

## Summary of Commissioner Caputo's Substantive Edits to SECY-23-0021

Affected Section	Comment
Part 50 Appendix B, introductory paragraph, criteria III and IV	I have inserted conforming changes to these portions that would make the existing quality assurance (QA) requirements in part 50 Appendix B applicable to applicants and licensees under 10 CFR part 53. The QA requirements in Subparts K and U of the draft proposed rule for 10 CFR part 53 are nearly identical to the existing requirements in Appendix B. The differences do not warrant establishment of new QA requirements in 10 CFR part 53. Establishing new QA requirements would have unintended, negative consequences on suppliers and service providers with existing QA programs under Appendix B. These unintended consequences could drive difficulties for licensees and applicants for advanced reactors in the supply chain. Subparts K and U should be deleted concurrent with this change.
53.010	I have deleted this section concurrent with the elimination of Framework B. The usable elements of Framework B should be incorporated into future rulemakings for 10 CFR parts 50 and 52 to achieve technology-inclusive rule text in those parts.
53.020	I have moved the definitions for the following terms from § 53.024 to § 53.020 to reflect that 10 CFR part 53 would only consist of a single framework: <i>anticipated event sequence, construction, design basis accidents, design-basis external hazard level, functional design criteria, licensing-basis events, Non-safety-related but safety-significant (NSRSS) structures, systems, and components (SSCs), Non-safety-significant structures, systems, and components (SSCs), safety criteria, special treatment, unlikely event sequences, and very unlikely event sequences.</i> Section 53.024 would no longer be required with the elimination of the two-framework concept and all definitions can be placed in § 53.020.
53.020	I have edited the definition of <i>commercial nuclear plant</i> to reflect that the "commercial" nature of these is not limited to the nuclear reactor and to allow defining the term <i>nuclear reactor</i> in the same manner as it is defined in § 50.2. This would avoid introducing another term to the lexicon and necessitating the deeming provision of equivalency between "commercial nuclear reactor" and "nuclear reactor" included in the draft proposed definition for this term.
53.020	I have moved the definition for <i>severe accident</i> from § 53.028 to § 53.020 since § 53.024 would no longer be required with the elimination of the two-framework concept and all definitions can be placed in § 53.020.
53.020	I have moved the definitions for the following terms from Subpart F to § 53.020 to centralize definitions for terms that do not need to be limited to one subpart: <i>generally licensed reactor operator, interaction-dependent-mitigation facility, load following, reference plant, self-reliant-mitigation facility, simulation facility, and systems approach to training.</i>
53.200	I have deleted this section because it does not convey any requirements and is therefore unnecessary. This deletion eliminates potential confusion, ambiguity, and the possibility of conflict with the Atomic Energy Act.

Affected Section	Comment
53.210	Paragraph 53.450(e) has been moved to § 53.220(a) to better reflect that the requirement to identify safety criteria belongs in the section that outlines safety criteria (i.e., in § 53.220) as opposed to the original location related to analysis requirements.
53.220	I have deleted § 53.220(b). This paragraph would have set risk-based limits inappropriately codifying specific cumulative risk numbers from the Commission's Quantitative Health Objectives (QHOs). The deletion is consistent with Commission policy expressed in SRM-SECY-89-0102 and reiterated periodically (see, e.g., SRM-SECY-00-0077 and the Commission's affirmation in "Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory Activities; Final Policy Statement" that the "safety goals are intended to be applied generically and are not for plant-specific applications." 60 FR 42622, 42628; August 16, 1995). The use of risk-based regulation is inconsistent with the need to consider costs under the Administrative Procedure Act for all regulatory actions except those necessary for adequate protection of public health and safety.
53.240	I have edited the requirements for identifying licensing basis events (LBEs) to reflect that the proposed requirements in § 53.450 have also been edited to broaden the scope of acceptable analysis methods under 10 CFR part 53 beyond a probabilistic risk assessment.
53.260 & 53.270	I have edited §§ 53.260 and 53.270 to reflect that doses must meet the existing requirements in 10 CFR part 20. This edit ensures that the requirements in 10 CFR part 53 related to dose are consistent with existing requirements used under 10 CFR parts 50 and 52.
53.415	I have replaced the term "constructed" with "man-related" in the context of external hazards that must be considered in the design of safety-related structures, systems, and components. This will avoid a conflict between the term "construction," as defined in § 53.020 and align the language with 10 CFR part 100.
53.425	I have edited the draft proposed requirements in § 53.425 to focus on compliance with a Radiation Protection Program established to meet the requirements of § 53.850.
53.430	I have deleted § 53.430(c) and (d) since these were duplicative of requirements in 10 CFR part 20 that would already be applicable to applicants and licensees under 10 CFR part 53.
53.440	I have deleted paragraph 53.440(a) because it does not express a design requirement, but rather was drafted as a demonstration requirement that duplicates § 53.090(c)(5) (renumbered as § 53.090(d), as edited) requirements for demonstration of the capabilities of design features.

