Department of Energy
West Valley Demonstration Project
10282 Rock Springs Road
West Valley, NY 14171-9799
April 12, 2010

Mr. Paul J. Bembia, Director
New York State Energy Research
and Development Authority
10282 Rock Springs Road
West Valley, NY 14171-9799

SUBJECT: Response to Additional New York State Energy Research and Development Authority (NYSERDA) Comments on the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project,* dated December 3, 2008

REFERENCES: 1) Letter (100671), P. J. Bembia to B. C. Bower, "Additional NYSERDA Comments on the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project, dated December 3, 2008,"* dated April 1, 2009

2) E-mail (102830), P. L. Piciulo to M. N. Maloney, "*Editorial Comments on DP, Rev. 0,*" dated April 2, 2009

Dear Mr. Bembia:

Enclosed are the responses to your comments on the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project.* These responses are based on Revision 2 of the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project,* dated December 18, 2009.

If you have any questions, please contact Moira Maloney of my staff at (716) 942-4255.

Sincerely,

Bryan C. Bower, Director
West Valley Demonstration Project

Enclosure: Responses to NYSERDA Comments on the Department of Energy's *Phase 1 Decommissioning Plan for the West Valley Demonstration Project*

cc: M. N. Maloney, DOE-WVDP, AC-DOE, w/enc.
P. A. Giardina, EPA, w/enc.
C. J. Glen, NRC, w/enc.
E. E. Dassatti, NYSDEC, w/enc.
G. A. Baker, NYSDOH, w/enc.
P. L. Piciulo, NYSERDA, AC-NYS, w/enc.

MNM:102835 - 450.4

Responses to NYSERDA Comments on the Department of Energy's
Phase 1 Decommissioning Plan for the West Valley Demonstration Project

Responses are provided below for NYSERDA's 72 technical comments (sent 4/1/2009) and 12 editorial comments (sent via 4/2/2009 email) on the WVDP Phase 1 DP. The associated changes were made in DP Revision 2.

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
1.	General	NYSERDA employed the technical support of an Independent Expert Review Team (IERT) to assist in the review of the *Phase 1 Decommissioning Plan for the West Valley Demonstration Project* (DP). The IERT report, entitled *"Independent Review of the Phase 1 Decommissioning Plan for the West Valley Demonstration Project,"* describes the approach and results of their review. NYSERDA is providing the IERT report as well as our comments (below) for consideration by the NRC in their review of the DP and development of a request for additional information. The IERT report and an expanded version of NYSERDA's comments are being provided to the Department of Energy (DOE) to be addressed in a future revision of the DP.	NYSERDA would appreciate written responses describing how NYSERDA's comments, as well as the concerns raised by the IERT, were considered in NRC's review of the DP. ***RESPONSE: NRC included those NYSERDA comments relevant to the scope and objectives of NRC's review in RAI's. NRC provided a copy of the RAIs to NYSERDA.*** ***Copies of the RAI responses were also provided to NYSERDA. RAI responses related to specific NYSERDA comments are identified below.***
2.	General	The Derived Concentration Guideline Levels (DCGLs) identified for Sr-90 and Cs-137 are the DCGL values at year 2041, and not the values at the completion date for Phase 1 as indicated in the DP. Per the DP, Phase 1 is expected to begin in year 2011 and be completed in year 2018. Since the DCGLs are based on the concept of active management of the site until 2041, NYSERDA expects that DOE will provide the necessary monitoring, maintenance and security controls until year 2041.	***RESPONSE: The appropriate sections of the DP were revised (ES, Section 5, Section 7, Appendix D) to indicate that the DOE will provide monitoring, maintenance, and security until 2041. The DP text was also revised to indicate that the DOE will have a presence on site during Phase 2 of decommissioning.***
3.	General	The text on Page ES-19 (and in other sections of the DP) states that *"and upon NRC approval of this plan, DOE would begin Phase 1 of the proposed decommissioning in 2011 and it would last until 2018."* This does not accurately describe NRC's role and responsibility under	Update the language in the DP to more accurately reflect NRC's role. ***RESPONSE: The DP text was revised to read "upon completion of the NRC review process related to this plan" to more accurately describe the NRC's role in the***

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		the West Valley Demonstration Project (WVDP) Act. Consistent with the WVDP Act, NRC has stated (publicly) that they will conduct an *"informal review and consultation,"* after which they plan to issue a Technical Evaluation Report. Similar text on Page 7-48 references *"NRC's approval of this plan."*	***decommissioning.***
4.	General	The DCGLs and cleanup goals in the DP are established such that the entire 25 mrem dose limit of the License Termination Rule can be allocated to the Phase 1 removal actions. If the cleanup of the facilities and soils included in the scope of this DP achieves the DCGLs as presented, could that severely limit the allocation of dose to the Phase 2 decommissioning activities?	The DP should describe how the Phase 1 DCGLs allow for possible Phase 2 actions that may leave radioactive material in place. ***RESPONSE: The entire 25 mrem LTR dose limit will not be allocated to the Phase 1 removal actions. The proposed soil excavations in WMA 1 and WMA 2 will remove the entire surficial sand and gravel unit and extend at least one foot into the underlying Lavery till where residual radionuclide concentrations are expected to be well below the cleanup goals. The estimated doses from the remediated WMA 1 and WMA 2 excavations after completion of Phase 1 are expected to be small fractions of the 25 mrem/yr dose limit as discussed in Section 5.4.4 of the DP.*** ***The cleanup of facilities and soil within the scope of Phase 1 would not limit allocation of dose to the Phase 2 decommissioning activities. The discussions in Section 5.1.3 on pages 5-12 and 5-13 are intended to address this matter, although dose allocation is not specifically addressed. The matter of dose allocation would not be an issue if the site-wide close in place or the site-wide removal alternatives were the selected Phase 2 approach.***
5.	General	Section 9 of the DP describes a process for developing and implementing Final Status Surveys of remediated areas. The DP states that arrangements would be made for any confirmatory surveys that NRC desires. Since it is	NRC should be prepared to perform confirmatory surveys of the decommissioned areas of the WVDP. ***RESPONSE: These independent surveys are provided for***

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		NYSERDA's intent that the units decommissioned per the WVDP policy statement would also be considered decommissioned for the termination of the NYSERDA CSF-1 license, NYSERDA requests that NRC perform confirmatory surveys during Phase 1 decommissioning activities. Such surveys would be particularly important for excavations for Waste Management Areas (WMAs) 1 and 2 as well as the fill material for each excavation.	***in Sections 7 and 9 of the DP.***
Conceptual Models: The validity of the DCGLs to be used to demonstrate compliance with the NRC policy statement and 10 CFR 20 Subpart E depends, in part, on the adequacy of the site conceptual models. Uncertainties in, or lack of accurate information on, the source terms and physical features of the site can limit the development of exposure scenarios used to establish adequate site conceptual models. Questions and comments presented below are aimed at clarifying factors that can affect the site conceptual models as presented in the DP. The IERT report presents additional observations regarding the adequacy of the conceptual models and engineered barriers presented in the DP.			
6.	General	The IERT report raises several concerns regarding the site conceptual models and the basis for certain assumptions. For example, a feature of the West Valley site critically important to the transport and release of radionuclides is erosion. The conceptual models ignore the potential impacts of gully erosion on dose calculations. Further, the conceptual model for steam bed sediments assumes an unrealistic static condition of the river channel perimeter for extended periods of time. The conceptual models exaggerate the extent to which contaminants originating in the surface soil are diluted in the farmer's well by groundwater. The conceptual model for calculation of subsurface soil DCGLs ignores any dose contribution from groundwater transport of residual contamination in subsurface soils other than a limited quantity brought to the surface as cistern cuttings. Dr. Neuman, in the IERT report, presents a mathematical proof demonstrating that not only would	See the IERT report for additional details regarding their analysis of the conceptual models and engineered barriers. Either additional discussion is needed in the DP to support the basis for assumptions used or further calculations must be performed to demonstrate the potential impacts of processes identified by the IERT on the dose calculations and establishment of DCGLs. The technical basis to support the effectiveness of engineered barriers should be enhanced. ***RESPONSE: A number of alternative conceptual models (i.e., exposure scenarios) have been evaluated in response to NRC's RAIs that addressed issues identified in the NYSERDA comment. DOE representatives discussed the results of the alternate scenario analyses with NRC staff at the 9/2/09 DOE-NRC meeting. The results have also been incorporated into Revision 2 to the DP.*** ***Two of these analyses proved to be more limiting for some radionuclides than the base-case resident farmer scenario.***

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		contaminants at the top of the Lavery till be drawn to the well intake, the concentration would actually increase towards the well. The hydrologic connections between the conceptual models employed, as per RESRAD, are physically unrealistic since they do not consider coupled surface-subsurface processes and resultant release scenarios. The presence of actively-eroding gullies would greatly facilitate the communication of water downward into the subsurface or upward and outward onto the ground surface. A major concern regarding the effectiveness of the engineered barriers is that at the interface of the barrier bottoms and the till, groundwater could seep back into the excavation of WMA 1 and 2, become contaminated and continue to contaminate the excavation surfaces and till floor. Also, design details are lacking such as the thickness of the thickness of the barrier for WMA 2, the method of maintaining the necessary slope and support on the excavation side of the barrier wall, and the consideration of possible seismic loads and severe storms on the excavated walls.	*(1) One was the residential gardener scenario for subsurface soil DCGLs. The results of this analysis were taken into account in reducing the subsurface soil cleanup goals.* *(2) The other alternate scenario involved releases from the bottom of the deep excavations. The results of this alternate scenario analysis were used to further reduce the subsurface soil cleanup goals.* *Additional information on the alternative scenario analyses can be found in the presentation slides used at the 9/2/09 DOE-NRC meeting and the responses to the following RAIs.* *SURFACE SOIL DCGLs:* *RAI 5C4 – potential impacts of radioactivity in eroded surface soil on an onsite recreationist-hiker,* *RAI 5C4 – potential impacts of radioactivity in eroded surface soil on an offsite receptor, and* *RAI 5C18, evaluation of a residential gardener to determine the impacts of a lower pumping rate.* *SUBSURFACE SOIL DCGLs:* *RAI 5C5 – potential acute dose to a cistern well driller,* *RAI 5C6 – potential impacts of radioactivity in deep gullies in the area of the WMA 2 excavation on an onsite recreationist-hiker,* *RAI 5C6 – potential impacts of radioactivity in deep gullies in the area on Lagoons 1 and 3 on an offsite receptor,* *RAI 5C8 – potential acute dose to a natural gas well driller, and* *RAI 5C18 – potential dose to a residential gardener*

