



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

September 26, 2017

Mr. Dean Curtland
Next Era Energy
Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324-9785

SUBJECT: DUANE ARNOLD ENERGY CENTER – ENVIRONMENTAL ASSESSMENT
AND FINDING OF NO SIGNIFICANT IMPACT RELATED TO REVISION TO
EMERGENCY PLANNING ZONE (CAC NO. MF9573)

Dear Mr. Curtland:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for amendment to the Duane Arnold Energy Center (DAEC) Emergency Plan, dated March 31, 2017. The proposed amendment would revise the emergency planning zone (EPZ). The proposed amendment would modify the DAEC Plume Exposure Pathway EPZ boundary and revise the evacuation time estimate (ETE) study to account for the EPZ boundary changes.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

A handwritten signature in cursive script, appearing to read "Maresh L. Chawla".

Maresh L. Chawla, Project Manager
Plant Licensing Branch 3
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-331

Enclosure:
Environmental Assessment

cc: Distribution via Listserv

ENCLOSURE

FEDERAL REGISTER NOTICE

NUCLEAR REGULATORY COMMISSION

[Docket No. 50-331; NRC-2017-XXXX]

NextEra Energy Duane Arnold, LLC.;

Duane Arnold Energy Center, Unit No. 1

AGENCY: Nuclear Regulatory Commission.

ACTION: Environmental assessment and finding of no significant impact; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is making a finding of no significant impact for a proposed issuance of an amendment to Renewed Facility Operating License No. DPR-49 held by NextEra Energy Duane Arnold, LLC. (NextEra, the licensee) for the operation of Duane Arnold Energy Center (DAEC), located in Linn County, Iowa. The proposed amendment would modify the DAEC Plume Exposure Pathway emergency planning zone (EPZ) boundary and revise the DAEC evacuation time estimate (ETE) study to account for the EPZ boundary changes.

DATES: The environmental assessment (EA) referenced in this document is available on

[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

ADDRESSES: Please refer to Docket ID **NRC-2017-XXXX** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2017-XXXX**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**
You may obtain publicly-available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search.](#)" For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. For the convenience of the reader, the ADAMS accession numbers are provided in a table in the "Availability of Documents" section of this document.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Mahesh L. Chawla, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; telephone: 301-415-8371; e-mail: Mahesh.Chawla@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

The NRC is considering issuance of amendments pursuant to § 50.54 of Title 10 of the *Code of Federal Regulations* (10 CFR), "Conditions of licenses," paragraph (q), to Renewed Facility Operating License No. DPR-49, held by NextEra Duane Arnold, LLC. (NextEra, the

licensee) for the operation of Duane Arnold Energy Center (DAEC), located in Linn County, Iowa.

In accordance with 10 CFR 51.21, the NRC has prepared an EA that analyzes the environmental effects of the proposed licensing action. Based on the results of the environmental assessment, and in accordance with 10 CFR 51.31(a), the NRC has prepared a finding of no significant impact (FONSI) for the proposed amendments.

II. Environmental Assessment

Description of the Proposed Action

The proposed action would revise the DAEC Renewed Facility Operating License in order to set the DAEC Plume Exposure Pathway emergency planning zone (EPZ) boundary for an area beyond the 10-mile required EPZ pathway. The proposed action is in accordance with the licensee's application dated March 31, 2017 (ADAMS Accession Nos. ML17102B183 and ML17102B184) and with current NRC regulations at 10 CFR 50.47, and 10 CFR part 50, Appendix E.

Notable proposed changes are (a) modification of Subarea 24 of the DAEC Plume Exposure Pathway EPZ by designating U.S. Highway 30 as its southern boundary, which will slightly decrease the total size of the EPZ, and (b) revision of the DAEC evacuation time estimate (ETE) study to account for the EPZ boundary changes.

