

# Proposed Rule – Renewing Nuclear Power Plant Operating Licenses – Environmental Review

Subsequent License Environmental Directorate  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission

March/April 2023

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# Logistics

- Facilitators are here to assist
- Will open floor to questions and comments after the presentation
- Presentation slides shown on screen are in ADAMS at ML23069A013
- Chat feature in MS Teams is disabled
- Meeting is being recorded and transcribed

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# Purpose of the Meeting

- Describe the NRC's process for the review and update of NUREG-1437, *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (LR GEIS)
- Share our proposed amendments to 10 CFR Part 51
- Describe how you can provide comments
- Listen to and gather your comments

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# Agenda

- Background
- Purpose of the LR GEIS
- LR GEIS Update Process and Methodology
- Proposed Amendments to 10 CFR 51
  - Updates to Table B-1, “Summary of Findings on NEPA Issues for License Renewal of Nuclear Power Plants”
- Rulemaking Schedule
- How to Submit Comments
- Public Comment Session





# Background

- Scoping initiated in August 2020, 7 years after the last revision cycle (2013)
- Staff submitted SECY-21-0066 – July 2021
- Staff Requirements Memorandum (SRM)- SECY-21-0066 directed the staff to develop a new rulemaking plan
- Staff submitted SECY-22-0024 – March 25, 2022

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# Background (cont.)

- SRM-SECY-22-0024 issued in April 2022 directed the staff to:
  - Initiate a rulemaking that aligns with Commission Order CLI-22-03 and recent decisions in CLI-22-02 and CLI-22-04
  - Remove the word “initial” from 10 CFR 51.53(c)(3)
  - Revise the LR GEIS, Table B-1, and associated guidance to fully support subsequent license renewal (SLR)
  - Account for changes to applicable laws and regulations, new data, and lessons learned
  - Complete the rulemaking within 24 months

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# Purpose of the LR GEIS

- Summarizes findings from a detailed inquiry into the environmental impacts of license renewal and continued plant operations during the renewal term
- Identifies and evaluates generic impacts (same or similar) at all power plants, or a subset of power plants
- Identifies plant-specific impacts that need to be addressed in supplements to the LR GEIS



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# LR GEIS

- Findings from the LR GEIS are codified in Table B-1 of Appendix B to Subpart A of 10 CFR Part 51
  - 10-year review and update, if necessary
- Categorization of impact issues
  - Category 1: impacts same or similar at all nuclear power plants or a subset of nuclear power plants
  - Category 2: requires nuclear plant-specific analysis





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# Process to Update GEIS

- Review and update the 2013 LR GEIS to validate the findings for initial license renewal (LR) and expand the analyses to cover SLR reviews
- Consider the need to modify, add to, or delete any of the 78 environmental issues in the 2013 LR GEIS
- Ensure that the LR GEIS and plant-specific environmental reviews meet the “hard look” standard under NEPA



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# Process to Update GEIS (cont.)

- General analytical approach:
  - Describe the nuclear power plant activity or aspect of plant operations or refurbishment that could affect the resource
  - Identify the resource that is affected
  - Evaluate past license renewal reviews and other available information
  - Assess the nature and magnitude of effect on an affected resource from initial LR or SLR
  - Characterize the significance of effects
  - Determine whether the results apply to all plants or a subset of plants—that is, whether the environmental issue is Category 1 (generic) or Category 2 (plant-specific)
  - Consider additional mitigation measures

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# Updates to Table B-1

- In the draft revised LR GEIS, the staff proposes a total of 80 environmental issues that may be associated with continued operation and refurbishment during the renewal term
  - 59 environmental issues are Category 1
  - 20 environmental issues are Category 2
  - 1 environmental issue is uncategorized
- No environmental issues were eliminated, but certain issues were consolidated, and one issue was subdivided into three separate issues
- One new Category 1 issue and two new Category 2 issues were added

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# Consolidated Category 2 Issue

- “Groundwater quality degradation (cooling ponds at inland sites)” (Cat. 2)
- “Groundwater quality degradation (cooling ponds in salt marshes)” (Cat. 1)

**“Groundwater quality degradation (plants with cooling ponds)” (Cat. 2)**

# Consolidated Category 2 Issue

- “Impingement and entrainment of aquatic organisms (plants with once-through cooling systems or cooling ponds)” (Cat. 2)
- Impingement component of “Losses from predation, parasitism, and disease among organisms exposed to sublethal stresses” (Cat. 1)

**“Impingement mortality and entrainment of aquatic organisms (plants with once-through cooling systems or cooling ponds)” (Cat. 2)**

