

# Quarterly Public Meeting<sup>1</sup>

Ashford Office Complex  
9030 Route 219  
West Valley, New York  
Wednesday, August 28, 2013

## Meeting

- 6:30 pm Welcome and Introductions..... Bill Logue
- 6:35 pm Project Update ..... Dan Coyne, CHBWW
- 6:55 pm High-Level Waste Canister Relocation..... Heatherly Dukes, CHBWW
- 7:40 pm Permeable Treatment Wall Update..... Charles Biedermann, CHBWW
- 8:10 pm BREAK
- 8:20 pm Phase I Studies Update ..... Bryan Bower, DOE
- 8:30 pm Follow-up discussion/hold-over items from presentations; suggestions for future meeting topics
- 8:55 pm Adjourn

**Next Meeting Tentatively Scheduled  
Wednesday, November 20, 2013  
6:30 p.m.  
Ashford Office Complex**

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<sup>1</sup> To view presentations from the meeting and participate via WebEx please email [Bill@LogueGroup.com](mailto:Bill@LogueGroup.com) by noon August 27 and an electronic meeting invitation will be sent to you. When possible please use the WebEx chat feature to post questions or comments. The facilitator will read these to all present.



## GROUND RULES For Quarterly Public Meetings



West Valley Demonstration Project (WVDP) and  
Western New York Nuclear Service Center (WNYNSC)

- *Please turn cell phones off, or to vibrate.*
- *Please respect the time limitations of the meeting.*
- *One person will speak at a time.*
- *Please do not interrupt anyone who is speaking.*
- *Please avoid side conversations in the room.*
- *Please hold all questions and comments until the presentation is completed and the moderator begins the question/comment period.*
- *Please clearly state your name before asking a question or making a comment.*
- *It is the moderator's job to manage the order of stakeholder participation (questions/comments) during the meeting.*
- *Stakeholders at the meeting will be recognized first.*
- *Stakeholders at the meeting should raise hands to be recognized before speaking.*
- *Stakeholders on the telephone or participating in a web-based meeting will be recognized after all questions/comments from stakeholders at the meeting are processed.*
- *Stakeholders on the phone please place your telephones on mute unless you are recognized by the moderator to speak.*
- *Meeting notes will be taken; meeting summaries will be prepared and posted on the website following review and approval by DOE/NYSERDA. The meeting summaries will include a general summary of questions and responses, but will not include individual comments and responses.*

# West Valley Demonstration Project

## Summary of Quarterly Public Meeting – August 28, 2013

### Members of the Public and Others Present

Diane D'Arrigo, Barbara Frankiewicz, Joanne Hameister\*, Rick Miller, JoAnn Ratajczak, Paul Siepierski, Ray Vaughan, Barbara Warren, Jay G. Wopperer.

### Agency and Contractor Participants

*Department of Energy (DOE)*: Bryan Bower, Marty Krentz, Moira Maloney, Sandy Szalinski, Ben Underwood.  
*New York State Energy Research and Development Authority (NYSERDA)*: Paul Bembia, Lee Gordon, Elizabeth Lowes, Allyson Zipp.  
*CH2M Hill B&W West Valley, LLC. (CHBWV)*: Charles A. Biedermann, Dan Coyne, Cindy Dayton, Heatherly Dukes, John Rendall.  
*Enviro Compliance Solutions, Inc. (ECS)*: Dhananjay Rawal\*.  
*New York State Department of Environmental Conservation (NYSDEC)*: Ken Martin.

### Introductions and Announcements

The facilitator Bill Logue welcomed all present and on WebEx and reviewed the meeting protocols and documents<sup>1</sup>.

### West Valley Demonstration Project Update

Dan Coyne of CHBWV provided a Project Update.

Main Plant Process Building (MPPB) & Vitrification Facility. The MPPB Lower Extraction Aisle (LXA) deactivation is complete, as is asbestos abatement on piping in the Analytical Lab Aisle, Analytical Decontamination Aisle and Laundry. In the Vitrification (Vit) Facility the Out-of-Service piping systems in the Operating Aisles have been deactivated and clean-out continues of equipment, materials and debris from the Vit Cell.

Balance of Site Facilities. Demolition and waste load-out of the Waste Tank Farm Test Tower foundation is complete. The Waste Tank Farm Test Tower itself was removed earlier. Building 01-14 has been demolished, and RCRA closure sampling and soil cover placement have been completed. The resulting waste is non-contaminated industrial waste.

