

MINUTES OF THE THIRTY-SIXTH MEETING OF THE  
WASTE AND FACILITIES MANAGEMENT COMMITTEE  
HELD ON APRIL 6, 2009

Pursuant to a notice and agenda dated March 27, 2009, a copy of which is annexed hereto as Exhibit A, the thirty-sixth (36<sup>th</sup>) meeting of the Waste and Facilities Management Committee of the NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY was convened at 12:00 p.m. on Monday, April 6, 2009, at the Authority's Albany Office at 17 Columbia Circle, Albany, New York, and by video-conference from the Authority's New York City office, at 485 Seventh Avenue, 10th floor, New York, New York.

The following members of the Committee were present in Albany:

Elizabeth W. Thorndike, Ph. D., Chair

Roger B. Kelley

Michael J. Townsend participated in the meeting by telephone.

Francis J. Murray, Jr., President and CEO; Robert G. Callender, Vice President for Programs; Jeffrey J. Pitkin, Treasurer; Hal Brodie, Secretary and General Counsel; Paul Bembia, Director, West Valley Site Management Program; Alyse Peterson, Senior Project Manager, Energy Analysis Program; and David J. Prior, Secretary to the Committee and Assistant Counsel; all of the Authority, were present as were various members of the Authority.

Dr. Thorndike called the meeting to order, stated that notice of the meeting had been forwarded to the Committee Members and the press on March 27, 2009, and noted the presence of a quorum. Dr. Thorndike stated that the first item on the agenda concerned approval of the minutes of the thirty-fifth meeting, held on September 8, 2008.

Whereafter, upon motion duly made and seconded, and by unanimous voice vote, the minutes of the thirty-fifth meeting were approved.

Dr. Thorndike next called upon Paul Bembia, Director of the West Valley Site Management Program, to provide a status report on West Valley Site Management Program activities.

Mr. Bembia's presentation covered four topics: (1) federal funding; (2) the Draft Environmental Impact Statement (DEIS) for decommissioning or long-term stewardship of the West Valley facilities; (3) public hearings held regarding the DEIS; and (4) an independent full cost accounting study of cleanup options at the West Valley nuclear waste site.

Mr. Bembia first advised that under the American Reinvestment and Recovery Act, the Department of Energy (DOE) will receive \$74 million over a three year period to accelerate the cleanup plan for West Valley.

Regarding the DEIS, DOE and NYSERDA issued the DEIS for public comment in December 2008. Mr. Bembia stated that NYSERDA identified significant concerns with the long-term analysis in the DEIS. In addition, independent peer review groups convened by NYSERDA in 2005 and 2008 raised significant concerns. The DEIS includes a preferred alternative that was agreed upon by NYSERDA and DOE that focuses on near-term removal actions, which allows NYSERDA and DOE to issue the DEIS without agreement on the long-term technical analyses. The DEIS includes a "Foreward" which documents the concerns identified by NYSERDA and the 2008 review group.

Mr. Bembia discussed four alternatives presented in the DEIS: (a) taking no action but for monitoring and maintenance; (b) conducting a site-wide removal of all waste; (c) closing the facility in place and storing waste on site; and (d) phased decision-making.

Dr. Thorndike inquired about the alternative that is preferred by NYSERDA. Mr. Bembia indicated that "phased decision-making" is the preferred alternative as the lead agencies have

complete agreement on Phase 1 removal actions and decisions on Phase 2 will be deferred pending further review.

President and CEO Frank Murray discussed his visit to West Valley the previous week and advised that it is very different than it was twenty years ago. Mr. Murray indicated that Mr. Bembia and his staff's efforts to go the extra mile have helped NYSERDA to earn the respect of citizens' groups.

Roger Kelley indicated that moving ahead in a professional manner on the work at West Valley requires a delicate balancing among the interests of the parties.

Mr. Bembia advised that the "no action alternative" is required to be considered under both the National Environmental Policy Act (NEPA) and the State Environmental Quality Review Act (SEQRA). This alternative does not call for any decommissioning actions and includes continued management and oversight of all facilities and monitoring and maintenance in perpetuity with an anticipated cost of \$12.6 million annually. Mr. Bembia explained that this alternative is not viewed as a viable option by either the Federal government or the State.

