

DEPARTMENT OF ENERGY

Record of Decision: Final Environmental Impact Statement for
Decommissioning and/or Long-Term Stewardship at the West Valley
Demonstration Project and Western New York Nuclear Service Center

AGENCY: U.S. Department of Energy

ACTION: Record of Decision

SUMMARY: The U.S. Department of Energy (DOE) is issuing this Record of Decision (ROD), based on information and analyses contained in the *Final 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)* (DOE/EIS-0226) issued on January 29, 2010, comments received on the Final EIS, and other factors including cost and environmental stewardship considerations. The *Decommissioning and/or Long-Term Stewardship EIS* was prepared by DOE and the New York State Energy Research and Development Authority (NYSERDA) to examine the potential environmental impacts of the range of reasonable alternatives to meet DOE's responsibilities under the West Valley Demonstration Project (WVDP) Act and NYSERDA's responsibilities for management of the Western New York Nuclear Services Center (WNYNSC). This ROD addresses DOE decisions for actions at WNYNSC necessary to complete WVDP. NYSERDA will publish its decisions regarding actions at WNYNSC in a Findings Statement in the *New York State Environmental Notice Bulletin*.

The Proposed Action is the completion of WVDP and the decommissioning and/or long-term management or stewardship of WNYNSC. This includes the decontamination and decommissioning of the waste storage tanks and facilities used in the solidification of high-level radioactive waste, and any material and hardware used in connection

with the WVDP. DOE needs to determine what, if any, material or structures for which it is responsible would remain on site, and what, if any, institutional controls, engineered barriers, or stewardship provisions would be needed. NYSERDA needs to determine what, if any, material or structures for which it is responsible would remain on site and what, if any, institutional controls, engineered barriers, or stewardship provisions would be needed.

DOE and NYSERDA evaluated four alternatives in the Final EIS: Sitewide Removal, Sitewide Close-In-Place, Phased Decisionmaking (the Preferred Alternative), and No Action.

DOE has decided to implement the Preferred Alternative, Phased Decisionmaking. Under this alternative, decommissioning will be completed in two phases. Phase 1 involves near-term decommissioning and removal actions for certain facilities and areas and undertakes characterization work and studies that could facilitate future decisionmaking for the remaining facilities or areas on the property.

DOE intends to complete any remaining WVDP decommissioning decisionmaking with its Phase 2 decision (to be made within 10 years of this ROD) and expects to select either removal or in-place closure, or a combination of the two for those portions of the site for which it has decommissioning responsibility.

FOR FURTHER INFORMATION CONTACT: For information regarding WVDP or this ROD, or to receive a copy of the *Decommissioning and/or Long-term Stewardship EIS* or this ROD, contact: Catherine Bohan, EIS Document Manager, West Valley Demonstration Project, U.S. Department of Energy, Ashford Office Complex, 9030 Route 219, West Valley, NY 14171. Requests for information may also be submitted via e-mail at <http://www.westvalleyeis.com> or by faxing toll-free to 866-306-9094.

The West Valley website (<http://www.wv.doe.gov>) may also be accessed for the *Decommissioning and/or Long-term Stewardship EIS* (DOE/EIS-0226), this ROD, and additional information related to the West Valley site.

For general information on DOE's NEPA process contact: Carol Borgstrom, Director, Office of NEPA Policy and Compliance (GC-54), U.S. Department of Energy, 1000 Independence Avenue, SW, Washington, DC, 20585; e-mail AskNEPA@hq.doe.gov; telephone 202-586-4600; or leave a message at 800-472-2756. Additional information regarding DOE NEPA activities and access to many DOE NEPA documents, including the *Decommissioning and/or Long-term Stewardship EIS*, are available through the DOE NEPA website at: <http://www.gc.energy.gov/nepa>.

SUPPLEMENTARY INFORMATION:

Background

DOE has prepared this ROD pursuant to the regulations of the Council on Environmental Quality (CEQ) for implementing the *National Environmental Policy Act* (NEPA) (40 CFR Parts 1500-1508) and DOE's NEPA Implementing Procedures (10 CFR Part 1021). This ROD is based on information and analyses contained in the *Final Decommissioning and/or Long-Term Stewardship EIS* (DOE/EIS-0226) issued on January 29, 2010 (75 FR 4803); comments received on the Final EIS; and other factors, including cost and environmental stewardship considerations.

