



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 24, 2020

MEMORANDUM TO: Dennis C. Morey, Chief
Licensing Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: Ngola Otto, Project Manager */RA/*
Licensing Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF NOVEMBER 6, 2019, MEETING REGARDING
GLOBAL NUCLEAR FUEL UPDATE ON GNF ACCIDENT
TOLERANT FUEL LICENSING PLANS

On November 6, 2019, the U.S. Nuclear Regulatory Commission (NRC) staff held a Category 2 public meeting with representatives from the Global Nuclear Fuel (GNF). The purpose of the meeting was for GNF to provide the NRC staff with an update on accident tolerant fuel (ATF) and licensing plans. The meeting was noticed on October 17, 2019, with Agencywide Documents Access and Management System (ADAMS) Accession No. ML19294A088.

At the beginning of the meeting, the NRC staff provided an update on ATF and allowed an opportunity for public comment. There were no comments from the public during the initial open portion of the meeting. During the closed portion of the meeting, the NRC staff and GNF discussed ARMOR Licensing Topical Report (LTR), ARMOR Testing, Fuel Rod Modeling, Atomistic Modeling, the integrated licensing schedule, update on ATF lead test assemblies (LTA) for Clinton and Hatch plants. During the time set aside for recap and the opportunity for public comments at the end of the meeting, a member of the public asked about the Office of Management and Budget (OMB) review of the Interim Staff Guidance (ISG). At that time, the NRC staff explained that the NRC staff is still waiting for a response from OMB. Since then, the OMB completed its review on December 31, 2019, and the ISG was published on January 3, 2020, and can be found in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML19343A121.

A list of attendees and the NRC staff ATF Update are enclosed. The GNF presentation material can be found in the ADAMS at Accession Nos. ML19352F118 (proprietary) and ML19352F120 (non-proprietary).

Docket No.: 99901376

Enclosure 1: List of Attendees
2: NRC Staff ATF Update

CONTACT: Ngola Otto, NRR/DORL
301-415-6695

SUBJECT: SUMMARY OF NOVEMBER 6, 2019 MEETING REGARDING GLOBAL
NUCLEAR FUEL (GNF) UPDATE ON GNF ACCIDENT TOLERANT FUEL (ATF)
LICENSING PLANS DATED MARCH 24, 2020

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ADAMS Accession No. ML20010E603 (Summary)

*concurrence via email

OFFICE	NRR/DORL/LLPB/PM	NRR/DORL/LLPB/LA*	NRR/DORL/LLPB/BC	NRR/DORL/LLPB/PM
NAME	NOtto	DHarrison	DMorey	NOtto
DATE	01/31/2020	01/31/2020	03/24/2020	03/24/2020

OFFICIAL RECORD COPY

List of Attendees

Public meeting between the U.S. Nuclear Regulatory Commission (NRC) staff and
Global Nuclear Fuel (GNF) for the Update on GNF
Accident Tolerant Fuel (ATF) and Licensing Plans

November 6, 2019

2:00 pm – 5:00 pm

<u>NAME</u>	<u>ORGANIZATION</u>
Mike Cook	GNF
Yang-Pi Lin	GNF
Tyler Schweitzer	GNF
Kent Halac	GNF
Russ Fawcett*	GNF
Ian Porter*	GNF
Ngola Otto	NRC
Tae Ahn	NRC
Ahsan Sallman	NRC
Bob Lukes	NRC
Dennis Morey	NRC
James Corson	NRC
Mike Orenak	NRC
Gregory Suber	NRC
Joe Donoghue	NRC
Paul Clifford *	NRC
Marilyn Diaz Maldonado*	NRC
Jana Bergman *	Curtis-Wright
Rhonda Lake *	Framatome

* Participated remotely by telephone

U.S. Nuclear Regulatory Commission (NRC) Staff
Accident Tolerant Fuel (ATF) Update

Public Meeting between the NRC staff and Global Nuclear Fuel (GNF)
for the Update on GNF ATF and Licensing Plans
November 6, 2019

Interim Staff Guidance (ISG) for Cr-coated Cladding

- The NRC staff made an initial draft of the ISG, “Supplemental Guidance Regarding the Chromium-Coated Zirconium Alloy Fuel Cladding Accident Tolerant Fuel Concept,” public on July 18, 2019, ahead of a public meeting on August 6, 2019, to solicit high-level comments from stakeholders.
- The NRC staff received valuable feedback from stakeholders at the meeting and developed an updated draft of the guidance to support an Advisory Committee on Reactor Safeguards (ACRS) subcommittee meeting on the document on September 17, 2019.
- Following incorporation of ACRS feedback, the NRC staff issued the ISG for a *Federal Register* public comment period on October 24, 2019.
- A public meeting will be held in early December to discuss stakeholder comments.

High Burnup + Increased Enrichment

- The NRC staff understands that the industry is planning to seek extensions of current fuel burnup limits. Industry has performed a gap analysis related to data needs to support a burnup extension and published a white paper detailing the work.
- The NRC staff developed an appendix to NRC’s ATF project plan to include extensions of current burnup and enrichment limits and plans. A draft version of the plan was made public on August 30, 2019, and a public meeting was held on September 12, 2019.
- The NRC staff has incorporated the feedback received from stakeholders and issued an updated version of the project plan on October 31, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19297F703).

ATF Project Plan

- The NRC staff issued Version 1.0 of the NRC’s ATF project plan, “Project Plan to Prepare the U.S. Nuclear Regulatory Commission for Efficient and Effective Licensing of Accident Tolerant Fuels” (ADAMS Accession No. ML18261A414) on September 30, 2018.
- As stated above, the project plan has been revised (V1.1) to include the new Appendix A, “Fuel Burnup and Enrichment Extension Preparation Strategy.”
- A more comprehensive revision to the project plan is being evaluated by the working groups and steering committee members with scoping and dates still to be determined.

Information Request

- The NRC staff has also made publicly available a Regulatory Issue Summary (ADAMS Accession No. ML18270A019) to obtain timeline details, fuel qualification plans, and licensing strategy information from nuclear fuel vendors pursuing the various ATF concepts and has published a notice requesting public comment in the *FR* (84 FR 3831; February 13, 2019). Two comment letters were received and reviewed by the staff. The generic communication has been finalized and is awaiting Office of Management and Budget clearance under the Paperwork Reduction Act.
- NRC Project Managers will be soliciting submission schedules from vendors outside of the RIS, which aligns with current practices for workload management and resource forecasting (ex. Topical Reports).