-----Original Message-----
From: Elltaylor41
To: RICHARD.D.CUNNINGHAM@saic.com
Sent: Wed, 29 Mar 2006 11:04:02 -0500
Subject: Fwd: SWEIS Update Questions

Rich, This is the source for data in Appendix J-6.

-----Original Message-----
From: Michael Pearson <mwp@lanl.gov>
To: elltaylor41@aol.com
Sent: Fri, 02 Sep 2005 09:25:22 -0600
Subject: SWEIS Update Questions

Ellen,

See attached.

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Hi Mike,

I am finishing up a draft of the Sealed Sources environmental analysis to go into the new SWEIS. I need some clarification on some of the data that you submitted in the Management Strategy document and the September 4, 2004 Request for Approval. Could you look these over and then give me a time that we could discuss them. I would like to include SAIC, the SWEIS contractor, in any discussion of the last three items because they will be doing the analysis.

1. I would like a copy of the memo dated March 2, 2004from NNSA to the LASO manager changing the scope of this mission. You have this. I sent you two e-mails electronically – this was one of them.

2. The data for non-actinide sealed sources registered with the OSRP are dated 09/13/04. Have the numbers been updated ? Are there new isotopes registered?

As of 8/22/05 see the table below for source and curie content of non-actinide sealed sources. NOTE: Thus far, there has been no need to bring any of these materials to LANL except for the 6 Sr-90 generators, for which NEPA coverage was granted. There are no current plans to bring any of these sources to LANL that are not already here. In FY05, we have arranged or are arranging for disposition of 3,700 Ci of Cs-137, and just over 70,000 Ci of Co-60 – none of which involves placement of materials at LANL.

Nuclide	Number of Sources	Curie Content
Co-60	354	419,919
Cs-137	419	9,366
Sr-90	55	3,795,456
Ra-226	22	5.6
Cm-244	80	135
Cf-252	24	0.1

3. Table 1, Currently Stored Material with NDP, may need to be updated. I have heard that there are no longer any sealed sources in CMR. Also, some sources were shipped to WIPP this summer; does this change the data in this table?

Here is the data for the current NPF waste.

LANL Facility	Number of drums	Number of sources	Types of Source
Area G, TA-54 – above ground	721	9591	Pu-238 and Am-241
Area G, TA-54, retrievable shaft	0	4	Sr-90 RTGs
Area G, TA-54, above ground	0	2	Sr-90 RTGs
Wing 9, CMR	1	22	Am-241 and Pu-238

The sources shipped to WIPP this year are sources with a disposal pathway, thus they are not addressed specifically in a table of sources with no disposal pathway. As of 8/22/05, 30 drums of Pu-239 sources have been sent to WIPP for disposal.

4. What kinds of exposures (to workers) would be expected from handling the packaged sealed sources when they are checked in at SM-30 and transported to storage? If none is expected, or it is limited by DOT regulations, I need to state this in the environmental analysis.

Workers processing drums of sealed sources through the SN-30 receiving operations are subject to the same exposure limits as any other DOE radiation workers, with the limits specified in 10CFR835. There have been no reports of exposures higher than normal attributed to handling of OSR Project drums.

4. What kinds of exposures (to workers) would be expected if sources had to be handled or disassembled in Wing 9, CMR?

Virtually none. The reason for using a facility such as Wing 9 for source handling is the availability of highly shielded hot cells and remote/slave manipulators, shielded transfer devices and shielded storage capabilities.

5. The data showing limits at TA-54 (Table 2 in the Source Management document) are labeled as PECi; should I assume that the data for CMR and the data for the sources registered with the OSRP (given in the September 4 document) are not in PECi.

Yes. The information provided in the original data requests included tables for CMR that included both Ci and other units. However, for the project management plan, we used Curies since it is a term more easily understood. The SWEIS should, based on original discussions, refer to the limits within existing facility safety basis documents. The Ci quantities shown for CMR correspond to the safety basis documents. Table 3 shows the expansion nuclide limits for TA-54 in units of Ci. Note that a sum of the fractions would probably apply.

6. The current NEPA document states that road closures would be needed to transport the sources from TA-3 to TA-54 or CMR. Is this correct? (I thought that if they were packaged to come to LANL, they might not need road closures within LANL.)

