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May 10, 2010

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Greetings:

Attached please find the New York State Energy and Research Development Authority's (NYSERDA) Findings Statement for continuing the cleanup at the Western New York Nuclear Service Center. NYSERDA, as the site owner on behalf of New York State, and joint lead agency with the U.S. Department of Energy on the West Valley Environmental Impact Statement, is providing you with the Findings Statement as specified under Article 8 (State Environmental Quality Review Act, SEQRA) of the Environmental Conservation Law and 6 NYCRR Part 617.

For the reasons provided in the attached Findings Statement, NYSERDA has concluded that the Phased Decisionmaking Alternative is the best path forward for continuing the cleanup efforts at West Valley.

NYSERDA's decision is explained in the attached Findings Statement, which can also be found on NYSERDA's webpage at www.NYSERDA.org.

Sincerely,

WEST VALLEY SITE MANAGEMENT PROGRAM

Paul J. Bembia

Paul J. Bembia, Director

PJB/10amd022.amd

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State Environmental Quality Review

FINDINGS STATEMENT

Pursuant to Article 8 (State Environmental Quality Review Act, SEQRA) of the Environmental Conservation Law and 6 NYCRR Part 617, the New York State Energy Research and Development Authority (NYSERDA), as co-lead agency, makes the following findings.

I. Name of Action:

Phased Decisionmaking with regard to Decommissioning and/or Long-term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center.

II. Date Final EIS Filed:

January 29, 2010.

III. Agency Jurisdiction:

Public Authorities Law sections 1854(6), 1855, 1856(2).

IV. Brief Description of Action:

NYSERDA and the U.S. Department of Energy (DOE) have jointly prepared a *Final Environmental Impact Statement (FEIS) for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center* (Center or Site). The Center, consisting of approximately 3,340 acres located near West Valley in Cattaraugus County, is owned by NYSERDA on behalf of the State of New York. The Center is the site of a former spent nuclear fuel reprocessing facility, along with underground tanks that contain high-level radioactive waste (HLRW) and two radioactive waste disposal areas. The publication of the FEIS marks the culmination of an effort that began in 1989 when NYSERDA and DOE agreed to prepare a joint EIS in order to fulfill their respective environmental evaluation responsibilities under SEQRA and the National Environmental Policy Act (NEPA). The two agencies decided to prepare a joint EIS in order to better integrate the environmental evaluation of the entire Site, and avoid unnecessary overlapping and duplication of efforts.[1]

The FEIS identifies and assesses the potential environmental impacts of three different alternatives for cleaning up the site, each of which is proposed to meet (1) DOE's responsibilities under

[1] The U.S. Nuclear Regulatory Commission, U.S. Environmental Protection Agency and the New York State Department of Environmental Conservation (DEC) are cooperating agencies under NEPA, while DEC and the New York State Department of Health are involved agencies under SEQRA.

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the federal West Valley Demonstration Project Act (described in section V.B below) with regard to an approximately 167 acre portion of the Center (Project Premises), and (2) NYSERDA's management responsibility under federal and state laws and regulations for the remainder of the Center (Retained Premises), which includes the State-Licensed Disposal Area (SDA), a 15-acre former commercial low-level radioactive waste disposal facility. Those alternatives include the Sitewide Removal Alternative, the Sitewide Close-in-Place Alternative, and the Phased Decisionmaking Alternative.

Based on the analysis contained in the FEIS, together with regulatory requirements, public input and other factors, both DOE and NYSERDA are making decisions regarding the cleanup of the Center. DOE's decisions regarding its responsibilities were announced in a Record of Decision (ROD) that was signed on April 14, 2010. NYSERDA's decisions, and the rationale for those decisions, are set forth in this Findings Statement, which is being issued in accordance with 6 NYCRR 617.11.

In sum, NYSERDA has selected the Phased Decisionmaking Alternative as the alternative that avoids or minimizes adverse environmental impacts to the maximum extent practicable. Site remediation will be accomplished in two phases. During Phase 1, which is expected to last up to ten years, DOE will remove significant sources of contamination (the Main Plant Process Building, the source of the North Plateau Groundwater Plume, and several waste lagoons) from the site. Other key facilities, including the SDA, will continue under active management during Phase 1. NYSERDA will continue ongoing monitoring, inspections, maintenance and analyses of the SDA in accordance with its New York State-issued license and permits and in accordance with Federal and State regulations issued pursuant to the Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq. (RCRA). Additional scientific studies will be conducted during Phase 1, with the goal of reducing the uncertainties associated with the Phase 2 decisions. These Phase 2 decisions will be made no later than ten years after issuance of DOE's ROD and this Findings Statement. The decision-making process employed by NYSERDA at that time will comply with SEQRA and will include opportunities for public participation.

