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October 2, 1996

Gary C. Comfort  
Project Manager  
U.S. Nuclear Regulatory Commission  
MS-T  
Washington, D.C. 20555

Dear Mr. Comfort:

SUBJECT: Plan for Developing a Preferred Alternative for the West Valley EIS

As we discussed on the telephone and pursuant to discussion at the meeting on September 24, 1996, I have enclosed a draft version of "Assessing the Results of the Draft Environmental Impact Statement for Completion of the West Valley Demonstration Project and Closure or Long-Term Management of the Facilities at the Western New York Nuclear Service Center."

The purpose of the enclosed plan is to define a methodology that the New York State Energy Research and Development Authority (NYSDA) and the U.S. Department of Energy (DOE) will use to compare the Draft Environmental Impact Statement's alternatives by looking at issues such as worker health and safety, public health and safety, environmental protection, and cost. The comparison will allow NYSDA and DOE to identify and balance the key issues that discriminate between the alternatives, and select a preferred alternative for each facility. The results of this comparison will be considered along with input from the public and regulatory agencies when developing a preferred alternative.

I would appreciate your comments on the plan by November 8, 1996. I am particularly interested in your recommendations for making a preferred alternative selection process consistent with the process that the Nuclear Regulatory Commission would use to compare EIS alternatives and establish decontamination and decommissioning criteria.

If you have any questions, please contact me at (716) 942-4900.

Sincerely,

WEST VALLEY SITE MANAGEMENT PROGRAM

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Program Manager

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**ASSESSING THE RESULTS OF 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**

**1.0 PURPOSE**

In order to come to a decision on the completion of the WVDP and closure of facilities at the Center, DOE and NYSERDA must take into account:

- Results of the DEIS;
- Comments on the DEIS from the public;
- Comments on the DEIS from the regulators;
- Comments on the DEIS from other interested parties;
- Recommendations from the citizen's task force.

Clearly, comments and recommendations from the public and other stakeholders will be important in reaching an acceptable decision on the future of the site. However, the results of the DEIS are also critical to the decision. The manner in which the EIS results are used in the decision process must be clear, documented, and defensible.

The DEIS, which is over 1500 pages long, presents results from multiple engineering assessments and characterization reports, and numerous calculations of impacts from implementing five reference closure alternatives. The EIS text and results tables show that for the various alternatives, some parameters differ significantly for a particular unit, while some parameters remain relatively consistent. In other cases, it may not be clear whether the differences between alternatives are significant or not. In addition, different organizations (or individuals within an organization) may consider the results of certain analyses differently in the decision process.

In order to aid the process for decision making and to establish and document the technical basis for the recommendation of an alternative for a particular unit, a process is needed to sort through the EIS results and identify the critical decision-making considerations contained within the EIS. In applying such a process, those factors considered important by the decision-makers will be identified, and those results that are found to be of fundamental importance for consideration in the decision will be clearly documented.

**2.0 IDENTIFICATION OF PERFORMANCE MEASURES**

As the first step in assessing the EIS results, DOE and NYSERDA will identify the technical factors that the organizations consider to be important in reaching a decision. These factors are upper level issues (e.g., protection of human health and safety) that can be broken down into specific performance measures that can be either quantitative or qualitatively expressed using the results of the EIS (e.g., dose to maximally exposed offsite individual).

The performance measures for each factor will be used to compare the alternatives for each unit, beginning with units with the most significant inventories of radionuclides on site. These units may have the most impact in terms of offsite dose, worker safety, cost, etc., and assessments of these units may help to set the path for assessments of other units. Since the primary information source for technical factors is the site closure EIS, SAIC will input the technical information from the EIS after NYSERDA and DOE have agreed on the specific

performance measures. An example set of performance measures for comparing the DEIS alternatives for each unit is presented in Section 5.0.

### 3.0 ASSESSMENT OF PERFORMANCE MEASURES

#### 3.1 Application of Threshold Values

In assessing the performance measures, the results for each alternative will be compared to a threshold value or other comparison standard, if such thresholds or comparison standards exist or can be derived (e.g., the dose to the maximally exposed offsite individual for each alternative might be compared to an NRC dose standard). Such a comparison will help the decision-maker determine whether the differences between the alternatives for a particular unit are significant in terms of a closure decision. Threshold levels or comparison standards can be plotted on the same graphs as the results for the performance measures, to give user-friendly visual representations of the results. Figure 1 presents an example of a threshold performance measure plot.