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			using three different combinations of contamination zone area and thickness. *STREAMBED SEDIMENT DCGLs:* *RAI 5C12 – impacts of inhalation pathway.* *In addition, DOE made changes to the base-case deterministic conceptual models and recalculated the surface soil, subsurface soil, and streambed sediment DCGLs. The response to RAI 5C12 describes these analyses.* *DOE also performed a comprehensive probabilistic uncertainty analysis, which is described in the response to RAI 5C15. The revised deterministic DCGLs and the probabilistic peak-of-the-mean DCGLs were used to establish new cleanup goals.* *Information from these RAI responses was incorporated into Revision 2 of the DP.* *Information on several related issues included in the NYSERDA comment is provided as follows:* *<u>Unrealistic static condition of river channel</u>. The conceptual model assumes that the contamination zone is located on the stream bank and that the banks of the stream are steep such that home construction in the area is not plausible. Predicted long-term erosion is expected to result in downcutting and rim widening, neither of which would be expected to change the basic nature of the terrain. Consequently, the conceptual model geometry would be expected to remain valid in the long term.* *Streambeds within the project premises will be characterized in Phase 1 to evaluate the extent of contamination. The resulting data will allow refinement of*

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			the conceptual model for DCGL development. ***<u>Conceptual models exaggerate contaminant dilution</u>. This matter was evaluated in the residential gardener model, which makes use of lower pulping rates with less dilution, with the results noted previously.*** ***<u>Subsurface soil model ignores residual contamination</u>. Available data suggest that only low levels of residual contamination will be present in the bottom of the WMA 1 and WMA 2 deep excavations. Contamination is not expected upgradient of these units based on current knowledge. However, releases from the bottom of the deep excavations were evaluated, as noted previously.*** ***<u>Hydrologic connections are unrealistic</u>. As noted previously, the impacts of long-term gully erosion in WMA 2 have been evaluated for both onsite and offsite receptors. Both alternative scenarios were found to less limiting than the base-case scenario.*** ***<u>Design details are lacking</u>. Detailed design information is not appropriate for the Phase 1 DP, which describes proposed decommissioning actions for WMA 1 and 2. The detailed design will be prepared by the decommissioning contractor and will be detailed in various decommissioning work plan documents prepared to support Phase 1 decommissioning.*** ***The DP was changed in Revision 2 as indicated in the responses to RAIs 7C1 and DC1 to provide for NRC review of the detailed designs.***
7.	Section 3.5.5, Page 3-51, Table 3-13	This section indicates that erosion rates near the WVDP will vary over time due to various factors (e.g., stream valley widening, knick point advance, etc.). It is unclear from the data, however, whether the listed erosion rates	Clarify the limitations of the data provided in Table 3-13. ***RESPONSE: Table 3-13 reports historical erosion rates from the WNYNSC that were assumed applicable for***

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		are only applicable for the actual period used to determine the rate, or if they can (or will) be used to extrapolate future rates.	***estimating future erosion at the WNYNSC. The reference to the table on page 3-49 and the content of the table make it clear that the data provided are historical data.***
8.	Page 5-14, Bullets and Page 5-23 through 5-28	The bullets on Page 5-14 summarize results from the EIS erosion modeling, which NYSERDA believes to be significantly flawed and not technically defensible. The EIS erosion modeling results should not be used to limit the exposure scenarios that are used to develop DCGLs in the DP. In addition, even though these bullets recognize that the area of the lagoons could be impacted by erosion during the 1000-year evaluation period, a scenario where erosion uncovers buried contaminants is not considered in the derivation of subsurface DCGLs.	Modify the DCGL exposure scenarios to include a scenario where erosion impacts to the North Plateau bring subsurface contaminants to the surface. The uncertainties in long-term erosion modeling, as described in EIS Appendix F (e.g., Pages F-30, F-59-60), should be presented in the DP. ***RESPONSE: The alternate conceptual models for the impacts of gully erosion on onsite and offsite receptors discussed previously made use of maximum predicted erosion rates for conservatism. The resulting DCGLs were still higher than the base-case DCGLs, indicating that the base-case scenario is more limiting.***
9.	Section 5.1.7 Page 5-16	This discussion of potential impacts to the Kent Recessional from residual contamination doesn't mention the 473 "H" piles that were driven through the Surficial sand and gravel, through the Lavery till and into the Kent Recessional Sequence. There is potential that these steel piles could serve as a pathway for contaminants to the Kent Recessional Sequence. While Section 7.3.8 (Page 7-26) recognizes the importance of sampling around the "H" piles, Section 5.1.7 should include a discussion of the "H" piles as a potential transport path for contaminants to the Kent Recessional Sequence.	Discuss the potential for the 473 steel "H" piles to serve as a transport path for contaminants to the Kent Recessional Sequence. ***RESPONSE: This matter is addressed with respect to characterization surveys in the response to RAI 4C2, with respect to in-process surveys in the response to RAI 9C3, and with respect to final status surveys in the response to RAI 9C4. These RAI responses identify the specific changes that were made to the DP in Revision 2 to address the H-piles.***
10.		Seismically induced slope failure could cause the exposure of buried contamination. Has the issue of seismically induced slope failure been evaluated for the North Plateau?	Discuss whether seismically induced slope failure could expose buried contamination. ***RESPONSE: Evidence for seismically induced ground failure, liquefaction, slumping, and fissuring has not been observed on or near the WNYNSC dating back 12,000***

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			years. An evaluation of this type is not considered appropriate for Phase 1 actions that involve the near total removal of soil contamination resulting in minor residual contamination in the Lavery till. Slope failure in WMA 2 would expose residual contamination in the Lavery till similar to surface soil DCGL's. A seismically induced slope evaluation may be considered appropriate if a site-wide close-in-place alternative were selected for Phase 2.
11.		In describing the *"Subsurface Conceptual Model,"* the DP states that the scenario whereby a house constructed with a basement extending into contaminated areas was considered implausible because the contaminated subsurface soil would be more than 10' below the surface. Although not directly stated, this scenario assumes erosion on the North Plateau would not thin the zone of clean fill and subsequently move the contamination closer to the surface.	The basis for the contaminated soil zone remaining more than 10' below the surface should be clearly stated. The uncertainties in long-term erosion modeling, as described in EIS Appendix F (e.g., Pages F-30, F-59-60), should be presented in the DP. ***RESPONSE: As noted previously, additional modeling was performed as described in the responses to RAIs 5C4 and 5C6 to evaluate the potential impacts of radioactivity in deep gullies in WMA 2 on both onsite and offsite receptors. The most conservative predictions for gully development from the DEIS erosion modeling were used as the basis for this dose modeling.*** ***Based on current sheet and rill erosion rates at the WNYNSC, surficial erosion on the North Plateau over the next 1,000 years will not have a significant impact on WMA 1.***
12.		The text identifies the manner in which buried radioactive material is addressed in the DP. Although not directly stated, this discussion assumes that there will be no erosion on the North Plateau that would thin the zone of clean fill, and subsequently move the contamination closer to the surface.	The uncertainties in long-term erosion modeling, as described in EIS Appendix F (e.g., Pages F-30, F-59-60), should be presented in the DP. The basis for the contaminated soil zone remaining buried should be clearly stated. ***RESPONSE: As indicated in the response to comment 11,***

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			it was not assumed that residual contamination at the bottom of the WMA 2 deep excavation will remain buried as deep gullies could cut into the excavation bottom during the 1000 year compliance period.
13.		The Streambed Sediment Conceptual Model (Page 5-29) assumes a recreationist as the average member of the critical group. By design, the DP limits the recreationist to streams within the WVDP premises (Page 5-9). While the resident farmer is limited to only the remediated area of the Main Plant Process Building (MPPB) or the lagoons, the same requirement does not need to be applied to the recreationist who could very well hike beyond the boundary of the WVDP premises. Expanding the area for the recreationist activities would support the evaluation of cumulative impacts as it would consider seeps associated with the North Plateau Groundwater Plume (NPGP). Such an analysis may provide DCGLS for remediation of accessible creeks throughout the Center.	Discuss the potential impacts to a recreationist that may hike along the streams both on and off the WVDP premises, and calculate DCGLs for such a situation. ***RESPONSE: The WVDP Phase 1 DP was prepared to address decommissioning activities within the project premises. NYSERDA will be responsible for developing DCGL's for closure of the remainder of the WNYNSC.*** ***The final streambed sediment cleanup goals may be suitable for later use outside of the project premises, depending on whether the conceptual model used in their development would apply to the conditions in Franks Creek downstream of the project premises and the conditions in Buttermilk Creek.*** ***Note that Figure 5-12 was added in Revision 2 to more precisely define where the streambed sediment cleanup goals apply on the project premises.***
RESRAD Parameter Selection for calculating DCGLs: DOE has elected to perform a deterministic analysis using RESRAD rather than performing a probabilistic analysis. The defensibility of the dose assessment is in part dependent upon the defensibility of the RESRAD input parameters. The DP lists the parameter values used for the dose assessment and references general information about the site to support the parameter selection. Certain parameters, such as K_d values, can have a significant effect on the results of the DCGL calculations. The comments below question the adequacy of the level of justification presented in the DP to support the selection key parameters used for calculating DCGLs. The IERT report also presents concerns about the technical basis for parameter selection and the adequacy of the sensitivity analysis and lack of a probability based uncertainty analysis.			
14.	General	The IERT expressed concern that the DP provides inadequate information to support key assertions affecting the dose calculations and DCGL development. The technical basis for changes of RESRAD default	The technical basis for parameter selection should be expanded. Once the conceptual models are reviewed and revised as appropriate, a sensitivity analysis must be repeated. Consideration should be given to including a

