



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

PUBLIC MEETING

APPLICATIONS FOR NUCLEAR POWER PLANTS Regulatory Guide 1.206 [Revision]

**Division of Engineering, Infrastructure and Advanced Reactors
Office of New Reactors**

September 26, 2016
ADAMS: [ML16259A116](#)



Regulatory Guide (RG) 1.206 [Revision]

Public Meeting – Category 3

<http://meetings.nrc.gov/pmns/mtg?do=details&Code=20161262>

Bridge Number: 8883901827, Passcode: 46481

Purpose: Provide input to the NRC staff in the development of guidance on select topics to be included in the revised RG 1.206.

Documents:

- ❑ Agenda – [ML16259A116](#)
- ❑ Draft guidance documents – [ML16259A085](#), ML16265A199
- ❑ NRC staff presentation
- ❑ NEI presentation
- ❑ Barbara Hayes; Barbara.Hayes@nrc.gov ; 301-415-7442



Regulatory Guide (RG) 1.206 [Revision]

AGENDA

<u>Time</u>	<u>Topic</u>	<u>Speaker</u>
2:00 p.m.	Opening and Introductions	NRC
2:10 p.m.	Overview: Regulatory Guide 1.206 revision	NRC
2:20 p.m.	Guidance: Application Electronic Submittal	NRC
2:30 p.m.	Guidance: Design-Centered Review Approach*	NRC
3:00 p.m.	Guidance: Inspections, Tests, Analyses, and Acceptance Criteria	NRC
3:15 p.m.	Guidance: Finalizing Licensing-basis Information for COLs	NRC
3:35 p.m.	Discussion: C.2.14 revisited- Information Change Processes for COL Applicants	NEI
3:55 p.m.	Review and Action Items	NRC
4:00 p.m.	Adjourn	



Overview – RG 1.206 Revision

- ❑ RG 1.206 *Combined License Applications for Nuclear Power Plants* (2007)
- ❑ New Reactor Licensing Process Lessons Learned Review: 10 CFR 52 (ML13059A239)
- ❑ NRC staff initiated revision – summer 2014
- ❑ Public meetings – stakeholder interactions and feedback
 - ❑ September 2014
<http://meetings.nrc.gov/pmns/mtg?do=details&Code=20141402>
 - ❑ March 2015
<http://meetings.nrc.gov/pmns/mtg?do=details&Code=20150270>
 - ❑ June 2, 2015
<http://meetings.nrc.gov/pmns/mtg?do=details&Code=20150760>
 - ❑ October 25, 2015
<http://meetings.nrc.gov/pmns/mtg?do=details&Code=20151494>
 - ❑ May 3, 2016
<http://meetings.nrc.gov/pmns/mtg?do=details&Code=20160581>
- ❑ Update: revision scope, topics, and level of detail



Revision Scope, Topics, Detail

Sept 2014 – June 2015

- A. INTRODUCTION
- B. DISCUSSION
- C. GUIDANCE
 - C.1 Application Format & Content
 - C.1.1 – C.1.11
 - C.2 Application Regulatory Topics
 - C.2.1 – C.2.n
- Appendices: Safety Analysis Report Format & Content**
 - A. Combined License – Final Safety Analysis Report**
 - B. Early Site Permit – Site Safety Analysis Report**
 - C. Design Certification – FSAR (DCD)**
 - D. Combined License – FSAR if COL references a DC and/or ESP**

Revised: October 2015)

- A. INTRODUCTION
- B. DISCUSSION
- C. GUIDANCE
 - C.1 Application Format & Content
 - C.1.1 – C.1.11
 - C.2 Application Regulatory Topics**
 - C.2.1 – C.2.18**
- D. IMPLEMENTATION



RG 1.206 Revision (October 2015)