#### 3.2 Use of Relative Performance Measures

In some cases, thresholds or comparison standards may not exist or may not be useful to the process, and performance measures will be used in a relative sense to compare alternatives. For example, if the performance measure is acres of wetlands lost, the alternatives will simply be compared to each other, rather than to some threshold value or comparison standard. In this case, the alternative having fewest acres lost is more favorable. The results for relative performance measures can be plotted in the same way as a threshold measure except no threshold is shown on the graph. Figure 2 presents an example of a relative performance measure plot.

#### 3.3 Classification of Performance Measures

Once the alternatives for each unit are assessed using the performance measures, and the threshold value comparisons are applied, it will be necessary to determine whether the performance measure significantly discriminates between the alternatives for the unit. Each of the performance measures will likely fall into one of the following groups:

**Major Discriminator** - A performance measure that illustrates a clear difference between the alternatives for a unit in a manner that may be critical to the decision for that unit. For example, cost is a major discriminator for the EIS alternatives.

**Minor Discriminator** - A performance measure that illustrates a difference between the units, but the range of the difference may not clearly distinguish one alternative from another in terms of the decision process. This performance measure would not be likely to drive the decision for the unit, but should still be classified separately from the non-discriminators because it is likely that a secondary level of assessment (i.e., comparison with a threshold value) was applied before it could be determined that the performance measure does not discriminate in a manner significant to the decision process.

**Non-discriminator** - A performance measure that does not illustrate any significant difference between the alternatives for a unit, and consequently does not drive the decision in selecting a particular alternative. However, because the performance measure will still have assessed an issue important in either a technical, policy, political, or public sense, it must be clearly identified as having been considered in the decision-making process.

The classification of performance measures will result in a list of major discriminators that will be further assessed, as described in Section 4.0. The classification will also result in a list of performance measures that were determined to be minor discriminators or non-discriminators, and these performance measures will not be considered further in the decision process. The process conducted up to this point will provide DOE and NYSERDA with the documentation to show why those performance measures are not important to the decision.

Assumptions used in assessing each performance measure for the alternatives for a unit must also be clearly identified. Such assumptions may require further investigation if the validity of the assumption is critical in the decision.

#### 4.0 USE OF MAJOR DISCRIMINATORS IN DECISION-MAKING

The results will show how the alternatives performed relative to one another (and possibly to a threshold value) for a particular performance measure for a particular unit. The results of all of the major discriminators for a unit will be considered together to assess how the alternatives performed relative to each other for all the major discriminators. There are two possible outcomes:

- 1) An alternative is ranked highest (best) for all of the major discriminators for a unit - In this case, that process has shown that there is reasonable technical basis for the recommendation of that alternative for that unit in the preferred alternative.
- 2) An alternative is variably ranked for the major discriminators for a unit - In this case, interrelationships and trade-offs among the discriminators must be considered, and reason and judgement will have to be used to further assess the alternative. For example, while Alternative V (Discontinuous Operations) is the least costly for any unit, the outcome of the dose-related discriminators would show that the dose from Alternative V is unacceptably high. Thus, this alternative would be ranked best for cost, but worst for protection of health and safety. However, judgement and reason dictate that the lower cost of Alternative V is outweighed by the unacceptably high dose to individuals from this alternative.

Conflicting ranks of alternatives for the performance measures must be resolved by looking at interrelationships and trade-offs to develop a reasonable technical basis for the recommendation of an alternative for a unit. For example, should there be no significant difference between alternatives for a particular unit for dose to workers or the public, then cost may be critical in terms of differentiating between alternatives. However, if there is a significant dose difference between alternatives for a unit, and health and the safety of workers or the public is at risk, then cost, while still differentiating between alternatives, is no longer as critical in the decision process.

DOE and NYSERDA must clearly document the rationale for considering an alternative to be the highest ranked for a unit from a technical basis, even though the alternative was not ranked highest for that unit for all of the major discriminators. In general, those performance measures related to the protection of public and worker health and safety will be given the highest priority in the technical basis assessment of the EIS alternatives.

