



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

May 29, 2018

Mr. Dean Curtland
Director of Site Operations
NextEra Energy Duane Arnold, LLC
3277 DAEC Road
Palo, IA 52324-9785

SUBJECT: DUANE ARNOLD ENERGY CENTER—NRC EMERGENCY PREPAREDNESS
INSPECTION REPORT 05000331/2018503

Dear Mr. Curtland:

On May 17, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an Emergency Preparedness inspection at your Duane Arnold Energy Center. The NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

The NRC inspectors did not identify any finding or violation of more-than-minor significance.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations*, Part 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA Gregory Hansen Acting for/

Steven K. Orth, Chief
Plant Support Branch
Division of Reactor Safety

Docket Nos. 50-331; 72-032
License No. DPR-49

Enclosure:
IR 05000331/2018503

cc: Distribution via ListServ®

Letter to Dean Curtland from Steven K. Orth dated May 29, 2018

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INSPECTION REPORT 05000331/2018503

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-331

License No: DPR-49

Report No: 05000331/2018503

Enterprise Identifier: I-2018-503-0006

Licensee: NextEra Energy Duane Arnold, LLC

Facility: Duane Arnold Energy Center

Location: Palo, IA

Dates: April 13, 2018; May 14, 2018, through May 17, 2018

Inspectors: G. Hansen, Senior Emergency Preparedness Inspector
K. Carrington, Resident Inspector
J. Neurauter, Senior Reactor Inspector
J. Park, Reactor Inspector
J. Seymour, Operations Engineer

Approved by: S. Orth, Chief
Plant Support Branch
Division of Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission continued monitoring licensee's performance by conducting an Emergency Preparedness Inspection at Duane Arnold Energy Center in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the U.S. Nuclear Regulatory Commission's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

List of Findings and Violations

No findings or violations were identified.

Additional Tracking Items

None.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71114.01—Exercise Evaluation (1 Sample)

The inspectors evaluated the May 15, 2018, Biennial Emergency Plan Exercise. The exercise scenario simulated an event at Duane Arnold Energy Center that initiated with the declaration and notification of an Alert in response to an event associated with an accident that created an internal flooding hazard. The scenario conditions simulated the escalation of the significance of the event, requiring the declaration and notification of a Site Area Emergency and then a General Emergency, as well as the development of Protective Action Recommendations that were communicated to the required state and local government agencies.

71114.08—Exercise Evaluation—Scenario Review (1 Sample)

The inspectors reviewed and evaluated the proposed scenario for the Biennial Emergency Plan Exercise on April 13, 2018.

OTHER ACTIVITIES—BASELINE

71151—Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below. (3 Samples)

- (1) EP01: Drill/Exercise Performance—1 Sample (1st Quarter of 2017 through 4th Quarter of 2017);
- (2) EP02: Emergency Response Organization Drill Participation—1 Sample (1st Quarter of 2017 through 4th Quarter of 2017); and
- (3) EP03: Alert and Notification System Reliability—1 Sample (1st Quarter of 2017 through 4th Quarter of 2017).

INSPECTION RESULTS

No findings or violations were identified.

EXIT MEETINGS AND DEBRIEFS

The inspectors confirmed that proprietary information was controlled to protect from public disclosure. No proprietary information was documented in this report.

- On May 17, 2018, the inspectors presented the Emergency Preparedness inspection results to Mr. D. Curtland, Site Director, and other members of the licensee staff.

DOCUMENTS REVIEWED

71114.01—Exercise Evaluation

- Duane Arnold Energy Center Emergency Plan; Revision 38
- DAEC Plan Section B; Emergency Response Organization; Revision 38
- DAEC Plan Section D; Emergency Classification System; Revision 28
- DAEC Plan Section E; Notification Methods and Procedures; Revision 24
- DAEC Plan Section F; Emergency Communications; Revision 29
- DAEC Plan Section G; Public Education and Information; Revision 24
- DAEC Plan Section H; Emergency Facilities Staffing, Activation and Equipment; Revision 35
- DAEC Plan Section K; Radiological Exposure Control; Revision 23
- EPIP Form PAR-01; DAEC Protective Action Logic Flowchart; Revision 5
- EPIP 1.1; Determination of Emergency Action Levels; Revision 29
- EPIP 1.2; Notifications; Revision 50
- EPIP 1.3; Plant Assembly and Site Evacuation; Revision 21
- EPIP 1.5; Activation and Operation of the EOF; Revision 16
- EPIP 2.1; Activation and Operation of the OSC; Revision 25
- EPIP 2.2; Activation and Operation of the TSC; Revision 36
- EPIP 2.5; Control Room Emergency Response Operation; Revision 23
- EPIP 3.3; Dose Assessment and Protective Action; Revision 34
- EPIP 6.2; Maintenance of ERFs and Equipment; Revision 6
- Two Years of Drill and Exercise Corrective Action Program Items (List); dated 05/2016 – 05/2018
- Two Years of Drill and Exercise Scenario Timelines; dated 05/2016 – 05/2018
- Two Years of Drill and Exercise Reports: 05/2016 – 05/2018
- AR 02153503; 16TD2CR – CRS did not Appropriately NA Substep in IPO13; 8/31/2016
- AR 02153557; 16TD2EOF – Classification Feedback; 8/31/2016
- AR 02153570; 16TD2OSC – Fundamental RP Behaviors for Worker Protection; 8/31/2016
- AR 02153579; 16TD2OSC – RP Identified EP Drill Fundamental Behavior Deltas; 8/31/2016
- AR 02153658; 16TD2 – Shift Communicator Deficiencies; 9/1/2016
- AR 02188874; 17TD1SIM Cat 3 Performance Issues; 3/1/2017
- AR 02188887; 17TD1EOF Cat 3 Facility Performance; 3/1/2017
- AR 02188898; 17TD1EOF Cat 1 Facility Performance; 3/1/2017
- AR 02188916; 17TD1TSC05 Procedure Issues Identified During the Drill; 3/1/2017
- AR 02206895; 17TD2SIM – Cat 4 Equip/Fac Issues; 5/24/2017
- AR 02206900; 17TD2SIM Cat 3 Facility Performance; 5/24/2017
- AR 02206949; 17TD2EOF Cat 5 Procedures; 5/24/2017
- AR 02206959; 17TD2SIM – CAQ – Controller Deficiencies; 5/24/2017
- AR 02206996; 17TD2OSC Conduct of Drill Controllers; 5/24/2017
- AR 02207003; 17TD2TSC Cat 5 Procedures Needing Immediate Attention; 5/24/2017
- AR 02214693; EP Drill Objective Tracking Gaps; 7/12/2017
- AR 02223219; Potential Knowledge Gap in HU 2.1 Fire EAL Determination; 8/31/2017
- AR 02257942; 2018DR Simulator – Failed Objective and Demonstration Criteria; 4/4/2018

71114.08—Exercise Evaluation—Scenario Review

- 2018 Duane Arnold Energy Center Exercise Scenario 60-day NRC Submittal; 3/13/2018

71151—Performance Indicator Verification

- NRC Performance Indicator Data, Emergency Preparedness – Alert and Notification System Reliability, 1st Quarter of 2017 through 4th Quarter of 2017
- NRC Performance Indicator Data, Emergency Preparedness – Drill/Exercise Performance, 1st Quarter of 2017 through 4th Quarter of 2017
- NRC Performance Indicator Data, Emergency Preparedness – ERO Drill Participation, 1st Quarter of 2017 through 4th Quarter of 2017