
Non-power Production or Utilization Facility (NPUF) License Renewal Rulemaking: Overview and Implementation

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Topics

- Purpose and background of the Non-power Production or Utilization Facility (NPUF) License Renewal rule
- Draft final NPUF rule implementation date and actions
- Proposed timing for NRC to issue orders to licensees to change to non-expiring licenses
- Proposed timing for licensees to submit the updated Final Safety Analysis Report (FSAR)

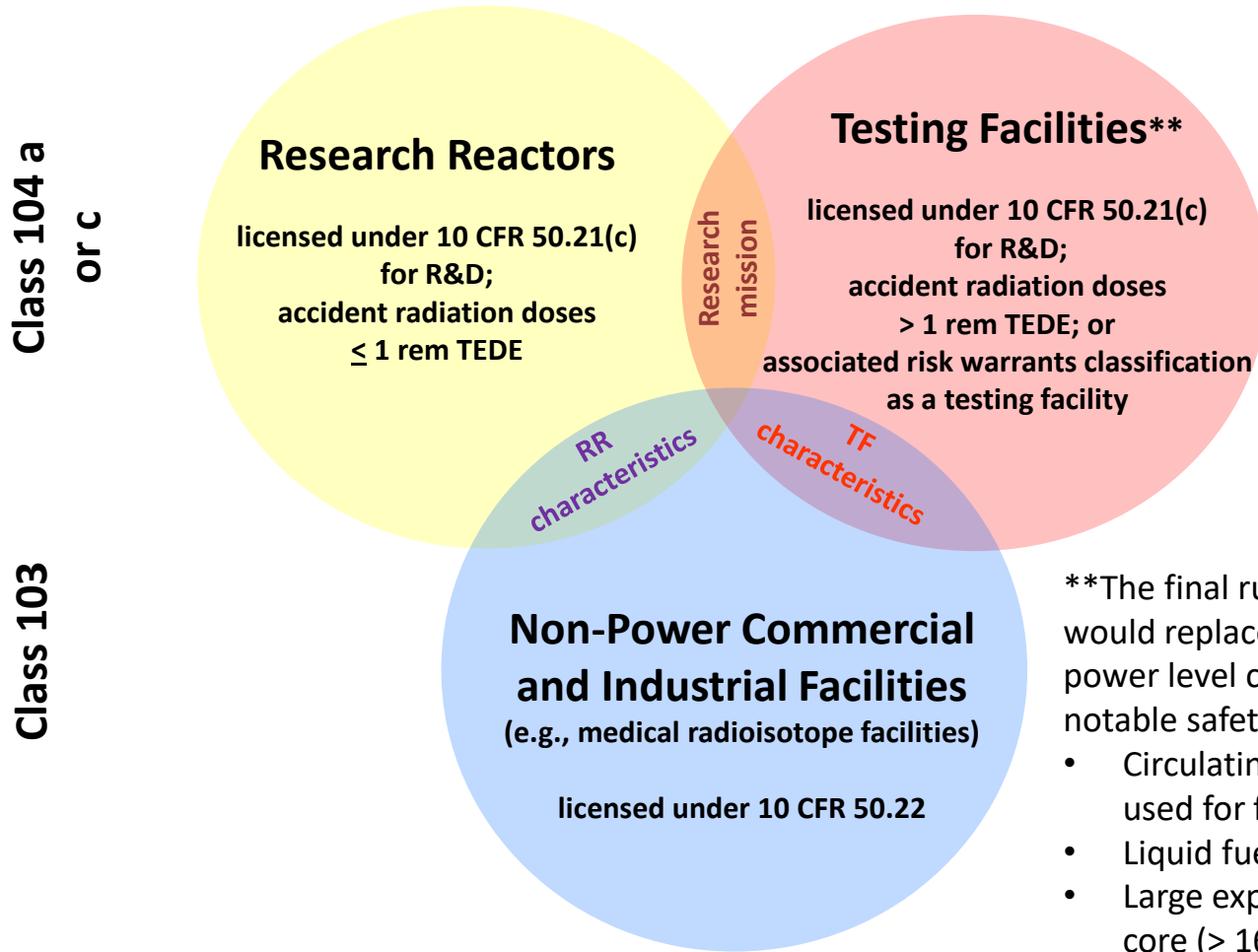
Purpose of the Final NPUF Rule

- Implement Commission direction to streamline the license renewal process by establishing a more efficient, effective and focused regulatory framework
- Use innovative and transformative approaches to address existing shortcomings in the current regulations for non-power licensees

NPUF Rulemaking Background

- The NRC published the proposed NPUF rule for public comment on March 30, 2017
 - Received 16 comment submissions which generally supported the proposed rulemaking
- 4 public meetings have been held on the NPUF rule:
 - May 24, 2017 (During the comment period)
 - January 23, 2019 (ACRS subcommittee)
 - February 6, 2019 (ACRS full committee)
 - April 25, 2019 (Implementation schedule)
- Draft final rule provided to the Commission for its consideration on June 18, 2019
