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Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

ATTN: Rulemakings and Adjudications Staff

Comments on Proposed Modifications to 10 CFR Part 52 and Conforming Changes to Other Parts of Title 10, 71 Federal Register 12782, March 13, 2006 (RIN 3150-AG24)

AREVA NP appreciates the opportunity to submit comments on the U.S. Nuclear Regulatory Commission's (NRC) proposed revisions to 10 CFR Part 52 and conforming changes to other parts of Title 10 of the *Code of Federal Regulations* as discussed in the above-referenced Notice of Proposed Rulemaking (NOPR).

AREVA NP participated in the development of comments by the Nuclear Energy Institute (NEI) Combined License Task Force (COLTF), which are being submitted to the NRC in a separate letter by NEI. The NEI letter comprises a comprehensive review of the NOPR, covering essentially all of the important issues and concerns associated with the proposed revisions to the NRC's rules. AREVA endorses the comments in the NEI letter.

Attachment 1 to this letter includes detailed comments on specific sections or proposals discussed in the NOPR, and offers an additional comment related to the applicability of 10 CFR 50.69 to applicants for design certification.

AREVA NP also has the following general concern related to the NOPR. The tenor of the NRC's discussion of the changes to its regulations seems to be narrowly focused on the idealized process envisioned when Part 52 was originally developed; that is, a combined license (COL) application that references previously completed early site permit (ESP) and design certification (DC) proceedings. This is exemplified by the discussion on p. 12786 of the FR notice. Unfortunately, this approach ignores the fact that none of the COL applications (COLAs) that have been announced for submission to the NRC in the 2007-2008 timeframe will reference both an already-certified design and an ESP. Those COLAs which will reference a DC do not involve ESPs, while those that

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will reference completed ESPs will not reference a design for which certification is complete. Lack of consideration of the actual types of cases with which the NRC will be presented results in regulatory requirements that are, in some cases, not well-suited for use by potential COL applicants whose approach varies from the NRC's "ideal." The NRC should focus on developing rules that are equitable and clearly applicable for all potential COL applicants.

If you have any questions concerning this letter, please contact Ms. Sandra M. Sloan, AREVA NP Regulatory Affairs Manager for New Plants Deployment. She may be reached by telephone at 434-832-2369 or by e-mail at sandra.sloan@areva.com.

Sincerely,



Ronnie L. Gardner, Manager
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AREVA NP

cc: J. F. Williams
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Attachment 1

Additional Comments on the Proposed Modifications to 10 CFR Part 52 and Conforming Changes to Other Parts of Title 10

Broader Coverage of Part 21

1. The rationale for including DC applicants and rules, ESP holders, and standard design approvals under 10 CFR Part 21 is very difficult to understand. Since there is no safety impact until one (or more) of these instruments is included in a COLA (and implemented in a plant licensed under the resulting COL), there would appear to be no basis for their inclusion within the scope of Part 21. Moreover, until a plant is actually constructed on a site, it is difficult to understand how "defects" in "basic components" could be identified. With the proposed Part 21 changes, the NRC is tinkering with a "backbone" regulation for the commercial nuclear power industry. This is a regulation with potentially severe penalties involved, up to and including criminal prosecution and incarceration. Thus, absolute clarity in its interpretation and application is essential. AREVA recommends, therefore, that the NRC defer the proposed changes to Part 21 until further consideration and clarification of the issues.

