



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

November 21, 2017

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

**SUBJECT: DUANE ARNOLD ENERGY CENTER—REQUEST FOR INFORMATION
FOR AN NRC DESIGN BASES ASSURANCE INSPECTION (PROGRAM):
IMPLEMENTATION OF THE ENVIRONMENTAL QUALIFICATION PROGRAM;
INSPECTION REPORT 05000331/2018010**

Dear Mr. Curtland:

On April 23, 2018, the U. S. Nuclear Regulatory Commission (NRC) will begin a triennial baseline Design Bases Assurance Inspection (Program) at the Duane Arnold Energy Center. This inspection will be performed in accordance with NRC Baseline Inspection Procedure 71111.21N, Attachment 1.

The Design Bases Assurance Inspection will focus on the implementation of the electrical equipment Environmental Qualification (EQ) Program to verify you are maintaining the qualified status of equipment during the life of the plant. The EQ components to be reviewed during this baseline inspection will be identified during the in-office preparation week that occurs prior to the onsite inspection week.

The inspection will include a bagman trip to support selection of components and 2 weeks of onsite inspection. The inspection team will consist of 3 NRC inspectors. The current inspection schedule is as follows:

- Bagman trip onsite week: February 19, 2018
- Team preparation week: April 16–20, 2018
- Onsite inspection weeks: April 23–27, 2018, and May 7–11, 2018.

Experience with previous baseline design inspections of similar depth and length has shown that this type of inspection is extremely resource intensive, both for the NRC inspectors and the licensee staff. In order to minimize the inspection impact on the site and to ensure a productive inspection for both parties, we have enclosed a request for information needed for the inspection.

It is important that all of these documents are up-to-date and complete in order to minimize the number of additional documents requested during the preparation and/or the onsite portions of the inspection. Insofar as possible, this information should be provided electronically to the lead inspector. The information request has been divided into four groups:

- The first group lists information necessary for our initial inspection scoping activities. This information should be provided to the lead inspector no later than January 5, 2018. Prior to the bagman trip on January 19, 2018, the lead inspector will communicate the initial selected set of approximately 12 EQ components.
- The second group of documents requested is those items needed to support the bagman trip. This set of documents should be available to the lead inspector onsite on February 19, 2018.
- The third group of documents requested is those items needed to support our in-office preparation activities for the selected set of 6–9 EQ components. This set of documents should be provided to the lead inspector at the Regional Office no later than April 5, 2018. During the in-office preparation activities, the team may identify additional information needed to support the inspection.
- The last group includes the additional information above as well as plant specific reference material. This information should be available to the team onsite on April 23, 2018. It is also requested that corrective action documents and/or questions developed during the inspection be provided to the lead inspector as the documents are generated.

The lead inspector for this inspection is Mr. Néstor J. Félix Adorno. We understand that our licensing contact for this inspection is Mr. B. Murrell of your organization. If there are any questions about the inspection or the material requested in the enclosure, please contact the lead inspector at (630) 829-9739 or via e-mail at Nestor.Feliz-Adorno@nrc.gov.

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, Control Number 3150-0011. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget Control Number.

This letter and its enclosure 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 Michael Jones Acting for/

Néstor J. Félix Adorno, Senior Reactor Inspector
Engineering Branch 3
Division of Reactor Safety

Docket No. 50–331
License No. DPR–49

Enclosure:
Document Request for Design Bases
Assurance Inspection EQ Program

cc: Distribution via LISTSERV®

Letter to Dean Curtland from Néstor J. Félix Adorno dated November 21, 2017

SUBJECT: DUANE ARNOLD ENERGY CENTER—REQUEST FOR INFORMATION FOR AN NRC DESIGN BASES ASSURANCE INSPECTION (PROGRAM): IMPLEMENTATION OF THE ENVIRONMENTAL QUALIFICATION PROGRAM; INSPECTION REPORT 05000331/2018010

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DOCUMENT REQUEST FOR DESIGN BASES ASSURANCE INSPECTION EQ PROGRAM

Inspection Report: 05000331/2018010

Bagman Dates: February 19, 2018

Inspection Dates: April 23–27, 2018, and May 7–11, 2018

Inspection Procedure: IP 71111.21N, “Design Bases Assurance Inspection (Program),” Attachment 1, “Environmental Qualification (EQ) under 10 CFR 50.49 Programs, Processes, and Procedures”

Lead Inspector: Néstor J. Félix Adorno, Senior Reactor Inspector, DRS
630-829-9810
Nestor.Feliz-Adorno@nrc.gov

I. Information Requested Prior to the Onsite Information Gathering/Bagman Week

The following information is requested by January 5, 2018, or sooner, to facilitate inspection preparation. If you have any questions regarding this information, please call the team leader as soon as possible. Please provide the information electronically in “pdf” files, Excel, or other searchable formats, preferably on some portable electronic media (e.g., CD-ROM, DVD, etc.). The portable electronic media should contain descriptive names, and be indexed and hyperlinked to facilitate ease of use. Information in “lists” should contain enough information to be easily understood by someone who has knowledge of light water reactor technology.

