



# **INL Site Environmental Management**

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C I T I Z E N S   A D V I S O R Y   B O A R D

## **Meeting Minutes**

March 14, 2012

The Idaho National Laboratory (INL) Site Environmental Management (EM) Citizens Advisory Board (CAB) held its bi-monthly meeting on Wednesday, March 14, 2012, at the Hilton Garden Inn, Idaho Falls, 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  
Herb Bohrer  
Sean Cannon  
Harrison Gerstlauer  
Harry Griffith  
Mark Lupher  
R.D. Maynard  
Bill Roberts  
Tami Sherwood  
Fred Sica  
Bruce Wendle

**Members Not Present**

Robert Rodriguez  
Teri Tyler

**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  
Susan Burke, State of Idaho  
Daryl Koch, State of Idaho  
Tom Dieter, Idaho Cleanup Project (CH2M-WG Idaho [CWI])

**Others Present**

Bill Dalton, ICP  
John Tanner, Coalition 21  
Tim Carlson, BEA  
Kevin Daniels, ICP  
Mark Dehring  
Natalie Packer, ICP  
Mark Hutchison, NRF  
Kathleen Hain, DOE-ID  
Beatrice Brailsford, Snake River Alliance  
William Lattin, DOE-ID  
Jean Holdren, ICP  
Jeff Miller, Doe-ID  
Michelle Walker, DEQ  
Brandt Meagher, ICP  
Danielle Miller, DOE-ID  
Doug Pruitt, DOE-ID  
Lorie Cahn, ICP  
Michael Roddy, ICP

Lori McNamara, Support Services  
Bryant Kuechle, Support Services Facilitator  
Peggy Hinman, Support Services

## Opening Remarks

Willie Preacher, Chairman of the Idaho National Laboratory (INL) Site Environmental Management (EM) Citizens Advisory Board (CAB), welcomed the group to the meeting. Jim Cooper, the Department of Energy (DOE) Deputy Designated Federal Official, welcomed the group and the members of the public in the audience. He commented that the upcoming year is an important one with a lot of critical work scheduled for accomplishment.

Susan Burke, State of Idaho, commented that several Settlement Agreement milestones were scheduled for this year, and the state was following these. She noted that there were budget issues affecting many of the DOE sites. States with DOE sites may be getting together to see how to maximize the funding available to take care of waste across the nation.

Daryl Koch, State of Idaho, noted that DOE has ambitious plans for the Idaho Nuclear Technology Engineering Center (INTEC). He is looking forward to hearing what DOE has to say.

Mark Lindholm, CH2M-WG Idaho (CWI) welcomed the group and commented that he was looking forward to informing them about the status of the Integrated Waste Treatment Unit (IWTU).

## Recent Public Involvement

Mr. Cooper provided a summary of recent public involvement activities. DOE has had several opportunities to provide tours and briefings to DOE EM Headquarters personnel, the Chamber of Commerce, the Idaho Legislative Committee on Idaho Economic Outlook and Revenue Assessment, Butte County Commissioners, and other DOE sites on Idaho Site EM activities and future plans. Upcoming events include a presentation to the Congressional Cleanup Caucus on the Idaho Site, sponsorship of the Idaho Hispanic Youth Symposium, and the May CAB meeting and tour.

## Progress to Cleanup

Mr. Cooper provided a presentation on progress to cleanup. The presentation addresses safety performance, transuranic (TRU) waste disposition, the Advanced Mixed Waste Treatment Project (AMWTP), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remediation, the Idaho CERCLA Disposal Facility (ICDF), decontamination and decommissioning (D&D), the IWTU, spent nuclear fuel (SNF), and calcine disposition. Mr. Cooper noted that D&D work has been completed at Test Area North (TAN), Advanced Test Reactor (ATR), Idaho Nuclear Technology and Engineering Center (INTEC), the Radioactive Waste Management Complex (RWMC), and the Power Burst Facility. The only facility where D&D remains is the Materials and Fuels Complex (MFC). The Accelerated Retrieval Project (ARP) I and II are also now slated for D&D preparation. Transfer of nuclear materials from EM facilities and SNF disposition have also been completed.

Mr. Cooper addressed safety performance for CWI. Incidents were trending down until January 2012 when there was a slight increase. He believes that the curve will start downward once operations begin at IWTU. At the AMWTP, safety incidents have trended upward. Based on past experience, the contract transition has caused a disruption that will take about 16 months to get turned around. The new contractor, the Idaho Treatment Group (ITG), is taking the right steps to put procedures and training into place to reverse the trend. It may take a few more months to realize the results of the changes.

Mr. Cooper described progress related to TRU waste disposition. Key activities and actions in fiscal year (FY) 2012 include completing shipment of contact-handled (CH)-TRU exhumed from the ARP I – V, completing shipment of ARP VI CH-TRU to the Waste Isolations Pilot Plant (WIPP) by the end of April 2012, initiation of characterization and shipment of ARP VII CH-TRU to WIPP, and beginning immersion testing of Lot 2 “fuel-like”

pieces of remote-handled (RH)-TRU. Upcoming activities include continuing processing of RH-TRU for disposition at WIPP; and continued design/development of the Sodium Treatment System to process the remainder of the INL RH-TRU waste.

AMWTP employees have worked more than 12.9 million hours without a lost-time injury. They successfully passed the Nevada National Security Site (NNSS) audit required to commence shipping mixed low-level waste to NNSS and resumed shipments out of Idaho. Readiness preparations for restart of retrieval operations are on schedule. ITG completed a Procurement Information event on December 14, 2011, informing small businesses of opportunities with ITG. Representatives from 35 companies attended.

