

January 8, 2019

MEMORANDUM TO: Christopher M. Regan, Deputy Director  
Division of Spent Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

FROM: Chris Allen, Project Manager /RA/  
Spent Fuel Licensing Branch  
Division of Spent Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: SUMMARY OF DECEMBER 17, 2018 PUBLIC MEETING WITH  
GENERAL ELECTRIC HITACHI TO DISCUSS SHIPPING ACCIDENT  
TOLERANT FUEL IN THE MODEL NO. 2000 PACKAGE

### Background

This was a category 1 public meeting between General Electric Hitachi (GEH), and U.S. Nuclear Regulatory Commission (NRC) staff to discuss shipping irradiated accident tolerant fuel rod segments in the Model 2000 package. Regulatory commitments were not made at the meeting. GEH provided presentation slides prior to the meeting. The meeting presentation slides are attached as Enclosure 3.

### MEETING SUMMARY

On December 17, 2018, NRC staff held a partially closed public meeting with GEH representatives via teleconference. The list of meeting attendees is Enclosure 1. The discussion followed the agenda provided in Enclosure 2.

After introductions and opening remarks, GEH explained the impetus for developing accident tolerant fuel and described how their fuel designs provided oxidation resistance under both anticipated operating occurrences and design basis accident conditions as well as enhanced resistance to stress corrosion cracking. GEH also explained, in response to a question from staff, how the lead test assembly design would facilitate disassembling the irradiated fuel rods into segments for loading into the transportation package. GEH discussed their programmatic timeline including when they planned to load both the ARMOR and Ironclad fuel designs into reactors as well as when the rod segments would be removed from the reactor sites. When questioned by staff, GEH identified that tests of the irradiated rod segments would focus both on properties important to the package safety evaluation (e.g., fuel rod mechanical properties). Staff asked about the thermal and radiation levels of the rod segments, and GEH indicated thermal limits would not change due to the amendment and bounding radiation source terms would be developed. After outlining a proposed licensing strategy, GEH explained the fissile material description would be similar to that contained in revision 26 of the Model No. 2000 certificate of compliance. GEH also indicated that they were taking into consideration information requests associated with their most recent amendment application. After staff

suggested information to include in the amendment request, GEH stated they planned for another pre-application meeting in late January 2019 with a submittal in May 2019. The meeting was subsequently adjourned.

Docket No.: 71-9228

EPID No. L-2018-LRM-0090

Enclosures:

1. Meeting Attendees
2. Agenda
3. Meeting Slides

SUMMARY OF DECEMBER 17, 2018, PUBLIC MEETING WITH GENERAL ELECTRIC  
HITACHI TO DISCUSS SHIPPING ACCIDENT TOLERANT FUEL IN THE MODEL NO. 2000  
PACKAGE, DOCUMENT DATE: January 8, 2019

**DISTRIBUTION:**

DSFM r/f NRC attendees

Filename: G:\SFST\Allen\Part 71\9228 (GE-2000)\ATF\MeetingSummary.docx

**ADAMS No.: ML19009A083 Memo: ML19009A022 Slides: ML19009A084**

<b>OFC:</b>	SFM		SFM		SFM	
<b>NAME:</b>	WAllen		SFigueroa		JMcKirgan	
<b>DATE:</b>	1/7/19		1/8/19		1/8/19	

**OFFICIAL RECORD COPY**

## MEETING ATTENDEES

NAME	AFFILIATION
Travis Tate	NRC
Chris Bajwa	NRC
Tae Ahn	NRC
Chris Allen	NRC
Bernie White	NRC
David Tang	NRC
Drew Barto	NRC
Jim Hammelman	NRC
Frank Akstulewicz	NRC
Russ Fawcett	GEH/GNF
Michelle Catts	GEH/GNF
Christopher Kmiec	GEH/GNF
Scott Pfeffer	GEH/GNF
Lisa Schichlein	GEH/GNF
Don Hartsock	GEH/GNF
Andy Zach	Public

AGENDA  
Meeting between General Electric Hitachi (GEH) and the  
Nuclear Regulatory Commission  
December 17, 2018  
2:30 a.m. – 4:00 p.m.  
One White Flint 4-B-4

**Non-proprietary discussion**

- General Overview

**Proprietary Discussion**

- Description of Global Nuclear Fuel's Accident Tolerant Fuel technologies (ARMOR & ATF)
- Programmatic timeline (with an emphasis on irradiated material transport and its implications)
- Description of the lead test assemblies to be transported, and the role this material plays in the overall licensing plan
- Description of the GE2000 and High Performance Insert
- Licensing strategy
  - Clarification of the 1-year decay in the 10 CFR 71.4 definition of spent fuel and its implications on the licensing strategy
  - Clarification regarding the environmental assessment mentioned during a November 29, 2018 call

Meeting Presentation Slides