



Public Meeting:

**Status of Rulemaking to Align
Licensing Processes and
Incorporate Lessons Learned
from New Reactor Licensing**

March 2, 2021



Ground Rules

- This session is being transcribed; to facilitate the process, please:
 - State your name before speaking
 - Only one speaker at a time
- Please hold questions until after the NRC presentation



Today's Meeting

- Provide an update on the effort since the last public meeting on this rulemaking (meeting summary: ADAMS Accession No. ML20141L609)
- Walk through the major topics addressed in the regulatory basis and identify specific regulatory issues on which input is sought
- Discuss the estimates of costs and savings
- Provide an update on next steps and the rulemaking schedule



OPENING REMARKS

**Anna Bradford – Director
NRR Division of New and
Renewed Licenses**



NRC STAFF PRESENTATION

NRC Staff Presenters



Jim O'Driscoll,
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Manager



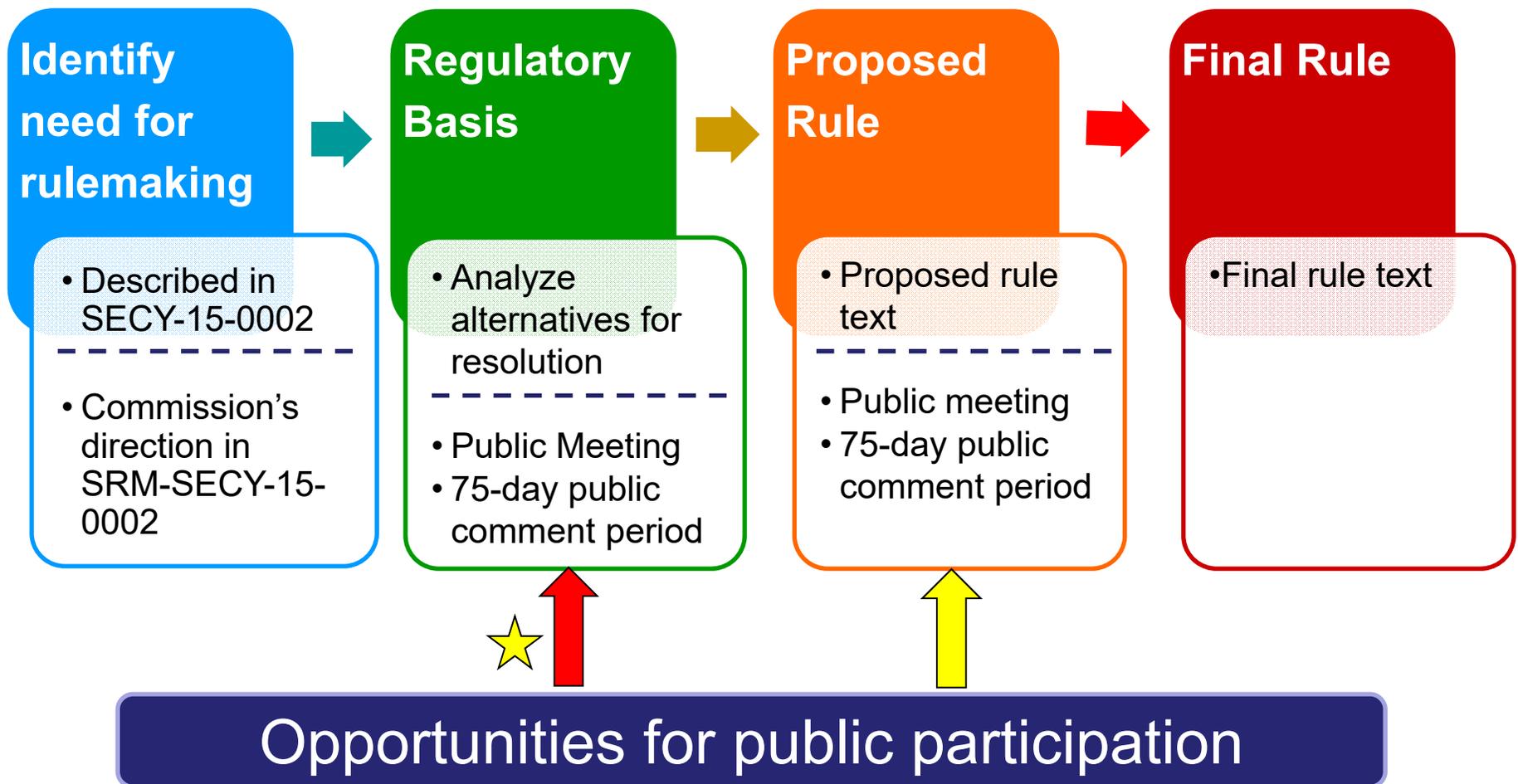
Allen Fetter, NRR
Senior Project
Manager



Purpose of the Rulemaking

- Implement Commission direction in SRM-SECY-15-0002, “Proposed Updates of Licensing Policies, Rules and Guidance for Future New Reactor Applications” to:
 - Align Parts 50 and 52 reactor licensing processes
 - Improve clarity
 - Incorporate lessons learned in recent licensing proceedings
 - Reduce unnecessary burden on applicants and staff

Rulemaking Process





Staff's Milestones of Rulemaking Activities

October 1, 2018

- Started scoping and outreach

January 15, 2019

- Held public meeting

July 11, 2019

- Internal alignment on scope of RB

August 27, 2019

- Issuance of Commission Information Paper SECY-19-0084

September 20, 2019

- Held ACRS meeting



Staff's Milestones of Rulemaking Activities (cont'd)

November 21, 2019

- Held public meeting

February 2020

- First draft of RB inputs completed

April 29, 2020

- Held public meeting

January 2021

- Published RB and FRN

Ongoing

- Evaluate comments on RB

Next Steps

March 2021

- Hold ACRS meeting

April 2021

- RB public comment period ends, staff commence drafting the proposed rule

October 2021

- Complete technical development of the proposed rule

May 2022

- Forward the proposed rule to the Commission for approval

March 2024

- Forward the final rule to the Commission for approval

Regulatory Basis

- A regulatory basis (RB) provides a sound foundation for informed decision-making throughout the rulemaking process
 - The RB describes the technical, legal, and policy issues and the staff’s consideration of options to resolve the issues
 - A cost-benefit analysis of options is developed as part of the RB



Scope of the Regulatory Basis

- Number of items in scope: 50
- Number of alternatives evaluated: 115
- Items with rulemaking recommendation: 43
 - Number of items with rulemaking and guidance development or revision: 23
 - Number of guidance documents affected: 17
- Number of CFR Parts potentially affected by rulemaking: 9



Alignment of Parts 50 and 52

- The RB addresses four areas in which the NRC's policies and direction for new reactors have translated into requirements and guidance for Part 52 applicants only:
 - Application of Severe Accident Policy Statement
 - Probabilistic Risk Assessment Requirements
 - Three Mile Island Requirements
 - Fire Protection Design Features and Plans



Lessons Learned from Recent Experience

- The RB also covers topics for which the NRC's recent experience with new reactor licensing has resulted in lessons learned