Mr. Cooper then addressed CERCLA remediation activities at the INL. Key activities and actions include completion of the Operable Unit (OU) 3-14 Phase II design, planning for acceleration of the tank farm cap; treatment of 37.5 million gallons at the TAN New Pump and Treat Facility in calendar year (CY) 2011; and continued In Situ Bioremediation (ISB) at TAN with a whey injection in February. Upcoming activities include beginning a TAN groundwater rebound test within the next year. Key activities/actions for the FY to date at ICDF include disposal of 1,554 m<sup>3</sup> of waste in the ICDF landfill; receipt of 6,718 gallons of purge water into the ICDF evaporation ponds, and completing disposal of all debris from ATR D&D baseline activities. Upcoming activities at ICDF include disposition of debris and liquid from MFC D&D activities and disposition of soil from Naval Reactor Facility (NRF) CERCLA soil.

At Waste Area Group (WAG) 7, ARPs I through VI have been completed. Thus far, a total of 5,526 m<sup>3</sup> of waste has been packaged and 2.96 acres have been exhumed. ARP VII, VIII, and IX remain. In situ grouting of 21 locations has also been completed. Subsurface solvent extraction using the Organic Contamination Vadose Zone (OCVZ) system continues, as do environmental monitoring and institutional controls. Waste exhumation began in ARP VII in February 2012. CWI completed modifications to ARP II and III to allow exhumation of an additional 0.06 acres of waste, and decontaminated ARP I Drum Packaging Station units and transferred operations to ITG for reuse. Upcoming activities include continued exhumation of ARP VII and continued erection of ARP VIII. He noted that incentives were in place this year for completion of construction work on an accelerated schedule.

Mr. Cooper provided information on D&D activities. At the Reactor Test complex (RTC), all field work has been completed and equipment has demobilized. D&D has been initiated at ARTs I and IV. Upcoming activities include RTC closure documentation and demolition of ARPs I and IV. AT INTEC, key activities/actions are the initiation of the WL-102 Tank System Sampling project. Upcoming activities include completion of INTEC D&D project close-out documents, completion of WL-102 sampling and submitting a Resource Conservation and Recovery Act (RCRA) Closure Plan for the WL-102 Tank System.

At MFC, treatment of passivated sodium is nearly complete in the reactor facility. Due to loss of funding, the facility is being placed into a safe standby for future completion of sodium treatment. Corrective actions from the sodium processing incident will be implemented. A revised closure schedule will be submitted by the end of February. DOE believes this is a lower priority operation than IWTU, RH-TRU, and target waste removals at MFC. That is why the project is being put on hold. Upcoming activities include completing closure of the Experimental Breeder Reactor II (EBR-II) container storage area, deactivation activities in the reactor facility, and grout the EBR-II primary tank upon achieving closure performance standards.

Mr. Cooper then provided a status of the IWTU Project. The management self assessment (MSA) was completed and an Operational Readiness Review (ORR) was completed by the contractor last week. The DOE ORR is anticipated to start March 26.

Work on the INTEC tank farm closure has started. Workers have begun placing tents for containment during cleaning activities. Eleven of 35 new tents have been erected on the Tank Farm, including one that will be used to

repair and refurbish equipment used on the previous 11 tanks. A load study was completed for the closure of the last four tanks. Upcoming activities include continuing design work for closure (grouting and washing) of the last four tanks and continuing to refurbish and test equipment and erect the remaining 24 tents.

Mr. Cooper provided a status on SNF disposition. The transfer of legacy, EM-owned SNF from wet storage to dry storage has been completed. A segregation fence has also been completed in order to prepare special nuclear material facilities for transfer to another entity. Key activities include completion of 12 ATR fuel receipts, receipt of Domestic Research Reactor (DRR) and Foreign Research Reactor (FRR) ANF for storage and providing safe, regulatory-compliant, routine operations for INTEC SNF handling and storage facilities. Key activities/actions include completion of 12 ATR fuel receipts and initiation of transfer of EBR-II fuel. In the 2<sup>nd</sup> and 3<sup>rd</sup> quarter of FY 12, receipt of ATR fuel and shipment of EBR-II casks will continue. FRR will be received from Mexico.

Mr. Cooper noted that the milestone for startup of IWTU has been delayed. CWI has been reviewing all the systems to make sure problems are identified and corrected. DOE has high confidence that the plant will run successfully.

Mr. Cooper concluded his presentation with identification of items of potential interest to the CAB. These are the Congressional Cleanup Caucus Presentation scheduled for March 28, Sodium Bearing Waste Lessons Learned, and Restart of Retrieval actions at AMTWP. Mr. Cooper plans to invite Dick Raaz from ITG to our next meeting.

### **Discussion**

Herb Bohrer noted the number of safety violations experienced at AMWTP and asked if DOE was satisfied that sufficient actions were being taken. Mr. Cooper noted that the ITG's fee had been reduced due to the issues. DOE has also asked the contractor to assess whether the corrective actions they are taking are sufficient. DOE has increased its oversight. ITG is experiencing issues that any contractor taking over operations would experience. ITG has taken several steps to ensure that when they move forward, they can operate safely and continuously. It has taken a while to get through these safety issues. Dr. William Lattin, DOE Federal Project Director for Solid Waste Disposition, noted that ITG has instituted additional training and safety watches. ITG shut down operations for 2 weeks in order to make assessments, retrain, and plan improvements.

Fred Sica noted that they have lost a minimal amount of time due to worker injuries at the Site. He felt that the Site was holding itself to a very high standard. Mr. Cooper noted that it was best to be aggressive to reduce the amount of oversight from outside entities. Tami Sherwood complimented DOE on its safety record.

Ms. Sherwood asked about whether there are wells to monitor performance of in situ grouting. Mr. Cooper replied that there are wells used for monitoring. The Shoshone-Bannock Tribes are a partner on the monitoring.

