



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION III  
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April 30, 2014

Mr. Richard L. Anderson  
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Palo, IA 52324-9785

SUBJECT: DUANE ARNOLD ENERGY CENTER – NRC INTEGRATED INSPECTION  
REPORT 05000331/2014002

Dear Mr. Anderson:

On March 31, 2014, 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 April 17, 2014, with you and other members of your staff.

Based on the results of this inspection, no findings of significance were identified.

As we informed you in the most recent NRC integrated inspection report, cross-cutting aspects identified in the last six months of 2013 using the previous terminology were being converted in accordance with the cross-reference in Inspection Manual Chapter (IMC) 0310. Section 4OA5 of the enclosed report documents the conversion of these cross-cutting aspects which will be evaluated for cross-cutting themes and potential substantive cross-cutting issues in accordance with IMC 0305 starting with the 2014 mid-cycle assessment review. If you disagree with the cross cutting aspect assigned, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Duane Arnold Energy Center.

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)

R. Anderson

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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 05000331/2014002  
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: 05000331/2014002

Licensee: NextEra Energy Duane Arnold, LLC

Facility: Duane Arnold Energy Center

Location: Palo, IA

Dates: January 1 through March 31, 2014

Inspectors: L. Haeg, Senior Resident Inspector  
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Approved by: Christine Lipa, Chief  
Branch 1  
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Enclosure

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## **SUMMARY OF FINDINGS**

Inspection Report (IR) 05000331/2014002, 01/01/2014 – 03/31/2014; 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 IMC 0609, "Significance Determination Process" dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas" dated December 19, 2013. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" Revision 5, dated February 2014.

### **A. NRC-Identified and Self-Revealed Findings**

No findings were identified during this inspection.

### **B. Licensee-Identified Violations**

No findings were identified during this inspection.

## **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 Readiness for Impending Adverse Weather Condition – Extreme Cold Conditions/Heavy Snowfall Conditions**

##### **a. Inspection Scope**

Since extreme cold conditions were forecast in the vicinity of the facility for February 24, 2014, the inspectors reviewed the licensee's overall preparations/protection for the expected weather conditions. On February 25, 2014, the inspectors walked down the pump house portions of the Emergency Service Water (ESW) and Residual Heat Removal Service Water (RHRSW) systems, and the supporting ESW/RHRSW room coolers and ventilation damper control systems, as well as validating both Standby Diesel Generator (SBDG) standby readiness checklist conditions because their safety-related functions could be affected or required as a result of the extreme cold conditions forecast for the facility. The inspectors observed insulation, heat trace circuits, space heater operation, and weatherized enclosures to ensure operability of affected systems. The inspectors reviewed licensee procedures and discussed potential compensatory measures with control room personnel. The inspectors focused on plant management's actions for implementing the station's procedures for ensuring adequate personnel for safe plant operation and emergency response would be available.

Additionally, on February 28, 2014, a winter weather advisory was issued for expected heavy snow fall in the vicinity of the plant. The inspectors observed the licensee's preparations and planning for the significant winter weather potential. The inspectors reviewed licensee procedures and discussed potential compensatory measures with control room personnel. The inspectors focused on plant management's actions for implementing the station's procedures for ensuring adequate personnel for safe plant operation and emergency response would be available. The inspectors conducted a site walkdown including walkdowns of various plant structures and systems to check for maintenance or other apparent deficiencies that could affect system operations during the predicted significant weather. The inspectors also reviewed corrective action program (CAP) items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures. Documents reviewed are listed in the Attachment to this report.

These inspections constituted one readiness for impending adverse weather condition sample as defined in Inspection Procedure (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:

- High Pressure Coolant Injection (HPCI) with Reactor Core Isolation Cooling (RCIC) system removed from service;
- 'A' SBDG with the 'B' SBDG out-of-service (OOS) for performance of the 24-month inspection maintenance;
- 'B' Core Spray system and both trains of the RHRSW systems with the 'B' loop of Low Pressure Coolant Injection (LPCI) OOS for 24-month surveillance testing; and
- 'B' Standby Gas Treatment (SBGT) subsystem with 'A' SBGT OOS 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, Updated Final Safety Analysis Report (UFSAR), Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports, 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 CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