Severe Accident Mitigation Design Alternatives and Other Severe Accident Issues

2. In several places in the NOPR (e.g., p. 12801, pp. 12823-12824, p. 12827), the NRC discusses its reasons for changing the process for identifying and dispositioning severe accident mitigation design alternatives (SAMDA). To date, this issue has been handled per a process proposed by the staff and approved by the Commission in SECY-91-229. In that SECY paper, the staff noted that design certification applicants were required to provide a risk-based, cost-benefit assessment of alternative design features to satisfy the technical requirements of 10 CFR 50.34(f)(1)(i). Consequently, rather than requiring applicants to provide a separate SAMDA analysis that would cover essentially the same ground, the Commission agreed that required analysis could be used to satisfy both the 10 CFR Part 51 NEPA-related requirement for a SAMDA assessment and the 10 CFR 50.34 technical requirement. This required the NRC staff to provide a separate environmental assessment for the DC review. In this manner, the SAMDA assessment was included in the DC rulemaking and was accorded "finality" as part of the rule. The "new" process that the NRC would impose would require a DC (or ML) applicant to provide an additional document, i.e., an environmental report that specifically addresses SAMDAs (which would presumably replicate the 10 CFR 50.34 technical assessment). No justification is provided for imposing this additional burden on the applicant, nor for contravening a process that has heretofore (apparently) worked as anticipated in SECY-91-229. If the NRC is going to continue to require SAMDA assessments, we see no reason to alter the current process.

- a. Also, in 10 CFR 52.47(b)(5) (p. 12896), the NRC includes the requirement to address SAMDA. Here, however, the NRC does not specify that the assessment should be in a separate environmental report (as is discussed elsewhere in the rule), nor does it acknowledge that this requirement is essentially duplicative of the technical requirement in 10 CFR 50.34(f)(1)(i). This provision (and other similar ones) should be deleted from the rule, as discussed above, in favor of maintaining the process detailed in SECY-91-229.
 - b. We also note that on p. 12823, the NRC defines SAMDAs as "alternative design features for preventing and mitigating severe accidents...." This is not consistent with the term itself, which refers to mitigation of severe accidents. This inconsistency appears, in part to be responsible for the manner in which one of the technical requirements for various applications is stated (see 10 CFR 52.47(a)(20) and associated comment #4). The reference "prevention" of severe accidents should be deleted.
 - c. Finally, it should also be noted that we fully support NEI's recommendation that the NRC should undertake rulemaking that would generically determine that severe accident risks for advanced reactor designs are "remote and speculative," and thus remove the necessity for conducting this largely academic exercise. In the four DC reviews completed to date, no design changes have been identified by the SAMDA process as being cost-beneficial, largely because of the extremely low risks posed by advanced plant designs, and there is no reason to believe that subsequent DC (or ML) applications will differ in this regard.
3. The requirement in 10 CFR 51.55 (p. 12882) for an applicant for an amendment to a DC to file a supplemental environmental report (ER) addressing changes in the outcome to a SAMDA assessment is far beyond the requirements that must be met for a licensee who wants to make changes to a plant licensed under 10 CFR Part 50. It would be preferable for this provision to be dropped altogether, but as a minimum, such an assessment should only be required if the requested changes would cause a significant increase in risk. Since the SAMDA assessment is a risk-based evaluation, it is reasonable to assume that design changes that do not increase plant risk would not change the result of a SAMDA assessment.
4. In several places in Part 52 (see, for example, 10 CFR 52.47(a)(20), p. 12895), an applicant is required to provide a "description and analysis of design features for the prevention and mitigation of severe accidents...." The first part of this requirement is extraneous, since design features that "prevent" severe accidents are just those safety features that are included to meet design basis requirements, and are already required by 10 CFR Part 50 (e.g., Appendix A and other regulations). The second part of this requirement is flawed, since it does not explicitly differentiate between design basis requirements and those extending beyond the design basis of the plant. There are also no explicit guidelines or acceptance criteria established in the rule as to what would comprise an "acceptable" analysis of severe accident mitigation. These issues are currently addressed by means of guidance that was promulgated by the

Commission in SECY-93-087, and that guidance has worked satisfactorily to date. This provision of the rule should be eliminated in favor of maintaining the *status quo*.

5. Although the term "severe accident" is used in various places in the revisions to Part 51 and Part 52, the term is not defined in either of these rules, nor in Section 11 of the Atomic Energy Act. If the term is going to be used in the rules, it should be clearly defined so there is no question about what constitutes a "severe accident." The staff should take note of the discussion in the Commission's Severe Accident Policy Statement to ensure its definition of "severe accident" is consistent with past usage of the term.

