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CERTIFIED MAIL
RETURN RECEIPT REQUESTED

21G-15-0177
GOV-01-55-04
ACF-15-0266

October 2, 2015

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

References:
1) Docket No. 70-143; SNM License 124
2) NRC Generic Letter 2015-01 dated June 22, 2015
3) NFS Reply to NRC Generic Letter 2015-01, Treatment of Natural Phenomena Hazards in Fuel Cycle Facilities, 21G-15-0161, dated September 14, 2015

Subject: **Reply to NRC Generic Letter 2015-01, Treatment of Natural Phenomena Hazards in Fuel Cycle Facilities**

Gentlemen:

Pursuant to the requirements of 10 CFR 70.22(d), Nuclear Fuel Services, Inc. (NFS) hereby submits the attached reply to the questions identified in the referenced NRC Generic Letter (Reference 2). A previous response to the NRC Generic Letter was submitted by NFS (Reference 3); however, the transmittal letter inadvertently lacked the required signature under oath or affirmation as required by the Generic Letter. This letter is being resubmitted with the appropriate signature under oath or affirmation.

If you or your staff have any questions, require additional information, or wish to discuss this matter further, please contact me at (423) 743-1705 or Mr. Randy Shackelford, Nuclear Safety and Licensing Manager, at (423) 743-2504. Please reference our unique document identification number (21G-15-0177) in any correspondence concerning this letter.

I affirm that the statements made in this submittal are true and correct to the best of my knowledge, information and belief.

Sincerely,

NUCLEAR FUEL SERVICES, INC.

Richard J. Freudenberger, Director
Safety and Safeguards

NWB/smd
Attachment: NFS Reply to NRC Generic Letter 2015-01

NMSS33

cc: Regional Administrator
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ATTACHMENT

NFS Reply to NRC Generic Letter 2015-01

The NRC Requests that all addressees take the following actions:

(1) Within 90 days of the date of this letter, all addressees are requested to:

a. Submit the definitions of "unlikely," "highly unlikely," and "credible", in evaluating natural phenomena events in the ISA such as earthquakes, tornadoes, tornado missile impacts, floods, hurricanes, and other wind storms.

NFS Response: *See the definitions below that were copied from Section 9.0 of the current NFS Site ISA Summary, (Revision 12).*

Highly Unlikely *– Physically possible or credible, but not expected to occur. A Credible Accident Scenario/Sequence that is based upon a graded combination of IROFS such as Active Engineering Controls (AEC), Passive Engineering Controls (PEC), and Administrative Controls that mitigate or prevent the accident from occurring. It has a qualitative Likelihood Category 1 (per Table 5-11 of the ISA Summary), or a quantitative probability of less than or equal to 1 E-5 per accident per year. For nuclear criticality safety purposes, a system shown to provide Double Contingency protection is considered Highly Unlikely, provided that the performance requirements specified in 10 CFR 70.61 are fulfilled.*

Unlikely *– Not expected to occur during the plant lifetime. A Credible Accident Scenario/Sequence that is based upon a graded combination of IROFS such as Active Engineering Controls (AEC), Passive Engineering Controls (PEC), and Administrative Controls that mitigate or prevent the accident from occurring. It has a qualitative Likelihood Category 1 or 2 (per Table 5-11 of the ISA Summary), or a quantitative probability of less than or equal to 1 E-4 per accident per year.*

Credible *– An event or accident sequence is considered 'credible' unless it is determined 'Not Credible' by meeting one of the three criteria specified below:*

- *An external event whose frequency of occurrence can be qualitatively estimated as having an initiating event frequency index of < -5, or quantitatively determined to be < 1E-6 events per year.*
- *A process deviation that consists of a sequence of many unlikely human actions or errors for which there is no reason or motive, excluding intent to cause harm. In order to be considered not credible, no such sequence of events can ever actually have happened in any fuel cycle facility.*
- *Process deviations for which there is a convincing argument, based on physical laws or engineering principles that the deviations are not possible, or extremely unlikely. The validity of the argument must not be dependent on any feature of the design or materials which is controlled by the plant's system of IROFS.*

b. Submit a description of the licensee's safety assessment for the licensing and design basis natural phenomena events, including the following information:

i. Likelihood and severity of the natural phenomena events, such as earthquakes, tornadoes, floods, hurricanes, and other wind storms

