

Accident Tolerant Fuel “Roadmap to Readiness”

May 10, 2023

Opening Remarks

Joseph Donoghue
Director
DSS

Agenda

Time	Topic	Speaker
10:00-10:05	Welcome and Opening Remarks	NRC
10:05-10:20	Presentation on Background and Status	NRC
10:20-10:55	Discussion and Public Feedback	All
10:55-11:00	Closing Remarks	NRC

Topic times are estimated based on the participation level and presentation length.

Meeting Logistics

- Meeting visuals and audio are through MS Teams.
- Participants are in listen-only mode until the discussion and public feedback period. During which, we will first allow in-person attendees to participate, then allow remote attendees to un-mute.
 - Remote attendees should utilize the hand raised feature in MS Teams, if possible.
- This is a Comment Gathering Meeting.
 - The purpose of this meeting is for the NRC staff to meet directly with individuals to discuss regulatory and technical issues.
 - Attendees will have an opportunity to ask questions of the NRC staff or give feedback about the issues discussed the presentation; however, the NRC is not actively soliciting comments towards regulatory decisions at this meeting.



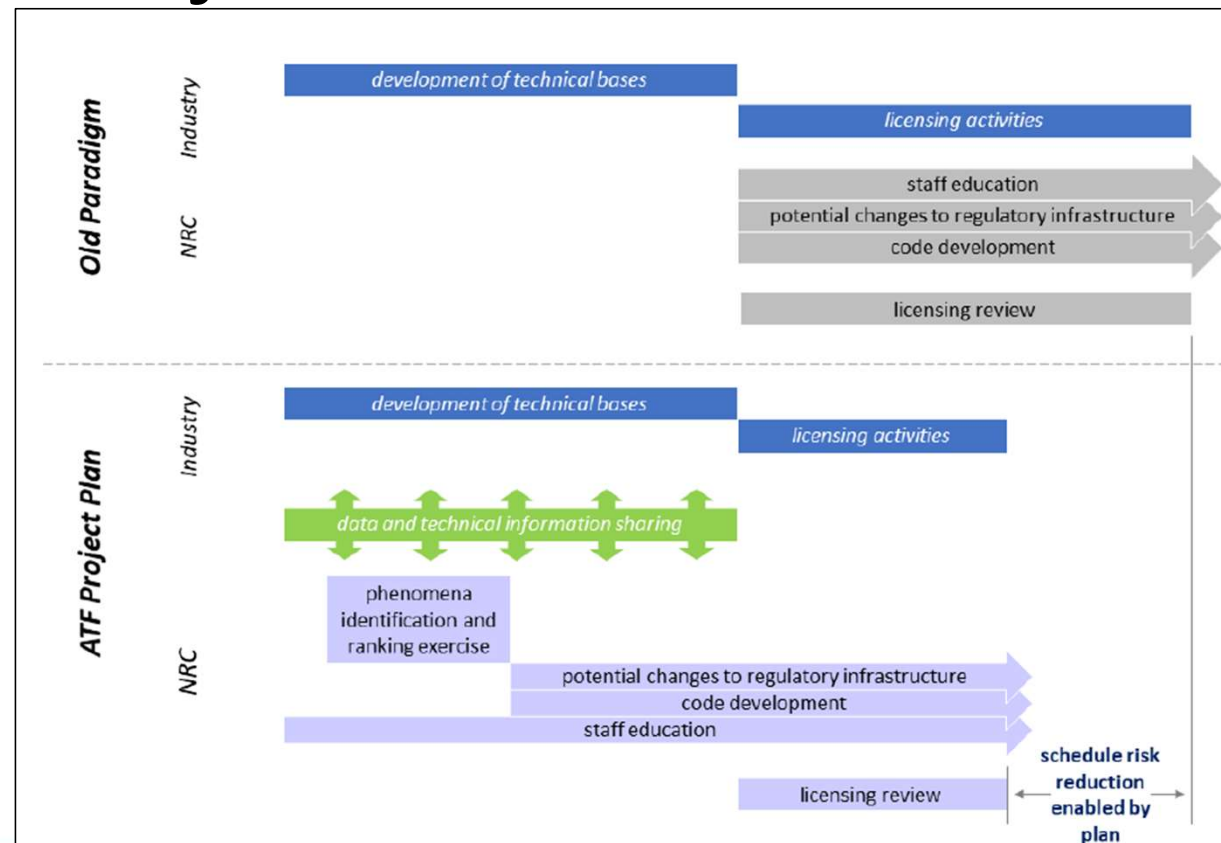
Meeting Purpose

- Introduce the Accident Tolerant Fuel (ATF) “Roadmap to Readiness”
 - NRC will consider the input received but will not prepare written responses.
 - No regulatory decisions will be made during this meeting.

Roadmap Background and Status

The Project Plan