TABLE OF CONTENTS

A. INTRODUCTION	
B. DISCUSSION	
C. REGULATORY GUIDANCE	
C.1 Application Format and Content	
C.1.1 General and Financial Information	
C.1.2 Safety Analysis Report	
C.1.3 Environmental Report	
C.1.4 Technical Specifications	
C.1.5 Emergency Plans	
C.1.6 Security Plans	
C.1.7 Exemptions, Departures, and Variances	
C.1.8 License Conditions and Inspections, Tests, Analyses, and Acceptance Criteria	
C.1.9 Withheld Information	
C.1.10 Quality Assurance Program Description	
C.1.11 Supplemental Information	
C.2 Application Regulatory Topics	
C.2.1 Preapplication Activities	
C.2.2 Preapplication Readiness Assessment	
C.2.3 Application Electronic Submittal	
C.2.4 Application Acceptance Review	
C.2.5 Application Review & Requests for Additional Information	
C.2.6 COL Application Referencing DC and/or ESP	
C.2.7 Design-Centered Review Approach	
C.2.8 Design Acceptance Criteria	
C.2.9 Inspections, Tests, Analyses, and Acceptance Criteria	
C.2.10 Applicability of Consensus Standards	
C.2.11 COL Action Items & Post-license Commitments	
C.2.12 Operational Programs for COLs	
C.2.13 10 CFR Parts 30, 40 and 70 Materials Licenses for COLs	
C.2.14 Information Change Processes for COL Applicants	
C.2.15 Environmental Issue Finality for COL Applicants	
C.2.16 Finalizing Licensing-basis Information for COLs	
C.2.17 Small Modular Reactors and Design-Specific Review Standards	
C.2.18 Limited Work Authorization	
D. IMPLEMENTATION	



Section C.2: Application Regulatory Topics

✓ C.2.1 Preapplication Activities

✓ C.2.2 Preapplication Readiness Assessment



C.2.3 Application Electronic Submittal

✓ C.2.4 Application Acceptance Review

✓ C.2.5 Application Review & Requests for Additional Information

✓ C.2.6 COL Application Referencing DC and/or ESP



C.2.7 Design-Centered Review Approach (aka RCOL & SCOL Applications)

✓ C.2.8 Design Acceptance Criteria



C.2.9 Inspections, Tests, Analyses, and Acceptance Criteria

✓ C.2.10 Applicability of Consensus Standards

✓ C.2.11 COL Action Items & Post-license Commitments

✓ C.2.12 Operational Programs for COLs

✓ C.2.13 10 CFR Parts 30, 40 and 70 Materials Licenses for COLs

✓ C.2.14 Information Change Processes for COL Applicants

✓ C.2.15 Environmental Issue Finality for COL Applicants



C.2.16 Finalizing Licensing-basis Information for COLs

✓ C.2.17 Small Modular Reactors and Design-Specific Review Standards

✓ C.2.18 Limited Work Authorization

✓ discussed at prior public meeting



C.2.3 Electronic Application Submittal

- ❑ [ML16259A085](#)

- ❑ Key changes relative to RG 1.206 Part IV.2 redirect the reader to NRC's public website where general electronic submittal requirements are kept up to date.
- ❑ Includes table taken directly from RG 1.206 C.IV.2.2-1 that gives guidance regarding:
 - Type of submission
 - Addressee, copies, and forms of media
 - Relevant regulations
- ❑ Preserves key guidance from RG 1.206 Part IV.2 on referencing a DCR or ESP
- ❑ Preserves key guidance from C.IV.2.4 on revised or additional information



C.2.3

Electronic Application Submittal

Interactive discussion



C.2.7 Design-Centered Review Approach (DCRA)

- ML16265A199
- NEW topic not addressed in RG 1.206 (2007)**
- RIS-2006-06: New Reactor Standardization Needed to Support the Design-Centered Licensing Review Approach**
 - Previously titled RCOL and SCOL Applications*
 - High level guidance relevant to NEI's presentation on the Integrated FSAR (I-FSAR) ([ML15152A297](#))*
 - Describes relevant industry and staff practices within a context of the regulatory requirements*
 - Provides examples of current practices*



