

**RESPONSES TO COMMENTS:  
DRAFT DEEP BOREHOLE FSP ADDENDUM ISSUED ON OCTOBER 28, 2011  
SANTA SUSANA FIELD LABORATORY SITE  
AREA IV RADIOLOGICAL STUDY, VENTURA COUNTY, CALIFORNIA**

Item	Page	Comment	Response
<b>USEPA Andy Bain Comments</b>			
1	2	With regard to continuous core, we suggest you measure soil pH field probe as indicator of possible release (if screening level +/-1 pH probe).	The purpose of the deep borehole soil sampling is to characterize potential radiological contamination in soils beneath and in the fill soils at the base and beneath of the deep reactor vaults. The sample collection interval will be defined by elevated gamma radiation measured with a down-hole gamma probe over the length of the borehole. The use of low or high pH screening will not materially add to the characterization goals especially given the absence of facility process history or history of discharges of acidic or caustic solutions. No revisions will be made.
2	2	With regard to tritium, are you going to measure tritium on dry soil samples?	Yes, both contracted labs are equipped to count soil samples and measure tritium levels in the soil. No revisions will be made.
3		If clay layer is encountered, it should be preferentially sampled.	The deep boreholes are being placed within the footprints of reactor buildings that have been completely excavated and removed as part of past D&D projects. In most instances, excavation rubble such as concrete, asphalt, structural steel etc. was placed back in the excavation and the whole area backfilled. Given this practice, there is little or no chance of encountering a clay layer. No revisions will be made.
4	3	The number three is misspelled.	Concur – The word three has been corrected.

Item	Page	Comment	Response
5	3	It is unclear why the DQO's differ depending on the reactor site. The stated purpose is to 'characterize potential radiological contamination that may be present in the soil used to backfill the excavation post completion of the decontamination and decommissioning'. We observe that this objective is applied to three of the four reactors: SNAP, SRE, and STIR, whereas for the KEWB reactor the objective is to sample below the reactor vault. Briefly provide the rationale for treating the KEWB reactor differently.	Concur. This clarification will be made to Table 1 so that sample collection targets both the potentially excavation fill and the soils beneath the reactor bottom.
<b>USEPA Shiann-Jang Chern Comments</b>			
1		Table 1 of FSP Addendum provides the technical justifications for the DPT to be conducted at the SNAP, KEWB, SRE, and STIR. Are soil backfilled in the KEWB area? If it does, then the technical justification needs to include the Table 1 of FSP Addendum.	Concur. This clarification will be made to this part of Table 1. See response to Comment 5.
2		Please also add a short paragraph to provide the rationale for not to include Alpha 5, LCS 7, Alpha Spec 8, and Alpha Spec I. FSP Table 2.4 stated that if Pu is found above the background the Alpha 5, LCS 7, and Alpha Spec 8 will be the required. LCS 4 and LCS 1 are not required because four DPT areas were not used for hot lab.	Concur. A paragraph that explains Alpha 5, LCS 7, Alpha Spec 8, and Alpha Spec I will be requested if Alpha Spec 7 (Pu isotopes) are reported above RTLs (in this case their MDCs).

Item	Page	Comment	Response
3		<p>Table 2.4 of FSP, Soil Sampling (dated October 4, 2010) needs to be updated.</p> <p>Table 1 of FSP Addendum refers to the FSP Table 2.4 (Oct 4, 2010) for default suites to be used in the Labs. FSP Table 2.4 provides the lists of Site Specific Suite. Default suites listed in Table 2.4 include Gamma Spec I, Gamma Spec II, LCS 3, Alpha Spec 3, Alpha 4, and Alpha 7. However, the Table 2.4 was revised at least twice based on my knowledge (Shannon Thompson's email dated September 23, 2010 and Chuck Smith's email dated Oct 4, 2011). Some of the default suites were modified.</p> <p>For example, Alpha Spec II (Am-241, Cm-243, Cm-244, Cm-245, and Cm-246) was added into the default suite on September 23, 2010 (Shannon's email). Ra-228 was also removed from Gamma Spec II and will be determined based on Ac-228, its daughter via Gamma Spec I Analysis. Ra-226 tests will be performed based on Pb-214/Bi-214 data above background. Alpha Spec II was further revised on Oct 4, 2011 (Chuck's email) to remove Cm-245 and Cm-246. Therefore, Table 2.4 of FSP needs to be revised and to be included in the FSP Addendum.</p>	<p>Concur. Good comment. The Master Soil FSP is in process of being updated for a long list of reasons, one of which includes the recent modifications to this (these) tables in the Master Soil FSP.</p> <p>Since this FSP Addendum will be released sooner than the Master Soil FSP, the correct language will be added to the FSP Addendum so that it reflects current information.</p>