UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
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July 22, 2013

Mr. Richard L. Anderson
Vice President
NextEra Energy Duane Arnold, LLC
3277 DAEC Road
Palo, IA 52324-9785

SUBJECT: DUANE ARNOLD ENERGY CENTER – NRC INTEGRATED INSPECTION REPORT 05000331/2013003

Dear Mr. Anderson:

On June 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Duane Arnold Energy Center. The enclosed report documents the results of this inspection, which were discussed on July 11, 2013, with your Plant General Manager, and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

No findings were identified during this inspection.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS)

component of NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Christine Lipa, Chief
Branch 1
Division of Reactor Projects

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

Enclosure: Inspection Report 05000331/2013003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-331
License No:	DPR-49
Report No:	05000331/2013003
Licensee:	NextEra Energy Duane Arnold, LLC
Facility:	Duane Arnold Energy Center
Location:	Palo, IA
Dates:	April 1 through June 30, 2013
Inspectors:	L. Haeg, Senior Resident Inspector R. Murray, Resident Inspector B. Cushman, Resident Inspector J. Draper, Reactor Engineer J. Beavers, Emergency Preparedness Inspector V. Meghani, Reactor Inspector J. Neurauter, Reactor Inspector J. Bozga, Reactor Inspector
Approved by:	Christine Lipa, Chief Branch 1 Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

Inspection Report (IR) 05000331/2013003; 04/01/2013 - 06/30/2013; Duane Arnold Energy Center.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual (IMC) 0609, “Significance Determination Process” dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, “Components Within the Cross- Cutting Areas” dated October 28, 2011. All violations of NRC requirements are dispositioned in accordance with the NRC’s Enforcement Policy dated January 28, 2013. 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.

A. NRC-Identified and Self-Revealed Findings

No findings were identified during this inspection.

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Duane Arnold Energy Center (DAEC) operated at full power for the entire inspection period except for brief down-power maneuvers to accomplish rod pattern adjustments or to conduct planned surveillance testing activities.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

.1 External Flooding

a. Inspection Scope

The inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood. The evaluation included a review to check for deviations from the descriptions provided in the Updated Final Safety Analysis Report (UFSAR) for features intended to mitigate the potential for flooding from external factors. As part of this evaluation, the inspectors checked for obstructions that could prevent draining, checked that the roofs did not contain obvious loose items that could clog drains in the event of heavy precipitation, and determined that barriers required to mitigate the flood were in place and functional. Additionally, the inspectors performed a walkdown of the protected area to identify any modifications to the site that could inhibit site drainage during a probable maximum precipitation event or allow water ingress past a barrier. The inspectors also walked down underground bunkers/manholes subject to flooding that contained multiple train or multiple function risk-significant cables. The inspectors also reviewed the abnormal operating procedure (AOP) for mitigating the design basis flood to ensure it could be implemented as written. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one external flooding sample as defined in Inspection Procedure (IP) 71111.01-05.

b. Findings

No findings were identified.

.2 Readiness For Impending Adverse Weather Condition – Extreme Heat Conditions

a. Inspection Scope

The inspectors performed a detailed review of the licensee's procedures and preparations for operating the facility during an extended period of time when ambient outside temperatures were high and the ultimate heat sink was experiencing elevated temperatures. The inspectors focused on plant specific design features and implementation of the procedures for responding to or mitigating the effects of these conditions on main condenser vacuum/main turbine backpressure and operation of the

facility's emergency service water (ESW) and residual heat removal service water (RHRSW) systems. Inspection activities included a review of the licensee's adverse weather procedures, daily monitoring of the off-normal environmental conditions, and that operator actions specified by plant specific procedures were appropriate to ensure operability of the facility's normal and emergency cooling systems. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one readiness for impending adverse weather condition sample as defined in IP 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- 'A' Control Building Chiller (CBC) with 'B' CBC out-of-service for planned maintenance;
- 'B' RHRSW and 'B' ESW during 'C' Residual Heat Removal (RHR) pump maintenance; and
- 'A' Standby Gas Treatment with 1K04 air compressor out-of-service for planned maintenance.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program (CAP) with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These inspections constituted three quarterly partial system walkdown samples as defined in IP 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns that were focused on the availability, accessibility, and condition of firefighting equipment in the following risk-significant plant areas:

- Area Fire Plan (AFP) 13; Refueling Floor Elevation 855'-0"; Revision 26;
- AFP-07; Reactor Building Laydown Area, Corridor and Waste Tank Area and Spent Resin Tank Room El. 786'; Revision 32 and AFP-08; Standby Gas Treatment System and Motor Generator (MG) Set Rooms El. 786'; Revision 25;
- AFP-10; Main Exhaust Fan Room, Heating Hot Water Pump Room and the Plant Air Supply Fan Room; Revision 24;
- AFP-21; Turbine Building North Turbine Operating Floor; Revision 25;
- AFP-16; Condensate Pump Area; Revision 26 and AFP-22; South Turbine Operating Floor; Revision 26; and
- AFP-11; Reactor Building Laydown Area-Elevation 833'-6"; Revision 25 and AFP-12; Reactor Building Decay Tank and Condensate Phase Separator Rooms; Revision 24.

The inspectors reviewed these areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded or non-functional fire protection equipment, systems, or features in accordance with the licensee's fire plan.
The inspectors selected these fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. The inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

These inspections constituted six routine resident inspector tour samples as defined in IP 71111.05-05.

b. Findings

No findings were identified.

1R06 Flooding (71111.06)

.1 Underground Vaults

a. Inspection Scope

The inspectors selected underground bunkers/manholes subject to flooding that contained cables whose failure could disable risk-significant equipment. The inspectors determined that the cables were not submerged, that splices were intact, and that appropriate cable support structures were in place. In those areas where dewatering devices were used, such as a sump pump, the device was functional and level alarm circuits were set appropriately to ensure that the cables would not be submerged. In those areas without dewatering devices, the inspectors verified that the bunkers/manholes were dry and that there was no evidence of prior or ongoing in-leakage. The inspectors also reviewed the licensee's corrective action documents with respect to past submerged cable issues identified in the CAP to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following underground bunkers/manholes subject to flooding:

- Manholes 1MH116 and 2MH215.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted one underground vaults sample as defined in IP 71111.06-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review of Licensed Operator Requalification (71111.11Q)

a. Inspection Scope

On June 12, 2013, the inspectors observed crews of licensed operators in the plant's simulator during licensed operator requalification training to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas of the crew:

- licensed operator performance;
- clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one resident inspector quarterly review of licensed operator requalification sample as defined in IP 71111.11-05.

b. Findings

No findings were identified.

.2 Resident Inspector Quarterly Observation of Heightened Activity or Risk (71111.11Q)

a. Inspection Scope

During the week of June 24, 2013, the inspectors observed various activities in the control room. There were several activities that required heightened awareness or were related to increased risk, such as testing of the Core Spray system logic, testing of the 'A' SBDG, and evaluating plant effects from severe weather in the area and elevated river levels. The inspectors evaluated the following areas of the crews:

- licensed operator performance;
- clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions.

The performance in these areas was compared to pre-established operator action expectations, procedural compliance and task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one resident inspector quarterly observation of heightened activity or risk sample as defined in IP 71111.11-05.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- River Water Supply System; and
- Emergency Alternating Current (AC) Power Systems.

The inspectors reviewed events such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These inspections constituted two routine quarterly evaluation samples as defined in IP 71111.12-05.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- Workweek 1318 Risk: ‘A’ RHR and ‘A’ RHRSW preplanned maintenance;
- Walkdown of guarded safety related equipment for planned diving activities for the ‘B’ RHRSW/ESW pit;
- Workweek 1321 Risk: Reactor Protection System (RPS) Motor Generator Set Maintenance, ‘B’ Standby Diesel Generator Operability Testing and AOP 902, “Flood”, entry due to high river levels; and
- Workweek 1323 Risk: Spent Fuel Pool activities, Low Pressure Coolant Injection (LPCI) preplanned maintenance and ‘B’ CBC unplanned inoperability.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope

of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

Documents reviewed are listed in the Attachment to this report.