WNYNSC is a 1,351-hectare (3,338-acre) site located 48 kilometers (30 miles) south of Buffalo, New York, and owned by NYSERDA. WNYNSC was established in 1961 as the site of a nuclear center consisting of commercial spent nuclear fuel reprocessing and waste disposal facilities. Nuclear Fuel Services, Incorporated (NFS), a private company, built and operated the fuel reprocessing plant and burial

grounds, processing 640 metric tons of spent nuclear fuel at WNYNSC from 1966 to 1972 under an Atomic Energy Commission license. Fuel reprocessing ended in 1972, when the plant was shut down for modifications to increase its capacity, reduce occupational radiation exposure, and reduce radioactive effluents. However, between 1972 and 1976, there were major changes in regulatory requirements, including more stringent seismic and tornado siting criteria for nuclear facilities and more extensive regulations for radioactive waste management, radiation protection, and nuclear material safeguards.

As a result, NFS announced its decision to withdraw from the nuclear fuel reprocessing business and to exercise its contractual right to yield responsibility for WNYNSC to NYSERDA, the site owner. NFS withdrew from WNYNSC in 1976 without removing any of the in-process nuclear wastes. NYSERDA now holds title to and manages WNYNSC.

In 1980, Congress passed the WVDP Act (Public Law No. 96-368, 42 U.S.C. 2021a). The WVDP Act requires DOE to demonstrate that the liquid high-level radioactive waste from reprocessing could be safely managed by solidifying it at WNYNSC, and transporting it to a repository for permanent disposal. Specifically, Section 2(a) of the Act directs DOE to take the following actions:

1. Solidify high-level radioactive waste by vitrification or such other technology that the DOE deems effective;
2. Develop containers suitable for the permanent disposal of the solidified high-level radioactive waste;
3. Transport the solidified high-level radioactive waste to an appropriate Federal repository for permanent disposal;
4. Dispose of the low-level radioactive waste and transuranic waste produced by the high-level radioactive waste solidification program; and

5. Decontaminate and decommission the waste storage tanks and facilities used to store the high-level radioactive waste, the facilities used for solidification of the high-level radioactive waste, and any material and hardware used in connection with the project in accordance with such requirements as the U.S. Nuclear Regulatory Commission (NRC) may prescribe.

In 1982, DOE assumed control but not ownership of the 68-hectare (167-acre) Project Premises portion of WNYNSC to conduct the WVDP, as required under the aforementioned WVDP Act.

As part of the WVDP Act, NRC was charged with developing decommissioning criteria. In the "Decommissioning Criteria for the WVDP at the West Valley Site; Final Policy Statement" (NRC Policy Statement) (67 FR 5003), NRC prescribes the requirements for decommissioning WVDP. The decommissioning criteria define the conditions that would allow WVDP to be used with specified restrictions or without restrictions on future use. If those conditions cannot be met, the NRC Policy Statement also defines the circumstances under which portions of the site could remain under long-term management or stewardship.

A 1987 Stipulation of Compromise between the Coalition on West Valley Nuclear Wastes and DOE specified that a closure EIS be prepared that also addresses the disposal of those Class B and C low-level radioactive wastes generated as a result of DOE's activities at WVDP. In 1990, DOE and NYSERDA entered into a supplemental agreement to prepare an EIS to address both the completion of WVDP and closure or long-term management of WNYNSC.

EIS Process

On December 30, 1988, DOE published a Notice of Intent (NOI) in the *Federal Register* to prepare an EIS for WVDP completion. In 1990, DOE and NYSERDA entered into a supplemental agreement to prepare a joint EIS to address both the completion of WVDP and closure or long-term management of WNYNSC. A Draft EIS was issued for public comment in 1996: the *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*, also referred to as the 1996 *Cleanup and Closure Draft EIS* (DOE/EIS-0226D), January 1996. The 1996 Draft EIS did not identify a preferred alternative.

On March 26, 2001, DOE and NYSERDA announced (66 FR 15447) their intent to revise their strategy for completing the EIS process. On November 6, 2001, DOE issued an Advance NOI (66 FR 56090) to provide an early opportunity for interested parties to comment on the proposed scope of the EIS, and on March 13, 2003, DOE and NYSERDA issued an NOI (68 FR 12044) for the Decommissioning and/or Long-Term Stewardship EIS. After considering all public scoping comments and based on decommissioning criteria for WVDP issued by NRC since the publication of the 1996 *Cleanup and Closure Draft EIS* and public comments on that EIS, DOE and NYSERDA (as co-lead preparers) issued the Revised Draft EIS known as the *Decommissioning and/or Long-Term Stewardship EIS* for public comment in December 2008. The public comment period, originally scheduled to end June 8, 2009, was extended through September 8, 2009, in response to requests from the public. Following consideration of all public comments, the Final EIS was issued in January 2010. The NRC, U.S. Environmental Protection Agency (EPA), and the New York State Department of Environmental Conservation (NYSDEC) participated as cooperating agencies in preparing the EIS. The New York State

Department of Health and NYSDEC are involved agencies under the New York State Environmental Quality Review Act (SEQR).