- Version 1.2 of the ATF Project Plan issued September 2021 (ML21243A298).
- Substantial progress in implementing the strategy laid out in the ATF project plan to enable the safe and efficient use of emerging ATF fuel technologies.



Roadmap Purpose

- Provide graphical representation of the ATF Project Plan
- Enhance efficiency and reliability
- Enhance understanding of the pathways to licensing near-term ATF technology
- Clearly identify direction, challenges, and risks associated in licensing near-term ATF technology
- Depict critical milestones to maintain a mid-to-late 2020s deployment timeline to batch load near-term ATF technology

General Assumptions

- Commercial nuclear industry aims to increase operational cycle time, using a combination ATF technology.
- Increased Enrichment and Higher Burnup are included with ATF technology.
- Industry aims to batch load the suite of near-term ATF technologies in mid-to-late 2020s.

Timeline Assumptions

- Licensing timeline assumptions are from the January 2022, NRC Letter to Industry, regarding scheduling expectations and historical review timelines.

Nominal Schedule for Reviewing Requests to Adopt ATF-Concept, Higher Burnup, and Increased Enrichment Fuels

Task	Duration	Start	Finish	2022				2023				2024			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Vendor Topical Report	16 mos	7/2022	10/2023												
Site-Specific License Amendment	15 mos	11/2023	12/2024												
Exemption (If Applicable)	15 mos	11/2023	12/2024												

