



October 28, 2019

NG-19-0124
10 CFR 50.90

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

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

Subject: Response to Request for Additional Information Relating to Proposed Changes to the Emergency Plan for Permanently Defueled Condition

References:

1. License Amendment Request (TSCR-182): Proposed Changes to the Emergency Plan for Permanently Defueled Condition, dated April 9, 2019 (ML19101A280)
2. FINAL - RAI Related to License Amendment Request (TSCR-182) for Proposed Changes to the Emergency Plan for Permanently Defueled Conditions at Duane Arnold Energy Center (DAEC) - L-2019-LLA-0075, dated October 4, 2019 (ML19280A035)

NextEra Energy Duane Arnold, LLC (NEDA) submitted a License Amendment Request for the Duane Arnold Energy Center (DAEC) pursuant to 10 CFR 50.90 (Reference 1). Subsequently, the NRC Staff requested additional information regarding that application (Reference 2). The Enclosure to this letter contains the requested information.

This additional information does not impact the 10 CFR 50.92 evaluation of "No Significant Hazards Consideration" previously provided in the referenced application.

In accordance with 10 CFR 50.91, a copy of this letter is being forwarded to the State of Iowa designee.

This letter makes no changes to existing commitments and makes the following new commitment.

NEDA hereby commits to providing an ERO Drill to validate the proposed ERO changes. The NRC and FEMA will be notified of the date in advance, and offered the opportunity to observe.

If you have any questions regarding this matter, please contact Mike Davis, Licensing Manager at (319) 851-7032.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on October 28, 2019.

A handwritten signature in black ink, appearing to read "Dean Curtland". The signature is fluid and cursive, with a large loop at the end.

Dean Curtland
Site Director, Duane Arnold Energy Center
NextEra Energy Duane Arnold, LLC

Enclosure

cc: Regional Administrator, USNRC, Region III
Resident Inspector, USNRC, Duane Arnold Energy Center
Project Manager, USNRC, Duane Arnold Energy Center
State of Iowa

ENCLOSURE 1

NEXTERA ENERGY DUANE ARNOLD, LLC

DUANE ARNOLD ENERGY CENTER

**Response to Request for Additional Information Relating to Proposed
Changes to the Emergency Plan for Permanently Defueled Condition**

4 pages follow

RAI-DAEC-1

Section 3.2.1.3, "Major Functional Area: Notification/Communications," of Attachment 1 (page 9 of 28), "Description and Evaluation of the Proposed Changes," states in part: "[t]he resource commitment to support the communication and notification function is not full time so there is time to support performance of collateral duties during the first 60 minutes until staff augmentation can occur." However, it further states, "[f]or purposes of the analysis of proposed post-shutdown on-shift staffing, NRC notifications were treated as a continuous action in accordance with 10 CFR 50.72(c)(3), meaning that once the initial NRC communications are established, it was assumed that the NRC will request an open line to be continuously maintained with the NRC Operations Center."

Please clarify what other collateral duties are assigned to the Non-Certified Operator (NCO) designated to perform notification/communications and what are the potential impacts, if any, to the performance of notification/communications to the appropriate State of Iowa or local agencies, and NRC, within 15 minutes and 1 hour respectively following the declaration of an emergency classification.

DAEC Response

In the DAEC On-Shift Staffing Analysis (OSA), the person tasked with the Notification / Communication function is designated as NCO1 and has the following duties within each of the analyzed scenarios:

1. Design Basis Threat
 - a. ERO notification
 - b. Brief NRC notification for DBT
 - c. State / Local Notifications
 - d. NRC Notification
2. Fuel Handling Accident
 - a. ERO Notification
 - b. State / Local Notifications
 - c. NRC Notification
3. Aircraft Probable Threat
 - a. ERO Notification
 - b. State / Local Notifications
 - c. NRC Notification
4. Fire Requiring Control Room Evacuation and maintain Spent Fuel Pool Cooling
 - a. ERO Notification
 - b. State / Local Notifications
 - c. NRC Notification
5. General Emergency with a PAR
 - a. ERO Notification
 - b. State / Local Notifications
 - c. NRC Notification

The collateral duty for the NCO1 that is tasked with notification / communication to the Offsite Response Organizations (OROs) is the onsite Emergency Response Organization (ERO) notification. The ERO notification is a short task and would have no impact on the duties of the NCO1 to perform the notification / communication function. The follow-up communications with

the OROs would also be conducted by NCO1. However, if needed, the Operations Shift Manager will apprise local, state, and federal officials and agencies of updated information pertaining to the emergency condition as currently required in E-Plan section "B".