Harry Griffith asked what liabilities need to be taken care of at INTEC before transfer to Nuclear Energy (NE). Mr. Cooper replied that he expects more remediation will be needed. Repairs of fire lines or water lines, for example, may result in new CERCLA sites. With respect to the tanks, once the tanks are closed, that portion of INTEC will be complete. DOE has an agreement with NE that as they move forward with CWI on an extension of 3 years, transfers will be pushed out to 2015 so that there is less overlap between cleanup and ongoing operations. Before any transfers take place, facilities will be walked down and corrective measures identified that are needed prior to transfer. This may be a good deal and a cost savings for EM. It costs more to knock down a facility than to maintain them so they can be used for future missions.

Bruce Wendle noted that after the tsunami in Japan, there was a lot of talk of water pool storage. It seems this water pool storage is needed. Was there any discussion of this at the conference? Mr. Cooper noted that at the

recent Waste Management Symposium there was a lot of discussion associated with spent fuel. However, he was focusing on different issues and was unable to attend the sessions on spent fuel.

Mr. Bohrer asked about the status of the CWI extension. Mr. Cooper stated that the extension work scope with respect to schedule and cost needed to be negotiated. Once that was complete, DOE would probably be moving forward with an award of an extension. He has seen that CWI has performed efficiently and effectively.

Harry Gerstlauer asked about lock out tag out. He noted that this seemed to be a problem. He knows there are procedures for this. He asked why the issue seemed to be taking a long time to fix. This detracts from the work getting done. Mr. Cooper stated that 7 years ago, lock out tag out problems were identified when someone was injured. What we see today is a proactive contractor recognizing problems before people are injured. This is a major change in approach. Many of the problems come from miscommunications.

Mark Lupher noted DOE's observation that there seemed to be a period of 14 to 16 months for a new contractor to overcome transition issues. He said he was hearing that the issues were more related to the lack of institutional knowledge among the ITG workforce. Mr. Cooper agreed that the reduction of staff under the ITG contract did create turmoil. It takes time for trust to build between management and work force. That is what drives the process to 14 to 16 month. Trust is on both sides. Workers must trust that management will not punish them for their efforts and management must trust that workers desire to meet new expectations.

Mr. Griffith asked about the plans to drain the sodium bearing waste tanks and whether this was different from treating the waste. Mr. Cooper explained that the regulatory milestone was to drain the tanks by getting the level low enough that there was no more suction of the contents. There will be steps needed to remove the heel and the residue in the tanks as part of tank closure. Mr. Cooper explained that the contents must be treated in IWTU, but the milestone is really tied to tank closure.

Mr. Preacher commented that lock out tag out has been a longstanding issue for the site. He offered the perspective that a meeting between the new contractor and the employees should be held in order to find out what is working and what is not. Maybe there is too much pressure on the employees who remain to get work done. This would help build trust.

Nicki Karst asked for an explanation of lock out tag out. Mr. Cooper explained that the procedure is for shutting down a system in order to de-energize it. When it is tagged out, the expectation is that the system is dead and that it can be safely repaired or maintained. However, these systems are often complicated and extend through many facilities. Ms. Karst asked if ATR was the only active reactor, and Mr. Cooper confirmed that this was the only active reactor at this time.

John Tanner, Coalition 21, asked if there were any plans to continue using AMWTP after it had completed its waste processing. Mr. Cooper replied that the ITG contract has a requirement that the facility be maintained in an operable condition so that DOE has time to market use of the facility to other DOE sites.

Beatrice Brailsford, Snake River Alliance, asked about caps at INTEC, whether EM got compensation from DOE Office of Nuclear Energy (NE) for dealing with its fuel, and what waste was considered targeted waste. Mr. Cooper noted that the cap was still planned to be the same, but the schedule would be accelerated. EM does not charge NE for maintaining the fuel basins because this activity does not involve any extra charge to the facility. Mr. Cooper clarified that the targeted waste retrieval is part of the waste to be remediated under the agreement with the state. It is expected the schedule for this will be accelerated by about 8 years.

Ms. Sherwood asked about plans to put in an auger at ITG. Mr. Cooper replied that plans were in progress to revise the approach to shredding boxes and to make the necessary facility modifications.



R.D. Maynard asked about asbestos and how it was handled during remediation. In all but one case, asbestos is removed. In one case, the asbestos was below ground and could not be removed. The state gave permission to leave it in place.

## **Idaho Cleanup Project Work Force Reduction**

Mr. Lindholm introduced Bill Dalton, CWI Human Resources Director, to discuss work force reductions at ICP. As work scope is completed, reductions are needed. To date, there have been 878 reductions. Of these, 48% were voluntary. The most recent reductions were in December and January. There were 103 force account personnel returned to their union as a result of DOE directed suspension of work. About 25 force account personnel were called back due to the re-prioritization of work and new letter of direction from DOE. 133 CWI employees were notified of involuntary separation in January. Ten CWI employees volunteered for separation and 98 staff augmentation personnel were returned to their subcontractor employers. In the future about 70 reductions are expected through the end of September, 2012.

CWI has an extensive workforce transition program. It coordinates personal guidance counseling/placement services with the Idaho Department of Labor. It provides transition support services, enhanced education benefits, and a skills inventory, and resume database.

Ms. Sherwood commented that she sits on the Rapid Response Team which assists the people being laid off. She feels that CWI really cares about its employees and is doing everything it can to prepare the employees for other work. She thinks a key is to get the skill sets needed by employers.

Mr. Maynard asked over what time period was covered for the layoffs. Mr. Dalton replied that the layoffs occurred between February, 2006 and January, 2012. In the beginning, long term employees were being laid off, then with ARRA funding, new employees were hired. These are the employees now being laid off. It is an aging work force, with an average age of 58. Mr. Dalton noted that this was only CWI employees, not force account employees. Mr. Maynard asked why the union work force was not included in the retraining. Mr. Dalton replied that union employees are included in the job fairs and skill fairs and that prospective employers are also looking at the unions. Tom Dieter clarified that union workers do get retraining through the union when they return to the union hall. Mr. Maynard stated he did not understand why union work force should not be able to tap into the \$5,000 education benefit as union workers were experiencing the same issues regarding skills as CWI employees.