C.2.7 Design-Centered Review Approach

❑ Overview – Regulatory Issues Summary 2006-06

- ❑ standardization enhances safety and reviews and facilitates public engagement
- ❑ Applicable to COLAs that reference a DC
- ❑ DCRA: one issue, one review, one position
- ❑ RIS 2006-06 requested;
 - formation of DC working groups (DCWG)
 - Designation of reference COLA (R-COLA)
 - Identification of “standard content” in R-COLA that would be shared by subsequent COLAs referencing the same DC
 - Annotation defining generic DCD content, “standard content”, and site specific content



C.2.7 Design-Centered Review Approach

Overview – continued

- The DCRA was endorsed by the Commission's Staff Requirements Memorandum (SRM) SECY-06-0187.
- DCRA & referencing practices have evolved over time
- NEI presented "Integrated FSAR" concept that would include departures from COLs currently in construction
- Appendix A– Background Information on the History of the DCRA



C.2.7 Design-Centered Review Approach

Guidance – General

- NEI's I-FSAR concept is aligned with referencing practices that have evolved with the DCRA
- There are no regulatory requirements that constrain COL applicants from further refinement of referencing practices. The objective should be to clarity of the eventual licensing basis.
- Refinements to current referencing practices is preferable to an entirely new approach. Current practices are familiar, effective and adaptable.



C.2.7 Design-Centered Review Approach

Guidance – General

- Enhancements in referencing must be associated with a COLA and should be discussed in pre-application public meetings with the NRC
- COLA must meet all regulatory requirements and support the NRC safety, security and environmental findings
- A plant-specific FSAR is needed to address site-specific issues.
- Referencing of previous NRC reviews should be clear and are most efficient if COLA demonstrates that it is applicable and that any differences do not impact the previous safety findings.



C.2.7 Design-Centered Review Approach

- ❑ Guidance - Left Margin Annotation in COLA FSARs
- ❑ Key referencing approach utilized in COLAs that reference the AP1000 and ESBWR DC
 - STD – standard information identical in each COLA referencing a DC (goes back to R-COLA)
 - Plant abbreviation for the current application (e.g. WLS for Lee)– plant-specific information
 - DEP –a departure (DEP) from the DCD
 - COL – COL information item identified in the DCD
 - VAR –a variance from an ESP
 - SUP –supplements (SUP) information in the DCD
 - CDI – design information that addresses conceptual design information (CDI) in the generic DCD



C.2.7 Design-Centered Review Approach

- ❑ Guidance - Left Margin Annotation in COLA FSARs
- ❑ There is no regulatory requirement that would restrict a COL applicant from creating a site specific supplement (i.e. XXX 1.1-3 for a plant named XXX) that modifies LMA for the application.
- ❑ Primary importance is clarity so that the NRC, the applicant and the public clearly understand the content of the application
- ❑ Changes to LMA should be discussed in the pre-application period. The applicant may wish to include:
 - Plant abbreviation for a S-COLA or S-COL that contains content the applicant wishes to reference
 - Post-licensing submissions from licensees and associate NRC staff review (departures, LARs) if appropriate



C.2.7 Design-Centered Review Approach

- ❑ Guidance – Endorsement (“me-too”) Letters and RAI Responses for R-COLA

- ❑ Endorsement letters from S-COL applicants indicate acceptance of R-COL responses to NRC RAI’s associated with standard content.

- ❑ Includes an evaluation of the R-COL RAI responses that typically includes:
 - A table listing R-COL RAIs including RAI identification numbers
 - A copy of the R-COL determination of the RAI as to whether the RAI was standard or site-specific
 - A determination as to whether the RAIs designated as Standard are endorsed by the S-COL applicant



C.2.7 Design-Centered Review Approach

- ❑ Guidance – COLAs referencing Departure and Exemptions Reports
 - ❑ Part 7 of a COLA includes exemptions, departures, and variances applicable to an application
 - ❑ Once a license is issued, Part 7 remains unchanged but post-licensing departures and exemptions information are still publicly available.
 - ❑ From COL issuance to a 10 CFR Part 52.103(g) finding, a COL licensee must submit reports required by Sections X.B.1 and X.B.3.b under the relevant appendix to 10 CFR Part 52 which contains:
 - a brief description of plant-specific departures from the DCD
 - a summary of the evaluation for each
 - ❑ NRC staff encourages discussions during pre-application period as to how these will be referenced in the COLA



