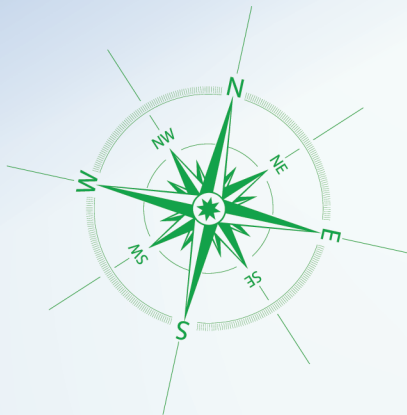


R^{HYBRID}**C 2023** U.S. Nuclear Regulatory Commission
35th Annual Regulatory Information Conference



NAVIGATING ^{the} NUCLEAR FUTURE

MARCH 14-16, 2023

Bethesda North Marriott Hotel
and Conference Center
Rockville, Maryland



WWW.NRC.GOV

#NRCRIC2023



New Fuels Licensing Readiness

Regulatory Information Conference Session T2

March 14, 2023

PANELISTS:

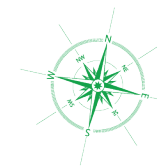
JOSEPH DONOGHUE, U.S. NUCLEAR REGULATORY COMMISSION

CHRIS VAN WERT, U.S. NUCLEAR REGULATORY COMMISSION

WILLIAM MCCAUGHEY, U.S. DEPARTMENT OF ENERGY

JOHNATHAN CHAVERS, SOUTHERN NUCLEAR COMPANY, LLC

DR. DIDIER JACQUEMAIN, NUCLEAR ENERGY AGENCY

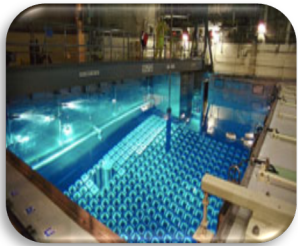




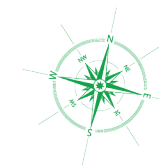
What Is Accident Tolerant Fuel (ATF)?

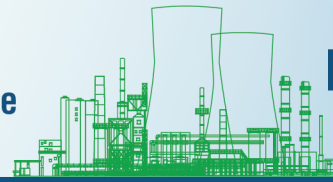


Makes an existing commercial nuclear reactor more resistant to nuclear incidents.



Lowers the cost of electricity over the licensed lifetime of an existing commercial nuclear reactor.





Engagement and Collaboration

Domestic:

- Routine Stakeholder Engagements:
 - EPRI CRAFT* Observer
 - DOE Projects and Research
 - Conferences and Workshops

International:

- ATF Testing and Simulation (ATF-TS) with the International Atomic Energy Agency
- International Research and Collaboration



*CRAFT: Collaborative Research on Advanced Fuel Technologies for Light-Water Reactors.





Recent ATF Accomplishments

Research Information
Letter 2021-13:
“Interpretation of
Research on Fuel
Fragmentation,
Relocation, and Dispersal
at High Burnup”

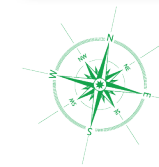
Numerous Workshops
and Stakeholder
Engagements throughout
the Past Year

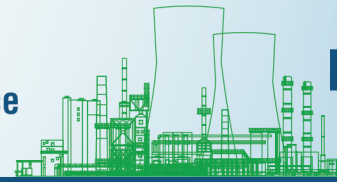
Communication to
Industry: “Scheduling
Expectations Regarding
the Licensing of Accident
Tolerant, Increased
Enrichment, and Higher
Burnup Fuels”

“Regulatory Framework
Applicability Assessment
and Licensing Pathway
Diagram for the Licensing
of ATF-Concept, Higher
Burnup, and Increased
Enrichment Fuels”

Licensing Reviews: Lead
Test Assemblies, Topical
Reports, License
Amendment Requests,
and Certificates of
Compliance

Commission Meetings on
“Overview of ATF
Activities” and
“Overview of Advanced
Reactor Fuel Activities”





Ongoing Efforts

Regulatory Guide 1.183:
“Alternative Radiological
Source Terms for
Evaluating Design Basis
Accidents at Nuclear
Power Reactors,”
Revisions 1 and 2

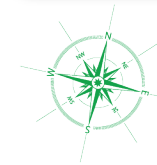
SRM-SECY-21-0109:
“Rulemaking Plan on Use
of Increased Enrichment
of Conventional and
Accident Tolerant Fuel
Designs for Light-Water
Reactors”

Regulatory Issue
Summary: “Scheduling
Information for the
Licensing of Accident
Tolerant, Higher Burnup,
and Increased
Enrichment Fuels”

Environmental
Evaluation of ATF with
Increased Enrichment
and Higher Burnup

“Roadmap to Readiness”
Development

Research Efforts:
Framework for
Irradiation Experiments
(FIDES), Studsvik
Cladding Integrity Project
(SCIP), and QUENCH-ATF





Additional ATF Information

Contact: [Accident Tolerant Fuel@nrc.gov](mailto:Accident_Tolerant_Fuel@nrc.gov)

Website: www.nrc.gov/reactors/atf.html

Public Meeting Schedule: <https://www.nrc.gov/pmns/mtg>