## .2 Semi-Annual Complete System Walkdown

### a. Inspection Scope

During the week of February 2, 2014, the inspectors performed a complete system alignment inspection of 'A' Low Pressure Emergency Core Cooling subsystems to verify the functional capability of the system. This system was selected because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment lineups; electrical power availability; system pressure and temperature indications, as appropriate; component labeling; component lubrication; component and equipment cooling; hangers and supports; operability of support systems; and to ensure that ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding WOs was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the CAP database to ensure that system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

These inspections constituted one complete system walkdown sample 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:

- Pre-Fire Plan (PFP)-RB-716; Pre-Fire Plan Reactor Building EI. 716;
- PFP-RB-786; Pre-Fire Plan Reactor Building EI. 786;
- Area Fire Plan (AFP)-09; RBCCW Heat Exchanger Area, Equipment Hatch Area, and Jungle Room Elevation 812'-0";
- AFP-12; Decay Tank and Condensate Phase Separator Room; and
- AFP-79; Spent Fuel Storage Facility.

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 five routine resident inspector tour samples as defined in IP 71111.05-05.

b. Findings

No findings were identified.

.2 Annual Fire Protection Drill Observation (71111.05A)

a. Inspection Scope

On March 17, 2014, the inspectors observed a fire brigade activation for a simulated fire in the pump house. Based on this observation, the inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies; openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were:

- proper wearing of turnout gear and self-contained breathing apparatus;
- proper use and layout of fire hoses;
- employment of appropriate firefighting techniques;
- sufficient firefighting equipment brought to the scene;
- effectiveness of fire brigade leader communications, command, and control;
- search for victims and propagation of the fire into other plant areas;
- smoke removal operations;
- utilization of pre-planned strategies;
- adherence to the pre-planned drill scenario; and
- drill objectives.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted one annual fire protection drill observation sample as defined in IP 71111.05-05.

b. Findings

No findings were identified.

## 1R06 Flooding (71111.06)

### .1 Internal Flooding

#### a. Inspection Scope

The inspectors reviewed selected risk important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the UFSAR, engineering calculations, and abnormal operating procedures to identify licensee commitments. The specific documents reviewed are listed in the Attachment to this report. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors also reviewed the licensee's corrective action documents with respect to past flood-related items identified in the CAP to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following plant areas to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were operable, and that the licensee complied with its commitments:

- reactor building, with a focus on radioactive waste sump system management.

Documents reviewed during this inspection are listed in the Attachment to this report.

This inspection constituted one internal flooding sample as defined in IP 71111.06-05.

#### b. Findings

No findings were identified.

## 1R07 Annual Heat Sink Performance (71111.07)

### .1 Heat Sink Performance

#### a. Inspection Scope

The inspectors reviewed the licensee's testing of the 'A' Residual Heat Removal (RHR) heat exchanger to verify that potential deficiencies did not mask the licensee's ability to detect degraded performance, to identify any common cause issues that had the potential to increase risk, and to ensure that the licensee was adequately addressing problems that could result in initiating events that would cause an increase in risk. The inspectors reviewed the licensee's observations as compared against acceptance criteria, the correlation of scheduled testing and the frequency of testing, and the impact of instrument inaccuracies on test results. Inspectors also verified that test acceptance criteria considered differences between test conditions, design conditions, and testing conditions. Documents reviewed are listed in the Attachment to this document.

This inspection constituted one annual heat sink performance sample as defined in IP 71111.07-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11)

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

a. Inspection Scope

On February 10, 2014, the inspectors observed crews of licensed operators in the plant's simulator during licensed operator regualification 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 regualification sample as defined in IP 71111.11.

b. Findings

No findings were identified.

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

a. Inspection Scope

On January 31, 2014, through February 1, 2014, the inspectors observed operators in the control room during a planned downpower for a scheduled control rod sequence exchange pattern adjustment, maintenance to replace the CV-1058, Moisture Separator Reheater Scavenging Steam Supply, solenoid, and required quarterly Main Turbine and Bypass Valves surveillance testing. This was an activity that required heightened awareness or was related to increased risk. 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 procedures;
- control board (or equipment) 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.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations

a. Inspection Scope

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

- Reactor Water Cleanup (RWCU) system; and
- SBDG system.

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.

