Quarterly Public Meeting[1]

Ashford Office Complex
9030 Route 219
West Valley, New York
Wednesday, November 14, 2012

6:30 pm Welcome and Introductions..... Bill Logue

6:35 pm Climate Guidance for Phase 1 Studies..... Dan Herlihy (ECS)

7:00 pm Phase 1 Studies Update..... Bill Logue

7:10 pm Follow-up Questions and Discussion on Above Topics

7:30 pm BREAK

7:40 pm WVDP Project Update ..... Bryan Bower, DOE

8:10 pm Annual Site Environmental Report Update.....John Rendall, CHBWV

8:50 pm Topics for Next Meeting..... Bill Logue

8:55 pm Wrap up

9:00 pm Adjourn

Next Quarterly Public Meeting Tentatively Scheduled
Wednesday, February 27, 2013
6:30 p.m.
Ashford Office Complex

[1] If you want to participate the QPM via WebEx then please e-mail Dhananjay at drawal@ecs-i.com with your name, affiliation, and e-mail address by November 7, 2012.

[2] Call-in number: 1-866-203-7023; Participant code: 3471502563

To mute your phone press *6. To un-mute press #6. Please mute when listening to presentations.

Meeting discussion material will be posted to: www.westvalleyphaseonestudies.org

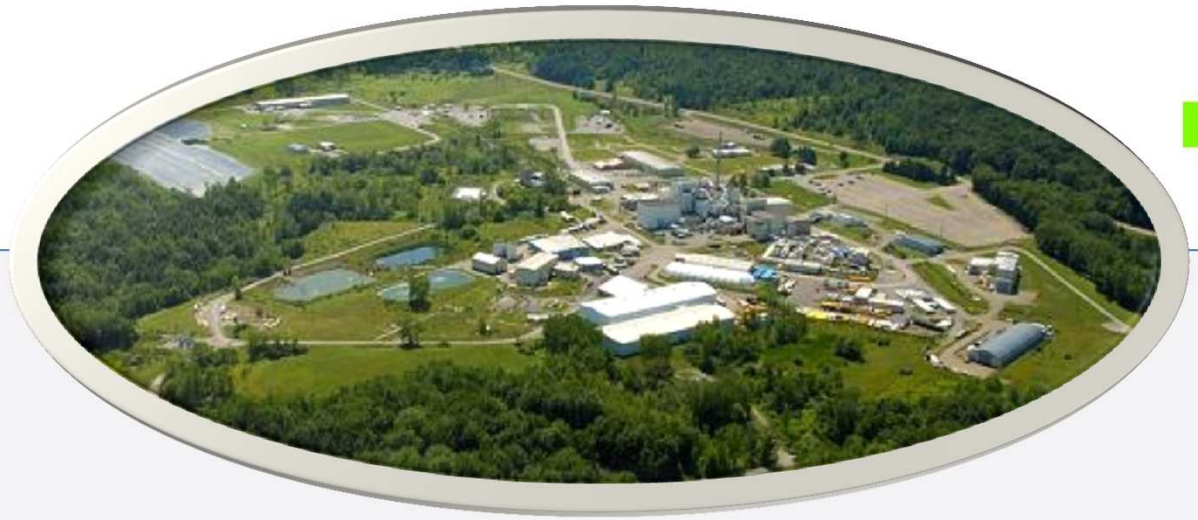
GROUND RULES

For Moderated Public Meetings

Phase 1 Studies

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
Phase 1 Studies
Climate Guidance

Presented By

November, 2012

Climate Change Workshop

Workshop Overview

- Held on August 2, 2012
- Climate scientist presentations
- Open discussion
- Post-workshop conference
- Guidance uploaded to Phase I Studies website