Waste Operations. Repackaging in the waste processing area continues. There are two general categories of wastes being removed: legacy waste (waste generated during facility operation) and waste generated by the current work. Mr. Coyne reviewed waste shipment volumes to date: Industrial Waste – 67,865 ft<sup>3</sup>, Low-level Waste (LLW) – 67,790 ft<sup>3</sup>, Mixed Low-level Waste (MLLW) – 596 ft<sup>3</sup>, and hazardous/universal waste – 211 ft<sup>3</sup>. LLW wastes are shipped to disposal facilities in Utah and Nevada, MLLW to Texas and industrial waste primarily to Pennsylvania. Grouting and other preparations for off-site shipment and disposal of the Vitrification Melter, Concentrator Feed Makeup Tank (CFMT) and Melter Feed Hold Tank (MFHT) are under way.

Mr. Coyne reviewed the next steps in the four contract milestones for the coming six months. For Milestone 1 (HLW Canister Relocation & Storage System), CHBWV preparing to align vendors to construct the storage pad for the High-level Waste (HLW) canisters. In Milestone 2 (Shipment of Legacy Waste), CHBWV is preparing the vitrification melter and components for off-site shipment; complete low-dose transuranic (TRU) drum removal from the Chemical Processing Cell (CPC). The drums containing TRU waste emit a little less than 80 r/hour and have

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<sup>1</sup> Documents and materials relating to the Phase 1 Studies are available at [www.westvalleyphaseonestudies.org](http://www.westvalleyphaseonestudies.org). Materials related to WVDP Updates may be found at [www.wv.doe.gov](http://www.wv.doe.gov) with Quarterly Public Meeting information. All are listed at the end of this summary.

\* Attended by WebEx.

been put in shielded Kistner boxes for storage in the Lag Storage Building. For Milestone 3 (Demolition and removal of the MPPB and Vitrification Facility), after other debris has been removed the HLW canister decontamination will begin. In Milestone 4 (Completion of all Work Described in the Performance Work Statement), CHBWV will conduct pre-demolition and initiate demolition activities for seven site facilities.

In response to a question, Mr. Coyne noted that the decision about shipment of the melter, CFMT and MHFT by rail or truck is in the study phase; however, it appears that the equipment might be too wide for the rail surroundings into Ashford Junction. If this is the case, the vessels could be trucked to Ashford Junction or another western New York location for further rail shipping.

### **High Level Waste Canister Relocation and Storage Project Update**

Heatherly Dukes of CHBWV provided an update of the HLW Canister Relocation and Storage Project. The objective of Milestone 1 is to relocate 275 HLW canisters, two evacuated canisters, one non-routine HLW canister, and two Spent Nuclear Fuel (SNF) debris drums from the CPC in the MPPB to a stand-alone dry storage cask pad on the South Plateau. This will allow for demolition of the MPPB. Each canister will be decontaminated and groups of five canisters will be loaded into one multi-purpose overpack (MPC). Each MPC will be placed in a dry storage shielded cask and a lid will be welded on remotely. The casks will then be transferred to the storage pad location. At some future date, when an off-site long-term storage repository is approved, the MPCs will be transferred to shipping containers for transport to the repository.

NAC International (NAC) will design the HLW storage system. Their scope of work includes the pad design and storage cask design, fabrication and delivery of the MPCs and 56 storage casks. NAC will provide the equipment for in-facility transport, MPC lid welding and fixture lifting, and equipment for and transport of the loaded storage casks to the storage pad. NAC will provide data and analysis to support the design and safety analysis to prevent incidents and training and mock-up support. Butler Construction Co. - a local company - will build the pad. The construction of the pad is approximately \$3.5 million (\$5.5 with overhead). The MPCs cost approximately \$0.5 million each, including fabrication and overhead. The stainless steel MPC liners take about one year to fabricate. All the MPCs could be done at the same time; however, to address funding levels they will be manufactured over time.

Ms. Dukes reviewed two options being evaluated for moving the canisters through the MPPB. The canisters are contaminated with particulates in the air and as waste and equipment are brought in and out of the CPC. The options differ with regard to the location and method (e.g. water, steam, vacuum) for remote decontamination and the potential for cross contamination during the process. There are advantages and disadvantages and differences in costs associated with each option. A Request for Proposals (RFP) for decontamination has been issued.

Ongoing activities: the miscellaneous waste in the (Chemical process Cell) CPC has been cleaned out and waste is being moved out of the Equipment Decontamination Room (EDR). Methods for canister decontamination are being tested. Eight Storage Casks will be built in October - November or perhaps in the spring depending on weather conditions. Completion in the spring will not cause delays. Each unloaded MPC will weigh 14,500 lbs. unloaded and ~175,000 lbs. loaded, be 161" tall, 120" in diameter with concrete 20" thick with a 4" steel liner. The contact dose rate for each cask is expected to be less than 3r/hour on average.