- Documents related to the NPUF rulemaking can be reviewed on the [regulations.gov](https://www.regulations.gov) website by searching for the NRC Docket ID “**NRC-2011-0087**”

Relationship of NPUF Entities (Post-Final Rule)



**The final rule's new definition would replace the 10 megawatt power level criterion and criteria on notable safety considerations:

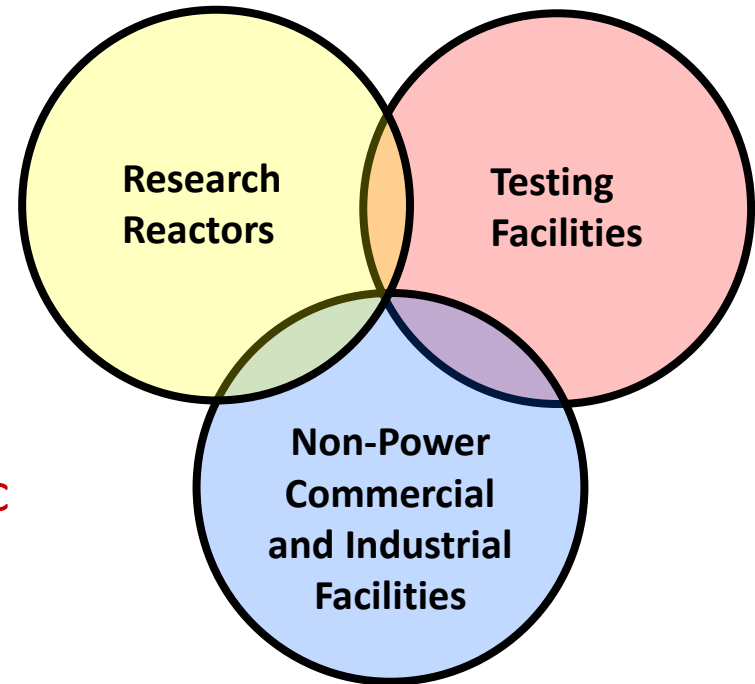
- Circulating loop through the core used for fuel experiments
- Liquid fuel loading
- Large experimental facility in the core (> 16 in² in cross-section)

Implementation Date

- Final NPUF rule effective date is 30 days after publication in the *Federal Register*
- Implementation date considerations:
 - No implementation actions are required to be completed by licensees by the effective date of the final rule for any of the 9 rulemaking objectives
 - Availability of the draft final rule since July 2019 allows licensees to become familiar with the final rule content before it becomes effective

1. Update Terms and Definitions

- Establish the term (“non-power production or utilization facility”) to capture all non-power facilities licensed under part 50
- **Revise definitions for “non-power reactor,” “research reactor,” and “testing facility” in response to public comment and make conforming changes***