Climate Scientist Panel

Scientist	Research Focus
Dr. Vasilii Petrenko - Assistant Professor Dept. of Earth & Environmental Sciences University of Rochester	Natural/Anthropogenic changes Atmospheric chemistry Gradual earth warming
Dr. Xuebin Zhang – Research Scientist Climate Research Division Environment Canada	Climate trends & variability Climate extremes Global/Regional scale
Dr. Ken Kunkel – Research Professor Dept. of Marine, Earth, and Atmospheric Sciences, No. Carolina State University	Climate variability and change Historic climate variations 19th century to present.
Dr. Art DeGaetano – Prof/Associate Chair Dept. of Earth & Atmospheric Sciences Cornell University	Document climate variations Improve climate data quality Assess climate impacts

Summary of Presentations

- Current carbon dioxide concentrations highest in last 800,000 years. Glaciation in next 100,000 years extremely unlikely.
- Rising temperatures yield rising water vapor, which results in more extreme precipitation events (74% increase in 50 years)
- 100-yr storm now occurs as often as every 66 Years.
- Lack of snow pack, drier soils - may temper flooding risk

Climate Guidance Scope

Foundation Questions

1. What are the climate change issues that should be considered in Phase 1 Studies (i.e. soil erosion, engineered barriers)?

2. How may these climate change issues be evaluated during Phase 2 Decisionmaking for the decommissioning or long–term stewardship for the West Valley Demonstration Project (WVDP)?

Basis for Guidance

FEIS Short Term Models
(100 Years)

- Average annual soil loss for individual watersheds (USLE).
- Estimate surface water runoff, and soil volume yields (SEDIMOT II).
- Estimate sediment yields from small areas (five acres) (CREAMS).
- Project daily climate conditions, and model sediment yields for 100 years (WEPP).

Basis for Guidance

FEIS Long Term CHILD Model
(10,000 Years)

- Calibration assumed post-glacial landscape and constant climatic conditions.
- Simulated sequence of storm & inter-storm events over next 10,000 years.
- Future wet conditions – double rainfall intensity, frequency distribution remains unchanged.

FEIS Climate Data

Climate Data Sources

Short Term (100 Years)

- WVDP meteorological tower (March 1, 1990 to February 28, 1991).
- Daily rainfall for 1984 from WNYNSC weather station.
- Data from Little Valley, New York weather station.
- Standard Type II Design Storms

Long Term (10,000 Years)

- 9.8 years of five-minute resolution precipitation data from WNYNSC weather station (CHILD).

Climate Guidance for Phase 1 Studies

Climate Database

- Compile precipitation/temperature database from regional weather stations.
- Climate input to models consistent among Phase 1 Studies.
- Identify assumptions for future climate.
- Consistency among Phase 1 Studies.

Climate Guidance for Phase 1 Studies

Short Term (100 Years)

- Annual rainfall depths (based on frequency distributions).
- Select basin-specific design storms (depth & intensity distribution) & add to database.
- 100-Year projections (i.e. linear 25% increase in precipitation depth).
- "Downscaling" from Global Circulation Models (GCMs).

Climate Guidance for Phase 1 Studies

Long Term (10,000 Years)

- Paleoclimate from available GCM hind-casts to simulate past precipitation & temperature.
- Experimental model: instantaneous quadrupling of GHG for 150 years (CMIP5).
- Experimental model: increase in GHG with no social controls for 100 years (RCP8.5).
- Account for uncertainty: range of scenarios.

Foundation Questions

1. What are the climate change issues that should be considered in Phase 1 Studies (i.e. soil erosion, engineered barriers)?

   - Compile precipitation/temperature database from regional weather stations.
   - Climate input to models consistent among Phase 1 Studies.
   - Identify assumptions for future climate.
   - Consistency among Phase 1 Studies.

Foundation Questions

2. How may these climate change issues be evaluated during Phase 2 Decisionmaking for the decommissioning or long–term stewardship for the West Valley Demonstration Project (WVDP)?

   - Short Term: Adopt state-of-the-art designs to manage WVDP waste with factor-of-safety to reflect climate predictions for next 100 years.
   - Long Term: Assess range of future climate scenarios to account for uncertainty over next 10,000 years.

