



November 10, 2017

NG-17-0220

10 CFR 50.90

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

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

License Amendment Request TSCR-177, Application to Revise Technical Specifications to Adopt TSTF-551, "Revise Secondary Containment Surveillance Requirements"

Pursuant to 10 CFR 50.90, NextEra Energy Duane Arnold, LLC (NextEra) is submitting a request for an amendment to the Technical Specifications (TS) for the Duane Arnold Energy Center (DAEC).

The proposed change revises TS 3.6.4.1, "Secondary Containment," Surveillance Requirement (SR) 3.6.4.1.2. The SR is modified to acknowledge that secondary containment access openings may be open for entry and exit.

Attachment 1 provides a description and assessment of the proposed changes. Attachment 2 provides the existing TS page marked up to show the proposed change. Attachment 3 provides a revised (clean) TS page. Attachment 4 provides TS Bases pages marked up to show the associated TS Bases changes and is provided for information only.

Approval of the proposed amendment is requested by November 30, 2018. Once approved, the amendment shall be implemented within 60 days.

In accordance with 10 CFR 50.91, a copy of this application with enclosures is being provided to the designated State of Iowa official.

The proposed change does not involve a significant hazards consideration pursuant to 10 CFR 50.92, and there are no significant environmental impacts associated with the change. The DAEC Onsite Review Group has reviewed the proposed license amendment request.

This letter contains no new or revised regulatory commitments.

If you have any questions or require additional information, please contact J. Michael Davis, Licensing Manager, at 319-851-7032.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on November 10, 2017



Dean Curtland
Site Director
NextEra Energy Duane Arnold, LLC

- Attachments:
1. Description and Assessment
 2. Proposed Technical Specification Changes (Mark-Up)
 3. Revised Technical Specification Pages
 4. Proposed Technical Specification Bases Changes (Mark-Up) – Information Only

cc: Regional Administrator, USNRC, Region III,
Project Manager, USNRC, Duane Arnold Energy Center
Resident Inspector, USNRC, Duane Arnold Energy Center
A. Leek (State of Iowa)

ATTACHMENT 1 - DESCRIPTION AND ASSESSMENT

1.0 DESCRIPTION

The proposed change revises Technical Specification (TS) 3.6.4.1, "Secondary Containment," Surveillance Requirement (SR) 3.6.4.1.2. The SR is modified to acknowledge that secondary containment access openings may be open for entry and exit.

2.0 ASSESSMENT

2.1 Applicability of Safety Evaluation

NextEra Energy Duane Arnold, LLC (NextEra) has reviewed the safety evaluation for TSTF-551 provided to the Technical Specifications Task Force in a letter dated September 21, 2017. This review included a review of the NRC staff's evaluation, as well as the information provided in TSTF-551. NextEra has concluded that the justifications presented in TSTF-551 and the safety evaluation prepared by the NRC staff are applicable to Duane Arnold Energy Center (DAEC) and justify this amendment for the incorporation of the changes to the DAEC TS.

The radiological consequence analysis for DAEC was approved by the NRC on July 31, 2001 (Accession No. ML011660142), and is documented in UFSAR Section 15.2. NextEra has confirmed that the brief, inadvertent, simultaneous opening of both an inner and outer personnel access door during normal entry and exit conditions, and their prompt closure by normal means, is bounded by the radiological dose consequence analysis. In the unlikely event that an accident would occur when both personnel access doors are open for entry or exit, the brief time required to close one of the doors is small compared to the five minutes assumed in the accident analysis for reducing the post-accident secondary containment pressure to 0.25 inch of vacuum water gauge, and will not result in an increase in any onsite or offsite dose.

2.2 Variations

NextEra is proposing the following variations from the TS changes described in the TSTF-551 or the applicable parts of the NRC staff's safety evaluation. These variations do not affect the applicability of TSTF-551 or the NRC staff's safety evaluation to the proposed license amendment.

