UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

March 2, 2016

Mr. Thomas A. Vehec
Vice President
NextEra Energy Duane Arnold, LLC
3277 DAEC Road
Palo, IA 52324–9785

SUBJECT: ANNUAL ASSESSMENT LETTER FOR DUANE ARNOLD ENERGY CENTER (REPORT 05000331/2015006)

Dear Mr. Vehec:

On February 10, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed its end-of-cycle performance review of Duane Arnold Energy Center. The NRC reviewed the most recent quarterly performance indicators (PIs) in addition to inspection results and enforcement actions from January 1, 2015, through December 31, 2015. This letter informs you of the NRC's assessment of your facility during this period and its plans for future inspections at your facility.

The NRC determined the performance at Duane Arnold Energy Center during the most recent quarter was within the Regulatory Response Column of the NRC's Reactor Oversight Process (ROP) Action Matrix because of one White inspection finding in the Mitigating Systems Cornerstone and all performance indicators being within the nominal, expected range (i.e., Green). The White finding was related to the inadequate quality controls during the application of torus coatings. Specifically, the amount of unqualified coatings present in the torus exceeded the emergency core cooling system suction strainer design debris loading margin. As described in our Assessment Follow-up Letter issued on April 16, 2015 (ADAMS Accession Number ML15106A595), Duane Arnold Energy Center transitioned from the Licensee Response Column to the Regulatory Response Column of the ROP Action Matrix in the first quarter of 2015.

The NRC completed a supplemental inspection per Inspection Procedure 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area," for the White finding on November 6, 2015, as documented in our letter to you dated December 21, 2015 (ML15355A514). As a result, Duane Arnold Energy Center returned to the Licensee Response Column of the ROP Action Matrix as of January 1, 2016.

In an assessment letter dated March 4, 2015 (ML15062A582), the NRC opened a substantive cross-cutting issue (SCCI) with the aspect of Consistent Processes [H.13]. Since the cross-cutting terminology was changed in the April 2015 revision to Inspection Manual Chapter 0305, "Operating Reactor Assessment Program," it was carried forward as a cross-cutting issue (CCI). To address the CCI, your staff completed a root cause evaluation and implemented a number of corrective actions for the root causes and contributing causes identified. As documented in NRC Inspection Report 2015002 (ML15219A175), the NRC performed a

problem identification and resolution inspection sample and determined that the number of findings with the H.13 cross-cutting aspect had dropped below four with no new findings identified with this aspect in the first half of 2015. However, based upon the small period of time that most of the corrective actions were in place, the amount of data available for trending the effectiveness of these actions and the results from feedback to the process improvements was limited. Additional monitoring was required to assess whether the trend in human performance was improving and sustainable. Therefore, this cross-cutting issue was kept open as described in the 2015 Mid-Cycle Assessment Letter dated September 1, 2015 (ML15239B371).

For the remainder of 2015, the inspectors evaluated your efforts to improve human performance by reviewing the cumulative effect of the corrective actions. During the fourth quarter of 2015, the inspectors completed another problem identification and resolution inspection sample. As documented in NRC Inspection Report 05000331/2015004 (ML16035A054), the inspectors determined that: (1) no findings with the H.13 cross-cutting aspect were identified in 2015; (2) the corrective actions appeared to be effective; and (3) the corrective actions appeared to be sustainable. Therefore, this cross-cutting issue is closed because all three criteria as stated in the 2014 Annual Assessment Letter (less than 4 findings with a cross-cutting aspect of H.13, effective corrective actions and sustained performance improvement) were met.

The enclosed inspection plan lists the inspections scheduled through December 31, 2017. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last 9 months of the inspection plan are tentative and may be revised at the mid-cycle performance review. The NRC provides the inspection plan to allow for the resolution of any scheduling conflicts and personnel availability issues. The NRC will contact you as soon as possible to discuss changes to the inspection plan should circumstances warrant any changes. This inspection plan does not include security-related inspections, which will be sent via separate, non-publicly available correspondence.

In response to the accident at Fukushima, the Commission issued Order EA–12–049, “Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events.” This Order requires licensees to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities following a beyond-design-basis external event. Additionally, the Commission issued Order EA–12–051, “Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation.” This Order requires licensees to have a reliable means of remotely monitoring wide-range Spent Fuel Pool levels to support effective prioritization of event mitigation and recovery actions in the event of a beyond-design-basis external event. The NRC is conducting audits of licensee efforts towards compliance with these Orders. This audit includes an onsite component in order for the NRC to evaluate licensee plans for complying with the Orders, as described in site-specific submittals, and to receive and review information relative to associated open items. This onsite activity will occur in the months prior to a declaration of compliance for the first unit at each site, and will aid staff in development of a Safety Evaluation for the site. The date for the onsite component at your site is being coordinated with your staff. A site-specific audit plan for the visit will be provided in advance to allow sufficient time for preparations. Following the audit, and after the NRC staff receives the Final Compliance letter for the site, the Final Safety Evaluation will be issued. Then, the NRC staff will confirm through inspections the full implementation of the orders mentioned above by performing Temporary Instruction 191, “Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans.”