Phase 1 Studies Update
Quarterly Public Meeting
November 14, 2012

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

Erosion Study Area Update

- The Independent Scientific Panel (ISP) is reviewing the Erosion Working Group (EWG) recommendations and is considering stakeholder comments received. ISP input regarding the EWG recommendations is forthcoming.

Engineered Barriers Study Area Update

- The Engineered Barriers Working Group continues work on evaluation of study area and development of recommendations.

Exhumation Study Area Update

- A Kick-off meeting was held on October 3, 2012 with SMEs, DOE, NYSERDA, and ECS to discuss the mission, roles, and scope.

- Weekly Exhumation Working Group (EXWG) conference calls and discussions are ongoing

Climate Guidance

- The Climate Guidance for Phase 1 Studies has been posted to the Phase 1 Studies website and will be discussed at the 11/14 QPM.

Phase 1 Studies Web Site (www.westvalleyphaseonestudies.org)

- Home Page was updated with information on “What is New”. This Box provides latest information on what is updated on the website.

- A new Page “Comments/Responses” was added and this page provides links/PDF of Stakeholder Comments and Agency Responses to each of these comments.

Next QPM Meeting

Wednesday February 27, 2013.

West Valley Demonstration Project
Summary of Quarterly Public Meeting – November 14, 2012

Members of the Public and Others Present
Diane D'Arrigo, Joanne Hameister, Art Klein, Paul Kranz, Lee Lambert, Patsy Lane, Kathy McGoldrick, Ray Vaughan, Barbara Warren, Jay Wopperer.

Agency and Contractor Participants
Department of Energy (DOE): Bryan Bower, Marty Krentz, Moira Maloney, Ben Underwood, Zintars Zadins.
New York State Energy Research and Development Authority (NYSERDA): Paul Bembia, Hal Brodie, Lee Gordon, Dave Munro, Allyson Zipp.
CH2M Hill B&W West Valley, Inc. (CHBWV): Lynette Bennett, Charles Biedermann, Dan Coyne, John Rendall.
Enviro Compliance Solutions Inc. (ECS): Dan Herlihy, Dhananjay Rawal (by phone), Michael Wolff.
New York State Department of Environmental Conservation: Ken Martin, Dennis Weiss.
US Environmental Protection Agency (EPA): Jeanette Eng.
US Nuclear Regulatory Commission (NRC): Marc Ferdas, Mark Roberts.

Introductions and Announcements
The facilitator Bill Logue welcomed all present and reviewed the meeting protocols and documents[1].

Climate Guidance for Phase 1 Studies
Dan Herlihy of ECS presented information regarding the Climate Guidance document, prepared by four climate scientists following the climate change workshop held August 2, 2012. The climate scientists are: Vasilii Petrenko, Ph.D., Xuebin Zhang, Ph.D., Ken Kunkel, Ph.D., and Art DeGaetano, Ph.D. At the workshop, the panel reported that current carbon dioxide concentrations are the highest in the last 800,000 years and glaciation in the next 100,000 years is extremely unlikely. Rising temperatures yield rising water vapor, which results in more extreme precipitation events (74% increase in 50 years). Further, 100-year storms now occur as often as every 66 years, and lack of snow pack and drier soils may temper flooding risk.

For the climate guidance document, the scientists reviewed the Final Environmental Impact Statement (FEIS), its data for short and long-term projections, and different analytical models, and responded to two foundation questions:

1. What are the climate change issues that should be considered in Phase 1 Studies (i.e. soil erosion, engineered barriers)?
2. How may these climate change issues be evaluated during Phase 2 Decision-making for the decommissioning or long-term stewardship for the West Valley Demonstration Project (WVDP)?

The climate guidance document is intended as suggestions for what might be considered by the Potential Area of Study (PAS) working groups and subject matter experts (SMEs) as they move forward with their evaluations, recommendations and studies. It will also serve as guidance for the agencies as they move forward.