V. Site History:

A. Nuclear Fuel Services Operations. The Center was established in the 1960s in response to a federal call to commercialize the reprocessing of spent nuclear fuel from power reactors. From 1966 to 1972, Nuclear Fuel Services, Inc. (NFS) leased the Center from New York State. NFS reprocessed spent nuclear fuel obtained from both federal and commercial nuclear facilities, and recovered uranium and plutonium for the federal government. The NFS plant was the first and only commercial facility in the United States to reprocess spent nuclear fuel. In 1972, NFS halted reprocessing operations in order to increase reprocessing capacity, and to alter the facility to meet new regulatory requirements issued by the U.S. Atomic Energy Commission (the predecessor agency to the Nuclear Regulatory Commission). For various reasons, in 1976 NFS decided not to start the plant up again. By that time, the Site contained contaminated buildings, a storage pool containing spent nuclear fuel, two radioactive waste disposal areas, and 600,000 gallons of HLRW stored in underground steel tanks. In addition to radioactive material, several facilities at the site also contained chemical constituents that would eventually be regulated under RCRA.

B. Congressional Action. In 1980, Congress enacted the West Valley Demonstration Project Act, Public Law 96-368 (Act). The Act directed DOE to conduct a demonstration project (Project) for solidification of the high-level radioactive waste at the Site. The Act also directed DOE to: decontaminate and decommission the tanks, facilities, material and hardware used in connection with the Project in accordance with requirements prescribed by the Nuclear Regulatory Commission (NRC); and transport the solidified high-level waste to a federal repository.

C. Joint Federal/State Responsibilities. In 1982, under terms of a Cooperative Agreement[2] between DOE and NYSERDA, DOE assumed control of the Project Premises in order to conduct the Project. Under the Act, DOE is responsible for decontaminating and decommissioning the tanks, facilities, material and hardware used in connection with the Project. DOE also has responsibility for disposal of low-level and transuranic waste generated from the project and for transportation of the solidified high-level waste to a federal repository. The solidified high-level waste is currently stored in 275 canisters inside the Main Plant Process Building. NYSERDA is responsible for any cleanup needed on most of the remainder of the Center outside of the Project Premises. This includes a 3,100 acre area referred to as the "Retained Premises," and the SDA.

D. RCRA Administrative Order on Consent. In 1990 DEC began regulating, under RCRA, the hazardous waste components of the radioactive and hazardous mixed wastes at the Site. In March 1992, DOE and NYSERDA entered into an Administrative Order on Consent (Consent Order) with DEC and the U.S Environmental Protection Agency (EPA). The Consent Order required DOE and NYSERDA to conduct RCRA facility investigations (RFIs) of Solid Waste Management Units (SWMUs) to determine if there had been, or was a potential for, release of RCRA-regulated constituents. The SWMUs under NYSERDA's control are the SDA and the Scrap Material Landfill (located approximately one mile southeast of the SDA). The final RFI reports were submitted in 1997, completing the investigation activities required by the Consent Order. Both DEC and EPA approved the RFI reports for SWMUs located within the Project Premises; no corrective actions were required other than continued groundwater monitoring proposed in the RFI reports. NYSERDA proposed and implemented additional infiltration control measures for the SDA, which were performed as an interim measure under the Consent Order. In the SDA RFI report, NYSERDA also proposed continued operation and maintenance of installed interim corrective measures. NYSERDA submitted a Draft Corrective Measures Study (CMS) for the SDA to EPA and DEC for their review and comment in March 2010. The CMS is expected to be completed in 2010. NYSERDA will implement any actions and/or studies identified at the completion of this CMS via a RCRA Corrective Action permit or during the ongoing assessment period of Phase 1.

E. Litigation Regarding Allocation of Financial Responsibility for Cleanup of the Site. In October 2009 the New York Attorney General's Office (OAG) filed a proposed consent decree in federal court in Buffalo, resolving many of the claims in a December 2006 lawsuit that NYSERDA, New York State and

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[2] *Cooperative Agreement between United States Department of Energy and New York State Energy Research and Development Authority on the Western New York Nuclear Service Center at West Valley, New York*, September 18, 1981 as amended.