Affected Section	Comment
53.440	<p>I have deleted § 53.440(b) to be consistent with the discussion in the preamble noting that the use of codes and standards in 10 CFR part 53 should be addressed in regulatory guidance as opposed to regulatory requirements. This is reasonable and appropriate since the intent of this rulemaking is to facilitate licensing advanced reactors. For these technologies, consensus codes and standards are not necessarily available, endorsed, or otherwise found acceptable by the NRC. Therefore, requirements related their use should be eliminated. This will avoid an improper delegation of Commission authority to determine what is necessary to meet a requirement to an external body through a dynamic incorporation by reference.</p>
53.440	<p>I have edited § 53.440(g) to align more closely with the existing language in General Design Criterion (GDC) 27 from appendix A to 10 CFR part 50. The draft proposed language in this paragraph was similar to the existing language in GDC 27, but more stringent in that it would have required an applicant to design a reactor that that achieves and maintains a subcritical condition as opposed to “reliably controlling reactivity.” The preamble did not articulate a reason to impose a stricter requirement on advanced reactors. Additionally, the requirement to be capable of achieving and maintaining a subcritical condition for the waste stores does not make sense as it would allow for them to be critical so long as the capability is maintained.</p>
53.440	<p>I have relocated human factors-related design requirements and load following design requirements that were included in the draft proposed requirements in subpart F to §§ 53.440(n) and (o) to reflect that these are design requirements.</p>
53.450	<p>I have edited § 53.450(a) to generalize the 10 CFR part 53 risk evaluation requirements. The draft proposed rule prescribed the use of probabilistic risk assessment (PRA) for meeting the requirements in § 53.450(b). This would have inappropriately reduced the flexibility for applicants and licensees to use alternate methods that could be used to demonstrate compliance with relative technical requirements. Alternate methods can be used to demonstrate an equivalent level of safety. Generalizing the analysis requirements (i.e., modifying the language to require a risk evaluation rather than specifying that a PRA must be used) will allow applicants and licensees to use a spectrum of approaches to demonstrating that a particular reactor design is safe. This is consistent with the approach that will almost certainly be used by most applicants and licensees in that a combination of deterministic and probabilistic methods inherently serves as the most logical means of identifying licensing basis events, classifying structures, systems, and components, and evaluating defense-in-depth. Subsequent application requirements related to risk evaluations have also been modified in subpart H.</p>

