# Orano Draft Responses to Decommissioning Financial Assurance Request for Additional Information (Second Round) U.S. Nuclear Regulatory Commission Staff Assessment

**RAI-1: Decommissioning Cost Estimate (DCE) / Decommissioning Funding Plan**

The NRC requested Orano to "[p]rovide additional justification for their assumption that there will be no onsite subsurface material containing residual radioactivity that will require remediation, including explanation of why the URENCO experience mentioned is relevant to the IKE Facility and the extent to which similar proactive measures incorporated in the URENCO context are being incorporated into the construction of Orano's facility to prevent subsurface contamination including updating the DCE to clarify the specific URENCO experience being relied on to justify this assumption."

In response, Orano stated that they included the following bullet in section 3.1 of the DFP: "The Decommissioning Cost Estimate utilized a parametric estimation method based on similar facilities, including past European experience with the decommissioning of gas centrifuge uranium enrichment plants. Given that Orano will be using the same decommissioning methodology and same third-party decommissioning provider (ETC) as the one deployed at the past decommissioned European facilities and similar facilities, the quantity and unit costs associated with a similar facility (e.g., EREF) was used [quantities were mostly derived from EREF while unit cost were either escalated from EREF or updated for local conditions (e.g., labor, electricity, water, waste disposal rate, transportation)]."

Orano also updated the footnotes of Tables A-10, A-12, A-13, A-15, and A-20 to read "European experience with the decommissioning of gas centrifuge uranium enrichment plants has been that there is no resulting radiological contamination of the facility grounds. Given that Orano will be using the same decommissioning methodology and same third-party decommissioning provider as the one deployed at the past decommissioned European facilities, restoration of contaminated areas on the facility grounds will not be required and associated decommissioning provisions are not provided."

The NRC staff reviewed Orano's draft response discussed above and determined that it does not address the NRC staff request. While Orano previously cited URENCO's past experience, Orano's response only refers to "European experience" without providing any named facilities or sources. Additionally, Orano's reliance on the same decommissioning methodology and decommissioning contractor as other facilities provides no information about whether there will be subsurface contamination that requires remediation. To fully address the NRC staff RAI, Orano needs to;

- Clarify whether it is still relying on URENCO's past experience to determine whether subsurface materials will require remediation (no longer referenced);
- Identify the specific European facility or facilities that Orano is relying on to determine that there will be no onsite subsurface material containing residual radioactivity that will require remediation;
- Confirm that the same facility design, components to be utilized, and proactive measures put in place to prevent subsurface contamination at the named facility are being incorporated into the construction of the IKE facility to prevent subsurface contamination.

This information must be incorporated into the DFP.

**RAI-3: Decommissioning Funding Plan – Assumptions in DCE Related to Justification of Costs**

The NRC staff requested that Orano "[j]ustify key assumptions contained in the DCE related to labor costs, equipment and supply costs, laboratory costs, and period dependent costs for decommissioning (10 CFR 70.25(e)(1)(ii))."

Specifically, for labor costs, the NRC staff requested that Orano (1) "[i]dentify the decontamination methodology in the labor estimates" and (2) "justify that no labor will be required for radiological contamination of the facility grounds." In response, in section 3.1 of the DFP Orano included the bullet discussed above (see paragraph 2 of the discussion on RAI-1 above) to connect the Orano assumptions with the EREF. Orano's identification of the decontamination methodology in the labor estimates relies on its reference to "past decommissioned European facilities and similar facilities" (see discussion under RAI-1 above). Orano states that they will use the same decommissioning methodology and third-party decommissioning contractor as the one used at the past decommissioned European facilities. The NRC staff understands that Orano plans to use the same methodology and contractor as used by other facilities, but more specific information needs to be provided. However, Orano needs to identify specific facilities where the same decommissioning methodology and decommissioning contractor have been used.

Orano's justification that no labor will be required for radiological contamination of the facility grounds similarly relies on its reference to "past decommissioned European facilities and similar facilities," as discussed under RAI-1 above. As stated above, Orano's reliance on the same decommissioning methodology and decommissioning contractor as other facilities provides no information about whether there will be contamination that requires remediation. Orano needs to provide additional information to justify that there will be no radiological contamination of the facility grounds.

For equipment and supply costs, the NRC staff requested that Orano "[p]rovide justification for using a 2008 Idaho electricity rate or update the electricity rate to a 2026 value applicable to a facility in Tennessee. The NRC staff also requested that Orano provide justification for using the water use assumption from EREF or update the water use assumption to the new context, a 2026 facility in Tennessee." In response, Orano updated the electricity rate and the water rate to residential retail rates. Orano also updated the electricity and water calculations in Table A-17(b), revised the electricity footnote to read "Cost for electricity is from CORED and based on retail rate (conservative assumptions) for the average 2025 rate," and revised the water footnote to read "Cost of water is based on CORED residential rate and assuming conservative value (10" meter); assuming a quantity for 8 years." The NRC staff finds this response to be acceptable.

For laboratory costs, the NRC staff requested that Orano "[p]rovide justification for the types and numbers of laboratory samples that it expects will need to be analyzed, which could include a note connecting these assumptions to the EREF estimate as is done for other cost elements (if applicable)." In response, Orano "updated the note in the table to include rationale for number of samples which is tied to the number of batches of Aluminum smelting (similar to EREF for the same number of centrifuge)." Orano specifically revised the footnote under Table A-18 to read "The sampling costs are associated with the processing of the aluminum metal for disposal. The sampling costs are associated with the smelting option and the sampling necessary for comparison with radiological acceptance limits in the disposition of the material waste form. The unit cost for the sampling is the cost of performing the analysis using onsite laboratory equipment and assumes 8 samples for each of the estimated 1862 batch melts." Although the NRC staff finds the response to be substantively acceptable, Orano did not explain in the footnote in the DFP that the number of samples was based on the EREF. Orano needs to include a note explicitly connecting the sample assumptions to EREF in the DFP.

For period dependent costs, the NRC staff requested that Orano “[p]rovide a clear explanation for all values included in the period dependent costs calculation, which could include a note connecting these assumptions to the EREF estimate as is done for other cost elements (if applicable).” In response, Orano stated that period-dependent costs will be composed of “[l]abor-driven categories (management, G&A, Corporate staff, security) for which the unit cost has been updated with salaries from BLS dated May 2025” and “For the other costs (Materials, Regulatory fees, insurance and taxes), Orano assumed that the EREF data was still relevant and were escalated to 2025 dollars. Overall, the EREF base costs for this category represents less than 0.1% of the overall decommissioning cost.” However, no changes were made to Table A-19 or to the assumptions for Table A-19 in the DFP. Although the NRC staff finds Orano’s reliance on EREF data acceptable, Orano needs to include a note in the DFP explicitly connecting the values in the period dependent costs table (Table A-19) to the EREF values.