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Grant Malkoske, P. Eng.
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XSNM-3060

June 6, 2000

Dear Mr. Malkoske:

Request for Technical Information

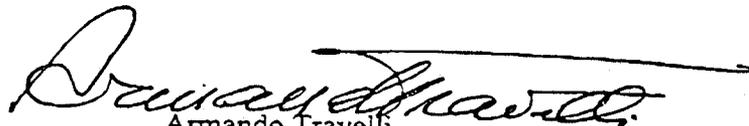
At the request of the U.S. Department of Energy, the RERTR program has prepared a technical evaluation of the MDS Nordion/AECL progress toward LEU conversion reported by MDS Nordion personnel at the April 20, 2000 meeting at the U.S. Department of State and described in the documents that MDS Nordion provided in conjunction with that meeting.

The evaluation prepared by the RERTR program was not satisfactorily conclusive because several technical aspects of the problems that still need to be resolved have not been disclosed by MDS Nordion. Therefore, I have been instructed by the U.S. Department of Energy to ask directly to MDS Nordion those questions which, if properly addressed, would allow the RERTR program to provide the U.S. Department of Energy with a conclusive evaluation of the MDS Nordion/AECL effort, including a technical evaluation of the seriousness of the remaining obstacles to conversion.

A list of eleven questions is enclosed. These questions concern only the two remaining obstacles to conversion, and are therefore fewer than those contained in the list of questions posed to MDS Nordion by the RERTR program on June 8, 1999, and not yet answered.

I would appreciate very much your addressing these eleven questions at your earliest convenience, marking all the confidential portions of your response in accordance with the nondisclosure and confidentiality agreements in force among the RERTR program, MDS Nordion, and AECL.

Sincerely,



Armando Travelli
Manager, RERTR Program

Xc: P. Dedik (U.S. Department of Energy)
S. Tyson (U.S. Department of Energy)
J. Gerrard (U.S. Department of Energy)
R. Stratford (U.S. State Department)
R. Hauber (U.S. Nuclear Regulatory Commission)

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Questions for MDS Nordion/AECL (June 5, 2000)

According to the latest report from MDS Nordion, MDS Nordion and AECL believe that only two concerns remain related to conversion of their targets to LEU--(1) a need to dilute the feed to the alumina column for ^{99}Mo recovery and (2) difficulty in calcining the uranium-containing waste solution. The following information would be useful to the RERTR program in evaluating means to work around these concerns:

Alumina Column

1. Volume of feed (load) solution before dilution?
2. Composition of load solution before dilution?
3. Volumes of wash solutions?
4. Compositions of wash solutions?
5. Physical dimensions of the column and alumina bed?
6. Linear velocity through column for each feed?
7. Specifications (physical and chemical) on alumina?
8. Time for this process step?

Calcination of HLLW

1. Composition of feed to calcination?
2. Volume of feed to calcination?
3. Perceived complications to calcining process by precipitating uranium as $(\text{NH}_4)_2\text{U}_2\text{O}_7$, $\text{UO}_2(\text{O}_2\text{H})_2$, or $\text{UO}_2\text{C}_2\text{O}_4$ in the calcination vessel? [This would be done to relieve problems in calcining larger volume of molten $\text{UO}_2(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$.]