1. Risk-ranking of top 250 components required to meet environmental qualifications (EQ) from your site specific probabilistic safety analysis sorted by Fussell Vesely Importance.
2. Probabilistic Safety Analysis listing of top ten risk significant systems.
3. U.S. Nuclear Regulatory Commission Safety Evaluation Report(s) associated with EQ.
4. Electronic copies of Updated Final Safety Analysis Report, Technical Specifications, and Technical Specifications Bases. Specifically identify which Updated Final Safety Analysis Report sections address EQ (including seismic).
5. Identify the various EQ standards (including year, edition, or revision) that the station is committed to.
6. Site (and corporate, if applicable) procedures associated with the Title 10 of the *Code of Federal Regulations*, Part 50.49, EQ Program for electrical components. Include procedures for procurement of qualified equipment, maintenance of qualified equipment, modification to qualified equipment (including Equivalency or Commercial Grade Dedication (CGD) Programs), and material storage and shelf life controls.

Enclosure

DOCUMENT REQUEST FOR DESIGN BASES ASSURANCE INSPECTION EQ PROGRAM

7. Copy of EQ Design Basis Document, if applicable.
8. Copy of any open licensing commitments related to EQ, if applicable.
9. Equipment Qualification Master List. Specific issues to be identified include: safety classification (safety-related or nonsafety-related), Regulatory Guide 1.97 instrumentation, EQ qualification (e.g., DOR, NUREG 588, 50.49), original or replaced after implementation of 50.49, and plant location.
10. List of any installed equipment removed from the Equipment Qualification Master List and basis for removal.
11. List of EQ solenoid valves that are normally continuously energized.
12. List or drawings of plant areas that are subjected to EQ, identifying design (limiting) temperature, both normal and accident, high energy line break, radiation levels, etc. that the associated equipment will have to be qualified to meet EQ. If unit has obtained a power uprate (greater than 5 percent) provide same information pre-uprate (earliest available if multiple uprates).
13. List of CGD evaluations performed, for which the dedicated parts have been issued for installation (parts issued for the last 10 years) on EQ applications in the plant. Include CGD evaluation number, name of part, component ID or description of the component the part was issued to repair, work order, and date issued or installed.
14. List of Corrective Action Documents related to the EQ program or EQ of specific components for the last 5 years.
15. Current management and engineering organizational chart.

II. Information Requested (for the approximate 9–12 selected components) to be Available by the Bagman Trip on February 19, 2018.

1. EQ summary report for each component/subcomponent.
2. Qualification Maintenance Requirement Sheet or equivalent.
3. List of corrective action documents associated with each of the selected components for the last 5 years.
4. Photos of any component in containment or high radiation areas, if available.

III. Information Requested (for the approximate 6–9 selected components) to be Available by April 5, 2018.

This information should be separated for each selected component, especially if provided electronically (e.g., folder with component name that includes EQ files, Qualification Test Reports, calculations, corrective action documents, maintenance history, etc.).

1. EQ file, including associated Qualification Test Reports.

DOCUMENT REQUEST FOR DESIGN BASES ASSURANCE INSPECTION EQ PROGRAM

2. Vendor manual (electronic copy or availability of hard copy during inspection).
3. Preventive maintenance template.
4. Last performed work order (WO) for each associated EQ preventive maintenance.
5. List of corrective maintenance WOs for the last 10 years. Include WO number, date performed, and brief one line description.
6. If repair work (e.g., a motor rewind) was performed under a purchase order, provide copy of the purchase order.
7. Thermal life calculation.
8. Any self-assessments of the EQ program in the last 3 years.

IV. Additional Information to be Provided on April 23, 2018, Onsite

1. During the in-office preparation activities, the team may identify additional information needed to support the inspection. The lead inspector will provide a list of the additional information needed during the week of April 16, 2018.

V. Information Requested to be Provided Throughout the Inspection

1. Copies of any corrective action documents generated as a result of the team's questions or queries during this inspection.
2. Copies of the list of questions submitted by the team members and the status/resolution of the information requested (provide daily by 2:30 p.m. during the inspection to each team member).

If you have questions regarding the information requested, please contact the lead inspector.