

October 30, 1998

SECY-98-251

FOR: The Commissioners

FROM: William D. Travers /s/
Executive Director for Operations

SUBJECT: DECOMMISSIONING CRITERIA FOR WEST VALLEY

PURPOSE:

To request Commission approval on proceeding with proposed decommissioning criteria for the West Valley Demonstration Project (WVDP) and West Valley site and to inform the Commission of potential alternatives that may be necessary to ensure acceptable long-term control and care of the site.

SUMMARY:

The U.S. Nuclear Regulatory Commission's (NRC's) responsibilities under the WVDP Act include prescribing decontamination and decommissioning criteria for the U.S. Department of Energy (DOE). NRC's proposed decommissioning criteria will be a significant component of an environmental impact statement (EIS) being prepared jointly by DOE and the New York State Energy Research and Development Administration (NYSERDA) for decommissioning and closure of the site. NRC can also use the EIS to support its selection of criteria in accordance with the National Environmental Policy Act (NEPA). The staff is proposing decommissioning criteria that are compatible with existing regulations and guidance. Once NRC proposes the criteria, DOE and NYSERDA can consider the environmental impacts associated with attainment of the criteria and complete the EIS. Meeting these proposed criteria may require the removal and offsite disposal of large quantities of high-activity wastes, and that action may be difficult due to high cost and lack of access to offsite disposal capacity. For this reason, DOE/NYSERDA may consider leaving the wastes onsite under indefinite institutional control. Therefore, this paper also presents three regulatory alternatives, regarding long-term control of the site, that may need to be addressed in light of the proposed criteria described in this paper.

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BACKGROUND:

The West Valley site, the only commercial spent fuel reprocessing plant in the U.S., was licensed by NRC, and its predecessor agency, from 1966 until 1980, when the license was suspended to execute the 1980 WVDP Act. The WVDP Act authorizes DOE, in cooperation with NYSERDA, the owner of the site and the holder of the suspended NRC license, to carry out a liquid-high-level waste (HLW) management demonstration project that includes decommissioning of the HLW facilities. The status of the site was last described to the Commission in SECY-88-259, dated September 13, 1988. Although NRC suspended the

license covering the site until completion of the WVDP, NRC has certain responsibilities, under the WVDP Act, that include prescribing decontamination and decommissioning criteria.¹ Further details of the legislative, legal, and regulatory history of the site are provided in Attachment 1.

The WVDP is currently removing liquid HLW from underground HLW tanks at the site, vitrifying it, and storing it onsite for eventual offsite disposal in the Federal repository. The vitrification operations are nearing completion. In addition to the vitrified HLW, the WVDP operations have also produced large quantities of low-level waste (LLW) and transuranic waste which, under the Act, must be disposed of in accordance with applicable licensing requirements. Besides the HLW at the site, the historical spent fuel reprocessing and waste disposal operations resulted in large quantities of a full range of buried radioactive wastes and structural and environmental contamination at the site. Further details of the wastes at the site are provided in Attachment 2.

In 1989, DOE and NYSERDA began to develop a joint EIS for project completion and site closure, and to evaluate waste disposal and decommissioning alternatives. Because the WVDP Act requires NRC to prescribe decommissioning criteria for the project, NRC and DOE agreed on NRC's participation as a cooperating agency on the EIS, with DOE and NYSERDA, to aid NRC in its decision on decommissioning requirements. NRC staff raised many significant issues in comments on the draft EIS published in 1996. Further details of the draft EIS, which include potential costs and doses for the various alternatives, as well as the general NRC comments, are provided in Attachment 3.

After public review of the draft EIS, the WVDP convened a Citizen's Task Force (CTF) in early 1997 (in a process similar to Site-Specific Advisory Boards required under Subpart E of Part 20) to obtain stakeholder input on the EIS. The CTF recommendations for the preferred alternative in the EIS were completed in July 1998. The CTF generally does not believe the West Valley

¹ Under the WVDP Act, NRC's responsibility to prescribe requirements applies only to DOE's decontamination and decommissioning activities. However, NRC, DOE, and NYSERDA have long favored addressing environmental impacts on a site-wide basis. Therefore, the EIS, the decommissioning criteria, and long-term control alternatives discussed in this paper cover both DOE's completion of the project and NYSERDA's closure of the site. In addition, it is anticipated that, after DOE's completion of the WVDP, the NRC license would be reinstated and NRC decommissioning criteria would therefore apply to those portions of the site under NRC licensure.