Affected Section	Comment
53.450	I have edited § 53.450(c) to reflect the change in analysis type (i.e., probabilistic risk assessment to risk evaluation) and to reduce the prescriptiveness of the requirements to maintain and upgrade the risk evaluation. Existing codes and standards and guidance that have been endorsed by the NRC can be used to facilitate implementing details regarding maintenance and upgrading of these risk evaluations (e.g., Regulatory Guide 1.200, “Acceptability of Probabilistic Risk Assessment Results for Risk-Informed Activities,” and American Society of Mechanical Engineers (ASME)/American Nuclear Society (ANS) Standard ASME/ANS RA-Sa-2009, “Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications,” Addendum A to RA-S-2008).
53.450	I have moved certain draft proposed requirements in § 53.450(e) to Subpart B for a more logical placement amongst the 10 CFR part 53 safety requirements.
53.460	I have deleted § 53.460(c) because the draft proposed language expresses neither a safety categorization nor a special treatment requirement. Human actions are governed under subpart F and analyzed under § 53.450 to meet the appropriate criteria.
53.470	I have deleted § 53.470 in its entirety because there are no operational flexibilities identified in 10 CFR part 53 that would be granted to an applicant or licensee establishing more conservative safety margins. The lack of identified operational flexibilities would result in a need for an exemption to whatever requirement the flexibilities are granted with relation to; these additional margins could be established in the exemption process as a license condition or through some other means.
53.480	I have edited § 53.480(c)(1)(vi) to reflect that the seismic design requirements permitting strain resulting from earthquake ground motion in excess of yield strain should not be limited to safety related (SR) structures, systems, and components (SSCs). The safety functions required by § 53.230 include those needed to meet the safety criteria of § 53.220, which can be satisfied by non-safety related but safety significant SSCs. Therefore, there does not appear to be a reason to limit this permissibility to SR SSCs.
53.530	I have deleted § 53.530(a)(1) because it is essentially identical to § 53.210(a) and is already required to be met under § 53.450(f)(3).
53.530	I have deleted § 53.530(a)(2) because it is essentially identical to § 53.210(b) (with the exception of the footnote) and is already required to be met under § 53.450(f)(3).
53.605	I have deleted § 53.605(4) to reflect that suppliers of basic components would not be subject to the rules in this section, but rather would be required to follow the existing requirements in 10 CFR part 21.
53.610	I have edited this section to eliminate redundant requirements and proposed requirements that are beyond what is required of currently operating reactors.

Affected Section	Comment
53.615	I have added § 53.615(a) as a requirement for the submittal of a final safety analysis report corresponding to the existing condition in § 50.55(d) on construction permits. This places the requirement in the proper position in the life cycle of a commercial nuclear plant as envisioned by the staff in the organization of 10 CFR part 53.
53.620	I have added provisions to § 53.620(b) that would provide optional capabilities for manufacturing license holders to load fuel in a manufactured reactor at a manufacturing facility. Additional requirements for manufacturing license holders opting to exercise this flexibility are included under § 53.620(b) and include provisions for items such as facility staffing, fire protection, and monitoring for criticality accidents. These edits are consistent with original proposals made by the staff during development of the draft preliminary proposed rule text for 10 CFR part 53. I have also added appropriate cross-references to transportation and security requirements under 10 CFR parts 71 and 73, respectively.
53.620	I have moved relevant portions of the draft proposed requirements under § 53.620(f) to a more appropriate location in § 53.610(d) since “acceptance and installation at the site” is reflective of a construction activity. This places the requirement in the proper position in the life cycle of a commercial nuclear plant as envisioned by the staff in the organization of 10 CFR part 53.
53.725	I have edited §§ 53.725 & 53.760 to reflect that the existing requirements for specifically licensed operators (reactor operators and senior reactor operators) in 10 CFR part 55 should be used in lieu of repeating many of the 10 CFR part 55 provisions in 10 CFR part 53. I have included conforming changes to 10 CFR part 55 to reflect these edits have been proposed as part of this vote. I have concurrently deleted the requirements for licensing of these operators that would have been included in §§ 53.765 through 53.795.
53.800	I have edited the draft proposed requirements for classifying self-reliant mitigation facilities to reflect the elimination of Framework B and the associated Alternative Evaluation for Risk Insights methodology. The criterion for classifying a facility as a self-mitigating type has been simplified in § 53.800(a)(1) as that which a risk evaluation has shown demonstrates compliance with the evaluation criteria in §§ 53.210 and 53.220 without reliance on human actions.
53.845	I have deleted § 53.845(b), which would have been redundant to the requirement for administrative controls in the technical specifications that would be required under §§ 53.710(a)(5) and (c)(5) and the controls for non-safety related but safety significant structures, systems, and components under § 53.710(b).