NFS Response: *See Sections 1.5.2 (Seismology), 1.3.1 (Climate), 1.3.2 (Winds and Storms), 1.3.3 (Tornadoes), and 1.4.1 (Flood) of the current NFS Site ISA Summary, (Revision 12) for this information.*

ii. Accident sequences as a result of natural phenomena event impacts to facility structures and internal components

NFS Response: *None were identified.*

iii. Assessment of the consequences for the accident sequences from item ii that result in intermediate and/or high consequence events

NFS Response: *None were identified.*

iv. Items relied on for safety to prevent or mitigate the consequences of the events from items ii and iii

NFS Response: *None were identified.*

c. For facilities subject to 10 CFR Part 70, Subpart H requirements, submit a description of the results of the ISA review used to comply with 10 CFR 70.62(c). This requested documentation should have identified the characteristics of the licensing and design basis natural phenomena events applicable to the site. Additionally, the documentation should have evaluated possible changes in the methodology, likelihood, and severity of natural phenomena events with those used in the original design, evaluation, and licensing of the facility.

NFS Response: *See Sections 1.5.2, 1.3.1, 1.3.2, 1.3.3, and 1.4.1 of the current NFS Site ISA Summary, (Revision 12) for a summary of the design basis seismic, flooding, and wind related natural phenomena events relevant to NFS. In particular, the design basis seismic classification has been reviewed multiple times, including an external seismic analysis conducted in 2001 in addition to a review of the USGS 2008 update of the US Seismic Hazard Maps as part of the recent license renewal. Finally, a seismic evaluation was performed in 2014 to determine how the buildings that contain operations involving licensed material would perform when subjected to the design basis earthquake. The latest standards and methodologies were utilized. To date no changes to the impact of a design basis seismic event on the NFS site structures were identified. Final comment*

resolution and completion of additional work added to the original scope of the seismic evaluation is underway. The report is projected to be complete by the end of the year.

d. Submit for staff review a summary of the results of any facility assessments or walk downs, if performed, to identify and address degraded, nonconforming, or unanalyzed conditions that can affect the performance of the facility under natural phenomena and have available for NRC inspection the documentation of the qualifications of the team.

NFS Response: *Following the Temporary Instruction (TI) 2600/015 inspection conducted by the NRC in March of 2012 and in anticipation of this generic letter, NFS reviewed the current safety basis and current ISA summary to ensure that NFS was in compliance with the 10 CFR Part 70, Subpart H requirements. The conclusion documented in the ISA summary is that NFS' buildings were built to the relevant building codes, which were sufficient to ensure that the design basis wind, flooding, and seismic events would not cause high or intermediate consequence events other than what was already analyzed. During the TI inspection, documentation was not available for some older buildings, and the inspectors were not able to confirm that the buildings were constructed according to the applicable building codes. As a result, URI 2012-006-03 was issued to "Further evaluate whether the license is in compliance with the requirements of 70.62(c) and 70.61 performance requirements regarding natural phenomena event accident sequences."*

To address the lack of documentation and to validate the analytical approach to seismic events used in completion of the NFS Site ISA Summary, a seismic evaluation was performed in 2014 to determine how the buildings that contain operations involving licensed material would perform when subjected to the design basis earthquake (new buildings with complete design and construction documentation were not analyzed). The latest standards and methodologies were utilized. To date, no deficient buildings have been identified. Final comment resolution and completion of additional work added to the original scope of the seismic evaluation is underway. The report is projected to be complete by the end of the year. Final assessment can be reviewed as part of closure of the URI.

A project to reassess the current flood plain for the site is in the planning stages and is expected to be underway by the end of 2015.

Note: Licensees or facilities subject to 10 CFR 70.64(a)(2) may reference sections of their license application and/or ISA summaries as a response to applicable requested actions.