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site is suitable for long-term isolation of the waste already at the site and, therefore, favors

disposal of the waste offsite at suitable and safe disposal facilities. Further details of the CTF process and a copy of the CTF recommendations are provided in Attachment 4.

DISCUSSION:

The staff has been involved in the West Valley joint EIS process from the beginning. This involvement includes participating in the CTF meetings to learn what is important to the local stakeholders. For the EIS to progress, NRC needs to provide proposed decommissioning criteria. Once this proposal is provided, DOE and NYSERDA can proceed with considering the environmental impacts and alternatives for site decommissioning and closure under the NEPA process, and developing a revised preferred alternative in a supplement to the draft EIS. This supplement is scheduled for release in July 1999.

Proposed Process for Establishing Decommissioning Criteria

The WVDP Act requires NRC to prescribe decontamination and decommissioning requirements for the WVDP. To do this the staff plans, with Commission approval, to propose the decommissioning criteria in this paper to DOE/NYSERDA. It is intended that DOE/NYSERDA will evaluate decommissioning and closure of the site, using the proposed criteria, and indicate a preferred alternative, in a supplement to their draft EIS that will be provided to the public for comment.

After DOE/NYSERDA considers the public comments on the supplement they will issue the final EIS and Record of Decision including the preferred alternative. If staff agrees that the preferred alternative conforms to the proposed decommissioning criteria and is adequately protective of the public health and safety and the environment, staff will seek Commission approval to prescribe the decommissioning criteria (by adjudication or by rulemaking) as the decommissioning criteria for the WVDP and thus fulfill NRC obligations under the WVDP Act. If the DOE/NYSERDA preferred alternative does not conform to the proposed decommissioning criteria, or if DOE/NYSERDA propose alternative criteria, then the staff will recommend an approach for approval by the Commission.

Decommissioning Criteria

The term "decommissioning criteria" is used broadly here to include criteria for potential waste disposal at the West Valley site. This discussion also assumes that some waste currently being stored or produced at the site (i.e., spent fuel in storage and vitrified HLW) will be removed and disposed of offsite, in accordance with the WVDP Act, and that no criteria are needed for such waste. Also, immediately adjacent to the project premises is a State-licensed pre-10 CFR Part 61 LLW disposal site called the State-Licensed Disposal Area (SDA). The SDA contains a large volume of LLW, including elevated concentrations of long-lived radionuclides such as transuranics. Because the SDA is not part of the WVDP, the prescription of decommissioning criteria, and other issues discussed in this paper, do not consider that area. However, the impacts from the SDA are considered in the site-wide EIS. In addition, it is assumed that all worker exposures and effluent releases during decommissioning will be constrained by existing operational limits.

In considering guidelines for the decommissioning criteria for West Valley, the staff evaluated NRC's precedents for disposal of similar wastes and decommissioning of other civilian and defense nuclear facilities. These precedents include: NRC's 1987 letter to DOE/NYSERDA, focusing on disposal of supernatant wastes at West Valley (Attachment 5); NRC's 1993 position on incidental waste, as applied to waste removed from HLW tanks at Hanford (Attachment 6); NRC's proposed approach to waste classification for closure of HLW tanks at Savannah River, contained in a memorandum to the Commission dated September 13, 1996; the performance objectives of 10 CFR Part 61; and NRC's License Termination Rule in 10 CFR Part 20, Subpart E. In addition, U.S. Environmental Protection Agency's (EPA's) standards in 40 CFR Part 191 may constrain the options for dealing with any residual HLW in the tanks or residual spent nuclear fuel² at the site.

Proposed Decommissioning Criteria

Based on these precedents, the staff proposes to inform DOE and NYSERDA that they should use NRC's License Termination Rule criteria as proposed decommissioning criteria for the completion of that portion of the EIS that covers areas of residual waste or the closure of existing waste disposal areas. The principles reflected in these proposed criteria would include:

- Dose to the average member of the critical group does not exceed 25 mrem/yr and is as low as is reasonably achievable (ALARA), for unrestricted use.
- Dose to the average member of the critical group does not exceed 25 mrem/yr and ALARA, for restricted use, with institutional controls in place.
- There is an allowance for institutional controls for up to 1000 years³.
- Dose to the average member of the critical group does not exceed either 100 or 500 mrem/yr and is ALARA, assuming institutional controls fail.

