-handled TRU. It is handled in hot cells using manipulators, cranes, and robotic arms. It is packaged into shielded containers. Materials in INL RH-TRU include reactor components/activated metals (i.e., structural members from reactor core); fuel examination debris (i.e., mill shavings from cutting fuel); and hot cell debris (i.e., materials/equipment used in hot cells). INL RH-TRU is from various generators. The waste is in various storage configurations and can have very high radiation fields up to 6,000 R/hr. Some is contaminated with sodium and some may contain pyrophoric metal fines. Current RH-TRU contract scope includes ARRA funded work of approximately $85 million to repackage 160 containers (25.6 m^3). This volume includes 136 Hot Fuel Exam Facility canisters, 8 Sodium Loop Canisters, 13 24" (large) liners, and 3 miscellaneous containers. Other RH-TRU work is approximately $30 million to repackage 68 containers and 5 vaults. The RH-TRU process for waste retrieval addresses waste stored in various configurations, and mainly waste stored underground at MFC.

MFC waste retrieval is performed by BEA. HFEF-5 containers are removed from the storage container. The 24" liners are removed from the ground. Waste is shipped using interim storage containers for smaller waste packages and facility transfer containers for larger waste packages. Transport is conducted using non-licensed shipping containers that are moved from MFC to INTEC on Highway 20. The highway is shut down during shipment. Once the MFC/INTEC haul road is ready it will be used. Waste is repackaged at the CPP-659 decontamination hot cell. This cell was initially used to decontaminate equipment associated with the calciner and is now used for waste repackaging. CPP-666, the Florinel Dissolution Processs hot cell, was initially designed for fuel reprocessing. It was modified for RH-TRU repackaging using ARRA funding. The modifications support an on-going RH waste mission to 2018 and beyond. Ms. Sherwood asked about spray cans as prohibited items, and Mr. Roberts confirmed that once a can is punctured it can be shipped. Characterization includes examining the repackaged waste for shipment to WIPP. This creates a record that demonstrates the waste meets WIPP waste acceptance criteria. This is performed in CPP-659. Waste is shipped once approval from WIPP is received. Waste is loaded into RH-72B type casks in CPP-659 for transport to WIPP.

Mr. Griffith asked how the impact limiter installed on the ends of the shipping cask worked. Mr. Roberts replied that it is a steel shell over honeycomb mesh. Mr. Roberts noted that side impacts are avoided due to the shape of the cask. Mr. Gerstlauer asked about the plutonium content of the waste. Mr. Roberts clarified that the waste is TRU due to the nuclides, and that the waste is high radiation due to presence of other non-TRU nuclides that are gamma emitters. Mr. Lupher asked about the half-life of RH-TRU. Mr. Roberts replied that it is hundreds to thousands of years. Two hundred sixty (260) shipments have been conducted to date of the 526 shipments planned. One-hundred eighteen (118) of 160 containers have been repackaged, which totals 21.6 m^3. The $9 of costs savings

have been used to extend ARRA work into FY 2012. The $9 million will keep operations going until June 2012. Plans are to finish repackaging by 2012 with base funding. Of the other RH-TRU, 61 containers have been repackaged. Plans are to complete repackaging by 2013 and ship waste to WIPP by 2014. Looking ahead, plans are to complete the ARRA funded waste and then to complete the remaining waste that has been identified. There are also 100 containers of RH-TRU remaining at MFC that are subject to the Settlement Agreement. These are sodium contaminated. A sodium treatment system will be developed and installed so that repackaging can be finished by 2017 and the waste can be treated and shipped by 2018. Beyond the Settlement Agreement waste, there will be newly generated RH-TRU and RH MLLW. Plans are to continue to use the CPP-666 hot cell beyond 2018. Ms. Karst asked if the sodium treatment involved removal or inactivation of the sodium and whether additional waste streams would be generated. Mr. Roberts replied that several options were being reviewed, all of which are acceptable to WIPP.

Action Items:

1. Support Staff to finalize meeting schedule and work plan for FY 2012.

2. The CAB will work on a letter to the new Acting EM-1, David Huizenga, welcoming him to his position and providing information on the INL Site EM CAB.

Presentations given at this meeting are available on request from the INL EM CAB Support Staff.

I certify that these minutes are an accurate account of the September 14, 2011, meeting of the Idaho National Laboratory Site Environmental Management Citizens Advisory Board.

Willie Preacher, Chair
Idaho National Laboratory Site Environmental Management Citizens Advisory Board
WP/ph