Operator Licensing	Physical Security	Fitness For Duty	Emergency Planning
Part 52 Licensing Process	Environmental Topics	Applicability of Other Processes to the 10 CFR Part 52 Process	Miscellaneous Topics



Appendix A:

Applying the Severe Accident Policy Statement to New Part 50 License Applications

- Key issue: Part 50 does not address the NRC's Severe Accident Policy Statement
- Alternatives considered: No Action, Rulemaking, Guidance Only
- Staff recommendation: Rulemaking to revise Part 50 to include Part 52-like requirements about the prevention and mitigation of severe accidents, with updates to related guidance
 - Regulatory scope: 10 CFR 50.34
 - Guidance: Standard Review Plan (SRP) Chapter 19



Appendix B:

Probabilistic Risk Assessment (PRA) Requirements

- Key issues: (1) Application to Part 50 of Part 52 requirements for use of PRA in design; (2) availability of risk-informed process for safety-related structures, systems, and components (SSCs); and (3) timing of certain PRA upgrades
- Alternatives considered: No Action, Rulemaking and Guidance
- Staff recommendations: Rulemaking and guidance to (1) extend Part 52 PRA design requirements to Part 50; (2) broaden access to risk-informed classification of SSCs; and (3) permit deferral of some PRA upgrades
 - Regulatory scope: (1) 10 CFR 50.34 and 50.71; (2) 10 CFR 50.69; and (3) 10 CFR 50.71
 - Guidance: Regulatory Guides (RG) 1.174, 1.200, 1.201, 1.205, and 1.206



Appendix C:

Three Mile Island (TMI) Requirements

- Key issue: Inconsistency between Parts 50 and 52 regarding the submission of TMI-related information
- Alternatives considered: No Action, Rulemaking and Guidance
- Staff recommendation: Rulemaking and guidance to align the regulations related to TMI requirements
 - Regulatory scope: 10 CFR 50.34
 - Guidance: SRP Chapters 6.2.5 and 13.3



Appendix D:

Description of Fire Protection Design Features and Fire Protection Plans

- Key issue: Requirements for specific fire protection information to be submitted in applications are limited to Part 52
- Alternatives considered: No Action, Rulemaking
- Staff recommendation: Rulemaking to extend the Part 52 fire protection requirements to Part 50
 - Regulatory scope: 10 CFR 50.34



Appendix E:

Operator Licensing

- Key issues: Inadequacy of regulations for operators of cold plants about (1) criteria for simulation facilities; (2) plant walkthrough; and (3) continuing training
- Alternatives considered: No Action, Rulemaking and Guidance, Guidance Only
- Staff recommendations: Rulemaking and guidance to govern operator licensing at cold plants
 - Regulatory scope: (1) 10 CFR 55.4 and 55.46; (2) 10 CFR 55.45; and (3) 10 CFR 55.31
 - Guidance: New guidance



Appendix F:

Physical Security Requirements

- Key issue: Potential unnecessary burden on industry related to unirradiated fuel
- Alternatives considered: No Action, Rulemaking and Guidance
- Staff recommendation: Rulemaking and guidance to clarify what requirements apply to unirradiated fuel
 - Regulatory scope: 10 CFR 70.22, 73.55, 73.56, and 73.67
 - Guidance: RG 1.206



Appendix F:

Fitness-For-Duty (FFD) Requirements

- Key issues: Construction site access issues, risk insights learned from reactor plant construction, Medical Review Officer procedures, and technical corrections
- Alternatives considered: No Action, Rulemaking and Guidance
- Staff recommendation: Rulemaking and guidance to improve the consistency and clarity of the FFD regulations
 - Regulatory scope: 10 CFR 26.5, 26.401, 26.405, and 26.419
 - Guidance: RG 5.84 and DG-5040



Appendix G:

Emergency Planning (EP)

- Key issues: (1) Initial emergency classification and action level scheme; (2) emergency plan change process; (3) emergency preparedness exercises; (4) significant impediments to development of emergency plans; and (5) offsite contacts, arrangements, and certifications
- Alternatives considered: No Action, Rulemaking, Rulemaking and Guidance, Guidance Only
- Staff recommendations: (1) Guidance only; (2) rulemaking; (3) rulemaking and guidance; (4) rulemaking and guidance; and (5) rulemaking
 - Regulatory scope: (1) 10 CFR 52.17 and 52.79, Sec. IV.B of App. E to Part 50; (2) 10 CFR 50.54; (3) Sec. IV.F.2.a of App. E to Part 50; (4) 10 CFR 52.18; and (5) 10 CFR 52.17
 - Guidance: New guidance



Appendix H:

Part 52 Licensing Process

- Appendix H addresses five areas in which NRC experience with Part 52 new reactor licensing has resulted in lessons learned:
 - Design Certification (DC) Renewal (H.1)
 - Change Process (H.2)
 - Design Scope and Standardization (H.3)
 - Standard Design Approval (SDA) (H.4)
 - Content of Applications (H.5)



Appendix H:

Part 52 Licensing Process

- Some staff recommendations in Appendix H:
 - Rulemaking to remove the 15-year duration of DCs and associated renewal requirements (H.1)
 - Rulemaking and guidance to clarify and simplify certain change processes (no action recommended in other cases) (H.2)
 - Rulemaking and guidance to define and clarify design terms and to streamline design requirements (H.3)
 - Rulemaking to facilitate filing of applications that reference more than one SDA (H.4)
 - Rulemaking and guidance to simplify, align, and clarify the content of applications (H.5)

- Key issues: (1) environmental report submittal process for a construction permit application; and (2) incorporation by reference (IBR) of prior environmental assessment for combined license (COL) but not for construction permit
- Alternatives considered: No Action, Rulemaking, Guidance Only
- Staff recommendations: (1) No action; and (2) rulemaking to allow IBR for construction permit
 - Regulatory scope: (1) N/A; and (2) 10 CFR 51.50