## **Idaho Cleanup Project Decontamination and Decommissioning Overview and Materials and Fuels Complex Pressure Excursion**

Hoss Brown, CWI, provided a presentation on D&D and on the MFC pressure excursion that took place in November, 2011. He began with a summary of the D&D work completed at the Site. Two hundred eighteen (218) of 221 facilities and structures have undergone D&D. This amounts to over two million square feet of foot print reduction; and the project was completed one year ahead of schedule and \$307 million under budget.

He reviewed the sodium event in MFC-766 that took place on November 11, 2011. A pressure excursion and water hammer incident occurred at the Sodium Boiler Building, ejecting treatment solution to the courtyard between MFC-766 and MFC-767. CWI chartered an independent investigation team, which issued a report in December. The team concluded that the most probable cause of the mechanical failure was a sodium-water reaction, exacerbated by the differential pressure on the large volume of water in the 12-inch header and the complex geometry of the secondary system. The large hydrogen gas generation from the sodium-water reaction products impacted a water slug which accelerated with great force and fractured a 12-inch capped pipe stub outside MFC-766. The caustic solids ejected from the process have been pressure washed. Pipe hangers have been shored up to reduce the possibility of pipe falling down. The building is in good condition to begin work again.

CWI has put corrective actions into place. It completed a new hazards assessment for the sodium treatment process and obtained an independent review of the hazards assessment. It is addressing the hazards due to exceeding either treatment fluid or sodium limits as analyzed in a new revision to the engineering designs. It is establishing dosing limits and/or methods to reduce the potential for excursions that could result in treatment liquids being accelerated or pushing treatment fluid into previously untreated areas of the piping system. They will perform a conduct of Operations refresher training for all crews and support personnel. They will also conduct a new MSA to ensure they are ready to go back to treatment.

To close EBR-II, CWI will continue closure activities and address the piping in the building. The tanks will be rinsed to achieve closure performance standards. Then, remaining lead and hazardous electrical components will be removed, the tank will be grouted, and the facility will be closed.

### **Discussion**

Mr. Gerstlauer asked about the components of EBR-II that had been removed. Mr. Brown explained that all systems are to be removed to the extent possible prior to grouting. Mr. Gerstlauer asked if operators who had worked at the MFC in the past were part of the team to review the incident. Mr. Brown replied that MFC operators had been involved from the beginning.

Bill Roberts asked about the process for sodium treatment. Mr. Brown replied it was new and confirmed that it could be used at the Hanford site. There have been some patents filed on the project. The patent will be owned by DOE.

Mr. Bohrer asked about the interface between CWI and BEA and whether it worked in this instance. Mr. Brown noted that communications between emergency control centers needed to be coordinated because they are located in two different spots. Mr. Brown commented that one of the strengths identified by the investigation team was the upfront incident planning that was conducted prior to the event.

### **DOE EM Budget Update**

Jeff Miller, DOE, provided an update on the EM budget. He started with identification of FY 12 cost and funding plans. He then reviewed the funding picture for FY 2011 through FY 2013 and reviewed the EM planning numbers through FY 2018. DOE has been asked to put together a couple of budget scenarios. DOE would like input from the CAB regarding plans for meeting milestones. He reviewed the process for formulating the budget and the initial priorities identified by DOE. DOE's priorities include sodium bearing waste, a calcine RCRA Part B permit modification, completing CH and RH TRU shipments, transfer of EBR II fuel from CPP 666, receipt and storage of DRR/FRR SNF; storage of SNF, a final CERCLA cap at INTEC, completing exhumation of targeted buried waste at the SDA, and D&D of INTEC facilities.

Mr. Griffith asked what criteria were used to set Site priorities. Mr. Cooper replied that first priority is regulatory milestones. In most cases, these milestones are focused on high risks areas and therefore accomplish risk reduction as well. There is also an agreement for transfer of SNF from wet to dry. DOE went through a process of identifying regulatory driven activities and then turned to ways it could reduce the 'hotel' costs of maintaining the Site.

Mr. Gerstlauer asked if there were any new buildings planned at the Site. Mr. Cooper replied that EM did not plan to build new facilities. NE has a lot of construction activities on its list.



Mr. Maynard asked why there was no funding for sodium bearing waste after FY 2011. Mr. Miller replied that the line-item funding for the project was completed. Operation of the facility is not included in the line-item for sodium bearing waste.

Ms. Brailsford asked whether uncosted funds mean carry over funds, and Mr. Miller confirmed this was correct. She asked if funding under the base case through 2018 would support compliance with regulatory agreements. Mr. Miller replied that it would not allow DOE to complete its vision of cleanup by 2015, but funding would still allow completion of milestones as scheduled under cleanup agreements. Mr. Cooper identified that over the long term, milestones could be in jeopardy. Ms. Brailsford asked if there was any time when a dip in funding was anticipated. Mr. Miller identified there was a dip in funding in 2018. There may be a lull because of the need to make decisions on spent fuel storage and management in the out years. Ms. Brailsford asked if the Site priorities were listed in order, and Mr. Miller confirmed. Mr. Miller also identified that the list was a priority list for the INL and that it is integrated with the HQ priority list. Mr. Miller mentioned that the CAB has put a letter together in the past about the budget. Mr. Miller believes this input is important when the budget is being planned.

Mr. Maynard asked about long term funding and whether milestones would be affected. Mr. Cooper replied that the main point is that EM is reducing its footprint at INL and now can put that money it has saved into other regulatory drivers.