The Proposed Action is the completion of WVDP and the decommissioning and/or long-term management or stewardship of WNYNSC. This includes the decontamination and decommissioning of the waste storage tanks and facilities used in the solidification of high-level radioactive waste, and any material and hardware used in connection with the WVDP. DOE needs to determine what, if any, material or structures for which it is responsible would remain on site, and what, if any, institutional controls, engineered barriers, or stewardship provisions would be needed. NYSERDA needs to determine what, if any, material or structures for which it is responsible would remain on site and what, if any, institutional controls, engineered barriers, or stewardship provisions would be needed as a result.

Alternatives Considered

The *Decommissioning and/or Long-Term Stewardship EIS* analyzes the potential environmental impacts of the range of reasonable alternatives to decommission and/or maintain long-term stewardship at WNYNSC. The alternatives analyzed in the EIS include Sitewide Removal, Sitewide Close-In-Place, Phased Decisionmaking (the Preferred Alternative), and No Action.

Sitewide Removal. Under this alternative, site facilities would be removed; contaminated soil, sediment, and groundwater would be removed to meet criteria that would allow unrestricted release of WNYNSC; and radioactive, hazardous, and mixed waste would be characterized, packaged as necessary, and eventually shipped off site for disposal. Immediate implementation of this alternative would generate waste for which there is currently no offsite disposal

location (e.g., potential non-defense transuranic waste, commercial Class B and C low-level radioactive waste, and Greater-Than-Class C waste). Any such "orphan waste" would be stored on site until an appropriate offsite facility is available. Completion of these activities would allow unrestricted use of the site (i.e., the site could be made available for any public or private use).

Sitewide Close-In-Place. Under this alternative, most facilities would be closed in place. Major facilities and sources of contamination such as the Waste Tank Farm, U.S. Nuclear Regulatory Commission-Licensed Disposal Area (NDA), and State-Licensed Disposal Area (SDA) would be managed at their current locations.

Residual radioactivity in facilities with larger inventories of long-lived radionuclides would be isolated by specially designed closure structures and engineered barriers. These structures would be designed to meet regulatory requirements both to retain hazardous and radioactive constituents and to ensure they would be resistant to long-term degradation. This approach would allow large areas of the site to be released for unrestricted use. The NRC license for remaining portions of WNYNSC could be terminated under restricted conditions, or could be converted to a long-term license. Facilities that are closed in place, and any buffer areas around them, would require long-term stewardship.

Phased Decisionmaking (the Preferred Alternative). Under this alternative, decommissioning would be completed in two phases. This alternative involves substantial removal actions in the first phase and also provides for additional site characterization and scientific studies to facilitate decisionmaking for the remaining facilities or areas.

Phase 1 decommissioning actions would include removal of the Main Plant Process Building, the Vitrification Facility, and the source area for the North Plateau Groundwater Plume. In addition, the lagoons and all facilities in Waste Management Area (WMA) 2 (except the permeable treatment wall) would be removed. The Remote Handled Waste Facility and a number of facilities in WMAs 5, 6, 9, and 10 would also be removed. Foundations, slabs, or pads from these facilities, as well as those from previously demolished facilities would also be removed. During Phase 1, several facilities would continue under active management. These facilities include the Waste Tank Farm and its support facilities, the Construction and Demolition Debris Landfill, the nonsource area of the North Plateau Groundwater Plume, the NDA, and the SDA. Phase 1 activities would make use of proven technologies and available waste disposal sites to reduce the potential short-term health and safety risks from residual radioactivity and hazardous contaminants at the site.

Phase 1 activities are expected to take 8 to 10 years to complete. During this time, a number of activities would be conducted to evaluate the best technical approach to complete decommissioning of the remaining facilities and to facilitate interagency decisionmaking. These activities would include further characterization of site contamination and additional scientific studies. These additional studies may reduce technical uncertainties related to the decision on final decommissioning and long-term management of the balance of WNYNSC. In particular, these studies may address uncertainties associated with the long-term performance models, the viability and cost of exhuming buried waste and tanks, the availability of waste disposal sites, and technologies for in-place containment. While the Phase 1 activities are being conducted, DOE and NYSERDA would assess

the results of site specific studies as they become available, along with other emerging information such as applicable technology development.

In consultation with NYSERDA and cooperating and involved agencies on this EIS, DOE would determine whether new information or circumstances would warrant preparation of a Supplemental EIS prior to proceeding with Phase 2.

The Phase 2 decision would be made within 10 years of this ROD and the initial NYSERDA Findings Statement. The timeframe associated with this decision in the Revised Draft EIS was 30 years. This timeframe was modified for the Final EIS in response to public comments. For DOE, WVDP Phase 2 actions would complete decommissioning or long-term management decisionmaking for each remaining facility according to the approach determined most appropriate. Phase 2 alternatives that would be considered by NYSERDA for the SDA include at least: complete exhumation, close-in-place, and continued active management consistent with SDA permit and license requirements.