Overview: Regarding the issues that should be considered in Phase 1 Studies (Foundation Question 1), the climate scientists' guidance includes the suggestion of the generation of a climate database with regional precipitation and temperature data that all studies can draw from. Further, they suggested consistency across studies be enhanced by

[1] Documents and materials relating to the Phase 1 Studies are available at www.westvalleyphaseonestudies.org and are listed at the end of this summary.

identifying future climate assumptions and the reasoning for the variables used and that the climate input models used in Phase 1 studies utilize the same variables and so that they can be viewed collectively.

Regarding how climate change issues should be evaluated during Phase 2 (Foundation Question 2), the guidance from the climate scientists made suggestions about both short and long term predictions. Regarding short term predictions, the scientists noted that state-of-the-art designs are available to predict for the next 100 -150 years and can be used to manage waste with factor-of-safety to reflect climate predictions. Regarding long-term predictions, the scientists suggested assessment of a range of future scenarios to account for uncertainty over the next 10,000 years.

Phase One Studies Update

Facilitator Bill Logue presented the Phase 1 Studies updates:

Erosion Working Group Recommendations (EWG). The EWG presented its recommendations at the August QPM. The Independent Scientific Panel (ISP) is currently reviewing the recommendations and input should come before the end of the year, at which point the agencies will make a decision based on the recommendations, ISP input, and public feedback.

Engineered Barriers Study Area. The Engineered Barriers Working Group is continuing to work on evaluation of the study area and development of its recommendations. These recommendations will likely be released near yearend.

Exhumation Study Area. The Exhumation Working Group held a kick-off meeting October 3, 2012 and discussions are ongoing. The working group recommendations will be coming in the New Year.

Climate Guidance. The Climate Guidance document has been posted to the Phase 1 Studies website.

Phase One Studies Website. A "What's New" feature has been added to the home page and the Frequently Asked Questions page has been updated. Also, a new "Comments/Responses" page is now live and will have all original comments and agency responses posted in PDF format. This will provide an opportunity to check whether something has been addressed before submitting comments to the agencies.

Discussion

Some of the meeting participants raised questions about the climate guidance and expressed concern that the guidance was vague, particularly when compared to the information provided by the climate scientists at the August 2, 2012 workshop. Dan Herlihy clarified that the climate guidance document outlines the data used in the FEIS, and suggests other data that could be collected for the various studies. Lee Gordon of NYSERDA added that there is recognition that climate change could have impact on many of the Phase 1 study areas, and therefore the climate scientists were asked to provide high-level guidance for the Subject Matter Experts (SMEs) to consider as they evaluate a PAS and make their recommendations. For instance, if a working group identifies a specific variable that they need to look at, the climate scientists have suggested a data set to address these variables. The climate scientists are not charged with studying or performing any tasks related to this guidance.

Regarding the impact of the climate guidance on the working groups, Lee Gordon noted that the working groups will benefit from the guidance as they develop their recommendations. The EWG is an exception, in that they have submitted their recommendations prior to the guidance. Mr. Gordon added that should the agencies decide to conduct studies in the Erosion group's recommendations, this guidance will then be considered further. Mr. Logue also added that ECS will ensure that the work across these groups is consistent.

Another participant asked whether the SMEs have the skills and tools to serve as climate scientists as they conduct their studies. Mike Wolff of ECS clarified that the SMEs who created the recommendations may not necessarily be

conducting the studies. ECS will be identifying scientists who can do the necessary work for each study. The Phase 1 Studies will consider climate change and therefore it should be considered throughout the process.

A question was raised about the FEIS and a need to supplement it to account for climate change data. Ben Underwood of DOE explained that the department has been clear that if it determines that the FEIS needs to be supplemented, they will do that. The current work that is underway will help make that determination. DOE also has regulations establishing a process to guide the Agency when it is unclear whether a supplemental EIS is required. This process is a Supplement Analysis and if a Supplement Analysis is completed, that information will be made available to the public prior to making a determination.

