

# Update of Regulatory Guide 4.2 Preparation of Environmental Reports for Nuclear Power Stations and Environmental Standard Review Plans (NUREG-1555)

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# Agenda

- Purpose of meeting and reason for update
- History of revisions to RG 4.2 and ESRP
- Overall strategy for update
  - Scope
  - Approach
  - Examples of technical revisions
- Status and schedule

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# Purpose of Today's Meeting

The purpose is to

- Inform stakeholders that we are updating RG 4.2 and the ESRPs
- Indicate that the update is reflective of the staff's current environmental review process
- Provide background information related to the update and an overview of the update
- Communicate that the RG 4.2 and the ESRPs will be published as drafts for comment

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# Purpose of Updates of RG 4.2 and ESRPs

Clarify instructions for applicants and NRC staff to reflect

- The staff's current process for reviewing new reactor applications that incorporates current NRC policy, regulations and guidance (including interim staff guidance documents)
- New regulations or guidance issued by other Federal agencies
- Lessons-learned from judicial or administrative hearing board decisions
- Changes in the U.S. electric power industry

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# History

- 1972 – RG 4.2 originally issued for comment
- 1975 – RG 4.2 revised and published as Rev. 1
- 1976 – RG 4.2 revised and published as Rev. 2
- 1978 – ESRPs first published as NUREG-0555
- 2000 – ESRPs revised as NUREG-1555
- 2007 – ESRPs - 39 ESRPs updated as Rev. 1

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# Scope of RG and ESRPs

The scope includes

- Construction Permits and Operating License Applications
- Early Site Permits
- Combined Licenses
- Issuance of Limited Work Authorizations

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# Approach to Revising the RG and ESRPs

- Written for large light-water reactor COL applications that do not reference an ESP
- An appendix addresses supplemental guidance for applications for other authorizations and licenses
  - Early Site Permits
  - Combined licenses referencing an ESP and/or a standard design certification
  - Construction Permits and Operating Licenses
  - Standard Design Certifications
- A separate appendix provides supplemental guidance for light-water small modular reactors

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# Addressing the LWA Rule

- The information requested in RG 4.2 is consistent with current practices and the LWA rule
- The ESRPs are revised to be consistent with current practices and the LWA rule
- RG 4.2 and ESRPs are written with expectation that the USACE will be a cooperating agency
  - When cooperating with the USACE, the NRC follows current practice to include preconstruction and construction in EIS Chapter 4



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# Examples of Technical Revisions

- Changes in NRC policy, regulations or guidance
  - Definition of “construction” resulting from LWA rule (10 CFR 51.4(1))
  - Greenhouse gas and climate change impacts (CLI-09-21)
- New regulations or guidance issued by other Federal agencies
  - Environmental Protection Agency regulations for cooling water intake structures (316(b) regulations)
  - Cumulative impacts for alternative sites (CEQ guidance)

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## Examples of Technical Revisions (cont.)

- Recent Experience
  - Historic and Cultural Resources – updated guidance to address NHPA Section 106 consultation through process for complying with NEPA.
- Lessons Learned from judicial or administrative hearing board decisions
  - Mitigation – clearly identifying when mitigation measures are, or are not, reasonably foreseeable (COL/ESP-ISG-26)
- Changes in the U.S. electric power industry
  - Deregulation (merchant plants, NERC, Regional Transmission Authorities)
  - Changes in generating technologies

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# Format of RG 4.2 and ESRP

Revised format of RG 4.2 and ESRPs to facilitate the review process by

- Aligning RG 4.2 and ESRPs with the format of an EIS (COL)
- Reorganizing ESRPs by topic area (resource)
  - Consolidates number of ESRPs from 143 to 24
  - Adds 6 appendices for regulatory and technical areas

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# RG 4.2 Format

Document format revised to match an Environmental Impact Statement (EIS)

- Chapter 1 – Introduction
- Chapter 2 – Proposed Site and the Affected Environment
- Chapter 3 – Site Layout and Project Description
- Chapter 4 – Environmental Impacts from Construction of the Proposed Project
  - Land Use
  - Water Resources (Surface water and groundwater)
  - Ecological Resources
  - Socioeconomics
  - Environmental Justice
- Chapters 5 – 10 (etc.)

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# RG 4.2 Appendices

- Appendix A – Part 50 and Part 52 Licenses and Authorizations
- Appendix B – Consultations
- Appendix C – Small Modular Reactor Design

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# ESRP Table of Contents

- Chapter 1 – Introduction (background, scope, organization, changes from previous version, general instructions)
- Chapter 2 – Organization and Content of EIS chapters
- Chapter 3 – Review Instructions by topic area (resource)
  - 3.1 Administrative Sections
  - 3.2 Site Layout and Project Description
  - 3.3 Land Use
  - 3.4 Water Resources
  - 3.5 Terrestrial Ecology
  - 3.6 etc.

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# Review Instructions within each ESRP

- **Purpose and Scope**
- **Laws, Regulations and Guidance**
- **Review Process**
- **Technical Review Guidance**
  - Environmental Description (input to EIS Chapter 2)
  - Impacts of Construction (input to EIS Chapter 4)
  - Impacts of Operation (input to EIS Chapter 5)
  - Cumulative Impacts (input to EIS Chapter 7)
  - Assessment of Alternatives (input to EIS Chapter 9)
  - Conclusions and Recommendations (input to EIS Chapter 10)

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# ESRP Appendices

- Appendix A – Licenses and Authorizations in 10 CFR Part 50 and Part 52
- Appendix B – Compliance with Environmental Statutes and Executive Orders Associated with the Issuance of an NRC License or Permit
- Appendix C – Consultations
- Appendix D – Specific Environmental Guidance for Light-Water Small Modular Reactor Reviews
- Appendix E – Global Climate Change
- Appendix F – Estimating Greenhouse Gas Emissions



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## RG 4.2 Status and Schedule

- Completed draft in October 2015
- Currently in NRC internal concurrence
- Anticipate publishing draft for comment in last quarter of calendar year 2016
- Anticipate a 60-day comment period

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# ESRP Status and Schedule

- Early 2014 – Initiated project
- April 2016 – Technical sections nearing completion; working on consistency issues
- November 2016 – Draft for NRC-internal review
- Late calendar year 2017 – Publication of Draft

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# Questions or Comments

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# Contact Information for Questions

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