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United States Nuclear Regulatory Commission

Protecting People and the Environment

Global Nuclear Fuels - Americas

Pre-Decisional Enforcement Conference

September 29, 2011
NRC Region II Office
Atlanta, GA

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This is a Category 1 meeting in which the public is invited to observe and will have one or more opportunities to communicate with the NRC after the business portion of the meeting, but before the meeting is adjourned.

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Agenda

I. **Opening Remarks, Introductions, and Statement of Concerns**
   Leonard Wert, Deputy Regional Administrator

II. **NRC Enforcement Policy**
   Scott Sparks, Senior Enforcement Specialist

III. **Summary of Issues and Synopsis of the Apparent Violations**
   Tony Gody, Director, Division of Fuel Facility Inspection

IV. **Licensee Presentation**
   Global Nuclear Fuels - Americas

V. **Break/NRC Caucus**

VI. **NRC Follow-up Questions**

VII. **Closing Remarks**
   Leonard Wert, Deputy Regional Administrator

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Apparent Violation 1

Safety Condition No. S-1 of Special Nuclear Material License No. 1097 requires that material be used in accordance with statements, representations, and conditions of application dated and supplements dated June 29, 2007; February 14, 2008; November 28, 2008; January 8, 2009; August 13, 2010; and December 2, 2010.

Section 5.1.1, Criticality Safety Design Philosophy, of the License Application, states that the Double Contingency Principle as identified in nationally recognized American National Standard ANSI/ANS-8.1 (1998) is the fundamental technical basis for design and operation of processes within the GNF-A fuel manufacturing operations using fissile materials. As such, "process designs shall incorporate sufficient margins of safety to require at least two unlikely, independent, and concurrent changes in process conditions before a criticality accident is possible." For each significant portion of the process, a defense of one or more system parameters is documented in the criticality safety analysis, which is reviewed and enforced.

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Apparent Violation 1

Section III.B, Criticality Safety Controls for Dry Uranium Dioxide (UO2) Processes (MCA), of Criticality Safety Analysis (CSA) - No. 2310.00, Primary HEPA Filter Systems, Revision 2 states, in part, that mass and moderation controls as necessary controls to meet this analysis. In order to achieve mass control the UO2 holdup is limited to less than 25 kgs by controlling Δp across the housing to 4-inches of H2O or less.

Contrary to the above, on March 1, 2011, the licensee failed to ensure that a process design incorporated sufficient margins of safety to require at least two unlikely, independent, and concurrent changes in process conditions before a criticality accident was possible. Specifically, the licensee failed to ensure that the UO2 holdup in the high efficiency particulate air (HEPA) filter enclosure for the Sinter Test Grinder was limited to less than 25 kgs.

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Apparent Violation 2

10 CFR 70.61(b) states that the risk of each credible high-consequence event must be limited. Engineered controls, administrative controls, or both, shall be applied to the extent needed to reduce the likelihood of occurrence of the event so that, upon implementation of such controls, the event is highly unlikely.

Contrary to the above, on March 1, 2011, the licensee failed to apply sufficient controls to the extent needed to reduce the likelihood of occurrence of a criticality in the Sinter Test grinder HEPA filter enclosure so that, upon implementation of such controls, the event is highly unlikely.

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Apparent Violation 3

Safety Condition No. S-1 of Special Nuclear Material License No. 1097 requires that material be used in accordance with statements, representations, and conditions of application dated and supplements dated June 29, 2007; February 14, 2008; November 28, 2008; January 8, 2009; August 13, 2010; and December 2, 2010.

Section 5.3.1, General Configuration Management, of the License application dated February 24, 2009, states, in part, that a CSA is prepared or updated for new or significantly modified fissile units, processes, or facilities within GNF-A.

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Apparent Violation 3

Section 5.4.5.5, Criticality Safety Analysis, of the License application dated February 24, 2009, states in part that a CSA includes applicable information requirements as follows: Scope, General Discussion, Criticality Safety Controls/Bounding Assumptions, Model Description, Calculational Results, Safety During Upset Conditions, Specifications and requirements for Safety, Compliance, Verifications, and Appendices.

Contrary to the above, on February 18, 2009, the licensee failed to conduct a CSA on the Sinter Test Grinder, and performed a criticality safety summary (CSS) that did not meet the license requirement of conducting a CSA. Specifically, the licensee failed to conduct all Model Description, and Calculational Results sections; and parts of the Criticality Safety Controls/Bounding Assumptions.

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Apparent Violation 4

Safety Condition No. S-1 of Special Nuclear Material License No. 1097 requires that material be used in accordance with statements, representations, and conditions of application dated and supplements dated June 29, 2007; February 14, 2008; November 28, 2008; January 8, 2009; August 13, 2010; and December 2, 2010.

Section 11.5, Procedures, of the License Application dated March 30, 2007, states that licensed material processing or activities will be conducted in accordance with properly issued and approved management control procedures.

Apparent Violation 4

Section 5.2.3.3, Primary HEPA Filter Housing Transition, of Nuclear Safety Instruction O-15.0, Revision 33, states, in part, that if the survey results of a transition exceed the action limit of 0.5 mr/hr above background notify HVAC and the area manager and request a clean out of the effected transition.

Contrary to the above, on August 1, 2010, and January 23, 2011, the licensee failed to notify HVAC and the area manager and request a clean out of the effected Sinter Test Grinder Primary HEPA Filter housing transition when the survey results for the transition exceeded the action limit of 0.5 mr/hr above background.

Apparent Violation 5

Safety Condition No. S-1 of Special Nuclear Material License No. 1097 requires that material be used in accordance with statements, representations, and conditions of application dated and supplements dated June 29, 2007; February 14, 2008; November 28, 2008; January 8, 2009; August 13, 2010; and December 2, 2010.

Section 5.4.1, Control Practices, of the License Application dated February 24, 2009, states that criticality safety analyses identify specific controls necessary for the safe and effective operation of a process. Prior to use in any enriched uranium process, nuclear criticality safety controls are verified against criticality safety analysis criteria.

Apparent Violation 5

Section 5.4.1.1, Verification Program, of the License Application dated February 24, 2009, states that the purpose of the verification program is to assure that the controls selected and installed fulfill the requirements identified in the criticality safety analyses. All processes are examined in the "as-built" condition to validate the safety design and to verify the installation. Criticality safety function personnel observe or monitor the performance of initial functional tests and conduct pre-operational audits to verify that the controls function as intended and the installed configuration agrees with the criticality safety analysis.

Section III.B, Criticality Safety Controls for Dry Uranium Dioxide (UO2) Processes (MCA), of CSA - No. 2310.00, Primary HEPA Filter Systems, Revision 2 states, in part, that the UO2 holdup is limited to less than 25 kgs by controlling Δp across the housing to 4-inches of H2O or less.

Contrary to the above, on February 4, 2009, the licensee failed to assure that controls selected and installed fulfilled the requirements identified in CSA – No. 2310.00, Primary HEPA Filter Systems. Specifically, the licensee failed to assure that the UO2 holdup would be limited to less than 25 kgs by controlling Δp across the housing to 4-inches of H2O or less.

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Closing Remarks