NEXTera ENERGY
DUANE ARNOLD

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NG-15-0128
10 CFR 50.59(d)(2)

U. S. Nuclear Regulatory Commission
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Duane Arnold Energy Center
Docket No. 50-331
Renewed Facility Operating License No. DPR-49

Report of Facility Changes, Tests and Experiments, and Commitment Changes

In accordance with the requirements of 10 CFR Section 50.59(d)(2), NextEra Energy Duane Arnold, LLC (hereafter NextEra Energy Duane Arnold) hereby submits the subject report covering the time period from May 1, 2013 through April 30, 2015. A summary of specific facility changes and procedure changes completed during this time period and a summary of the 10 CFR 50.59 evaluation of each is included in the Enclosure. There were no tests or experiments during this time period that require reporting. There were no commitment changes made during this period that require reporting per the Nuclear Energy Institute's, "Guidelines for Managing NRC Commitment Changes," dated July 1999.

This letter makes no new commitments or changes to existing commitments. Should you have any questions regarding this matter, please contact J. Michael Davis at 319-851-7032.

P Hansen for

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Enclosure

cc: Administrator, Region III, USNRC
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ENCLOSURE to NG-15-0128

DESCRIPTION OF CHANGES

This section contains brief descriptions of plant design changes and procedure changes completed during the period of May 1, 2013 through April 30, 2015, and a summary of the evaluations for the changes, pursuant to the requirements of 10 CFR Section 50.59(d)(2).

50.59 Evaluation **EC282231 — Implementation of Revised Calculations for Non-LOCA Dose Consequences**

Description and Basis of Change

This activity incorporates calculations CAL-R00-PUP-008, Revision 3, "Non-LOCA Radiological Consequence Dose with Alternate Source Term," and CAL-R05-001, Revision 2, "Control Rod Drop Accident Radiological Dose Consequence Analysis with Alternate Source Term Methodology" into the Updated Final Safety Analysis Report (UFSAR.) The first calculation includes the Main Steam Line Break Accident (MSLBA) and Fuel Handling Accident (FHA) analyses. The second calculation includes the Control Rod Drop Accident (CRDA) analysis.

Previous revisions of the aforementioned calculations (CAL-R00-PUP-008, Revision 2 and CAL-R05-001, Revision 1, respectively) were the analyses of record for the MSLBA, FHA, and CRDA analyses. The calculations have been updated to incorporate the following changes –

(1) modified the radial peaking factor (RPF) assumption to a value of 1.55 in the FHA and CRDA analyses, and

(2) updated the MSLBA and FHA analyses by using code RADTRAD Version 3.03.

The MSLBA, FHA and CRDA dose consequences analyses are described in UFSAR Section 15.2. Each of the original analyses was submitted to the NRC for review, and was subsequently implemented via license amendments. (Reference Amendments 237, 240 and 261)

The activity allows the operation of fuel assemblies at higher radial peaking factors. All fuel assemblies remain compliant with required Technical Specification power distribution limits and design basis limits for fission product barriers (DBLFPBs). The previously assumed low radial peaking factor in the design basis FHA and CRDA dose consequences analyses created an artificial power distribution constraint for core design and operation. Implementation of the activity removed that artificial constraint, with no impact on the Technical Specification power distribution limits or DBLFPBs.

Evaluation Summary

The first activity increased the radial peaking factor input value in the dose consequences analyses for the FHA and CRDA. This input value had no physical impact on the plant or effect on any malfunction of an SSC important to safety. Therefore, this activity does not impact the frequency of previously evaluated accidents; does not impact the likelihood of occurrence of a structure, system or component (SSC) malfunction; does not create a possibility for an accident of a different type than any previously evaluated in the UFSAR; and does not create a possibility for a malfunction of an SSC important to safety with a different result than any previously evaluated in UFSAR. Core operation remains compliant with required Technical Specification power distribution limits (critical power ratio (CPR), linear heat generation rate (LHGR), and maximum average of planar linear heat generation rate (MAPLHGR)) and all other DBLFPBs. Therefore, this activity does not result in a DBLFPB as described in the UFSAR being exceeded or altered. The radial peaking factor for the dose consequences analyses for the FHA and CRDA is not part of a method of evaluation; rather, the radial peaking factor is an input parameter. Therefore, this activity does not result in a departure from a method of evaluation described in the UFSAR used in establishing the design bases or in the safety analyses.

The increased radial peaking factor had a direct impact on the radiological consequences for the FHA and CRDA. Revised dose values for each of the zones analyzed, i.e., Exclusion Area Boundary (EAB), Low Population Zone (LPZ), Control Room (CR) and Technical Support Center (TSC) do not exceed regulatory limits. Additionally, the change in dose values is not greater than 10% of the margin between the regulatory limit and current value. Therefore, this activity does not result in more than a minimal increase in the radiological consequences of the FHA and CRDA. This activity does not impact any other event analyses, and had no physical impact on the plant, including SSC malfunctions; thus, it does not impact any other accident or the radiological consequences of any other accident and does not impact the radiological consequences of a malfunction of an SSC important to safety.

The second activity used RADTRAD Version 3.03 in the dose consequence analyses for the MSLBA and the FHA. This activity does not impact the frequency of previously evaluated accidents or the likelihood of occurrence of a SSC malfunction; it does not result in more than a minimal increase in the radiological consequences of an accident previously evaluated in the UFSAR or the radiological consequences of a malfunction of an SSC important to safety previously evaluated in the UFSAR; it does not create a possibility for an accident of a different type than any previously evaluated in the UFSAR or create a possibility for a malfunction of an SSC important to safety with a different result than any previously evaluated in UFSAR. This activity does not result in a DBLFPB as described in the UFSAR being exceeded or altered.

NEI 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," states: "Departure from a method of evaluation described in the FSAR (as updated) means (i) changing any of the elements of the method described in the FSAR (as updated) unless the results of

the analysis are conservative or essentially the same; or (ii) changing from a method described in the FSAR to another method unless that method has been approved by NRC for the intended application."

RADTRAD Version 3.03 was used in the revised dose consequence analyses for the MSLBA and the FHA. For the MSLBA, revised dose values for each of the zones analyzed, i.e., Exclusion Area Boundary (EAB), Low Population Zone (LPZ) and Control Room (CR) do not result in an increase in margin and are, therefore, conservative. For the FHA, revised dose values for each of the zones analyzed, i.e., Exclusion Area Boundary (EAB), Low Population Zone (LPZ), Control Room (CR) and Technical Support Center (TSC) do not result in an increase in margin and are, therefore, conservative. The activity, therefore, meets the first criteria from the NEI 96-07, Revision 1 definition above. RADTRAD Version 3.03 code was approved by the NRC for dose consequence analysis for the DAEC CRDA (reference Amendment 261) and is listed in DAEC UFSAR Table 15.0-2 for radiological consequences analyses. Therefore, the use of RADTRAD Version 3.03 in the dose consequence analyses for the MSLBA and the FHA is not a departure from a method of evaluation described in the UFSAR used in establishing the design bases or in the safety analyses.