



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

May 13, 2011

Mr. Christopher R. Costanzo  
Vice President  
NextEra Energy Duane Arnold, LLC  
3277 DAEC Road  
Palo, IA 52324-9785

**SUBJECT: DUANE ARNOLD ENERGY CENTER – NRC TEMPORARY  
INSTRUCTION 2515/183 INSPECTION REPORT 05000331/2011010**

Dear Mr. Costanzo:

On April 29, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Duane Arnold Energy Center (DAEC), using Temporary Instruction 2515/183, "Followup to the Fukushima Daiichi Nuclear Station Fuel Damage Event." The enclosed inspection report documents the inspection results which were discussed on April 29, 2011, with you and other members of your staff.

The objective of this inspection was to promptly assess the capabilities of DAEC to respond to extraordinary consequences similar to those that have recently occurred at the Japanese Fukushima Daiichi Nuclear Station. The results from this inspection, along with the results from this inspection performed at other operating commercial nuclear plants in the United States, will be used to evaluate the U.S. nuclear industry's readiness to safely respond to similar events. These results will also help the NRC to determine if additional regulatory actions are warranted.

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any resulting findings or violations will be documented by the NRC in the next quarterly report. You are not required to respond to this letter.

C. Costanzo

-2-

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made 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), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

Kenneth Riemer, Chief  
Branch 2  
Division of Reactor Projects

Docket No. 50-331  
License No. DPR-49

Enclosure: Inspection Report 05000331/2011010

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-331  
License No: DPR-49

Report No: 05000331/2011010

Licensee: NextEra Energy Duane Arnold, LLC

Facility: Duane Arnold Energy Center

Location: Palo, IA

Dates: March 23 through April 29, 2011

Inspectors: L. Haeg, Senior Resident Inspector  
R. Murray, Resident Inspector

Approved by: Kenneth Riemer, Chief  
Branch 2  
Division of Reactor Projects

Enclosure

## **SUMMARY OF FINDINGS**

IR 05000331/2011010, 03/23/2011 – 04/29/2011; Duane Arnold Energy Center Temporary Instruction 2515/183 - Followup to the Fukushima Daiichi Nuclear Station Fuel Damage Event.

This report covers an announced Temporary Instruction (TI) inspection. The inspection was conducted by Resident and Region III inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### **INSPECTION SCOPE**

The intent of the TI is to provide a broad overview of the industry's preparedness for events that may exceed the current design basis for a plant. The focus of the TI was on (1) assessing the licensee's capability to mitigate consequences from large fires or explosions on site, (2) assessing the licensee's capability to mitigate station blackout (SBO) conditions, (3) assessing the licensee's capability to mitigate internal and external flooding events accounted for by the station's design, and (4) assessing the thoroughness of the licensee's walk downs and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events possible for the site. If necessary, a more specific follow-up inspection will be performed at a later date.

### **INSPECTION RESULTS**

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any resulting findings or violations will be documented by the NRC in the next quarterly report.

03.01 Assess the licensee’s capability to mitigate conditions that result from beyond design basis events, typically bounded by security threats, committed to as part of NRC Security Order Section B.5.b issued February 25, 2002, and severe accident management guidelines and as required by Title 10 of the Code of Federal Regulations (10 CFR) 50.54(hh). Use Inspection Procedure (IP) 71111.05T, “Fire Protection (Triennial),” Section 02.03 and 03.03 as a guideline. If IP 71111.05T was recently performed at the facility, the inspector should review the inspection results and findings to identify any other potential areas of inspection. Particular emphasis should be placed on strategies related to the spent fuel pool. The inspection should include, but not be limited to, an assessment of any licensee actions to:

<b>Licensee Action</b>	<b>Describe what the licensee did to test or inspect equipment.</b>
<p>a. Verify through test or inspection that equipment is available and functional. Active equipment shall be tested and passive equipment shall be walked down and inspected. It is not expected that permanently installed equipment that is tested under an existing regulatory testing program be retested.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee inspected and verified all equipment and tools required for B.5.b strategies and Severe Accident Management Procedures (SAMPs) were available and in designated locations. General inspections of all passive tools and equipment were conducted by station personnel. The licensee completed Operations Procedure (OP)-25, “SAMP Equipment Inventory”, to verify all Emergency Operating Procedures (EOPs), Abnormal Operating Procedures (AOPs), SAMPs, and B.5.b equipment was staged and functional. The licensee also conducted pressure testing of all B.5.b-designated fire hoses. Testing, including surveillances and preventative maintenance (PM), was performed on active components (identified as the portable diesel fire pump (PDFP) and the safety relief valve (SRV) battery cart).</p>
	<p><b>Describe inspector actions taken to confirm equipment readiness (e.g., observed a test, reviewed test results, discussed actions, reviewed records, etc.).</b></p>
	<p>The inspectors reviewed all records of tests, inspections, and walk downs completed by the licensee. The inspectors also reviewed condition reports generated and associated corrective actions to ensure appropriateness of licensee response. The inspectors performed walk downs of a sampling of SAMPs and all B.5.b equipment to verify the equipment was properly staged.</p>
	<p><b>Discuss general results including corrective actions by licensee.</b></p> <p>No issues were identified which would have impacted the ability of passive or active equipment to perform their design functions. All equipment was verified properly staged and functional. Several enhancements to equipment and procedures were identified by the licensee and placed in the corrective action program (CAP). One enhancement identified by the licensee was that no spare parts were onsite for the PDFP. The licensee determined</p>

	<p>which spare parts should be carried in inventory and generated corrective actions to procure parts as an enhancement to their SAMP capability and readiness.</p>
<p><b>Licensee Action</b></p>	<p><b>Describe the licensee’s actions to verify that procedures are in place and can be executed (e.g., walkdowns, demonstrations, tests, etc.).</b></p>
<p>b. Verify through walkdowns or demonstration that procedures to implement the strategies associated with B.5.b and 10 CFR 50.54(hh) are in place and are executable. Licensees may choose not to connect or operate permanently installed equipment during this verification.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee validated and conducted a comprehensive review and walk down of all B.5.b and SAMP procedures. Demonstrations* were performed for SAMPs associated with using the PDFP to provide makeup to the reactor pressure vessel (RPV), drywell, and spent fuel pool. Additionally, the station conducted a demonstration and drill with local fire departments to verify their ability to aid in providing makeup water during execution of the SAMPs. The licensee also performed a demonstration of deploying the SRV battery cart for local power operation of SRVs by staging the battery cart in the reactor building, routing cables to the remote shutdown panel and simulating connections to terminal strips.</p> <p>*These demonstrations included deployment of the PDFP, staging of B.5.b equipment, and routing and connection of hoses.</p> <p><b>Describe inspector actions and the sample strategies reviewed. Assess whether procedures were in place and could be used as intended.</b></p> <p>The inspectors reviewed all records of tests, walk downs, and demonstrations completed by the licensee. The inspectors also reviewed condition reports generated and associated corrective actions to ensure the appropriateness of licensee response. The inspectors performed walk down inspections of a sampling of SAMPs to verify feasibility of procedure implementation.</p> <p><b>Discuss general results including corrective actions by licensee.</b></p> <p>All procedures were verified to have equipment available and could be implemented as written. Several improvements and enhancements to the procedures were identified by the licensee and placed in the CAP.</p>

<b>Licensee Action</b>	<b>Describe the licensee's actions and conclusions regarding training and qualifications of operators and support staff.</b>
c. Verify the training and qualifications of operators and the support staff needed to implement the procedures and work instructions are current for activities related to Security Order Section B.5.b and severe accident management guidelines as required by 10 CFR 50.54 (hh).	The licensee verified requirements for fire brigade and operations training related to B.5.b and Severe Accident Management Guidelines (SAMGs), the Severe Accident Management Program training, and Emergency Management Guideline (EMG) B.5.b training. This verification included the number of individuals required to have training in the respective areas, the continuing training frequency requirements, and validation of the current qualifications.
	<b>Describe inspector actions and the sample strategies reviewed to assess training and qualifications of operators and support staff.</b>
	The inspectors reviewed licensee records of training verification. In addition, the inspectors reviewed a sample of training records to ensure compliance with qualification program requirements.
	<b>Discuss general results including corrective actions by licensee.</b>
<b>Licensee Action</b>	<b>Describe the licensee's actions and conclusions regarding applicable agreements and contracts are in place.</b>
d. Verify that any applicable agreements and contracts are in place and are capable of meeting the conditions needed to mitigate the consequences of these events.	The licensee verified agreements and contracts under Memorandums of Understanding (MOUs) required for various SAMPs were in place and re-signed the MOUs with the applicable local fire departments. The local fire departments performed demonstrations of their capability to perform actions from applicable SAMPs.