Requirements to Address Operating Experience and Related Issues

6. In several places in Part 52 (see, for example, 10 CFR 52.47(a)(18), p. 12895), an applicant is required to provide "information necessary to demonstrate technical resolutions of those unresolved safety issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date 6 months before the docket date of the application and that are technically relevant to the standard plant design." This evaluation has been interpreted to include all medium/high priority generic safety issues (GSIs), regardless of whether they have been resolved or not. The requirement to address "resolved" GSIs imposes a burden on an applicant with no associated benefit. When GSIs are resolved, the resolution generally falls into one of two categories. Either (1) no new regulatory requirements are identified to resolve the issue (i.e., current regulations are adequate), or (2) new regulatory requirements are identified, and their imposition results in resolution of the issue. Since new plant designs must comply with applicable regulatory requirements, they will, by definition, comply with the bases for resolution of previous GSIs. Thus, requiring an applicant to go back through an entire compendium of resolved GSIs (some of which are more than 20 years old) comprises an academic exercise in which the applicant must determine what was done to resolve an issue (if applicable to the design) and state that the plant design meets that resolution. Moreover, since the staff must review this exercise, it results in a poor application of NRC resources. This requirement should be changed to cover only unresolved GSIs that are applicable to the design.
7. In several places in Part 52 (see, for example, 10 CFR 52.47(a)(19), p. 12895), an applicant is required to show that operating experience has been taken into account in a new plant design, including "comparable international operating experience." However, statements by NRC staff members at meetings and workshops associated with the development of this NOPR indicate that there are no clear criteria by which one can judge what "comparable" experience actually means, implying that the ability to satisfy this requirement will be left to the subjective judgment of the NRC staff member conducting the review. If the NRC becomes aware of international operating experience that it believes is relevant to one or more new plant designs, the NRC should identify that experience (e.g., by means of a generic letter) for consideration by an applicant. The current open-ended requirement should be deleted.

If, however, the NRC determines international operating experience must be considered, the staff should be instructed to permit applicants to use relevant experience gained outside the United States to justify the use of new technologies in U.S. plants. Consideration of such information should include these "positive" aspects of international experience as well as the implied "negative" aspects of the current wording of the rule.

Change Processes and Finality Provisions

8. On p. 12808, in its discussion of 10 CFR 50.59, the NRC states that when a COL references a DC rule, the change processes for a design control document (DCD) incorporated in that rule are controlled by what is specified in the DC rule. This discussion helps to illuminate a troubling element of Part 52, particularly after a plant begins operation. The NRC has, over the years, evolved a process for making changes in operating plants, as controlled by the appropriate sections in 10 CFR Part 50 (including, but not limited to, 10 CFR 50.59) and associated regulatory guidance. It is possible, however, for plants licensed under Part 52 to be subject to new rules that establish a new, parallel process governing such changes, including (but not limited to) the Tier 1 and Tier 2* requirements in DC rules that are supposed to apply for the life of the plant. In light of the evolution of technology over the period for which these plants are designed to operate—60 years or more—it is not clear why it is necessary to restrict changes in such a fashion. This is another case in which the goal of "standardization" is apparently raised above any other aspect of plant design and operation, including that of safety. AREVA believes that the policy governing changes in various aspects of plant design and operation (e.g., fuel design criteria included in Tier 2* DC rules) imposes an additional, undue burden on Part 52 licensees where those requirements exceed those imposed on Part 50 licensees. We recommend that, for those aspects of plant design and operation for which Part 50 controls exist, the NRC should employ those controls rather than establish a parallel process in Part 52.
9. On p. 12794 of the NOPR, the NRC describes its proposed process for allowing the Commission to make changes in design certification rules in 10 CFR Part 52. However, there is no discussion of the process by which the Commission would make a determination that, for example, a change to a DC rule would, in fact, constitute a reduction of regulatory burden. In addition, the provision that any such change would apply both to pending and planned COL applications and to plants that are currently operating ignores the fact that it is far easier and less expensive to make changes to "paper" designs than to an operating plant. Thus, "burden reduction" (which could be interpreted as including a cost-benefit evaluation) could not be assessed in the same fashion for operating and "potential" plants.
10. There do not appear to be any limitations to the NRC's ability to evaluate and "inquire into the continued validity" of the information supporting an environmental impact statement (EIS) for an ESP (see p. 12826). If this is true, what does "finality" really mean with regard to the issuance of an ESP? Is there any sort of "due process" that the NRC is required to follow to establish an expectation that such inquiries will actually result in the discovery of information that would significantly impact the conclusions reached in the EIS?