- The DAEC TS do not contain an SR equivalent to SR 3.6.4.1.1 modified by TSTF-551. Therefore, the addition of the SR 3.6.4.1.1 Note is not applicable.
- The DAEC TS do not contain an SR equivalent to SR 3.6.4.1.4; therefore, the editorial change to SR 3.6.4.1.4 is not applicable.
- The Traveler and safety evaluation discuss the applicable regulatory requirements and guidance, including the 10 CFR 50, Appendix A, General Design Criteria (GDC). DAEC was not licensed to the 10 CFR 50, Appendix A, GDC. The DAEC equivalents of the referenced GDC are AEC General Design Criteria (GDC) for nuclear power plants, Appendix A, of 10 CFR 50 effective May 21, 1971, and subsequently amended July 7, 1971 as discussed in UFSAR section 3.1. The UFSAR concludes that DAEC fully satisfies and is

in compliance with the GDC. This difference does not alter the conclusion that the proposed change is applicable to DAEC.

- The final model safety evaluation for TSTF-551 discusses that the NRC staff review determined that there are two design basis accidents that take credit for the secondary containment and are possibly impacted by the brief, inadvertent, and simultaneous opening of both an inner and outer access door during normal entry and exit conditions: the loss of coolant accident (LOCA) and the fuel handling accident (FHA) in secondary containment. The DAEC FHA does not credit the secondary containment for mitigation of fuel handling accidents greater than 60 hours following reactor shutdown. The ability to use these systems to mitigate a FHA has been retained as a defense in depth measure, but this function is no longer considered safety-related, nor required by TS. This difference does not alter the conclusion that the proposed change is applicable to DAEC.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination Analysis

NextEra requests adoption of TSTF-551, "Revise Secondary Containment Surveillance Requirements," which is an approved change to the standard technical specifications (STS), into the DAEC Technical Specifications (TS). The proposed change revises TS 3.6.4.1, "Secondary Containment," Surveillance Requirement (SR) 3.6.4.1.2. The SR is modified to acknowledge that secondary containment access openings may be open for entry and exit.

NextEra has evaluated the proposed change against the criteria of 10 CFR 50.92(c) to determine if the proposed change results in any significant hazards. The following is the evaluation of each of the 10 CFR 50.92(c) criteria:

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

Response: No

The proposed change addresses conditions during which the secondary containment SR is not met. The secondary containment is not an initiator of any accident previously evaluated. As a result, the probability of any accident previously evaluated is not increased. The consequences of an accident previously evaluated while utilizing the proposed changes are no different than the consequences of an accident while utilizing the existing four-hour Completion Time for an inoperable secondary containment. As a result, the consequences of an accident previously evaluated are not significantly increased.

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 previously evaluated?

Response: No

The proposed change does not alter the protection system design, create new failure modes, or change any modes of operation. The proposed change does not involve a physical alteration of the plant; and no new or different kind of equipment will be installed. Consequently, there are no new initiators that could result in a new or different kind of accident.

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

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

Response: No

The proposed change addresses conditions during which the secondary containment SR is not met. The allowance for both an inner and outer secondary containment door to be open simultaneously for entry and exit does not affect the safety function of the secondary containment as the doors are promptly closed after entry or exit, thereby restoring the secondary containment boundary.

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

Based on the above, NextEra concludes that the proposed amendment 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 amendment 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 amendment 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 amendment 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 amendment.

ATTACHMENT 2

Proposed Technical Specification Changes (Mark-Up)

One page follows

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.1	Verify all secondary containment equipment hatches are closed.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.2	<p>-----NOTE-----</p> <p>Doors in high radiation areas may be verified by administrative means.</p> <p>-----</p> <p>Verify that either the outer door(s) or the inner door(s) in each secondary containment access opening are closed.</p>	In accordance with the Surveillance Frequency Control Program
	<div style="border: 1px solid red; padding: 2px; display: inline-block;"> <p>, except when the access opening is being used for entry and exit.</p> </div>	
SR 3.6.4.1.3	Verify each SBGT subsystem can maintain ≥ 0.25 inch of vacuum water gauge in the secondary containment at a flow rate ≤ 4000 cfm.	In accordance with the Surveillance Frequency Control Program