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# Consolidated Category 1 Issue

- “Impingement and entrainment of aquatic organisms (plants with cooling towers)” (Cat. 1)
- Impingement component of “Losses from predation, parasitism, and disease among organisms exposed to sublethal stresses” (Cat. 1)

**“Impingement mortality and entrainment of aquatic organisms (plants with cooling towers)” (Cat. 1)**

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# Consolidated Category 1 Issue

- “Infrequently reported thermal impacts (all plants)” (Cat. 1)
- “Effects of cooling water discharge on dissolved oxygen, gas supersaturation, and eutrophication” (Cat. 1)
- Thermal effluent component of “Losses from predation, parasitism, and disease among organisms exposed to sublethal stresses” (Cat. 1)

**“Infrequently reported effects of thermal effluents” (Cat. 1)**

# Subdivided Category 2 Issue

“Threatened, endangered, and protected species, critical habitat and essential fish habitat” (Cat. 2)

- “Endangered Species Act: federally listed species and critical habitats under U.S. Fish and Wildlife jurisdiction” (Cat. 2)

- “Endangered Species Act: federally listed species and critical habitats under National Marine Fisheries Service jurisdiction” (Cat. 2)

- “Magnuson-Stevens Act: essential fish habitat” (Cat. 2)



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# New Issues

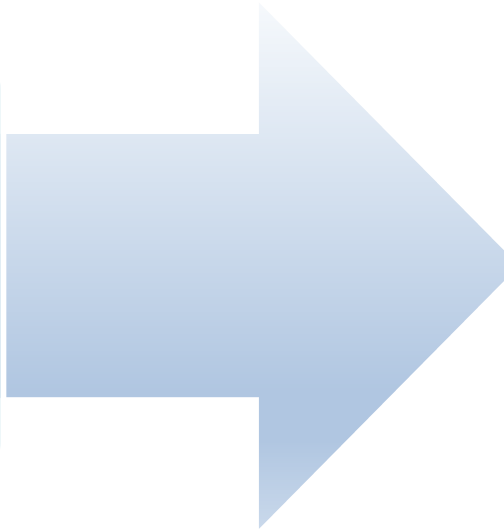


- “National Marine Sanctuaries Act: sanctuary resources” (Cat. 2)
- “Greenhouse gas impacts on climate change” (Cat. 1)
- “Climate change impacts on environmental resources” (Cat. 2)

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# Issue Category Change

“Severe  
accidents”  
(Cat. 2)



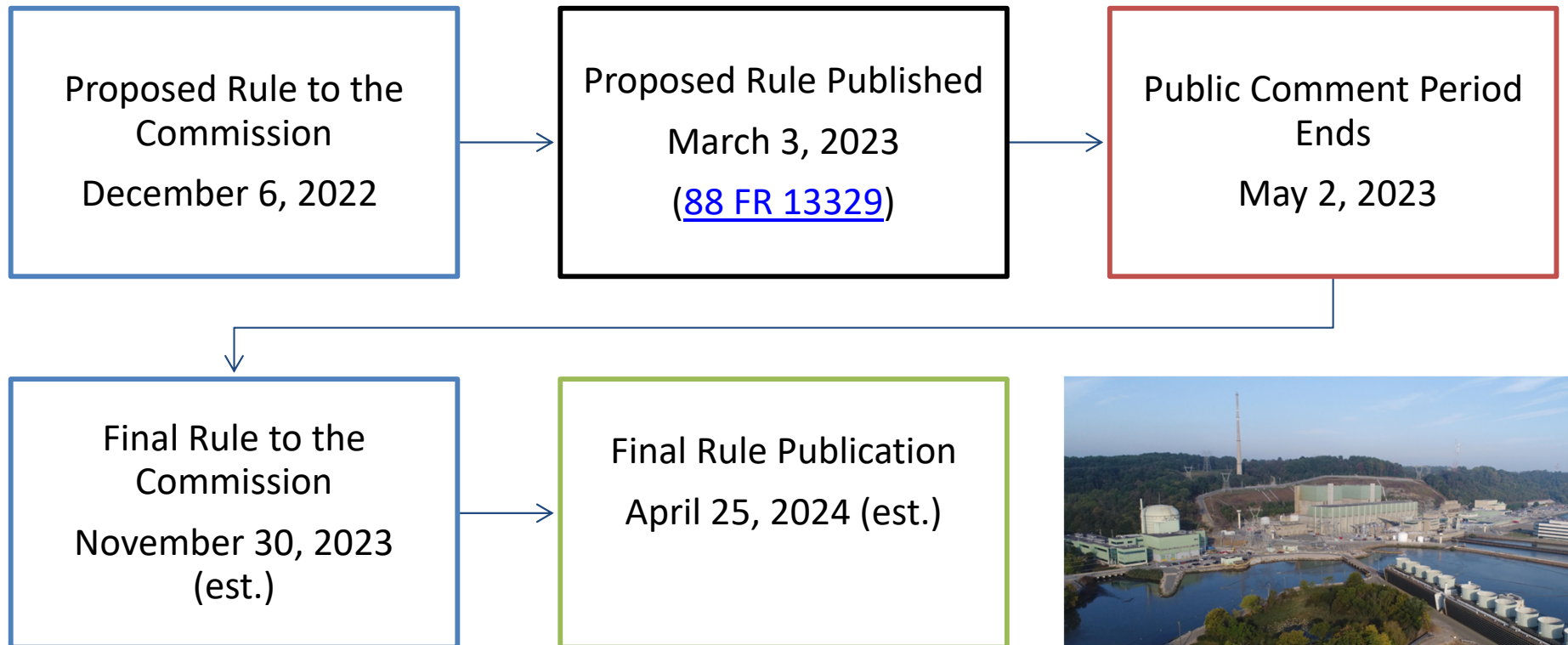
“Severe  
accidents”  
(Cat. 1)