Applicability of 10 CFR 50.46

11. There is no safety impact associated with issuance of a DC or standard design approval until the associated plant is built and operates. Thus, there is no reason for their inclusion in the reporting requirements for 10 CFR 50.46 (see pp. 12864-12865).

Applicability of 10 CFR 50.69

12. In 10 CFR 50.69(b)(1), the applicability of the risk-informed categorization and treatment process specifically omits applicants for design certification. Although the NRC explained its rationale for this omission in the *Federal Register* notice for the 10 CFR 50.69 rulemaking (see 69 FR 68035), those arguments are not persuasive, particularly in view of the fact that the risk-informed categorization and treatment process is permitted in applications for standard design approval, for which the technical requirements are essentially the same as for design certification.

One of the reasons provided for omitting design certification applicants from applying the 10 CFR 50.69 process was that "the industry has not expressed any interest in submitting a design certification using the principles of § 50.69." However, when the proposed rule for § 50.69 was published, there was no provision for including design certification applicants, and the NRC did not request comments as to whether such a provision should be included. Thus, the industry was never given an adequate chance to express its interest in such a provision. Consequently, NEI now expresses the industry's interest in including design certification applicants in the "applicability and scope" section of 10 CFR 50.69.

Specifically, we recommend that 10 CFR 50.69(b)(1) be amended to read (change is underlined):

(1) A holder of a license to operate a light water reactor (LWR) nuclear power plant under this part; a holder of a renewed LWR license under part 54 of this chapter; an applicant for a construction permit or operating license under this part; or an applicant for a design certification, a design approval, a combined license, or manufacturing license under part 52 of this chapter; may voluntarily comply with the requirements in this section as an alternative to compliance with the following requirements for RISC-3 and RISC-4 SSCs:

We note that applicability of § 50.69 requirements to design certification applicants would thus be defined by the current 10 CFR 50.69(b)(4).

Consistency with Energy Policy Act of 2005

13. The NRC should review those elements of the rules (e.g., Part 50, Part 52) related to financial qualifications and other issues that may be addressed in the Energy Policy Act of 2005. If changes are required to comply with the Act, it would be preferable to incorporate them in this action rather than undertaking a separate rulemaking that would delay their implementation.

Terminology, Definitions, and Necessary Clarifications

14. The NRC's approach to revising existing parts of 10 CFR is not internally consistent. For example, the term "design certification" is used in the revised Part 50 (see, e.g., new 10 CFR 50.43), but is not included in the new definitions proposed for 10 CFR 50.2. However, a definition for "design certification" is included separately in the new 10 CFR Part 50, Appendix S. It should also be noted that the definition in new 10 CFR 52.1 is given for "standard design certification or design certification" which is not the same as the terminology in the aforementioned Appendix S.
15. On p. 12807, in the discussion of 10 CFR 50.54, the NRC refers to "prerequisites to licenses." Since a COL may reference a DC or ESP, or both, or neither, what are the "prerequisites" to licenses to which the NRC refers?
16. Unless there is a valid historical purpose involved, the NRC should delete wording from 10 CFR Part 50 (or other parts of 10 CFR) that involve past requirements or agency actions. For example, the introductory remarks to 10 CFR 50.34(f) (see p. 12862), refer to several nuclear power plants for which various licenses or permits were pending in 1982. None of these plants were built, and their continued inclusion in the regulations seems, on its face, to make no sense. Other, briefer, examples are references to October 16, 2003, in 10 CFR 50.34(g), and May 17, 1982, in 10 CFR 50.34(h)(1)(ii) (see p. 12863).