Two years have been set aside for review and approvals of modifications and completion of hazard analyses. Transport to the pad should begin in FY 2016 and conclude by 2018. The EDR design is 90% complete and includes floor loading upgrades in the soaking pit area. The procurement award is complete for eight MPCs and liners and the cask transporters. The final design of the storage pad has been completed. A Stormwater Pollution Prevention Plan was submitted to NYSDEC. Geotechnical sampling was completed to learn the weight requirements of the roadway from the MPPB to the pad area. Mr. Biedermann of CHBWV reported that five wetland areas were identified in addition to the two already located. Installing silt fences and straw bales are used

for wetland protection. Setback boundaries were established so that the construction activities do not impact the wetlands.

Ms. Dukes reviewed the storage pad features and dimensions and its system features. The pad will require excavation up to 12' deep. The pad itself will be 3' deep and 144' x 110' including loading aprons and space for 4-6 additional casks. The casks and pad are able to withstand a seismic event and have a design life of 50 years.

Ms. Dukes provided a project look ahead and project schedule for major tasks: Evaluate and award procurement for the design and fabrication of the decontamination system, automatic welding system for the MPCs, engineering and construction for the MPPB structural floor modifications; cask fabrication start-up; characterization/grouting of the soaking pit; submittal of the waste compliance plan; EDR floor core borings; haul road upgrades; and deliveries of the eight cask liners (Oct 2013), materials for the eight MPCs (Dec 2013), the TL220 transporter (Apr 2014), and the transport of the A-frame and tugger (Apr 2014). Major tasks projected schedules included the construction of the storage pad (Nov 2013); obtaining of DSA approval- DOE Safety Evaluation Report (Dec 2013); obtaining NRC Certificate of Compliance for shipping HLW (Nov 2014); Approved start of transfers – operations (Sep 2016); and completion of the relocation of canisters/SNF Debris/etc. (Jun 2018)

Ms. Dukes responded to questions raised by members of the public. She explained that the shipping method for the HLW for disposal had not yet been looked into, but that rail was an option as width of the casks does is not an issue. With Yucca Mountain not licensed and not likely to be, there is no national HLW repository.

Regarding a question about security systems for the storage pad in anticipation of accidental or planned events, Ms. Dukes responded that credible events are looked into and analyzed. For example, tornadoes, seismic events, fire, floods, a small aircraft crash. In such events, the canisters will only pose a negligible risk to the public as the vitrified glass will not become airborne. Security is planned for and surveillance is set up. Mr. Bower noted that planned event analyses are not public information for security reasons and noted that the system is more robust than what is used for SNF. Ms. Dukes added that the system is designed in such a way that passive controls, rather than active controls (ventilation, electricity/back-up generation, etc.), are used, which makes for a more robust and better system. Each component provides a layer of security (the fact that the waste is stored in glass form, the stainless steel canister, the MPC and the cask).

In response to a question, Mr. Bower responded to the question regarding the timeline for removal of the source area of the strontium-90 groundwater plume, that there are several steps before work can begin, including the MPPB removal. The current decommissioning and demolition contract will remove the MPPB to ground level. The next contract is likely to be awarded for work starting about 2020.

#### **Permeable Treatment Wall (PTW) Update**

Charles Biedermann of CHBWV presented a performance update on the North Plateau Groundwater Plume (NPGP) Permeable Treatment Wall (PTW) (much of this presentation is in the form of images and graphics available online with the meeting materials on the DOE WVDP website). The PTW installation was completed in November 2010 and the monitoring system consists of 66 wells installed in and near the wall and 22 wells further from the wall. Monthly visual inspections are conducted. Hydraulic (water level) monitoring was done between January 2011 and January 2012 and is again being performed monthly. In addition to well monitoring, sampling began quarterly in April 2011 and expanded annual sampling and monitoring began in 2012. A 5-year comprehensive sampling and monitoring report will be released in January 2015.

Mr. Biedermann presented a detailed graphic of the monitoring wells and explained that the treatment system is designed to remove strontium-90 (Sr-90) from the contaminated groundwater through an ion exchange process using the zeolite wall without changing the groundwater flow. Results of inspections and monitoring to date indicate no significant erosion or standing water, no substantial alteration of groundwater flow and effective removal of Sr-90 based on the significant Sr-90 decreases in the down gradient wells.