For any onsite disposal of liquid supernate waste removed from the HLW tanks and solidified or any material remaining in the HLW tanks after closure, the staff plans to inform DOE and NYSERDA that they should use the criteria (i.e., incidental waste criteria) described in the March 2, 1993, letter from R. Bernero, NRC, to J. Lytle, DOE (Attachment 6) as the proposed criteria for the completion of the EIS. These proposed criteria would include that the waste:

- Has been processed (or will be further processed) to remove key radionuclides, to the maximum extent that is technically and economically practical;
- Will be incorporated in a solid physical form at a concentration that does not exceed

²There is spent nuclear fuel at the site not only in the spent fuel pool (which DOE has committed to remove from the site), but also, as residual contamination, in the former reprocessing building, as well as buried waste, in the NRC-licensed disposal area portion of the site.

³Although 10 CFR Part 61 limits reliance on institutional controls, the Commission subsequently allowed reliance on such controls for up to 1000 years in the Statement of Considerations for the Final Rule on Radiological Criteria for License Termination (62 FR 39058), Section B.3.3.

the applicable concentration limits for Class C low-level waste as set out in 10 CFR Part 61;

- Will be managed, pursuant to the Atomic Energy Act, so that safety requirements comparable to the performance objectives set out in 10 CFR Part 61 are satisfied.

For other stored project wastes, any onsite disposal of that waste will meet the performance objectives of Part 61 (see Attachment 5). The EIS will evaluate the potential impacts of various decommissioning alternatives, and is expected to support NRC's selection and prescription of decommissioning criteria for WVDP completion and site closure. NRC staff plans to rely on the results of the EIS to recommend for Commission consideration final decommissioning criteria for West Valley. If DOE/NYSERDA depart from any of the proposed criteria described in this paper to complete the EIS, the EIS will need to show some justification such as that adherence to the proposed criteria would cause more human or environmental harm than good or be prohibitively expensive/technically infeasible, and that any alternative criteria chosen demonstrate a sufficient level of protection of human health and safety and the environment, reflect a reasonable balance of costs and benefits, and represent a viable approach.

The final EIS is expected to consider a complete range of decommissioning and closure alternatives and their associated impacts. Consideration of options for the Commission's prescription of decommissioning criteria will be better informed by the EIS. However, at this time the staff has identified several potential implications of these proposed criteria. The proposed criteria are compatible with the regulations and guidance produced by NRC under the authority of the Atomic Energy Act of 1954, as amended. Their application could also be interpreted as being consistent with the CTF recommendations if they resulted in safe offsite disposal of most of the radioactive waste and contamination (see Attachment 4). This approach is also generally consistent with the dose limits in DOE's proposed draft regulations in 10 CFR Part 834, "Radiation Protection of the Public and the Environment," dated March 3, 1997.

However, assumption of the eventual failure of institutional controls, under Parts 20 and 61, runs counter to the assumption, made by DOE/NYSERDA in the draft EIS, of an unlimited institutional control period, which is allowed by draft Part 834. Because of long-term erosion and source-term release problems at the West Valley site, applying the NRC assumption of time-limited institutional control will likely make all alternatives, in the draft EIS, that leave residual and stored wastes onsite, nonviable under the proposed decommissioning criteria, and might require a long and costly (possibly prohibitively expensive) remediation (see Table 1 of Attachment 3 for preliminary DOE/NYSERDA estimates of the potential costs of remediation). Besides cost, offsite removal of significant amounts of waste may be difficult to implement because of lack of access to offsite waste disposal. Relocating the radioactive waste offsite may be controversial and may substantially delay site decommissioning and closure.