<p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p><b>For a sample of mitigating strategies involving contracts or agreements with offsite entities, describe inspector actions to confirm agreements and contracts are in place and current (e.g., confirm that offsite fire assistance agreement is in place and current).</b></p>
	<p>The inspectors reviewed the documentation of MOUs with the local fire departments. The inspectors also reviewed the licensee strategies and feasibility of using local fire departments in accordance with SAMPs. The inspectors reviewed documentation of local fire department demonstrations, including diagrams and photos, and determined the applicable SAMPs could be implemented.</p>
	<p><b>Discuss general results including corrective actions by licensee.</b></p>
	<p>No issues identified.</p>



<b>Licensee Action</b>	<b>Document the corrective action report number and briefly summarize problems noted by the licensee that have significant potential to prevent the success of any existing mitigating strategy.</b>
<p>e. Review any open corrective action documents to assess problems with mitigating strategy implementation identified by the licensee. Assess the impact of the problem on the mitigating capability and the remaining capability that is not impacted.</p>	<p>The inspectors or the licensee did not identify any issues which would prevent the implementation of B.5.b procedures or SAMPs. The licensee identified several minor procedural discrepancies and enhancements which were entered into the CAP and corrective actions were put into place.</p>
<p>03.02 Assess the licensee’s capability to mitigate SBO conditions, as required by 10 CFR 50.63, “Loss of All Alternating Current Power,” and station design, is functional and valid. Refer to TI 2515/120, “Inspection of Implementation of Station Blackout Rule Multi-Plant Action Item A-22,” as a guideline. It is not intended that TI 2515/120 be completely reinspected. The inspection should include, but not be limited to, an assessment of any licensee actions to:</p>	
<b>Licensee Action</b>	<b>Describe the licensee’s actions to verify the adequacy of equipment needed to mitigate an SBO event.</b>
<p>a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The licensee performed walk downs to verify that all equipment referenced, implemented, or associated with AOP 301.1, “Station Blackout,” were available and functional as required.</p> <p><b>Describe inspector actions to verify equipment is available and useable.</b></p> <p>The inspectors reviewed the licensee’s rigor in walking-down AOP 301.1-related equipment to ensure availability and functionality. The inspectors also independently walked down portions of the procedure to verify equipment condition and staging. Finally, the inspectors reviewed testing and maintenance activities for related equipment.</p>

	<p><b>Discuss general results including corrective actions by licensee.</b></p> <p>The licensee identified several enhancements and minor deficiencies in the ability to implement AOP 301.1. All items were documented in the CAP and reviewed by the inspectors for appropriate response. The inspectors did not identify any significant concerns with the as-found or as-left items; and, determined that the licensee could adequately perform the AOP, if required.</p>
<p><b>Licensee Action</b></p> <p>b. Demonstrate through walkdowns that procedures for response to an SBO are executable.</p>	<p><b>Describe the licensee's actions to verify the capability to mitigate an SBO event.</b></p> <p>The licensee performed a timed and evaluated simulator exercise, accompanied with in-plant simulations, to demonstrate that time-critical operator actions identified in AOP 301.1 were able to be performed (with sufficient margin) within the current licensing and design bases assumptions for an SBO event.</p>

	<b>Describe inspector actions to assess whether procedures were in place and could be used as intended.</b>
	The inspectors reviewed simulator and in-plant simulations to demonstrate successful implementation of AOP 301.1. The inspectors also independently walked down portions of the procedure to verify whether the AOP could be performed within the time-critical requirements of SBO event assumptions.
	Discuss general results including corrective actions by licensee.
	The licensee identified several enhancements and minor deficiencies in the ability to implement AOP 301.1. All items were documented in the CAP. The inspectors did not identify any significant concerns with the as-found or as-left items; and, determined that the licensee could adequately perform the AOP, if required.