These inspections constituted four maintenance risk assessment and emergent work control samples as defined in IP 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- 1A305 'A' RHR pump motor breaker charging motor bolting issues and extent of condition;
- ESW/RHRSW pump pit concrete degradation;
- 1A305 'A' RHR pump breaker charging motor bolting past operability review;
- Standby Liquid Control (SBLC) pipe supports; and
- RCIC discharge pressure transmitter indicating high.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and UFSAR to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

These inspections constituted five operability evaluation samples as defined in IP 71111.15-05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed the following modification:

- Temporary Modification 11-012 (EC 273976), Jumper chilled water flow switch to prevent spurious chiller trips – FS6925A/B & 9TR Relay.

The inspectors reviewed the configuration changes and associated 10 CFR 50.59 safety evaluation screening against the design basis, the UFSAR, and the TS, as applicable, to verify that the modification did not affect the operability or availability of the affected system. The inspectors, as applicable, observed ongoing and completed work activities to ensure that the modification was installed as directed and consistent with the design control documents; the modification operated as expected; post-modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modification did not impact the operability of any interfacing systems. As applicable, the inspectors verified that relevant procedure, design, and licensing documents were properly updated. Lastly, the inspectors discussed the plant modification with operations, engineering, and training personnel to ensure that the individuals were aware of how the operation with the plant modification in place could impact overall plant performance. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one plant modifications sample as defined in IP 71111.18-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following post-maintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- RPS testing following voltage regulator replacement;
- LPCI swing bus AC and direct current (DC) under-voltage transfer test following LPCI swing bus breaker relay replacements;
- ‘A’ Control Rod Drive pump testing following bearing inspection; and
- ‘B’ Standby Filter Unit testing following preventive maintenance.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers

required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against the TSs, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

These inspections constituted four post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- Surveillance Test Procedure (STP) 3.4.5-01; Calibration of Equipment Drain Sump and Floor Drain Sump Flow Integrators; Revision 11 Reactor Coolant System (RCS);
- STP NS1600002B; 'B' RHR Service Water Operability Test; Revision 6 (In-service Test);
- STP 3.7.4-05B; Standby Filter Unit 'B' Operation with Heaters On; Revision 2 (Routine);
- STP 3.5.3-02; RCIC System Operability Test; Revision 38 (Routine);
- STP 3.8.1-04B; 'B' Standby Diesel Generator Operability Test (Slow Start from Norm Start Air); Revision 19 (Routine); and
- STP 3.3.5.1-14A, 'A' Core Spray Logic System Functional Test; Revision 4 (Routine).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- the effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- acceptance criteria were clearly stated, demonstrated operational readiness, and consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;

- as-left setpoints were within required ranges; and the calibration frequency was in accordance with the TSs, the UFSAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted four routine samples, one inservice testing sample, and one reactor coolant system leak detection surveillance testing inspection sample, as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings were identified.

1EP2 Alert and Notification System Evaluation (71114.02)

a. Inspection Scope

The inspectors held discussions with Emergency Preparedness (EP) staff regarding the operation, maintenance, and periodic testing of the primary and backup Alert and Notification System (ANS) in the plume pathway Emergency Planning Zone. The inspectors reviewed monthly trend reports and siren test failure records from September 2011 through May 2013. Information gathered during document reviews and interviews were used to determine whether the ANS equipment was maintained and tested in

accordance with Emergency Plan Commitments and Procedures. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one alert and notification system evaluation sample as defined in IP 71114.02-06.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System (71114.03)

a. Inspection Scope

The inspectors reviewed and discussed with plant EP staff the Emergency Plan Commitments and Procedures for Emergency Response Organization (ERO) on-shift and augmentation staffing levels. A sample of the EP training records, approximately 20 ERO personnel assigned to key and support positions, were reviewed to determine the status of their training as it related to their assigned ERO positions. The inspectors reviewed the ERO Augmentation System and activation process, the primary and alternate methods of initiating ERO activation, unannounced off-hour augmentation tests from September 2011 through May 2013, and the provisions for maintaining the plant's ERO roster.

The inspectors reviewed a sample of corrective actions related to the facility's ERO staffing and Augmentation System Program and activities from September 2011 through May 2013 to determine whether corrective actions were completed in accordance with the site's CAP. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one emergency response organization staffing and augmentation system sample as defined in IP 71114.03-06.

b. Findings

No findings were identified.