DEC filed against the United States and DOE (06-CV-0810, WDNY). The settlement, reached with the assistance of a court-appointed mediator, resolves many of the long-standing disagreements between New York and the federal government over the allocation of respective responsibilities for the costs associated with cleanup activities at the Site. The settlement identifies a specific cost share for each government for specified facilities and known areas of contamination, and sets forth a process for determining cost shares for contamination that may be identified in the future. It also requires NYSERDA and DOE to develop detailed plans to assure continued consultation between the agencies during the remainder of the cleanup. Notably, the settlement reached between the state and federal governments relates only to allocation of financial responsibility and does not affect in any way the cleanup alternatives that are being or may be developed in the ongoing EIS process. Thus, for example, the Consent Decree states that each government will pay 50% of the long-term costs of remediating the NRC-licensed disposal area (NDA), one of two landfills at the Site, regardless of whether the final remedy involves exhumation of landfill wastes, maintenance of the wastes in place or some other remedy. The federal and state governments have similarly reached allocation agreements regarding other facilities at the Site, as stated in the Consent Decree. The EIS process will decide the appropriate remedy for each of these facilities. OAG solicited and received public comments on the proposed consent decree, and expects to file a motion seeking court approval of the consent decree in April 2010.

VI. NYSERDA Management of the SDA and the Balance of the Retained Premises:

The SDA, which operated from 1963 through 1975, is the primary facility at the Center for which NYSERDA has management responsibility; consequently, the SDA is the primary focus of NYSERDA's SEQRA review. It consists of two sets of parallel disposal trenches: trenches 1 through 7 in the northern area and 8 through 14 in the southern area. Each trench is covered with an 8- to 10-foot thick clay cap. Beginning in 1990, NYSERDA implemented several projects aimed at reducing water accumulation in the trenches, and by 1999, geomembrane covers were installed over all of the trenches. The facility is operated under a Radioactive Materials License (No. C0382) issued by the New York State Department of Health (DOH) and a Radiation Control Permit (No. 9-0422-00011-00011) issued by DEC pursuant to 6 NYCRR Part 380. The SDA has been granted RCRA interim status through the submission of a RCRA Part A application to DEC in 1990. In accordance with NYSERDA's permits, NYSERDA staff maintains the SDA by performing routine inspections, quarterly RCRA facility inspections, and scheduled field walkovers of the covered landfill area and the surrounding slopes. NYSERDA also performs environmental monitoring at the site including the following periodic measurements and analyses:

- Trench leachate elevation measurements (quarterly)
- Groundwater elevation measurements (quarterly)
- Groundwater sampling and analysis (semiannual)
- Surface water sampling and analysis (quarterly)
- Stormwater sampling and analysis (semiannual)
- Gamma radiation monitoring (semiannual)
- Ground surface elevation measurements (annual)

The environmental data for the SDA shows that the landfill is performing very well. Groundwater and surface water near the SDA meet all New York State groundwater and surface water quality standards. Additionally, rainwater and groundwater infiltration into the trenches and disposal holes has been mitigated as evidenced by the decreasing leachate elevation trend from 2000 to 2008.[3]

During Phase 1, NYSERDA will continue to manage the balance of the Center under its existing controls. This includes segments along stream channels in close proximity to the Project Premises that have become contaminated from site operations and a portion of the area of contamination referred to as the "Cesium Prong"[4] that is located outside the Project Premises. These contaminated areas within the boundaries of the Center, along with other large tracts of Center property, will need to be retained as a buffer area for the Project Premises and SDA for as long as wastes remain at the site. Recently, in response to public input, NYSERDA has identified a tract of land (approximately 400 acres) that may be suitable for unrestricted release to the public. The process that NYSERDA will follow for releasing this land or any other Center land in the future will comply with NRC regulations as well as federal, state, and local municipality requirements. NYSERDA will also consider whether the release of property would have any impacts on future cleanup decisions or activities.

VII. SEQR History:

A. Early EIS Activities

In a 1987 Stipulation of Compromise resolving a lawsuit filed by a local citizen group known as the Coalition on West Valley Nuclear Wastes, DOE agreed that by the end of 1988 it would begin a closure EIS to evaluate disposal of Class A and Class B/C waste generated by DOE activities at the Project and to evaluate erosion impacts. On December 30, 1988, DOE published a Notice of Intent in the *Federal Register* to prepare an EIS for Project completion. NYSERDA published a similar notice in the *New York State Environmental Notice Bulletin* on January 11, 1989. After publication of these notices, public comments on the scope and content of the EIS were received in letters and during public scoping meetings. In February 1991 DOE and NYSERDA entered into a Supplemental Agreement, which was designed to facilitate cooperation between the two agencies in conducting the EIS process. Over the next several years, DOE and NYSERDA performed additional characterization of the site to support preparation of the Draft EIS. In March 1996 DOE and NYSERDA issued a *Draft Environmental Impact Statement for Completion of the West Valley Demonstration Project and Closure or Long-Term Management of Facilities at the Western New York Nuclear Service Center.* That DEIS did not identify a preferred alternative.