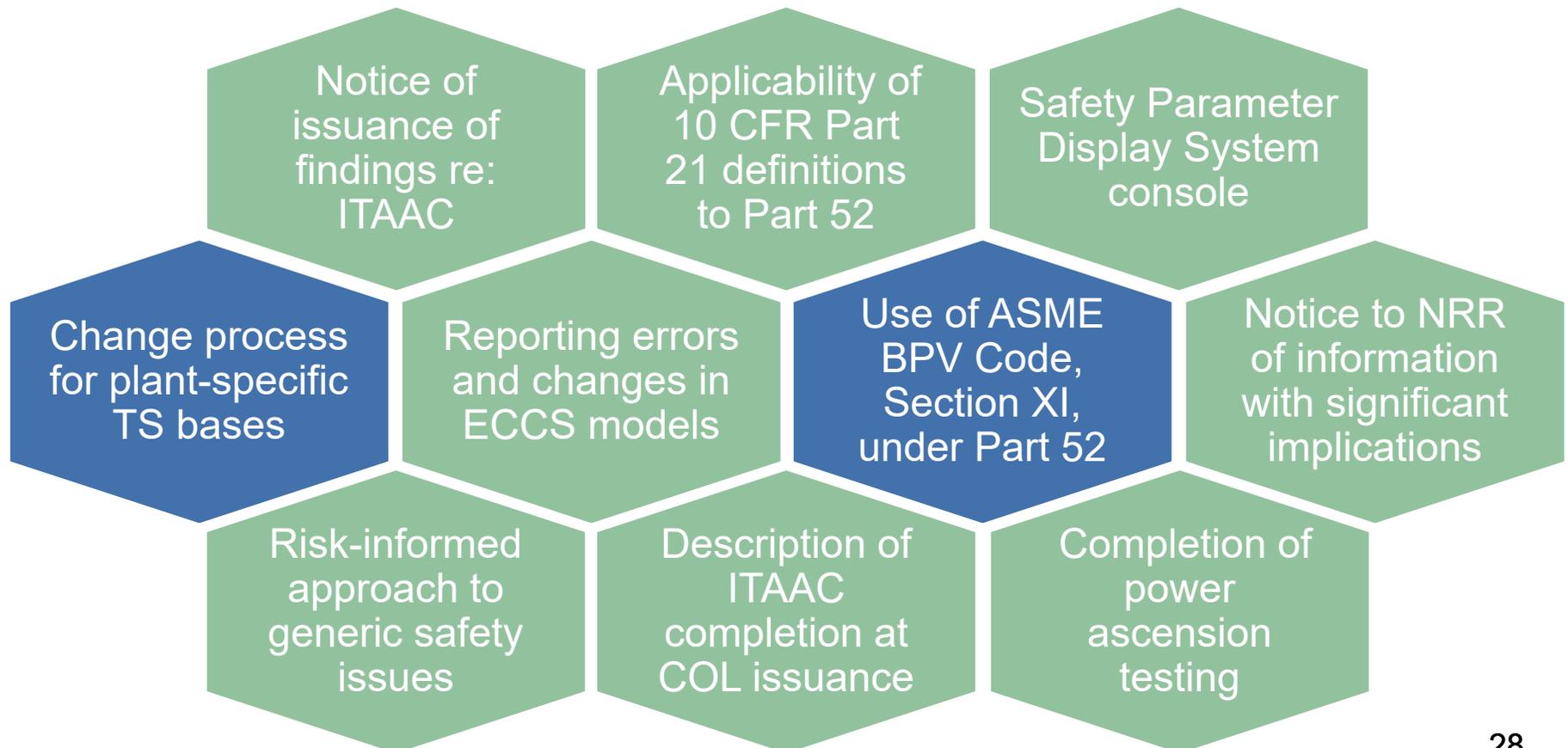


Appendix J:

Applicability of Other Processes to the 10 CFR Part 52 Process

- Key issues: (1) “contested proceeding” under 10 CFR 2.4 excludes ITAAC hearing; (2) undue burden on certain COL applicants and holders from annual FSAR updates; and (3) inconsistencies in requirements for backfitting and issue finality
- Alternatives considered: No Action, Rulemaking, Rulemaking and Guidance, Guidance Only
- Staff recommendations: Rulemaking to (1) align definition of “contested proceeding”; and (2) alleviate regulatory burden on certain COL applicants and holders; and rulemaking and guidance to (3) remove inconsistent issue finality provisions
 - Regulatory scope: (1) 10 CFR 2.4; (2) 10 CFR 50.71; and (3) 10 CFR 50.109
 - Guidance: MD 8.4 and NUREG-1409

- Appendix K addresses lessons learned for several topics covered across Title 10





Estimates of Costs and Savings

- The NRC staff considered the potential costs and savings to both industry and the NRC
 - The regulatory basis describes preliminary impacts
 - The proposed rule will provide a more detailed evaluation
- The analysis evaluated expected costs and savings relative to the regulatory baseline
- The base year used was 2019; the analysis horizon extended to 2030 where applicable



Estimates of Costs and Savings (cont'd)

- Estimated net averted costs to industry of between \$12.2 million \$18.8 million
 - Areas of high averted costs: storage of unirradiated nuclear fuel, DC renewal, Tier 1 classification, SRP review, use of prior EA (i.e. no SAMDA analysis) for CPs
 - Areas of increased costs: pre-application design issues, PRA development and submission, TMI requirements, and cold plant operator licensing
- Estimated net averted costs to the NRC of between \$5.8 million and \$10.8 million
 - Initial rulemaking costs < saved resources over time



Estimates of Costs and Savings (cont'd)

- Total net averted costs to industry and the NRC of between \$18.0 million and \$29.7 million
- To account for sensitivity to plant-specific conditions, the NRC staff performed an uncertainty analysis, which found that the chance of net averted costs is greater than 99%
- Rulemaking would yield nonquantifiable benefits as well (regulatory efficiency, public confidence)