Manufacturing Licenses

17. It is not clear how Part 21 would apply to an ML, at least until the manufactured reactor was installed in a nuclear power plant, nor is it clear how the NRC can equate issuance of an ML with "construction" as indicated on p. 12820, since nothing is constructed until the reactor is transported to and installed in a plant. This issue should also be reviewed by the NRC
18. The NRC's rationale for a mandatory hearing for MLs (see p. 12814) seems backward, particularly in view of the assertion that the Atomic Energy Act (AEA) does not include such a requirement. Rather than including a requirement for a hearing that might be removed at a later date if it is found to be meaningless, the NRC should either leave such hearings to the Commission's discretion or provide the capability for a stakeholder to request a hearing. If the NRC receives applications for MLs, and if in the course of the licensing process, it was determined that hearings served a useful, meaningful purpose, the NRC could then consider whether rulemaking was warranted to make such hearings mandatory.

19. On p. 12797 of the NOPR, with regard to the requirements for a COLA referencing a "manufactured reactor," it appears the reference here should be to a manufacturing license (ML). Further, the discussion of siting information (10 CFR 52.79(e)) is confusing. It appears this should say that the COLA must provide information sufficient to demonstrate that the site characteristics for the site where the manufactured reactor is to be installed are bounded by the site parameters assumed in the license, rather than "the site parameters for the manufactured reactor are bounded by the site" where the reactor will be installed.
20. It is not clear (p. 12800) why the NRC is using "economic risk" arguments as a basis for proposing changes to Appendix M (MLs). Aside from the fact that the capability of the NRC to anticipate economic impacts to potential applicants is open to question, this has in the past not been a criterion that the NRC has employed to determine the necessity of changes to regulations. AREVA recommends that the NRC limit its considerations for making changes to Part 52 and related regulations to those associated with public health and safety, along with the need to provide clear and unambiguous regulatory requirements. "Economic risk" should be an issue left to industry assessment.
21. On p. 12801 of the NOPR, the NRC discusses its rationale for not including a process by which the holder of a manufacturing license can make changes to the plant design. The reasoning supporting such a position is questionable. Given experience to date, in which changes to certified designs are being requested by prospective COL applicants, it is not clear why the NRC believes that the situation would be any different for a "manufactured" reactor. Moreover, by "freezing" the design under an ML for up to 15 years, the NRC stifles innovation and improvements that could improve safety and reliability. While enhancement of standardization is a worthy goal, there are circumstances in which advancement of technology and improvement of safety demand departures from a standard approach. This provision of the NRC's rules ignores that fact.
22. The NRC should clarify the conditions under which an ML can be granted. Are MLs only for reactors that are small enough to be built offsite and transported essentially as a single unit to another location for installation, or would it be possible for an ML to be granted for manufacture of a large plant that would be transported to its site in sections or "modules" for installation?
23. The basis for new 10 CFR 51.105a (p. 12828) is not clear. The NRC asserts in other parts of the NOPR that the environmental impacts associated with the manufacture of a reactor under an ML are not relevant to the NRC's determination; however, the hearing for an ML would consider "environmental, technical, economic, and other" issues associated with SAMDAs. Moreover, the rule would require a finding as to whether the NRC staff has been able to identify "all reasonable SAMDAs" for such a reactor. What standard will be used to determine what is "reasonable?" To the extent that similar language appears in other parts of new or revised sections of 10 CFR Part 51 (or other parts of 10 CFR), it should be removed.

24. On p. 12807, in the discussion of the specification of "earliest and latest" dates for COLs and MLs, it is not clear why these are required for an ML. Since the ML is issued for a fixed term, the date of issue and date of expiration would appear to establish those criteria. For a COL, the NRC does not state if it is possible to modify the "latest date" for completion of construction. If it is not possible to do so, this requirement would appear to be meaningless, since it would encourage a COL applicant to specify a date sufficiently far in the future to preclude the possibility of forfeiting the license because of unforeseen delays.

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Rulemaking comment, plus put in RF. Thanks

>>> "MCFADEN Sherry L" <Sherry.McFaden@areva.com> 05/30/2006 4:25 PM >>>
On behalf of AREVA NP, please find attached letter, NRC:06:024,
regarding comments on proposed modifications to 10 CFR Part 52. Should
you have any questions or concerns, please contact Sandra Sloan at
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Thank you.

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