No 30-day implementation requirements

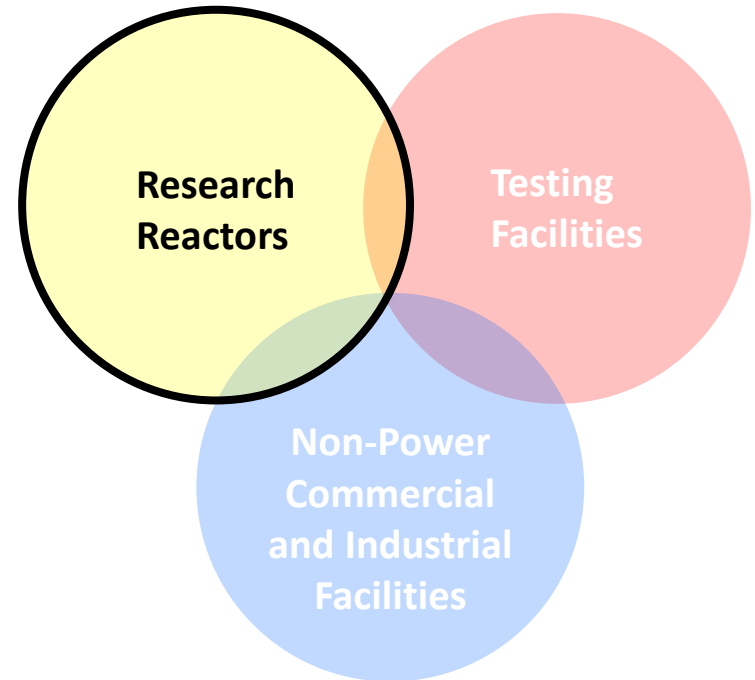
* Red text indicates changes from the proposed rule.

1. Update Terms and Definitions

- NRC staff determination on changing the definition of testing facility:
 - 10 MW(t) threshold, while generally based on safety significance, is not documented.
 - Prescriptive power thresholds do not account for the safety features that are engineered into the facility design or the barriers that must be breached during an accident before a release of radioactive material to the environment can occur.
 - Power thresholds do not accurately represent the risk associated with a particular facility.
 - Use of a postulated accident dose criterion of 1 rem is a more risk-informed, performance-based approach.

2. Eliminate License Terms

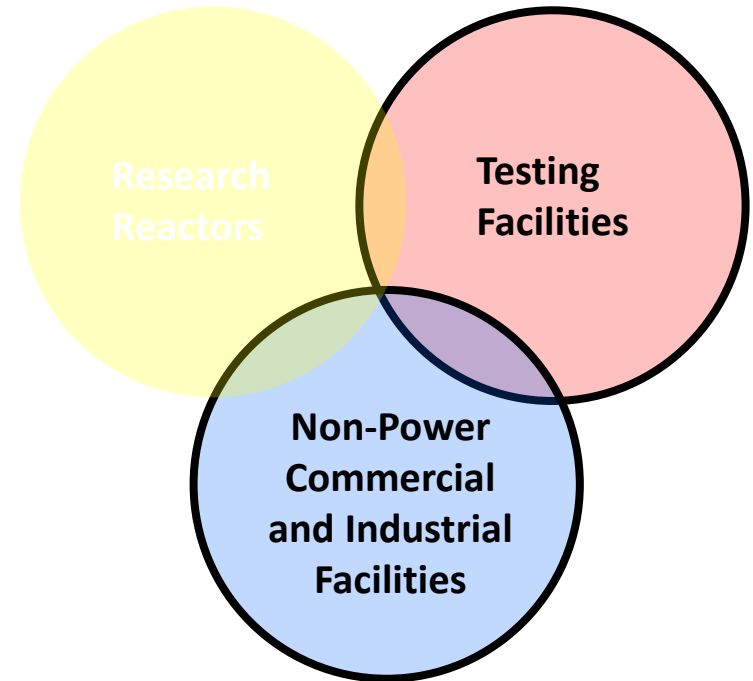
- Removes the fixed term for Class 104a and 104c licenses, other than for testing facilities
- No license term specified in AEA for Class 104 NPUFs
- Consistent with AEA's minimum regulation standard
- Reduces burden for licensees and NRC, while maintaining public health and safety