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		parameters are poorly documented, and in some cases (especially for K_d values), generic literature values appear to have been used where site specific values were available. The point estimates for parameter values used in RESRAD may not have appropriately bounded the results of the analysis in which case an uncertainty analysis is necessary to have confidence in the results. There is no evidence that the point estimates used were derived from any such analysis and are therefore assumed to be the analysts' "best estimates", not bounding values. Although the analysis is supported by substantial sensitivity analysis, that analysis varies only one parameter at a time.	probabilistic uncertainty analysis perhaps using the probabilistic capability of the RESRAD code. ***RESPONSE: The bases for selection of input parameters are identified in Tables C-1 and C-2. The letter that forwarded Rev 0 to the DP to NRC for review indicated that DOE was still evaluating whether the degree of conservatism in the input parameters was sufficient (Attachment 1, page 2 footnote).*** ***Some model input parameters were changed as described in the response to RAI 5C12. A probabilistic uncertainty analysis was completed as described in the response to RAI 5C15. This analysis and its results were discussed with NRC at the 9/2/09 DOE-NRC meeting. The probabilistic peak-of-the-mean DCGLs were used in establishment of revised cleanup goals in Revision 2 to the DP.***
15.	Page 2-35, second paragraph	In describing the source of the NPGP, the DP states that "*Less mobile radionuclides such as Cesium-137 are expected to have remained beneath the immediate source area due to the high cesium sorption capacity of the minerals in the sand and gravel.*" Sorption capacity is typically expressed in terms of a distribution coefficient or K_d value. While it may be true that the K_d value for Cesium in the Sand and Gravel Unit is high, no reference is given to support this statement. Further, Table 3-20 (Chapter 3, Pages 3-76 through 3-78) presents no data for a Cesium K_d in the Sand and Gravel Unit.	Provide a reference or other technical basis to support the premise that the Sand and Gravel Unit has a high sorption capacity for cesium. ***RESPONSE: There is no site-specific distribution coefficient data available for cesium for the sand and gravel unit in the north plateau. However, cesium distribution coefficients for sand are available from Sheppard and Thibault 1990 and RESRAD default values are available for cesium in sand. These cesium distribution coefficients are up to an order of magnitude greater than reported for strontium in similar geologic materials.*** ***Note that the effects of distribution coefficient variability were evaluated in the probabilistic uncertainty analysis.***

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16.	Appendix C, Section 1.0 Tabulated Data, Page C-2, second paragraph	In discussing the assignment of distribution coefficients for the three RESRAD zones, the statement is made that the contaminated zone in the stream sediment analyses and the subsurface soil analyses are assigned the K_d values for the Lavery till. One could argue that poorly consolidated stream sediments would have sorption properties that were more similar to the sand and gravel unit rather than the Lavery till. The assumption that the K_d value for stream bank sediments can be represented by the Lavery till needs further discussion in this section. Given the sensitivities of the stream bed sediment scenario to distribution coefficient (see Table C-99) the approach needs to establish that conservative values have been selected and analyzed.	Use more conservative distribution coefficient values to represent stream bed sediment partitioning or provide better justification as to why the Lavery till values are representative. ***RESPONSE: Erdman Brook and Frank's Creek are located entirely within the Lavery till within the project premises. Field surveys indicate that stream banks and bottoms are dominated by glacial till material. Sands and gravels are located in isolated areas typically associated with stream nick points.***
17.	Appendix C, Section 1.0 Tabulated Data, Page C-2, second paragraph	The text states that "*The K_d values were selected to represent the central tendency of the site-specific data. . . .*" In its discussion of Deterministic Analyses, NUREG-1757, Volume 2, states that "*it is important for the licensee to demonstrate that the single reported estimate of peak dose is likely to be an overestimation of the actual peak dose.*" It is unclear how choosing K_d values based on the central tendency of data will result in "*an overestimation*" of dose.	Provide a justification for using nonconservative values for distribution coefficient in a deterministic analysis. ***RESPONSE: The probabilistic uncertainty analysis addressed the use of conservative distribution coefficient values for the dose modeling in the DP. See also the response to comment 14.***
Radiological Status of the Site: Understanding the nature and extent of contamination is vital to planning for decommissioning. The following comments identify data gaps and suggest a path for resolution. (Comments specific to the source and radionuclide inventory of the NPGP are provided below.)			
18.	General	In the Phase 1 DP, there are multiple references to specific radionuclide ratios and inventory projections (i.e., source-term assumptions) and suppositions regarding the associated inter- and intra-transport mechanisms for the various WMA/units on the North Plateau. The basis for	Describe the basis for developing anticipated/expected radionuclide ratios, inventory projections and transport mechanisms for WMAs on the North Plateau. Site wide characterization surveys will improve the radionuclide inventories and can support the definition of

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		establishing ratios is not well defined.	radionuclide ratios and the understanding of transport mechanisms for each WMA. ***RESPONSE: Existing radiological and hydrogeological data collected during facility and environmental characterization programs at the WVDP were the basis for the radionuclide inventory projections, ratios, and transport mechanisms described in the WVDP Phase 1 DP.*** ***Additional facility characterization is planned for the waste tank farm and the Process Building either before or during the implementation of Phase 1 decommissioning activities, which will supplement the existing facility radiological database.*** ***The environmental radiological database within the project premises will be supplemented with surface soil, subsurface soil, and stream sediment data that will be collected as part of the characterization program designed and implemented to support Phase 1 of the decommissioning. This characterization program will be defined in the Characterization Sample and Analysis Plan. A copy of the goals for this characterization program was provided to NYSERDA and other agencies*** ***The Characterization Sample and Analysis Plan is being prepared according to the objectives, guidance, and requirements described in Section 9.4 of the DP and the CSAP goals developed by Argonne National Laboratory.***
19.	Pages 4-35 and 4-36, Table 4-12	Table 4-12, "*Above-Background Concentrations of Radionuclides in Subsurface Soil at WMA 1,*" identifies three sampling activities that provided the subsurface soil data for WMA 1. Due to the limited data and the	Describe how representative isotopic profiles for WMA 1 will be established. What surface and subsurface soil characterization will be performed?

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		variability of this data (e.g., Cs-137 is not present in one location, and is two orders of magnitude different in the other two locations, etc.), conclusions related to radionuclide distributions are speculative. Additional sampling in WMA 1 is needed to confirm the different isotopic waste profiles present in this area.	***RESPONSE: The surface soil, subsurface soil, and stream sediment characterization program to support the WVDP Phase 1 Decommissioning will be defined in the Characterization Sample and Analysis Plan. More definitive isotopic profiles will be developed once the characterization sampling program is completed. See also the response to comment 18.***
20.	Page 4-36, second paragraph	The second paragraph states "*No gross alpha concentrations or concentrations of alpha-emitting radionuclides were observed at concentrations above background in surface soil from WMA 2.*" This statement is inaccurate as surface soil samples were obtained from Borehole Nos. 1, 2, 4, 8, 10A, 13, 14 and 33A in WMA 2; and of these locations, the only alpha analyses performed were for radium (224 and 226) (see RFI, Volume 4, Low-Level Waste Treatment Facility, Radiological Data).	This statement should be revised or removed. ***RESPONSE: No change is planned. Gross alpha concentrations were measured at each of these locations and depth intervals and none were observed above background concentrations. While Ra-224 and Ra-226 were the only alpha-emitting radionuclides measured at these locations, the gross alpha measurements suggest that alpha-emitting radionuclides that were not individually measured did not exceed their background concentrations.***
21.	Pages 4-36 and 4-37, Table 4-13	Table 4-13, *"Above-Background Concentrations of Radionuclides in Surface Soil From WMA 2"* lists only concentrations of Cs-137 and Sr-90 for a number of borehole locations in WMA 2. No data, however, are provided for alpha-emitting radionuclides in the surface soil. Additional sampling and analyses of different soil depths and locations can provide more accurate information on the radionuclide concentrations and distribution in the WMA.	Additional characterization of soils in WMA 2 (including analyses for alpha-emitting radionuclides) is needed to better understand the nature and extent of the contamination. ***RESPONSE: Soil samples from WMA 2 were analyzed for gross alpha and Ra-224 and Ra-226, and none of these analyzed samples exceeded background concentrations. Additional soil sampling and analysis will be performed in WMA 2 to support Phase 1 of the decommissioning. The sampling locations, number of samples, and analyte list will be described in the Characterization Sample and Analysis Plan.***
22.	Page 4-41, fourth paragraph	This section states that "*As seen in other areas, elevated levels of Cs-137 in surface soil were most likely attributable to airborne deposition (see Section 2).*" Due	Additional characterization of the radionuclide distribution in surface soils from all WMAs is needed. Include the new background surface soil data along with the one existing

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		to the small number of surface soil samples taken, and the even smaller number of analyses performed on these surface soil samples, it is speculative to identify the source of Cs-137 solely as the airborne releases.	background location as this will support the defensibility in determining a representative background sample. ***RESPONSE: The referenced text in the DP was revised to specify "may be". However, it should be noted that the WVDP did not perform any radiological operations in the referenced area and cesium is not a significant component of the north plateau plume.***
23.	Page 4-42, Table 4-18	Table 4-18, "*Above-Background Concentrations of Radionuclides in Surface Soil, Sediment, and Subsurface Soil at WMA 5,*" lists the background location (BH-38) as being above-background for radionuclides in surface soil, sediment and subsurface soils in WMA 5. Why is the background location listed as being above-background? Also, in 2008, additional background soil samples were obtained to determine more representative values for background.	Revise Table 4-18 to include the data from the 2008 background sampling activity. If BH-38 values are above the newly calculated background values, include BH-38 in the table, but add a qualifying statement indicating that it is one of the locations used to calculate background. ***RESPONSE: Table 4-18 indicates that the concentration of Cs-137 in surface soil at BH-38 exceeds surface soil background concentrations. BH-38 is a background location for subsurface soil and not for surface soil. The surface soil background locations are the offsite air sampling stations located at the perimeter of the WNYNSC to which the surface soil sample from BH-38 was compared. The 2008 background sampling results were evaluated and incorporated into Revision 2 of the DP. However, the 2008 results did not change the interpretation presented in Revision 0 of the DP.***
24.	Page 4-43, third paragraph	The paragraph states "*Ratios to Cs-137 for Pu-238, Pu-239/240, and Am-241 were similar for subsurface soil samples taken near the Utility Room and the Fuel Receiving and Storage Building (about 0.03 to 1, 0.04 to 1, and 0.2 to 1, respectively). However, the Sr-90 to Cs-137 ratios for each were strikingly different. Near the Utility Room, the ratio was about 1 to 1, but near the Fuel Receiving and Storage Building the ratio was 133 to 1,*	Provide clarification for the assertion that the Fuel Receiving and Storage Building subsurface location is more central to the NPGP. ***RESPONSE: Based on current groundwater mapping, the FRS is more central to the NPGP than the Utility Room. Groundwater in the vicinity of the FRS, which is located in the "core" area of the plume, has a significantly greater***