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Please contact Karla Stoedter at 630-829-9731 with any questions you have regarding this letter.

Sincerely,

/RA/

Patrick L. Louden, Director
Division of Reactor Projects

Docket Nos. 05000331
License Nos. DPR–49

Enclosure:
Inspection Plan

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Duane Arnold
Inspection / Activity Plan
03/01/2016 - 12/31/2017

Unit Number	Planned Dates Start	End	Inspection Activity	Title	No. of Staff on Site
			BI RP	**- RADIATION PROTECTION BASELINE INSPECTION**	**1**
1	04/11/2016	04/15/2016	IP 71124.02	Occupational ALARA Planning and Controls	
			BI EP	**- EP EXERCISE INSPECTION/ PI VERIFICATION**	**5**
1	05/16/2016	05/20/2016	IP 7111401	Exercise Evaluation	
1	05/16/2016	05/20/2016	IP 7111406	Drill Evaluation	
1	05/16/2016	05/20/2016	IP 7111408	Exercise Evaluation – Scenario Review	
1	05/16/2016	05/20/2016	IP 71151	Performance Indicator Verification	
			BI RP	**- RADIATION PROTECTION BASELINE INSPECTION**	**1**
1	07/11/2016	07/15/2016	IP 71124.07	Radiological Environmental Monitoring Program	
			ENG BI	**- INSERVICE INSPECTION**	**2**
1	10/10/2016	10/28/2016	IP 7111108G	Inservice Inspection Activities - BWR	
			BI RP	**- RADIATION PROTECTION BASELINE INSPECTION**	**1**
1	10/24/2016	10/28/2016	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1	10/24/2016	10/28/2016	IP 71124.02	Occupational ALARA Planning and Controls	
			BI RP	**- RADIATION PROTECTION BASELINE INSPECTION**	**1**
1	01/30/2017	02/03/2017	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
1	01/30/2017	02/03/2017	IP 71124.04	Occupational Dose Assessment	
			BI EP	**- EP BASELINE INSPECTION / PI VERIFICATION**	**1**
1	02/06/2017	02/10/2017	IP 7111402	Alert and Notification System Testing	
1	02/06/2017	02/10/2017	IP 7111403	Emergency Preparedness Organization Staffing and Augmentation System	
1	02/06/2017	02/10/2017	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	
1	02/06/2017	02/10/2017	IP 71151	Performance Indicator Verification	
			BI PI&R	**- BIENNIAL PI&R INSPECTION**	**4**
1	03/06/2017	03/24/2017	IP 71152B	Problem Identification and Resolution	
			BI RP	**- RADIATION PROTECTION BASELINE INSPECTION**	**1**
1	04/17/2017	04/21/2017	IP 71124.08	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	
			BI ENG	**- COMPONENT DESIGN BASIS INSPECTION**	**6**
1	04/17/2017	05/19/2017	IP 7111121	Component Design Bases Inspection	
			OL PREP	**- INIT EXAM/APRIL 2017**	**3**
1	05/08/2017	05/12/2017	W90355	OL - INITIAL EXAM - 2017 MAR-APR - DUANE ARNOLD	
			OL EXAM	**- IIT EXAM/APRIL 2017**	**3**
1	06/05/2017	06/16/2017	W90355	OL - INITIAL EXAM - 2017 MAR-APR - DUANE ARNOLD	

This report does not include INPO and OUTAGE activities.
This report shows only on-site and announced inspection procedures.

Duane Arnold
Inspection / Activity Plan
03/01/2016 - 12/31/2017

Unit Number	Planned Dates Start	End	Inspection Activity	Title	No. of Staff on Site
			BI RP	**- RADIATION PROTECTION BASELINE INSPECTION**	**1**
1	07/10/2017	07/14/2017	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
			BI RP	**- RADIATION PROTECTION BASELINE INSPECTION**	**1**
1	10/02/2017	10/06/2017	IP 71124.05	Radiation Monitoring Instrumentation	
			TI191	**- FLEX/MITIGATING STRATGIES/SFPI**	**4**
1	09/25/2017	09/29/2017	IP 2515/191	Inspection of Licensee's Responses to Order EA-12-049, EA-12-051 & EP Info Request March 12, 2012	
			ISFSI	**- OPERATIONAL INSP**	**1**
1	10/01/2017	10/31/2017	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	

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