Questions

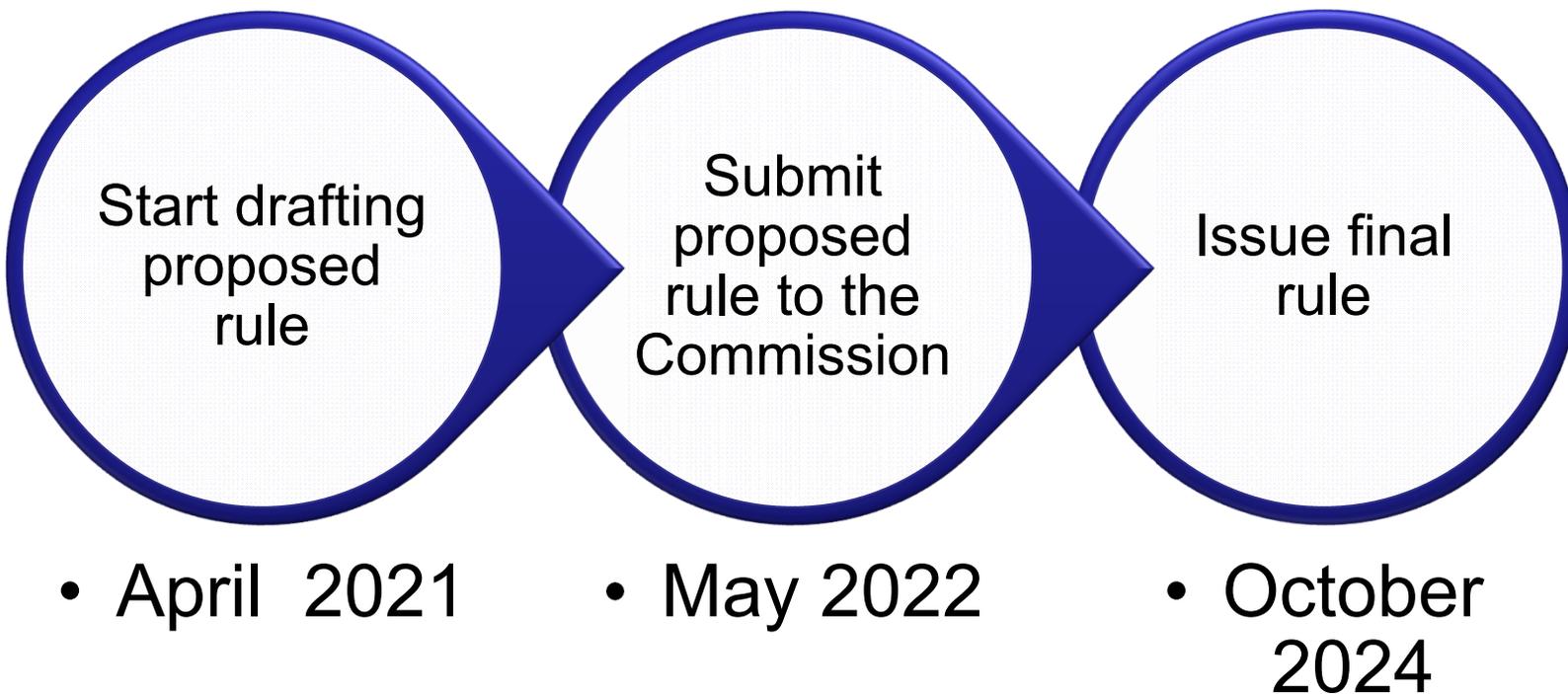




Next Steps for NRC

- Consider comments received on the regulatory basis
- Commence drafting the proposed rule
- Submit the proposed rule to the Commission
- Plan for additional public meeting(s) during the proposed rule phase

Rulemaking Schedule



Contact Information



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How Did We Do?

- Link to NRC Public Meeting Feedback form:



<https://www.nrc.gov/pmns/mtg?do=details&Code=20210179>



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Next 3 Days	45

- The meeting summary will be posted soon
- Search regulations.gov on the docket ID NRC-2009-0196
- Press the “comment” button and leave your comment

SUPPORTING INFORMATION



References

Document Title	ADAMS Accession Number/FR Citation
86 FR 7513 – Regulatory Basis-Alignment of Licensing Processes and Lessons Learned From New Reactor Licensing	86 FR 7513
04/29/2020 - Public Meeting to Discuss the Status of Rulemaking to Align Licensing Processes and Apply Lessons Learned from New Reactor Licensing [NRC-2009-0196; RIN 3150-AI66]	ML20141L609
85 FR 9328 - Revision of Fee Schedules; Fee Recovery for Fiscal Year 2020	85 FR 9328
2/14/20 - Letter to Petitioner M. Lorton on Behalf of Alignedis, Inc.; Results of PRM Sufficiency Review; Petition for Rulemaking for 10 CFR Part 52, Licenses, Certifications, and Approvals for Nuclear Power Plants (Pkg)	ML20008D640
11/18/2019 - 84 FR 63565 - Miscellaneous Corrections	84 FR 63565
11/21/2019 - Category 3 Public Meeting Summary RE: Regulatory Basis: Rulemaking to Align Licensing Processes and Apply Lessons Learned from New Reactor Licensing (NRC-2009-0196)	ML19344C768
Transcript of the Advisory Committee on Reactor Safeguards Regulatory Policies & Practices-Part 50 52 Meeting - September 20, 2019	ML19294A009
SECY-19-0084, “Status of Rulemaking to Align Licensing Processes and Lessons Learned from New Reactor Licensing (RIN 3150-AI66)”	ML19161A169
SECY-19-0034, “Improving Design Certification Content”	ML19080A034



References (cont'd)

Document Title	ADAMS Accession Number/FR Citation
"Summary of January 15, 2019 Public Meeting to Discuss the Proposed Rulemaking to Align the Regulations in Parts 50 and 52 to Address Updates to the Licensing Processes and Lessons Learned for Future New Reactor Applications"	ML19023A046
SECY-15-0002, "Proposed Updates of Licensing Policies, Rules and Guidance for Future New Reactor Applications"	ML13277A420
SRM-SECY-15-002, "Staff Requirements-SECY-15-002-Proposed Updates of Licensing Policies, Rules and Guidance for Future New Reactor Applications"	ML15266A023
"Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants"	60 FR 32138
SECY-89-013, "Design Requirements Related to the Evolutionary Advanced Light Water Reactors," dated January 19, 1989	ML003707947
SECY-90-016, "Evolutionary Light Water Reactor (LWR) Certification Issues and Their Relationship to Current Regulatory Requirements," dated January 12, 1990	ML003707849
SECY-93-087, "Policy, Technical, and Licensing Issues Pertaining to Evolutionary and Advanced Light-Water Reactor (ALWR) Designs," dated April 2, 1993	ML003708021
Bipartisan Policy Center Report Recommendations on the New Reactor Licensing Process	ML13059A240



References (cont'd)

Document Title	ADAMS Accession Number/FR Citation
NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," with updates through 2007	https://www.nrc.gov/reading-rm/doccollections/nuregs/staff/sr0800/
Regulatory Guide 1.174, Revision 3, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," dated 2018	ML17317A256
Regulatory Guide 1.200, Revision 2, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," dated 2009	ML090410014
Regulatory Guide 1.201, Revision 0, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance," dated 2006	ML061090627
Regulatory Guide 1.205, Revision 1, "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants," dated 2009	ML092730314
Regulatory Guide 1.206, Revision 1, "Applications for Nuclear Power Plants." dated 2018	ML18131A181
Bipartisan Policy Center Report Recommendations on the New Reactor Licensing Process	ML13059A240
Regulatory Guide 5.84, Revision 0, "Fitness-for-Duty for New Nuclear Power Plant Construction Sites," dated July 2015	ML15083A412
Draft Regulatory Guide 5040, "Urine Specimen Collection and Test Result Review Under 10 CFR Part 26, 'Fitness-for-Duty Programs,'" dated September 16, 2019	84 FR 48750
NRC Management Directive 8.4, "Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests. DT-19-15," dated 2019.	ML18093B087
NRC NUREG-1409, Revision 1, "Backfitting Guidelines., Draft Report for Comment," dated	ML18109A498



Administrative Corrections

10 CFR	Description
§ 2.627	The references to § 2.617 in § 2.629(b) and § 52.83(b) should be to § 2.627.
Part 52 Appendices	Both the ABWR and System 80+ design certification final rules (Part 52, Appendices A and B, respectively) initially correctly referred to “ANSI/AISC N-690.” Both the AP600 and AP1000 design cert final rules (Appendices C and D, respectively) incorrectly stated ANSI/AISC-690 (omitting the “N”). 64 Fed. Reg. 72,002, 72,018; 71 Fed. Reg. 4,464, 4,481. Unfortunately, the NRC changed the ABWR and System 80+ references to match the AP600 and AP1000 references in the 2007 Part 52 rulemaking. Correct the reference in Appendices A-D by adding the “N” back into ANSI/AISC N-690.
Part 52 Appendix D Section VI.B.6	Part 52, Appendix D, Section VI.B.6 reads “except as provided in paragraph VIII.B.5.f . . .” but the reference is incorrect. It should be “except as provided in paragraph VIII.B.5.g . . .” (rather than VIII.B.5.f).
Part 52 Appendix E Section VI.B.6	Part 52, Appendix E, Section VI.B.6 reads “except as provided in paragraph VIII.B.5.f . . .” but the reference is incorrect. It should be “except as provided in paragraph VIII.B.5.g . . .” (rather than VIII.B.5.f).
Part 50 Appendix J	Under Option B, Subsection IV. Recordkeeping, refers to § § 50.72 (b)(1)(ii) and § 50.72 (b)(2)(i). There is no § 50.72 (b)(1)(ii), only § 50.72 (b)(1). 10 CFR Part 50, Appendix J references 10 CFR Part 52 and 10 CFR 50.54(o) imposes Appendix J as a requirement.
§ 21.3, “Basic component”	Revise definition by deleting text in brackets as follows: “(2) When applied to standard design certifications [under subpart C of part 52 of this chapter] and standard design approvals under part 52 of this chapter, . . .”
§ 52.43(b)	Correct the following text in 10 CFR 52.43(b) which was not updated when SDAs were renamed to state: “Subpart E of this part governs the NRC staff review and approval of a final standard design.”
§ 52.79(c)(2)	Correct as follows: “all terms and conditions that have been included in the final standard design approval will be satisfied . . .”