Potential Alternatives for Long-Term Control of the Site

Most of the alternatives in the draft EIS rely on long-term control of the site in order to meet decommissioning criteria. Therefore, it is possible that DOE/NYSERDA may choose a preferred decommissioning alternative in the EIS that requires extended reliance on institutional controls. In anticipation, the staff has identified the following regulatory alternatives for potential long-term control of the site:

- 1) Issuance of a license, for an extended period of time, similar to the SAFSTOR concept of reactor decommissioning or the extended interim storage concept of LLW, until such time as the hazard is removed from the site (could exceed 100 years).
- 2) Seek new legislative authority to allow implementation of the decommissioning alternative justified by DOE/NYSERDA as a means for protecting the public and environment (similar to DOE's proposed requirements in Part 834).
- 3) As a last resort, adopt a strategy, as outlined in NRC's Strategic Plan for fiscal years 1997-2002 (NUREG-1614, Vol. 1), of transferring the regulation of decommissioning to EPA if there is no workable remedy under NRC's authority. EPA's authorization under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, §121(c), includes allowing long-term control remedies at contaminated sites (e.g., the Maxey Flats LLW disposal site).

If DOE/NYSERDA's preferred alternative relies on long-term institutional control, NRC may have to evaluate one of, or some combination of, the above alternatives, or some other alternative for the long-term control of the site. The staff will keep the Commission apprised of staff's participation in the West Valley process and will return to the Commission, on completion of the West Valley EIS, for approval of an approach for prescribing decommissioning requirements.

RECOMMENDATION:

The staff recommends that the Commission:

1. Approve of the approach described in this paper, for providing DOE and NYSEDA with proposed criteria for decommissioning the WVDP and West Valley site.
2. Note the potential alternatives for long-term control of the site.
3. Note that NRC action to actually prescribe the decommissioning requirements in accordance with the WVDP Act will take place at a later date, after completion of the EIS process.

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COORDINATION:

The Office of the Chief Financial Officer has reviewed this Commission Paper for resource implications and has no objections. The Office of the General Counsel has reviewed this Commission Paper for legal implications and has no legal objection.

William D. Travers
Executive Director
for Operations

Attachments:

1. West Valley Legislative, Legal, and Regulatory History
2. Background on Radioactive Waste at West Valley
3. Details of the West Valley EIS
4. Details of the West Valley Citizen's Task Force
5. Ltr to W. Bixby, DOE, from M. Knapp, NRC, dtd 8/18/87
6. Ltr to J. Lytle, DOE, from R. Bernero, NRC, dtd 3/9/93

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| OFC | LLDP* | | LLDP* | | TechEd.* | | CFO* | | OGC* | | LLDP* | | DWM* | |
| NAME | JParrott/cv | | TCJohnson | | EKraus | | JFunches | | WReamer | | JHickey | | MWeber | |
| DATE | 3/26/98 | | 10/15/98 | | 3/25/98 | | 4/14/98 | | 10/8/98 | | 5/28/98 | | 10/16/98 | |
| OFC | NMSS | | DEDR | | EDO | | IMNS | | | | | | | |
| NAME | CPaperiello | | HThompson | | LCallan | | FCombs | | | | | | | |
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WEST VALLEY LEGISLATIVE, LEGAL, AND REGULATORY HISTORY

1. INTRODUCTION

From 1966 to 1972, under an Atomic Energy Commission 10 CFR Part 50 license, Nuclear Fuel Services (NFS) reprocessed 640 metric tons of spent fuel at its West Valley, New York, facility. In 1972, the facility shut down, for modifications, to increase its seismic stability and expand capacity. In 1976, without restarting the operation, NFS withdrew from the reprocessing business and returned control of the facilities to the site owner, the New York State Energy Research and Development Authority (NYSERDA). The reprocessing resulted in 600,000 gallons of liquid high-level waste (HLW), stored below ground in HLW tanks, and other radioactive wastes and residual radioactive contamination, as described in Attachment 2.

2. WEST VALLEY DEMONSTRATION PROJECT ACT

In 1980, Congress passed the West Valley Demonstration Project (WVDP) Act, PL 96-368, to authorize the U.S. Department of Energy (DOE) to carry out a liquid HLW management demonstration project at the site. Therefore, the facility's license was amended in 1981 to give DOE exclusive possession of the central portion of the site containing the buildings and facilities, known as the project premises, and to suspend the Part 50 license until the WVDP was completed.

The WVDP Act directs DOE to solidify, transport, and dispose of the HLW at the site. It also directs DOE to dispose of low-level waste (LLW) and transuranic waste produced by the WVDP, in accordance with applicable licensing requirements, and decontaminate and decommission facilities used for the WVDP, in accordance with requirements prescribed by the U. S. Nuclear Regulatory Commission (NRC). NYSERDA is responsible for site facilities and areas outside the scope of the WVDP Act.