Mr. Bembia next discussed the site-wide removal alternative, which calls for all facilities to be removed and all contaminated soil and other waste to be shipped off site (if and when a disposal facility becomes available). This alternative calls for implementation over sixty-four years at a cost of \$9.7 billion.

The third alternative in the DEIS calls for the facilities to be closed in place. This alternative establishes buffer areas and makes the site available for restricted reuse. The facilities with residual radioactivity of long-lived radionuclides would be isolated by specially designed closure structures and engineered barriers. Wastes destined for transport to another facility, such as the high level radioactive waste ("HLW") canisters, will be stored on-site until a disposal facility becomes available. This alternative calls for a seven year implementation at the cost of \$1.1 billion for implementation and \$4.1 million annually for monitoring.

Mr. Bembia reported that the phased decision-making alternative is the preferred alternative. This approach, which includes over \$1 billion of removal actions, calls for the near-term removal of the main plant process building, vitrification facility, the source area of the North Plateau Groundwater Plume, and five contaminated water treatment lagoons. This approach also provides that the State-Licensed disposal area (SDA), NRC-Licensed disposal area, HLW tanks, and a portion of the groundwater plume would remain under active management, monitoring, and maintenance for up to thirty years. This time period, Mr. Bembia advises, would include routine reassessments over thirty years. Ongoing assessment, study, and improved modeling will help to resolve uncertainties about decommissioning and will guide the technical approach for final decommissioning.

Mr. Bembia said that the duration and costs of this alternative are dependent on the Phase 2 decommissioning decision. The decommissioning or long-term management decision-making would be completed following an approach guided by the Phase 1 evaluations.

Mr. Bembia stated that the rationale for the preferred alternative for the SDA is that monitoring and inspections show that the SDA is performing very well and independent analysis (Quantitative Risk Assessment) shows that the SDA can be managed safely for up to thirty years. He advised that there are significant uncertainties with the in-place closure and exhumation alternatives that require further evaluation. The value of the preferred alternative is that it allows the important cleanup work to move forward while allowing time for additional studies.

Mr. Bembia provided a time line for the balance of the DEIS activities. He advised that the six month DEIS public review and comment period closes on June 8, 2009. He advised that a final EIS will be issued in November of 2009 and a Record of Decision will be issued in December of 2009.

Mr. Bembia then discussed the public hearings that have been held on the DEIS. Public hearings were held in Albany on March 30, 2009, at the Cattaraugus Reservation of the Seneca Nation of Indians on March 31, 2009, in the Town of Ashford on April 1, 2009, and in the City of Buffalo on April 2, 2009.

The hearings began with an information exchange session. DOE and NYSERDA then provided brief presentations on the DEIS before opening the meeting up for a public comment period.

At the public hearings, NYSERDA strongly supported the preferred alternative, provided the rationale for this position, and briefly described its independent review of the DEIS and the concerns identified in that review.

Approximately fifty people spoke at the four hearings. Most of the commenters at the meetings called for complete removal of all West Valley wastes. Most rejected the preferred alternative because it delays decisions on major facilities including the SDA, NDA, and HLW tanks. Mr. Bembia briefly shared some of the comments provided at the public hearings.

Most speakers were skeptical about the commitment of the agencies to complete the cleanup because the “ongoing assessment period” studies and the Phase 2 decision-making process are not well-defined.

A statement from the West Valley Citizen’s Task Force (CTF) was read at all of the hearings. The CTF states that the first phase of the preferred alternative is consistent with their recommendations report. As the site is not suitable for long-term storage or disposal, however, the CTF calls for studies during Phase 1 that would support the eventual goal of full cleanup of the site.

New York State Senator Antoine Thompson (Chair of the Senate Environmental Conservation Committee) provided a statement that was read by his Deputy Chief of Staff at the hearing. While the Senator acknowledged that NYSERDA was taking a strategic approach to the DEIS, the Senator stated unequivocally that he supports site-wide removal of the West Valley wastes.

A resolution from the Seneca Nation of Indians Tribal Council was read; this resolution called for the complete removal of the West Valley wastes.

