



Changes During Construction NEI 96-07 Appendix C Revision 0C

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Don A. Dube, Earl R. Libby, Jerry N. Wilson
Office of New Reactors



Background Information: ISG-025

- DC/COL-ISG-025 “Changes During Construction Under 10 CFR Part 52” (ADAMS Accession No ML111530026) issued for use and comment 77 FR 1749
 - Docket ID NRC-2011-0288
- Public comment period closes on March 26, 2012

Background Information: NEI 96-07, Appendix C Revision 0C

- NEI 96-07, Appendix C Draft Revision 0C, “Guideline for Implementation of Change Control Processes for New Nuclear Power Plants Licensed Under 10 CFR Part 52”
- ADAMS Accession No. ML113220426
- New Section 4.1.1 “Construction Change Applicability”
- ADAMS Accession No. ML113390052
- Revised Section 4.4.2.2 “Evaluation of Departures From Tier 2 Information That Do Not Affect Ex-Vessel Severe Accident Criteria”
- ADAMS Accession No. ML113390051

NRC staff comments NEI 96-07, Appendix C Revision 0C

General comments under staff discussion:

- Were any updates to NEI 99-04 “Guidelines for Managing NRC Commitment Changes” and 98-03 “Guidelines for Updating Final Safety Analysis Reports” considered by NEI to address part 52 applicability? (see also ISG-015 discussion)

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- Under staff discussion: Some of the discussions throughout Appendix C seem to contemplate that departures from the DCD is limited according to definitions in 50.59 that were not carried over into VIII. 10 CFR 52.63(b)(2) “Subject to § 50.59 of this chapter, a licensee who references a design certification rule may make departures from the design of the nuclear power facility, without prior Commission approval, *unless the proposed departure involves a change to the design as described in the rule certifying the design.* “
- Use of the term “guidelines” when referring to regulations (Section 3.18 et. al.), may consider using the term “requirements.”

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- Discussions in 1.1 refers to applicability and should specify “Appendix C guidance” and that it is for combined license holders that reference a design certification (changes to guidance to address “custom COLs” could also be considered for future to clarify that only 52.98, 50.59, and 50.90 would apply)
- Discussions throughout Appendix C seem to contemplate that construction permits (CP) can reference design certifications. This is not consistent with Part 50 or Part 52.
- Could use definitions for plant-specific ITAAC and DCD ITAAC
- Changes to flowcharts on C-8 and C-9

NRC staff comments

NEI 96-07, Appendix C Revision 0C

General comments under staff discussion:

- Pg. C-10, last para, 10 CFR 52.63 process is not just limited to changes by the design certification sponsor - for everyone
- Discussion in 1.4.1.1 regarding changes to Operational Requirements needs to be revisited - Section VIII.C governs changes to Operational Requirements from a referenced DCD (guidance seems to have incorrect view of Operational Requirements - they are not Operational Programs and are not necessarily assoc. with TS)

NRC staff comments

NEI 96-07, Appendix C Revision 0C

General comments under staff discussion:

- Guidance uses “construction permit or COL” throughout - these are not interchangeable and CP should be deleted
- Discussion in 1.4.2.1 on integrated change control process - Some future licensees will have plants that were licensed to Part 50 and some to Part 52 requirements, are they considering an integrated change control process? (2 levels of integration?)

NRC staff comments

NEI 96-07, Appendix C Revision 0C

General comments under staff discussion:

- Should there be a discussion included about LWAs and clarification of the change process for LWA?
- Definition of VIII.B.5 Evaluation on pg. C-16..."modified for part 52" doesn't make sense because VIII.B.5 only has meaning under P52
- Section 3.3 should provide a reference to the definition of "plant-specific DCD"

NRC staff comments
NEI 96-07, Appendix C Revision 0C

General comments under staff discussion:

- Last para under Section 3.4 could use some elaboration
- not clear what point the guidance is trying to make
- Section 3.16 - the plant-specific DCD is part of the UFSAR/is incorporated into the UFSAR
- Section 4.2.2 - new Section VIII.B.5.d regarding AIA assessment applicable to AP1000 only (at present)?