Affected Section	Comment
53.850	I have deleted the draft radiation protection program requirements in § 53.850(a) because they are redundant to the requirements of 10 CFR part 20, which would be made applicable by the conforming changes proposed in § 20.1002. Additionally, its inclusion in subpart F while omitting it from subpart G runs the risk of unintended consequences by conveying that 10 CFR part 20 is made applicable during the operations phase by this section rather than by its own terms and that no radiation protection program is required for a commercial nuclear plant no longer in the operations phase.
53.850	I have deleted the draft requirements related to Offsite Dose Calculation Manuals (ODCMs) in § 53.850(b), which would represent an unnecessary increase in burden when compared to the limited regulatory requirements related to ODCMs in 10 CFR parts 50 and 52. I have similarly deleted the draft requirements related to a Process Control Program in § 53.850(c) since they would represent an unnecessary increase in burden when compared to 10 CFR parts 50 and 52. These draft proposed requirements would be better placed in regulatory guidance.
53.855	I have edited § 53.855 to reflect that the development and implementation of an emergency response plan should take place prior to the operations phase of a commercial nuclear plant. The draft proposed requirement appears to be misplaced due to the limitation of § 50.47(a) that had been included in the draft proposed § 53.855(b), which would prevent issuing a license authorizing operation of the commercial nuclear plant without the emergency response plan. As a result, the development of the plan, which is the sole proposed requirement in this paragraph, would have taken place prior to the operation phase that is the subject of this subpart.
53.860	I have edited § 53.860(a) to reflect that the requirement, as drafted, would have required a licensee to develop, implement, and maintain a physical security program under 10 CFR part 73 regardless of the outcome of the analysis in § 53.860(a)(2)(ii) with respect to the criterion in § 53.860(a)(2)(i). The proposed edits to this paragraph make the need for development, implementation, and maintenance of a physical security program under 10 CFR part 73 contingent on the status of the optional analysis with respect to the criterion.
53.865	I have edited § 53.865 to use 10 CFR part 50 appendix B for the quality assurance program (QAP) requirements concurrence with the deletion of subpart K. The edits to the QAP requirements in 10 CFR part 53 will avoid the unintended consequences of establishing new QAP requirements in subpart K that are nearly identical to those in 10 CFR part 50 appendix B. Use of the latter would ensure minimal to no impacts to the existing commercial nuclear plant infrastructure for equipment and services covered by 10 CFR part 50 appendix B. I have also deleted the second sentence of § 53.865, which was more prescriptive than the requirements in 10 CFR parts 50 or 52. In addition, that sentence would have been an improper incorporation by reference of unnamed codes and standards in the regulations.