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[3] *State-Licensed Disposal Area at West Valley 2008 Annual Report*, NYSERDA, March 2009.

[4] The Cesium Prong is an area of contamination caused by airborne releases in 1968 from the Main Plant Process Building stack. The Main Plant Process Building was used by NFS to reprocess spent nuclear fuel. The area has been demarcated by gamma radiation surveys both on and off the Project Premises.

Based on comments received on the *1996 Draft EIS*, DOE and NYSERDA acknowledged the need for additional characterization information and analytical methods to support a final EIS and to identify a preferred alternative, and proceeded to collect additional information on structural geology, local fractures, and seismicity. Updated methods for analyzing erosion were developed and refined. The assumptions and design features for specific alternatives were reviewed and revised. Discussions took place between DOE and NYSERDA on how to select a preferred alternative and what a preferred alternative might involve. In addition, the West Valley Citizen Task Force was convened in 1997 to provide NYSERDA and DOE with input on the EIS and the preferred alternative.

On March 26, 2001, DOE and NYSERDA issued a Notice of Intent in the *Federal Register* announcing their plan to (1) prepare a revised draft EIS focusing on DOE's actions to decontaminate Project facilities and manage Project wastes, which would not include NYSERDA as a joint lead agency; and (2) prepare a separate EIS on decommissioning and/or long-term stewardship of the Project Premises and the Center, in which NYSERDA would participate as a joint lead agency. On November 6, 2001, DOE independently issued an Advance Notice of Intent to prepare an EIS.

After issuance of the March 26 and November 6, 2001 *Federal Register* notices and consideration of public scoping comments, DOE opted to prepare a separate EIS that would focus exclusively on waste management actions (the *Waste Management EIS*). Additionally, DOE and NYSERDA decided that the *Decommissioning and/or Long-Term Stewardship EIS* would be considered the revised draft of the 1996 *Draft EIS*.

On March 13 and 19, 2003, DOE and NYSERDA issued Notices in the *Federal Register* and the *New York State Environmental Notice Bulletin*, respectively, of intent to prepare an *Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center (Decommissioning and/or Long-Term Stewardship EIS).*

B. West Valley Core Team Recommendations

In order to resolve a number of outstanding technical issues that were identified during agency reviews of early versions of the revised draft EIS, DOE established an interagency working group in late 2006. This interagency working group, called the "West Valley Core Team," is composed of representatives from DOE, NYSERDA, NRC, DEC, DOH and EPA. The Core Team was tasked with finding ways to resolve almost 1,700 comments on the earlier DEIS, many of which were related to the long-term analysis of the site. Although the Core Team was not able to resolve all issues to the satisfaction of all participating agencies, the Core Team did develop a preferred cleanup alternative that called for the near-term removal of several significant site facilities and areas of contamination, including the Main Plant Process Building, the Low-Level Waste Treatment System Lagoons and the source area of the North Plateau Groundwater Plume. The alternative put forth by the Core Team also included a period, of up to 30 years, for making decisions for certain other key facilities such as the High Level Waste Tanks, the NDA and the SDA. This 30-year time period was considered necessary to allow for, among other things, improvements in the technical basis of the long-term performance analysis.

C. Revised Draft EIS

1. The Preferred Alternative

DOE and NYSERDA released a Revised Draft EIS for public comment on December 5, 2008. The alternatives analyzed in the DEIS included the Sitewide Removal Alternative, the Sitewide Close-in-Place Alternative, and the Phased Decisionmaking Alternative. A fourth alternative, the No Action Alternative, does not meet the purpose and need for agency action but was analyzed in this EIS as required under both NEPA and SEQRA. The alternative recommended in the DEIS (known as the Preferred Alternative) was the approach developed by the Core Team, i.e., the Phased Decisionmaking Alternative, which called for decommissioning of the Site in two phases. During Phase 1, which would last up to 30 years, DOE would conduct the removal of the Main Plant Process Building, the Low-Level Waste Treatment System Lagoons and the source area of the North Plateau Groundwater Plume. Several other facilities would continue under active management, including the High Level Waste Tanks, the Construction and Demolition Debris Landfill, the nonsource area of the North Plateau Groundwater Plume, the NDA and the SDA. NYSERDA would continue ongoing monitoring, inspections, maintenance and analyses of the SDA in accordance with its New York State-issued license and permits and in accordance with Federal and State RCRA regulations. NYSERDA would also continue to manage in place the portion of the Cesium Prong that is outside of the Project Premises (but within the boundaries of the Center) by restricting access to and use of the property.

