



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

January 18, 2017

Mr. Steve Catron
Licensing Manager
NextEra Energy
15430 Endeavor Dr.
Jupiter, FL 33478

SUBJECT: SUMMARY REPORT FOR THE NOVEMBER 21, 2016 AUDIT IN SUPPORT OF
THE REVIEW OF A LICENSE AMENDMENT TO REVISE TECHNICAL
SPECIFICATIONS FUEL STORAGE REQUIREMENTS AT DUANE ARNOLD
ENERGY CENTER (CAC NO. MF7486)

Dear Mr. Catron:

By letter dated March 15, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16077A234), NextEra Energy Duane Arnold submitted a License Amendment Request (LAR) for the Duane Arnold Energy Center. The proposed amendment would revise the spent fuel storage requirements in Technical Specification 4.3.1, "Criticality," and TS 4.3.3, "Capacity," and adds a new requirement in TS 5.5, "Programs and Manuals," for a Spent Fuel Pool (SFP) neutron absorber monitoring program.

The U.S. Nuclear Regulatory Commission (NRC) staff reviewed the nuclear criticality safety analysis that was included with the LAR to demonstrate that NRC requirements associated with SFP subcriticality will be met. The staff sent draft Requests for Additional Information (RAIs) to the licensee via email on September 21, 2016 (ADAMS Accession No. ML16267A064), to address potential non-conservatisms in the analysis. Subsequent teleconferences were conducted with the licensee on September 26 and October 4, 2016, to clarify the RAIs and determine the best approach for a timely resolutions of the issues identified in the RAIs. The staff recognized that the nuclear criticality safety analysis demonstrated a significant amount of margin to the regulatory limit. Therefore, some of the RAIs may not be necessary if the licensee is able to provide adequate documentation to address the missing information being requested by the rest of the RAIs. An audit was determined to be the most efficient approach to allow the NRC staff to verify that adequate documentation would be provided to allow the staff to complete the review and determine if the responses are acceptable, or if the licensee would need to provide the additional information being requested in other RAIs. The staff noted that upon completion of the audit, the draft RAIs would be revised as necessary and issued as final, and the licensee would be expected to provide the needed information on the docket.

On November 14, 2016, the audit plan was e-mailed to the licensee (ADAMS Accession No. ML16327A093). The NRC staff conducted the audit on November 21, 2016, at the NextEra office in Jupiter, Florida. The results of the audit were used by the NRC staff to finalize and transmit RAIs on November 28, 2016 (ADAMS Accession No. ML16333A462).

The audit summary report is provided as an enclosure to this letter.

S. Catron

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If you have any questions, please contact me at (301) 415-8371 or Mahesh.Chawla@nrc.gov.

Sincerely,

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

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

Enclosures:

Summary Report for Audit

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AUDIT SUMMARY REPORT FOR DUANE ARNOLD ENERGY CENTER,
REGARDING DRAFT REQUEST FOR ADDITIONAL INFORMATION RESPONSES
RELATING TO THE LICENSE AMENDMENT TO REVISE
TECHNICAL SPECIFICATIONS FUEL STORAGE REQUIREMENTS
DUANE ARNOLD ENERGY CENTER
DOCKET NO. 50-331
CAC NO. MF7486

1. INTRODUCTION

By letter dated March 15, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16077A234), NextEra Energy Duane Arnold, the licensee, submitted a license amendment request (LAR) for the Duane Arnold Energy Center (DAEC). The proposed amendment would revise the spent fuel storage requirements in TS 4.3.1, "Fuel Storage, Criticality," and TS 4.3.3, "Fuel Storage, Capacity," to reflect an updated current licensing basis for the facility, as well as add a new requirement in TS 5.5, "Programs and Manuals," for a spent fuel pool (SFP) neutron absorber monitoring program.