ATTACHMENT 3

Revised Technical Specifications Page

One page follows

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.1	Verify all secondary containment equipment hatches are closed.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.2	<p style="text-align: center;">-----NOTE-----</p> <p>Doors in high radiation areas may be verified by administrative means.</p> <p style="text-align: center;">-----</p> <p>Verify that either the outer door(s) or the inner door(s) in each secondary containment access opening are closed, except when the access opening is being used for entry and exit.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.3	Verify each SBT subsystem can maintain ≥ 0.25 inch of vacuum water gauge in the secondary containment at a flow rate ≤ 4000 cfm.	In accordance with the Surveillance Frequency Control Program

ATTACHMENT 4

Proposed Technical Specifications Bases Changes (Markup) - Information Only

Three pages follow

BASES

ACTIONS
(continued)

B.1 and B.2

If secondary containment cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

C.1

OPDRVs can be postulated to cause fission product release to the secondary containment. In such cases, the secondary containment is the only barrier to the release of fission products to the environment.

Action must be immediately initiated to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

LCO 3.0.3 is not applicable in MODE 4 or 5 when OPDRVs can occur. Required Action C.1 has been modified by a Note stating that LCO 3.0.3 is not applicable.

SURVEILLANCE
REQUIREMENTS

SR 3.6.4.1.1 and SR 3.6.4.1.2

Verifying that secondary containment equipment hatches (e.g., the Refueling Floor roof hatch and the HPCI/RCIC room roof hatches) ~~and that either the outer door(s) or the inner door(s) in each access opening~~ are closed ensures that the infiltration of outside air of such a magnitude as to prevent maintaining the desired negative pressure does not occur. ~~Verifying that all such openings are closed~~ provides adequate assurance that exfiltration from the secondary containment will not occur. ~~Maintaining secondary containment OPERABILITY requires verifying that either the outer door(s) or the inner door(s) in each access opening are closed. However, each secondary containment access door is normally kept closed, except when the access~~

and

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

~~SR 3.6.4.1.1 and SR 3.6.4.1.2~~ (continued)

~~opening is being used for entry and exit or when maintenance is being performed on an access. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. The Frequency for these SRs has been shown to be adequate, based on operating experience, and is considered adequate in view of the other indications of door and hatch status that are available to the operator (alarmed security/secondary containment doors, frequent plant tours by operations and security personnel and unexplained drops in reactor building to outside atmosphere differential pressure while secondary containment is isolated with SGBT in service). SR 3.6.4.1.2 is modified by a Note that applies to doors located in high radiation areas and allows them to be verified by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these doors, once they have been verified to be in the proper position, is low.~~

INSERT B 3.6.4.1.2

→ SR 3.6.4.1.3

The SGBT System exhausts the secondary containment atmosphere to the environment through appropriate treatment equipment. SR 3.6.4.1.3 demonstrates that one SGBT subsystem can maintain ≥ 0.25 inches of vacuum water gauge under calm wind conditions (i.e., less than 15 mph wind speed) at a flow rate ≤ 4000 cfm. This cannot be accomplished if the secondary containment boundary is not intact. Therefore, this test is used to ensure secondary containment boundary integrity. Since this SR is a secondary containment test, it need not be performed with each SGBT subsystem. The SGBT subsystems are tested on an alternating basis, however, to ensure that in addition to the requirements of LCO 3.6.4.3, either SGBT subsystem will perform this test, and also to ensure that the secondary containment remains sufficiently leak tight, even with a worst case single failure present (i.e., a lockout relay failure that results in either all of the inboard or all of the outboard SCIV/Ds failing to close). The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. Operating experience has shown these components usually pass the Surveillance when performed at this Frequency.

Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

(continued)

INSERT B 3.6.4.1.2

SR 3.6.4.1.2

Verifying that one secondary containment access door in each access opening is closed provides adequate assurance that exfiltration from the secondary containment will not occur. An access opening contains at least one inner and one outer door. In some cases, secondary containment access openings are shared such that there are multiple inner or outer doors. The intent is to not breach the secondary containment, which is achieved by maintaining the inner or outer portion of the barrier closed except when the access opening is being used for entry and exit.

SR 3.6.4.1.2 is modified by a Note that applies to doors located in high radiation areas and allows them to be verified by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these doors, once they have been verified to be in the proper position, is low.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.