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		suggesting that the Fuel Receiving and Storage Building subsurface location was more central to the north plateau groundwater plume." Given the historical leaks and spills associated with the general area between the Utility Room and the FRS, the groundwater flow paths for these areas, and the partition coefficient (K_d) values for Cs-137, Pu-238, Pu-239/240 and Am-241 being significantly different than Sr-90, it is difficult to definitively state that the difference in the ratio of Cs-137 to Sr-90 is due to the Fuel Receiving and Storage Building being more centrally located to the NPGP. Specifically, Cs-137, Pu-238, Pu-239/240 and Am-241 are relatively immobile radionuclides and would not be expected to have traveled far from their source. The radionuclide ratios are approximately equal for both areas, but the reputed source of the NPGP is located closer to the Fuel Receiving and Storage Area. Why are the radionuclide ratios for the relatively immobile radionuclides similar near the Utility Room (which is located cross-gradient to the reputed source and at a greater distance from the source)? Either the source of these radionuclides is larger than anticipated (i.e., larger volume) or there are other sources that contributed these radionuclides throughout this region.	***concentration of Sr-90 than Cs-137 resulting in the ratio of 133 to 1. The similarity in radionuclide ratios for the immobile radionuclides between the FRS and Utility Room may be the result of fallout from pre-1963 nuclear weapons testing rather than additional radionuclide sources in the area.***
25.	Page 4-44, Table 4-19	Table 4-19, "*Above-Background Concentrations of Radionuclides in Surface Soil, Sediment, and Subsurface Soil at WMA 6*" lists sediment and borehole locations that exceeded background concentrations. Given the limited data for this area and that the relative ratios for these radionuclides vary by location, additional sampling of WMA 6 is necessary.	Perform additional sampling/radionuclide analyses of the areas in WMA 6 for inclusion in the scope of this DP. ***RESPONSE: The extent of surface and subsurface soil characterization and associated analytical parameters in WMA 6 will be identified in the Characterization Sample and Analysis Plan. Please see the response to comment 18.***
26.	Page B-7,	The use of groundwater well WNW0204 as the	Use WNW0402 as the background sample location for the

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
	Section 1.4, first paragraph and Page B-15, Table B-7	background sample location for the Lavery Till-Sand Unit is incorrect; WNW0402 has been identified in the quarterly groundwater reports as the background location for this geologic unit. This well also appears to be downgradient of a number of areas/facilities that could influence this location. Finally, the more recent data suggests that WNW0204 is higher in activity for gross alpha and tritium, which could potentially bias the background values high. Remove WNW0204 from the data set and data source locations in Table B-7, "*Groundwater Background Radionuclide Concentrations for the WVDP.*"	Lavery-Till Sand Unit data and recalculate the background data using this location. Revise Table B-7. Reevaluate the groundwater data originally identified as not having exceeded background, and verify that the revised data still does not exceed background. ***RESPONSE: Well WNW0204 is the correct background well for the Lavery till sand. The aerial extent of the Lavery till sand was revised downward in 2008. Well WNW0402 has been re-classified as a sand and gravel unit well. There are four wells currently monitoring the Lavery till sand: WNW0202, WNW0204, WNW0206, and WNW0208.***
27.	Section 5.1.3 Page 5-10	The DP focuses on the remediation of WMAs 1 and 2, and leaves the remediation of other soil and sediment as an option (Footnote 3, Page 5-10). Figure 4-6 (Page 4-31) shows gross alpha and gross beta contamination in surface soil in the area (WMA 10) to the west of WMA 1. Given the direction of groundwater flow (Figure 5-4), surface contamination could impact the groundwater in this area that flows into WMA 1 can contribute, over time, to the dose in WMA 1. What does the potential effect of contamination in the WMA 10 have on calculating DCGLs for WMA 1? In the mid-1990s, several "AA" trailers and trailers on the west side of "Trailer City" were removed, and a portion of the chain-link fence was moved east. The area between the main parking lot and the fence was covered with grass. Are there existing data to verify that this area will meet the site decommissioning criteria or will a Final Status Survey of the area be performed?	Include the northern end of WMA 10 in the sitewide characterization. If contamination is present, remediation of the area, as a Phase 1 activity, can reduce the potential of additional contamination migrating into WMA 1. Incorporate remediation of areas (i.e., that may recontaminate/impact WMA 1) as part of the Phase 1 activities. ***RESPONSE: The Characterization Sample and Analysis Plan will provide for characterization of surface and subsurface soil in the northern end of WMA 10. However, groundwater from nearby wells WNW0402 and WNW0401 do not suggest that this surface soil contamination has affected downgradient soil and groundwater.*** Describe available data for the area west of "Trailer City" (i.e., where trailers were removed and the fence relocated). Include this area in the sitewide characterization as appropriate. ***RESPONSE: Available data from this area was evaluated and included in Revision 2 to the DP as a note to Table 4-***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
			21.
Source and Radionuclide Inventory of the North Plateau Groundwater Plume: The planning for the removal of contaminated soils from WMA 1 is supported by the understanding of the events contributing to the contamination and data describing the extent of the contamination. The following comments focus on clarifying information and data that help to characterize the source area of the NPGP.			
28.	Page 2-35, third paragraph	The first sentence in this paragraph states that "*An order-of-magnitude estimate of the radionuclides and amounts released by the acid leak, and the estimated remaining amount in 2011, are presented in Table 2-16.*" In the preceding paragraph, the argument was made that the more mobile isotopes (e.g., Sr-90 and tritium) were migrating away from the source; therefore, the remaining inventory (at the source) is actually a function of two physiochemical processes: (1) decay, and (2) mobilization in the saturated zone. Table 2-16 (Pages 2-35 and 2-36) attempts to estimate inventory solely based on decay. The text and the table should clearly indicate that the estimate of current inventory (in 2011) is based on decay-corrected values from the Westcott report and does not account for any inventory that has already migrated downgradient or off site.	Clarify that Table 2-16, an estimate of the remaining inventory, only presents the decay-corrected values from the Westcott (1998) report. ***RESPONSE: Note (1) for Table 2-16 was expanded to clarify this matter as follows:*** ***NOTE: (1) From Westcott 1998. Note that the values in Table 2-16 are based on a 1998 estimate of radioactivity in soil and groundwater beneath and downgradient of the Process Building that did not take into account radioactivity in groundwater that may have seeped to the surface and entered ditches or streams.***
29.	Page 2-35, Table 2-16	Table 2-16, "*Released Radionuclide Activity Estimates for the North Plateau Plume*," cites a reference by Westcott 1998. The D. R. Westcott work utilizes characterization data that was available for Tank 8D-2 to estimate the radioactivity present in the NPGP. The plume is a result of one or more leaks in the acid recovery system, which may not be accurately represented by Tank 8D-2 data. Data obtained in the leaking source areas of the acid recovery system are likely more indicative of the radionuclide inventory and radionuclide ratios for the	As characterization data from the source area of the plume are obtained, the radionuclide inventory and radionuclide ratios should be updated. The revised inventory and ratios need to be used in the modeling and projections of the nonsource area of the plume. ***RESPONSE: Comment noted. Radionuclide inventories and ratios will be updated provided the source area is sampled during the soil characterization program. The extent of surface and subsurface soil characterization and associated analytical parameters in WMA 1 will be***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
		NPGP.	***identified in the Characterization Sample and Analysis Plan.***
30.	Page 2-36, second paragraph	The statement that "*In addition to the known acid spill affecting the north plateau, during NFS operations several incidents such as inadvertent transfers of higher-than-intended activity occurred in the interceptor basin system upstream of the lagoon system (Lewis 1967, Taylor 1967, Wischow 1967). Documented accounts of leakage and spills in the area (Lewis 1967, Carpenter and Hemann 1995) corroborate the generally elevated observed subsurface soil contamination in the area west of Lagoon 1 to the vicinity of the Process Building. Such localized subsurface contamination can be attributed to these unintended operational releases,*" needs clarification. Are the documented releases/spills that contaminated the subsurface soil from the Process Building to the interceptor system and Lagoon 1 considered contributors to the total radionuclide inventory of the NPGP?	Provide justification to support the assertion that these "unintended operational releases" are so localized that they have not contributed to the plume. ***RESPONSE: The area from Lagoon 1 to the vicinity of the Process Building is not considered part of the NPGP. Groundwater flow in this area is towards the lagoons in WMA 2. Contaminated soil in this area resulting from "unintended operational releases" will be removed as part of the Phase 1 excavations in WMA 1 and WMA 2.***
31.	Page 2-39, Table 2-17	In Table 2-17, "*Principal Radionuclides in Major Spills Occurring During NFS Operations*," the last column in the last row states that: "*Leakage did not result in any known release to the environment.*" While it is unknown whether this release affected the environment, arguably, it is also unknown that it did not. Specifically, the transport mechanism (i.e., an expansion joint) discussed for the primary leak also exists in this location. This leak occurred on the first floor, not the fourth floor of the building (as with the primary leak), and the volume recovered by the interceptor (in addition to what remained in Tank 7C-5) accounts for approximately one third of the total volume released by this event. Finally, historical	Revise this section to be consistent with the information provided in Chapter 3, Section 3.11.5.1 of the DEIS. ***RESPONSE: Table 2-17 focuses on events known to have environmental impacts and those for which environmental impacts likely occurred. Information from Section 3.11.5.1 of the DEIS was added to the table as appropriate in Revision 2 to the DP as follows:*** ***"Leakage resulted in 555 gallons of liquid waste entering the ARPR sump and draining to the Old Interceptor (sufficient to read >~ 100 mR/hr at the interceptor), and requiring pumpout back to the Process Building for treatment. This event led to installation of 12 inches of concrete shielding on the Interceptor floor. A radiation***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
		accounts attribute the poor condition of the floors and common wall between the Acid Recovery Pump Room and the Off-Gas Blower Room to numerous acid leaks/spills. These accounts detail the addition of six inches of concrete to level the floor in the southwest corner of the Off-Gas Blower Room after it was destroyed by acid. In addition to leveling this floor, the concrete provided shielding from the high dose emanating from this corner (Riethmiller, 1981).	***level of 408 mR/h was measured in the Interceptor in 2003."***
32.	Section 3.7.7 Page 3-72	*Numerical Analysis Techniques* includes a brief reference to modeling of the NPGP using both 1994 plume concentration data and source activity of 500 Ci of Sr-90. The text goes on to describe how model calibration was performed. Based on Section 2.3.1, Page 2-35, the source of the plume in 1972 included approximately 200 curies. The text in Section 3.7.7 lacks a discussion of how a variation in the source concentration affects the calibration of the groundwater model.	Discuss the groundwater model calibration and describe the sensitivity of the model to changes in source concentration. How does the sensitivity of the groundwater model affect the calculation of DCGLs? ***RESPONSE: Section 3.7.7 was completely revised to describe the three dimensional far-field and near-field groundwater flow and transport models developed to support the preparation of the decommissioning EIS.*** ***The sensitivity of the groundwater model described in Section 3.7.7 does not have any effect on the calculation of the DCGLs which are derived from through the use of the RESRAD model.***
33.	Page 4-13, third paragraph, *Spent Fuel Distribution*	The text states *"These data were used for all radionuclides of interest in spent fuel except U-235 and U-238, which were derived from NFS records for recovered and unaccounted for losses of uranium, and U-232, U-233, U-234, and U-236, which were established based on analytical results showing the U-232 to U-235/236 ratios from samples collected in the Acid Recovery Pump Room of the Process Building."* What is the technical basis for using the ratios from the acid recovery/recycling portion of the reprocessing activities,	Provide the technical rationale for using acid recovery/recycling lines and data from the Acid Recovery Pump Room to calculate the spent fuel profile ratios. Also, provide the technical rationale for why the Acid Recovery Pump Room data are conservative. ***RESPONSE: When the spent fuel distribution was developed in 2002 (Mahoney 2002), analytical data for many areas of the Process building were limited. Data from the ARPR were used in estimating the distribution of***

