

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

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

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

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

Scope of RG and ESRPs

The scope includes

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

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

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

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)

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

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

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.)

RG 4.2 Appendices

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

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.

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)

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

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

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

Questions or Comments

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