Administrative Corrections

10 CFR	Description
52.39(a)(1)	Reference to 52.27 needs to be changed to 52.26. When the NRC issued the 2007 Part 52 final rule (72 FR 49352; August 28, 2007), § 52.27 was the “Duration of permit” section. However, when the NRC issued the “Limited Work Authorization for Nuclear Power Plants” final rule a few weeks later (72 FR 57416; October 9, 2007), § 52.27 was redesignated as § 52.26, the current § 52.27 was added, but the reference to § 52.27 in § 52.39(a)(1) was not changed to § 52.26.”
52.98(d)	Lessons Learned-Miscellaneous lessons learned-clarify the reference to ML and subpart F-there is unnecessary wording in the paragraph that is confusing. During BC review and concurrence, this item was deemed an administrative correction ,and was descoped from the rulemaking and placed in the Fall 2020 administrative corrections rule scope.



Items in Scope of the Proposed Rule

Tuesday, February 23, 2021

1:11:16 PM

Section in 10 CFR	Item ID	Brief Summary	Full Summary
50.34(f)	C-1	Alignment- TMI Requirements	This paragraph describes contents of applications to address additional Three Mile Island (TMI) related requirements. The staff is considering revising this paragraph to include the same exceptions given for 10 CFR Part 52 applications. The purpose of the staff considering this change is to achieve alignment between the Part 50 and 52 licensing processes.
50.34(a)	D-1	Alignment- Description of Fire Protection Design Features and Plans	This paragraph specifies the minimum information that must be contained in a preliminary safety analysis report for a construction permit. The staff is considering revising this paragraph to require construction permit and operating license applications include a description and analyses of fire protection design features and describe fire protection plans. The reason the staff is considering this change is to achieve alignment between the Part 50 and 52 licensing processes.
Part 52 Appendix A-E, Section VIII.5.B.a and VIII.5.B.b	H.2-4	Lessons Learned-Part 52 Licensing Process: Change Process: align Section VIII.5.B.a and VIII.5.B.b to current change process for design info.	The requirements in the referenced sections of each design certification appendix refer to the change process for Tier 2 information. The staff is considering modifying each Part 52 design certification appendix to adopt the "...prior to implementing a proposed change..." provision in 50.59(c)(2) in lieu of the "...proposed departure..." provision in Section VIII.5.B of each existing design certification appendix. The reason for this change is to align the change processes for design information included for plants that are licensed under Parts 50 and 52.
50.100	H.5-3	Lessons Learned-Part 52 Licensing Process: Contents of Applications: Requirements for timely completion of construction	A provision in this paragraph specifies that combined licenses are subject to the timely completion of construction requirements of 10 CFR 50.55(b). The staff is proposing to modify the provision in 50.100 for combined licenses because the 2007 revision to 50.33(h) removed the requirement for a COL applicant to specify the earliest and latest date for completion of construction. The purpose of the change is to correct the drafting error from the 2007 update.



Current Scope (cont'd)

Section in 10 CFR	Item ID	Brief Summary	Full Summary
52.6(b)	K-10	Lessons Learned-Miscellaneous lessons learned-Notification to the Director of NRR	The paragraph provides requirements for completeness and accuracy of information from a Part 52 applicant or licensee. The staff is considering modifying the recipients of this notification that are referenced in this paragraph to include either the Executive Director for Operations or the NRR Office Director. The reason for the change is that this requirement also applies to design certifications and standard design approvals which do not have regional involvement.
52.79(d), Part 52 Appendix A-E, Section IV	H.3-5	Lessons Learned-Part 52 Licensing Process: Design Scope and Standardization: Relocation of Requirements from DC Appendices Section IV to 52.79(d)	10 CFR 52.79(d) provides requirements for combined licenses that reference a standard design certification. Section IV for each Part 52 design certification appendix provides additional requirements and restrictions to combined license applicants who reference the specific appendix. The staff is considering revising 52.79(d) to cover how applicants could include or incorporate by reference generic design control document information and delete Section IV. The reason for the change is for clarification and consolidation of references.
2.4	J-1	Lessons Learned-Applicability of other processes-Amend Part 2 definition of contested proceeding	This section provides definitions for 10 CFR Part 2, "Agency Rules of Practice and Procedures." The staff is considering amending the definition of a contested proceeding. The reason for the change is that the current definition does not include a hearing related to inspections, tests, analysis and acceptance criteria under 10 CFR 52.103.
2.106(b)(2)(ii)	K-2	Lessons Learned-Miscellaneous lessons learned-Notice of issuance of ITAAC finding in Part 2	The requirements of this paragraph direct the Director of NRO to provide a notice of issuance of the finding regarding inspections, tests, analyses, and acceptance criteria. The staff is considering revising the language in this paragraph to more exactly reflect the 10 CFR 52.103(g) finding as described in 10 CFR Part 52.
21.3	K-4	Lessons Learned-Miscellaneous lessons learned-Clarify definitions in part 21	Although the definition of license in 10 CFR 50.2 clearly covers an ESP, COL, or manufacturing license under 10 CFR Part 52, the staff proposes to add "or part 52" to the definitions of "Critical characteristics," "Dedicating entity," and "Dedication," in 10 CFR 21.3 to be consistent with the definitions of "Basic component," "Defect," and "Substantial safety hazard" in 21.3. This change would specify that the definitions are applicable "to nuclear power plants licensed pursuant to 10 CFR part 50" or part 52 of this chapter.