To help in the process of assessing trade-offs and interrelationships, numerical weights could be assigned to the performance measures. However the weights would be nothing more than assignments of importance by the participants in the process, and the weighting would be no more objective than the process described above. Thus, the process for developing a

combination alternative for West Valley can be conducted without weighting the performance measures.

#### 5.0 Performance Measures

As stated above, performance measures are a means of evaluating fundamental issues that will likely be important in reaching a closure decision. In order to establish a defensible technical basis for the decision, the initial list of performance measures and the manner in which these parameters were considered must be clear and documented. A proposed set of performance measures is included in Attachment 1.



PERFORMANCE MEASURE X

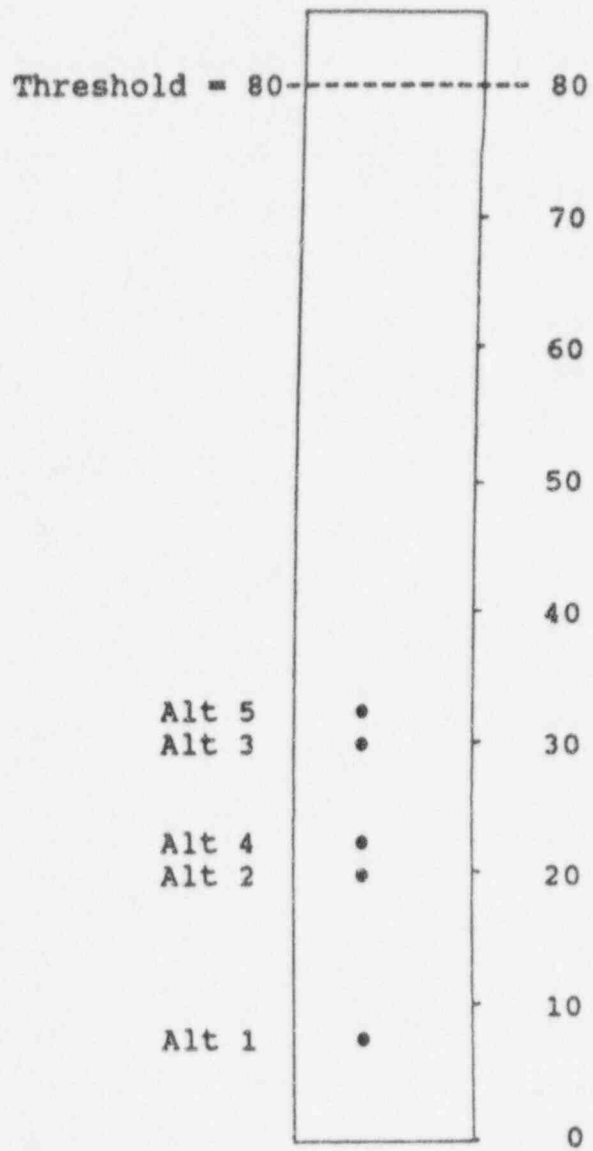
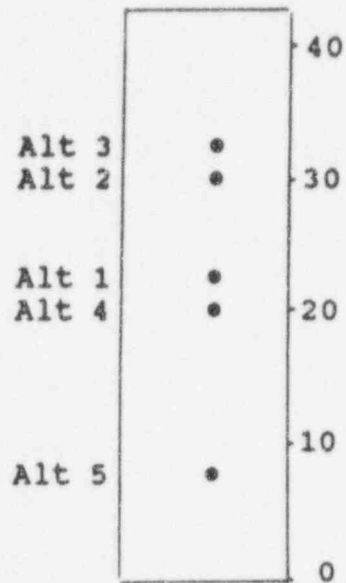


