



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 17, 2016

Mr. Thomas A. Vehec  
Vice President  
NextEra Energy  
Duane Arnold Energy Center  
3277 DAEC Road  
Palo, IA 52324-9785

SUBJECT: DUANE ARNOLD ENERGY CENTER - ISSUANCE OF AMENDMENT TO  
TECHNICAL SPECIFICATIONS SECTION 5.5.6 FOR THE INSERVICE  
TESTING PROGRAM (CAC NO. MF6807)

Dear Mr. Vehec:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 298 to Renewed Facility Operating License No. DPR-49 for the Duane Arnold Energy Center (DAEC). The amendment consists of changes to the technical specification (TS) in response to your application dated October 14, 2015.

The amendment revises the DAEC TS Section 5.5.6, "Inservice Testing [IST] Program," to provide consistency with the requirements of 10 CFR 50.55a(f)(4) for IST of pumps and valves and remove requirements that are redundant to the requirements of Title 10 of the *Code of Federal Regulations*, Section 50.55a.

A copy of the Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Mahesh L. Chawla".

Mahesh L. Chawla, Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-331

Enclosures:

1. Amendment No. 298 to  
License No. DPR-49
2. Safety Evaluation

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

NEXTERA ENERGY DUANE ARNOLD, LLC

DOCKET NO. 50-331

DUANE ARNOLD ENERGY CENTER

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 298  
License No. DPR-49

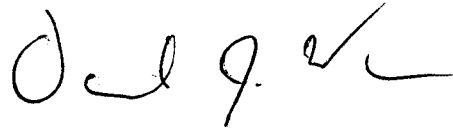
1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by NextEra Energy Duane Arnold, LLC dated October 14, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-49 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 298, are hereby incorporated in the license. NextEra Energy Duane Arnold, LLC shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read 'D. J. Wrona', with a checkmark-like flourish at the end.

David J. Wrona, Chief  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Renewed Facility Operating  
License No. DPR-49 and  
Technical Specifications

Date of Issuance: October 17, 2016

ATTACHMENT TO LICENSE AMENDMENT NO. 298

RENEWED FACILITY OPERATING LICENSE NO. DPR-49

DOCKET NO. 50-331

Replace the following page of Renewed Facility Operating License DPR-49 with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE

3

INSERT

3

Replace the following page of Appendix A, Technical Specifications, with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE

5.0-11

INSERT

5.0-11

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I; Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

NextEra Energy Duane Arnold, LLC is authorized to operate the Duane Arnold Energy Center at steady state reactor core power levels not in excess of 1912 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 298, are hereby incorporated in the license. NextEra Energy Duane Arnold, LLC shall operate the facility in accordance with the Technical Specifications.

(a) For Surveillance Requirements (SRs) whose acceptance criteria are modified, either directly or indirectly, by the increase in authorized maximum power level in 2.C.(1) above, in accordance with Amendment No. 243 to Facility Operating License DPR-49, those SRs are not required to be performed until their next scheduled performance, which is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment No. 243.

(b) Deleted.

(3) Fire Protection Program

NextEra Energy Duane Arnold, LLC shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated August 5, 2011 (and supplements dated October 14, 2011, April 23, 2012, May 23, 2012, July 9, 2012, October 15, 2012, January 11, 2013, February 12, 2013, March 6, 2013, May 1, 2013, May 29, 2013, two supplements dated July 2, 2013, and supplements dated August 5, 2013 and August 28, 2013) and as approved in the safety evaluation report dated September 10, 2013. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

5.5 Programs and Manuals (continued)

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5.5.6 Inservice Testing Program

This program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components. The program shall include the following:

- a. Testing Frequencies applicable to the ASME Code for Operations and Maintenance of Nuclear Power Plants (ASME OM Code) and applicable Addenda are as follows:

<u>ASME OM Code and applicable Addenda terminology for inservice testing activities</u>	<u>Required Frequencies for performing inservice testing activities</u>
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Biquarterly	At least once per 46 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days
Biennially or every 2 years	At least once per 731 days

- b. The provisions of SR 3.0.2 are applicable to the above required Frequencies and to other normal and accelerated Frequencies specified as 2 years or less in the Inservice Testing Program for performing inservice testing activities;
- c. The provisions of SR 3.0.3 are applicable to inservice testing activities; and
- d. Nothing in the ASME OM Code shall be construed to supersede the requirements of any TS.