This inspection 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:

- Work Week 1402 Risk: Testing of critical offsite power cables, Abnormal Operating Procedure (AOP) 903, "Severe Weather", entry due to high winds and emergent work associated with primary containment isolation valve (PCIV) indication failure, steam seal valve failure and 4 Kilovolt (kV) emergency transfer under-voltage relay failure;
- Work Week 1405 Risk: 'B' SBDG maintenance;
- Work Week 1406 Risk: 24-month 'B' LPCI Subsystem Simulated Automatic Actuation surveillance test following significant RHR system motor operated valve maintenance, and 'B' 4 kV Emergency Bus Degraded Voltage functional test; and
- Work Week 1410 Risk: RHR maintenance.

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 assessments 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:

- 'B' and 'D' River Water Supply (RWS) pumps differential pressure values remain in the American Society of Mechanical Engineers (ASME) alert range;
- Standby Liquid Control (SBLC) System Leak discovered during pump operability testing;
- 'J' breaker low insulation resistance measurement; and
- 'B' reactor recirculation pump mini-purge PCIV.

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 four 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:

- 'B' reactor recirculation pump mini-purge PCIV monitoring equipment temporary modification.

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 modifications were installed as directed and consistent with the design control documents; the modifications operated as expected; post-modification testing

adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications 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 modification 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:

- Calibration of Reactor Core Isolation Cooling Turbine Tachometer Circuit;
- 'A' Standby Filter Unit testing following planned maintenance to replace charcoal and HEPA filters;
- 'B' SBDG Overspeed trip testing during performance of the planned 24 month inspection maintenance and heat exchanger tube bundle replacement;
- STP 3.8.1-06B; 'B' SBDG Operability Test (Fast Start) following planned maintenance; and
- 'B' ESW system operability testing following planned maintenance to install an engineering change package modification on the 'B' ESW pump motor control circuit.

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 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.

This inspection constituted five post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

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) 3.5.1-05; HPCI System Operability Test; Revision 62 (Routine);
- Surveillance Frequency Control Program review resulting from 125 VDC and 250 VDC missed battery surveillances (Routine);
- STP 3.1.7-01; SBLC Pump Operability Test; Revision 36 (In-service Test);
- Quarterly Main Turbine Surveillance Testing which included:  
(1) STP NS930002; Main Turbine Stop and Combined Intermediate Valves Test; Revision 5; (2) STP 3.3.1.1-13; Turbine Control Valve EOC [End of Cycle] RPT [Recirculation Pump Trip] Logic and RPS [Reactor Protection System] Instrument Functional Test; Revision 15; (3) STP 3.3.1.1-19; Functional Test of TSV Closure Input to RPS and RPT; Revision 15; and (4) STP 3.7.7-01; Bypass Valves Test; Revision 17 (Routine); and
- STP 3.5.1-04; LPCI Subsystem Simulated Automatic Actuation; Revision 11 (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 were 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 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 surveillance testing samples, and one in-service testing sample as defined in IP 71111.22, Sections -02 and -05.

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 a routine licensee emergency drill involving a hostile action based scenario, on March 5, 2014, 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, Emergency Offsite Facility, and the Alternative Technical Support Center, to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the CAP. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

This inspection constituted one emergency preparedness drill observation sample as defined in IP 71114.06-05.

b. Findings

No findings were identified.

**2. RADIATION SAFETY**

**Cornerstone: Occupational and Public Radiation Safety**

2RS8 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation (71124.08)

This inspection constituted one complete sample as defined in IP 71124.08-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the solid radioactive waste system description in the UFSAR, the Process Control Program, and the recent radiological effluent release report for information on the types, amounts, and processing of radioactive waste disposed.

The inspectors reviewed the scope of any quality assurance audits in this area since the last inspection to gain insights into the licensee's performance and inform the "smart sampling" inspection planning.

b. Findings

No findings were identified.

.2 Radioactive Material Storage (02.02)

a. Inspection Scope

The inspectors selected areas where containers of radioactive waste are stored and evaluated, whether the containers were labeled in accordance with 10 CFR 20.1904, "Labeling Containers," or controlled in accordance with 10 CFR 20.1905, "Exemptions to Labeling Requirements," as appropriate.

