



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

October 1, 2019

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 INSPECTION REPORT
05000331/2019011

Dear Mr. Curtland:

On September 19, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Duane Arnold Energy Center and 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 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Ann Marie J. Stone
Technical Support Team Leader
Division of Reactor Projects

Docket No. 05000331
License No. DPR-49

Enclosure:
As stated

cc: Distribution via LISTSERV®

Letter to Dean Curtland from Ann Marie Stone dated October 1, 2019

SUBJECT: DUANE ARNOLD ENERGY CENTER—NRC INSPECTION REPORT
05000331/2019011

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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number: 05000331

License Number: DPR-49

Report Number: 05000331/2019011

Enterprise Identifier: I-2019-011-0032

Licensee: NextEra Energy Duane Arnold, LLC

Facility: Duane Arnold Energy Center

Location: Palo, Iowa

Inspection Dates: September 16, 2019 to September 19, 2019

Inspectors: S. Sheldon, Project Engineer

Approved By: Ann Marie J. Stone
Technical Support Team Leader
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a NRC inspection at Duane Arnold Energy Center in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC'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 of more than minor significance 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 (IMC) 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.

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

2515/193 - Inspection of the Implementation of EA-13-109: Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions

Inspection of the Implementation of EA-13-109: Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions (1 Sample)

- (1) Based on samples selected for review, the inspectors verified the licensee satisfactorily implemented appropriate elements of the reliable hardened containment wetwell vent as described in the plant specific submittals and the associated safety evaluation (ADAMS Accession No. ML19168A130) and determined the licensee was in compliance with NRC Order EA-13-109 Phase 1, "Reliable, Severe Accident Capable Wetwell Venting System" (ADAMS Accession No. ML13143A321).

The inspectors verified the licensee satisfactorily:

- Installed the hardened containment ventilation system (HCVS) to meet the performance objectives outlined in Section A.1.1 of Attachment 2 to the Order EA-13-109;
- Installed the HCVS system with the design features specified in Section A.1.2 of Attachment 2 to the Order EA-13-109;
- Designed the HCVS to meet the quality standards described in Section A.2 of Attachment 2 to the Order EA-13-109;
- Developed and implemented adequate maintenance and testing of HCVS equipment to ensure their availability and capability;
- Developed and issued procedures to safely operate the HCVS using normal power supplies, during extended loss of AC power (ELAP), and a postulated severe accident scenario, and integrated the procedures into existing plant procedures; and
- Trained their staff to assure personnel can proficiently operate the HCVS.

Based on samples selected for review, the inspectors verified the licensee satisfactorily implemented appropriate elements of the reliable wetwell venting strategy as described in the plant specific submittals and the associated safety evaluation (ADAMS Accession No. ML19168A130) and determined that the licensee was in compliance with NRC Order EA-13-109 Phase 2, "Reliable, Severe Accident

Capable Drywell (or alternative strategy) Venting System” (ADAMS Accession No. ML13143A321).

The inspectors verified the licensee satisfactorily developed a strategy making it unlikely that the licensee would need to vent from the containment drywell, that includes the following:

- Implemented the severe accident water addition/management (SAWA/SAWM) systems as defined and fulfilled functional requirements for installed and portable equipment;
- Installed and/or identified the previously-installed instrumentation necessary to implement SAWM;
- Developed and implemented adequate maintenance and testing of SAWA/SAWM equipment to ensure availability and capability;
- Developed and issued procedures to safely operate the SAWA/SAWM during an ELAP and during postulated severe accident scenario, and integrated their procedures into their existing plant procedures such that entry into and exiting from the procedures are clear when using existing plant procedures; and
- Trained their staff to assure personnel can proficiently operate the HCVS during an ELAP and accident scenario.

The inspectors verified noncompliances with requirements and standards identified during the inspection were entered into the licensee's corrective action program.

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On September 19, 2019, the inspectors presented the NRC inspection results to Mr. D. Curtland and other members of the licensee staff.

DOCUMENTS REVIEWED

| Inspection Procedure | Type | Designation | Description or Title | Revision or Date |
|----------------------|---|-------------------------|--|------------------|
| 2515/193 | Corrective Action Documents Resulting from Inspection | 02328371 | NRC Observations - HCVS/SAWA Inspection | 09/18/2019 |
| | Miscellaneous | | SEP 301_3 Verification Exercise Record | 09/09/2016 |
| | | PDA OPS 50008_2018E-02L | EMG/B.5.b Training Lesson Plan | 10/22/2018 |
| | Procedures | AOP 301.1 | Station Blackout | 81 |
| | | FLEX-AB-100-1000 | Guidance for FLEX Equipment When it is Unavailable | 4 |
| | | SAMP 708 | Emergency RPV Makeup with the Portable Diesel Fire Pump | 11 |
| | | SAMP 715 | Portable Diesel Fire Pump Operation | 13 |
| | | SAMP 724 | FLEX Damage Assessment and Portable Equipment Deployment | 7 |
| | | SAMP 732 | FLEX Repowering the Containment Hard Pipe Vent UPS | 0 |
| | | SEP 301.3 | Torus Vent via Hardpipe Vent | 16 |
| | Work Orders | 40556422 01 | STP 3.6.1.1-07 Torus Hard Pipe Vent CV-4360/4361 | 09/28/2018 |
| | | 40578102 01 | RE4362: Calibration and Functional Check | 10/30/2018 |