No Action. Under the No Action Alternative, no actions toward decommissioning would be taken. The No Action Alternative would involve the continued management and oversight of all facilities located on WNYNSC property. The No Action Alternative does not meet the purpose and need for agency action, but analysis of the No Action Alternative is required under NEPA and SEQR as a basis for comparison.

Environmental Impacts of Alternatives

The *Decommissioning and/or Long-Term Stewardship EIS* presents the potential impacts on land resources, air quality, noise, water resources, soils, biological resources, cultural resources, socioeconomics, and human health for the four alternatives, including

those from potential facility accidents and transportation of radioactive materials. DOE considered the impacts of activities for each alternative, the irreversible or irretrievable commitments of resources, and the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. Comparisons of the alternatives were based on both short- and long-term impacts. Five resource areas where meaningful impact differences could occur were used to compare short term impacts: land use (land available for reuse), socioeconomics (employment), human health and safety, waste management, and transportation. For comparative analyses of long-term impacts, the projected radiation dose to future hypothetical individuals and populations is identified as a meaningful difference among the alternatives; that is, long-term risks are dominated by radiological rather than chemically hazardous constituents.

The **Sitewide Removal Alternative** would result in the most land available for release for unrestricted use (the entire WNYNSC); long-term stewardship at WNYNSC would not be required, although institutional controls would be needed for any temporary management of orphan waste. This alternative would result in the highest decommissioning impacts at the site, on site workers, and on the public in the vicinity of WNYNSC and along the transportation routes over a period of about 60 years. This alternative would incur the highest short-term collective radiological dose to the public and workers from both onsite and transportation activities. These activities could result in up to 2 latent cancer fatalities among workers. No latent cancer fatalities would be expected for the public. Nonradiological consequences of transporting the waste off site for disposal are estimated to be as many as 10 to 15 fatalities from truck and rail

accidents, respectively. Potential long-term radiological dose to the general population in the vicinity of WNYNSC would be negligible.

The **Sitewide Close-In-Place Alternative** would result in fewer decommissioning impacts at the site, require the least amount of time to accomplish, and generate the least amount of waste (other than the No Action Alternative) that would need to be disposed of elsewhere. This alternative would result in less land available for release for unrestricted use than the Sitewide Removal Alternative. No latent cancer fatalities would be expected among the public, onsite workers, or transportation workers. Transporting the waste off site for disposal is estimated to result in 1 fatality from transportation accidents. However, implementing this alternative would require long-term stewardship at WNYNSC, including institutional controls. The reasonably foreseeable long-term peak annual dose to an average Lake Erie water user (assumed to be consuming water from the Sturgeon Point water intake with unmitigated erosion at the West Valley site) would be about 0.4 millirem, which would be indistinguishable from the dose associated with background radiation.

The **Phased Decisionmaking Alternative** (Phase 1) would not result in more land available for release than the No Action Alternative, but would have positive long-term impacts because contaminated facilities and the source area of the North Plateau Groundwater Plume would be removed during decommissioning activities. No latent cancer fatalities would be expected among the public, onsite workers, or transportation workers as a result of Phase 1 activities. Transporting waste off site is estimated to result in 1 to 2 fatalities from nonradiological transportation accidents.

If the Phase 2 decision is removal of remaining waste and contamination, total impacts from the Phased Decisionmaking Alternative would be similar to those for the Sitewide Removal Alternative.

If the Phase 2 decision is in-place closure of the remaining waste and contamination, total waste generation and transportation impacts (including nonradiological fatalities from traffic accidents) for the alternative would be only slightly more than those for Phase 1 alone because of the limited amount of waste that would be generated by in-place closure activities. The total worker exposure would be about 50 percent higher than that for Phase 1 alone because of the additional occupational exposure that would occur from in-place closure of the facilities not removed during Phase 1. Long-term impacts would be less than those for the Sitewide Close-In-Place Alternative. Because of removal actions during Phase 1, the time-integrated (cumulative) population dose over 1,000 years would be about 85 percent of the 4,000 person-rem dose projected for the Sitewide Close-In-Place Alternative. However, because of the long-lived radionuclides that would remain in the waste disposal areas, the time-integrated population dose over 10,000 years would be about 97 percent of the 34,000 person-rem dose projected for the Sitewide Close-In-Place Alternative.

If the Phase 2 decision for the SDA is continued active management, short-term Phase 2 impacts for some resource areas are expected to be bounded by those for the No Action Alternative. There would also be less transportation, so the associated impacts, including nonradiological fatalities from traffic accidents, would be lower. The long-term human health impacts for continued active management of the SDA would be the same as those identified for the SDA under the No Action Alternative.