The inspectors assessed whether the radioactive material storage areas were controlled and posted in accordance with the requirements of 10 CFR Part 20, "Standards for Protection against Radiation." For materials stored or used in the controlled or unrestricted areas, the inspectors evaluated whether they were secured against unauthorized removal and controlled in accordance with 10 CFR 20.1801, "Security of Stored Material," and 10 CFR 20.1802, "Control of Material Not in Storage," as appropriate.

The inspectors evaluated whether the licensee established a process for monitoring the impact of long term storage (e.g., buildup of any gases produced by waste decomposition, chemical reactions, container deformation, loss of container integrity, or re-release of free-flowing water) that was sufficient to identify potential unmonitored, unplanned releases or nonconformance with waste disposal requirements.

The inspectors selected containers of stored radioactive material, and assessed for signs of swelling, leakage, and deformation.

b. Findings

No findings were identified.

.3 Radioactive Waste System Walkdown (02.03)

a. Inspection Scope

The inspectors walked down accessible portions of select radioactive waste processing systems to assess whether the current system configuration and operation agreed with the descriptions in the UFSAR, Offsite Dose Calculation Manual, and Process Control Program.

The inspectors reviewed administrative and/or physical controls (i.e., drainage and isolation of the system from other systems) to assess whether the equipment which is not in service or abandoned in place would not contribute to an unmonitored release path and/or affect operating systems or be a source of unnecessary personnel exposure. The inspectors assessed whether the licensee reviewed the safety significance of systems and equipment abandoned in place in accordance with 10 CFR 50.59, "Changes, Tests, and Experiments."

The inspectors reviewed the adequacy of changes made to the radioactive waste processing systems since the last inspection. The inspectors evaluated whether changes from what is described in the UFSAR were reviewed and documented in accordance with 10 CFR 50.59 as appropriate and to assess the impact on radiation doses to members of the public.

The inspectors selected processes for transferring radioactive waste resin and/or sludge discharges into shipping/disposal containers and assessed whether the waste stream mixing, sampling procedures, and methodology for waste concentration averaging were consistent with the Process Control Program, and provided representative samples of the waste product for the purposes of waste classification as described in 10 CFR 61.55, "Waste Classification."

For those systems that provide tank recirculation, the inspectors evaluated whether the tank recirculation procedures provided sufficient mixing.

The inspectors assessed whether the licensee's Process Control Program correctly described the current methods and procedures for dewatering and waste stabilization (e.g., removal of freestanding liquid).

b. Findings

No findings were identified.

.4 Waste Characterization and Classification (02.04)

a. Inspection Scope

The inspectors selected the following radioactive waste streams for review:

- Condensate Resin;
- Reactor Water Clean-up Resin; and
- Dry Active Waste.

For the waste streams listed above, the inspectors assessed whether the licensee's radiochemical sample analysis results (i.e., "10 CFR Part 61" analysis) were sufficient to support radioactive waste characterization as required by 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste." The inspectors evaluated whether the licensee's use of scaling factors and calculations to account for difficult-to-measure radionuclides was technically sound based on current 10 CFR Part 61 analysis for the selected radioactive waste streams.

The inspectors evaluated whether changes to plant operational parameters were taken into account to: (1) maintain the validity of the waste stream composition data between the annual or biennial sample analysis update; and (2) assure that waste shipments continued to meet the requirements of 10 CFR Part 61 for the waste streams selected above.

The inspectors evaluated whether the licensee established and maintained an adequate Quality Assurance Program to ensure compliance with the waste classification and characterization requirements of 10 CFR 61.55 and 10 CFR 61.56, "Waste Characteristics."

b. Findings

No findings were identified.

.5 Shipment Preparation (02.05)

a. Inspection Scope

The inspectors reviewed shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and licensee verification of shipment readiness. The inspectors assessed whether the requirements of applicable transport cask certificate of compliance had been met. The inspectors evaluated whether the receiving licensee was authorized to receive the shipment packages. The inspectors evaluated whether the licensee's procedures for cask loading and closure procedures were consistent with the vendor's current approved procedures.

Due to limited opportunities for direct observation, the inspectors reviewed the technical instructions presented to workers during routine training. The inspectors assessed whether the licensee's Training Program provided training to personnel responsible for the conduct of radioactive waste processing and radioactive material shipment preparation activities.

b. Findings

No findings were identified.