1EP5 Maintenance of Emergency Preparedness (71114.05)

a. Inspection Scope

The inspectors reviewed a sample of nuclear oversight staff audits of the EP Program to determine whether these independent assessments met the requirements of 10 CFR 50.54(t). The inspectors also reviewed critique reports and samples of CAP records associated with the 2012 Biennial Exercise, as well as various EP drills conducted, in order to determine whether the licensee had fulfilled its drill commitments and to evaluate the licensee's efforts to identify, track, and resolve concerns identified during these activities.

The inspectors reviewed a sample of EP items and corrective actions related to the facility's EP Program and activities from September 2011 through May 2013 to determine whether corrective actions were completed in accordance with the site's CAP. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one maintenance of emergency preparedness sample as defined in IP 71114.05-06.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of routine licensee emergency drills on April 2 and May 14, 2013 to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the control room simulator, technical support center, and emergency operations facility to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critiques to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critiques and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspections, the inspectors reviewed the drill packages and other documents listed in the Attachment to this report.

These inspections constituted two emergency preparedness drill observation samples as defined in IP 71114.06-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

4OA1 Performance Indicator Verification (71151)

.1 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the RCS Leakage performance indicator (PI) for the period from the second quarter 2012 through the first quarter 2013. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's operator logs, RCS leakage tracking data, issue reports, event reports and NRC Integrated Inspection Reports for the period of

April 1, 2012 through March 31, 2013 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's CAP database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one reactor coolant system leakage sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.2 Drill/Exercise Performance (DEP)

a. Inspection Scope

The inspectors sampled licensee submittals for the DEP PI for the period from the second quarter 2012 through first quarter 2013. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's records and processes including procedural guidance on assessing opportunities for the PI; assessments of PI opportunities during pre-designated control room simulator training sessions, performance during the 2012 Biennial Exercise, and performance during other drills associated with the PI to validate the accuracy of the submittals. The inspectors also reviewed the licensee's CAP database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one drill/exercise performance sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.3 Emergency Response Organization (ERO) Readiness

a. Inspection Scope

The inspectors sampled licensee submittals for the ERO Readiness PI for the period from the second quarter 2012 through first quarter 2013. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's records and processes including procedural guidance on assessing opportunities for the PI; performance during the 2012 Biennial Exercise and other drills; and revisions of the roster of personnel assigned to key ERO positions to validate the accuracy of the submittals. The inspectors also reviewed the licensee's CAP database to determine if any problems had been identified with the PI data

collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one emergency response organization readiness sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.4 Alert and Notification System (ANS) Reliability

a. Inspection Scope

The inspectors sampled licensee submittals for the ANS Reliability PI for the period from the second quarter 2012 through first quarter 2013. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's records and processes including procedural guidance on assessing opportunities for the PI and results of periodic ANS operability tests to validate the accuracy of the submittals. The inspectors also reviewed the licensee's CAP database to determine whether any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one alert and notification system reliability sample as defined in IP 71151-05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment to this report.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6-month period of January 2013 through June 2013, although some examples expanded beyond those dates where the scope of the trend warranted.

The reviews also included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This inspection constituted one semi-annual trend review sample as defined in IP 71152-05.

b. Findings

No findings were identified.

.4 Annual Sample: Review of Operator Workarounds

a. Inspection Scope

The inspectors evaluated the licensee's implementation of their process used to identify, document, track, and resolve operational challenges. Inspection activities included, but were not limited to, a review of the cumulative effects of the operator workarounds (OWAs) on system availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents.

The inspectors performed a review of the cumulative effects of OWAs. The documents listed in the Attachment to this report were reviewed to accomplish the objectives of the inspection procedure. The inspectors reviewed both current and historical operational challenge records to determine whether the licensee was identifying operator challenges at an appropriate threshold, had entered them into their CAP and proposed or implemented appropriate and timely corrective actions which addressed each issue. Reviews were conducted to determine if any operator challenge could increase the possibility of an Initiating Event, if the challenge was contrary to training, required a change from long-standing operational practices, or created the potential for inappropriate compensatory actions. Additionally, all temporary modifications were reviewed to identify any potential effect on the functionality of Mitigating Systems, impaired access to equipment, or required equipment uses for which the equipment was not designed. Daily plant and equipment status logs, degraded instrument logs, and operator aids or tools being used to compensate for material deficiencies were also assessed to identify any potential sources of unidentified operator workarounds.