Ms. Sherwood noted that the letter from the CAB should address funding in FY 2017 and beyond because it appeared funding would not support the calcine treatment project. Mr. Miller also noted that if continued acceleration was desired, the FY 2012 funding range makes it difficult. Mr. Cooper identified other opportunities such as RCRA funding for the tank farm that could help reduce liabilities sooner and reduce costs. In response to a question from Mr. Maynard, Mr. Miller noted that carryover funding could be used, but that if this amount of funding dropped significantly, it would be hard to plan what could be done if the budget went into continuing resolution.

## **Advance Mixed Waste Treatment Project Status**

Dr. Lattin, Federal Project Director for Solid Waste Disposition, provided a presentation on the AMWTP contract status. He noted that this week the project passed the 13 million man hour point for no lost work injuries. Dr. Lattin commented on the safety issues at AMWTP and noted that the systems in place to control activities were effective and identified the safety issues before workers got hurt.

Dr. Lattin provided a table showing AMWTP progress-to-date. Since 1999, 45,500 m<sup>3</sup> of waste out of approximately 65,000 m<sup>3</sup> of waste that was historically managed as TRU waste has been shipped out of Idaho. Since ITG took over the project, it has shipped 1249 m<sup>3</sup> of CH-TRU waste to WIPP and 13 m<sup>3</sup> of low-level radioactive waste to NNSS.

Dr. Lattin reviewed the contractor organization for AMWTP under ITG. There have been a number of changes in key personnel. The delays in the procurement process have affected the workscope, schedule, and budget for the remaining work. A final project baseline will be established when the negotiations over these items are completed between DOE and ITG (estimated by the end of March 2012).

Dr. Lattin addressed the Retrieval Contamination Enclosure/Inner Contamination Enclosure (RCE/ICE). The DOE Readiness Assessment was suspended in September 2011. Weaknesses were noted in Conduct of Operations and Training and Radiological Controls. Personnel layoffs affected retrieval personnel, and time was required to retrain and rewrite procedures. ITG is presently conducting a MSA to determine readiness to proceed. A DOE Readiness Assessment is planned to begin March 19, 2012, based on the results of the contractor assessment.

Dr. Lattin explained that the previous method for organic/inorganic sludge treatment was not in accordance with ITG's proposal. Waste was processed in the South Box-line, six drums at-a-time, using the Brokk manipulator. 4,000 – 5,000 drums remain for processing. The South Box-line was decontaminated of polychlorinated biphenyls (PCBs) and returned to treating debris. ITG conducted an alternative analysis for three options for treatment: treatment in ARP V; treatment inside the storage module; and treatment inside the RCE. The preferred option is treatment in ARP V. This has the advantage of increased throughput and a proven technique. There are issues to be resolved with permitting a RCRA process in a CERCLA unit. Anticipated startup is FY 2013.

### **Discussion**

In response to a question, Dr. Lattin explained the permitting issues involved with using ARP-V, a CERCLA facility for hazardous waste management. Dennis Faulk explained that CERCLA projects do not need permits. He would like to have ARP V declared surplus and not needed for CERCLA so that it could be permitted as a RCRA facility. Dr. Lattin noted that this then brings up issues related to closing the facility under RCRA.

Ms. Burke asked about the slide showing the amounts of TRU waste shipped out. She asked if coordination with WIPP on waste from ARP and waste from AMWTP was being conducted. There could be timing questions on meeting milestones between the two projects. Dr. Lattin noted that ITG has presented a master schedule for WIPP to consider. There are issues of waste generation amounts and waste acceptance amounts that need to be worked out as the baseline is finalized.

Mr. Bohrer asked what was involved with sludge processing. Dr. Lattin described the treatment process and how it had evolved. Wherever the process is conducted, it will be essentially the same, involving shredding of the drum.

Mr. Maynard asked about the drop in waste shipments in 2011. He asked whether it would be lower in 2012. Dr. Lattin replied that it is projected to be 4300 m<sup>3</sup> in FY 2012. Mr. Maynard asked about training at AMWTP. Dr. Lattin noted that a training manager had been rehired and that a 'train the trainer' approach was being used as well. Mr. Maynard asked about training and personnel needs for sludge treatment. Dr. Lattin replied that ITG had originally proposed using the same crew that retrieved the waste to repack the waste. Since retrieval has been delayed and it will take longer to be completed, an extra crew will be needed for sludge treatment. It is expected that the crew will be added in FY 2013, assuming the treatment system is put in place.

Ms. Sherwood asked about the training. Dr. Lattin confirmed her impression that the changes in the sludge process were driving the need for retraining. He explained that training of the personnel was a key aspect that was evaluated as part of the readiness review.

Mr. Gerstlauer asked about whether ITG was receiving funding to fix these problems above and beyond what they had planned to receive through the contract, under which funding is tied to waste leaving the Site.

### **Public Comment Period**

No public comment was provided

### **Sodium-Bearing Waste Treatment Project Update**

Richard Craun, DOE Federal Project Director, provided an update of the status of IWTU. Construction was completed on June 3, 2011. Hot Nitrogen Integrated Systems Test, a key performance parameter, was completed October 20, 2011. A contractor MSA was completed November 18, 2011. The MSA indicated additional time should be scheduled to improve operator proficiency. From February 19 to the 25<sup>th</sup>, a follow-up review of

operations performance was conducted. This indicated the project was ready for the Contractor ORR, which was conducted February 27 through March 9, 2012.

The Contractor ORR verified readiness for startup for plant and equipment, management and personnel, and management programs including procedures and plans. The review addressed all IWTU systems through actual operations demonstration, simulation in field, or IWTU simulator. The team had 16 subject matter experts. DOE ORR team members observed the Emergency Drill Exercise on March 1, 2012. Observers included representatives from the Defense Nuclear Facilities Safety Board, the Idaho Department of Environmental Quality (DEQ), the DOE Office of Health, Safety, and Security, and DOE-ID.