.6 Shipping Records (02.06)

a. Inspection Scope

The inspectors evaluated whether the shipping documents indicated the proper shipping name; emergency response information and a 24-hour contact telephone number; accurate curie content and volume of material; and appropriate waste classification, transport index, and UN number for the following radioactive shipments:

- 12-11;
- 12-13;
- 12-66; and
- 13-26.

Additionally, the inspectors assessed whether the shipment placarding was consistent with the information in the shipping documentation.

b. Findings

No findings were identified.

.7 Identification and Resolution of Problems (02.07)

a. Inspection Scope

The inspectors assessed whether problems associated with radioactive waste processing, handling, storage, and transportation were being identified by the licensee at an appropriate threshold, were properly characterized, and were properly addressed for resolution in the licensee's CAP. Additionally, the inspectors evaluated whether the corrective actions were appropriate for a selected sample of problems documented by the licensee that involve radioactive waste processing, handling, storage, and transportation.

The inspectors reviewed results of selected audits performed since the last inspection of this program and evaluated the adequacy of the licensee's corrective actions for issues identified during those audits.

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 Unplanned Scrams per 7000 Critical Hours

###### a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams per 7000 Critical Hours performance indicator (PI) for the period from the first quarter, 2013 through the fourth quarter, 2013. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports and NRC Integrated Inspection Reports for the period of January 1, 2013 through December 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 unplanned scrams per 7000 critical hours sample as defined in IP 71151-05.

###### b. Findings

No findings were identified.

##### .2 Unplanned Scrams with Complications

###### a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams with Complications for the period from the first quarter, 2013 through the fourth quarter, 2013. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports and NRC Integrated Inspection Reports for the period of January 1, 2013 through December 31, 2013 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report 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 unplanned scrams with complications sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.3 Unplanned Transients per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Transients per 7000 Critical Hours performance indicator for the period from the first quarter 2013 through the fourth quarter 2013. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports and NRC Integrated Inspection Reports for the period of January 1, 2013 through December 31, 2013 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report 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 unplanned transients per 7000 critical hours 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.

4OA5 Other Activities

The table below provides a cross-reference from the third and fourth quarter 2013 findings and associated cross-cutting aspects to the new cross-cutting aspects resulting from the common language initiative. These aspects and any others identified since January, 2014, will be evaluated for cross-cutting themes and potential substantive cross-cutting issues in accordance with IMC 0305 starting with the 2014 mid-cycle assessment review.

Finding	Old Cross-Cutting Aspect	New Cross-Cutting Aspect
05000331/2013004-01	H.1(a)	H.13
05000331/2013004-02	P.1(b)	P.4
05000331/2013004-03	P.1(c)	P.2
05000331/2013008-01	H.1(b)	H.14
05000331/2013008-02	H.1(b)	H.14
05000331/2013010-01	H.1(b)	H.14

4OA6 Management Meetings

.1 Exit Meeting Summary

On April 17, 2014, the inspectors presented the inspection results to Mr. R. Anderson, Site Vice President, 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 inspection results for the area of radioactive solid waste processing and radioactive material handling, storage, and transportation with Mr. R. Porter, Radiation Protection Manager, on February 7, 2014.

The inspectors confirmed that none of the potential report input discussed was considered proprietary. Proprietary material received during the inspection was returned to the licensee.

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  
M. Davis, Emergency Preparedness and Licensing Manager  
K. Peveler, Nuclear Oversight Manager  
R. Wheaton, Operations Director  
R. Porter, Radiation Protection Manager  
D. Olsen, Chemistry Manager  
J. Schwertfeger, Security Manager  
C. Hill, Training Manager  
B. Murrell, Licensing Engineer Analyst  
L. Swenzinski, Licensing Engineer