The U.S. Nuclear Regulatory Commission (NRC) staff reviewed a nuclear criticality safety analysis that was included with the LAR to demonstrate that NRC requirements associated with SFP subcriticality will be met. The staff sent draft requests for additional information (RAIs) to the licensee via email on September 21, 2016 (ADAMS Accession No. ML16267A064), to address potential non-conservatisms in the analysis. Subsequent teleconferences were conducted with the licensee on September 26, and October 4, 2016, to clarify the RAIs and determine the best approach for a timely resolutions of the issues identified in the RAIs. The staff recognized that the nuclear criticality safety analysis demonstrated a significant amount of margin to the regulatory limit. Therefore, some of the RAIs may not be necessary, if the licensee is able to provide adequate documentation to address the missing information being requested by the rest of the RAIs.

Since this subset of RAIs must be addressed to allow the staff to base a safety finding without requiring further information, the licensee committed to developing draft RAI responses and to support an audit. The purpose of this audit was to allow the staff to review the licensee's documentation, and determine if the documentation will be adequate for review purposes. This was determined to be the most efficient approach toward a timely resolution of this LAR review, since the staff will have an opportunity to determine if the additional RAIs will be necessary and no unnecessary burden will be imposed by requiring the licensee to address issues that are not likely to be important to a safety determination. An audit plan was electronically transmitted on November 14, 2016 (ADAMS Accession No. ML16327A093), which included the aforementioned subset of RAIs.

Enclosure

This technical audit was performed consistent with NRC Office of Nuclear Reactor Regulation Office Instruction LIC-111, "Regulatory Audits," dated December 29, 2008 (ADAMS Accession No. ML082900195). The audit supports a timely resolution of all outstanding issues with the SFP nuclear criticality analysis report, allowing the staff to make a safety determination on the associated LAR.

2. AUDIT ACTIVITIES AND OBSERVATIONS

The area of focus for the regulatory audit was the licensee's documentation related to the draft RAIs listed in the audit plan. The intent of this review was to determine if: (1) any RAIs needed to be rewritten to clarify the information being requested, and (2) if additional RAIs needed to be submitted in order to collect sufficient documentation to complete the staff review.

In addition, the licensee provided a copy of the base MCNP (Monte Carlo N-Particle code) input deck used to perform the SFP nuclear criticality safety. In particular, the input deck provided details on the exact nature of the initial source distribution, modeling geometry, compositions, and calculational options.

3. CONCLUSIONS

During this audit, the staff did not make any regulatory decisions regarding the proposed license amendment. However, the staff was able to determine the information that the licensee planned to provide in response to a subset of the draft RAIs via email on September 21, 2016 (ADAMS Accession No. ML16267A064) would be sufficient to allow the staff to continue their review of the LAR in the office. As a result, upon completion of this audit, the staff finalized and transmitted the RAIs (ADAMS Accession No. ML16333A462) as listed in the audit plan. The final RAI responses are expected to be delivered by the licensee by the end of December 2016.

The staff also confirmed that the calculational inputs used for the licensee's criticality calculations conformed to the staff's understanding of the licensee's criticality analysis model.

4. AUDIT PARTICIPANTS

Scott Krepel (NRC)
Mahesh Chawla (NRC)
Steve Catron (NextEra Energy)
Emilio Fuentes (NextEra Energy)

Principal Contributor: Scott Krepel, NRR/DSS/SNPB

S. Catron

- 2 -

If you have any questions, please contact me at (301) 415-8371 or Mahesh.Chawla@nrc.gov.

Sincerely,

/RA/

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

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SKrepel, NRR

ADAMS Accession No.: ML16357A451

***by email**

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|--------|----------------|-------------------------|-------------|----------------|----------------|
| OFFICE | DORL/LPL3-1/PM | DORL/LPL3-1/LA | DSS/SNPB/BC | DORL/LPL3-1/BC | DORL/LPL3-1/PM |
| NAME | MChawla | SRohrer (PBlechman for) | RLukes | DWrona | MChawla |
| DATE | 12/22/16 | 12/22/16 | 12/22/16 | 1/17/17 | 1/18/17 |

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