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		instead of using ratios from areas where product extractions occurred (e.g., Extraction Cells 1, 2, and 3, and the Product Purification Cell)? The analytical data obtained from sampling the Acid Recovery Pump Room would likely represent contaminants in spent acid that leaked or spilled from process lines, rather than higher concentrations of product materials prevalent in other areas of the Main Plant. Also, what is the basis for stating that these ratios are conservative?	***uranium radionuclides as indicated in Table 2 in the Mahoney memo. This memo states that "The uranium bounding values may need to be updated as other information is collected during the facility characterization effort."*** ***Additional data are now available that would produce somewhat different ratios. For example, analytical data for samples collected from the walls and floor of the Product Purification cell, as reported in Table 1 of RIR-403-022, would produce higher ratios of U-232, U-233, U-235, and U-236 to U-238.*** ***This matter was evaluated further as Revision 2 to the DP was prepared. Changes were made on pages 4-14 and 4-15 to address this matter. Revisions to the uranium radionuclide inventory estimates were determined not to be useful.***
Site Features: A description of site features is required in the DP. The following comments focus on data gaps in the information describing site features.			
34.	Section 3.6.3, Page 3-65	In discussing the probable maximum flood, the cited reference is a report that was generated in 1983. Why doesn't this plan use the most recent probable maximum flood model developed in 2008 and cited in the current DEIS? The reference is URS, 2008, "Memorandum to Science Applications International Corporation, Subject: Probable Maximum Flood Inundation Study," West Valley, New York, August 28.	Use the most current information to describe the influence of flooding at the site. ***RESPONSE: Section 3.6.3 on page 3-68 of the DP was updated to include more recent information on the probable maximum flood described in the 2008 DEIS.***
35.	Section 5.1.6, Page 5-15, Figure 5-5	The first paragraph of this section and Figure 5-5 reference the 1994 Dames and Moore *North Plateau Groundwater Seepage Survey*. A text box in the Figure states that "*the 3 seepage points near the lagoons . . .*	Provide a framework for the significance of the 1994 work by Dames and Moore, and comment on flow observed today from seepages along Erdman Brook and Frank's Creek. Incorporate more recent flow data for the seepage points, if

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
		exhibited little or no flow in 1994." The information shown on this figure is now 15 years old. What is the significance of the flow characteristics in 1994? Have the locations of seeps been checked in the field to confirm that the information on this map is still accurate?	available. Update the map as necessary. ***RESPONSE: The 1994 Dames & Moore report was the last comprehensive seep survey performed at the WVDP. SAIC/WSMS evaluated whether any additional seep data has been collected since 1994 and found no additional data were available.***
Site Characterization: Adequate site characterization is needed in the planning for remediation and defensible final status surveys verifying that any residual contamination meets the requirements of the West Valley policy statement and10CFR20 Subpart E. The following comments identify limitations in characterization data.			
36.	Page 9-6, Section 9.2. 4, second paragraph	Characterization Surveys are identified in Section 9.2.4. The second paragraph states, *"Four WVDP characterization survey programs have been completed: (1) the characterization program for the underground waste tanks, (2) the Facility Characterization Project, (3) a series of Resource Conservation and Recovery Act (RCRA) facility investigations performed in the 1990s, and (4) investigations of the north plateau groundwater plume using a Geoprobe®."* The survey activities completed thus far do not appear to have the necessary components as specified under NUREG-1575, the *Multi-Agency Radiation Survey and Site Investigation Manual* (MARSSIM) to be identified as "Characterization Surveys." Specifically, these activities did not include survey designs that ensured that: representative background/environmental media specific measurements were obtained, acceptable Type I and Type II errors were identified, and contaminant variation in each survey unit was adequately addressed (using statistical testing of the survey unit). Similarly, language on Page 8-8 references the underground waste tank farm data as being similar in	The four cited survey activities should be considered scoping surveys and the data from these survey activities can be used to design the Characterization Surveys as defined in MARSSIMs. ***RESPONSE: No change made. The text in Section 9.2.4 does not identify the four referenced "Characterization Surveys" as being MARSSIM type characterization surveys. These four surveys were used to characterize the nature and extent of residual contamination in portions of the WVDP. Each program had detailed survey designs and stringent QA/QC requirements that controlled these characterization programs.*** ***The Characterization Management Plan for the Facility Characterization Project included all applicable MARSSIM guidance, based on the peer review team's evaluation. The work plan for the RCRA Facility Investigation was reviewed and approved by the NYSDEC.***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
		quality to MARSSIMs. Clarification of what "similar" means should be provided.	
37.	Page 9-15, Section 9.5	This section defines the use of "In-Process Surveys" and states that these surveys would be performed to "*. . . determine when remediation to field goals . . . has been attained.*" What are the QA requirements for conducting this type of survey? Specifically, since this type of survey is not defined in MARSSIMs, are the QA requirements consistent with Characterization Surveys and/or Final Status Surveys, and how will the results be utilized for final status of the survey unit?	Provide the detailed Quality Assurance requirements for conducting "In-Process Surveys." ***RESPONSE: The response to RAI 9C3 describes changes made to Section 9.5 of the DP to provide additional details on in-process surveys including quality assurance provisions. These changes appear on pages 9-20 through 9-23 of Revision 2 to the DP.***
38.	Page 9-31, last paragraph and Page 9-32	Characterization of the soils remaining in WMAs 5 and 6 (after the excavation of the foundations, slabs, hardstands and gravel pads were removed, prior to the start of decommissioning) need to be conducted. Historical records identify these areas as potentially impacted by radiological constituents. Little data exists to help determine the extent of the contamination and whether the radionuclide distribution is the same or different than other areas of the site.	The soil areas remaining from excavation of the foundations, slabs, hardstands, and gravel pads in WMAs 5 and 6 need to be characterized. ***RESPONSE: The Characterization Sample and Analysis Plan will provide for soil samples to better determine the extent of contamination and the radionuclide distributions in these areas. Please see the response to comment 18.***
39.	Page 9-32, Section 9.7.5	Section 9.7.5 details the characterization activities defined for WMA 6: the Central Project Premises, which encompasses the Sewage Treatment Plant, the Equalization Basin, the Equalization Tank, the two demineralizer sludge ponds, the south Waste Farm Test Tower, floor slabs and foundations and the underground structure of the Cooling Tower (which has been identified as being impacted by radioactivity). The DP does not, however, identify the characterization process for the subsurface piping associated with this waste management	Describe the process for characterizing the subsurface piping the WMA 6. ***RESPONSE: There are no plans for characterizing subsurface piping for those facilities identified in WMA 6. However, the ends of lines at the sides of the WMA 1 and WMA 2 excavations are required to be characterized when the slurry walls are installed (now pages 7-26 and 7-35, respectively). This effort will provide characterization data for underground lines in northern end of WMA 1.***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
		area.	

