



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

July 30, 2020

Mr. Don Moul
Executive Vice President, Nuclear Division
and Chief Nuclear Officer
Florida Power & Light Company
Mail Stop: NT3/JW
15430 Endeavor Drive
Jupiter, FL 33478

SUBJECT: DUANE ARNOLD ENERGY CENTER - ISSUANCE OF AMENDMENT NO. 312
RE: REMOVAL OF LICENSE CONDITION 2.C.(3), FIRE PROTECTION
PROGRAM (EPID L-2019-LLA-0211)

Dear Mr. Moul:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 312 to Renewed Facility Operating License No. DPR-49 for the Duane Arnold Energy Center. The amendment is in response to your application dated September 25, 2019, as supplemented by letter dated November 4, 2019.

The amendment deletes License Condition 2.C.(3), "Fire Protection Program," which requires that the licensee implement and maintain a fire protection program that complies with the requirements of Title 10 of the *Code of Federal Regulations*, Section 50.48, paragraphs (a) and (c).

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

Sincerely,

/RA/

Scott P. Wall, Senior Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-331

Enclosures:

1. Amendment No. 312 to DPR-49
2. Safety Evaluation

cc: Listserv



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. 312
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 (the licensee) dated September 25, 2019, as supplemented by letter dated November 4, 2019, 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, by Amendment No. 312, Renewed Facility Operating License No. DPR-49 is hereby amended by deletion of paragraph 2.C.(3), "Fire Protection Program," as set forth in the licensee's application dated September 25, 2019, as supplemented by letter dated November 4, 2019, and evaluated in the NRC staff's safety evaluation enclosed with this amendment.
3. This license amendment is effective following the docketing of the 10 CFR 50.82(a)(1)(i) and (ii) certifications that the Duane Arnold Energy Center has permanently ceased operations and that the fuel has been permanently removed from the reactor vessel. The amendment shall be implemented within 30 days of the effective date of the amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

Nancy L. Salgado, Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed
Facility Operating License

Date of Issuance: July 30, 2020

ATTACHMENT TO LICENSE AMENDMENT NO. 312

DUANE ARNOLD ENERGY CENTER

RENEWED FACILITY OPERATING LICENSE NO. DPR-49

DOCKET NO. 50-331

Replace the following pages of Renewed Facility Operating License No. DPR-49 with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Renewed Facility Operating License No. DPR-49

REMOVE

-3- through -7-

INSERT

-3- through -5-

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) Deleted

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 311, are hereby incorporated in the license. NextEra Energy Duane Arnold, LLC shall operate the facility in accordance with the Permanently Defueled Technical Specifications.

(3) Deleted

(4) Deleted

(5) Physical Protection

NextEra Energy Duane Arnold, LLC shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification,

and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Duane Arnold Energy Center Physical Security Plan," submitted by letter dated May 16, 2006.

NextEra Energy Duane Arnold, LLC shall fully implement and maintain in effect all provisions of the Commission-approved Duane Arnold Energy Center/NextEra Energy Duane Arnold, LLC Cyber Security Plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Duane Arnold Energy Center/NextEra Energy Duane Arnold, LLC CSP was approved by License Amendment No. 278, as supplemented by changes approved by license Amendment No. 284 and Amendment No. 291.

(6) Deleted

(7) Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 279, are hereby incorporated into this license. NextEra Energy Duane Arnold, LLC shall operate the facility in accordance with the Additional Conditions.

(8) The licensee is authorized to revise the Updated Final Safety Analysis Report by deleting the footnote for Section 9.1.4.4.5 which states: "*The NRC has not endorsed the reactor building crane as single-failure proof (Reference 9)," and by deleting Reference 9 of the references for Section 9.1.

(9) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

(a) Fire fighting response strategy with the following elements:

1. Pre-defined coordinated fire response strategy and guidance
2. Assessment of mutual aid fire fighting assets
3. Designated staging areas for equipment and materials
4. Command and control
5. Training of response personnel

(b) Operations to mitigate fuel damage considering the following:

1. Protection and use of personnel assets
2. Communications
3. Minimizing fire spread
4. Procedures for implementing integrated fire response strategy
5. Identification of readily-available pre-staged equipment
6. Training on integrated fire response strategy
7. Spent fuel pool mitigation measures

(c) Actions to minimize release to include consideration of:

1. Water spray scrubbing
2. Dose to onsite responders

(10) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

(11) Deleted.