The West Valley Coalition called for waste to be exhumed and stored above ground in safe packages. The West Valley Coalition also said it does not support “irreversible technologies.”

Speakers relied on the Full Cost Accounting Study to repeatedly demonstrate the rationale for supporting the site-wide removal alternative.

The Center for Health, Environment & Justice, the Citizens’ Environmental Coalition, and the Nuclear Information & Resource Service collected signatures at the public hearings for a letter to Governor Paterson, asking him to overturn NYSERDA’s “misguided” support for the preferred alternative.

Mr. Bembia advised that there was media coverage of the hearings by local newspapers and that an editorial in the Buffalo News called for the full exhumation of the West Valley wastes and contamination.

Dr. Thorndike inquired about whether the public hearings were memorialized in some fashion. Mr. Bembia indicated that a court reporter recorded all comments on the DEIS.

Mr. Bembia then discussed other related events. He indicated that the Niagara County Legislature passed a resolution calling for full removal of the West Valley waste. He noted that the Cattaraugus County Legislature will be considering a resolution on the West Valley cleanup on May 6, 2009, following presentations from DOE and NYSERDA on the DEIS.

Mr. Bembia then discussed the *Full Cost Accounting Study of Cleanup Options for the West Valley Nuclear Waste Site* (Study), which was developed by Synapse Energy Associates in 2008. The study, sponsored by four environmental groups - Center for Health, Environment & Justice, Citizens’ Environmental Coalition, Coalition on West Valley Nuclear Wastes, and Nuclear Information & Resource Service, was funded by a \$90,000 member item from New York State Senator Catharine Young. Funds were administered by the New York State Department of Environmental Conservation (DEC).

The Study “seeks to account for risks and costs over the first 1,000 years following site closure.” It presents a cost and risk comparison of exhumation of West Valley wastes with the recalculated costs and risks for in-place closure. It also includes “social costs” – lost land revenue and the cost of exposure to downstream residents.

In response to an inquiry by Mr. Kelley, Mr. Bembia responded that the Study did not discount costs over time and indicated that this is a significant issue that requires further evaluation.

The Study states that the burial of wastes compromises the rights of future generations to equal treatment and free, informed consent. It further states that every future generation is of equal worth, and as such, the only defensible long-term discount rate for the long-term cost analysis is 0%.

The Study presents cost estimates for the 1,000-year period that are not discounted over time (i.e., the costs for maintenance over 1,000 years is the annual cost multiplied by 1,000).

The Study estimates a dose of 334,000 person-rem over 900 years to a population of 400,000 people, resulting in 334 latent cancer fatalities over 900 years. When non-discounted costs for 1,000 years of security, erosion controls, and monitoring are taken into account, the Study projects the cost for in-place closure is \$13 billion (compared to the DEIS estimate of \$1.1 billion for implementation and \$4.1 million in annual maintenance).

Mr. Bembia indicated that the Study includes a “catastrophic release scenario” where contamination is released from the site which then causes Lake Erie to become unsafe for use as a drinking water source. The scenario assumes that the Federal Emergency Management Agency (FEMA) must transport billions of gallons of water by truck for a five-year period at a cost of \$1 billion. The catastrophic release scenario further assumes that nonstandard water treatment will be necessary at the water treatment plants for the next 495 years at an additional cost of \$13 billion. The Study adds the cost for this catastrophic release (\$14 billion) to the cost for in-place closure and maintenance (\$13 billion), which brings the total cost for in-place closure with a catastrophic release to \$27 billion. The Study then compares the exhumation cost (\$9.9 billion) to the in-place closure

cost (\$13 billion or \$27 billion) and the Study concludes that exhumation is less expensive than in-place closure.

The Study also concludes that, until shown otherwise, the agencies should assume that the safest and most economically viable option is to fully excavate the wastes buried at West Valley.

NYSERDA has reviewed the Full Cost Accounting Study and identified a number of concerns. For instance, the results appear to hinge on a number of assumptions that, in NYSERDA's opinion, are either not well supported or need additional evaluation. For example, the radiation doses for the Lake Erie water users appear to be overestimated and the catastrophic release scenario seems unlikely to occur as proposed. Moreover, the annual costs for in-place closure appear to be overestimated.