(continued)

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 298 TO FACILITY OPERATING LICENSE NO. DPR-49  
NEXTERA ENERGY DUANE ARNOLD, LLC  
DUANE ARNOLD ENERGY CENTER  
DOCKET NO. 50-331

1.0 INTRODUCTION

By application dated October 14, 2015, (Agencywide Documents Access and Management System Accession No. ML15289A233), NextEra Energy Duane Arnold, LLC (the licensee) requested to amend the operating license of Duane Arnold Energy Center (DAEC). This license amendment request proposed changes to revise technical specification (TS) 5.5.6, "Inservice Testing [IST] Program," to provide consistency with the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR)50.55a(f)(4) for the IST of pumps and valves and remove requirements that are redundant to the requirements of 10 CFR, Section 50.55a.

Specifically, the proposed changes would revise DAEC TS 5.5.6 to be consistent with U.S. Nuclear Regulatory Commission (NRC or Commission)-approved Technical Specification Task Force (TSTF) travelers TSTF-479, Revision 0, "Changes to Reflect Revision of 10 CFR 50.55a," and TSTF-497, Revision 0, "Limit Inservice Testing Program SR [surveillance requirement] 3.0.2 Application to Frequencies of 2 Years or Less." TSTF-479 changes references in the IST program to the latest approved edition and addenda of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code). TSTF-497 adds an editorial change to clarify that the provisions of SR 3.0.2 are applicable to pumps and valves with IST intervals of 2 years or less.

2.0 REGULATORY EVALUATION

The Commission's regulatory requirements related to the content of the TS are contained in 10 CFR 50.36. That regulation requires that the TS include items in the following specific categories: (1) safety limits, limiting safety systems settings, and limiting control settings, (2) limiting conditions for operation, (3) surveillance requirements, (4) design features, and (5) administrative controls.

The NRC staff reviewed the proposed changes for compliance with 10 CFR 50.36, "Technical specifications," and consistency with the precedent as established in NUREG-1433, "Standard Technical Specifications [STS], General Electric BWR/4 Plants," Revision 4, including changes incorporated via TSTF-479 and TSTF-497. These TSTF travelers affect changes to NUREG-1433 in STS 5.5.7, "Inservice Testing Program."

By letter dated December 6, 2005 (ADAMS Accession No. ML053460302), the NRC approved Revision 0 of TSTF-479, "Changes to Reflect Revisions of 10 CFR 50.55a." TSTF-479, Revision 0, revises references in the STS Administrative Controls IST Program and STS Bases to reflect the current edition of the ASME Code specified in 10 CFR 50.55a(b). The NRC concluded that the revision was acceptable because the requirements of 10 CFR 50.55a adequately provide for IST.

By letter dated October 4, 2006 (ADAMS Accession No. ML1062780321), the NRC approved Revision 0 of TSTF-497, "Limit Inservice Testing Program SR 3.0.2 Application to Frequencies of 2 Years or Less." TSTF-497, Revision 0, revises the STS IST program by clarifying that the application of the 25 percent IST interval extension allowed by SR 3.0.2 was for IST frequencies of 2 years or less. The NRC concluded that the revision was acceptable because it was an editorial change that clarified that the provisions of SR 3.0.2 (i.e., the 25 percent interval extension) are applicable to pumps and valves with IST intervals of two years or less.

The changes were also reviewed for compliance with the requirements for IST as contained in 10 CFR 50.55a(f)(4) for ASME Code Class 1, 2, and 3 pumps and valves. They are also consistent with the guidance in NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants."

### 3.0 TECHNICAL EVALUATION

The licensee requested this amendment to TS 5.5.6, "Inservice Testing Program," for DAEC. TS 5.5.6 would be revised to update references to the source of requirements for the IST of the ASME Code Class 1, 2, and 3 pumps and valves, and to address the applicability of SR 3.0.2 to some non-standard pump and valve testing frequencies.

The licensee stated that the proposed changes to the TS are consistent with NRC-approved TSTF Travelers TSTF-479-A, Revision 0, as modified by TSTF-497-A, Revision 0.