Non-expiring licenses would be implemented after the rule's effective date; therefore, there are no 30-day implementation requirements

3. Define the License Renewal Process

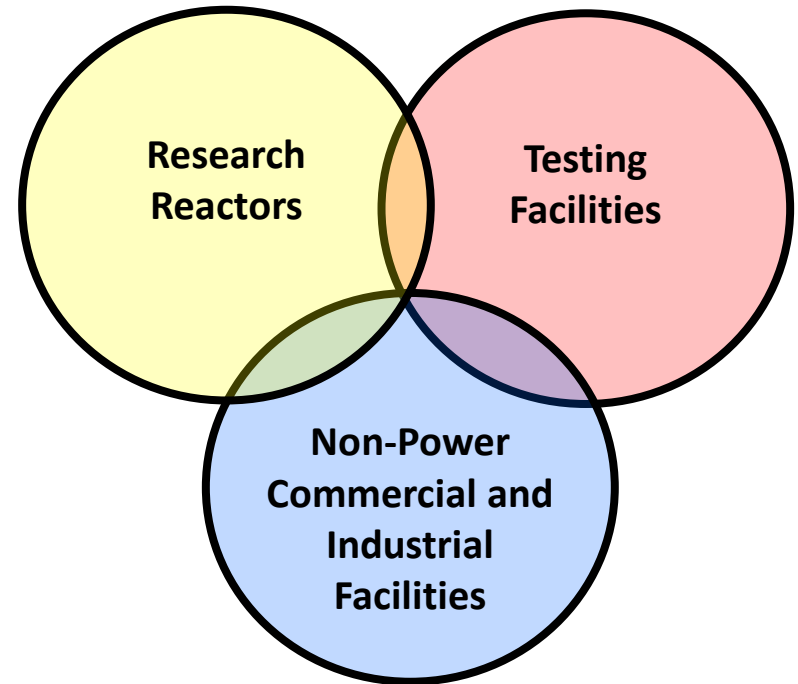
- Consolidate license renewal requirements under 10 CFR 50.135 and clarify the license renewal process
- Licenses will be effective immediately
- Maintains 40-year term for licenses
- Enhance regulatory efficiency



Would apply to future renewals for these licensees; therefore, there are no 30-day implementation requirements

4. Require Updated FSAR Submittals

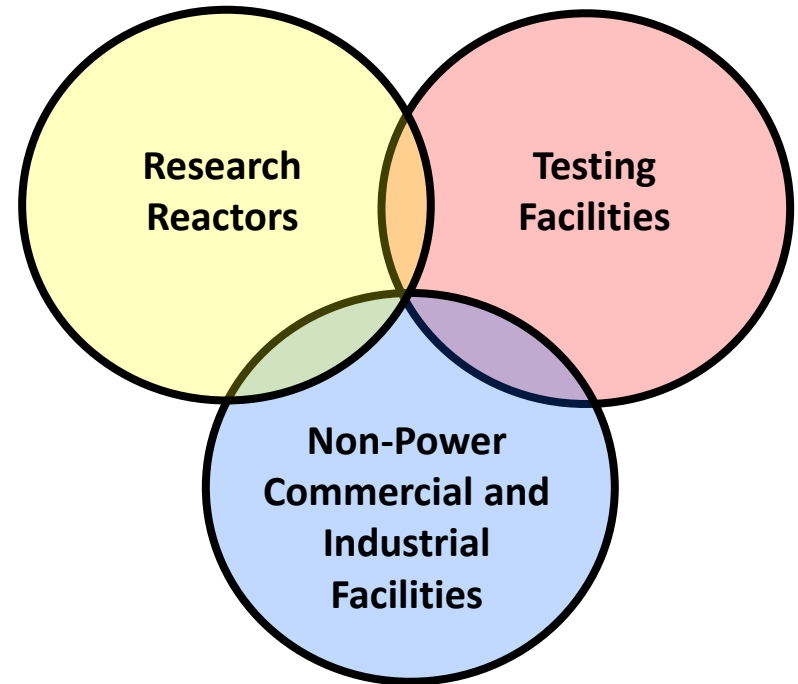
- Extends the applicability of 10 CFR 50.71(e) to NPUFs
- Ensures timely documentation of changes to licensing basis
- Benefits knowledge management, NRC's inspection program, and licensee operator training and exams
- **Reg Guide 2.7 provides guidance on the FSAR updates**