This inspection constituted one operator workaround annual sample as defined in IP 71152-05.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On July 11, 2013, the inspectors presented the inspection results to Mr. G. Pry, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- The results of the EP Program inspection were discussed with Mr. R. Anderson on June 27, 2013.

The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

R. Anderson, Site Vice President
G. Pry, Plant General Manager
K. Kleinheinz, Site Engineering Director
T. Byrne, Licensing Manager, Acting
G. Young, Nuclear Oversight Manager
G. Rushworth, Operations Site Director
R. Wheaton, Maintenance Site Director
R. Porter, Radiation Protection Manager
D. Olsen, Chemistry Manager
B. Kindred, Security Manager
B. Simmons, Training Manager
M. Davis, Emergency Preparedness Manager
B. Murrell, Licensing Engineer Analyst
R. Mothena, Corporate Emergency Preparedness Director
L. Swenzinski, Licensing Engineer

Nuclear Regulatory Commission

C. Faria-Ocasio, Project Manager, NRR
C. Lipa, Chief, Reactor Projects Branch 1

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

None.

Closed

None.

Discussed

None.

LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or 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.

1R01

OP-AA-102-1002 (DAEC); Seasonal Readiness; Revision 7
AOP 903; Severe Weather; Revision 40
AOP 902; Flood; Revision 47

1R04

OP-AA-102-1003; Guarded Equipment; Revision 3
OP-AA-102-1003 (DAEC); Guarded Equipment (DAEC Specific Information); Revision 25
Operating Instruction (OI) 730A6; Control Building Heating Ventilation and Air Conditioning (HVAC) System Control Panel Lineup; Revision 9
OI 730A1; Control Building HVAC System Electrical Lineup; Revision 3
OI 730A3; Control Building Ventilation System Valve Lineup; Revision 7
OI 416A4; 'B' RHRSW System Valve Lineup and Checklist; Revision 11
OI 454A4; 'B' ESW System Valve Lineup and Checklist; Revision 18

1R05

ACP 1203.53; Fire Protection; Revision 18
ACP 1412.4; Impairments to Fire Protection Systems; Revision 67
DAEC Fire Plan – Volume 1, Program; Revision 63
AFP 07; Reactor Building Laydown Area, Corridor and Waste Tank Area and Spent Resin Tank Room El. 786'; Revision 32
AFP 08; Standby Gas Treatment System and MG Set Rooms El. 786'; Revision 25
AFP 10; Main Exhaust Fan Room, Heating Hot Water Pump Room and the Pant Air Supply Fan Room; Revision 24
AFP 11, "Reactor Building Laydown Area – El. 833'-6"," Revision 25
AFP 12, "Reactor Building Decay Tank and Condensate Phase Separator Rooms," Revision 24
ACP 1412.2, "Control of Combustibles," Revision 40
AFP 21; Turbine Building North Turbine Operating Floor; Revision 25
AFP 16; Condensate Pump Area; Revision 26
AFP 22; South turbine Operating Floor; Revision 26

1R06

AOP 902; Flood; Revision 48
WO 40175203-01; SUS99.09: Inspect Manholes for Water Intrusion

1R12

RWS System Health Report Dated 4/1/2013-6/30/2013
CR 01872661; C RWS Pump Nearing the ASME Alert Limit
CR 01872628; 'A' River Water Supply Pump Approaching Upper ASME Limit

CR 01873623; Aggregate Review on ASME Trends for Pump Flows
CR 01879954; Calibrate FT9416 Prior to Next Performance of NS100102B
CR 01720592; 'B' RWS Pump Auto Vent Appears to be Leaking by Again