The Contractor ORR concluded performance was satisfactory. Nine pre-start findings and 22 opportunities for improvement were identified. No post-start findings were made. The good safety culture of the project was noted by the team. It recommended that the DOE ORR, startup authorization, and initial operation should move forward. The project is addressing the pre-start findings in preparation for the DOE review.

The DOE ORR will be from March 26 to April 6, 2012. There are 17 members. The difference between the contractor and DOE reviews is that the DOE review looks not only at the contractor, but also at the DOE personnel assigned to monitor and observe operations of the facility. It will also verify that all pre-start findings from the contractor review are resolved. Once the DOE review is completed, formal approval for project close-out and turnover for operations will be sought. Then authorization to start nuclear operations will be sought from the EM Chief Nuclear Safety Advisor for Safety and Security Program

### ***Discussion***

Mr. Griffith asked if the process for startup described by Mr. Craun was typical of other facilities. Mr. Craun replied that this was similar for this type of facility. Mr. Cooper explained that this was a higher hazard category facility than has been reviewed at INL in the past 20 years. The requirements have been revised and updated. Stringent requirements are followed.

Mr. Griffith asked where observers come from and whether they come from foreign countries. Mr. Craun replied that observers are primarily from DOE and are experts associated with a particular aspect of the facility operations.

Mr. Griffith asked what public relations events were anticipated for the project. Mr. Cooper noted that the project has been a challenge due to the delays. Once the project is up and running, DOE is planning to hold a media event.

Mr. Preacher asked about training and whether operators were already certified and qualified. Mr. Craun replied that this was an area noted by the review team because the operators were hired and trained and ready to operate the facility at the time of the readiness review.

Ms. Karst asked about project schedule. Mr. Craun replied that start up would begin the end of April. The plant would be processing at a steady rate, and the goal is to meet the consent order date of the end of December. The plant will operate around the clock.

Ms. Brailsford asked what types of issues were involved in the pre-start findings. Mr. Craun replied that it was people, paper, and procedural types of issues. Most of the findings were paper findings.

## **Sodium-Bearing Waste Treatment Project – Integrated Waste Treatment Unit Operational Plan**

Shaun Hill, DOE, provided a briefing on the operational plans for IWTU. Current plans indicate that the project can be completed by the Consent Order date of December 31, 2012. He provided information on how DOE was calculating the amount of time the IWTU would be operated to process waste.

The startup plan calls for phased start up and integrated testing. The system will be tuned with water, the bed will be formed and performance testing will begin. The systems performance test is done on hot waste. It will support the conditions established for operations in the RCRA operating permit. The system will run at 3 gallons per minute until DEQ has a chance to review the data and approve full operations. The schedule provides for hot temperature start-up on April 6, initiation of a treatment campaign on April 23, processing beginning May 24.

### ***Discussion***

Ms. Burke clarified that there are two documents involved with IWTU. One is the Settlement Agreement, which requires the sodium bearing waste to be calcined by December 31, 2012. The state has allowed the IWTU to work as the treatment. There is also a consent order requiring closure of the INTEC tanks. This document is also tied to IWTU, as IWTU is needed to empty the tanks.

Mr. Preacher asked what type of particle product was being sought from the IWTU. Mr. Hill replied that they had a blending capability to make sure they could produce the right particle size.

Mr. Gerstlauer asked how long it took to shut down the plant so they could go into process areas if there was a need for maintenance. Mr. Hill indicated that most systems were designed so they could be maintained without entry. It would take the plant about 5 days to cool down before it could be accessed. The product canisters are handled remotely.

Mr. Sica asked what the product of the IWTU was. Mr. Craun explained the process of generation and storage of the containers of the treated waste. Mr. Sica asked about the final disposition of the waste. Mr. Craun replied that the waste could be classified as other than high level waste and might be able to go to WIPP. If it is not classified as TRU it would have to go to an underground repository.

Mr. Maynard asked about the December 2012 milestone for processing the waste. He noted it was a tight schedule, and Mr. Hill agreed. Mr. Gerstlauer asked what procedures were in place in the event there was a release or explosion. Mr. Hill described the strong background and training of the operators of the facility. If anything goes wrong, there are emergency and alarm procedures. The systems can analyze the conditions and shut down if needed. If there is equipment breakage, they will follow work control processes to complete repairs. As for parts most likely to fail, INL has spares on hand. Mr. Hill explained how trending and troubleshooting would be conducted by the operators.

Ms. Karst asked how the waste was introduced to the system. Mr. Hill explained that the facility includes encased lines back to the New Waste Calciner. The tanks are connected through that facility. Ms. Karst asked about the hazards from the conveyance system. Mr. Hill noted that there was continuous monitoring of the lines and the transfers. It is also a batch process that can be controlled.

Mr. Bohrer asked about the volume reduction expected for the project. Mr. Bohrer asked what contract incentives were in place to meet for the project. Mr. Cooper explained that the contractor is under a 'reverse incentive' where it will stop losing fee once the project is completed.

Mr. Bohrer asked what the contractor is doing to assure retention of employees to operate the facility. Mr. Cooper replied that the project completed in December 2012. In order to get the contract extension, CWI will make a strong commitment to meet the schedule.

Mr. Gerstlauer asked about the deadline and what would happen if it is not met. Ms. Burke clarified that the project would continue but that receipt of spent fuel into the state could be restricted until it was completed if the December deadline is missed. Ms. Burke explained that restricted receipt of spent fuel is the remedy for nearly any violation of the settlement agreement.

Ms. Brailsford asked about the plans for mixing and holding the sodium bearing waste in the tanks. Mr. Hill explained that 4 tanks are still open in the tank farm. The amount of solid material in the tanks differs; the chemical and radioactive makeup is similar. It will be transferred to the New Waste Calcining Facility, where there are hold and blend tanks. The operators will assure the tanks contain the correct blend. The waste will then be processed in batches through the facility. They are confident in their knowledge of the waste contents.