Making the Phase 2 decision at 10 years instead of 30 years, as was cited in the Revised Draft EIS, would result in a small reduction in the total impact of decommissioning because most of the Phase 1 impacts are the result of the removal actions that occur in the first 8 years of Phase 1. The most important change in impacts associated with the shorter duration of Phase 1 would be the reduced socioeconomic impact. A shorter Phase 1 would eliminate the approximately 20-year period of reduced site employment following completion of the Phase 1 decommissioning actions followed by an increase in site employment when Phase 2 implementation begins.

The **No Action Alternative** would not involve decommissioning. Waste and contamination would not be removed, and there would be no change in site operations. Long-term impacts would be higher than those for the Sitewide Close-In-Place Alternative because there would be fewer engineered barriers to retard the migration of radionuclides from their original locations and to act as intrusion barriers in the event of loss of institutional controls, although the associated health risks would be small. For example, the long-term peak annual dose to an average Lake Erie water user (assumed to be consuming water from the Sturgeon Point water intake with unmitigated erosion at the West Valley site) would be about 3 millirem, which is unlikely to result in a cancer fatality.

Environmentally Preferable Alternative

As required by 40 CFR 1505.2(b), DOE has identified the environmentally preferable alternative for completion of WVDP and decommissioning of WNYNSC. DOE has compared the impacts of implementing each of the four alternatives evaluated in the EIS and considers the Sitewide Close-In-Place Alternative to be the

environmentally preferable alternative. DOE considered the short-term impacts associated with removing waste and contamination from WNYNSC and the estimated long-term impacts of leaving those materials on site and concluded that the long-term benefits of removing the waste and contamination do not outweigh the short-term impacts of the removal activities. DOE considers impacts on human health and safety to be important aspects of the human environment, and in this case, the principal discriminator for both short- and long-term impacts.

In the EIS, five resource areas for which meaningful short-term impact differences could occur were identified: land use (land available for reuse), socioeconomics (employment), human health and safety, waste management, and transportation. In its identification of the environmentally preferable alternative, however, DOE narrowed its consideration (based on the differences in impacts between alternatives) to the amount of waste generated and the human health impacts of its removal and transportation for disposal. From an environmental stewardship perspective, DOE qualitatively considered overall land disturbance, resources consumed, and the need for long-term stewardship at any location that would receive the West Valley waste for disposal, not just at WNYNSC.

If only short-term impacts were considered, the No Action Alternative, would be the environmentally preferable alternative because the short-term adverse impacts would be the least of all the alternatives.

The short-term adverse impacts would be greatest for the Sitewide Removal Alternative, although the local long-term benefits would also be greatest. After decommissioning actions are completed, the entire WNYNSC would be available for release; without waste or contamination remaining onsite, there would not be any long-term human health impacts

nor would there be a need for long-term stewardship. The short-term impacts would result primarily from removal of waste and contamination which would involve construction; waste and contamination removal, packaging, and transportation to offsite locations; followed by site restoration with geologic materials (e.g., soil and gravel) from offsite locations. These short-term impacts would occur in the vicinity of WNYNSC and along the transportation corridors, and affect both the natural environment and human health. The Sitewide Removal Alternative would involve the disturbance and restoration of approximately 20 hectares (50 acres) over 60 years, the generation and shipment of about 1.6 million cubic meters (57 million cubic feet) of waste, result in an estimated 10 to 15 nonradiological fatalities from offsite transportation of waste, and result in a total radiological exposure to the public and workers (including from waste transportation) from about 1,300 to 3,600 person-rem (the lower end of this range assumes all waste is transported by rail; the upper end, all by truck). The lower population dose would result in less than 1 latent cancer fatality while the higher population dose would result in up to 2 latent cancer fatalities.

The short-term impacts would be less for the Sitewide Close-In-Place Alternative, as this alternative would involve less material movement (materials would be needed primarily for the construction of waste isolation barriers), less worker exposure, and less transportation of waste. Under this alternative, approximately 12 hectares (30 acres) at WNYNSC would be disturbed over a 7-year period, and 26,000 cubic meters (920,000 cubic feet) of waste (mostly non-hazardous) would be generated. No latent cancer fatalities are expected to result from the estimated 160 to 220 person-rem total radiological exposure to workers and the public (the lower end of this

range assumes all waste is transported by rail; the upper end, all by truck), nor would any nonradiological fatalities be expected to result from transportation activities under this alternative. However, less land would be available for release than under the Sitewide Removal Alternative and long-term stewardship would be required.

For comparison of long-term impacts, the projected radiation dose to future hypothetical populations and individuals was identified in the EIS and considered in DOE's identification of the environmentally preferable alternative as a meaningful difference among the alternatives. DOE also considered the long-term stability of the WNYNSC site. The long-term erosion analysis performed to support the EIS suggests that the site can be managed in a way that prevents erosion of waste-containing areas for 10,000 years or longer.