Updated FSAR submittals would be required more than 30 days after the rule's effective date; therefore, there are no 30-day implementation requirements

5. Amend Timely Renewal Provision

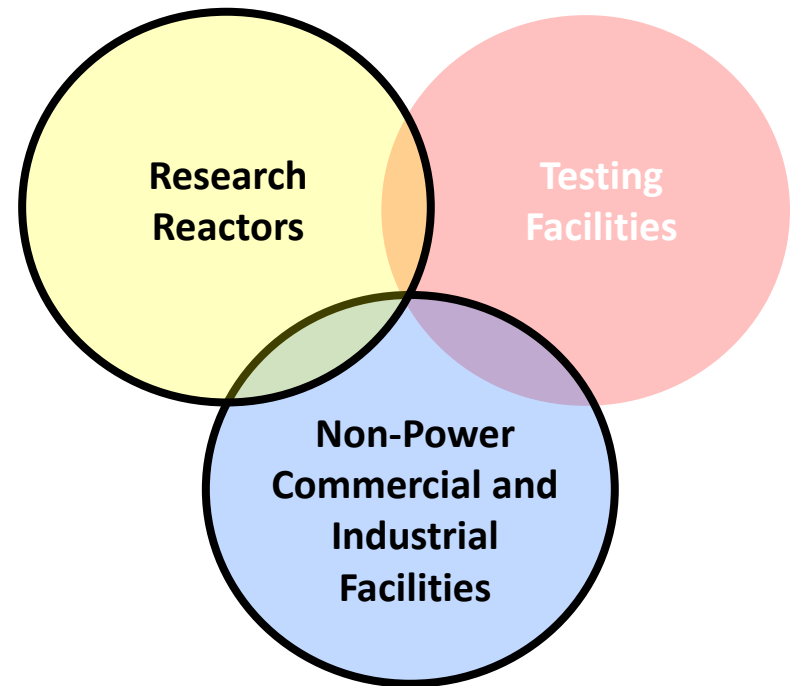
- Changes the timely renewal requirement to 2 years for Class 103 and testing facilities
- Provides sufficient time for an adequate assessment of a license renewal application
- **Maintains the 30-day timely renewal provision for certain facilities**



Would apply to future renewals for these licensees; therefore, there are no 30-day implementation requirements