2. SDA Quantitative Risk Assessment

During development of the DEIS, NYSERDA commissioned a team of scientific experts to assess the impacts from NYSERDA's Preferred Alternative for the SDA. Led by Dr. B. John Garrick, who is the current Chairperson of the U.S. Nuclear Waste Technical Review Board and a former President of the Society of Risk Analysis, the team evaluated the risk to the public from continued operation of the SDA during Phase 1 with its current physical and administrative controls. Upon Dr. Garrick's recommendation, the team prepared a quantitative risk assessment (QRA). The QRA included detailed models for the mobilization, transport, distribution, dilution, and deposition of released radioactive materials throughout the environment surrounding the SDA site, including the integrated watershed formed by Erdman Brook, Franks Creek and Buttermilk Creek.

The QRA Team concluded that the public health risk from operating the SDA for the next 30 years is well below widely applied radiation dose limits, such as the 100 millirem (mrem) per year limit specified under "Radiation Dose Limits for Individual Members of the Public" in Part 380 of DEC's regulations (6 NYCRR Part 380) as well as Standards for Protection Against Radiation promulgated by the NRC in Part 20 of Title 10 of the Code of Federal Regulations (10 CFR 20). The Team further found that there is an extremely high degree of confidence that potential releases of radioactive materials from the SDA which may result in a 1-year dose to any member of the public of 100 mrem, or more, will occur much less often than once in 30 years. The QRA Team did explicitly state that the low level of risk will be maintained only if NYSERDA continues to operate the SDA according to its current physical and

administrative controls. For a discussion of these controls, see section IX below, which describes mitigating measures that NYSERDA will implement. The QRA results are summarized in Appendix P of the FEIS. A complete copy of the QRA can be found on-line at:
http://www.nyserda.org/publications/sdaquantitativeriskassessment.pdf

3. Additional Scientific Studies During Phase 1

As explained in the DEIS, DOE and NYSERDA agree that the removal activities proposed to be conducted during Phase 1 are critical to keep the overall project moving toward completion. However, as explained in the Foreword to the DEIS, NYSERDA believes that the technical analyses of soil erosion, groundwater flow and contaminant transport, engineered barriers and uncertainty are not technically defensible for use in long-term decisions regarding cleanup of the Center, particularly the Project facilities. Consequently, the DEIS stated that during Phase 1 DOE and NYSERDA would engage in further information gathering and analysis to support decisionmaking with regard to the remaining facilities. These studies would be defined and implemented with both public and regulatory agency participation.

At the end of Phase 1 (which could last up to 30 years as described in the DEIS), DOE and NYSERDA would make remedial decisions based on the results of the Phase 1 evaluations. For the Project , Phase 2 would complete the decommissioning or long-term management decisionmaking process, implementing the approach determined through review of the currently existing information and any additional studies to be the most appropriate. Decommissioning decisions in Phase 2 would range between full exhumation and in-place closure of remaining facilities. For the SDA, alternatives that will be considered for Phase 2 decisions will range from complete exhumation to close-in-place to continued active management consistent with SDA permit and license requirements. For the balance of the Center, Phase 2 decisions will range from license termination with unrestricted use to continued management under NRC license.

4. Public Comment on the DEIS

DOE published the Notice of Availability of the revised DEIS, which appeared in the *Federal Register* on December 5, 2008 (73 FR 74170). A Notice of Completion of the Revised Draft EIS and Public Hearing Notice was also published on December 10, 2008, in the *New York State Environmental Notice Bulletin* in accordance with SEQRA requirements. The Notice of Availability and Notice of Completion announced a 6-month public comment period, through June 8, 2009, and three public hearings to be held to solicit comments. In response to stakeholder requests, another meeting was added in Albany, and the Buffalo meeting was moved from the original Blasdell location to a more central downtown Buffalo location. On June 5, 2009, in response to stakeholder requests, the public comment period was extended by 90 days, until September 8, 2009.