3. MEMORANDUM OF UNDERSTANDING

The WVDP Act directed DOE and NRC to enter into an agreement to establish arrangements for NRC's informal review of, and consultation on, the project. On September 23, 1981, NRC entered into a Memorandum of Understanding (MOU) with DOE on the basic policy guidelines and mechanisms for coordinating the informal review and consultation between NRC and DOE. The MOU also established an NRC monitoring program for onsite evaluations of project activities. Currently the NRC monitoring visits occur three times per year.

4. STIPULATION OF COMPROMISE

After DOE and NYSERDA began operating the site in 1980, they began onsite disposal of LLW. This action resulted in litigation by the Coalition on West Valley Nuclear Wastes and the Radioactive Waste Campaign. As a result of this litigation, DOE agreed to a settlement called the Stipulation of Compromise, in 1987. The Stipulation of Compromise includes an agreement that DOE initiate a site closure environmental impact statement (EIS) process and designates certain items to be within the scope of the EIS, including onsite LLW disposal. Further details of the EIS, including NRC's involvement (NRC was not a party to the Stipulation of Compromise), are provided in Attachment 3 of this Commission Paper.

**BACKGROUND ON RADIOACTIVE WASTE AT WEST VALLEY
AFTER VITRIFICATION OPERATIONS**

1. INTRODUCTION

A description of the wastes in each Waste Management Area (WMA) identified in the draft environmental impact statement (EIS) is attached. Background information on certain WMAs and on certain types of waste at the site are provided below.

2. SPENT NUCLEAR FUEL

Spent nuclear fuel (SNF) in fuel assemblies that were accepted at the facility during operations, but never reprocessed, is currently being stored in a spent-fuel pool. The U.S. Department of Energy (DOE) has taken title to this SNF and has committed to removing it from the site and will dispose of it in the Federal repository. SNF also exists in the former process building in the form of fine particles or possibly as sheared pieces of fuel assemblies. SNF that was damaged in such a way that it could not be reprocessed was also disposed of in a U.S. Nuclear Regulatory Commission (NRC)-licensed disposal area (NDA) (see below, under previous disposals) by the original licensee, Nuclear Fuel Services (NFS). Spent fuel hulls, that contain residual amounts of SNF, and other irradiated and contaminated fuel structural hardware, were disposed of in the NDA and possibly remain in the process building. Spent fuel hulls and hardware fall under the classification of incidental waste, as discussed in the promulgation of 10 CFR Part 50, Appendix F (34 FR 8712).

3. HIGH-LEVEL WASTE

There is liquid high-level waste (HLW) in four (two 750,000-gallon and two 13,500-gallon capacity) underground tanks at West Valley. The majority of the approximately 600,000 gallons of liquid HLW in these tanks is being incorporated into glass through the vitrification program and will be disposed of as HLW in the repository. Attached to the bottom of the large tanks is a steel grid structure that will make it somewhat difficult to completely remove all of the HLW from the tanks. Therefore, it is assumed that 3 percent (or about 400,000 Ci of Cesium-137, 200,000 Ci of Strontium-90, and 3400 Ci of transuranics) of the original HLW activity in the tanks will remain after vitrification is complete. Possibly, there is also HLW remaining in the process building, from operations. In addition, the components of the vitrification system that had direct contact with the liquid and vitrified HLW are contaminated with residual HLW.

4. NDA

During the site's licensed period, more than 4300 m³ of a wide variety of radioactive wastes were disposed of on the project premises in the NDA. The West Valley Demonstration Project (WVDP) disposed of an approximately equal volume of radioactive wastes in the NDA, between 1981 and 1986 (but with only about 1/1000th of the activity). Most of the waste disposed of by NFS would be considered low-level waste (LLW) or transuranic waste as defined by the WVDP Act, although some of it may be classified as greater-than-class C waste, as defined by 10 CFR Part 61, or SNF (see discussion on spent fuel, above). The waste disposals made during the licensed period were approved by the Atomic Energy Commission.

The disposal of about 185 m³ of spent fuel hulls took place in the NDA between 1966 and 1973. The acid leaching of the spent fuel from the hulls was an incomplete process that left approximately 0.17 percent of the spent fuel activity in the hulls. In 1969, NFS also disposed of three 30-gallon cans (0.34 m³ total volume) filled with 42 spent fuel assemblies from the N-Reactor at Hanford. The cladding on the spent fuel was too badly damaged to permit reprocessing. The spent fuel and spent fuel hulls were disposed in 50- to 70-foot-deep shafts in glacial till. NFS also disposed of about 4300 m³ of a wide variety of other wastes from the reprocessing plant in the NDA. The table below shows the NDA source term characteristics of the NFS disposals.