1R13

Work Planning Guideline-1; Work Process Guideline; Revision 58
Work Planning Guideline-2; Online Risk Management Guideline; Revision 61
OP-AA-104-1007; Online Aggregate Risk; Revision 002
WM-AA-1000; Work Activity Risk Management; Revision 13
WM-AA-1000 (DAEC); Work Activity Risk Management (DAEC); Revision 01
OP-AA-102-1003; Guarded Equipment; Revision 03
OP-AA-102-1003 (DAEC); Guarded Equipment (DAEC Specific Information); Revision 25
Work Week 1318 Work Activity Risk Management (WARM) Summary and Weekly Probabilistic Risk Analysis (PRA)
Work Week Activities Summary for Work Week 1318
CR 01873340; PRA Risk Mis-Classified as Higher than Needed for MO2016 WO
CR 01873056; STP Not Performed Due to Unaccounted for High Risk
Work Week 1321 WARM Summary and Weekly PRA
Work Week Activities Summary for Work Week 1321
CR 01876947; Entered AOP 902 FLOOD
AOP 902; Flood; Revision 47
WO 40070417; PAR Racks Boral BADGER Testing
Work Week 1323 WARM Summary and Weekly PRA
CR 01880612; B Chiller Fails to Start and Trips Control Power Breaker
CR 01881256; New CAQ Not Properly Entered into the CAP
CR 01881285; B Control Building Chiller Trip
CR 01881335; 2M Contactor Broken Clip
CR 01881432; A CB Chiller Starter Extent of Condition

1R15

EN-AA-203-1001; Operability Determinations/Functionality Assessments; Revision 09
OP-AA-100-1000; Conduct of Operations; Revision 10
CR 01873356; 4kV Charging Motor EOC
CR 01873049; 'A' RHR Breaker Spring Charging Motor Failure
CR 01873025; Charging Motor Found Bad During L&I on 0224A8971-008
CR 01872374; 1A305 Found Chip on Prop Leading Edge
CR 01872398; 0224A8971-008 Needs a Lube & Inspect and Installed in 1A305
CR 01878702; PDIS4436D Reading Higher than Other 15 Channels
CR 01878751; PDIS4436D Faceplate Found Installed Backwards
CR 01881749; SBLC Pipe Support with Deviations from Design Standard
CR 01881599; SBLC Pipe Supports Have Material Between Pipe & Clamp/Strap
CR 01881830; SBLC Pipe Support Discrepancies
CR 01826774; RCIC Pressure Transmitter PT2506 Indicates High
CR 01826789; PT2506 Leaking Internally
CR 01850528; RCIC Discharge Pressure Reads 100 psig with Pump Secured
CR 01876161; Unable to Obtain RCIC Discharge Pressure Due to Degraded Instrument
CR 01886064; Determine Why STP Was Scheduled Prior to Instrument
WO 94065460; RCIC Pressure Transmitter PT2506 Indicates High
WO 40196802-01; STP 3.5.3-02 RCIC System Operability Test

WO 40245043-01; STP 3.5.3-02 RCIC System Operability Test
POD 01868898; Debris Found in 'A' RHRSW/ESW Pit During Inspection; Revision 0
CR 01879587; Pipe Support Installed with Deviations from Design Standard
DGC-M100; Stress Analysis and Support Design of Seismic Category I Piping Systems; Revision 13
International Conference of Building Officials - Evaluation Service Report 1372; FASTENERS – Concrete and Masonry Anchors; June 1990

1R18

ACP 103.2; 10 CFR 50.59 Screening Process; Revision 41
FP-E-MOD-03; Temporary Modifications; Revision 10
ACP 103.13; DAEC Engineering Change Process; Revision 17
ACP 103.6; DAEC Implementing Procedure for the Modification Process; Revision 47
Form QF-0515A; Design Input Checklist; Revision 30

1R19

ACP 1408.1; Work Order Task(s); Revision 183
MD-024; Post Maintenance Testing Program; Revision 77
WO 40099792-03; 1G061/GEN: Replace Electrolytic Capacitors (Volt Reg)
OI 358; Reactor Protection System; Revision 64
WO 1286660; 52-3401X – Replace Relay Per EC 276377
WO 1286661; 52-4401X – Replace Relay Per EC 276377
STP 3.8.7-01; Low Pressure Coolant Injection Swing Bus AC and DC Undervoltage Transfer Test; Revision 11
CR 01881398; KY4401 Failed to Meet Time Requirement of STP 3.8.7-01
WO 40239458-04; A-Control Rod Drive Hydraulic Pump Motor
WO 40195050; STP 3.7.4-05 Standby Filter Unit "B" operation W/Heaters On
WO 40201253; TS7311B: Calibrate
WO 40205805; MA: Calibrate Transmitter FT7320B
WO 40209318; FIC7320B: Replace MPU Board
WO 40205157; 1VSF030B: Lube and Inspect