#### Nuclear Regulatory Commission

C. Lipa, Chief, Reactor Projects Branch 1  
M. Chawla, Project Manager, NRR

## 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 8  
AOP 903; Severe Weather; Revision 46

### 1R04

OP-AA-102-1003; Guarded Equipment; Revision 4  
OP-AA-102-1003 (DAEC); Guarded Equipment (DAEC Specific Information); Revision 27  
Operating Instruction (OI) 324A1; SBDG 1G-31 System Electrical Lineup; Revision 2  
OI 324A3; SBDG 1G-31 System Valve Lineup and Checklist; Revision 11  
OI 324A7; SBDG 1G-31 System Control Panel Lineup; Revision 5  
OI 324A10; SBDG Standby/Readiness Condition Checklist; Revision 14  
OI 152A2; HPCI System Valve Lineup and Checklist; Revision 17  
OI 152A4; HPCI System Control Panel Lineup; Revision 5  
CR 01928587; HPCI Keepfill Pressure is Abnormally Low  
CR 01933365; PI2280B (HPCI Jockey Oil Pump Discharge Pressure)  
CR 01935090; Bearing Oil Level at the Low Level Indicator  
CR 01941066; After Calibration, Jockey Oil Pump Discharge Pressure Low Out of Spec  
CR 01941304; Outboard Bearing Oil Level  
CR 01942044; Valve Handwheel Nut Missing  
CR 01941729; PI2302 Reading 15 psig Instead of 20 psig  
OI 151A1; Core Spray System Electrical Lineup; Revision 3  
OI 151A4; "B" Core Spray System Valve Lineup and Checklist; Revision 4  
OI 151A6; Core Spray System Control Panel Lineup; Revision 2  
OI 416A1; RHRSW System Electrical Lineup; Revision 6  
OI 416A2; "A" RHRSW System Valve Lineup and Checklist; Revision 11  
OI 416A4; "B" RHRSW System Valve Lineup and Checklist; Revision 11  
OI 416A6; RHRSW System Control Panel Lineup; Revision 5  
OI 151A2; "A" Core Spray System Valve Lineup and Checklist; Revision 6  
OI 435A2; Fuel Pool Cooling System; Revision 6  
OI 513; Fire Protection; Revision 111  
OI 513A2; Fire Protection System Valve Lineup; Revision 20  
OI 513A1; Fire Protection System Electrical Lineup; Revision 8  
AOP 913; Fire; Revision 67

### 1R05

Administrative Control Procedure (ACP) 1203.53; Fire Protection; Revision 18  
ACP 1412.4; Impairments to Fire Protection Systems; Revision 68  
DAEC Fire Plan – Volume 1, Program; Revision 67  
AFP 09; RBCC Heat Exchanger Area, Equipment Hatch Area, and Jungle Room Elevation  
812'-0; Revision 27

AFP 19; Turbine Building South Turbine Building Ground Floor; Revision 25  
CR 01853904; Fire Brigade Communications in Noisy Environments  
CR 01848530; Fire Brigade Members Attending Training at the Training Center  
EN-AA-04; Fire Protection; Revision 1

#### 1R06

AOP 902; Flood; Revision 50  
BECH-M137<1>; P&ID Radwaste Sump System; Revision 36  
BECH-M137<2>; P&ID Radwaste Sump System; Revision 17  
DAEC-PSA-IF-10; Duane Arnold PRA Internal Flood Analysis, Volume 1; Revision 4  
DAEC-PSA-IF-10; Duane Arnold PRA Internal Flood Analysis, Volume 2; Revision 3  
CR 01857146; Check Valve V37-0011 is Stuck Open  
CR 01872940; V37-0028 Froze in Mid Position During Inspection  
CR 01873034; CV-3753 Shows Dual Indication at 1C-147  
CR 01873624; Trend – Health of Station Sump Pumps

#### 1R11

DAEC 50008; Training Program Description; Revision 26  
Training Department Administrative Procedure (TDAP) 1801.3; Simulator Facility Administrative Program; Revision 7  
TDAP 1801.4; Simulator Configuration Management; Revision 19  
TDAP 1839.1; Conduct of Simulator Training; Revision 2  
TDAP 1835; Licensed Operator Requalification Program Examinations; Revision 19  
PDA OPS ESG [Examination Simulator Guide] 162; Revision 0  
CR 01940586; No DEP-PI Observed Monday, February 10<sup>th</sup>, at 7AM  
CR 01940643; Evaluate the Need for a Reactivity SRO During Sequence Exchange  
Reactivity Management Plan; Downpower for Control Rod Sequence Exchange; January 2014  
OP-020; Area Inspections; Revision 26  
TR-AA-230-1007; Conduct of Simulator Training and Evaluation; Revision 1