(12) Deleted.

(13) Deleted.

- D. This license is effective as of the date of issuance and is effective until the Commission notifies the licensee in writing that the license is terminated.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by Eric J. Leeds

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Appendix A Technical Specifications
2. Appendix B Additional Conditions

Date of Issuance: December 16, 2010



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 312

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-49

NEXTERA ENERGY DUANE ARNOLD, LLC

DUANE ARNOLD ENERGY CENTER

DOCKET NO. 50-331

1.0 INTRODUCTION

By letter dated September 25, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19290G447), as supplemented by letter dated November 4, 2019 (ADAMS Accession No. ML19308A085), NextEra Energy Duane Arnold, LLC (NEDA, the licensee) requested changes to Renewed Facility Operating License No. DPR-49 for the Duane Arnold Energy Center (Duane Arnold). Specifically, NEDA requested to delete license condition 2.C.(3), "Fire Protection Program," which requires that a licensee implement and maintain a fire protection program (FPP) that complies with the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.48, paragraphs (a) and (c).

2.0 REGULATORY EVALUATION

2.1 Background

On September 10, 2013, the NRC issued Amendment No. 286 to the license and the technical specifications (TSs) for Duane Arnold (ADAMS Accession No. ML13210A449), which authorized NEDA to transition the Duane Arnold FPP to a risk-informed, performance-based program based on National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition, in accordance with 10 CFR 50.48(c).

By letter dated January 18, 2019 (ADAMS Accession No. ML19023A196), NEDA submitted a letter that served as its certification of intent to permanently cease power operations at Duane Arnold in the fourth quarter of 2020. By letter dated March 2, 2020 (ADAMS Accession No. ML20062E489), the licensee supplemented its certification of intent to permanently cease power operations at Duane Arnold to specify that it would cease power operations on October 30, 2020. In accordance with 10 CFR 50.82(a)(2), after the NRC receives certifications of permanent cessation of operations and permanent removal of fuel from the reactor vessel from NEDA, the Duane Arnold 10 CFR Part 50 license will no longer authorize operation of the reactor or emplacement or retention of fuel in the reactor vessel.

On July 10, 2020, the NRC issued Amendment No. 311 (ADAMS Accession No. ML20134J104), which revised the Duane Arnold license and the associated TSs to Permanently Defueled TSs consistent with the permanent cessation of reactor operations and permanent defueling of the reactor vessel. The amendment also revised the Duane Arnold 10 CFR Part 50 license from a “Renewed Facility Operating License” to a “Renewed Facility License.” The amendment will be effective following the docketing of the certifications required by 10 CFR 50.82(a)(1)(i) and (ii) that Duane Arnold has been permanently shutdown and defueled.

2.2 Licensee’s Proposed Changes

The licensee proposed to delete License Condition 2.C.(3) once its 10 CFR 50.82(a)(1) certifications are docketed. License Condition 2.C.(3) requires NEDA to implement and maintain aFPP that complies with the requirements of 10 CFR 50.48(a) and 10 CFR 50.48(c).

2.3 Applicable Regulatory Requirements and Guidance

The fire protection regulations under 10 CFR 50.48, “Fire protection,” establish detailed requirements for FPPs at operating nuclear power plants. Under 10 CFR 50.48(a), each operating nuclear power plant must have a fire protection plan that satisfies Criterion 3, “Fire protection,” of Appendix A, “General Design Criteria for Nuclear Power Plants,” to 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities.” The fire protection plan describes the overall FPP which includes measures related to fire prevention, automatic detection, and fire suppression and response, as well as personnel administrative requirements and the protection of safety-related structures, systems, and components from a fire event. The FPP uses a defense-in-depth approach of administrative controls, fire protection systems and features, and post-fire safe-shutdown capability to achieve the required degree of reactor safety.

