

FINAL SUPPORTING STATEMENT  
FOR  
SCHEDULING INFORMATION FOR THE LICENSING OF ACCIDENT TOLERANT, HIGHER  
BURNUP, AND INCREASED ENRICHMENT FUELS

(3150-XXXX)

NEW

Abstract

The accident tolerant fuel (ATF) program is a joint effort between the U.S. nuclear industry and the U.S. Department of Energy to design and pursue approval of various fuel types with enhanced accident tolerance, while also reducing overall plant operating costs. In addition to accident tolerant concepts, the ATF program includes development of technologies that would extend fuel burnup and enrichment limits beyond currently authorized levels. In order to deploy these new technologies, the industry will need to seek authorization for various activities throughout the fuel cycle, from fuel fabrication, transportation, and storage, to installation and utilization in a reactor. The U.S. Nuclear Regulatory Commission (NRC) understands that the industry's goal is to begin deploying fuels with combinations of these technologies by the mid-2020s. In order to support the timely processing of licensing activities needed to support the deployment of these new technologies, the NRC is seeking scheduling information for licensing submittals from all holders of operating licenses for nuclear power reactors under the provisions of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," or holders of a combined license under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," except those that have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel; all holders of licenses and potential applicants for a fuel cycle facility under the provisions of 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material;" and all holders of licenses and Certificates of Compliance (CoC) and potential applicants for transportation and storage systems under the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material," and 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste." This information will allow the NRC to better allocate its resources to support the activities associated with licensing these technologies while being better able to meet the industry's desired timeline. With this in mind, the NRC is asking for one-time voluntary responses from industry with voluntary updates to the initial responses as significant scheduling changes occur.

A. JUSTIFICATION

1. Need for the Collection of Information

Given the stated goals of the program, ATF, higher burnup, and increased enrichment fuels are expected to be widely deployed throughout the current operating fleet. In addition to the licensing activities necessary to approve the in-reactor use of these fuels, other regulatory approvals will be necessary to support the fabrication, transportation, and storage of ATF, higher burnup, and increased enrichment fuels. Given the expected volume of applications for regulatory review and the potential complexity associated with reviewing the requests, the NRC needs additional information on industry plans for deploying these technologies in order to

better allocate resources to support the industry's efforts.

NRC has the authority to request this information under Section 161c of the Atomic Energy Act of 1954, which states, "In the performance of its functions the Commission is authorized to...make such studies and investigations, obtain such information, and hold such meetings or hearings as the Commission may deem necessary or proper to assist it in exercising any authority provided in this Act, or in the administration or enforcement of this Act, or any regulations or orders issued thereunder."

2. Agency Use and Practical Utility of Information

The information gathered by this request will allow the NRC to better allocate its resources to support the activities leading up to and including the review of an ATF submittal. Additionally, this information collection seeks to promote early and frequent communication between the NRC and respondents on topics such as ATF experimental testing programs, data collection, and industry schedules. Communication between both parties promotes the submission of high quality and complete applications. Incomplete or insufficient applications increase the risk of schedule delays in deployment of ATF designs.

3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them.

The NRC has issued [Guidance for Electronic Submissions to the NRC](#) which provides direction for the electronic transmission and submittal of documents to the NRC. Electronic transmission and submittal of documents can be accomplished via the following avenues: the Electronic Information Exchange (EIE) process, which is available from the NRC's "Electronic Submittals" Web page, by Optical Storage Media (OSM) (e.g. CD-ROM, DVD), or by e-mail. It is estimated that approximately 100% of the potential responses are filed electronically.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements.

5. Effort to Reduce Small Business Burden

None of the potential applicants responding to this collection are small businesses.

6. Consequences to Federal Program or Policy Activities if the Collection Is Not Conducted or Is Conducted Less Frequently

If the information is not collected, the NRC will be unable to inform its budget and resource planning for the review of ATF, higher burnup, and increased enrichment-related applications. This could cause the NRC to be less efficient in scheduling its resources for reviewing licensing requests and cause the completion of the reviews

to not be timely. This schedule is the minimum frequency necessary for the NRC to update its budget and resource planning as submittal schedules change.

7. Circumstances Which Justify Variation from OMB Guidelines

Not applicable.