Figure 1. Example of a Threshold Performance Measure Plot

# PERFORMANCE MEASURE Y

Higher Ability to Satisfy  
the Concerns Reflected in  
the Measure



Lower Ability to Satisfy  
the Concerns Reflected in  
the Measure

Figure 2. Example of a Relative  
Performance Measure Plot

# ATTACHMENT 1

PERFORMANCE MEASURE	EIS REFERENCE FOR THE PERFORMANCE MEASURE (ALT #)	COMPARISON STANDARD	Information Available for each facility?
<b>FACTOR 1 - HUMAN HEALTH &amp; SAFETY</b>			
<b>Subfactor 1.1 - Impacts to the Public for Implementation Phase</b>			
Performance Measure 1.1.1 - Offsite individual air pathway radiological dose (mrem/year), expected conditions	(I) Table 5-3		YES
Performance Measure 1.1.2 - Offsite collective air pathway radiological dose (person-rem/year), expected conditions	(I) Table 5-3		YES
Performance Measure 1.1.3 - Offsite air pathway collective radiological dose (person-rem) & latent cancer fatalities, expected conditions	(I) Table 5-3		YES
Performance Measure 1.1.4 - Maximum individual public radiological dose (rem) from postulated upper-bound accident	(I) Table 5-6		YES
Performance Measure 1.1.5 - Collective public radiological dose (person-rem) & latent cancer fatalities from postulated upper-bound accidents.	(I) Table 5-6		YES
<b>Subfactor 1.2 - Transportation Impacts to the Public</b>			
Performance Measure 1.2.1 - Total estimated radiation-induced latent cancer fatalities to offsite population from incident free transportation	(I) Table 5-5		YES
Performance Measure 1.2.2 - Transportation (truck) vehicular accident fatalities, non-radiological impacts	(I) Table 5-8		YES



PERFORMANCE MEASURE	EIS REFERENCE FOR THE PERFORMANCE MEASURE (ALT #)	COMPARISON STANDARD	Information Available for each facility?
Performance Measure 1.2.3 - Transportation (truck) vehicular air pollution fatalities from nonradiological emissions	(I) Table 5-8		YES
Performance Measure 1.2.4 - Transportation (rail) vehicular accident fatalities, non-radiological impacts	(I) Table 5-8		YES
Performance Measure 1.2.5 - Transportation (rail) vehicular air pollution fatalities from nonradiological emissions	(I) Table 5-8		YES
<b>Subfactor 1.3 - Protection of Public Health and Safety, Post Closure Phase</b>			
Performance Measure 1.3.1 - Radiological impacts to the public, post-closure expected conditions, groundwater release scenario	(III) Table 5-26		YES
Performance Measure 1.3.2 - Radiological impacts to the public, post-closure loss of institutional control, groundwater release scenario	(III) Table 5-28		YES
Performance Measure 1.3.3 - Radiological impacts to the public, loss of institutional control, erosional collapse, global erosion controls.	(III) Table 5-29		YES
Performance Measure 1.3.4 - Radiological impacts to the public, loss of institutional control, erosional collapse, local erosion controls.	(III) Table 5-30		YES
Performance Measure 1.3.5 - Radiological impacts to an intruder, post-closure loss of institutional control	(III) Table 5-27		YES
Performance Measure 1.3.6 - Impacts to the public from hazardous chemical exposures, Post-closure expected conditions.	(III) p. 5-89		

PERFORMANCE MEASURE	EIS REFERENCE FOR THE PERFORMANCE MEASURE (ALT #)	COMPARISON STANDARD	Information Available for each facility?
<b>Subfactor 1.4 - Protection of Worker Health and Safety</b>			
Performance Measure 1.4.1 - Collective occupational dose to onsite workers & latent cancer fatalities, expected conditions, implementation phase	(I) Table 5-4		YES
Performance Measure 1.4.2 - Radiological impacts to onsite workers, accident conditions, implementation phase	(II) P. 5-21 through P. 5-23		NO
Performance Measure 1.4.3 - Implementation phase non-radiological lost workday cases	(I) Table 5-7 (III) Table 5-22		YES
Performance Measure 1.4.4 - Implementation phase non-radiological fatalities	(I) Table 5-7 (III) Table 5-23		YES
Performance Measure 1.4.5 - Collective occupational dose to onsite workers, post-closure, expected conditions	(I) p. 5-86, 5-89		
Performance Measure 1.4.6 - Collective occupational dose to workers, post-closure, accident conditions			
Performance Measure 1.4.7 - Post-closure phase non-radiological lost workday cases	(II) p. 5-89		
Performance Measure 1.4.8 - Post-closure phase non-radiological fatalities	(III) p. 5-89		
<b>Subfactor 1.5 - Transportation Impacts to Workers</b>			
Performance Measure 1.5.1 - Total estimated radiation induced occupational latent cancer fatalities from incident-free transportation	(I) Table 5-5		