1R22

ACP 107; Surveillance Tests; Revision 14
CR 01876191; Unable to Obtain RCIC Discharge Pressure Due to Degraded Instrument
CR 01850528; RCIC Discharge Pressure Reads 100 PSIG with Pump Secured
STP 3.5.3-02; RCIC System Operability Test; Revision 38
STP 3.8.1-04B; B Standby Diesel Generator Operability Test (Slow Start from Norm Start Air); Revision 19
STP 3.3.5.1-14A; A Core Spray Logic System Functional Test; Revision 4
CR 01885599; STP 3.3.5.1-014A & B Core Spray LSFT

1EP2

FEMA REP-10 Revision 0 Approval Letter; 02/13/1990
FEMA REP-10 Revision 4C Approval Letter; 04/16/2008
FEMA REP-10 Revision 4D Approval Letter; 01/30/2009
FEMA REP-10 Backup ANS Approval Letter; 12/17/2012

EPDM 1013; Emergency Siren (ANS) and Siren Sign Program; Revision 13
Selected Documentation of ANS Repair and Annual Preventative Maintenance; September 2011 to May 2013

1EP3

NextEra Energy Duane Arnold On-Shift Staffing Analysis; 12/20/2012
Duane Arnold Emergency Telephone Book; 04/04/2013
EPIP 1.5; Activation and Operation of the EOF; Revision 12
EPIP 2.1; Activation and Operation of the Operation Support Center; Revision 20
EPIP 2.2; Activation and Operation of the TSC; Revision 31
EPIP 2.4; Activation and Operation of the Offsite Relocation and Assembly Area; Revision 18
EPDM 1009; ERO Training and Qualification Program; Revision 13
EPDM 1016; ERO Augmentation Drill and Testing Program; Revision 19
EPDM 1022; Manual ERO Callout Process; Revision 5
September 28, 2011, Unannounced Augmentation Drill
December 8, 2011, Unannounced Augmentation Drill
March 7, 2012, Unannounced Augmentation Drill
June 12, 2012, Unannounced Augmentation Drill
September 16, 2012, Unannounced Augmentation Drill
November 28, 2012, Unannounced Augmentation Drill
February 20, 2013, Unannounced Augmentation Drill

1EP5

DAEC Emergency Plan; Revision 35
EPIP 1.3; Plant Assembly and Site Evacuation; Revision 18
EPIP 2.8; Security Threat; Revision 9
EPIP 6.1; Drill and Exercise Program; Revision 3
EPIP 6.2; Maintenance of Emergency Response Facilities and Equipment; Revision 4
AOP 914; Security Events; Revision 49
EP-AA-100-1001; Guidelines for Maintaining Emergency Preparedness; Revision 5
EP-AA-100-1007; Evaluation of Changes to the Emergency Plan, Supporting Documents and Equipment (10CFR50.54(Q)); Revision 1
PDA 12-014; Emergency Preparedness Audit; 07/27/2012
SART 01722930; Quick Hit Assessment; 05/12/2012
SAQH 1871278; Quick Hit Assessment; 04/30/2013
FSA 1837464; Focused Self Assessment; 06/05/2013
SAQH 1875706; Quick Hit Assessment; 06/07/2013
NEP 2011-0020; ERO Drill Report; September 21, 2011
NEP 2012-0004; ERO Drill Report; November 9, 2011
NEP 2012-0009; ERO Drill Report; February 29, 2012
NEP 2012-0010; ERO Drill Report; April 11, 2012
NEP 2012-0019; ERO Drill Report; May 16, 2012
NEP 2012-0018; ERO Drill Report; July 18, 2012
NEP 2013-0010; ERO Drill Report; April 2, 2013
EPDM 1003; Maintenance of Emergency Response Facilities and Emergency Equipment; Revision 9
EPDM 1008; Emergency Response Drill and Exercise Program; Revision 22
EPDM 1020; Actual Event Investigation; Revision 3
Duane Arnold Energy Center Development of Evacuation Time Estimates; Revision 1