03.03 Assess the licensee’s capability to mitigate internal and external flooding events required by station design. Refer to IP 71111.01, “Adverse Weather Protection,” Section 02.04, “Evaluate Readiness to Cope with External Flooding,” as a guideline. The inspection should include, but not be limited to, an assessment of any licensee actions to verify through walkdowns and inspections that all required materials and equipment are adequate and properly staged. These walkdowns and inspections shall include verification that accessible doors, barriers, and penetration seals are functional.	
<b>Licensee Action</b>	<b>Describe the licensee’s actions to verify the capability to mitigate existing design basis flooding events.</b>
a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.	The licensee reviewed their current design bases for internal and external flooding events, and reviewed existing procedures and strategies for the site. The licensee then validated the availability of materials and equipment required for mitigating internal and external flooding events and performed walk downs with existing procedures to ensure that they could be implemented. This validation included installation of three temporary flood barriers representative of the types at the site, and visual inspection of exterior above-grade and interior below-grade penetrations. Finally, the licensee verified the availability of temporary power, sump pumps, and other mitigating equipment, and validated that maintenance and inventories were adequate.

	<p><b>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</b></p> <p>The inspectors reviewed the licensee’s internal and external flooding design bases, mitigating procedures, and associated material and equipment inventories and maintenance activities. The inspectors noted that some materials could not be found onsite, but were readily available and could have been procured and installed in a timely manner commensurate with the timeframe of a design basis flooding event. The inspectors also observed the installation of temporary stop log barriers and determined that adequate materials and resources were available to mitigate flooding events. The inspectors reviewed condition reports generated by the licensee and determined that any functionally degraded or non-conforming conditions or other enhancements were either corrected or had compensatory measures put in place. The inspectors also utilized IP 71111.01, “Adverse Weather Protection,” within Inspection Report 05000331/2011002, specifically, the external flooding readiness sample, to review some aspects of this section.</p> <p><b>Discuss general results including corrective actions by licensee.</b></p> <p>The licensee could not locate at the site a flood barrier cover for the auxiliary boiler intake louver which was required to be installed prior to reaching the design basis external flood elevation. A condition report was generated and a cover was procured and promptly delivered to the site. The licensee also identified three flood barriers that were challenging to install due to physical interferences, procedural or as-found design issues, and/or some configurations in the field not being aligned with design drawings. The licensee performed functionality assessments and determined that these barriers were functional, but non-conforming, and initiated compensatory measures until final corrective actions could be completed.</p> <p>Overall, the inspectors did not identify any significant concerns with the as-found or as-left ability to mitigate design bases internal or external flooding events.</p>
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03.04 Assess the thoroughness of the licensee’s walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment’s function could be lost during seismic events possible for the site. Assess the licensee’s development of any new mitigating strategies for identified vulnerabilities (e.g., entered it in to the corrective action program and any immediate actions taken). As a minimum, the licensee should have performed walkdowns and inspections of important equipment (permanent and temporary), such as storage tanks, plant water intake structures, and fire and flood response equipment; and developed mitigating strategies to cope with the loss of that important function. Use IP 71111.21, “Component Design Basis Inspection,” Appendix 3, “Component Walkdown Considerations,” as a guideline to assess the thoroughness of the licensee’s walkdowns and inspections.