Long-term impacts were evaluated for offsite water users from the release of contaminants (primarily radionuclides) into the environment and for intruders who were postulated to enter WNYNSC in the event that institutional controls failed. The greatest impacts to offsite water users would occur under the No Action Alternative, for which the peak annual individual dose is estimated to be less than 1 millirem per year if site maintenance activities continue and up to 34 millirem per year if site maintenance activities cease. Under the Sitewide Close-In-Place Alternative, the peak annual dose to offsite water users is estimated to be less than 1 millirem per year if site maintenance activities continue and up to 4 millirem per year if site maintenance activities cease. For both of these alternatives, the time-integrated population dose to offsite water users over thousands of years could be many thousands of person-rem. These values are composite doses that result from small individual doses that would be received by hundreds of thousands of people over thousands of years. The average annual

individual dose over this time frame is about a factor of 10 or more lower than the estimated peak annual doses, with no latent cancer fatalities expected.

Potential long-term impacts to intruders would occur if institutional controls failed and there were human intrusion into onsite areas where waste or contamination would be present. The magnitude of the long-term human health impacts is sensitive to the timing of human intrusion, the location of the intrusion, and the specific nature of actions taken by the intruder. The range of potential peak annual doses to intruders is highest for the No Action Alternative (less than 1 millirem, which would be indistinguishable from background radiation, to 400 rem, a potentially fatal dose), less for the Sitewide Close-In-Place Alternative (less than 1 millirem to 160 millirem, with no cancer fatalities expected), and negligible for individuals who might occupy WNYNSC under the Sitewide Removal Alternative because essentially all of the contamination would have been removed.

Environmental stewardship considerations include land disturbance activities at WNYNSC and other affected sites. In addition to the temporary disturbance of the natural environment at WNYNSC during removal of the waste and contamination, offsite locations would be permanently impacted. These locations would be those from which large quantities of fill materials would be removed, and others at which the wastes from WNYNSC would be disposed. At these offsite locations, land would be permanently altered and possibly removed from future beneficial uses in support of remediating and releasing land at WNYNSC. In addition, moving waste from WNYNSC to other locations for disposal would transfer the long-term risk and the need for long-term

institutional control (stewardship) to the sites receiving materials for disposal.

On balance, the overall environmental impacts of the Sitewide Removal Alternative, which include the short-term impacts in and around WNYNSC and along representative transportation routes, and the environmental stewardship considerations at other locations are considered to be greater than the corresponding overall impacts of the Sitewide Close-In-Place Alternative. Short-term impacts from implementing Phase 1 of the Phased Decisionmaking Alternative, in which certain removal actions would occur, are identified in the *Decommissioning and/or Long-Term Stewardship EIS*. Phase 2 decommissioning actions have not yet been decided, but the impacts are expected to range between those identified for the Sitewide Removal and Sitewide Close-In-Place Alternatives. If the Phase 2 decision is removal of the remaining waste and contamination, the impacts from implementing the Phased Decisionmaking Alternative would be expected to be similar to those of the Sitewide Removal Alternative. If the Phase 2 decision is in-place closure of the remaining waste and contamination, the short-term impacts would be expected to be greater than the Sitewide Close-In-Place Alternative because the Phased Decisionmaking alternative would include both the Phase 1 removal actions and the Phase 2 closure actions. The long-term impacts would be only slightly less than those for the Sitewide Close-In-Place Alternative because only the long-lived radionuclides in the Process Building and source area for the North Plateau Groundwater Plume would be removed under this alternative (during Phase 1).

DOE received seven comment letters on the Final EIS. These letters included one cosigned by New York's Senators and 15 Congressional Representatives; one each from the U.S. Environmental Protection Agency (U.S. EPA), Raymond C. Vaughan, The Coalition on West Valley Nuclear Wastes, and Citizens' Environmental Coalition; as well as two cosigned by multiple organizations including The Coalition on West Valley Nuclear Wastes; Sierra Club; Zoar Valley Nature Society; Great Lakes Sport Fishing Council; Catholic Care for Creation Committee of Buffalo; Center for Health, Environment and Justice; International Institute of Concern for Public Health; WNY Council on Occupational Safety & Health; Niagara Health-Science Report; Downstream Denizens; Citizens Campaign for the Environment; Coalition for a Nuclear Free Great Lakes; Don't Waste Michigan; Beyond Nuclear; Citizens Awareness Network; and Nuclear Information and Resource Service.

These letters raised a number of issues ranging from questioning the adequacy of the Final EIS, including its comment response document, to providing opinions on whether certain decisions can or should be made. Other comments related to activities that would be expected to occur after the ROD if the Phased Decisionmaking Alternative is selected including identifying the studies that would be conducted during Phase 1, public participation during decommissioning actions and for Phase 2 decisionmaking, and the need for future NEPA analysis.