NRC staff comments
NEI 96-07, Appendix C Revision 0C

General comments under staff discussion:

- Section 4.3.3 - provide definition of plant-specific ITAAC
- Section 4.3.4 - provide definition of plant-specific DCD
- Section 4.3.5 should be revisited to recalibrate OR discussion to more accurate meaning of OR, including relevant examples
- Section 4.4 - shouldn't this be departures for "Generic DCD"?

NRC staff comments NEI 96-07, Appendix C Revision 0C

General comments under staff discussion:

- 2nd bullet on pg C-40: how do we know that there is no departure without doing the screening? (e.g., impact on operator actions, fire hazards evaluation, security, EP,...?)
- Pg. C-44 “guideline value” should be “limit”
- Section 4.6.1 – (pg C-64)there is no screening or change process for ESPs other than by amendment

NRC staff comments
NEI 96-07, Appendix C Revision 0C

General comments under staff discussion:

- Section 4.7.3 Conforming LARs (last para on pg. C-78):
Does not involve construction or testing so there is no impact on construction schedule
- Section 5 - need to include discussion on Section X of referenced DCR

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- **Section 1.2.1 Relationship to Other Processes That Control Licensing Basis Activities**
- Under staff discussion – Maintenance activities, managed in accordance with the Maintenance Rule 10 CFR 50.65.
- Please explain how Maintenance Rule 50.65 could be implemented during the period of construction, particularly (a)(4)

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- **Section 1.2.3 Relationship to UFSAR**
- Under staff discussion – Applicability of RG 1.181 endorsing NEI 98-03, Revision 1 to the plant-specific DCD information when updating the FSAR.
- NEI 98-03 nor RG 1.181 did not contemplate the exclusivity of DCD within UFSAR

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- **Section 1.4.1 Departures from Design Certification Information**
- The staff believes there is value in restating upfront Commission's high-level expectations regarding the change process for new reactors in general and VIII.B.5 in particular. For example, from the Statement of Considerations of the standard design certification for the Advanced Boiling Water Reactor (ABWR) design (62 FR 25800, 25810; May 12, 1997):

“The Commission on its part also has a reasonable expectation that vendors and utilities will cooperate with the Commission in assuring that the level of enhanced safety believed to be achieved with this design will be reasonably maintained for the period of the certification (including renewal). This expectation that industry will cooperate with NRC in maintaining the safety level of the certified designs applies to design changes suggested by new information, to renewals, and to changes under section VIII.B.5 of the final rule.”

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- **Section 3 DEFINITIONS AND APPLICABILITY OF TERMS**
- General comment of the section: Under staff discussion
- From AP1000 rule SOC, 71 FR 4469 “Because of some differences in how the change control requirements are structured in the DCRs, certain definitions contained in § 50.59 are not applicable to 10 CFR part 52 and are not included in this rule.”
- **Section 3.3 All Matters Described in the Plant-Specific DCD**
- Definition: Thus, “all matters described in the plant-specific DCD” means **includes**:

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- **Section 3.4 CHANGE/DEPARTURE**
- General comment of the section: Under staff discussions:
- *“Departure specifically refers to a modification, or addition to, or removal from, information contained in a referenced standard design certification rule and reflected in a plant-specific DCD”*
Adapted from RG 1.206, where?
 - Departure in 2007 Part 52 Rule SOC departure – deviation from the DCD information
 - Change/Departure applies to Tier 1, Tier 2* and Tier 2

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- **Section 3.10 and Section 4.3**
- May desire to verify that the language does not preclude use of 50.54(a)(3) and (a)(4) for changes to QA Program

NRC staff comments NEI 96-07, Appendix C Revision 0C

- **Section 3.15 Operational Requirements**
- Under staff discussion
 - where did this definition of Operational requirements originate from?

NRC staff comments NEI 96-07, Appendix C Revision 0C

- **Section 4.4.2.2 Evaluation of Departures from Tier 2 Information That Do Not Affect Ex-Vessel Severe Accident Criteria**
- Phrase ...Section VIII.B.5.b.iii... should be ...Section VIII.B.5.b(3)...