6. Provide an Accident Dose Criterion

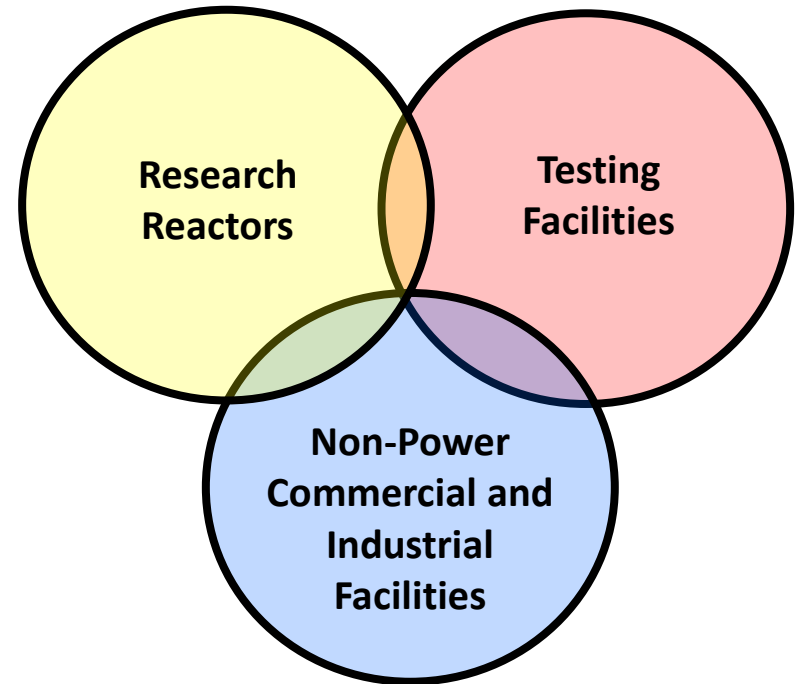
- Creates an accident dose criterion for NPUFs, other than testing facilities, that aligns with early phase EPA guidelines
- Provides adequate protection from unnecessary exposure to radiation
- Part 20 public dose limits are unnecessarily restrictive
- **Revises the location within 10 CFR 50.34 of the accident dose criterion**



No 30-day implementation requirements

7. Extend Applicability of 10 CFR 50.59

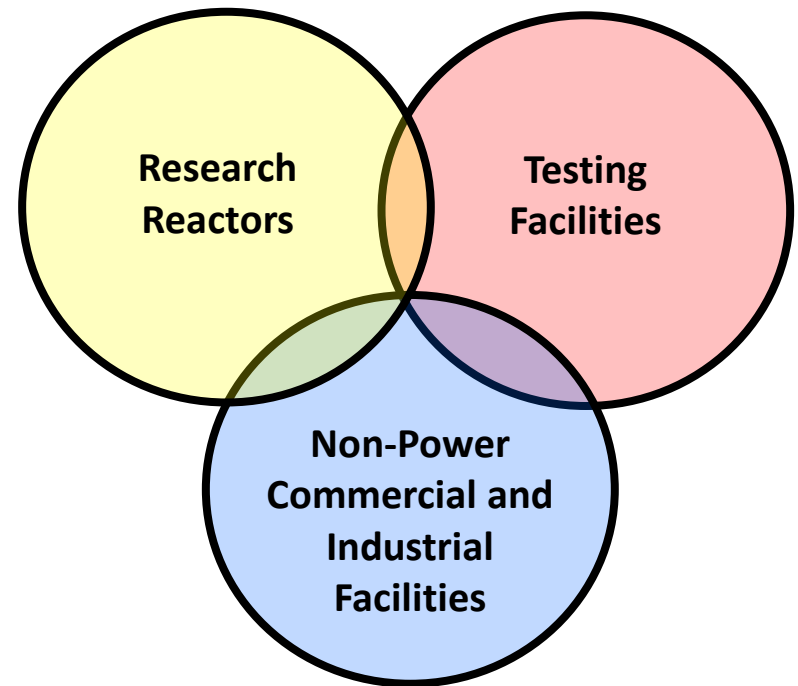
- Extends the applicability to NPUFs regardless of decommissioning status
- 10 CFR 50.59 currently is not applicable to NPUFs once fuel is moved offsite
- Avoids burden on licensees and the NRC of issuing license amendments



