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MEMORANDUM FOR: Merri Horn
Uranium Fuel Section
Fuel Cycle Safety Branch

THRU: Jerry J. Swift, Section Leader
Advanced Fuel and Special
Facilities Section
Fuel Cycle Safety Branch

THRU: George H. Bidinger, Section Leader
Uranium Fuel Section
Fuel Cycle Safety Branch

FROM: A. Tom Clark, Jr.
Advanced Fuel and Special
Facilities Section
Fuel Cycle Safety Branch

SUBJECT: Request for Additional Information Related to the License Renewal Review for Sequoyah Fuels Corporation

In order to complete my review of the safety of chemical processes at the Sequoyah Fuel Corporation plant at Gore, Oklahoma, I need additional information, as identified on the attachment to this memorandum. Please do not hesitate to confer with me if you have any questions on this request for additional information.

Original Signed By

A. Thomas Clark, Jr.
Senior Chemical Engineer
Advanced Fuel and Special
Facilities Section

Distribution: Docket 40-8027

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REQUEST FOR ADDITIONAL INFORMATION
SEQUOYAH FUELS CORPORATION

1. For the process steps listed below perform an analysis which assumes failures of either operators or equipment to perform as intended and then determine the likely consequence of such failures. Highly unlikely, but credible, sequences of failures should be included. If failure of one component is very likely to lead to the failure of another, the failure of the second component should be assumed. Failures caused by external events, such as tornadoes or earthquakes should be considered. Informed judgments may be made as to the likelihood of failure. A determination should be made of those failure sequences most likely to lead to a significant release of hazardous material. Both off-site and on-site consequences of such releases should be determined. If supported with documented data or acceptable analysis, quantitative analyses, such as using fault tree methods, are acceptable. Based on the analysis performed above, identify the systems, components, or operator activities most likely to be contributors to a significant release. Provide in Part I - License Conditions of your application for renewal conditions for those contributors, which your analysis indicates are necessary in addition to those already present in Section 5.1.

   Process Steps or Equipment:

   Denitrators, Reducers, Hydrofluorinators, Fluorinators, Fluorine Production, UF_6 Reduction Reactor, and UF_6 Loadout.

   Based on the above analysis, justify your present conclusion, as discussed in Section 14.1 of your renewal application, that the rupture of a hot 14-ton UF_6 product cylinder is the worst-case credible accident.

2. Based on review of your operational history and further analysis of your present process arrangement, indicate the frequency of various types of releases of hazardous materials, even in small quantities, you might expect in the future with respect to location in the process and the kinds of process equipment involved and the types of failures. Indicate any positive steps, such as preventive maintenance, you have taken to prevent the recurrence of such releases. Indicate the extent of control and level of authority within your organization to assure compliance with those positive steps.

3. Please provide a schedule for updating your Systems Description booklets. The update should not only incorporate all modifications to the equipment and accurately represent the equipment as it is currently constituted, but should also reflect those analyses and reviews in the above paragraphs.

4. Please provide a schedule and dates by which all detailed drawings will accurately reflect the "as-built" condition of process equipment.

5. Please identify the exact locations of all pressure relief valves and rupture discs and release detection instruments. Provide your schedule for examination and maintenance of those items.

6. Please provide the normal mass inventory by chemical species in process for hydrofluorination and fluorination.

7. Please provide information on sampling data of your dust collection systems which illustrates their sustained level of performance in recent years.

8. Please provide a discussion of the performance of the fluorine filter blowback procedure following recent modifications.

9. Please provide a discussion of the performance of the high-level probe recently installed on the surge bin for collecting uranium trioxide powders from denitration.

10. Please discuss your safety provisions related to the storage of liquified petroleum gas.

11. Please provide a discussion of the release of hazardous material through ruptured relief discs and/or relief valves as it has been experienced in your plant, including a statement of your company's policy with regard to the use of rupture discs and relief valves.

12. Please provide a discussion of the differences between your fire detection, alarm, and response system, and your chemical release detection, alarm, and response system. Provide an analysis of the detection capability of your release detection system, relating response time to concentration levels and alarm set points and action levels.