Licensees of nuclear power plants licensed to operate before January 1, 1979, must meet the requirements of Appendix R, “Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979,” to 10 CFR Part 50, except to the extent provided for in 10 CFR 50.48(b). Licensees of nuclear power plants licensed to operate after January 1, 1979, must meet the plant-specific fire protection licensing basis that was reviewed and approved by the NRC.

As an alternative to Appendix R to 10 CFR Part 50 or to the plant-specific fire protection licensing basis, licensees may also adopt and maintain an FPP that meets 10 CFR 50.48(c), “National Fire Protection Association Standard NFPA 805,” which incorporates by reference NFPA 805, 2001 Edition, with certain exceptions.

For permanently shutdown and defueled power reactors, 10 CFR 50.48(f) governs fire protection for plants with FPPs under 10 CFR 50.48(b) (i.e. 10 CFR Part 50, Appendix R) or under 10 CFR 50.48(c) (i.e. NFPA 805). The regulations under 10 CFR 50.48(f) require those licensees that have submitted the certifications of permanent cessation of operations and permanent removal of fuel from the reactor vessel under 10 CFR 50.82(a)(1) to maintain an FPP to address the potential for fires that could result in a radiological hazard.

The regulations under 10 CFR 50.48(f) state:

Licensees that have submitted the certifications required under [10 CFR] 50.82(a)(1) shall maintain a fire protection program to address the potential

for fires that could cause the release or spread of radioactive materials (i.e., that could result in a radiological hazard). A fire protection program that complies with NFPA 805 shall be deemed to be acceptable for complying with the requirements of this paragraph.

- (1) The objectives of the fire protection program are to—
 - (i) Reasonably prevent these fires from occurring;
 - (ii) Rapidly detect, control, and extinguish those fires that do occur and that could result in a radiological hazard; and
 - (iii) Ensure that the risk of fire-induced radiological hazards to the public, environment and plant personnel is minimized.
- (2) The licensee shall assess the fire protection program on a regular basis. The licensee shall revise the plan as appropriate throughout the various stages of facility decommissioning.
- (3) The licensee may make changes to the fire protection program without NRC approval if these changes do not reduce the effectiveness of fire protection for facilities, systems, and equipment that could result in a radiological hazard, taking into account the decommissioning plant conditions and activities.

3.0 TECHNICAL EVALUATION

3.1 Licensee's Technical Basis for the Proposed Changes

The licensee stated that it requested the proposed changes as a result of its intention to permanently cease power operations at Duane Arnold in the fourth quarter of 2020 and that, after the certifications of permanent cessation of operations and of permanent removal of fuel from the Duane Arnold reactor vessel are docketed in accordance with 10 CFR 50.82(a)(1)(i) and (ii), respectively, pursuant to 10 CFR 50.82(a)(2), its 10 CFR Part 50 license will no longer authorize reactor operation or emplacement or retention of fuel in the reactor vessel. The licensee further stated that, as a result, License Condition 2.C.(3) will no longer apply because it establishes requirements that relate to the ability to shutdown the plant safely in the event of a fire.

The licensee stated that the current license condition is applicable to an operating reactor as the requirements of 10 CFR 50.48(a) and 10 CFR 50.48(c) apply to holders of operating licenses issued under 10 CFR Part 50, and that the conditions specified in the license condition include consideration of risk metrics for core damage frequency and large early release frequency, which are associated with power operation. The licensee further stated that after the certifications of permanent cessation of operations and of permanent removal of fuel from the Duane Arnold reactor vessel are docketed in accordance with 10 CFR 50.82(a)(1)(i) and (ii), respectively, pursuant to 10 CFR 50.82(a)(2), the Duane Arnold license will no longer authorize operation of the reactor. As such, the conditions specified in License Condition 2.C.(3) will no longer be required or applicable and can be deleted.