 NRC staff review

 ACRS review

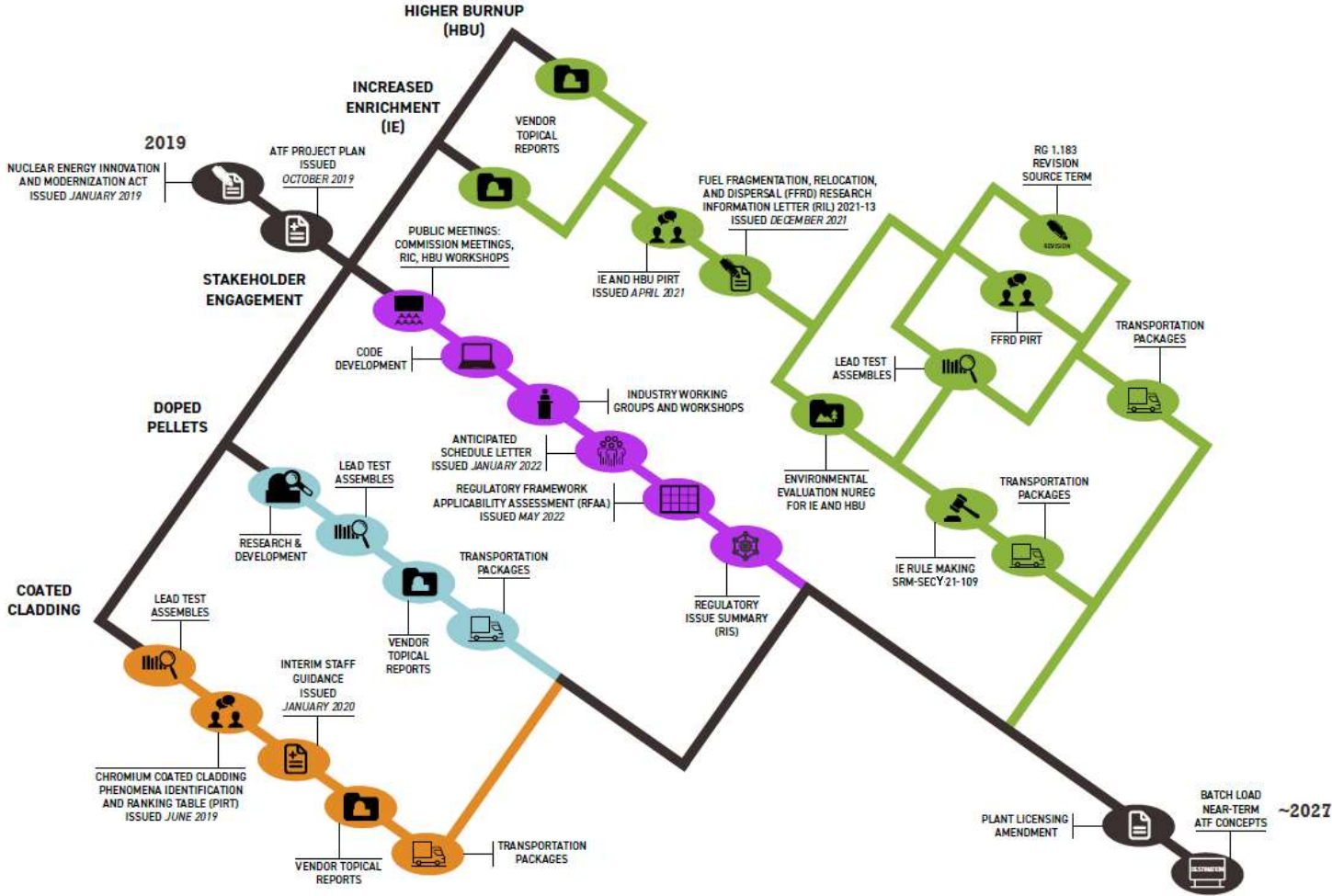
Roadmap Description

- **Orientation:** Left-to-Right and Top-to-Bottom.
- **Sequence:** Items are generally displayed in chronological sequence by start date. Of note, the previous item is not always required for the subsequent in the graphic.
- **Dates:** Dates are generally only provided for completed/issued actions.
- **Color-Coding:** Utilized to differentiate near-term technologies only.
- **Hyperlinks:** Text is hyperlinked to associated NRC webpage or to download associated document from ADAMS.

DRAFT

Accident Tolerant Fuel (ATF) Licensing Roadmap

DRAFT



Learn more about ATF at <https://www.nrc.gov/reactors/power/atf.html>

Next Steps

- Evaluate stakeholder feedback and update the graphic as appropriate.
- Approve and publish the graphic in Summer 2023.
 - <https://www.nrc.gov/reactors/power/atf.html>
- Evaluate graphic updates bi-annually, based on internal and external feedback received during routine interactions.

Discussion & Public Feedback

Stay Updated on ATF

Go to <https://www.nrc.gov/reactors/power/atf.html>

References

Document Title	ADAMS Accession Number/ FR Citation
Overview of Accident Tolerant Fuels Commission Meeting, January 24, 2023	Transcript: ML23026A288 Meeting SRM: ML23030A013
Accident Tolerant Fuel Project Plan (Version 1.2)	ML21243A298
Scheduling Expectations Regarding the Licensing of Accident Tolerant, Increased Enrichment, and Higher Burnup Fuels	ML22003A168
Regulatory Framework Applicability Assessment and Licensing Pathway Diagram for Licensing ATF-Concept, Higher Burnup, and Increased Enrichment Fuels	ML22014A112
SECY-21-0109, “Rulemaking Plan on use of Increased Enrichment of Conventional and Accident Tolerant Fuel Designs in Light Water Reactors”	ML21232A237
SRM-SECY-21-0109, “Rulemaking Plan on use of Increased Enrichment of Conventional and Accident Tolerant Fuel Designs in Light Water Reactors”	ML22075A103
NRC Regulations Title 10, Code of Federal Regulations	Volume 1 (Parts 1-50) Volume 2 (Parts 51-199)

Adjourn

How did we do?

<https://feedback.nrc.gov/pmfs/>

Meeting Code: 20230507