Affected Section	Comment
53.870	<p>I have deleted the draft requirements for developing, implementing, and maintaining an integrity assessment program under this section. In particular, the aging management element of the draft proposed program would impose requirements on advanced reactors during the initial term of operation. This is an additional imposition on advanced reactors in this part that does not exist in 10 CFR parts 50 or 52 and is therefore in conflict with Commission direction to regulate advanced reactors no more strictly than currently operating reactors. I have also deleted the related application requirements for the integrity assessment program from subpart H.</p>
53.880	<p>I have deleted requirements for the use of generally accepted consensus codes and standards from § 53.880(a). The use of generally accepted consensus codes and standards should be addressed in guidance or identified with sufficient specificity in the rule to meet the Office of the Federal Register requirements for incorporation by reference in the regulations. Further, as drafted, this paragraph would require inclusion of all inspections and tests required by the codes and standards used in the design without regard to any limitations and conditions the NRC determines necessary for those codes and standards to be acceptable.</p> <p>I have deleted the final sentence of § 53.880(a) regarding the documentation of an inservice inspection and inservice testing program and the qualifications of those responsible for the management of the program as this level of prescriptiveness if not currently imposed in 10 CFR parts 50 or 52.</p> <p>I have moved the draft proposed requirement in § 53.880(b) for the provision of sufficient room and support for inservice inspection and inservice testing activities to § 53.440(p) since this is a requirement that should be considered in design and not operations. This places the requirement in the proper position in the life cycle of a commercial nuclear plant as envisioned by the staff in the organization of 10 CFR part 53.</p> <p>I have deleted the draft proposed requirements in § 53.880(b) related to providing the results of inservice inspection and inservice testing activities to the plant manager. The allocation of responsibilities to particular individuals in the organization of the commercial nuclear plant is prescriptive and should be left to the licensee to decide as a part of their inservice inspection and inservice testing program or QAP development.</p>
53.890	<p>I have deleted the draft proposed requirements in § 53.890 regarding a facility safety program. This program is a new regulatory requirement that is not imposed on the currently operating fleet of reactors under 10 CFR parts 50 or 52. Further, the regulatory analysis provided with the draft proposed rule indicates that the program would provide no benefit to a licensee. Rather, the licensee would only incur costs as a result of implementing the program which calls into question why it was included in the draft proposed rule. Subsequent application requirements related to the facility safety program have also been deleted in subpart H.</p>

Affected Section	Comment
53.910	I have deleted the draft proposed requirements for procedures and guidelines in § 53.910. This section duplicates requirements from a variety of other places, including but not limited to appendix B to 10 CFR part 50, subpart F of the draft proposed 10 CFR part 53, and administrative controls in technical specifications. The need for this type of listing, which does not attempt to be comprehensive in this draft section, should be addressed in regulatory guidance.
53.1030	The draft proposed requirement in § 53.1030 for annual adjustment factors used in determining decommissioning cost estimates would not set a generic adjustment factor. Instead, it would set a minimum adjustment factor because of the use of the phrase "must be at least." The corresponding wording used in § 50.75(c)(2) is similar to this wording but distinct because it does not identify anything as a "generic adjustment factor" but instead merely sets a minimum for adjustment factors to use. I have edited this section to address this issue.
53.1030	I have deleted the draft requirements for developing a site-specific decommissioning cost estimate in § 53.1030(a) because they exceed the requirements imposed on currently operating reactors under the parallel requirements in § 50.75. These considerations should be placed in regulatory guidance.
53.1040	<p>I have moved § 53.1045(b) to § 53.1040(g) (new paragraph) because the subject requirements are required terms of prepayment or external sinking fund arrangements rather than limitations on uses of the funds. I have similarly moved § 53.1045(c) to § 53.1040(h) (new paragraph) for the same reason.</p> <p>I have moved § 53.1045(d) to § 53.1040(i) (new paragraph) because the subject requirements are required terms of trusts rather than limitations on uses of the funds.</p>
53.1070	<p>I have deleted the draft proposed requirements for defueled technical specifications in § 53.1070(a)(2). The draft proposed requirements appear to be sensible to expect a licensee to take but are not required under 10 CFR parts 50 or 52. The draft proposed requirements should instead be moved to regulatory guidance.</p> <p>I have moved the draft proposed requirements regarding staffing for a decommissioned commercial nuclear plant in § 53.1070(a)(3)(ii) to § 53.1075 for a more logical placement among programmatic requirements for commercial nuclear plants undergoing decommissioning.</p>
53.1120	I have deleted § 53.1120 in its entirety since it is redundant to the existing requirements in § 50.11, with conforming edits to refer to part 53.
53.1124	I have edited the draft proposed requirements for the relationships between construction permits, operating licenses, and combined licenses and standard design approvals and standard design certifications to more simply and succinctly state the restrictions between these license types.