RAI-DAEC-2

Section 3.2.1.4.4, "Major Task: Chemistry/Radiochemistry," of Attachment 1 (page 11 of 28) states in part: "no chemistry/radio-chemistry job tasks are required within the first 60 minutes of any analyzed events."

Please clarify when site procedures require gaseous sampling during fuel handling activities with required radiation monitors out of service, and if so, will qualified personnel be available on-shift to perform any gaseous samples to support event classification for the radiation monitor(s) listed for gaseous effluent EALs.

DAEC Response

Site procedures require gaseous sampling whenever a radiation monitor and the redundant / back-up monitors are inoperable. This is a requirement for any loss of gaseous radiation monitoring and is not specific to fuel handling activities. The procedures for manual sampling are currently in place.

RAI-DAEC-3

Section 3.2.1.6.1, "Major Tasks: Radiation Protection: Access Control, HP [Health Physics] Coverage, Habitability, and Dosimetry," of Attachment 1 (page 15 of 28) states in part: "[d]uring a declared emergency, Radiation Work Permits (RWPs) and dose set points will change depending on the emergency and plant conditions."

Please clarify if these "emergency" RWPs are readily available for use or would they have to be developed for use at the time of the event. If so, has it been evaluated whether the on-shift HP Technician can perform this task and what is the impact on other Emergency Plan responsibilities.

DAEC Response

Pre-planned emergency RWPs are in place for use as part of the current DAEC radiation protection and emergency preparedness programs. These programmatic features will remain in place after the DAEC is shut down and permanently defueled.

RAI-DAEC-4

Section 3.2.1.6.1 of Attachment 1 (page 15 of 28) states: "[r]adiation protection coverage will only be performed if the radiological status of a room is unknown and there is a definitive need for emergency workers to enter the room to perform a task. The decision to provide radiation protection coverage may be based on plant radiological conditions as indicated by installed ARMs [area radiation monitors]."

Please clarify if there are sufficient installed ARMs in areas where access would be required to restore spent fuel pool (SFP) cooling or level, either by normal means or by implementing SFP inventory makeup strategies required by 10 CFR 50.54(hh)(2), to evaluate the radiological status to determine if radiation protection coverage will be required.

DAEC Response

The SFP inventory makeup strategies required by 10 CFR 50.54(hh)(2) would require access to the Refuel Floor. There are 4 ARMs located on the Refuel Floor, as follows:

- New Fuel Vault Area
- Spent Fuel Pool Area
- Refuel Floor North End
- Refuel Floor South End

The additional areas that would require access to restore SFP cooling or level by normal means do not have installed ARMs. In these areas, or if installed radiation monitors on the Refuel Floor are not available, radiation protection coverage would be provided for emergency workers.

RAI-DAEC-5

Section 3.2.2, “ERO [emergency response organization] Staffing,” of Attachment 1 (page 18 of 28) states: “[t]he proposed changes to the DAEC Emergency Plan have been discussed with the representatives from each Offsite Response Organization (ORO). Potential impacts on the ability of State of Iowa and local response organizations to effectively implement their FEMA-approved Radiological Emergency Plans do not exist because no tasks that require interfacing with State of Iowa and local response organizations are proposed for elimination.”

Please provide documentation (letter, email, etc.) that reflects the ORO’s agreement with this assessment of no potential impacts to existing FEMA-approved emergency plans.

DAEC Response

The “Acknowledgement of Opportunity to Review Proposed Changes to the NextEra Energy DAEC E-Plan and Support of NRC License Amendment Request” is provided in Attachment 1 to this Enclosure.

RAI-DAEC-6

Section 3.2.2.1, “Technical Support,” of Attachment 1 (page 22 of 28) states: “[i]n the permanent shut down and defueled condition, the Technical and Engineering Supervisor would have the necessary qualifications, expertise, and capabilities to perform an engineering assessment of plant conditions and/or actions needed to mitigate damage to the plant in response to a fuel handling accident or an event resulting in damage to the SFP integrity or the loss of SFP cooling or inventory.” However, Section 3.2.2.1 further states, “[w]ith respect to responding to engineering requests from the Technical and Engineering Supervisor, this function will continue to be performed by augmenting qualified engineering resources.”

Please clarify if the Technical and Engineering Supervisor is, or will be, qualified to "perform an engineering assessment of plant conditions and/or actions needed to mitigate damage to the plant in response to a fuel handling accident or an event resulting in damage to the SFP integrity or the loss of SFP cooling or inventory" or will augmented qualified engineering resources be required.