Current Scope (cont'd)

Section in 10 CFR
Item ID Brief Summary

Full Summary

55.31	E-1	Lessons Learned- Operator Licensing-Continuing Training for Operator License Applicants	The staff is considering adding a new requirement for holders of a CP or combined license to maintain operator license applicants' knowledge between the time of the NRC examination through establishment of the requalification program. This was raised as an issue after the first AP1000 operator license examinations because there is no regulatory requirement for applicants who defer completion of experience requirements between completion of the licensing examination and completion of the licensing process to demonstrate applicant knowledge retention.
55.45(b)	E-4	Lessons Learned- Operator Licensing-clarify requirements for plant walkthrough portion of operator test	<p>This paragraph describes the requirements for administering the operator test in a plant walkthrough and in either a Commission approved simulator, a plant-reference simulator, or the actual plant. The staff is considering allowing combined license holders the option of developing plant walkthrough test items (i.e., job performance measurements (JPMs) used for the in-plant portion of the operating exam) using an alternative method for cold plants (Note: cold licensing of operators provides the method for operations personnel to acquire the knowledge and experience required for licensed operator duties during the unique conditions of new plant construction and initial operation.)</p> <p>This was an issue found during AP1000 plant construction because the regulations require in-plant walkthroughs during operator licensing examinations and an exemption to this requirement was granted to allow an alternative method which did not require applicants to enter the actual plant during JPMs.</p>
55.46	E-3	Lessons Learned- Operator Licensing- Establish new classification of Simulator: Commission Approved Simulator	This paragraph includes requirements for plant simulation facilities. The staff is considering a revision to the regulations governing simulation facilities so that if a simulation facility at a cold plant meets the criteria to be used for operator training and exams, then it can be used for those purposes regardless of whether it meets the literal definition of a PRS. The purpose of this change is to prevent new reactor licensees from having to submit a request in accordance with the requirements of 55.46(b) for Commission approval of a simulation facility as was done for the AP1000.



Current Scope (cont'd)

Section in 10 CFR	Item ID	Brief Summary	Full Summary
55.46(c)(2)(i)	E-2	Lessons Learned- Operator Licensing- Clarify use of Commission Approved Simulator to satisfy manipulate controls requirements	This paragraph requires that evidence is provided that the operator license applicant has manipulated either plant controls or the controls of a plant referenced simulator. The staff is considering revising these requirements for facilities constructing new reactors to use a suitable alternative to "models relating to nuclear and thermal-hydraulic characteristics that replicate the most recent core load," such as models that replicate the intended first core load. Based on AP1000 experience, it is not possible to complete the required control manipulations on the plant until after fuel load or on a PRS that replicates the most recent core load until after fuel load.
Part 50	A-1	Alignment-Apply Severe Accident Policy to part 50 Applications	In the staff requirements memorandum to SECY-15-0002, the Commission approved the staff's recommendation to confirm that the Commission's guidance given in the "Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants" and other Commission direction provided in response to SECY-89-013, SECY-90-016, and SECY-93-087, apply to new 10 CFR Part 50 power reactor applications in a manner consistent with 10 CFR Part 52 design and license applications. The staff will consider whether specific regulations in 10 CFR Part 50 should be modified to implement this Commission direction. For example, revise Part 50 to require construction permit and operating license applications include a description of design features for prevention and mitigation of severe accidents.
50.34	B-1	Alignment-PRA Requirements- Submit PRA results as part of CP application	The requirements of this paragraph specify the technical information for contents of Part 50 licensing applications. The staff is considering a revision to this paragraph to require the develop a plant-specific probabilistic risk assessment (PRA), submit appropriate information describing that analysis as part of the construction permit and operating license application submittals, and maintain and upgrade the PRA throughout the duration of the operating license for new power reactor applications. This purpose of this change would be to align the Part 50 licensing process with the PRA requirements included in 10 CFR Part 52.
52.79(d), Part 52 Appendix A-E, Section IV.A.2.d	H.3-4	Lessons Learned-Part 52 Licensing Process: Design Scope and Standardization: revise Section IV.A.2(d) of Appendices A through D to Part 52 to clarify "site characteristics"	10 CFR 52.79(d) provides requirements for combined licenses that reference a standard design certification. Section IV.A.2.d for each Part 52 design certification appendix provides requirements to combined license applicants who reference the specific appendix. The staff is considering revising 52.79(d) to accurately reflect the terms "site parameters" and "site characteristics" as they relate to the information required to be included in a combined license application.



Current Scope (cont'd)

Section in 10 CFR	Item ID	Brief Summary	Full Summary
Part 52 Appendix A-E, Section IX	H.3-6	Lessons Learned-Part 52 Licensing Process: Design Scope and Standardization: DC Appendix Section IX ITAAC	This paragraph provides requirements to combined license applicants who reference the specific appendix regarding inspections, tests, analysis and acceptance criteria. The staff is considering modifying the language in all the corresponding design certification rule appendices, except for Appendix E, to delete the requirements and hold the section in reserve. The reason for proposing this change is to be consistent with the language in Part 52, Appendix E, Section VI.B.7, which concluded that these requirements were duplicative to the requirements in other portions of Part 52.
50.46(a)(3)	K-8	Lessons Learned-Miscellaneous lessons learned-requirement for reporting of errors in ECCS models	The requirements of this section include a provision that certain applicants or holder of certain licenses or approvals shall estimate the effect of any change to or error in an acceptable evaluation model or in the application of such a model to determine if the change or error is significant. The staff is considering a change to this provision such that holders of a design certification, standard design approval, and a manufacturing license are not required to report errors in emergency core cooling system models until a combined license, construction permit, or operating license applicant references use of the applicable ECCS model.
50.109	J-4	Lessons Learned-Applicability of other processes-References to Issue Finality in 50.109	Certain provisions in this section address design approvals and manufacturing licenses. The staff is considering revising this section to clarify that design approvals and manufacturing licenses [and early site permits] are covered by 10 CFR 52.145 and 52.171, "finality" sections, respectively. This change would eliminate any confusion regarding the appropriate criteria for imposing new requirements to design approvals and manufacturing licenses.
Part 50, App. E, IV.B	G-2	Lessons Learned-Emergency Preparedness-Approval of EAL and Classification Schemes	The referenced section establishes the requirements for the content of emergency plans with respect to the initial emergency action levels and classification scheme, and subsequent changes. The staff is considering modifications to the requirements to clarify when NRC approval of an initial set of emergency action levels and classification scheme, and subsequent changes is applicable. The reason for the proposed change is to align Part 52 with Part 50 requirements



Current Scope (cont'd)