Mr. Biedermann explained that the PTW is a large and complex system and that some local variations in performance were expected and have been observed. Sr-90 has been detected in six intra-PTW wells and one down gradient well has exhibited Sr-90 levels that exceed concentrations found in the well located up gradient and directly to the south since the January 2011 baseline sampling. Other down gradient well concentrations have consistently decreased and the one exception is likely due to localized east to west groundwater flow passing through the wall diagonally. Monitoring will confirm the zeolite is continuing to remove the Sr-90 before it exits the wall. Sr-90 has a half-life of 30 years and decays into yttrium which has a very short half-life. The PTW is designed to last 20 years at which point it could be replaced, additional zeolite backing layers added or left in place. Testing and monitoring continues.

Mr. Biedermann then showed detailed graphics of the unique groundwater flow and the contamination levels (Sr-90 plume delineation in the thick-bedded unit from the baseline in January 2011 and in January 2013 and detailed graphics of the Sr-90 plume delineation in the slack water sequence, 15-30 feet deep, also from first the baseline in January 2011 and again in 2013). Another graphic showed monthly Swamp Ditch Sr-90 concentration levels from November 1992 until today. In the last two years, the Swamp Ditch contamination levels have decreased but there is a great deal of variability. With increased rainfall, the water dilutes Sr-90 and with decreased rainfall, the levels increase/concentrate. In conclusion, Mr. Biedermann noted that the PTW is functioning as designed; monitoring and evaluations will continue quarterly and be documented in annual reports. The PTW received a 2012 DOE Sustainability Award Honorable Mention.

In response to the questions, Mr. Biedermann explained that the Sr-90 plume is about 30 feet deep and that the speed of which it moves varies significantly, but generally is faster with more rainfall. Mr. Bower added the PTW captures a large portion of the Sr-90 and installing more zeolite near the leading edge of the plume would be significant in cost and would be less effective because with low concentrations of Sr-90 the zeolite would remove more calcium, limiting the sites available for Sr-90 absorption. Mr. Biedermann continued by saying that testing was done at the University of Buffalo and on-site and there have been extensive studies to design the optimal location of the PTW. In response to a request for the Annual PTW Monitoring Report, DOE stated that a FOIA request should be submitted as this will ensure that the request is tracked and the exact report is provided. The Annual Site Environmental Report (ASER) is publicly available without a FOIA request. Zeolite walls are used both in Canada and at other DOE sites in the United States. Mr. Biedermann stated in response to a question that ground cover helps control the surface runoff, but that grass and other vegetation is tested at the WVDP for absorption of radiological contaminants.

### **Phase 1 Studies Update**

Bryan Bower of DOE provided a brief Phase 1 Studies update (there was no PowerPoint presentation).

Mr. Bower explained that the agencies continue to evaluate how uncertainty will be addressed and are working to define an analytical framework to quantify uncertainty. They are meeting frequently and making significant progress and should have more details in the near future. The plan is for the Subject-Matter Expert (SME) working groups to move forward with instructions on addressing uncertainty.

A member of the public noted that a number of the environmental stakeholder organizations were disappointed with the Climate Change Guidance document and wanted to ensure that the working groups would incorporate climate change considerations, including locally relevant data, in their recommendations. Bryan Bower stated that climate change with respect to impact on erosion regarding long-term performance, especially with respect to engineered barriers would be considered. The agencies clarified that the current erosion mitigation methods currently being implemented for the creeks were designed as decades long solutions with active monitoring and maintenance.

A member of the public asked about the rainfall from the 2009 storm, the PTW and potential for landslides to increase the concentration of the plume discharge. Mr. Biedermann responded that no slide took place on the

North Plateau during that storm. Mr. Gordon said that he did not think that the Buttermilk Creek landslide would impact the PTW. Mr. Bembia added that he did not think a slump or slide would significantly increase the concentration of any plume discharge. A member of the public noted that the two burial grounds are unlined and would not be licensed at this location today. Mr. Bembia stated that the thick clay was intended to provide containment for the waste, and shallow-land burial was an accepted disposal technology at the time. He said it might even still be used at some sites today, perhaps at Barnwell. He added that the West Valley site probably wouldn't meet today's Part 61 siting criteria.

**Topics for Next QPM**

At the conclusion of the meeting, Mr. Logue asked for suggestions of topics for future QPMs:

- Update on Agencies' Response to Stakeholder Recommendations on Phase 1 Studies Topics

Mr. Logue asked that other topics be emailed to Ms. Maloney of DOE and Mr. Gordon of NYSERDA.

**Documents Distributed at the Meeting**

<b>Documents Distributed</b>	<b>Generated by; Date</b>
Meeting Agenda	ECS; 8/28/13
CHBWV Presentation – Project Update	CHBWV; 8/28/13
CHBWV Presentation – HLW Canister Relocation & Storage Project	CHBWV; 8/28/13
CHBWV Presentation – PTW Update	CHBWV; 8/28/13