#### 3.1 TSTF-479, Revision 0, "Changes to Reflect Revision of 10 CFR 50.55a"

The purposes of the IST programs are to assess the operational readiness of pumps and valves, to detect degradation that might affect component OPERABILITY, and to maintain safety margins with provisions for increased surveillance and corrective action. NRC regulation 10 CFR 50.55a defines the requirements for applying industry codes to each licensed nuclear powered facility. Licensees are required by 10 CFR 50.55a(f)(4)(i) to initially prepare programs to perform the IST of certain ASME Section III, Code Class 1, 2, and 3 pumps and valves during the initial 120-month interval. 10 CFR 50.55a(f)(5)(ii) requires licensees to update their IST program to the latest approved edition and addenda of the ASME OM Code incorporated by reference into 10 CFR 50.55a(b).

Section XI of the ASME Code has been revised on a continuing basis over the years to provide updated requirements for the in-service inspection and IST of components. Until 1990, the ASME Code requirements addressing the IST of pumps and valves were contained in Section XI, Subsections IWP (pumps) and IWV (valves). In 1990, the ASME published the initial edition of the OM Code that provides the rules for the IST of pumps and valves. Since the



being updated in Section XI.

The TS change does not eliminate any tests and does not relinquish the licensee of its responsibility to seek relief from Code test requirements when they are impractical. The proposed change of the ASME Code reference from "ASME Section XI" to "ASME OM Code," eliminates the ASME Code inconsistency between the IST program and the TS as required by 10 CFR 50.55a(f)(4)(ii). Therefore, the NRC staff finds these proposed changes to be acceptable because they are consistent with the NRC's basis for approval of TSTF-479 in that the requirements of 10 CFR 50.55a adequately provide for IST.

### 3.2 TSTF-497, Revision 0, "Limit In-service Testing Program SR 3.0.2 Application to Frequencies of 2 Years or Less"

TSTF-479, Revision 0, revised the IST program located in Chapter 5 of the STS to reflect the latest approved version of the ASME Code. TSTF-479 also revised paragraph b of NUREG-1433 STS 5.5.7, "In-service Testing Program," by adding, "The provisions of SR 3.0.2 are applicable to the above required Frequencies and other normal and accelerated Frequencies specified in the In-service Testing Program for performing in-service testing activities." This requirement referred to the valves in the table above it which only lists valves with a test frequency interval of 2 years or less.

In order to enhance the 2 years or less test frequency requirement, TSTF-497 revised the sentence in paragraph b to state: "The provisions of SR 3.0.2 are applicable to the above required Frequencies and to other normal and accelerated Frequencies specified as 2 years or less in the In-service Testing Program for performing In-service testing activities." Without this limitation, some components, such as safety and relief valves that may be tested at surveillance intervals significantly greater than 2 years, could have extensions applied which would be much greater than needed for operational flexibility. This is an editorial change to clarify that SR 3.0.2 is applicable to pumps and valves with IST intervals of 2 years or less.

The NRC staff reviewed the licensee's application and determined that the proposed changes are consistent with the bases of the NRC's approval of TSTF-479 and TSTF-497. Therefore, the NRC staff finds the proposed changes acceptable because they are consistent with the relevant portions of 10 CFR 50.55a.

### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Iowa State official was notified of the proposed issuance of the amendment. The State official had no comments.

### 5.0 ENVIRONMENTAL CONSIDERATIONS

The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (80 FR 79621). The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is

no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (80 FR 79621 dated December 22, 2015). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

## 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that 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.

Principal Contributor: Khadijah N. West, NRR/DSS

Date of issuance: October 17, 2016

October 17, 2016

Mr. Thomas A. Vehec  
Vice President  
NextEra Energy  
Duane Arnold Energy Center  
3277 DAEC Road  
Palo, IA 52324-9785

SUBJECT: DUANE ARNOLD ENERGY CENTER - ISSUANCE OF AMENDMENT TO  
TECHNICAL SPECIFICATIONS SECTION 5.5.6 FOR THE INSERVICE  
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A copy of the Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

*/RA/*

Mahesh L. Chawla, Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-331

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ADAMS Accession No.: ML16263A245

**\*Via Memorandum**

OFFICE	NRR/LPL3-1/PM	NRR/LPL3-1/LA	DSS/STSB	OGC	NRR/LPL3-1/BC	NRR/LPL3-1/PM
NAME	MChawla	SRohrer	AKlein*		DWrona	MChawla
DATE	09/21/16	09/21/16	07/22/16	10/03/16	10/17/16	10/17/16

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