## **EM Organization**

Jim Cooper provided an organizational chart and briefing on the new EM organization.

Mr. Griffith asked where in the EM organization issues such as Blue Ribbon Commission are dealt with. Cooper replied that it would fall in EM-30 under Frank Marcinowski. Mr. Griffith asked what effort was being put into responding to the Blue Ribbon Commission. Mr. Cooper noted that this was being actively considered by DOE.

## **Closing Out Ecological Monitoring under the Comprehensive Environmental Response, Compensation and Liability Act**

Nicole Hernandez provided a presentation on closing out ecological monitoring under CERCLA. She explained that an ecological risk assessment is much more complex than a human health risk assessment because, among other factors, it deals with many species simultaneously, involves food-chain (predator-prey) interactions, and exposures cannot be controlled by protective measures. She described the process followed for conducting ecological risk assessments at the INL Site.

First, each WAG completed a screening-level Ecological Risk Assessment. These assessments are conservative because they apply values that tend to overestimate risk. If screening-level results showed no impact to assessed species, the contaminant was eliminated from further consideration. If all contaminants were eliminated, the site was eliminated. Sites that had a hazard quotient greater than 10 were reviewed further. (A hazard quotient represents the potential for harm. It is not a probability.) In the next phase, new assessment areas surrounding the WAGs were defined and a site-wide ecological risk assessment was conducted. A site-wide ecological risk assessment determined that there were no ecological effects at the Site to animal populations because the Site is limited in development. Contamination is also limited to developed areas for the most part. The selected remedy for ecological resources under WAG OU10-04 was no action with site-wide ecological monitoring. Monitoring would ensure that expectations regarding protectiveness of the no action approach are met. The main purpose of monitoring was to obtain effects data for plants and animals and to obtain focused characterization data in contaminated media and biota. The final phase is the monitoring that was conducted from 2003 through 2008. The locations and targets varied from year to year. Methods included both observational and analytical techniques.

Few adverse effects were observed from the monitoring despite a built-in bias of monitoring near contaminated areas. Differences from the reference areas were generally small and may be attributable in whole or in part to natural variability. A few plots, particularly those near facilities where remediation is underway, showed some effects.

Ms. Hernandez reviewed the conclusions that DOE has reached based upon the monitoring. The monitoring adequately addressed areas of uncertainty. Monitoring under CERCLA at this time does not appear warranted. The WAG specific ecological risk assessments were refined with the actual data. These results show that the only sites of concern are those located where active remediation continues. These areas can be addressed on a site-specific basis during the CERCLA 5 year reviews.

DOE is planning to prepare a final Remedial Action Report to document that no further ecological monitoring is warranted. The report will summarize the monitoring results and conditions at the site. Ms. Hernandez noted that monitoring of the INL site continues under the Environmental Surveillance, Education and Research Program run by Gonzales-Stoller Surveillance. Newly discovered CERCLA sites are managed under OU 10-08. CERCLA 5 year reviews also will assure effectiveness of the remedy.

### **Discussion**

Mr. Sica asked if there were any concerns about migratory animals. Jean Holdren, CWI, replied that migratory animals generally do not get the same level of exposure as animals that live on the site, and by evaluating residents, they are being conservative. Mr. Preacher commented that the Shoshone-Bannock Tribes' program also samples and has never detected anything.

Ms. Karst asked if monitoring included looking for events such as Fukushima. Ms. Hernandez noted that monitoring was not conducted after events, but that monitoring was complete in terms of the plants, soil, animals monitored. Ms. Holdren noted that plots which are routinely monitored did not show any evidence as a result of the Fukushima event.

Mr. Luper asked if there was any effort to assess the consequences of site management as a whole – such as fire management, etc. He asked how sensitive species habitat is protected. Mr. Hernandez noted that the Stoller-Gonzales program looks at site-wide consequences. Ms. Hernandez will provide the link for the Gonzales-Stoller monitoring program. Ms. Hernandez commented that the INL is also developing a natural resource conservation management plan to protect habitat of sensitive species.

### **Test Area North Groundwater Project Update**

Ms. Hernandez provided an update on groundwater remediation activities. She started with a description of all the groundwater contamination plumes at the site. She then turned her focus to TAN. The source of groundwater contamination at TAN is an injection well used from 1953 to 1972. There are three plume zones: the hot spot, the medial zone and the distal zone. The remedy has three components. ISB is conducted in the hot spot. Volatile organic compound concentrations in the medial zone are treated using the New Pump and Treat Facility. In the distal zone, monitoring is conducted to assure concentrations are declining. Concentrations have been reduced in the hot spot and medial zone since 1997. The plume itself has expanded but not beyond the 30% that is allowed.

Mr. Sica asks for more description of the plume. Ms. Hernandez indicated that it is 2 miles long. It is large. Mr. Sica asks if anything has migrated outside the site. Ms. Hernandez indicated that the evaluation of site-wide groundwater showed there was no contamination migrating off site.

Ms. Hernandez indicated that high concentrations were still being shown at two spots in the WAG. A rebound test and monitoring is planned to assess this contamination. The first issue is that trichloroethylene (TCE) remains high at TAN-28 and TAN-29 monitoring wells. The first objective is to evaluate whether a residual TCE source will remain in the aquifer after ISB has stopped. TCE concentration trends over 2 years will be evaluated. Another objective is to evaluate whether a vadose zone source affects the aquifer. The question is, if a vapor source exists, will it impact meeting the Remedial Action Objectives? If it does, a vadose zone investigation will be conducted.