The licensee stated that following the submittal of the certifications required under 10 CFR 50.82(a)(1), an FPP is required by 10 CFR 50.48(f) to address the potential for fires that could result in a radiological hazard, and that this regulation is applicable regardless of whether a requirement for an FPP is included in the facility license. The licensee further stated that FPP aspects that relate to a permanently shutdown and defueled condition are specifically and adequately addressed by 10 CFR 50.48(f), and, as a result, the FPP will be revised to take into account the decommissioning facility conditions and activities.

3.2 Staff Evaluation

The NRC staff reviewed the information provided by the licensee in the LAR concerning the proposed deletion of License Condition 2.C.(3). The NRC staff also reviewed 10 CFR 50.48(f), which applies to permanently shutdown and defueled power reactors.

The NRC staff found that License Condition 2.C.(3) requires the licensee to maintain an FPP that complies with 10 CFR 50.48(a) and 10 CFR 50.48(c). The NRC staff further found that License Condition 2.C.(3) allows the licensee to make changes to the FPP without prior NRC approval if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), do not require a change to a TS or a license condition, and meet specific criteria listed in the FPP license condition.

The NRC staff found that the licensee had previously requested and obtained NRC approval for the removal of fire protection requirements from the Duane Arnold TSs in Amendment No. 190 dated November 23, 1992 (ADAMS Accession No. ML021910230) and, therefore, the licensee does not have a TS to establish, implement, and maintain written FPP procedures. The requirement for the licensee to establish, implement, and maintain written fire protection procedures is found in NFPA 805, Section 3.2.3, "Procedures," and continues to be applicable to a permanently shutdown and defueled power reactor that has submitted the certifications required by 10 CFR 50.82(a)(1). This is because NFPA 805, Section 5.2, "Fire Protection Plan," requires that the plant maintain a fire protection plan as specified by NFPA 805, Section 3.1, "General," which indicates that one of the fundamental elements of an FPP is the fire protection plan and in accordance with NFPA 805, Section 3.2.3, it requires that procedures be established for implementation of the FPP.

The NRC staff has determined that achieving and maintaining safe shutdown in the event of a fire at Duane Arnold would no longer be applicable once the certifications required by 10 CFR 50.82(a)(1) have been docketed, since the Duane Arnold license would no longer authorize operation of the reactor or emplacement or retention of fuel in the reactor vessel.

The NRC staff also found that, even when the licensee submits the certifications required under 10 CFR 50.82(a)(1), it is still required to maintain an FPP to address the potential for fires that could cause the release or spread of radioactive materials under 10 CFR 50.48(f). Thus, Duane Arnold must have an FPP in place, notwithstanding the deletion of License Condition 2.C.(3).

The NRC staff concludes that the proposed changes are acceptable because after the certifications required by 10 CFR 50.82(a)(1) are docketed, the Duane Arnold 10 CFR Part 50 license will no longer authorize operation of the reactor or emplacement or retention of fuel in the reactor vessel. Accordingly, an FPP implemented at Duane Arnold to ensure the ability to achieve and maintain safe shutdown in the event of fire as prescribed in License Condition 2.C.(3) would no longer be required. As such, after the certifications required by 10 CFR 50.82(a)(1) are docketed, only an FPP pursuant to 10 CFR 50.48(f) would be required,

so a license condition requiring an FPP for a permanently shutdown and defueled reactor is not needed.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Iowa State official was notified of the proposed issuance of the amendment on May 23, 2020. On May 26, 2020, the State official confirmed that the State of Iowa had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes requirements with respect to the installation or use of 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 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 published in the *Federal Register* on December 3, 2019 (84 FR 66233). The amendment also relates to changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and 10 CFR 51.22(c)(10). 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 Contributors: T. Dinh, J. Robinson

Date of Issuance: July 30, 2020

SUBJECT: DUANE ARNOLD ENERGY CENTER - ISSUANCE OF AMENDMENT NO. 312
RE: REMOVAL OF LICENSE CONDITION 2.C.(3), FIRE PROTECTION
PROGRAM (EPID L-2019-LLA-0211) DATED JULY 30, 2020

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ADAMS Accession No. ML20184A003 * via concurrence **SE via email

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DATE	07/15/2020	07/30/2020	07/30/2020

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