No 30-day implementation requirements

8. Clarify Existing Environmental Reporting Requirements

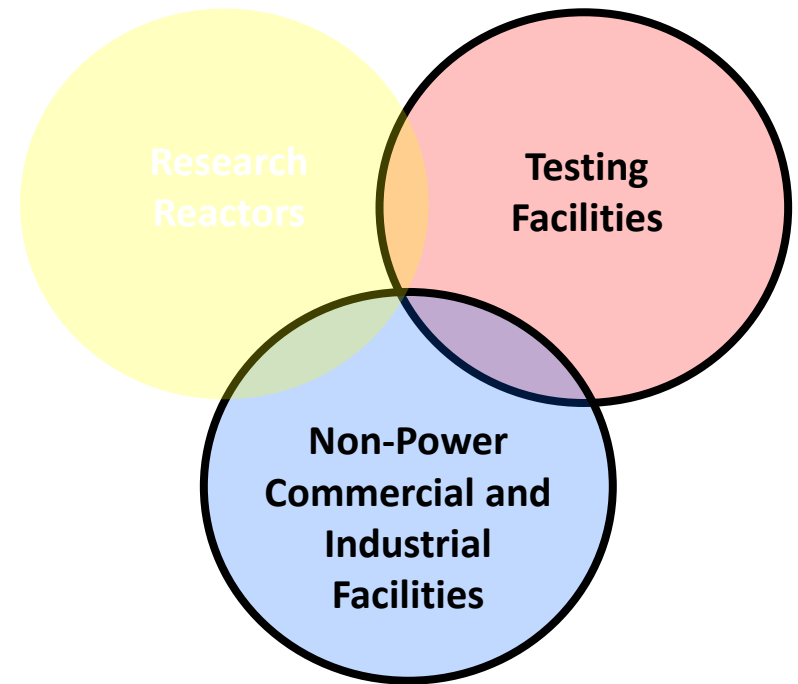
- Adds 10 CFR 51.56 for NPUFs to clarify that an environmental report is required per 10 CFR 51.45
- Historically, NRC has relied on 10 CFR 51.41 to collect “environmental information”
- Improves consistency and clarifies Part 51 requirements for licensing actions



Clarifies existing regulations; therefore, there are no 30-day implementation requirements

9. Eliminate NPUF Financial Qualification Information Requirement

- Eliminates 10 CFR 50.33(f)(2) financial qualification requirement at license renewal
- Primary means to ensure safety is through NRC's oversight and enforcement programs
- Reduces licensee burden without compromising public health and safety



This would apply to future NPUF license renewals; therefore, there are no 30-day implementation requirements

Significant Changes to the NPUF Proposed Rule

- Revised the proposed definition of “non-power production or utilization facility”
- Revised the existing definitions of “non-power reactor,” “research reactor,” and “testing facility”
- Made conforming changes to terms and definitions throughout 10 CFR Chapter I
- Revised proposed 10 CFR 50.135 so that renewed licenses will be effective immediately
- Clarified proposed 10 CFR 50.135 to maintain 40-year terms for renewed licenses
- Maintained timely renewal provision for certain facilities
- Revised the location within 10 CFR 50.34 of the accident dose criterion

Final NPUF Rule Summary

NPUF Final Rule Change	Class 103 Facilities	Class 104a Facilities	Class 104c Facilities	
	Commercial	Medical Therapy	R&D	Testing
1. Update terms and definitions	✓	✓	✓	✓
2. Eliminate license terms	N/A	✓	✓	N/A
3. Define the license renewal process	✓	N/A	N/A	✓
4. Require updated FSAR submittals	✓	✓	✓	✓
5. Amend timely renewal provision	✓	✓	✓	✓
6. Provide an accident dose criterion	✓*	✓	✓	N/A
7. Extend applicability of 10 CFR 50.59	✓	✓	✓	✓
8. Clarify existing environmental reporting requirements	✓	✓	✓	✓
9. Eliminate NPUF financial qualification information for license renewal	✓	N/A	N/A	✓