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
40.	General	The tank and vault drying system is important to help maintain the integrity of the high-level waste (HLW) tanks. Throughout the DP, statements are made about the tank and vault drying system being operational in the interim end state, and the tanks being empty. Such statements are inaccurate. The tank and vault drying system may be operational before 2011, but significant heels consisting of liquids and solids (sludge) will remain in the tanks well beyond the interim end state.	Revise statements in the Executive Summary, and Chapters 1 and 3 to more accurately describe the tanks' contents both during and after the interim end state. Remove all language from the DP that states the tanks will be empty (i.e., not contain liquids) in year 2011. ***RESPONSE: The proposed changes were made in Revision 2 using the latest available information on tank status and plans for installation of the tank and vault dry system.*** ***"The tanks and vaults are expected to be in a dry condition several years after the start of Phase 1 of the decommissioning. The Tank and Vault Drying System will then maintain the tanks and vaults in a dry state."***
41.	General	While NYSERDA is identified as the owner on the Provisional Operating License Number CSF-1, NYSERDA has never had responsibility for the day-to-day operations of the reprocessing facilities. The text on	Revise the text on Pages ES-10, 1-4 and 2-4 to clarify the transition of responsibility for operations at the site to be consistent with the following: *In 1976, Nuclear Fuel Services informed New York State that it intended to leave*

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
		Page ES-10 states: *"In 1976, without restarting, Nuclear Fuel Services withdrew from the reprocessing business and returned control of the facilities to NYSERDA, the successor to the New York State Atomic and Space Development Authority."* Similar text appears on Pages 1-4 and 2-4. The text on Page 2-4 explains that NFS remained the site operator until 1982, since no license amendments were made from 1976 to 1981. License Amendments 31 and 32 transferred the project premises to DOE, and terminated the authority and responsibility for NFS (under the license) effective upon DOE's assumption of exclusive use and possession of the Project premises. While NYSERDA is identified on the CSF-1 as the owner of the property, NYSERDA has never had direct control of site facilities.	*the reprocessing business and not renew the lease when the initial term expired at the end of 1980. The West Valley Demonstration Project Act was enacted in 1980 providing for solidification of the high-level liquid radioactive waste from reprocessing, then decontamination and decommissioning of the facilities used in the solidification effort. In February 1982, Nuclear Fuel Services transferred possession of the reprocessing facilities to the U. S. Department of Energy (DOE) for that purpose.* ***RESPONSE: The proposed changes were made in Revision 2 with minor editorial changes.***
		Executive Summary	
42.	Page ES-8, *Waste Management Area 6*	In order for the decommissioning of the MPPB to be successful, the HLW canisters must be relocated to Waste Management Area 6 (WMA 6). Since the new canister storage area is proposed for WMA-6, insert dialog on the new interim storage facility (on Page ES-8) in the discussion on the WMA-6.	Add a brief discussion to the Executive Summary regarding the transfer of the 275 HLW canisters to a new location on the Project Premises. ***RESPONSE: The following text was added to Revision 2 on page ES-13:*** ***"Before much of the work to remove the Process Building is undertaken, the 275 vitrified HLW canisters will be relocated to a new Canister Interim Storage Facility to be established on the south plateau. The canisters will remain there until a decision is made and implemented with regard to their final disposal."***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
		Section 1	
43.	Page 1-5, second paragraph	The information related to the leak (which is the source of the North Plateau Groundwater Plume [NPGP]) is inconsistent with Table 2-17 (Page 2-39) of this DP as well as Chapter 3, Section 3.11.5.1 of the 2008 Draft Environmental Impact Statement (DEIS). Documentation exists to support that multiple leaks occurred during the acid recovery process, thereby contributing to the NPGP.	Revise this section to state, "*This contamination likely resulted from multiple leaks of nitric acid solution. . .*" ***RESPONSE: The proposed change was made in Revision 2 on page 1-5.***
44.	Page 1-6, first paragraph	The information related to the ventilation system accident is inconsistent with Table 2-17 (Page 2-40) of this DP and Chapter 3, Section 3.11.5.1.of the 2008 DEIS. Specifically, there were at least two ventilation system accidents that contributed to what is known today as the "cesium prong."	Revise this section to state, "*The cesium prong is an impacted area that extends northwest of the Process Building as a result at least two ventilation system accidents that occurred in 1968.*" ***RESPONSE: The proposed change was made in Revision 2 on page 1-6.***
45.	Page 1-9, Section 1.6, *Project Management and Organization*	In the discussion on implementing plans, the list should include a "Waste Management Plan." Per DOE Order 435.1(4), a Waste Management Plan is needed to ensure that "*DOE radioactive waste management activities shall be systematically planned, documented, executed, and evaluated.*"	Add "Waste Management Plan" to the list of implementing plans in Section 1.6. ***RESPONSE: The proposed change was made in Revision 2 on page 1-10.***
46.	Page 1-11, Section 1.7, *Health and Safety Program*	The DOE Policy 450.4, *Safety Management System Policy*, should be included in the list of applicable requirements. This policy requires incorporation of an integrated safety management system (ISMS) into management and work practices at all levels.	Incorporate ISMS requirements into the overall Health and Safety Program. ***RESPONSE: The proposed change was made in Revision 2 on page 1-12 (citing DOE Policy 450.4).***
		Section 2	

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
47.	Page 2-8, third paragraph	This section states that "*Neutralizing the acid high-level waste prior to transfer caused most of the fission product elements (the major exception was cesium) to precipitate out and form sludge at the bottom of Tank 8D-2.*" This statement is inaccurate as this acidic HLW contained more than the fission product elements, specifically actinides. When the acidic waste was neutralized during reprocessing activities, concentrations of actinides precipitated out into the sludge and were found at the bottom of Tank 8D-2, where residual amounts remain today.	Revise this section to include actinide concentrations in the acidic HLW stream. ***RESPONSE: The proposed change was made in Revision 2 by adding the following footnote on page 2-8.*** ***"Actinides were also precipitated out into the sludge. Table 4-9 shows estimates of residual radioactivity in the underground waste tanks as of 2011."***
48.	Page 2-10, Table 2-5	Table 2-5, "*Estimated Radionuclide Content (in Curies) of Tanks 8D-2 and 8D-4 at the Completion of Reprocessing,*" cites a reference by Eisenstatt, 1986. Historically speaking, the characterization report written by L. E. Rykken in 1986 has been the more widely used reference for inventory data. The Rykken report is based on physical sampling conducted for the HLW tanks, while Eisenstatt's work does not appear to be based upon any physical sampling.	Use the report Rykken, L. E., "High-Level Waste Characterization at West Valley," June 2, 1986 for the inventory in Tanks 8D-2 and 8D-4. ***RESPONSE: The Eisenstatt work was based on historical data from process sample data files. The two reports are considered to be essentially equivalent. However, the proposed change was made in Revision 2 for consistency (Table 2-5 was revised accordingly).***
49.	Section 2.3.2, Page 2-37, third paragraph	The text describes the placement of *"at least three feet of soil"* over the contaminated sediments in the drainage channel. While the soil layer may exceed the one-meter thickness used for development of surface soil DCGLs, the remediation of areas like the drainage channel can achieve the surface soil DCGLs.	Clarify the cleanup goals (for such areas as the drainage channels), when conditions vary from the conceptual site model used to develop DCGLs. ***RESPONSE: Clarifying words were included in Revision 2 as a new footnote on page 2-36. (The comment actually concerned the third paragraph on page 3-36.)*** ***"Section 5 describes cleanup goals for surface soil (within one meter, or approximately 3 feet of the surface) and for subsurface soil in the deep WMA 1 and WMA 2 excavations. Section 5 does not provide cleanup goals for***

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			near surface soil contamination below 3 feet from the surface such as that expected to be present in the old drainage channel. Remediation of this contamination is not within the scope of Phase 1 decommissioning activities".
50.	Page 2-39, Table 2-17	In Table 2-17, "*Principal Radionuclides in Major Spills Occurring During NFS Operations,*" the second row of the last column states that "*Line 7P-240-1-C failed inside the OGA in January 1968, and leakage drained from the OGA through the ARPR to the underlying soils.*" This statement is inaccurate. The OGA would have drained through the Off-Gas Cell.	Amend the table as indicated. ***RESPONSE: The proposed change was made in Revision 2. (This part of the table is now on page 2-38.)***
		Section 3	
51.	Page 3-11, fourth paragraph	The Groundwater Pump and Treat System description states that there were two recovery wells in the western lobe of the plume. A third well was installed shortly after the start of the pump and treatment system began operation to improve the groundwater recovery from the plume.	Correct the text. ***RESPONSE: Only two recovery wells are in use. No change to the text was made.***
52.	Section 3.1.3, Page 3-12, fifth full paragraph	In the discussion on treatment of contaminated groundwater in the swamp ditch, the text states *"The permeable reactive barrier, which will be composed of zeolite and aggregate and approximately 175 feet in length, will be installed along the seepage face to reduce by ion-exchange the amount of Sr-90. . . "* The results from recent sampling activities (completed November 2008) along the leading edge of the plume have shown that the lateral extent of the contamination in the ditch is much less than previously thought, and the lateral extent of the mitigation is likely to be far less than what is	Integrate updated information on the design of the swamp ditch mitigation measure into the document as suggested by footnote found on Page 3-12. ***RESPONSE: The information on the PRB was deleted in Rev 2 to the DP and the text describing the PTW modified as follows:*** ***"A full-scale passive permeable treatment wall is expected to be installed before Phase 1 of the decommissioning to mitigate the off-site migration of Sr-90 contaminated groundwater in the sand and gravel unit in the north***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
		currently published in this DP.	***plateau.*** ***The permeable treatment wall is planned to be located in WMA 2 immediately south of the Construction Demolition and Debris Landfill in WMA 4 approximately perpendicular to the flow path of the north plateau groundwater plume. It will be approximately 750 feet long in a northwest-southeast direction. The permeable treatment wall will be two to four feet thick, extend down into the underlying unweathered Lavery till, and be composed of granular zeolite to reduce Sr-90 concentrations in groundwater through ion-exchange.*** ***Alternatives for potential mitigation of Sr-90 in surface water in the swamp ditch west of the Construction Demolition and Debris Landfill and downgradient of the permeable treatment wall will be considered after installation of the permeable treatment wall."***
53.	Section 3.1.3, Page 3-21,third paragraph	The last paragraph describing *NFS Special Holes* states that contaminated soil, tanks, and other materials were generated during the n-dodecane and tributyl phosphate leak investigation in 1983; however, no mention of how or where the waste materials were disposed of is included.	Incorporate a discussion of how and where the investigation waste was disposed in this section. ***RESPONSE: This information was added in Revision 2 on page 3-22 as follows:*** ***"Low level waste generated during this removal was either disposed of at the Nevada Test Site or the EnergySolutions Clive, Utah disposal site[1], or remains in storage at the WVDP awaiting disposal. Transuranic waste remains in storage at the WVDP awaiting a path for disposal as WVDP transuranic waste is currently not approved for disposal at the Waste Isolation Pilot Plant."***

[1] Which was the Envirocare Clive, Utah site at the time.