Project Update

Bryan Bower of DOE provided project updates for the four contract milestones.

Milestone 1 – High Level Waste Canister Relocation & Storage System. Status: Contractor NAC has prepared a project plan and designs for the storage system and transport system are due by December 31, 2012. The design for the storage pad is due January 30, 2013. Proposals are due in December 2012 for canister surface decontamination.

Milestone 2 – Shipment of legacy waste. Status: There were not many shipments over the summer, but goals have been exceed for the year. Currently there are about 120,000 ft^3 of legacy LLW waste in storage with plans to ship about 40,000 ft^3 per year. The shipped waste exceeded the FY2012 plan six months ahead of schedule.

Milestone 3 – Demolition and removal of the Main Plant Process Building (MPPB) and the Vitrification Facility. Status: Pre-demolition work in the MPPB continues, specifically in the Lower Extraction Aisle and Chemical Operating Aisle for system disposition. Continued asbestos abatement in the Cold Lab of the Analytical Aisle and characterization of high hazard areas. In the Vitrification Facility, components are being removed that are no longer needed, such as circuit boards, lamps, and batteries. The facility is being assessed for use to decontaminate and prepare the HLW canisters.

Milestone 4 – Complete all work described in the Performance Work Statement. Status: The 01-14 Building is prepared for demolition and will be the first major demolition activity. The first step will be to remove the clean metal structure around the building, leaving cinderblock and concrete. Then the clean cinderblock and steel will be removed primarily where waste cells were. At that point they will bring in a processor and decontaminate. Completed demolition work includes the Maintenance Storage Area, Product Storage Area, Old Warehouse and Counting Lab Slabs, Vehicle Repair Shop, Vitrification Test Facility Waste Area Slab, Vitrification Construction Fab Shop Slab, and the Waste Tank Farm Test Tower.

Questions were raised about the canister storage plans. Mr. Bower explained that each of the large casks will hold 5 High Level Waste (HLW) canisters. It is anticipated that this transfer will begin in 2014 and be completed in 2015 or 2016, depending on funding. Concerns were voiced regarding canister surface contamination. Mr. Bower explained that the path of ventilation causes contaminated dust to accumulate on the canister before passing through ventilation filters. For the canister transfer, there will be a remotely operated system designed to protect workers and prevent contamination. Regarding concerns about radiation, he added that the thick concrete casks provide shielding from radiation and that they will also be monitored. A participant raised concerns about potential failure of the transport equipment inside the MPPB and associated risks. The canisters were previously moved from the Vitrification Facility to the plant, therefore it will be a familiar task and back-up measures are in place should issues arise. Contractors are told of any potential technical issues so that they are prepared to address them. The canisters will be inside of the transport cask before being moved to the pad.

Environmental Characterization Services Contract Update

Zintars Zadins of DOE described the site wide characterization activities under the contract with Safety and Ecology Corporation (SEC) awarded in December 2010. SEC will perform environmental radiological characterization to support Phase 1 decommissioning at the WVDP in accordance with the Phase 1 Decommissioning Plan, Characterization Sampling and Analysis Plan (CSAP), and Phase 1 Final Status Survey Plan. The work is authorized by DOE through the issuance of individual task orders to SEC.

SEC has completed identification and characterization of reference areas 1 and 2, characterization of the HLW Canister Interim Storage Area, and two Balance of Site Facilities (BOSF) excavation footprints following removals of the Product Storage Area and Maintenance Storage Area. This data is currently in review.