C.2.7 Design-Centered Review Approach

- Guidance – COLAs referencing post-licensing information
- Post-licensing information may be of value to COL applicants because:
 - departures and exemption requests may have been deferred due to “freeze point” practice (C.2.16)
 - Constructability issues encountered between licensing and 52.103(g) finding
 - Start-up issues directly after 52.103(g) finding
- There are no regulatory requirements that would restrict a COL applicant from referencing either post-licensing departures and changes or license amendment requests
- NRC staff encourages discussions during pre-application period as to how these will be referenced in the COLA



C.2.7 Design-Centered Review Approach

Interactive discussion



C.2.9 Inspections, Tests, Analyses and Acceptance Criteria

- ML: TBD
- Essentially new material with little redundancy with original RG 1.206 section C-II-1
- Overview
- Guidance
- Does not reference Standard ITAAC



C.2.9 Inspections, Tests, Analyses and Acceptance Criteria

OVERVIEW

REGULATORY REQUIREMENTS

**ITAAC BASIS, FORMAT & CONTENT,
DESIGN DESCRIPTIONS**

REGULATORY HISTORY



C.2.9 Inspections, Tests, Analyses and Acceptance Criteria

REQUIREMENTS:

- **EARLY SITE PERMIT**
 - **EMERGENCY PLANNING**
 - **LIMITED WORK AUTHORIZATION**
- **DESIGN CERTIFICATION**
 - **TIER 1- CERTIFIED DESIGN MATERIAL / ITAAC**
 - **TIER 2 - FINAL SAFETY ANALYSES REPORT**
- **COMBINED LICENSE (COL)**
 - **CUSTOM DESIGN NO TIER 1 OR TIER 2**
 - **“ITAAC DESIGN DESCRIPTIONS”**
 - **EARLY SITE PERMIT**
 - **DESIGN CERTIFICATION**



C.2.9 Inspections, Tests, Analyses and Acceptance Criteria

ITAAC BASIS

- **FSAR CHAPTER 14.3**
- **METHODOLOGY**
- **CROSS-REFERENCES**
- **ITAAC SUPPORTING INFORMATION**

FORMAT & CONTENT

- **THREE COLUMN TABLE**
- **DESIGN COMMITMENT**
- **INSECTIONS, TESTS, ANALYSES**
- **ACCEPTANCE CRITERIA**



C.2.9 Inspections, Tests, Analyses and Acceptance Criteria

DESIGN DESCRIPTIONS

- **DERIVED SOLELY FROM THE DETAILED DESIGN INFORMATION IN THE FSAR**
- **GRADED APPROACH**
- **TOP LEVEL DESIGN AND PERFORMANCE CHARACTERISTICS WITH RISK- OR SAFETY-SIGNIFICANCE**



C.2.9 Inspections, Tests, Analyses and Acceptance Criteria

Interactive discussion



C.2.16 Finalizing Licensing Basis Information

- ❑ ML: TBD
- ❑ Retires DC/COL ISG-11

- ❑ Overview
- ❑ DC/COL ISG-011 presented the concept of a licensing basis “freeze point”
- ❑ Topic addresses freeze point for COLAs, DCs, and includes a discussion of Errors in DC



C.2.16 Finalizing Licensing Basis Information

- ❑ An applicant for a COL or DC may choose to finalize licensing-basis information at a point during the licensing review and defer any subsequent licensing-basis information changes or additions until after the licensing or certification process is complete.
- ❑ An applicant cannot defer submission of planned design changes if it affect information on which staff relies upon for their safety determination.



C.2.16 Finalizing Licensing Basis Information

Interactive discussion



C.2.14 revisited - Information Change Processes for COL Applicants

NEI presentation



C.2.14 revisited - Information Change Processes for COL Applicants

Interactive discussion



Action Items & Meeting Feedback



THANK YOU!

**Regulatory Guide 1.206 (revision)
“Applications for Nuclear Power Plants”**

Public Meeting September 26, 2016