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U.S. Department of Energy
Portsmouth Site Office
Post Office Box 700
Piketon, Ohio 45661

Attention: Ms. Sharon J. Robinson, Site Manager

Subject: Programmatic Environmental Assessment (PEA) for the Storage, Transportation and Disposition of Potentially Reusable Uranium (EM-97-0376)

Dear Ms. Robinson:

As requested in the referenced letter, we have reviewed the subject PEA and submit the following comments.

1. Sec. 1.1 ("Purpose and Need for Agency Action", pg. 1-1). We suggest that the paragraph be revised by adding a new sentence (shown in italics), so that the paragraph reads as follows:

   "The U.S. Department of Energy (DOE) proposes to implement a comprehensive management program to safely, efficiently, and effectively manage its potentially reusable low enriched uranium (LEU), normal uranium (NU) and depleted uranium (DU). *Uranium materials which are presently located at multiple sites are to be consolidated by transporting the materials to one or several storage locations, to facilitate ultimate disposition.* Management would include the storage, transport, and ultimate disposition of these materials."

2. Sec. 2.2 ("No Action Alternative", pg. 2-9). In the last sentence in the paragraph, suggest changing "disposed" to "dispositioned".

3. Sec. 2.3 ("Proposed Action", pg. 2-9).

   In the first paragraph, we suggest that the 1st sentence be revised to create two sentences, to read, "DOE proposes to implement a long-term (greater than 20 years) management plan for its inventory of potentially reusable LEU, NU, and DU. Uranium materials which are presently located at multiple sites are to be consolidated by transporting the materials to one or several storage locations, to facilitate ultimate disposition.

   "In the third paragraph, suggest revising the first sentence to read, "DOE must determine the safest, most effective, and most efficient approach for the consolidation and storage of this material."

4. Sec. 4.11, "Summary and Conclusions", pg. 4-19. The 1st paragraph currently reads as follows:

   "Normal operations result in no more than negligible acute or chronic consequences and risk at any site under any storage alternative or disposition option. Environmental impacts associated with normal operations vary substantially from alternative to alternative and, occasionally, by site within a given alternative. General handling accidents result in no more than negligible acute or chronic consequences and risk at any site under any storage alternative or disposition option. Chronic human health and ecological consequences and risk are negligible to low for all sites under all alternatives. The highest transportation consequences are for alternatives that involve moving uranium materials to a western location, either to a commercial site or to INEEL."

Comments:

- We suggest that this summary paragraph be reworded to more broadly discuss the PEA's conclusions. The conclusion/summary as we see the overall PEA analysis is that there were none-to-minor impacts for all of the alternatives from the standpoint of environmental impact; negligible-to-low impacts from the standpoint of facility accidents (fire and seismic) for all the alternatives; while transportation effects for the alternatives generally reflected the extent of material transport associated with the alternative being analyzed. The overall conclusion is that potential impacts appear not to be significant for any of the material consolidation alternatives which were analyzed.

- We also suggest that discussion be added to the paragraph to summarize the reasons for proposing the PORTS option, given that at least one other option (i.e., the partial consolidated storage at several DOE sites) is forecast to have a less expensive construction cost. The reasons for proposing the PORTS option, are that a single consolidated storage location affords greater flexibility and ease of future disposition of the material, and reduces the overall expected future cost for facility surveillance & maintenance (S&M) and material accountability/material S&M, than if the material was at several locations. These benefits outweigh the potentially greater up-front renovation/construction costs.

- Consideration should be given to adding an overall summary table (example attached).

- Additional specific comments on the paragraph as written include the following:

  - The statement that "environmental impacts ...vary substantially from alternative to alternative" appears inconsistent with the analysis, which indicated that for all the alternatives, the environmental impacts were negligible, minimal, or at most minor. "Vary substantially" seems to imply that there are significant impacts, when the analysis says there were none or minimal.