8. Consultations Outside the NRC

Opportunity for public comment on the information collection requirements for this clearance package was published in the Federal Register on August 22, 2022, (87 FR 51463). Additionally, NRC staff contacted eight stakeholders via email. The stakeholders were Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Part 52, Part 70, Part 71, and Part 72, licensees that included Framatome, Inc., Florida Power & Light, GE Hitachi Nuclear Energy, NAC International, Inc., Orano, USA, LLC, Southern Nuclear Operating Co., Inc., URENCO USA Energy Services, LLC and Westinghouse Electric Company, LLC.

No responses or comments were received as a result of the FRN or the staff's direct solicitation of comments.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b).

11. Justification for Sensitive Questions

Not applicable.

12. Estimated Burden and Burden Hour Cost

The RIS will be sent to 149 potential respondents, including all holders of operating licenses for nuclear power reactors under the provisions of 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," or holders of a combined license under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," except those that have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel; all holders of licenses and potential applicants for a fuel cycle facility under the provisions of 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material;" and all holders of licenses and Certificates of Compliance (CoC) and potential applicants for transportation and storage systems under the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material," and 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste." The NRC staff anticipates receiving initial responses from 105 respondents.

The response rates for each have been estimated based on previous interactions with industry:

- There are 93 operating reactor units at 54 sites that are expected to potentially respond to the survey. The reactor licensees that will respond to the survey are expected to provide one response for all units at multiple unit sites, with an indication of whether the requested information is applicable to all units or to select units, and, if so, which ones. Based on interactions with industry, the NRC anticipates that 75 percent of the reactor 54 sites (i.e., 41 sites) will respond to the voluntary survey because, although the NRC expects widespread adoption of ATF, higher burnup, and increased enrichment fuels, not all reactor licensees will choose to adopt it for a given site.
- Currently, there are 15 Part 52 Licensee Holders eligible to respond to the requested information; however, staff does not expect any responses from those licensees during the clearance period.
- For fuel fabrication, transportation, and storage, the NRC expects to receive responses from 8 fuels facility licensees or applicants; and 8 holders of, or applicants for, certificates of compliance for transportation and storage systems.
- For independent spent fuel storage installations, the NRC expects approximately 75 percent of the 64 licensed independent spent fuel storage installations (i.e., 48 licensees) to respond.

The NRC estimates that it will take 20 hours per respondent to respond to the survey for an initial burden of 2100 hours (20 hours x 105 responses).

Because the NRC is also asking industry for voluntary updates to the initial responses as significant scheduling changes occur, the NRC estimates that it will receive voluntary updates in the second and third years of the clearance period from approximately ten percent of the 149 potential respondents (13 in year 2 and 11 in year 3). The NRC estimates that it will take 10 hours per respondent to respond with an update to the survey for a total burden of 130 hours (\$37,700) in the second year and 110 hours (\$31,900) in the third year.

Burden estimates for each year in the clearance cycle are included in the supplemental burden spreadsheet.

The total annualized burden for the collection is 780 hours and 43 responses, at a cost of \$226,200 (780 hours x \$290/hr).

	Hours	Responses
Year 1	2,100	105
Year 2	130	13
Year 3	110	11
Annual Average	780	43

The \$290 hourly rate used in the burden estimates is based on the Nuclear Regulatory Commission's fee for hourly rates as noted in 10 CFR 170.20 "Average cost per professional staff-hour." For more information on the basis of this rate, see the Revision of Fee Schedules; Fee Recovery for Fiscal Year 2022 (87 FR 37197, June 22, 2022).

Additionally, there are no recordkeeping requirements imposed in this clearance.

13. Estimate of Other Additional Costs

There are no additional costs.

14. Estimated Annualized Cost to the Federal Government

The NRC staff estimates that it will spend approximately 300 hours annually to review the expected submissions. The cost to the NRC for reviewing these submissions will be \$87,000 (300 hrs x \$290/hr). These estimates are based on staff experience and subject matter expertise and include the burden needed to review, analyze, and process the collected information.

15. Reasons for Change in Burden or Cost

The request is a new information collection.

16. Publication for Statistical Use

This information will not be published for statistical use.

17. Reason for Not Displaying the Expiration Date

Not applicable. The information collection displays the expiration date.

18. Exceptions to the Certification Statement

None.