PERFORMANCE MEASURE	EIS REFERENCE FOR THE PERFORMANCE MEASURE (ALT #)	COMPARISON STANDARD	Information Available for each facility?
<b>FACTOR 2 - PROTECTION OF ENVIRONMENTAL RESOURCES</b>			
<b>Subfactor 2.1 - Implementation Phase Impacts on Air, Water</b>			
Performance Measure 2.1.1 - Non-radiological air emissions (PM-10)	(I) P. 5-31		
Performance Measure 2.1.2 - Surface water quality impacts	(I) P. 5-31		
<b>Subfactor 2.2 - Implementation Phase Impacts on Biotic Resources</b>			
Performance Measure 2.2.1 - Impacts to threatened or endangered plant and animal species	(I) P. 5-32, 5-33		NO
Performance Measure 2.2.2 - Impacts to wetlands	(I) P. 5-33, 5-34		NO
<b>Subfactor 2.3 - Long Term Impacts on Air and Water Quality and Biota</b>			
Performance Measure 2.3.1 - Long-term impacts on air quality	(III) p. 5-89		
Performance Measure 2.3.2 - Long-term impacts on groundwater quality	(III) p. 5-89		
Performance Measure 2.3.3 - Long-term impacts on surface water quality	(III) p. 5-89		
Performance Measure 2.3.4 - Long-term impacts on biota	(III) p. 5-89		

PERFORMANCE MEASURE	EIS REFERENCE FOR THE PERFORMANCE MEASURE (ALT #)	COMPARISON STANDARD	Information Available for each facility?
<b>FACTOR 3 - CULTURAL RESOURCES</b>			
Performance Measure 3.1 - Impacts to significant historical, archaeological, or architectural resources	(I) p. 5-36, 5-37		NO
<b>FACTOR 4 - ENERGY &amp; FUEL REQUIREMENTS</b>			
Performance Measure 4.1 - Implementation phase electricity, natural gas, gasoline, and diesel fuel requirements	(I) Table 5-10		YES
Performance Measure 4.2 - Post-implementation phase electricity, natural gas, gasoline, and diesel fuel Requirements	(I) Table 5-10		YES
<b>FACTOR 5 - VISUAL IMPACTS</b>			
Performance Measure 5.1 - Visual impacts	(I) p. 5-37, 5-38		NO
<b>FACTOR 6 - LAND USE</b>			
Performance Measure 6.1 - Consistency with existing land use plans	(I) p. 5-37		NO
Performance Measure 6.2 - Land available for unrestricted use, acres			

PERFORMANCE MEASURE	EIS REFERENCE FOR THE PERFORMANCE MEASURE (ALT #)	COMPARISON STANDARD	Information Available for each facility?
<b>FACTOR 7 - SOCIOECONOMIC IMPACTS</b>			
Performance Measure 7.1 - Employment, direct and indirect, as a percentage of primary impact area employment, for each year of the implementation period.			
Performance Measure 7.2 - Employment, direct and indirect, as a percentage of primary impact area employment, for each year of the post-closure period.			
Performance Measure 7.3 - Annual expenditures for materials, equipment, and services in the primary impact area, as a percentage of the annual wholesale trade and business service industries in the primary impact area.			
Performance Measure 7.3 - Annual expenditures for materials, equipment, and services in the region of influence, as a percentage of the annual wholesale trade and business service industries in the region of influence.			
<b>FACTOR 8 - COST</b>			
Performance Measure 8.1 - Cost for implementation Phase	(I) Table 5-9		YES
Performance Measure 8.2 - Annual post closure care cost			NO

PERFORMANCE MEASURE	EIS REFERENCE FOR THE PERFORMANCE MEASURE (ALT #)	COMPARISON STANDARD	Information Available for each facility?
<b>FACTOR 9 - ADMINISTRATIVE CONSIDERATIONS</b>			
Performance Measure 9.1 - Tendency for an alternative to require an exemption from existing regulations or the promulgation of new regulations			
Performance Measure 9.2 - Potential for availability of sufficient offsite disposal capacity to implement the alternative			
Performance Measure 9.3 - Tendency for the implementation of the alternative to complicate future waste (and unit) management flexibility			
Performance Measure 9.4 - Dependence of successful long-term performance on institutional controls			
Performance Measure 9.5 - Environmental Justice Considerations			