Need for the Proposed Action

Nuclear power plant owners, government agencies, and State and local officials work together to create a system for emergency preparedness and response that will serve the public in the unlikely event of an emergency. An effective emergency preparedness program helps decrease the consequences of an initiating event at a nuclear power reactor that proceeds to a

severe accident. Emergency preparedness cannot affect the probability of the initiating event, but a high level of emergency preparedness increases the probability of accident mitigation if the initiating event proceeds beyond the need for initial operator actions.

Each licensee is required to establish emergency plans to be implemented in the event of an accident. These emergency plans cover preparations for evacuation, sheltering, and other actions to protect residents near plants in the event of a serious incident.

The NRC, as well as other Federal and state regulatory agencies review the subject plans to ensure that the condition of emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

Separate from this EA, the NRC staff is evaluating NextEra's proposed changes to the EPZ boundary for DAEC. This review will be documented in the safety evaluation report for the proposed license amendment. The staff's review will determine whether there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency in accordance with 10 CFR 50.47 and the requirements in appendix E to 10 CFR part 50.

The proposed action is needed to make DAEC's EPZ boundary more consistent with the existing roads and easier to implement more effectively. While changing the southern boundary to Highway 30 will decrease the size of the EPZ slightly, it will enhance local law enforcement's ability to evacuate the effected population as well as improve their ability to control access back into the evacuated areas. The licensee states in its application (Adams Accession No. ML171028184) that the changes to the EPZ were approved by both the State of Iowa and the Federal Emergency Management Agency (FEMA).

Environmental Impacts of the Proposed Action

The NRC has completed its evaluation of environmental effects of the proposed action. The proposed action consists of a modification to the DAEC EPZ boundary and revision to the DAEC ETE study to account for the EPZ boundary changes. Notable proposed changes are: (a) modification of Subarea 24 of the DAEC Plume Exposure Pathway EPZ by designating U.S. Highway 30 as its southern boundary, which will slightly decrease the total size of the EPZ, and (b) revision of the DAEC ETE study to account for the EPZ boundary changes.

The proposed changes would have no direct impacts on land use or water resources, including terrestrial and aquatic biota as the proposed action involves no new construction or modification of plant operational systems. There would be no changes to the quality or quantity of non-radiological effluents. No changes to the plant's National Pollutant Discharge Elimination System permit are needed. Changes to the Southern boundary of the EPZ to Highway 30, a four-lane highway, could result in minor changes in vehicular traffic and associated air pollutant emissions, but no significant changes in ambient air quality would be expected. In addition, there would be no noticeable effect on socioeconomic conditions in the region, no environment justice impacts, and no impacts to historic and cultural resources. Therefore, there would be no significant non-radiological impacts associated with the proposed action.

The NRC has concluded that the proposed action would not significantly affect plant safety and would not have a significant adverse effect on the probability of an accident occurring. There would be no change to radioactive effluents that affect radiation exposures to plant workers and members of the public. No changes would be made to plant buildings or the site property. Changing the southern boundary of the EPZ to Highway 30 will slightly decrease the size of the EPZ; therefore, some residents that are located within the original EPZ boundary would no longer be subject to actions under the DAEC emergency plan. In the event of an accident, those residents not located in the EPZ could potentially receive a slightly higher

radiation dose than those remaining within the modified EPZ, as they would no longer get mandated instructions from local law enforcement or other first responders pertaining to sheltering, evacuation, or other actions DAEC deems necessary to take under its emergency plan. However, as stated above, the NRC would only approve a reduction in the overall size of the DAEC EPZ if there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency in accordance with NRC regulations in 10 CFR Part 50. As a result, the potential radiological dose increase to the residents located outside of the EPZ would not be significant, and in any event, residents located outside of the EPZ would be evaluated on an ad-hoc basis based on specific conditions. Therefore, the proposed action would not result in a significant change to the radiation exposures to the public or radiation exposure to plant workers.

Accordingly, the NRC concludes that there would be no significant environmental impacts associated with the proposed action.

Environmental Impacts of the Alternatives to the Proposed Action

As an alternative to the proposed action, the NRC considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the license amendment request would result in no change in current environmental impacts. Therefore, the environmental impacts of the proposed action and the denial of the exemption request would be similar.