Federal agencies, state and local government agencies, American Indian Tribal Governments, and the general public were encouraged to submit comments at the public hearings and through U.S. mail, e-mail, a toll-free fax line, and through the DOE EIS website. Public hearings were held in Albany, Irving (on the Seneca Nation of Indians Reservation), Ashford, and Buffalo, New York on March 30 and 31, and April 1 and 2, 2009 respectively. A court reporter recorded the oral comments made at each

hearing and prepared a transcript for each that is included in the Comment Response Document found in Volume 3, Comment Response Document, of the Final EIS. Additionally, DOE received approximately 420 submittals containing approximately 1,900 comments addressing a wide range of issues. Notably, various elected officials (including members of New York's Congressional delegation and the State Legislature), the Citizen Task Force, environmental groups and members of the public: (1) called for an immediate decision to remove all wastes from the site and transport the wastes to an appropriate disposal facility (notably, there is no federal facility for disposal of HLRW), and (2) strongly objected to the 30 year time period, questioning why such a lengthy period of time is necessary to reach final cleanup decisions for the Center. DOE and NYSERDA considered all comments, including those received after the comment period ended, in evaluating the accuracy and adequacy of the DEIS and to determine whether corrections, clarifications, or other revisions were required. Individual comments and DOE's and NYSERDA's responses have been compiled in a side-by-side format in Section 3 of the Comment Response Document[5], with each delineated comment receiving a separate response.

D. Final EIS

DOE and NYSERDA issued the FEIS on January 29, 2010, incorporating (with the change noted below) the Preferred Alternative outlined in the Revised DEIS. In the FEIS, the Phased Decisionmaking Alternative was revised to specify that a Phase 2 decision would be made no later than 10 years (vs. "up to 30 years" in the DEIS) after issuance of the DOE Record of Decision and the NYSERDA Findings Statement. The timeframe was shortened for the following reasons:

1) Both NYSERDA and DOE received public input after issuance of the Revised DEIS calling for a shorter time period between Phases 1 and 2 of the Preferred Alternative;
2) NYSERDA believes that 10 years is an adequate amount of time to complete the necessary studies and incorporate the findings and new scientific information from the studies into a Phase 2 decision; and
3) The cleanup actions that will be implemented during Phase 1 are expected to take up to 10 years to complete; hence, a Phase 2 decision in 10 years will likely allow the transition to occur from Phase 1 to Phase 2 without a drop off in employment or funding levels at the site, and prevent the loss of the Site's trained workforce.

VIII. Facts and Conclusions in the EIS Relied Upon to Support NYSERDA's Decision:

When a state agency decides to carry out or approve an action which has been subject to an EIS (in the instant case, implementation of Phased Decisionmaking), the agency is required to issue a SEQRA findings statement which discusses the application of the agency's environmental review to the action. The statement must explain how SEQRA's requirements have been met, provide a rationale for the agency's decision, and demonstrate that any environmental effects revealed in the review process will be "minimized or avoided to the maximum extent practicable." NY Environmental Conservation Law,

[5] The Comment Response Document was published as volume 3 of the Final Environmental Impact Statement.

section 8-0109(8). This Findings Statement certifies that these requirements have been met, for the following reasons.

A) <u>The FEIS analysis does not provide sufficient information to demonstrate that either the Close-in-Place or Sitewide Removal Alternative avoids or minimizes adverse environmental impacts to the maximum extent practicable</u>

NYSERDA is not in agreement with certain aspects of the approach used in the FEIS to analyze environmental and other impacts from the decommissioning alternatives. NYSERDA's concerns, which are presented in the *Foreword* to the FEIS, relate to both the analysis of long-term impacts from in-place closure of facilities and contamination (the Sitewide Close-In-Place Alternative) and the exhumation of facilities and contamination (the Sitewide Removal Alternative). Based on issues that NYSERDA raised pertaining to the accuracy and uncertainties of soil erosion prediction models, the long-term performance of engineered barriers, and flaws in the groundwater flow and transport models, NYSERDA does not have confidence that the long-term impacts from the Close-In-Place Alternative have been accurately analyzed and discussed in the document. For example, the FEIS states that predicting the location of future gullies with landscape evolution models is "subject to uncertainty" (FEIS, p. F-78). Even though the FEIS recognizes the uncertainty in predicting the location of gullies and identifies a number of other erosion prediction uncertainties as well, the FEIS states that the landscape evolution modeling results show there will be "very little erosion" near the Main Plant Process Building, Vitrification Facility and HLW Tanks, and because of this, *the FEIS does not even calculate erosion impacts for these important facilities* (FEIS p. 4-95). The FEIS erosion modeling is also used to predict that a farmer living on Buttermilk Creek would receive a radiation dose of 12 mrem/year from the NDA, and 5 mrem/year from the SDA if there is unmitigated erosion of the two disposal areas (Table 4-41). Based on previous predictions of radiation doses from erosion of the disposal areas using other models, these FEIS radiation doses seem implausibly low.[6]