Table. NDA Source Term Characteristics of NFS Disposals

| Waste Category | Volume | | Fission Product Activity* | | Plutonium Mass | |
|----------------|----------------|------------|---------------------------|------------|----------------|------------|
| | m ³ | % of Total | Ci | % of Total | Kg | % of Total |
| | | | | | | |

| | | | | | | |
|------------------|--------------|------------|---------------|------------|------------|------------|
| Spent Fuel | 0.34 | 0.008 | 7,100 | 15 | 0.8 | 15 |
| Leached Hulls | 185 | 4 | 38,000 | 81 | 3.7 | 67 |
| Rest of NDA | 4,115 | 96 | 1,900 | 4 | 1.0 | 18 |
| Total NDA | 4,300 | 100 | 47,000 | 100 | 5.5 | 100 |

*Sr-90 and Cs-137 activity adjusted to present day.

5. State-Licensed Disposal Area (SDA)

The SDA is adjacent to the project premises but not part of the WVDP. The SDA was a pre-Part 61 LLW disposal area, run by NFS, that disposed of LLW from the NFS operations and also accepted outside LLW for disposal. As the name implies, the SDA is licensed by the State and the responsibility for regulating the closure of that facility lies with the State. Because of the proximity of the SDA to the project premises, it is being evaluated as an area whose environmental impact must be considered in combination with the rest of the facility, in the EIS.

6. REMAINDER OF THE SITE

The remainder of the site includes buildings, structures, groundwater, soils, and sediments that were contaminated during operations, and from operational occurrences.

DETAILS OF THE WEST VALLEY ENVIRONMENTAL IMPACT STATEMENT

In 1989, the U.S. Department of Energy (DOE) and the New York State Energy Research and Development Administration (NYSERDA) began to develop the joint environmental impact statement (EIS), to evaluate the environmental impacts of waste disposal and decommissioning alternatives for completion of the West Valley Demonstration Project (WVDP), and closure of the site. DOE funds the EIS project 72 percent and NYSERDA funds the project 28 percent. Because the WVDP Act directs DOE to apply applicable licensing requirements for waste disposal, under U.S. Nuclear Regulatory Commission (NRC) review and consultation, and requires NRC to prescribe decommissioning criteria for the WVDP, NRC entered a cooperating agency agreement with DOE and NYSERDA, to review the EIS. NRC's cooperation in the EIS would support NRC's decisions in prescribing decommissioning criteria. Therefore, NRC avoids the need to prepare a separate environmental evaluation to comply with the National Environmental Policy Act (NEPA) in support of NRC's Federal action in prescribing criteria.

The draft EIS divides the site into 12 waste management areas (WMAs)(see below), some of which are used by the WVDP; others of which are the responsibility of NYSERDA; and some of which are under shared responsibility. Responsibility for decommissioning the various WMAs will be partitioned between DOE and NYSERDA, under a mutual agreement to be negotiated at a later date. A draft EIS was issued in 1996. NRC provided DOE and NYSERDA with extensive comments on the draft EIS. In response to these and other comments, DOE and NYSERDA are preparing a supplement to the draft EIS, to be issued in 1999. DOE and NYSERDA expect to issue a final decision document in mid-2000. The EIS WMAs at the West Valley site are:

- 1 -- Process Building
- 2 -- Low-Level Waste Treatment Facility
- 3 -- High-Level Waste Storage and Vitrification Facility
- 4 -- Construction and Demolition Debris Landfill
- 5 -- Waste Storage Area
- 6 -- Central Project Premises
- 7 -- NRC-Licensed Disposal Area
- 8 -- State-Licensed Disposal Area (not part of the WVDP)
- 9 -- Radwaste Treatment System Drum Cell
- 10 -- Support and Services Area
- 11 -- Bulk Storage Warehouse and Hydrofracture Test Well Area
- 12 -- Balance of Site

Further details about each WMA are provided in Attachment 2 to this Commission Paper.