- The statement that "General handling accidents result in no more than negligible acute or chronic consequences.... appears correct, based on the analysis. However, "general handling" is part of "normal operations" – which from the 1st sentence have no impacts. It is unclear as to why the extra emphasis is being given to the impacts from "Normal operations".

- The paragraph omits discussion of the negligible-to-low risk associated with facility accidents (fire and seismic).

5. Sec. 4.2, "Consequences Common to All Alternatives", pg. 4-3. The 3rd paragraph currently reads as follows:

   "In addition to surface contamination, radiation dose from the stored uranium materials can be expected. Dose rates from any single stored container are no more than 3 to 4 mrem/h. The dose rate at a distance of 0.3 m (f t.) from a container is about 1 mrem/h, and the dose rate at a distance of 6 m (20 ft.) is < 0.5 mrem/hr (approximately the same as normal background radiation doses). These dose rates are not affected by stacking the containers, because the containers and the materials themselves provide substantial shielding. These dose rates are considered negligible to any receptor (facility worker, co-located worker, or public)."

Comments

- Suggest specifying whether the "3 to 4 mrem/h" dose rate is "on contact". Also, we suggest to citing the basis for indicating the dose is 3 – 4 mrem/h maximum.

- Based on calculations, a dose at 6 m (20 ft.) would be < 0.05 mrem/hr. Suggest using "<0.05 mrem/hr" – rather than "<0.5 mrem/hr."

- It is unclear as to what the information in the parenthesis – "(approximately the same as normal background radiation doses)" refers to. If what is being referred to is 0.5 mrem/hr, this would not seem to be "approximately background", as 0.5 mrem/hr at 2000 hrs/year would result in 1 rem/yr., which exceeds background. On the other hand, if what is being referred to is 0.05 mrem/yr, then this does more closely approximate background.

- The phrase "dose rates not affected by stacking the containers" is somewhat unclear. "Stacking" typically refers to one container on top of another. We would think that dose rate would be affected if there were multiple containers stacked on top of each other, or containers side by side. The next statement regarding containers providing shielding seems to be referring to the containers behind one another – not container "stacking". Suggest clarifying whether we're referring to "stacking" containers on top of one another, or those behind each other. Overall, while there may be mitigation of dose from shielding, it would also seem that there could be dose contribution from adjacent or stacked containers.

- The conclusion that "these dose rates are considered negligible to any receptor" may be correct, but it is not clear from this paragraph how this is so, given the above comments.

6. Sec. 4, "Consequences" - General

Consideration should be given in Sec. 4 ("Consequences") to adding specific Appendix references so that the reader can easily trace the amounts given in Sec. 4 back to where the amounts were calculated and appear in the appendices. As an example, for the "transportation effects" amounts shown in table 4.17, add a reference or footnote to indicate where these amounts are shown in Appendix B ("Transportation Analysis").

In Sec. 4 ("Environmental Consequences"), in the "Impacts" tables – tables 4.3, 4.6, 4.9, 4.13, 4.16, and 4.19 – the cost of upgrades appears in each table. This is referred to in each table as "construction/upgrades cost". From the methodology (Sec. 4.1, "Methods", 2nd paragraph, pg. 4-1), it appears that the intent of these cost figures is that they include not only the cost of construction/upgrades but also the cost of surveillance & maintenance (S&M). However, it is not clear that S&M costs – either facility S&M or material S&M (which would also include maintaining nuclear material control & accountability) - are fully included by this approach.

It may be more appropriate to base facility and material S&M costs on the total square footage of storage space for the material – not just on the upgraded space. The conclusion that would likely emerge is that there would be a significant cost component associated with S&M, at each facility where material would be stored. Eliminating this duplicative S&M cost at multiple storage facilities would appear to be a strong supporting rationale for the proposed approach – consolidating material at a single DOE site. Consideration should be given to discussing these S&M costs and/or including S&M costs in the affected "impact" tables.

If you have any questions, please contact Buck Sheward at extension 2266.

Sincerely,

Gilbert D. Drexel
Manager of Projects

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LTR-INFS-RD-02-093

cc: Beth Keener
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