Alternative Use of Resources

There are no unresolved conflicts concerning alternative uses of available resources under the proposed action.

Agencies and Persons Consulted

On September 8, 2017, the NRC staff consulted with the Iowa State official regarding the environmental impact of the proposed action. The state official had no comments.

III. Finding of No Significant Impact

The licensee has requested a license amendment pursuant to 10 CFR 50.54(q) to modify the DAEC Plume Exposure Pathway Emergency Planning Zone boundary. The NRC is considering issuing the requested amendments. The proposed action would not significantly affect plant safety, would not have a significant adverse effect on the probability of an accident occurring, and would not have any significant radiological and non-radiological impacts. The reason the environment would not be significantly affected is because the proposed changes would only result in minor changes in associated vehicular traffic, along with resulting air pollutant emissions and would not result in a significant change to radiation exposures to the public or plant workers. This FONSI incorporates by reference the EA in Section II of this notice. Therefore, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

The related environmental document is the "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Regarding Duane Arnold Energy Center, Final Report," NUREG-1437, Supplement 42. NUREG-1437, Supplement 42, provides the latest environmental review of current operations and description of environmental conditions at DAEC.

The finding and other related environmental documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852. Publicly-available records will be accessible

electronically from ADAMS Public Electronic Reading Room on the Internet at the NRC's Web Site: <http://www.nrc.gov/reading-rm/adams.html>.

Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC's PDR Reference staff by telephone at 1-800-397-4209 or 301-415-4737, or send an e-mail to pdr.resource@nrc.gov.

IV. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated.

DOCUMENT	ADAMS ACCESSION NO. / WEB LINK / FEDERAL REGISTER CITATION
NextEra Energy Duane Arnold, LLC License Amendment Request (TSCR-165) for Revision to Emergency Planning Zone in the Duane Arnold Energy Center Emergency Plan Dated March 31, 2017	ML17102B183
NextEra Energy Duane Arnold, LLC Evaluation of Proposed Amendment for License Amendment Request (TSCR-165) for Revision to Emergency Planning Zone in the Duane Arnold Energy Center Emergency Plan Dated March 31, 2017	ML17102B184
NUREG-1437, Supplement 42 Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Regarding Duane Arnold Energy Center, Final Report Dated October 2010	ML102790308

Dated at Rockville, Maryland, this 26th day of September 2017.

For the Nuclear Regulatory Commission.



Mahesh L. Chawla, Project Manager,
Plant Licensing Branch LPL3,
Division of Operating Reactor Licensing,
Office of Nuclear Reactor Regulation.

SUBJECT: DUANE ARNOLD ENERGY CENTER – ENVIRONMENTAL ASSESSMENT
AND FINDING OF NO SIGNIFICANT IMPACT RELATED TO REVISION TO
EMERGENCY PLANNING ZONE (CAC NOS. MF9573)
DATED SEPTEMBER 26, 2017

DISTRIBUTION:

PUBLIC
LPL3 R/F
RidsACRS_MailCTR Resource
RidsNrrDirRerb Resource
RidsNrrDorlLpl3-1 Resource
RidsNrrLASRohrer Resource
RidsNrrPMDuaneArnold Resource
RidsRgn3MailCenter Resource

ADAMS Accession Nos.:

Letter: ML17256A197

EA FRN: ML17256A913

OFFICE	NRR/DORL/LPL3-1/PM	NRR/DORL/LPL3-1/LA	NRR/DLR/RERB/BC
NAME	MChawla	SRohrer	BBeasley <i>lcl</i>
DATE	09/13/17	09/13/17	09/13/17
OFFICE	OGC NLO	NRR/DORL/LPL3-1/BC	NRR/DORL/LPL3-1/PM
NAME	Brian Harris	DWrona	MChawla
DATE	09/15/17	09/25/17	09/26/17

OFFICIAL RECORD COPY