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
54.	Section 3.5.5, Page 3-58, Table 3-15	Additional historical earthquake data can be found in the database for the National Center of Earthquake Engineering Research. Several earthquakes with magnitudes greater than three are missing from the years 1954 and 1958.	Add additional earthquake data from the data compiled by the National Center for Earthquake Engineering Research. ***RESPONSE: Six additional earthquake records were added to Table 3-15 on page 3-62 in Revision 2.***
55.	Section 3.6.1, Page 3-63, second last paragraph	The text states that the Bulk Storage Warehouse (BSW) was used for general equipment and furniture storage without mentioning its original use as the plutonium storage facility (PSF).	The paragraph should mention that the BSW was used as a PSF as well as a storage facility. ***RESPONSE: This information was added in Revision 2 on page 3-26 as follows:*** ***"The Bulk Storage Warehouse was formerly called the Plutonium Storage Facility and it was used by NFS in the late 1960s and early 1970s to store plutonium nitrate solution recovered from its nuclear fuel reprocessing operation. The plutonium nitrate solution was contained in 10-liter doubly sealed polyethylene bottles that were stored in containers consisting of two 55-gallon stainless steel drums welded end-to-end and filled with concrete except for a void formed by an embedded 7-inch pipe. In 1974, the Plutonium Storage Facility was deactivated and all stored plutonium nitrate was removed. The building became known as the Bulk Storage Warehouse as it was used by the WVDP as a warehouse to store files and office equipment and was also used as a primary emergency assembly area for the WVDP."***
		Section 4	
56.	Page 4-3, last paragraph	This section states "*Available radiological data on facilities, systems, and equipment are generally considered to be scoping data, with the exception of data on the underground waste tanks, which have been*	Correct this information to indicate that additional sampling and analyses will be conducted for the underground waste tanks. ***RESPONSE: The information related to the underground***

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		appropriately characterized." This statement is incorrect for at least two of the underground waste tanks (HLW Tanks 8D-1 and 8D-4), as these tanks have received/processed additional waste since the sampling activities were performed. Further, these tanks have not been physically sampled or analyzed, even though it is likely that there is residual solid waste affixed to the walls or physical structures in the tanks. All of the HLW tanks and equipment must be adequately characterized.	***waste tanks was clarified by adding information on page 4-21. The new information addresses current tank liquid levels, expected additional characterization, and expected changes from operation of the Tank and Vault Drying System.***
57.	Page 4-15, second full paragraph	Table 4-3, "*Relative Fraction of Process Building Dominant Radionuclides*" lists values that were calculated based on geometric means of radionuclide distributions in the various Process Building areas. The first sentence of the second paragraph on Page 4-15 states "*There are substantial variations among distributions in different areas.*" Why are geometric means being calculated for the radionuclide distributions in the MPPB, and why are these distributions conservative? In addition, will these aboveground MPPB ratios be used to determine the radionuclide ratios below-grade of the MPPB?	Provide the technical rationale that supports the assertion that the geometric mean for the aboveground portions of the MPPB is representative and conservative of below-grade of the MPPB. ***RESPONSE: The DP does not contain the assertion that the geometric means in Table 4-3 are representative and conservative for either the above-ground or below-ground portions of the building. The table was included because it was considered to contain useful information. The statement about variations between areas was included for context.***
58.	Page 4-19, sixth paragraph	This section states that "*The Old Interceptor is expected to contain a significant amount of radioactivity based on available data, which include a gamma radiation level of 408 mR/hr measured near the tank bottom in 2003 (WVNSCO 2003). As noted in Section 2, 12 inches of concrete was poured on the tank floor by NFS as radiation shielding. The New Interceptors and the Neutralization Pit are both expected to contain low levels of radioactive contamination.*" This statement relates to a release that occurred on February 14, 1967, and should	Include information regarding the release of radioactive contamination to the Old Interceptor in Chapter 2, Section 2.3. ***RESPONSE: This information was incorporated in Table 2-17 on page 2-39 in Revision 2 as follows:*** ***"Leakage resulted in 555 gallons of liquid waste entering the ARPR sump and draining to the Old Interceptor (sufficient to read >~ 100 mR/hr at the interceptor), and requiring pumpout back to the Process Building for treatment. This event led to installation of 12 inches of***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
		be included in Chapter 2, Section 2.3 "*Spills and Uncontrolled Release of Radioactivity.*"	***concrete shielding on the Interceptor floor. A radiation level of 408 mR/h was measured in the Interceptor in 2003."***
59.	Page 4-20, Table 4-9	Values for Am-241, Cs-137 and Pu-241 differ in Table 4-9, "*Estimated Radioactivity in the Underground Waste Tanks*" as compared to the 2008 DEIS. Even with rounding to two significant figures, these values do not agree.	Compare the values in Table 4-9 against the data in the 2008 DEIS (Appendix C, Table C-8), and update the table as appropriate. ***RESPONSE: The differences were reconciled and Table 4-9 corrected in Revision 2.***
60.	Page 4-22, Table 4-10	Values in Table 4-10, "*Estimated Radioactivity in the NDA*," and Table 2-2, "*Estimated Radioactivity in the NDA*," (Page 2-45), are identified as containing the same information, yet do not agree.	Compare Tables 4-10 and Table 2-21, and revise as appropriate. ***RESPONSE: The differences were reconciled and Table 4-10 was made consistent with Table 2-21 in Revision 2.***
61.	Page 4-34, Figure 4-8	All of the data from the 1998 Geoprobe sampling activity was not included in the evaluation. Specifically, Geoprobe Points 29 and 80 appear to increase in Sr-90 concentrations as the depth increases, up to approximately 30-40 feet below-grade. The potential increase in Sr-90 concentrations in these areas should be considered when designing the extent of the excavation depth and area. Also, an evaluation of the 1994 Geoprobe data may help verify that the 1998 Geoprobe data has adequately bounded the soil and groundwater conditions for the extent of the excavation depth and area.	Utilize all of the 1998 Geoprobe data to establish that the excavation area has been designed to capture all potential below-grade concentrations exceeding the DCGLs. Include an evaluation of the 1994 Geoprobe data to support planning the excavation area. ***RESPONSE: With regard to Figure 4-8, all available subsurface soil data were considered in the evaluation (i.e., data from the 1993 RFI and 1994, 1998, and 2008 Geoprobe sampling programs). However, only data from points lying close to a cross-section through the plume in WMA 1 were included on the figure. For Revision 1, 2008 Geoprobe points were added and some historical points were dropped (1994 points GP75, GP78, and GP80). The maximum concentration observed in the ULT from all***

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			evaluated points (59 pCi/g, at GP3098, 38.5-39' depth) is shown on Figure 4-8. Sampling in 2008 at GP30-08 at the same depth showed a concentration of 1.7 pCi/g (rounded to "2" on Figure 4-8). This location was not sampled in 1994. ***The Characterization Sample and Analysis Plan will provide for additional sampling at the planned boundaries of the WMA 1 and WMA 2 excavations so the resulting analytical data can be used to support the detailed design of the excavations.***
		Section 6	
62.	Section 6.1, Page 6-2	Under the section on Applicable Requirements and Guidance, the author cites NUREG/BR-0058 as the applicable source for the value in dollars for a person-rem avoided. However, the DOE Standard (DOE-STD-ALARA 1) titled "*Applying the ALARA Process for Radiation Protection of the Public and Environmental Compliance with 10 CFR 834 and DOE 5400.5 ALARA Program Requirements, Volume 1,* recommends applying a range from $1,000 to $6,000 per person-rem for ALARA evaluations.	Evaluate whether the 1997 DOE Standard is applicable to this DP. The Standard does not appear to have been issued as a final document – yet its use at other DOE sites is widespread and well documented. ***RESPONSE: Based on this comment, the information in the draft DOE standard was considered, as well as the case studies in the companion draft DOE-STD-ALARA2draft of April 1997. DOE-STD-ALARA1draft states that "For most cases, the $2000 per person-rem recommended by the Commission [NRC] is acceptable." Application of the $6000 per person-rem upper limit in place of $2000 per person-rem would not change the outcome of the preliminary analyses described on pages 6-8 through 6-10.*** ***A change to Section 6.2.2 on page 6-6 was made in Revision 2 to consider DOE guidance in DOE-STD-ALARA1draft.***
		Section 7	
63.	Section 7.3.2	What is the process for identifying a location for the new	Describe the process and characterization activities that will