In regard to the Sitewide Removal alternative, NYSERDA believes that the exhumation approaches in the FEIS could be successful, but as currently presented they appear to be overly conservative, and based on extreme conditions, rather than on conditions that are more likely to be encountered during exhumation. For example, the FEIS assumes that all soil removed from the disposal area caps would have to be disposed as low level radioactive waste. If a portion of this cap material is found to be clean soil, it could be used as fill or otherwise left on site, resulting in a significant cost savings. Also, the disposal areas are assumed to be exhumed using "Environmental Enclosures." These enclosures are huge buildings, several hundred feet long and several hundred feet wide, with reinforced concrete exterior walls that are one foot thick. DOE assumes in the FEIS that these large containment buildings would have to be disposed as low level radioactive waste, adding a substantial volume of waste (over 3 million cubic feet) to be disposed for this alternative. Currently, exhumation projects are being successfully conducted at other contaminated DOE sites using metal-framed "sprung

[6] The 1996 DEIS, which used a different modeling technique, showed much higher doses of 47,000 mrem/yr from the NDA and 280,000 mrem/yr from the SDA for this same resident farmer.

structures™." The use of such a system here would result in lower costs for both construction of the enclosure and disposition of the structure when exhumation is complete. Consequently, NYSERDA believes that the approach identified in the FEIS for exhuming the disposal areas and Waste Tank Farm should be reassessed to determine whether less conservative, but still protective, methods of exhumation could be identified that would significantly reduce the cost of exhumation.

B) Substantial cleanup work will be completed during Phase 1 without biasing future remediation decisions on remaining facilities in Phase 2

The Phase 1 actions will remove a significant amount of contamination at the site, while deferring until Phase 2 decisions on remaining facilities at the Site. The Main Plant Process Building, the soils underneath the Main Plant Process Building that represent the source of the North Plateau Groundwater Plume, the Low-Level Waste Treatment Facility (including five lagoons), the Vitrification Facility, and a number of other facilities, concrete slabs and foundations will be removed during Phase 1. The North Plateau Groundwater Plume is a zone of groundwater contamination that extends approximately 1000 feet in a northeasterly direction from the Main Plant Process Building and discharges beyond the Project Premises into local stream channels. The Low-level Waste Treatment Facility contains a series of lined and unlined lagoons used to treat wastewater. Surface and subsurface soil samples collected near the lagoons confirmed the spread of contamination from past treatment operations.

Moreover, completing cleanup work in phases is a logical approach. Phase 1 would allow up to 10 years for collection and analysis of data and information on major facilities or areas (such as the high level waste tanks, NDA and SDA), with the goal of reducing uncertainties related to the evaluation of the Sitewide Removal and Sitewide Close-in-Place Alternatives.

C) The Phased Decisionmaking Alternative represents the action that will avoid adverse environmental effects to the maximum extent possible

As explained above, NYSERDA's QRA Team evaluated the risk from continued operation of the SDA for the next 30 years with its current physical and administrative controls, and concluded that the public health risk is well below widely applied radiation dose limits specified in regulations issued by DEC and NRC. Of course, the risk associated with managing the site for the next 30 years would likely be greater than the risk associated with managing the site for 10 more years, as called for in the FEIS. The QRA Team did explicitly state that the low level of risk will be maintained only if NYSERDA continues to operate the SDA according to its current physical and administrative controls- which NYSERDA staff fully intends to do.

While, as indicated above, NYSERDA is not in agreement with certain aspects of the FEIS analysis, that analysis and prior DEIS analysis suggest that there may be significant short term environmental impacts resulting from implementation of the Sitewide Removal Alternative and significant long-term environmental impacts resulting from the Sitewide Close-in-Place Alternative. According to the FEIS analysis, implementation of the Sitewide Removal Alternative would likely have the following impacts: (1) the exhumed waste- estimated at over 57 million cubic feet of waste (of

which 17.5 million comes from exhumation of the SDA)- would need to be transported and then managed in perpetuity at an offsite facility licensed and permitted to accept radiological waste, (2) workers (both those involved in exhumation activities and those transporting the waste) and members of the public located in the vicinity of the transport route would be exposed to radiation (1,300 to 3,600 person-rem); and (3) there would be an estimated 10-15 nonradiological fatalities from train or truck accidents over the 60-year implementation period. With regard to in-place closure implementation, it is not clear that the impacts from Close-in-Place are as low as presented in the FEIS. For example, the 1996 DEIS showed an erosion impact of 280,000 mrem/yr from the SDA. The FEIS shows an impact of 5 mrem/yr for the same scenario. It is important to note that this five-order of magnitude decrease is related only to the use of a different erosion model and not to any change in waste inventory or engineered closure approach. NYSERDA believes that additional work is required to demonstrate that this decrease is valid. Until this and other issues related to the long-term performance assessment are fully evaluated, NYSERDA does not believe that Close-in-Place is a viable alternative for implementation.