Previous OSR Project operations at LANL have not required the use of road closures for movement of materials on-site. All movements, including those received from off-site for trans-shipment, and movements between LANL facilities, have been DOT compliant – thus no road closures required. We do not plan to use road closures, but the need might arise.

7. The current NEPA document states that use of CMR past 2014 is not needed because the OSRP only through 2010. The introductory material implies that many if not all of these sources are essentially "commercial." The LLW sources that are GTCC have no place in which they can be disposed (unless they could be volume averaged in a drum of concrete and sent for commercial disposal). This all leads to a question of what is going to happen to these sources post 2010? If a viable disposition pathway is not explicitly stated as available prior to 2010, it seems that we need to address long-term storage of the materials, and if that has been CMR, we need to think about the possibility of another location.

I am not sure what your point is here in terms of the SWEIS. We are well aware of the restrictions on disposal pathways both now and in the future. Initial direction from DOE included the assumptions that disposal would be available in FY07, allowing for timely movement of materials from LANL to this disposal through FY2010. Long term storage at LANL would have to assume use of existing LANL facilities until others are available. How long does this update extend to?

8. Area G at TA-54 is scheduled for closure in 2011. The new SWEIS will contain an analysis for the management of waste in Area G at that time. That analysis will also have to account for any sealed sources remaining in Area G—they will have to be moved somewhere. We need an estimate of what might be there at that time and what the management plans are for them (where and how they will be stored; when they will be dispositioned).

I have discussed the continued storage of eligible materials at Area G with the Waste Management Organization and have been assured that continued storage will be available. I believe that the current plans are for closure of certain areas of Area G, with storage capacities remaining.

9. We need to estimate the number of sources that would be located at LANL at any one time and the number/inventory of sources by storage location. The SWEIS estimated 10,000 Ci per year for 10 years, or a total of 100,000 Ci, for GTCC sources under PL99-240, and this is the amount we used to evaluate any changes to the program in the years following issuance of the SWEIS. We will need to state a similar projection for the expansion nuclides. SAIC and Elizabeth suggested that we use a multiple of the number of sources currently registered with the OSRP.

As written in the proposed management plan and other related documentation prepared by the OSR Project, our assumption is that management of actinide bearing sources might require storage of approximately 18,000 sources of Am-241 and Pu-238. With disposal for Pu-239 available, a total inventory estimate of several hundred sources, totaling 2 kg of material at LANL at any one time is estimated. The total inventory of Pu-239 sources potentially remaining to be managed would be approximately 3-400, with less than 1,000 Ci of Pu-239 estimated.

For both actinides and non-actinides, it is our recommendation to provide an estimate of numbers and Curies as information, but to establish limitations in terms of the current operational limits for a facility, indicating that source recovery, storage, and processing for disposal would not exceed the operational limits for the facility.

11. We need to prepare an accident analysis for the NEPA analysis. This requires

▪ An understanding of the planned management strategy for the sealed sources

- In what form are the sealed sources expected (what level of containment do they have);
- What sorts of overpacks are to be used for the different types (neutron-emitting, gamma emitting, etc.)
- What is the planned disposition (especially between now and 2011 (ie, what will be able to be shipped offsite because there is a disposal pathway and what will remain in storage because disposal is not yet available);
- Where will sealed sources be managed (again, by type if different types will be managed in different locations or by different methods).

▪ An estimate of the maximum number of sources (total activity) that would be located in any one storage location, by isotope. It is necessary to understand if the planned storage is in the TA-54 domes, in shafts at TA-54, in CMR Wing 9 hotcells; in CMR Wing 9 floor holes; in SSTs at TA-55; or...

The accident analysis performed previously for actinide materials would be the Controlling analysis for actinide sources. The previous management plans have not changed as defined in previous NEPA documentation for the actinides. Neither has the plan for management at CMR for actinides.

For non-actinides, it is planned that Sr-90 would be stored in shafts, in a retrievable configuration. Sr-90 RTGs are Type B shipping containers, and I believe the accident analysis was performed in the SA that was prepared for their storage coverage. Ra-226, Cm-244 and Cf-252, if stored at LANL, would more than likely be stored in the pipe overpack container described in previous analyses. Other nuclide packaging configuration is yet to be determined, but again, is not anticipated at LANL. Within CMR, these sources would more than likely be removed from packages and stored in the floor holes as described in previous information provided for SWEIS preparation.