Current Letters of Agreements Identified in the Emergency Plan
CR 01739697; Drill, Dose Projection Related DEP Failure
CR 01754427; Confusion/Conflict with Toxic Gas and Accountability
CR 01768010; Drill, Inadequate Mitigation Priority
CR 01768411; Drill, Failure to Respond to Accountability
CR 01785791; Drill, Confusion in use of 10 CFR 50.54(x)
CR 01788442; 10 CFR 50.54(q) Analysis Lacking Rigor
CR 01798146; On Shift Staffing Resulting Actions
CR 01836246; Drill, Notification Related DEP Failure
CR 01837010; Loss of ERO Qualification Over Due Training
CR 01862421; Drill, Inadequate Staffing
CR 01869187; ERO Duty Team Response Trend
CR 01874456; Drill, Unexpected PAR

1EP6

Controller's Material's for EP Dress Rehearsal Drill on April 2, 2013
2013 ERO Dress Rehearsal Note 5; Notifications
Electronic Status Board for 2013 ERO Dress Rehearsal
CR 01862326; 13DREOF – Note 5 Guidance Needs Improvement
Drill Scenario and Controller Binder for May 14, 2013 Duane Arnold Off-Year Exercise

4OA1

MSPI Basis Document; Revision 14
NRC PI Data Calculation, Review and Approvals; RCS Leakage; 2nd Quarter 2012, 3rd Quarter 2012, 4th Quarter 2012, and 1st Quarter 2013
EPIP 1.1; Determination of Emergency Action Levels; Revision 28
EPIP 1.2; Notifications; Revision 45
EPIP 3.3; Dose Assessment and Protective Action; Revision 30
EPDM 1010; EP Department Performance Indicators; Revision 20
Siren System Availability Test Records; April 2012 to March 2013
ERO Personnel Participation; April 2012 to March 2013
DEP Opportunities; April 2012 to March 2013

4OA2

OA-AA-100-1002; Plant Status Control Management; Revision 0
PI-AA-103-1000; Human Performance Program Error Reduction Tools; Revision 03
ACP 1410.2; LCO Tracking and Safety Function Determination Program; Revision 31
ACP 101.01; Procedure Use and Adherence; Revision 52
OP-AA-101-1000; Clearance and Tagging; Revision 7
PI-AA-100-1007; Apparent Cause Evaluation; Revision 07
OP-AA-108; Oversight and Control of Operator Burdens; Revision 1
OP-001; Operator Burden and Clearance Audit; Revision 60
Open Operator Burden Issues with Resolution Information; April 9, 2013

LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Document Access Management System
AFP	Area Fire Plan
ALARA	As-Low-As-Is-Reasonably-Achievable
ANS	Alert and Notification System
AOP	Abnormal Operating Procedure
CBC	Control Building Chiller
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Condition Reports
DAEC	Duane Arnold Energy Center
DC	Direct Current
DEP	Drill/Exercise Performance
DRP	Division of Reactor Projects
EP	Emergency Preparedness
EPDM	Emergency Planning Department Manual
ERO	Emergency Response Organization
ESW	Emergency Service Water
HVAC	Heating Ventilation and Air Conditioning
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
LPCI	Low Pressure Coolant Injection
MG	Motor Generator
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
OI	Operating Instruction
OWA	Operator Workarounds
PARS	Publicly Available Records System
PI	Performance Indicator
PRA	Probabilistic Risk Analysis
RCS	Reactor Coolant System
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
RPS	Reactor Protection System
SART	Self Assessment Report
SAQH	Self Assessment Quick Hit
SBLC	Standby Liquid Control
STP	Surveillance Test Procedure
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
WARM	Work Activity Risk Management
WO	Work Order

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Sincerely,

/RA/

Christine Lipa, Chief
Branch 1
Division of Reactor Projects

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Letter to R. Anderson from C. Lipa dated July 22, 2013

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