Given NYSERDA's concerns about the analysis, NYSERDA has concluded that the Phased Decisionmaking Alternative provides the best plan to move the cleanup forward while avoiding potential significant environmental and health impacts, while at the same time allowing for additional study to better inform future decisions.

D) Public Health risk from active management of the Cesium Prong area and areas with contaminated stream sediments is well below applicable regulatory standards

NYSERDA's decision to continue management of the Cesium Prong area is based on a study[7] that was completed in 1995 that showed a projected annual dose to the maximally exposed individual in this area just off the Center to be less than 8 mrem. This value is considerably less than the 100 mrem limit specified under "Radiation Dose Limits for Individual Members of the Public" in DEC'S radioactive materials regulations (6 NYCRR Part 380) and in NRC's rules (10 CFR 20). Additionally, the 1995 NYSERDA study pointed out that the annual doses would decrease by 2.2 percent each year due to the natural decay of Cesium-137 (the half-life of Cesium-137 is 30.2 years). At the time of publication of this Findings Statement, the projected annual dose to the maximally exposed individual will be closer to 5 mrem.

In 2007, DOE collected stream sediment samples from five locations: three locations along the perimeter of the Project Premises where drainage has the potential to be contaminated with radioactive constituents, and two locations downstream from the Project Premises. One of the three onsite samples exceeded the NRC concentration screening value[8] for Strontium-90; the other two samples

[7] Dames and Moore, "Western New York Nuclear Service Center Off-Site Radiation Investigation," NYSERDA (1995).

[8] In 2006, the NRC, in a decommissioning guidance document (NUREG-1757, Volume 2) provided concentration screening values for common radionuclides in soils that could result in a dose of 25 mrem/year.

were below that value.[9] For the downstream sediment samples, the results were indistinguishable from background except for slightly elevated Cesium-137. The Cesium-137 concentrations were well below the screening levels recommended by NRC. Based on these results and the fact that NYSERDA controls and maintains the Retained Premises as a buffer area around the Project Premises, the public health risk from continued management of the contaminated sediments for up to 10 more years is considered to be negligible. NYSERDA believes that any remaining stream contamination should be addressed as part of the Phase 2 decision, when a decommissioning path for remaining facilities and the balance of the Center has been identified.

IX. Mitigating Measures:

In order to maintain the risk from releases of radioactive material or hazardous constituents from the SDA as low as is reasonably achievable during Phase 1, NYSERDA must continue to manage the facility with the same level of controls as are in place today. Specifically, NYSERDA must do the following:

- Implement plans and procedures specifically incorporated in the DOH Radioactive Materials License No. C0382;
- Implement conditions of the DEC Part 380 Radiation Control Permit No. 9-0422-00011-00011;
- Implement requirements under the 1992 RCRA Administrative Order on Consent;
- Continue to actively maintain trench water levels below the Unweathered Lavery Till/Weathered Lavery Till interface;
- Minimize the amount of time that the geomembrane covers are not intact. This includes expedited repairs or replacement of damaged geomembrane sections, and minimizing the time and extent of uncovered surface during planned geomembrane replacements; and
- Formalize emergency preparedness plans and guidelines for responses to the types of release scenarios that are evaluated in the QRA.

[9] West Valley Demonstration Project Annual Site Environmental Report for Calendar Year 2007, prepared by West Valley Environmental Services and URS Washington Division, 2008.

CERTIFICATION OF FINDINGS TO APPROVE/FUND/UNDERTAKE

Having considered the Draft and Final EIS, and having considered the preceding written facts and conclusions relied upon to meet the requirements of 6 NYCRR 617.9, this Statement of Findings certifies that:

1. *The requirements of 6 NYCRR Part 617 have been met;*
2. *Consistent with the social, economic, and other essential considerations from among the reasonable alternatives thereto: (a) the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and (b) adverse environmental effects will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigative measures that were identified as practicable.*

New York State Energy Research and Development Authority

Signature of Responsible Official	*Title of Responsible Official*
Name of Responsible Official	*Date*

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