The Study acknowledges that it does not include long-term costs for managing exhumed West Valley waste at another facility and NYSERDA sees this as a significant open issue in a full cost comparison.

Other issues that warrant further exploration include whether (or how) to discount costs over "deep time." Depending on the discount rate chosen, long-term costs could either be insignificant or as high as tens of billions of dollars.

Mr. Bembia said that NYSERDA provided written comments to the four groups sponsoring the Study and he recently met with them to discuss NYSERDA's concerns. He indicated that NYSERDA's comments were also forwarded to the authors of the Study for their consideration.

Roger Kelley remarked that there is a large discrepancy in costs. The alternative that includes maintaining waste in place pending identification of a long-term disposal site, does not adequately quantify long-term costs, since there is no known solution for long-term disposal. While it can be difficult to estimate costs over twenty years, it is particularly challenging to estimate costs over 1,000

years. The projections fail to account for inflation and fail to establish a meaningful discount rate over time.

In response to an inquiry by Dr. Thorndike, Mr. Bembia responded that the document had not been submitted for independent peer review by NYSERDA. He indicated that he was unsure of whether the authors established an internal vetting process.

Dr. Thorndike noted that Jack Spath, who, for many years, had reported to the Committee on nuclear waste and nuclear coordination activities, had recently retired. She then called upon Alyse Peterson, Senior Project Manager, for a report on issues relating to nuclear waste and nuclear coordination.

Ms. Peterson first reported on NYSERDA's annual Low-Level Radioactive Waste (LLRW) Status Report. LLRW generators continue to provide their annual reports, which were due on March 1, to NYSERDA. NYSERDA's review of the reports is ongoing and on schedule to provide the LLRW Status Report for calendar year 2008 to the Governor and Legislature by July 1, as required by the State Low-Level Radioactive Waste Management Act.

Next, Ms. Peterson reported on access to disposal facilities for Class B and C radioactive waste. As anticipated, the Barnwell, South Carolina facility, the only disposal facility that accepted Class B and C LLRW from New York generators, was closed to generators in states outside the Atlantic Interstate LLRW Compact (*i.e.*, outside South Carolina, New Jersey, and Connecticut) on July 1, 2008.

This development has brought disposal of Class B and C wastes to the national consciousness and the NRC scheduled a briefing for the Commissioners on April 17, 2009, to discuss the growing challenge of disposal of LLRW, including Class B and C wastes. Ms. Peterson indicated that a variety of entities will be giving presentations at this briefing, including the Low-Level Waste Forum (LLW Forum) and the Organization of Agreement States, as well as representatives from industry

and individual states and regions that host disposal sites. NYSERDA staff has provided input for the LLW Forum presentation.

Ms. Peterson advised that plans for a new LLRW disposal facility in Texas are moving forward. This facility is expected to be licensed by the state under the Texas Compact legislation and is expected to accept waste from generators in the two Texas Compact states – Texas and Vermont.

To gain access to this facility for New York generators, New York could approach the Texas Compact to become a member of the Compact. However, Ms. Peterson indicated that membership in the Compact would be costly and complicated. A more attractive option would be to pursue contractual access to the facility. Ms. Peterson stated that she will continue to monitor developments closely and will advise when and if opportunities for access to the facility arise.

In response to an inquiry by Dr. Thorndike, Ms. Peterson advised that the only alternative for utilities and hospitals is to store LLRW on site until a new option becomes available.

Ms. Peterson next reported on nuclear coordination activities. She reported that there has been a proposal to license and construct a new facility at the Nine Mile site in Oswego. The application was submitted to the NRC last fall, but the applicant has requested a 6-month delay in the review schedule. NYSERDA is the State's overall coordinator for of the application and is working closely with all of the involved agencies including the Department of Public Service (DPS), the DEC, the Department of Health (DOH), the Department of State (DOS), the Office of Parks Recreation and Historic Preservation (OPRHP), Office of Homeland Security (OHS), the Office of General Services (OGS), and the State Emergency Management Agency (SEMA).

Ms. Peterson next reported on operating license renewals of nuclear power plants. In August 2006, the Fitzpatrick plant filed an application for license renewal (20-year renewal beginning in 2014). The renewed license was issued in late September 2008.