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
	Page 7-10	Canister Interim Storage Facility? What soils characterization will be performed to support the process?	be performed to identify the location for the new Canister Interim Storage Facility. ***RESPONSE: Reference was made on page 7-12 to the new evaluation report (WVES 2009b), which describes the recommended location for the facility. WVES is providing for characterization samples at the planned location. The goals for the Characterization Sample and Analysis Plan also include determining the contamination status in the area.***
64.	Section 7.3.3, Pages 7-14 through 7-19	Throughout the overall discussion of hazardous material removal (e.g., lead shielding) and equipment removal from the Process Building, there is no mention of recycling. The DOE National Center of Excellence for Metals Recycle, based in Oak Ridge, has been instrumental in recycling lead and other metals within the DOE complex. Even items that cannot be free released have been reused within the complex at a significant savings to the Department. In one year, the Center found a use for over 54,000 metric tons of metal and equipment including suspect-contaminated lead, copper, hard drives, fume hoods, etc. At least two commercial facilities are licensed to receive contaminated lead and reprocess it into lead-lined shielded containers (beneficial reuse). At a minimum, this DP needs to make mention that recycling and reuse opportunities for metals and surplus equipment will be explored during decommissioning.	Incorporate language into the DP acknowledging that potential recycling/reuse opportunities may be pursued for metal items and surplus equipment. ***RESPONSE: The proposed change was made on page 7-8 in Revision 2 as follows:*** ***"DOE policies on waste minimization, pollution prevention, and recycling will be followed as specified in DOE Manual 435.1-1 Radioactive Waste Management Manual. Recycling of surplus equipment and metals such as radioactively contaminated lead in accordance with appropriate guidance will be considered."***
65.	Section 7.3.3, Page 7-15, *Removing Hazardous and Toxic Materials*	Removal of additional items (e.g., mercury switches, fluorescent lamps, circuit boards, and lead-based paint, etc.) that may be found in the Process Building should be addressed in this section.	Address removal of additional hazardous materials that are likely to be present in the Process Building. ***RESPONSE: Additional information was included in Revision 2 on page 7-17 for hazardous materials removal, with clarifying words about those materials that would be***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
			acceptable in demolition debris.
66.	Section 7.3.8, Page 7-24	When the underground waste lines are located and removed to make room for the installation of the barrier wall, what happens if the characterization measurements show radiological or chemical constituents in the remaining sections in the ground? Will the Project continue to remove sections of the piping, or simply cap the lines and leave the contamination underground? It is unclear as to what would be done with the information gathered from the characterization measurements.	Provide more information on the steps to be taken if contamination, either radiological or chemical, is found in the liquid transfer lines. It may be prudent to remove the lines if you already have the excavation open, crews mobilized and waste boxes staged. ***RESPONSE: All of the lines within the excavation area will be removed. This matter is addressed for WMA 1 on page 7-29 and for WMA 2 on page 7-36.***
67.	Section 7.3.8, Page 7-25	The third bullet states that "*Disposing of the uncontaminated soil at an appropriate offsite disposal facility*" will take place during construction of the slurry wall. It seems illogical to haul clean material off-site, then turnaround and haul material from off-site back on-site to fill excavations. Since clean backfill material (similar to native geologic material) is needed throughout Phase 1 activities, why not stage the clean soil from the slurry wall construction for later use as backfill material? What criteria would be used to screen soil for use as backfill?	Consider using the clean soil from the Slurry Wall construction as backfill for the soil and sediment excavation projects. ***DOE RESPONSE: Consideration was given to reuse of clean excavated soil during preparation of the Phase 1 DP. However, it was determined to be better to use only clean imported soil as backfill to avoid potential issues related to verifying that excavated soil was totally free of radioactive contamination and later questions that might arise on this subject.***
68.	Sections 7.11.3 and 7.11.4, Pages 7-43 through 7-46	The discussion of cutting and decontamination methods does not mention liquid nitrogen-based cutting and decontamination systems. As the Nitrocision[tm] systems were essentially developed under a DOE-sponsored program at Idaho National Environmental Laboratory in the early nineties and considered a cutting edge technology, it may be prudent to mention them in this section of the DP. Further, the WVDP is in the process of procuring a Nitrocision[tm] tool.	Add a brief description on the liquid nitrogen-based cutting and decontamination systems. ***RESPONSE: The proposed change was incorporated in Revision 2 on pages 7-48 and 7-53 as follows:*** ***"A liquid nitrogen cutting and cleaning system such as that offered by Nitrocision® can be used to cut metal and decontaminate concrete without producing a secondary waste stream. This system can be used either manually or***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
			robotically and can be equipped with a vacuum capture system to collect decontamination debris. A Nitrocision® liquid nitrogen cutting and cleaning system is expected to be in operation in support of facility deactivation work at the WVDP in late 2009 or early 2010."
69.	Section 7.12, Figure 7-15, Page 7-49	The proposed schedule does not capture the installation of a hydraulic barrier on the northwest side of the WMA 2 excavation.	Incorporate the installation of the hydraulic barrier on WMA 2 into the schedule in a manner similar to that for the barrier installation on WMA 1. ***RESPONSE: The proposed change was incorporated in Revision 2 on page 7-56.***
		Section 8	
70.	Page 8-9, Section "*Quality Control*"	This section states, "*Acceptance criteria would be established to ensure repeatability of the data.*" Acceptance criteria do not ensure data repeatability, rather they assure that data are within certain bounding conditions. Repeatability in samples is determined by some form of duplicate analyses.	Revise this statement. ***RESPONSE: The proposed change was incorporated in Revision 2 on page 8-9 as follows:*** ***"Acceptance criteria will be established to ensure data are within appropriate bounding conditions."***
		Section 9	
71.	Page 9-20, last paragraph	The first sentence of the last paragraph states, "*The amounts of I-129 and Np-237 that might be found in surface soil contamination, if any would be small.*" Although this statement is accurate given the relative amount of other radionuclides present; the Np-237 values cited in the reference document for this Phase 1 DP are significantly less (~ 50%) than the concentrations present in other characterization documents for the site (Rykken, L. E., "High-Level Waste Characterization at West	Provide justification for usage of the reference cited in the Phase 1 DP, instead of the historical reference. The rationale should confirm that the report represents a conservative approach to the Np-237 concentrations on this site. ***RESPONSE: Np-237 was dropped from the discussion, which now appears on page 9-29. The statement about I-129 remains correct with the data revised as Table 2-5***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Comment*	*Proposed Resolution and DOE Response*
		Valley," June 2, 1986)	***from the Rykken report.***
72.	Page 9-28, fifth full paragraph; Page 9-30, last paragraph	The approach used to characterize subsurface piping in WMAs 2 and 5 differs from the approach used in WMA 1 (Page 9-26) in that a pipe probe is used to determine total beta activity (along with smears samples for alpha and beta activity and exposure rates) in WMA 1, but is not employed for WMAs 2 and 5.	Explain the rationale for not including pipe probe measurements to determine the total beta activity in WMAs 2 and 5. Are the beta contamination measurements conservative without this type of measurement? ***RESPONSE: The pipe probe measurements would be more useful in WMA 1 because of the potential for much higher contamination levels in the subsurface piping in that area than for piping in WMA 2 and WMA 5. Smears and exposure rate measurements would be adequate for WMA 2 piping. The measurements for WMA 5 piping are aimed mainly at determining whether the piping had been contaminated or not. Smears and exposure rate measurements will be sufficient for waste characterization purposes.***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Editorial Comment*	*Proposed Resolution and DOE Response*
1	Page ES-1	First paragraph, third line, duplication of "Public Law. . . "	Remove one of the "Public Laws." ***RESPONSE: This comment was incorporated in Revision 2 to the DP.***
2	Page ES-5	Fourth full paragraph, third sentence, "*(Waste Management Area 12) is partially within the project*	Identify Waste Management Area #12 on Figure ES-3 (i.e., use the waste management outline identified in the legend),

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Editorial Comment*	*Proposed Resolution and DOE Response*
		premises, as shown in Figure ES-3."	then insert a label for Waste Management Area #12. ***RESPONSE: This comment was incorporated in Revision 2 to the DP by identifying the Drum Cell on Figure ES-3.***
3	Page ES-8	Fourth full paragraph, third sentence, "*the Drum cell, . . . identified in Figure ES-3."*	The Drum Cell is not identified is not identified in Figure ES-3. Either change the reference to Figure ES-2 or label the Drum Cell on ES-3. ***RESPONSE: This comment was incorporated in Revision 2 to the DP.***
4	Page ES-16	Second paragraph, third line, "*activities* are designed. . ."	Correct spelling of activities. ***RESPONSE: This comment was incorporated in Revision 2 to the DP.***
5	Page ES-19	First paragraph, fourth line, "would be no more *that* the dose. . ."	Replace "*that*" with than. ***RESPONSE: This comment was incorporated in Revision 2 to the DP.***
6	Table 1-1, Page 1-19	WMA 1, third column, fourth paragraph, states that the hydraulic barrier wall is installed on the *"north and west side."* Based on the DP, the hydraulic barrier wall will be installed on the *"north and east side."*	Revise text to read *"north and east side. . . . "* ***RESPONSE: This comment was incorporated in Revision 2 to the DP.***
7	Section 3.2.2, Page 3-32, 1st paragraph	The paragraph states the population density in metric units of square kilometer immediately followed by distances in miles.	Units should be consistent, either use Imperial (i.e., standard or English units) or metric. ***RESPONSE: This comment was incorporated in Revision 2 to the DP.***
8	Section 3.5.4, Page 3-53, third paragraph	In describing the dip of the fold limbs, an incorrect symbol for degrees is noted. Change the symbol to	Make the correction in the text. ***RESPONSE: This comment was incorporated in Revision***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Editorial Comment*	*Proposed Resolution and DOE Response*
		indicate that the folds are dipping a gentle 1 to 2 degrees.	***2 to the DP.***
9	Section 3.5.4, Page 3-57, fifth paragraph	A dip of 8945 degrees is indicated for these faults. The number should have a decimal point indicating that it is slightly less than 90 degrees.	Make the correction in the text. ***RESPONSE: This comment was incorporated in Revision 2 to the DP.***
10	Section 3.5.5, Page 3-58, Table 3-15	There are no units associated with the "Depth" column in the table.	Add units for depth. ***RESPONSE: Km was added to the Depth column of Table 3-15 in Revision 2 to the DP.***
11	Section 3.7.1, Page 3-67, second paragraph	The figures cited in this paragraph should be 3-6 and 3-7 (not 3-5 and 3-6).	Correct the figure numbers in the text. ***RESPONSE: This comment was incorporated in Revision 2 to the DP.***
12	Section 5.3, Page 5-43	The first sentence states that the integrated dose assessment was performed to "*ensure that criteria used in Phase 1 remediation activities would not limit options for Phase 1 of the proposed decommissioning.*" Given the discussion throughout the rest of this section, it would appear that the author meant to reference options for Phase 2.	Change the opening statement in this section to state that options in "*Phase 2*" would not be limited. ***RESPONSE: This comment as incorporated in Revision 2 to the DP.***
13	Section 5.4, Page 5-49, Table 5-14	Footnote (2) of Table 5-14 states that the CG_w values for surface soil and streambed sediment are the same as the limited dose assessment DCGL values in Table 5-11. Table 5-11 provides a summary of sensitivity analyses. The correct reference for the limited dose assessment DCGL values is Table 5-13.	Correct footnote (2) of Table 5-14. ***RESPONSE: This comment as incorporated in Revision 2 to the DP.***

#	*Section, (Table, Figure) Page # (Paragraph, Line)*	*Editorial Comment*	*Proposed Resolution and DOE Response*
14	Page A-5	Checklist items 2 and 3 refer to Section 2.2.1 on Page 2-5. The Section should be 2.1.1.	***RESPONSE: This comment was incorporated in Revision 2 to the DP.***
15	Page A-6, Italicized note, first line	"*The locations of major spills are shown in the Figurers listed.*"	Correct the spelling of Figures. ***RESPONSE: This comment was incorporated in Revision 2 to the DP.***