The third objective is to evaluate the potential causes of persistent TCE concentrations at wells TAN-28 and TAN-29. The potential causes are mounding water from ISB injections migrating through the vadose zone, transporting contaminant to the well; that ISB is not treating all residual source in the aquifer; or that the vadose zone source is impacting groundwater.

The second issue is radionuclide concentrations in the wells. The objective of the test is to evaluate whether radionuclide concentrations will begin to trend downward after ISB has stopped. The test will evaluate radionuclide concentration trends over 2 years. The trend of increase or decrease will determine if further action is needed. During the ISB rebound test, injections will stop. Concentrations will be monitored to see how they change. One issue is when to start the test as it will interrupt the ISB. The parameters that will be assessed are tritium, dichloroethylene (DCE), and total ethene trends.

In summary, Ms. Hernandez explained that the remedy is currently protective and that the follow up actions being planned will ensure the remedy remains protective long term. The rebound test is expected to begin in 2012.

### ***Discussion***

Ms. Sherwood thanked Ms. Hernandez for her presentation and her obvious passion and interest in her work.

Mr. Sica asked if effects of climate or temperature had been experienced by the project. The primary temperature effect is due to use of cold water to inject the microbes during cold weather. Ms. Hernandez noted that since ISB started, groundwater levels have dropped 20 feet. Much of this has been since year 2000. This is an issue as source zones are changing every year. Mr. Sica commented that these types of changes in groundwater may be expected over the life of an aquifer.

Ms. Brailsford asked if the vadose zone source could be considered stranded contamination. The source of contamination in the vadose zone is not so clear. Down the road, some sort of treatment may be needed. Ms. Brailsford asked why bioremediation could cause a concentration of radionuclides. CWI representatives explained the processes that could lead to this effect.

Mr. Faulk commented that from the CERCLA perspective this is the most problematic area of the site. The rebound test will help in our understanding. We need to address how effective ISB is and whether it adequately addresses radionuclides. The institutional controls at TAN are a key to maintaining the effectiveness of the remedy.

### **Waste Area Groups – Future Work Plans**

Ms. Hernandez provided a presentation on future work plans for the WAGs. She reviewed the status of each of the WAGs in terms of major cleanup actions completed, active remedial actions, and long-term stewardship components. She described the types of activities involved in maintaining the remedies that have been selected for the WAGs. She described the groundwater monitoring that is conducted.

### ***Discussion***

Mr. Sica commented that he had read a book about the history of the INL and that it mentioned that carbon tetrachloride was used extensively at the site. Ms. Holdren stated that this was a primary contaminant at RWMC and that most of it came in the waste from Rocky Flats. Mr. Koch also explained that the sludge at AMWTP is also contaminated by carbon tetrachloride.

Mr. Koch asked Ms. Hernandez to explain how the year 2095 had been selected as a date for institutional controls to last. She explained that it is 100 years from the first Record of Decision (for WAG 01) requiring institutional

controls. However, there is no assurance that cleanup will be completed by 2095. Future remediation may not be based on 2095, especially if there is a future mission for the INL.

Ms. Sherwood asked whether the goal of DOE is to turn the land back to some other land owner in 2095. Mr. Koch commented that there would be little interest in this land. The institutional controls would have to be continued.

Mr. Faulk clarified that the idea of a 100 year time frame may have come from Hanford, where it was decided it was fairly certain the government would have a presence for the next 100 years.

Ms. Karst asked about the ordnance. There is no technology to cost effectively remove ordnance from the amount of area at the INL. When a new facility or work is needed, an area is cleared. It is only cleaned up as needed. Ms. Sherwood asked about risks from burrowing animals. Ms. Holdren replied that there is an annual inspection conducted to check on maintenance needed to address changes in conditions. At INTEC, plans are to incorporate designs that prevent burrowing.

Mr. Lupher asked what percentage of the Site was unaffected by contamination and whether any land has been turned over to others. Ms. Hernandez noted that hunting and grazing are allowed. Facilities and roads occupy about 6% of the Site.

## **CAB Work Session**

The CAB discussed the upcoming April chairs meeting in Paducah. The CAB reviewed recent issues of interest to the CAB for presentation at the chairs meeting. Mr. Preacher noted he was concerned about the lack of a path forward for high level waste. He felt this should be a top issue. Mr. Bohrer felt that the budget should be the number two issue. If funding is not provided to accelerate or maintain cleanup, the lifecycle costs of cleanup just increase. The high level waste issue is also a cross-cutting issue. Ms. Karst noted that IWTU is also an issue. It is critical that it go smoothly. The success of IWTU can have success implications beyond the INL. IWTU will be cross-cutting.

The CAB discussed writing a letter on the EM budget. They felt it was important to point out the need for funding to support calcine treatment. Ms. Sherwood agreed to initiate the budget letter. The CAB will review the draft. The letter will be sent by April 1.

The CAB discussed potential agenda items for upcoming meetings. The CAB set the agenda for the May meeting. An orientation and new member training will be held in the afternoon of May 8. We would like to have mentors attend the training. Harrison volunteered to be a mentor. Tami noted that the presentation by Nicole Hernandez that reviewed the WAGs would be a good resource for the training. A background in radiation and also a review of acronyms will be covered. An archaeological tour will be held on the 9<sup>th</sup>. On the 10<sup>th</sup>, there will be a half day tour of AMWTP followed by a presentation by Dick Raaz.

Agenda items identified for the July meeting in Fort Hall are a tour of the CWI portions of the cleanup at the Site, followed by a meeting with presentations on ARP VIII Construction Status, EBR-II D&D, the AMWTP enclosure treatment, and the Idaho Leadership in Nuclear Energy (LINE) Commission.

An action item from the meeting is for Nicole Hernandez to provide information on environmental monitoring conducted by Gonzales-Stoller at the INL Site.

I certify that these minutes are an accurate account of the March 14, 2012 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