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- **Section 4.4.3.1**
- This section appears to be consistent with regulatory guidance.
- However, staff believes that the potential use of PRA information as a tool in evaluating plant changes in general could be highlighted more. As discussed in NEI 96-07 Appendix C, plants licensed under Part 52 need to maintain and upgrade the PRA, and periodically update the FSAR to account for the latest PRA information. Such information can be useful in addressing some 50.59 questions for plant changes. Staff suggests an addendum to the following paragraph on page C-59:

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- Page C-59 suggested addendum
- “A licensee is not required to seek NRC approval for changes to the PRA information in Chapter 19. As a result, a licensee does not need to perform screening or prepare an evaluation per 10 CFR 50.59 or Section VIII.B.5 of the design certification rules for changes in the PRA information in Chapter 19. **While the PRA information in the FSAR is not subject to such change processes, COL holders may find value in using the PRA information in assessing the risk impact of plant changes and performing 10 CFR 50.59 or VIII.B.5 evaluations. For example, PRA information may be used to quantitatively address increase in the frequency of occurrence of an accident previously evaluated or the likelihood of a malfunction of a structure, system, or component important to safety.**”

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- Staff also notes on page C-59 to add **substantial** consistent with rule language for ex-vessel severe accidents:
- “Similarly, changes to Tier 2 of the plant-specific DCD that result in significant/**substantial** increases in the probability or consequences of design basis accidents or ex-vessel severe accidents would require NRC approval per Section VIII.B.5 of the design certification rules.”
- Example 1 on page C-59: PRA maintenance and upgrade requirements are in 50.71(h)(2), not (h)(1). This example can be addressed by deleting as follows:
- “may defer any changes to the PRA information in Chapter 19 pending the PRA upgrade required by 10 CFR 50.71(h)(1); and”

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- **Section 4.4.3.2**
- The assessment via the example on page C-62 is partially true, however, additional discussion can be found in section 19K.4 of the ABWR DCD:
- “The ADS depressurizes the RPV so that the low pressure systems can inject water. Even if no water injection is available, the depressurization via one safety/relief valve (SRV) eliminates the potential for direct containment heating in event of RPV failure.”
- The ADS thus contributes to DCH being an *ex-vessel severe accident previously reviewed and determined to be not credible*.

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- **Section 4.4.3.2** (cont.)

This aspect of the location of information on ex-vessel is forewarned on page C-22 of NEI 96-07 Appendix C that states: “Thus, the location of the ex-vessel severe accident design information in the DCD is not important and all ex-vessel severe accident design information in the DCD is subject to the application of this special departure process in Section VIII.B.5.c of the design certification rule. (72 FR 49394)”

Hence, one would need to evaluate the change in the example per VIII.B.5.c for the impact on probability of ex-vessel severe accident previously reviewed and determined not credible.

NRC staff comments NEI 96-07, Appendix C Revision 0C

- **Section 4.4.3.2** (cont.)

Staff believes that either a new example should be chosen, or the conclusions of the screening changed as follows:

~~“Does not need **Needs** to assess the change against the criteria in Section VIII.B.5.c of the design certification rule, because the ADS is not used to mitigate severe accidents~~ **used to eliminate (i.e., make not credible) a particular ex-vessel severe accident (direct containment heating).**”

NRC staff comments

NEI 96-07, Appendix C Revision 0C

- **Section 4.6 and 4.6.1 Changes to Early Site Permits**
- Screening process does not appear to correspond to 52.39(e)
- 72 FR49442 First column “Paragraph (e) states that the holder of an early site permit may not make changes to the early site permit, *including the SSAR*, without prior Commission approval.”
- Yet, as stated in NEI 96-07 at 4.6.1 1)...Note: If the activity represents a change from any of the information contained in the SSAR, the COL applicant must identify the changes in the FSAR.



NRC staff comments NEI 96-07, Appendix C Revision 0C

- **Section 4.7.1 Evaluations performed during construction**
- (PAR) - Preliminary Amendment Request

Next Steps, NEI 96-07, Appendix C Revision 0C

Completion Task Sequence

- NRC staff – compile comments and transmit to NEI
- NRC staff - continue Part 52 applicability review of NEI 98-03 “Guidelines for Updating Final Safety Analysis Reports” and RG 1.181 “Content of the Updated Final Safety Analysis Report in Accordance with 10 CFR 50.71(e)”
- NEI consider and incorporate comments
- Next round of NRC comments with Public Meeting
- Objective - NRC endorsement of NEI 96-07 Appendix C as an acceptable method for controlling plant changes or modifications under Part 52