<b>Licensee Action</b>	<b>Describe the licensee’s actions to assess the potential impact of seismic events on the availability of equipment used in fire and flooding mitigation strategies.</b>
<p>a. Verify through walkdowns that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The licensee performed a review to identify whether existing permanent, portable, and temporary systems and equipment were available and in place to mitigate fire and flooding events, and then performed walk downs to identify any seismic vulnerabilities. Existing mitigating strategies were reviewed for fire and flooding events, including verification that agreements or contracts under MOUs were in place and up-to-date with offsite agencies, and that the agreed upon capabilities of the offsite agencies were still valid. Finally, the licensee identified any areas where the site could be vulnerable from a fire or flood event following a seismic event (such as availability and/or reliability of equipment following a seismic event, and equipment storage locations).</p>
	<p><b>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</b></p>
	<p>The inspectors reviewed the vulnerabilities identified by the licensee, and verified that they were captured in the corrective action program. The inspectors also independently walked down many of the systems credited to mitigate fire and flood events and did not identify any new or additional vulnerabilities.</p> <p>The inspectors reviewed implementing procedures, including AOPs, the station Fire Plan, EMGs, and also reviewed existing agreements and contracts with offsite agencies. The inspectors’ observations aligned with the licensee conclusions following their reviews, in that, normal fire suppression systems were not required to be designed, and were thus not constructed to necessarily withstand a design basis seismic event.</p>

	<p><b>Discuss general results including corrective actions by licensee. Briefly summarize any new mitigating strategies identified by the licensee as a result of their reviews.</b></p> <p>The licensee's review under this section determined that in general, non-safety related equipment to mitigate fire or flood events (such as the normal fire suppression system, various permanent flood barriers and flood-sensing equipment, and storage locations of beyond design-basis equipment) are not designed or installed to be seismically qualified. Additionally, most fire or flood-related equipment or mitigating actions referenced in AOPs and EMGs may not be available following. The licensee determined, via engineering judgment, that although most of the equipment to mitigate a fire or flood event was not seismically qualified, the majority of equipment was robust in its design and construction such that it was not expected to be completely rendered unavailable following a seismic event. The licensee identified several enhancements to include procedure revisions to have more detailed guidance within the EMGs and for offsite agency response for fire suppression strategies.</p> <p>These issues were documented in the corrective action program to be addressed in the future following industry recommendations and/or changes to regulatory requirements for beyond design basis vulnerabilities. Overall, the inspectors determined that the licensee had additional, diverse equipment, procedures, and resources available that could be used following a beyond design basis event.</p>
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## Meetings

### .1 Exit Meeting

The inspectors presented the inspection results to Mr. C. Costanzo, and other members of licensee management, at the conclusion of the inspection on April 29, 2011. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

C. Costanzo, Site Vice President  
D. Curtland, Plant General Manager  
K. Kleinheinz, Site Engineering Director  
R. Harter, Work Management Director  
S. Catron, Licensing Manager  
G. Pry, Operations Director  
R. Wheaton, Site Maintenance Director  
B. Kindred, Security Manager  
M. Davis, Emergency Preparedness Manager  
J. Kalamaja, Assistant Operations Manager  
M. Lingenfelter, Design Engineering Manager  
B. Murrell, Licensing Engineer Analyst

#### Nuclear Regulatory Commission

K. Feintuch, Project Manager, NRR  
K. Riemer, Chief, Reactor Projects Branch 2



## LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

03.01 Assess the licensee's capability to mitigate conditions that result from beyond design basis events.

<u>Number</u>	<u>Description or Title</u>
CR 01631508	INPO IERL 1-11-1 - Add GE75 Key to SAMP 707 Equipment List
CR 01631204	INPO IERL 1-11-1 - Improve Reference To AOP 301.1 Attachment 10
CR 01631784	INPO IERL 1-11-1 - Enhancement to SAMP Using PDFP
CR 01631498	INPO IERL 1-11-1 - Documentation of Operator EMG Qualifications
CR 01631550	INPO IERL 1-11-1 - Track Completion of Operator EMG Training
CR 01631931	INPO IERL 1-11-1 - Temporary Guidance for Screening B5B Work Orders
CR 01631926	INPO IERL 1-11-1 - Implement Means to Validate B5b Readiness
CR 01631547	INPO IERL 1-11-1 - Evaluate SAG Training Program Allowance
CR 01631507	INPO IERL 1-11-1 - Hose Trailer Door Latch Needs Repair
CR 01631294	INPO IERL 1-11-1 - SAMG Training Program Delta
CR 01631200	INPO IERL 1-11-1 - Enhancement to TSG Training
CR 01631223	INPO IERL 1-11-1 - Add/Evaluate Head Lamp with EOP and SAMP Toolkits
CR 01631178	INPO IERL 1-11-1 - Discrepancies Found During OP-025
CR 01631046	INPO IERL 1-11-1 - Minor Problems with 1P298 During Test
CR 01630972	INPO IERL 1-11-1 - SAMP 703, RCIC Operation Following Loss
CR 01630946	INPO IERL 1-11-1 - SAMP 703, RCIC Operation Following Loss

