Comments on Draft of PEA for CMP for Re-Usable Uranium

Listed below are several comments on the draft document entitled "Programmatic Environmental Assessment for the U. S. Department of Energy, Oak Ridge Operations Implementation of a Comprehensive Management Program for the Storage, Transportation, and Disposal of Potentially Re-Usable Uranium Materials", DOE/EA-1393, May, 16, 2002.

1. **Page 2-1**, Section 2.1, 2nd Paragraph, 9th Line; The stated typical percentage of ^{235}U in depleted uranium (DU) does not agree with the value shown in Table B.1 on page B-3. Page 2-1 says DU typically contains 0.25% ^{235}U while Table B.1 says 0.10%.

2. **Page 4-6**, Section 4.4.1, 3rd Paragraph; Paragraph states "DOE has not identified existing buildings at (sites other than PORTS) to accommodate these additional uranium materials at this time. Therefore, for analytical purposes, it is assumed new storage space would have to be constructed." This begs the question of has DOE even made any attempt to identify such existing facilities at sites other than PORTS. Without any such attempt, it would appear any estimates, such as those shown in Table 4.3, would be wholly inaccurate and deliberately skewed in favor of PORTS. This hardly appears to be an unbiased assessment of the adequacy and availability of sites about the DOE complex.

3. **Page 4-20**, Section 4.12, 3rd Paragraph, 1st Sentence; As written, the statement leaves the impression that uranium shipments will increase traffic accidents and fatalities because the cargo is uranium, rather than clearly stating any increase in such events would simply be the result of additional vehicles on the nation's roads, regardless of cargo.

4. **Page 4-20**, Section 4.12, 3rd Paragraph, 3rd Sentence; I don't believe this can be substantiated with the data presented. To state there would be an increase in LCFs to workers and the public from this transportation program, one must calculate both the potential LCFs resulting from the program and the LCFs potentially suffered by workers in the vicinity of the materials in a no-action alternative. I didn't see any such estimate for the no-action alternative in Section 4.3 nor any table presenting estimated LCFs from incident-free operations such as presented in Table 4.1 for accidents. Therefore there is no comparison of the no-action alternative to the other scenarios to determine if there was a net increase or decrease in LCFs.

5. **Page A-12**, Table A.10; The values, in meters, for the distance to site boundaries for several sites such as INEEL and SRS seem inappropriately low. Are values of 526 meters and 727 meters correct for INEEL and SRS, respectively? While not familiar with the assumed locations for the materials at these sites, I can say several sites, such as INEEL and SRS are very large, with site centers greater than 10 miles from their boundaries.

6. **Page B-2**, Section B.3, 8th Dot; I believe the estimated duration of 10 days grossly underestimates the likely transit time for 14,400 km. This would equate to an average vessel speed of 33 knots. I don't believe you'll find many freighters with such speed. The ones currently in use for transporting foreign research reactor spent nuclear fuel back to the U.S. typically are capable of only about 11-12 knots. Only about 1/3 of the apparent speed of the uranium carriers. If one were to state the distances may range from X to 14,400 km with an average of about 5,000 km, an average transit time of 10 days would seem much more reasonable.

7. **Page B-3**, Table B.1; See 1st comment concerning page 2-1.

8. **Page B-3**, Section B.3, 5th Dot; There is no basis provided for the assumption that 1% of accidents would result in release of radioactive materials. Most other stated assumptions appear to have a stated basis.

9. **Page B-3**, Section B.3, Last 4 Dots; These are redundant, considering content of the last two dots on page B-2. They should be consolidated.

10. **Page B-4**, Table B.2; The Eastern Centralized Commercial Storage Site (Barnwell) is located on the SRS Site boundary. Why then, would their values for "Truck Only – Dose Risk" be so different; 0.0036 (SRS) verses 0.00206 (Barnwell)? The values for all other categories for SRS verses Barnwell are almost identical, as they should be.

11. **Page B-7**, Section B.5, 2 Dots and last Paragraph; The last paragraph states the total number of shipments could not be estimated because the amount of material in each shipment may not be known. Without an assumption of the quantity of material in each shipment, how were estimates made of the average doses to the crewmembers? If the estimate is made based on the assumed dose rates on the drums as explained in Section 4.2 on page 4-3, I believe 159 mrem per crewmember per shipment, as stated here and at the bottom of page 4-18, is a gross overestimate. The potentials for such exposures would mandate implementation of a radiation protection program that, in turn, would find such exposures to not be ALARA.)

12. **Page C-12**, Table C.4; When using the values for Intakes in Table C.5, I can reproduce the various values for Dose in Table C.5 and Cancer Intakes in Table C.4, but I can't arrive at the same values shown for Cancer Risks in Table C.4. I am assuming the Cancer Risk values are a product of the CEDE derived from the Cancer Intakes and the appropriate risk values from ICRP-60 (i.e., 1 LCF per 2,000 Person-Rem for the "Resident" and 2,500 Person-Rem for the "Standard Worker". If this is the correct method, it appears the Cancer Risk values are too high by a factor of between 2 and 30. It appears as if the dose-to-risk conversion values vary greatly and range between 70 rem and 1150 rem instead of the expected values of 2,500 rem and 2,000 rem for workers and the public, respectively.

13. **Page C-15**, Table C.7, Upper Table; The issue described above for page C.12 also applies here. Put another way, the Risk/pCi appears to be based on something other than the expected 2,000 or 2,500 (as appropriate) rem/LCF. For example, in the specific case of Inhalation (Risk/pCi) for Uranium-235+D, the stated value appears to be based on a risk-to-dose factor of 756 rem/LCF.

14. **Page C-15**, Table C.7; It appears some of the footnotes are not shown beneath the table.

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