The two reference areas were selected within the Western New York Nuclear Service Center with the same surface soils as those found at the WVDP. These areas will be used to develop background data sets to support overland gamma surveys at the WVDP and to evaluate daily field gamma detector performance. Statistical evaluation comparing to Great Valley air sampling station (ASER soil background) found mean radionuclide concentrations from reference areas were comparable to Great Valley. These mean radionuclide concentrations are typically less than 2% of their respective Phase 1 cleanup goals. The HLW Canister Interim Storage Area characterization includes a 4.8-acre survey area. A gamma walkover survey and soil samples were conducted at the Maintenance Triangle and Product Storage Area. Going forward, there will be more extensive characterization of the North Plateau and additional soil borings. Future activities also include characterization of additional BOSF footprints following removals of the Old Warehouse, Waste Tank Farm Training Test Tower, Vitrification/Construction Fabrication Shop, and Vitrification Test Facility Waste Storage Area. Mr. Zadins added that these will not be the final status surveys, especially in areas where activity is still occurring.

Annual Site Environmental Report (ASER) – Calendar Year 2011

John Rendall of CHBWV presented information from the Annual Site Environmental Report (ASER), which was released this October for the 2011 calendar year. The 2011 report and prior reports are available on the DOE website. In regards to environmental compliance, in 2011 the site maintained its history of zero regulatory notice violations. One SPDES permit limit exceedance (Mercury) was recorded in October 2011.

In August 2012, ISO 14001 Registration for the Environmental Management System (EMS) was received – this is an independent third party audited verification that systems meet a level of excellence. The implementation of environmental policy involves complying with environmental regulations, minimizing the waste generation, monitoring impacts, protecting natural resources, and a commitment to continuous improvement. The EMS provides the organizational and management structure to meet the regulations.

Environmental monitoring data is included in the ASER which has been uploaded to the DOE website (www.wv.doe.gov). Across all media (air, groundwater, sediment and soil, food, onsite drinking water, etc.) no issues were identified from the environmental surveillance samples.

Ambient Air Monitoring Program

Mr. Rendall also presented information regarding sixteen new ambient air monitoring stations. Monitoring from these stations was initiated in October 2012. The stations are located on NYSERDA and private properties and are located approximately one mile or less from the site. This effort is tied to the demolition of the MPPB. The program includes

biweekly gross alpha and beta and quarterly isotopic for key WVDP isotopes. They will operate a minimum of 80% continuous monitoring with some downtime for maintenance and general outages.

A participant asked about plant emissions. Bryan Bower of DOE responded that the emission from the stack is very low and, as the mission is to decommission, there won't be emissions through the stacks because they will be removed. Additionally, project staff clarified that the ambient air monitoring system is offsite and is intended to monitor air over a period of time, and not instantaneously. On site there is continuous monitoring through technicians and personal devices for both radiological and isotopic monitoring.

DOE also has regulations establishing a process to guide the Agency when it is unclear whether a supplemental EIS is required. This process is a Supplement Analysis and if a Supplement Analysis is completed, that information will be made available to the public prior to making a determination.

General Discussion

A participant asked about plans to decommission the wastewater facility on site and future procedures for contamination cleaning (e.g. workers washing hands). Bryan Bower and Dan Coyne explained that the future plans include offering comfort stations on site for workers for which the waste will be collected by trucks and will go to a municipal treatment plant. Workers undergo radiological survey on department contaminated areas and, in the event of contamination, there are separate areas for decontamination washing. Additionally, radioactive waste is always handled separately from any wastewater. There are processes in place to prevent any possibility of contamination reaching wastewater.

Topics for Next QPM

Before the conclusion of the meeting, Mr. Logue asked for suggestions of topics for future QPMs. Suggestions included: discussion of plans regarding the plume and more information regarding the plans for the interim storage site. Participants were encouraged to send additional suggestions to Lee Gordon of NYSERDA and Moira Maloney of DOE.

Documents Distributed

Document Description	Generated by; Date
Meeting Agenda	ECS; 11/14/12
CHBWV Presentation – ASER 2011 and Ambient Air Monitoring Program	CHBWV; 11/14/12
DOE Presentation – Environmental Characterization Services Contract Update	DOE; 11/14/12
DOE Presentation – Project Update	DOE; 11/14/12
ECS Presentation – Climate Guidance	ECS; 11/14/12
West Valley Phase 1 Studies Update	ECS; 11/14/12