Affected Section	Comment
53.1221	I have deleted § 53.1221(d) because there are no parallel information requirements in 10 CFR part 52 for standard design approvals; these only exist for applications that reference standard design certifications. Further, there does not appear to be a need for this due to the provisions of § 53.1221(b) that limit the effects on the authority of the Commission with respect to such applications.
53.1239	I have edited the prefatory text to § 53.1239 related to application documentation to match that of the existing requirements in the prefatory text to § 52.47. As drafted, this provision would require the preparation of procurement specifications and other such documents by the standard design certification applicant prior to submittal of an application. This is a more stringent standard than in 10 CFR part 52, which only requires the provision of the information that would be contained in such documents, which would be expected to be prepared by the combined license applicant rather than the standard design certification applicant.
53.1251, 53.1254, 53.1257, & 53.1260.	I have deleted §§ 53.1251(a) and (b) to reflect that standard design certifications would not expire (indefinite duration). Elimination of the duration of a standard design certification would reduce unnecessary regulatory burden on applicants and save Commission resources. Because of these changes, I have also deleted §§ 53.1254, 1257, and 1260 as unnecessary.
53.1279	I have included § 53.1279(d) as part of this vote to provide proposed requirements for manufacturing license applicants that may elect to load fuel into a manufactured reactor at a manufacturing facility. These proposed requirements are consistent with those previously discussed by the staff during development of the draft preliminary proposed rule text.
53.1309	I have edited the construction permit application requirements for emergency preparedness to align with the requirements of § 50.34(a)(10) in light of the reliance on appendix E to 10 CFR part 50 and § 50.47 in § 53.855
53.1369	I have added §§ 53.1369(b), (c), and (d) to clarify the requirements for operating license applicants that reference early site permits, standard design certifications, and standard design approvals. The proposed paragraphs have been modeled after those that were proposed for combined license applications in § 53.1416.
53.1455	I have added § 53.1455(b) regarding the completion date for a combined license to parallel the § 50.55(b) condition for construction delays under a combined license that is recognized under § 50.100.
53.1550	I have edited the evaluation criteria in § 53.1550(a)(2) to align with the criteria in § 50.59(b)(2) and avoid imposing tighter regulatory controls on changes for licensees under 10 CFR part 53 than exists for licensees under 10 CFR parts 50 and 52 (i.e., the need for amendments based on comparison to the QHOs). This will also align with the guidance under development for change control screening and evaluation for licensees electing to use the Licensing Modernization Project approach under 10 CFR parts 50 and 52.
53.1710	This section has been deleted, consistent with the proposed deletion of § 53.1730 (see below).

<b>Affected Section</b>	<b>Comment</b>
53.1710, & 53.1730	I have deleted these sections as unnecessary. The requirements of 10 CFR part 140 are self-executing on applicants for and holders of licenses to operate nuclear reactors and would be extended to cover 10 CFR part 53 by this rulemaking. Compliance with 10 CFR part 140 is an element of the necessary findings for an operating license applicant under § 53.1387 and is an area of review for combined license applicants under § 53.1422. 10 CFR part 53 should require no further notice than 10 CFR parts 50 and 52 and there is no corresponding requirement in this area in either.
Subpart K	I have deleted subpart K in its entirety. Conforming changes have been proposed in this vote that would require applicants and licensees under 10 CFR part 53 to use the existing quality assurance program requirements in appendix B to 10 CFR part 50. These conforming changes have been proposed in this vote to avoid the unintended consequences of establishing new quality assurance program requirements that are essentially identical to those already used throughout the nuclear industry. These unintended consequences would include a likely reduction in the number of equipment and service providers available to applicants and licensees under 10 CFR part 53. Edits have been made throughout the rule text to reflect deletion of subpart K and the proposed use of appendix B to 10 CFR part 50.