03.02 Assess the licensee's capability to mitigate SBO conditions.

<u>Number</u>	<u>Description or Title</u>
AOP 301.1	Station Blackout; Revisions 46 and 47
CR 01632634	INPO IERL 1-11-1 - AOP 301.1 SBO
CR 01632644	INPO IERL 1-11-1 - AOP 301.1 SBO

03.03 Assess the licensee's capability to mitigate internal and external flooding events required by station design.

<u>Number</u>	<u>Description or Title</u>
AOP 902	Flood; Revisions 35 and 36
EOP 3	Section 6; Secondary Containment Control; Revision 7
CR 01631945	Door 124 Flood Barrier Demonstration
CR 01631947	Door 136 Flood Barrier Demonstration
CR 01631948	Door 846 Flood Barrier Demonstration
CR 01632119	Discrepancy Found on AOP 902 (Flood Control) – Missing Auxiliary Boiler Louver Cover
CR 01632333	AOP 902 Enhancements – Material Storage
CR 01633257	Flood Barrier Inspection – Day 1 Rollup
CR 01636146	Flood Barrier Inspection – Rollup CAP #2
CR 01636148	Flood Barrier Inspection – Rollup CAP #3

CR 01637504	Penetration Inspection on East Wall of Turbine Building
CR 01641075	Could Not Locate Beam Required for AOP 902

03.04 Assess the thoroughness of the licensee's walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events.

Number	Description or Title
OI 513	Fire Protection; Revision 105
DAEC Fire Plan	Volume III; Catastrophic Event Plan; Revision 2
AOP 913	Fire; Revision 61
AOP 901	Earthquake; Revision 18
CR 01632435	Walkdown Fire Suppression Equipment in Cable Spreading Room
CR 01638739	Water Tight Flood Doors are Non-Seismic
CR 01638741	Reactor Building Basement Water Level Sensing Instruments are Non-Seismic
CR 01638745	Diesel Fire Pump Seismic Vulnerability
CR 01638746	Motor Drive Fire Pump Seismic Vulnerability
CR 01469169	AOP 902 Flood Material Storage Seismic Vulnerability
CR 01639172	Enhance Procedures for Fire Fighting with the B.5.b Pump
CR 01639174	Enhance Procedures for Offsite Responder Fire Fighting
CR 01639511	Track Receipt of Local Responder Memorandums of Understanding

## LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
AOP	Abnormal Operating Procedure
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DAEC	Duane Arnold Energy Center
EMG	Emergency Management Guideline
EOP	Emergency Operating Procedure
IP	Inspection Procedure
MOU	Memorandum of Understanding
NRC	U.S. Nuclear Regulatory Commission
OP	Operations Procedure
PARS	Publicly Available Records System
PDFP	Portable Diesel Fire Pump
PM	Preventative Maintenance
RPV	Reactor Pressure Vessel
SAMG	Severe Accident Management Guideline
SAMP	Severe Accident Management Procedure
SBO	Station Blackout
SRV	Safety Relief Valve
TI	Temporary Instruction

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made 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), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

Kenneth Riemer, Chief  
Branch 2  
Division of Reactor Projects

Docket No. 50-331  
License No. DPR-49

Enclosure: Inspection Report 05000331/2011010

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Letter to C. Costanzo from K. Riemer dated May 13, 2011

SUBJECT: DUANE ARNOLD ENERGY CENTER – NRC TEMPORARY  
INSTRUCTION 2515/183 INSPECTION REPORT 05000331/2011010

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