NRC and other stakeholders had significant criticisms of the draft EIS (i.e., there was no preferred alternative and the EIS assumed permanent institutional control). However, the draft EIS identified four viable alternatives (I-IV) for terminating the WVDP and closing the site. They are:

- Alt. I - Removal of all waste and residual contamination from the site and release of site, to allow unrestricted use;
- Alt. II - Packaging and on-premises storage of all waste and residual contamination, with restricted release;
- Alt. III - In-place stabilization of all non-containerized waste and residual contamination and on-premises disposal of previously packaged low-level waste (LLW), with restricted release; and
- Alt. IV - No action, with restricted release and monitoring and maintenance.

The estimated cost for each alternative by WMA is in Table 1. The potential onsite dose for one scenario under each alternative, by WMA, is presented in Table 2.

Table 1. Cost in Millions of Dollars by WMA, for the Various EIS Alternatives

| WMA | Estimated Cost per EIS Alternative (M\$) | | | |
|----------------------|--|---------|-----------|---------|
| | Alt. I | Alt. II | Alt. III* | Alt. IV |
| 1 | 492 | 345 | 82-420 | 152 |
| 2 | 176 | 69 | 42-43 | 159 |
| 3 | 304 | 185 | 99-150 | 189 |
| 4 | 667 | 195 | 34 | 75 |
| 5 | 461 | 226 | 115-223 | 188 |
| 7 | 1860 | 883 | 200-209 | 250 |
| 8** | 3800 | 1690 | 290-345 | 259 |
| 9 | 144 | 3 | 169-178 | 250 |
| 6, 10, 11, 12 | 573 | 36 | 24-28 | 0.5 |
| Groundwater Plume*** | 310 | 250 | 70 | 70 |
| Total | 8787 | 3882 | 1125-1700 | 1593 |

*Alternative III range because of difference between LLW disposal onsite vs offsite.

**Not part of the WVDP.

***Contaminated ground-water plume that crosses several WMAs.

Table 2. Potential Onsite Doses If Site Restrictions Fail within 1000 Years

| WMA | Potential Individual Dose From Each Alternative (rem/yr) | | | |
|-----|--|---------|----------|-----------|
| | Alt. I | Alt. II | Alt. III | Alt. IV |
| 1 | 0 | 1,500 | 380 | 5,800 |
| 2 | 0 | 15 | 220 | 220 |
| 3 | 0 | 110,000 | .07 | 1,100,000 |
| 4* | 0 | 0 | 1 | 1 |
| 5 | 0 | 1,600 | 280 | 1,600 |
| 7 | 0 | 15,000 | NA** | 6,500 |
| 8 | 0 | 17,000 | NA** | 310 |

| | | | | |
|---------------|---|------|------|------|
| 9 | 0 | 0.44 | .029 | 0.44 |
| 6, 10, 11, 12 | 0 | 0 | 0 | .001 |

*Includes groundwater plume.

**Scenario assumes that thickness of cover precludes uncovering the waste before 1000 years.

WEST VALLEY CITIZEN'S TASK FORCE

The New York State Energy Research and Development Administration (NYSERDA), with the participation of U.S. Department of Energy (DOE), formed a Citizens' Task Force (CTF) to assist in the development of a preferred alternative for the completion of the West Valley Demonstration Project (WVDP) and closure of the site. The CTF process was conducted in addition to the public comment process on the environmental impact statement (EIS). The CTF resembled a Site-Specific Advisory Board, as allowed under 10 CFR 20.1403 of the U.S. Nuclear Regulatory Commission (NRC's) "Radiological Criteria for License Termination; Final Rule." The CTF met two evenings per month, from January 1997 to June 1998, to learn about the site and to discuss the various alternatives for completion of the WVDP and closure of the site. NRC participated in these meetings by making periodic presentations and by videoconference.

The CTF's goal was to report recommendations to DOE and NYSERDA, to consider in their decision-making process on the future of the site, and to support the EIS. The CTF finalized its recommendations on July 29, 1998 (see attached). The CTF essentially recommended that all contamination be removed from the site, but recognized that there may be some practical limitations as to the timing of removal, and that whatever waste remains on site in the interim needs to be stabilized and monitored indefinitely. The CTF has also described its concerns for the future of the site in a letter (see attached) to the Honorable Amo Houghton, U.S. Representative from New York's 31st Congressional District, which covers the West Valley site and surrounding area.