DAEC Response

The Tech and Engineering Supervisor is qualified to perform the immediate task of engineering assessment of plant conditions and / or damage to the plant including events resulting in damage to the Spent Fuel Pool integrity or the loss of SFP cooling or inventory. However, qualified engineering resources would be available to augment, if needed, the development of repair / recovery tasks.

RAI-DAEC-7

10 CFR 50.47(b)(14) states: "Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected."

Please confirm if NextEra Energy proposes to conduct a drill to validate the proposed ERO changes to the DAEC Emergency Plan prior to implementation, and whether OROs will be offered the opportunity to participate and NRC/FEMA to observe. While not required by NRC regulations, this drill has provided valuable reassurance to OROs and FEMA that the ERO changes will not adversely impact existing FEMA-approved offsite emergency plans.

DAEC Response

DAEC will conduct a drill to validate the proposed ERO changes in preparation for implementation of the shutdown and permanently defueled Emergency Plan, in accordance with the EP drill program. The NRC and FEMA will be provided with appropriate advanced notice to allow them the opportunity to observe. This will be tracked as a new commitment.

ATTACHMENT 1

**NEXTERA ENERGY DUANE ARNOLD, LLC
DUANE ARNOLD ENERGY CENTER**

Acknowledgement of Opportunity to Review Proposed Changes to the
NextEra Energy DAEC E-Plan and Support of NRC License Amendment Request

**ACKNOWLEDGEMENT OF OPPORTUNITY TO REVIEW PROPOSED CHANGES TO
THE NEXTERA ENERGY DAEC E-PLAN AND
SUPPORT OF NRC LICENSE AMENDMENT REQUEST**

Proposed changes would eliminate the on-shift positions not needed for the safe storage of spent fuel in the Spent Fuel Pool (SFP) during the initial decommissioning period and eliminate the ERO positions not necessary to effectively respond to credible accidents.

Representatives from the NextEra Energy Duane Arnold, LLC (DAEC) Emergency Preparedness Department provided a briefing to the Linn County Emergency Management Agency, the Benton County Emergency Management Agency, the Iowa Homeland Security and Emergency Management Department, and the Iowa Department of Public Health (IDPH) (the Partners) on their proposed license amendment request (LAR). The LAR seeks Nuclear Regulatory Commission (NRC) approval to reduce ERO staffing when permanent cessation of operations and defueling of the DAEC reactor occurs. Specifically, the proposed changes would eliminate the on-shift positions not needed for the safe storage of spent fuel in the Spent Fuel Pool (SFP) during the initial decommissioning period and eliminate the ERO positions not necessary to effectively respond to credible accidents.

During the briefing, DAEC Emergency Preparedness staff provided assurances that the proposed change will not adversely affect existing capabilities for prompt notification to the Partners of a DAEC emergency, for radiological monitoring and assessment support, and for ongoing communication and coordination of emergency information. In addition to maintaining notification capabilities to notify the Partners of a declared emergency within 15 minutes, DAEC will continue to deploy a plant technical representative to the Partners Emergency Operation Centers after declaration of an Alert or higher emergency classification level. The DAEC Emergency Response Organization (ERO) will continue support to IDPH for offsite radiological monitoring and assessment at the DAEC Emergency Operations Facility. Coordination arrangements between DAEC and the Partners will continue to allow for timely dissemination of emergency information to the public.

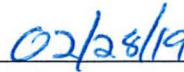
The Partners find that the proposed changes will not conflict or negatively impact State and County Radiological Emergency Preparedness Plans and Procedures and supports DAEC submission of the LAR being submitted to the NRC.

CONCURRENCE

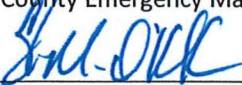
Approved By and Date:



Scott E. Hansen, Coordinator
Benton County Emergency Management



Date



Steve O'Konek, Coordinator
Linn County Emergency Management



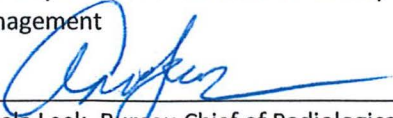
Date



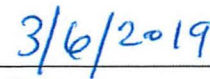
Jacob Nicholson, REP Program Manager
Iowa Department of Homeland Security and Emergency
Management



Date



Angela Leek, Bureau Chief of Radiological Health
Iowa Department of Public Health



Date