* Not applicable for Class 103 testing facilities

Implementation of Non-Expiring Licenses

- Class 104a and 104c licenses, except testing facility licenses, will not expire
- Future initial 104a and 104c NPUF licenses, except testing facility licenses, issued after the effective date of the final rule will not have an expiration date
- Licenses in existence on the effective date of the final rule that **have** undergone a NUREG-1537 license renewal will have the expiration date removed by order
- Licenses in existence on the effective date of the final rule that **have not** undergone a NUREG-1537 license renewal will be renewed without an expiration date

Implementation of FSAR Updates

- All NPUF licensees must submit updated FSARs and subsequent FSAR updates
 - Holders of licenses issued after the effective date of the final rule must submit an updated FSAR within 5 years of license issuance
 - Holders of licenses issued before the effective date of the final rule will receive orders
 - All licensees must submit subsequent updates no more than 5 years from previous update

Implementation of FSAR Updates

For operating licenses that have had a license renewal using NUREG-1537:

- Licensees are grouped by when the license renewal was approved
- Licensees with the most recent license renewals will generally be scheduled first for submitting an updated FSAR via order
- Grouping is tentative and the actual FSAR submission dates will be discussed with each licensee

Implementation of FSAR Updates

Group 1 consists of licensees with the most recent license renewals using NUREG-1537

- Updated FSAR due 1-3 years from the effective date of the final rule:
 - Armed Forces Radiobiology Research Institute
 - Maryland
 - Missouri – Columbia
 - Purdue
 - Rhode Island Atomic Energy Commission
 - United States Geological Survey
 - University of California - Irvine
 - University of Florida

Implementation of FSAR Updates

Group 2 generally consists of licensees with older license renewals using NUREG-1537 and any facility currently in decommissioning

- Updated FSAR due 2-5 years from the effective date of the final rule:

Dow Chemical Company

General Electric Test Reactor (GETR)*

Kansas State University

Missouri University of Science and Technology

Ohio State University

Pennsylvania State University

Rensselaer Polytechnic Institute

University of New Mexico

University of Wisconsin

General Atomics (2 facilities)*

Idaho State University

Massachusetts Institute of Technology

National Institute of Standards and Technology

Oregon State University

Reed College

Texas A&M (TRIGA)

University of Utah

Washington State University

*Currently in decommissioning

Implementation of FSAR Updates

Group 3 consists of licensees that have not undergone license renewal using NUREG-1537

- The following licensees must submit an updated FSAR under 10 CFR 50.71(e)(3)(iv) within 5 years after license renewal*:

GE-Hitachi

North Carolina State University

Texas A&M (AGN)

University of California - Davis

University of Massachusetts - Lowell

University of Texas – Austin

* Any licensee that receives a renewed license before the effective date of the rule would be moved to Group 1

Implementation of FSAR Updates

Group 3 consists of licensees that have not undergone license renewal using NUREG-1537

- Aerotest Radiography and Research Reactor has permanently ceased operations, but would still have to provide an updated SAR in accordance with 10 CFR 50.71(e)
- Construction permit holders must submit an updated FSAR under 10 CFR 50.71(e)(3)(iv) within 5 years after issuance of the new license.

SHINE

Northwest Medical

Implementation of Updated FSARs

- Once a licensee has submitted its initial updated FSAR, it will be subject to the new requirement in 10 CFR 50.71(e)(4)(ii) to submit subsequent FSAR updates no more than 5 years from the date of the previous FSAR submittal
- Regulatory Guide 2.7, “Preparation of Updated Final Safety Analysis Reports for Non-Power Production or Utilization Facilities,” provides guidance on updating the FSAR

Implementation of FSAR Updates

- The NRC staff discussed the implementation of FSAR updates during a public meeting on April 25, 2019
- Feedback focused on the groupings of licensees for initial FSAR updates and the timing of subsequent FSAR updates
- If the Commission approves the draft final rule as recommended by the staff, the NRC staff will consider the feedback from the meeting and any other feedback from individual licensees when setting the date of the initial FSAR update
- Details of the meeting, including a transcript, can be found at ADAMS Accession No. [ML19133A076](#)

Additional Questions?

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