In addition to addressing the major comments in this ROD, DOE will prepare individual responses to all commentors who submitted letters on the Final EIS. Where appropriate, these letters will refer commentors to the relevant sections of the Final EIS for the requested data.

Several of the comment letters expressed the opinion that the Final EIS is unscientific, incomplete and unacceptable for all options that leave waste on site and that the EIS was never intended to be a realistic look at various cleanup options. These concerns identify what the commentors consider to be inadequate information, inadequate analysis, and inadequate response to public comments on the Revised Draft EIS. DOE has considered these comments, and finds the Final EIS to be fully compliant with the requirements of NEPA. DOE further believes that the document is adequate to support DOE decommissioning decisionmaking for WNYNSC. The Final EIS uses all reasonably available data to support its analyses comparing the potential environmental consequences of all of the alternatives. DOE acknowledges in the Final EIS that for the long-term performance assessment there is some incomplete or unavailable information, but the analysis has been conducted consistent with the requirements of NEPA as identified in 40 CFR 1502.22. In addition, wherever practical, DOE accommodated recommendations of the co-lead and cooperating agencies and the public.

Several comments expressed the opinion that responses to specific comments on the Revised Draft EIS provided in the Comment Response Document (Volume 3 of the Final EIS) are inadequate. DOE has reviewed the original comments and the responses in the Comment Response Document, and finds that it has adequately considered and responded to all comments received on the Revised Draft EIS.

One comment cited what were thought to be five new references dated December 2009, questioned how information received at such a late date could have been incorporated into the Final EIS, and expressed dismay at not having had an opportunity to review the referenced documents. These references are final versions of Technical Reports prepared by the WNYNSC site contractor and used throughout the EIS

process. The Final Technical Reports referenced in the Final EIS contain minor revisions to the information presented in the 2008 versions of these reports that were referenced in the 2008 Revised Draft EIS. There were no fundamental changes in the engineering approach for the alternatives. The Technical Reports are available along with all other Final EIS references in the reading rooms identified in the Notice of Availability (75 FR 4803).

Several comments are requests for additional information about the methods or details of specific analyses (e.g., erosion model capability, input parameters to erosion analysis, injury and fatality estimates for specific activities, time step for specific long-term performance assessment).

Support of Sitewide Removal Alternative

The New York Senators and Representatives expressed concern about delays in site cleanup and strong support for the full Sitewide Removal alternative. They stated that, regardless of the alternative selected, a formal NEPA process with meaningful public participation is essential in the continued decisionmaking process. As noted in the decision below, DOE acknowledges the importance of public participation in the NEPA process and will provide robust opportunities to involve the public in the Phase 2 environmental review and decision making process.

Several comment letters stated that the Sitewide Removal Alternative is the only acceptable decommissioning alternative for WNYNSC, or is the only decision that could be scientifically supported by the EIS. These letters identify what the commentors consider to be a flawed long-term performance analysis and minimal cost differences between removal and in-place closure alternatives, and cite these issues and a potential higher level of public protection as the bases

for their conclusions. DOE acknowledges that these commentors prefer the Sitewide Removal Alternative. DOE's decisionmaking is based on its consideration of all the potential environmental impact information presented in the EIS: short-term and long-term, at the site and along potential transportation routes, as well as environmental stewardship considerations. DOE also notes that Phase 1 of the Phased Decisionmaking Alternative involves substantial removal actions, and does not preclude the ability to select removal of the remaining waste and contamination as the Phase 2 decision.

Phase 1 Studies

Regarding commentors' concerns about activities that would be expected to occur after the ROD is issued, the Final EIS identifies possible types of studies that could be conducted during Phase 1 of the Phased Decisionmaking Alternative. These include studies that may address uncertainties associated with the long-term performance models, the viability and cost of exhuming buried waste and tanks, the availability of waste disposal sites, and technologies for in-place containment.

The U.S. EPA expressed its concern with shortening the maximum duration of Phase 1 of the Phased Decisionmaking Alternative from 30 years to 10 years because of a lack of disposal capacity for high-level radioactive waste, spent nuclear fuel, and Greater-Than-Class C waste. As a result, the U.S. EPA requested that Phase 1 studies be designed to assure that storage of these wastes is in compliance with EPA's Standards for the Storage and Disposal of High-Level Radioactive Waste at 40 CFR Part 191. The 40 CFR 191, Subpart A, dose standard applies to the storage of the WVDP high-level waste form and transuranic waste or spent nuclear fuel that may require continued storage at the WVDP.