Section in 10 CFR	Item ID	Brief Summary	Full Summary
Part 50, App. E, IV.F.2.a.ii	G-3	Lessons Learned-Emergency Preparedness-Emergency Preparedness Exercises-5 percent EP ITAAC	The referenced paragraph establishes the requirements for the content of emergency plans with respect to provisions for the conduct of emergency preparedness exercises. The staff is considering modifying the regulation to remove an inconsistency with respect to the 5% power emergency planning ITAAC and the language in 10 CFR Part 50, Appendix E, IV.F.2.a.ii and a.iii. The staff is considering this change in order to clarify under what conditions the provisions of 10 CFR 50.54(gg) apply.
52.97(a)(2)	K-14	Lessons Learned-Miscellaneous lessons learned-ITAAC completion at COL issuance	This paragraph allows for the closeout of ITAAC included in a DC or ESP that are referenced in a COL application. The staff is proposing a minor revision to clarify the wording for ITAAC closeout to be consistent with the language in 10 CFR 52.103(g) that the ITAAC "are met."
51.50(a)	I-2	Lessons Learned-Environmental Review: Amend to allow CP to include an environmental report with CP application	This paragraph requires applicants of a construction permit to include an environmental report with the application. The staff is considering revising this paragraph to allow environmental reviews for construction permits to reference a completed environmental assessment from a certified design. The reason for considering this change is a clarification of current requirements.
52.47(a)(21), 52.79(a)(20)	K-12	Lessons Learned-Miscellaneous lessons learned-Discontinue GI Priority Ranking Model	The requirements of these paragraphs specify an applicant shall include in their application resolution of applicable unresolved safety issues and medium and high priority generic safety issues. The staff is proposing to revise both paragraphs to reflect that the NRC has discontinued the use of the priority ranking model for Generic Issues and has instead implemented a screening process using the risk criteria in RG 1.174 (MD 6.4-1999).
50.71	K-16	Require report to NRC at completion of power ascension testing	The staff is considering revising the regulations to indicate that the start of a COL's 40 year timeframe would begin on the date that of the conclusion of power reactor startup testing. The change to the regulations would include a new requirement to require a notification be submitted by the COL Licensee upon successful completion of power ascension testing. This change would make conforming changes to Part 50 and 50 to reflect the closure of a petition for rulemaking related to 10 CFR Part 171 (see SRM-SECY-19-0081). In that SRM, the Commission approved rulemaking to amend Part 171 to require that licensing fees start to be incurred on the date that power ascension testing is completed.



Current Scope (cont'd)

Section in 10 CFR	Item ID	Brief Summary	Full Summary
50.71(e)(3)(iii)	J-3	Lessons Learned-Applicability of other processes-Maintenance of records for COL holders	The requirements of this paragraph specify that applicants for a combined license shall periodically update the final safety analysis report originally submitted as part of the application. The staff is considering several changes including: 1) modifying this paragraph to clarify the applicability of these requirements to combined license holders who are not actively pursuing construction and for applications that have been submitted to the Commission but the applicant has requested that their review be suspended but not withdrawn; 2) the requirement for combined license applicants having to submit annual final safety analysis report updates to allow flexibility in the timing of submittals; 3) inconsistency in reporting frequencies between 50.59 and 50.71(e); and 4) insure that any FSAR changes that impact specific ITAAC are docketed no later than the ITAAC closure notification (ICN) for the associated ITAAC (including by submission with the ICN as an acceptable option). The reason for the change is that the regulations do not specifically address combined license holders or the status of suspended applications.
50.69(b)	B-2	Lessons learned- Amend 10 CFR 50.69, Risk-informed characterization of SSCs to apply to COL holders	This paragraph specifies applicability requirements for using the provisions for risk-informed categorization and treatment of structures, systems, and components. The staff is considering revising this provision to allow COL holders to use these alternative requirements.
52.59	H.1-1	Lessons Learned-Part 52 Licensing Process: Design Certification Renewal and Design Certification Expiration Date	This section of the regulations provides requirements for renewing approved design certification rules. The staff is considering whether the requirements to renew a certified design should be modified or eliminated. The reason the staff is considering the modification or elimination of these requirements is the experience gained from the evaluation of the application concerning the Advanced Boiling Water Reactor design certification renewal. Note that a modification or elimination of the requirements in 10 CFR 52.59 would have an impact on the requirements of 10 CFR 52.55 which specify the duration of a design certification rule.
Part 52 Appendix A-E, Sections IV.A.2.a and VIII.A	H.2-3	Lessons Learned-Part 52 Licensing Process: Change Process: Make Tier 1 conforming changes and format changes	These paragraphs require COL applicants referencing a DCD to include as part of its application to include a plant-specific DCD containing the same type of information and using the same organization and numbering as the generic DCD and establish the change process for Tier 1 information. The staff is considering relaxing these requirements to eliminate the need for unnecessary exemption requests related to format inconsistencies between a COL and the referenced DCD and to provide a more



Current Scope (cont'd)

Section in 10 CFR	Item ID	Brief Summary	Full Summary
52.41(c)(1) and (2)	H.3-2	Lessons Learned-Part 52 Licensing Process: Design Scope and Standardization: Clarify Phrase "Essentially Complete Design"	These paragraphs specify that an application for a certification of a nuclear power plant design, either evolutionary or that differs significantly from light water reactor designs must provide an essentially complete nuclear power reactor design except for site specific elements. The staff is considering further clarifying the phrase "essentially complete design." The reason that the staff is considering a change is to reflect that the meaning of this phrase, consistent with previous Commission policy, is to have sufficient design information to resolve all technical issues using a graded approach that provides more information in an application based on safety significance, or, strike "essentially complete" and replace with "sufficiently complete" design to allow staff to evaluate compliance with the applicable regulations and to confirm that proposed ITAAC will demonstrate that compliance.
52.63(a)(1)(vii)	H.3-3	Lessons Learned-Part 52 Licensing Process: Design Scope and Standardization: Modify Restrictions on Changes to a DC or COL referencing a DC for reasons of Standardization	Three specific requirements in this section are related to considering changes to the certified design based on standardization. The staff is considering whether these provisions should be modified. The reason the staff is considering these changes is that the certification of a design as a rule provides a high level of standardization and lessons learned in the AP1000 evaluation of licensing amendments showed that this test was an increased burden and not beneficial to the maintenance of standardization.
Part 52.39(e)	H.2-1	Lessons Learned-Part 52 Licensing Process: Change Process: for ESP SSARs and LWA SSARs	This paragraph states that the holder of an early site permit (ESP) may not make changes to the ESP, including the site safety analysis report, without Commission approval (license amendment). The staff is considering establishing a 50.59- like change process for ESPs and LWAs. This would allow certain changes to be made without NRC approval
52.133(a) 52.43(b), 52.145(a)	H.4-1	Lessons Learned-Part 52 Licensing Process: Standard Design Approval: Referencing more than one SDA in applications	This paragraph states that an applicant for a construction permit or combined license may reference a standard design approval. The staff is considering clarifying that that one or more standard design approvals may be referenced in design certifications, as well as construction permit and combined license applications. The reason for considering the change is that these provisions are not explicitly included in the current regulations.



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50.34(h) and 52.47(a)(9)	H.5-1	Lessons Learned-Part 52 Licensing Process: Contents of Applications: submit evaluation on conformance to SRP	These paragraphs require an applicant to evaluate their application against the standard review plan revision in effect 6 months before the docket date of the application and specify how differences between the application and the acceptance criteria included in the standard review plan provide an acceptable method for complying with the regulations. The staff is considering whether this requirement should be modified. The reason the staff is considering a modification is to improve the efficiency and effectiveness (including safety focus) of the licensing process for the applicant as well as the agency.
Part 52 Appendix A-E, Section VIII	H.2-5	Lessons Learned-Part 52 Licensing Process: Change Process: Include 50.59(c) provisions in part 52 change process	Section VIII of each 10 CFR Part 52 design certification appendix provides requirements for changes and departures from the information within the scope of the certified design. The staff is considering modifications to Section VIII to include applicability provisions like those found in 10 CFR 50.59(c). The reason that the staff is considering the change is that the current requirements in this section do not apply to changes to the facility or procedures as compared with the more specific criteria in 10 CFR 50.59(c).
50.54(q)	G-1	Lessons Learned-Emergency Preparedness-Emergency Plan Change Process	The referenced section requires that 10 CFR Part 52 licensees follow and maintain the effectiveness of an emergency plan. The staff is considering clarifying that the regulation pertaining to the emergency plan change process provided by 10 CFR 50.54(q) applies to licensees during construction. In addition, 10 CFR 50.54(q)(2) will be added to the 50.54 introductory paragraph of provisions that aren't required until after the 10 CFR 52.103(g) finding is made.
52.17(b)(4)	G-7	Lessons Learned-Emergency Preparedness-remove requirement to provide description of Federal, state and local contacts in SSAR	The referenced paragraph establish the requirements for technical content of Part 52 early site permit license applications with respect to the site safety analysis report. The staff is considering modifying the requirement that the site safety analysis report include a description of contacts and arrangements made with Federal, State, and local governmental agencies with emergency planning responsibilities. The staff is considering this change because it is premature to request such detailed information, and there is no corresponding safety benefit



