March 14, 2013

NG-13-0110
10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Duane Arnold Energy Center
Docket No. 50-331
Renewed Op. License No. DPR-49

License Amendment Request (TSCR-140): Application To Revise Technical Specifications To Adopt TSTF-535, "Revise Shutdown Margin Definition To Address Advanced Fuel Designs" Section Affected: 1.1

Pursuant to 10 CFR 50.90, NextEra Energy Duane Arnold, LLC (hereafter NextEra Energy Duane Arnold) hereby requests revision to the Technical Specifications (TS) for the Duane Arnold Energy Center (DAEC).

The proposed amendment modifies the TS definition of "Shutdown Margin" (SDM) to require calculation of the SDM at a reactor moderator temperature of 68°F or a higher temperature that represents the most reactive state throughout the operating cycle. This change is needed to address new Boiling Water Reactor (BWR) fuel designs which may be more reactive at shutdown temperatures above 68°F.

Attachment 1 provides a description and assessment of the proposed changes. Attachment 2 provides the existing TS page marked up to show the proposed changes. Attachment 3 provides revised (clean) TS page.

NextEra Energy Duane Arnold requests NRC review and approval of the proposed license amendment under the Consolidated Line Item Improvement Process (CLIIP), as no variations are proposed that would affect the Staff's model Safety Evaluation. In addition, NextEra Energy Duane Arnold utilizes the new BWR fuel designs at the DAEC that necessitate the revised SDM definition. Therefore, a timely review and approval under the CLIIP will obviate a potentially non-conservative TS definition. NextEra Energy Duane Arnold is requesting a 30 day grace period to implement this license amendment.

This application has been reviewed by the DAEC Onsite Review Group. A copy of this submittal, along with the 10 CFR 50.92 evaluation of "No Significant Hazards Consideration," is being forwarded to our appointed state official pursuant to 10 CFR 50.91.

This letter makes no new commitments or changes to any existing commitments.

If you should have any questions regarding this submittal, please contact Tom Byrne at 319-851-7929.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on March 14, 2013

Richard L. Anderson
Vice President, Duane Arnold Energy Center
NextEra Energy Duane Arnold, LLC

Attachments:
1. Description and Assessment
2. Proposed Technical Specification Changes (Mark-Up)
3. Revised Technical Specification Page (Clean, Typed)

cc: M. Rasmusson (State of Iowa)

License Amendment Request (TSCR-140): Application To Revise Technical Specifications To Adopt TSTF-535, "Revise Shutdown Margin Definition To Address Advanced Fuel Designs"
Section Affected: 1.1

DESCRIPTION AND ASSESSMENT

1.0 DESCRIPTION

The proposed amendment modifies the Technical Specifications (TS) definition of "Shutdown Margin" (SDM) to require calculation of the SDM at a reactor moderator temperature of 68°F or a higher temperature that represents the most reactive state throughout the operating cycle. This change is needed to address new Boiling Water Reactor (BWR) fuel designs which may be more reactive at shutdown temperatures above 68°F.

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

NextEra Energy Duane Arnold, LLC (hereafter, NextEra Energy Duane Arnold) has reviewed the model safety evaluation dated February 26, 2013, as part of the Federal Register Notice of Availability. This review included a review of the NRC Staff's evaluation, as well as the information provided in TSTF-535. NextEra Energy Duane Arnold has concluded that the justifications presented in the TSTF-535 proposal and the model safety evaluation prepared by the NRC staff are applicable to the Duane Arnold Energy Center (DAEC) and justify this amendment for the incorporation of the changes to the DAEC TS.

2.2 Optional Changes and Variations

NextEra Energy Duane Arnold is not proposing any variations or deviations from the TS changes described in the TSTF-535, Revision 0, or the applicable parts of the NRC Staff's model safety evaluation dated February 26, 2013.

The Traveler and model Safety Evaluation discuss the applicable regulatory requirements and guidance, including the 10 CFR 50, Appendix A, General Design Criteria (GDC). The DAEC was not licensed to the 10 CFR 50, Appendix A, GDC. The DAEC equivalents of the referenced GDCs are found in the DAEC Updated Final Safety Analysis Report (UFSAR), Sections 3.1.2.3.7 and 3.1.2.3.8. With respect to the proposed change in the TS definition of SDM, the DAEC licensing basis in the UFSAR is essentially identical to the GDC 26 and 27 criteria, in that the DAEC assumes:

> An additional safety design basis of the control rod system requires that the core in its maximum reactivity condition be subcritical with the control rod of the highest worth fully withdrawn and all other rods fully inserted.

and,

> If accident conditions require a reactor scram, this can be accomplished rapidly with appropriate margin for the unlikely occurrence of malfunctions such as stuck rods.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

NextEra Energy Duane Arnold requests adoption of TSTF-535, Revision 0, "Revise Shutdown Margin Definition to Address Advanced Fuel Designs," which is an approved change to the standard technical specifications (STS), into the DAEC Technical Specifications (TS). The proposed amendment modifies the TS definition of "Shutdown Margin" (SDM) to require calculation of the SDM at a reactor moderator temperature of 68°F or a higher temperature that represents the most reactive state throughout the operating cycle.

NextEra Energy Duane Arnold has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change revises the definition of SDM. SDM is not an initiator to any accident previously evaluated. Accordingly, the proposed change to the definition of SDM has no effect on the probability of any accident previously evaluated. SDM is an assumption in the analysis of some previously evaluated accidents and inadequate SDM could lead to an increase in consequences for those accidents. However, the proposed change revises the SDM definition to ensure that the correct SDM is determined for all fuel types at all times during the fuel cycle. As a result, the proposed change does not adversely affect the consequences of any accident previously evaluated.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   The proposed change revises the definition of SDM. The change does not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operations. The change does not alter assumptions made in the safety analysis regarding SDM.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change revises the definition of SDM. The proposed change does not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. The proposed change ensures that the SDM assumed in determining safety limits, limiting safety system settings or limiting conditions for operation is correct for all BWR fuel types at all times during the fuel cycle.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, NextEra Energy Duane Arnold concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

3.2 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

4.0 ENVIRONMENTAL EVALUATION

The proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

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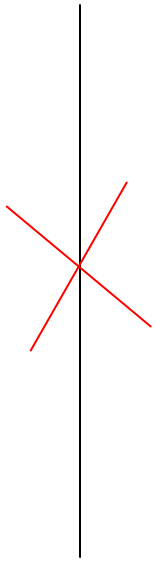
Technical Specification Page

(Markups)

1 page to follow

1.1 Definitions (continued)

SHUTDOWN MARGIN (SDM)	SDM shall be the amount of reactivity by which the reactor is subcritical or would be subcritical throughout the operating cycle assuming that: a. The reactor is xenon free; b. The moderator temperature is ≥ 68°F (20°C), corresponding to the most reactive state; and c. All control rods are fully inserted except for the single control rod of highest reactivity worth, which is assumed to be fully withdrawn with the core in its most reactive state during the operating cycle. With control rods not capable of being fully inserted, the reactivity worth of these control rods must be accounted for in the determination of SDM.



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