Ms. Peterson advised that in April 2007, an application was filed to renew the license for the Indian Point nuclear power plant. DEC, in coordination with the Attorney General's office, continues to lead the State's legal challenge to the relicensing of the plant. The Atomic Safety and Licensing Board (ASLB), the judicial panel established by the NRC to conduct hearings for the renewal proceeding, issued a ruling in July 2008 granting a hearing on a number of the State's contentions, primarily those related to aging of the plant equipment and facilities.

Ms. Peterson advised that the NRC issued a draft Supplemental Environmental Impact Statement in December 2008 and a Safety Evaluation Report (SER) with open items in January 2009. A subcommittee of the Advisory Committee on Reactor Safeguards (ACRS), a technical panel established by the NRC to review and report on nuclear safety aspects of license renewal applications, met in March 2009 to discuss the SER.

A final SER is expected by July 2009. The full ACRS meeting regarding relicensing the Indian Point facility is scheduled for September 2009 and the final Supplemental Environmental Impact Statement for relicensing the Indian Point facility is expected in February 2010. The schedule for the license renewal hearing and a final decision by the NRC has not yet been determined.

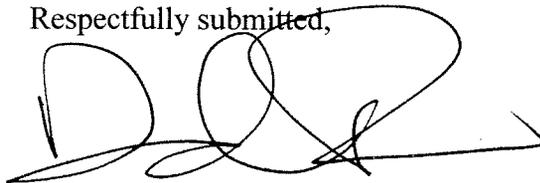
In response to an inquiry by Roger Kelley, General Counsel Hal Brodie indicated that this would be a contentious process and it would be difficult to predict when a final decision could be expected.

In response to an inquiry by Mr. Kelley involving Indian Point, Ms. Peterson indicated that a law suit brought by Riverkeeper was recently decided. Riverkeeper had taken the position that cost benefit analysis should not be considered in determining what technology would best minimize environmental impacts. Ms. Peterson advised that the Court indicated that costs could be considered as a factor in evaluating technologies to manage environmental impacts, but did not require that they be considered.

Dr. Thorndike then called upon General Counsel Hal Brodie to provide an update on the status of the West Valley litigation. Mr. Brodie stated that New York is close to reaching agreement with the Department of Energy and the United States, and that he hoped to present the settlement terms to the Board in the near future.

The last item on the agenda concerned other business. There being none, upon motion duly made and seconded and upon unanimous voice vote, the meeting was adjourned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'D. J. Prior', with a long horizontal flourish extending to the right.

David J. Prior  
Secretary to the Committee

Exhibit A

NOTICE OF MEETING AND AGENDA

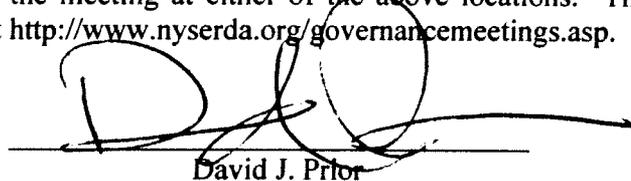
March 27, 2009

TO THE MEMBERS OF THE WASTE AND FACILITIES MANAGEMENT COMMITTEE:

PLEASE TAKE NOTICE that the thirty-sixth (36<sup>th</sup>) meeting of the WASTE AND FACILITIES MANAGEMENT COMMITTEE of the NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY will be held in the Authority's Albany Office at 17 Columbia Circle, Albany, New York, and by video conference in the Authority's New York City Office at 485 Seventh Avenue, 10<sup>th</sup> floor, New York, New York, on Monday, April 6, 2009, commencing at 12:00 p.m. for the following purposes:

1. To consider the Minutes of the thirty-fifth (35<sup>th</sup>) meeting of the Committee held on September 8, 2008.
2. To receive a status report on West Valley Site Management Program activities.
3. To receive a status report on radioactive waste policy and nuclear coordination activities.
4. To transact such other business as may properly come before the Committee.

Members of the public may attend the meeting at either of the above locations. The meeting is also available through webcast at <http://www.nyserdera.org/governancemeetings.asp>.



David J. Prior  
Secretary to the Waste and Facilities  
Management Committee

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