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# Summary of Proposed Amendments

- Codifies the revised Category 1 (generic) conclusions of the draft revised LR GEIS in Table B-1 in Appendix B to Subpart A of 10 CFR 51
  - Conclusions have been expanded to specifically account for SLR (one term), initial LR and other new information since the 2013 LR GEIS
- Revises Table B-1 to account for lessons learned, knowledge gained, and experience from environmental reviews performed since development of the LR GEIS, Revision 1 (2013)
- Updates 10 CFR 51.53 and Table B-1 to reflect new scientific data, and changes in environmental regulations and impact methodology regarding the assessment of potential environmental impacts of nuclear power plants
- Makes conforming changes to § 51.53(c)(3) and § 51.95(c)

# Rulemaking and LR GEIS Schedule



Docket ID: **NRC-2018-0296**

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# All Supporting Documents

- Follow the links below or go directly to:

<https://www.nrc.gov/reactors/operating/licensing/renewal/sled.html>

Proposed Rule: <i>Federal Register</i> Notice Regarding Renewing Nuclear Power Plant Operating Licenses - Environmental Review	<a href="#">ML22357A007</a>
Draft NUREG-1437, “Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants,” Volume 1 & 2, Revision 2	<a href="#">ML23010A078</a> <a href="#">ML23010A086</a>
Draft NUREG-1555, Supplement 1, Revision 2, “Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Supplement 1: Operating License Renewal”	<a href="#">ML22165A070</a>
Draft Regulatory Guide DG-4027, “Preparation of Environmental Reports for Nuclear Power Plant License Renewal Applications” (also referenced as RG 4.2, Supplement 1)	<a href="#">ML22165A072</a>
Draft Regulatory Analysis for the 10 CFR Part 51, Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants	<a href="#">ML23010A074</a>

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# Submitting Comments



- At today's meeting
- Online at <https://www.regulations.gov> and search for **Docket ID NRC-2018-0296**
  - Please note that comments will not be edited to remove identifying information
- By Email: [Rulemaking.Comments@nrc.gov](mailto:Rulemaking.Comments@nrc.gov).
  - If you do not receive an automatic email reply confirming receipt, contact us at 301-415-1677

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# How to Submit Comments (cont.)

-  By Mail:  
Secretary

ATTN: Rulemaking and Adjudications Staff

Mail Stop: TWFN-7-A60M

U.S. Nuclear Regulatory Commission

Washington, DC 20555-0001

- Comment period ends [May 2, 2023](#)

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# Specific Request for Comment

- The proposed rule would extend the applicability of the LR GEIS to one term of SLR. The NRC is seeking comment on whether the proposed rule should be expanded beyond two license renewal terms.
- Please provide the rationale for your response.





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# Points of Contact

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# Providing Questions/Comments

- Raise your hand
  - MS Teams: “Raise my hand” button
  - On the phone: press “\*5”
- You’ll still need to unmute
  - MS Teams: Unmute button
  - On the phone: press “\*6”



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# Public Comment Session

- Each person wishing to provide comments will be given an initial 3 minutes (to accommodate as many persons as possible)
  - Identify yourself and your organization, if any
  - If time permits, we will ask if there are additional comments
- We will loop back around for a second round of commenting, if time allows