Current Scope (cont'd)

Section in 10 CFR	Item ID	Brief Summary	Full Summary
Part 50, App E, IV.F.2.a.iii	G-4	Lessons Learned-Emergency Preparedness-Emergency Preparedness Exercises-Subsequent exercises at similar facilities	The referenced paragraph establishes the requirements for the content of emergency plans with respect to provisions for the conduct of emergency preparedness exercises. The staff is considering modifying the regulation to clarify when subsequent full participation exercises for each subsequent Part 52 reactor (at the same site) using the same technology, emergency response organization (ERO), or similar facilities is required. The staff is considering this change because subsequent exercises for each subsequent reactor may not be needed for the same technology, ERO, or similar facilities.
73.55(a)(4)	F-5	Lessons Learned- Security-Eliminate need to establish protected area prior to operation to protect unirradiated fuel	This paragraph establishes the implementation requirement for physical protection of licensed activities in nuclear power reactors against radiological sabotage. The staff is considering changing the applicability of 73.55(a)(4) to "before fuel load" instead of "before fuel is allowed onsite". The staff is considering this change because the current language may impose an unnecessary burden to a COL holder because the possession and storage of unirradiated fuel is no different in radiological hazards or risks from a license issued under 10 CFR Part 70.
26.4(f)	F-1	Lessons Learned- Security-Allow escorted access to contractors in construction area	This paragraph establishes the applicability of fitness for duty program for individual who are constructing or directing construction of safety or security related structures, system and components. The staff is considering modifying 10 CFR 26.4(f) to allow escorted access to visitors performing safety or security related work activities in a construction area, similar to operational plant provisions in 10 CFR 73.55(g)(7). The staff is considering this change to reduce unnecessary burden on combined license holders undergoing construction and to align 10 CFR Part 26 with the approach used in 10 CFR Part 73.55.
50.34(f)(2)(iv)	K-5	Lessons Learned-Miscellaneous lessons learned- Requirement for a SPDS console	This paragraph requires applicants to have a plant safety parameter display console that will display to operators the minimum set of parameters defining the safety status of the plant. The staff is considering revising this paragraph to require a plant safety parameter module (SPDS). This change will eliminate the need for exemptions given that an integrated SPDS rather than a stand-alone console, reflects state-of-the-art control room design practices for new reactors.
50.71(h)	B-3	Alignment- Maintain and Update the plant-specific PRA	This paragraph requires COL holders to develop a level 1 and a level 2 probabilistic risk assessment (PRA) that includes initiating events and modes endorsed by the NRC one year prior to initial fuel loading.. The staff is considering revising this paragraph to increase one year to four years. This change would align this requirement with the timeframe that consensus standards are updated.



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Section in 10 CFR	Item ID	Brief Summary	Full Summary
52.17(b)(1)	G-6	Lessons Learned-Emergency Preparedness-Impediments to Emergency Plans-align with criteria in 100.21 site characteristics that impede emergency plans	This paragraph establishes requirements for contents of applications for early site permits pertaining to site characteristics that could pose a significant impediment to the development of emergency plans. The staff is considering revising this requirement to align with the siting criteria in 10 CFR 100.21 (g).
52.17 (b)(1), 52.18 and 100.20(a)	G-5	Lessons Learned-Emergency Preparedness-Impediments to Emergency Plans-FEMA consultation	The regulations in 10 CFR 52.18 state that a determination on the siting criteria of 10 CFR 52.17(2)(b)(1) will be made by the Commission in consultation with the Federal Emergency Management Agency (FEMA). However, this is not a requirement of 52.17(b)(1) nor is it required by public law. Additionally, this review process would be inconsistent with a license review involving the siting criteria under 10 CFR 100.20(a) which would not require outside consultation. Therefore, the staff is considering revising these requirements to address inconsistencies between 52.17(b)(1), 52.18, and 100.20(a) as to when FEMA consultation is required.
PART 52, Subpart B	H.2-2	Lessons Learned-Part 52 Licensing Process: Change Process: Move 50.59 like change process from part 52 appendices to part 52 subpart B	The current requirements to change the information within the scope of a certified design are contained within each design certification appendix in Part 52. The staff is considering the need to maintain the 50.59-like process in the individual Appendices vs. moving it into Subpart B of Part 52. The reason the staff is considering the change is to simplify the change process in Part 52 and more closely align the Part 52 change process with the change process in Part 50.
52.1 and 52.47(a)	H.3-1	Lessons Learned-Part 52 Licensing Process: Design Scope and Standardization: Add Definitions of Tier 1, Tier 2, and Tier 2* consistent with SECY 19-0034	The staff is proposing to modify the requirements in these paragraphs for applications received after the date of this rulemaking to add definitions for Tier 1 and Tier 2 (and Tier 2* as applicant's choice for Tier 1) consistent with the definitions provided in SECY 19-0034. In addition, the staff is proposing to revise 10 CFR 52.47 to require that the applicant's final safety analysis report identify Tier 1, Tier 2, and Tier 2* information.



Abbreviations

ACRS	Advisory Committee on Reactor Safeguards	ITAAC	Inspections, Tests, Analyses, and Acceptance Criteria
ADAMS	Agencywide Documents Access and Management System	NPV	Net Present Value
ASME	American Society of Mechanical Engineers	NRC	Nuclear Regulatory Commission
BPV	Boiler and Pressure Vessel	NRR	Office of Nuclear Reactor Regulations
CFR	Code of Federal Regulations	OL	Operating License
COL	Combined License	PRA	Probabilistic Risk Assessment
CP	Construction Permit	RB	Regulatory Basis
DC	Design Certification	SAMDA	Severe Accident Mitigation Design Alternative
DCD	Design Control Document	SDA	Standard Design Approval
ECCS	Emergency Core Cooling System	SOC	Statement of Considerations
EP	Emergency Planning	SRM	Staff Requirements Memorandum
FFD	Fitness For Duty	SRP	Standard Review Plan
FRN	Federal Register Notice	SSC	Structure, System, and Component
FSAR	Final Safety Analysis Report	TMI	Three Mile Island
IBR	Incorporation By Reference	TS	Technical Specifications