Specifically, section 191.03 defines the annual dose equivalent to any member of the public from the storage to not exceed 25 mrem whole body and 75 mrem to any critical organ. DOE Order 5400.5, Radiation Protection of the Public and the Environment, chapter II.1c, imposes the dose standard from 40 CFR Part 191 with no changes. Compliance with DOE Order 5400.5 would be required in applicable contracts at the WVDP. Therefore, full compliance with 40 CFR 191, Subpart A, would be met through full compliance with DOE Order 5400.5. The EPA also requested clarification relative to the impact of the Sitewide Removal Alternative on the available disposal capacity at the Energy Solutions disposal facility in Utah under the Commercial Disposal Option. DOE notes that, if Sitewide Removal were selected, the potential volume of low-level and low specific activity waste generated could require approximately 35% of the remaining available capacity, or 10% of the total licensable capacity of the Energy Solutions facility.

Public Involvement

The Final EIS explicitly states DOE's commitment to continue public involvement as site decommissioning progresses. As indicated earlier in this ROD, DOE has committed to having robust and meaningful opportunities for public participation during decommissioning. DOE is committed to working with NYSERDA to identify and initiate appropriate studies as soon as practicable and to continued public involvement as Phase 1 studies are defined and as results become available. DOE is further committed to meeting with the public on at least a quarterly basis to discuss the status of decommissioning actions and studies and will schedule additional meetings as necessary to assure timely communication with the public. One commentor suggested DOE conduct workshops as a potential mechanism for transmitting technical

information. DOE will consider this request as it develops its public participation effort.

Future NEPA Analyses

DOE's commitment to the NEPA process is also described in the Final EIS. During Phase 1, DOE and NYSERDA will assess the results of site-specific studies and other emerging information such as applicable technology development. In consultation with NYSERDA and cooperating and involved agencies, DOE will determine whether new information or circumstances would warrant preparation of a Supplemental EIS. If it is unclear whether a Supplemental EIS is required, DOE will prepare a Supplement Analysis in accordance with 10 CFR 1021.314(c) and make this analysis available to the public prior to making a determination.

Decision

To continue to meet its obligations under the WVDP Act to complete WVDP, DOE has decided to implement the Phased Decisionmaking Alternative as identified in the Final EIS. In implementing this alternative, DOE will provide robust and meaningful opportunities for public participation prior to making its Phase 2 decision.

Basis for Decision

DOE has determined that the Phased Decisionmaking Alternative provides the best path forward for completing its obligations under the WVDP Act.

Phase 1 of the Phased Decisionmaking Alternative would remove major facilities (such as the Main Plant Process Building and lagoons), thereby reducing or eliminating potential human health impacts

associated with these facilities while introducing minimal potential for generation of new orphan waste.

Phase 1 would remove the source area for the North Plateau Groundwater Plume, thereby reducing a source of radionuclides that is a potential contributor to human health impacts.

Phase 1 would allow up to 10 years for collection and analysis of data and information on major facilities or areas (such as the Waste Tank Farm, NDA, and SDA), with the goal of reducing technical risks associated with implementation of the Sitewide Removal and Sitewide Close-In-Place Alternatives, because one of these alternatives, or a combination that could include continued active management of the SDA by NYSERDA, could be selected for Phase 2.


The anticipated result of Phase 1 information gathering and analysis is to provide additional information that may inform decisionmaking for both the removal and in-place closure options for remaining facilities. It is also anticipated that, during Phase 1, progress would be made in identifying and developing disposal facilities for any orphan wastes, thereby facilitating removal actions if they are selected as part of Phase 2 decisionmaking. Establishment of improved close-in-place designs or improved analytical methods for long-term performance assessment would facilitate close-in-place actions if they are selected as part of Phase 2 decisionmaking.

Mitigation Measures

DOE will use all practicable means to avoid or minimize environmental harm when implementing the actions described in this ROD. These measures include employing engineering design features to meet regulatory requirements, maintaining a rigorous health and safety program to protect workers from radiological and chemical contaminants,

monitoring worker exposure and environmental releases, and continuing efforts to reduce the generation of wastes. More detailed examples of such practicable measures, including those applicable to implementation of the Phased Decisionmaking Alternative, are documented in the text and table of Chapter 6 (Potential Mitigation Measures) of the EIS. The measures applicable to Phase I are integral elements of the alternative and, therefore, a separate Mitigation Action Plan is not required to ensure that the measures are implemented effectively. The need for a Mitigation Action Plan for Phase 2 will be dependent on the nature of the Phase 2 decommissioning decision. DOE will implement Phase 1 of the Phased Decisionmaking Alternative in compliance with DOE orders as well as the comprehensive lists of standards and requirements to protect workers, the public, and the environment specified in Chapter 5 of the Final EIS, as appropriate.

Signed in Washington, DC, this 14 day of April 2010



Inés R. Triay
Assistant Secretary for Environmental Management