#### 1R12

CR 01836703; B RWCU Pump Trip  
CR 01836731; Unplanned TRM LCO 3.3.4 for RWCU Pump Trip  
CR 01846562; B Reactor Water Cleanup Pump Trip Due to Robicon Fault  
CR 01846614; A Reactor Water Cleanup Pump Could Not be Started  
CR 01846673; B RWCU Pump 1P250B Tripped  
CR 01846699; 1P250A Failed to Start  
CR 01875586; Multiple Equipment Alarms/Issues During Thunderstorm  
CR 01875587; Loss of 1P250B RWCU Pump During Severe Thunderstorm  
CR 01899230; 1P205A RWCU Pump has a 16 DPM Seal Leak  
CR 01932827; RWCU Pump Trip from Apparent System Perturbation  
CR 01932837; RWCU Trip Causes Unplanned TRM LCO  
WO 40289760; Replace Resistors and Capacitors-RWCU Pump 1P-205A  
Variable Speed Control  
CR 01938186; Review and Repair as Necessary the B RWCU Robicon 1C381

## 1R13

Work Planning Guideline-1; Work Process Guideline; Revision 59  
Work Planning Guideline-2; Online Risk Management Guideline; Revision 64  
OP-AA-104-1007; Online Aggregate Risk; Revision 02  
WM-AA-100; Risk Management Program; Revision 1  
WM-AA-1000; Work Activity Risk Management; Revision 14  
WM-AA-1000 (DAEC); Work Activity Risk Management (DAEC); Revision 1  
WM-AA-100-1000; Work Activity Risk Management; Revision 1  
OP-AA-102-1003; Guarded Equipment; Revision 4  
OP-AA-102-1003 (DAEC); Protected Trains and Guarded Equipment (DAEC Specific Information); Revision 27  
Work Week 1402 Work Activity Risk Management Summary and Weekly Probabilistic Risk Analysis  
WO 40275917; Testing of Critical Cables in MH105  
AOP 903; Severe Weather; Revision 46  
CR 01933122; Steam Seal Header Pressure Failed Upscale When CV1175 Went Full Open  
CR 01933134; CB5550 Control Logic Cable Insulation Degraded Megger Reading  
CR 01933560; Lost Indication on MO1909  
CR 01934040; STP 3.3.8.1-05-B, 4 kV Emergency Transfer Undervoltage Failed  
Work Week 1406 Work Activity Risk Management Summary and Weekly Probabilistic Risk Analysis  
Work Week 1406 Work Activity Risk Management Summary and Weekly Probabilistic Risk Analysis; Revision 2  
Risk Evaluation in Support of Performing STP 3.5.1-04 in Week 6 of 2014; Dated January 28, 2013  
CR 01932127; EOOS [Equipment Out Of Service] Result Over-Conservative for Unavailable RHR Valves  
CR 01939802; Review TS LCO 3.8.1 Required Actions B.3 and B.4 for SROs  
CR 01939810; Water Found in 2A204 'B' RHR Feeder Conduit  
CR 01940258; NRC Question Regarding DAEC TSAS Use During RHR Work  
CR 01932127; EOOS [Equipment Out-Of-Service] Result Over-Conservative for Unavailable RHR Valves  
CR 01939666; 'B' SBDG Lube Oil Cooler Leaked Oil at 2DPM during Confidence Run

## 1R15

EN-AA-203-1001; Operability Determinations/Functionality Assessments; Revision 16  
CR 01831503; CV 4300 T Seal Did Not Inflate Fully Upon Closing Valve  
AOP 255.1; Control Rod Movement/Indication Abnormal; Revision 43  
OI 856.3; Rod Position Information System; Revision 8  
CR 01944745; SBLC System Leak Discovered  
CR 01878056; B-RWS Pump, 1P117B D/P Below the ASME Alert Level  
CR 01878058; D-RWS Pump, 1P117D D/P Below the ASME Alert Level  
CR 01889777; B-RWS 1P117B D/P Below ASME Alert Level  
CR 01899893; 1P117B RWS Pump D/P Below ASME Alert Level  
CR 01913187; Results of Adjustments to CV4901B  
CR 01944745; SBLC System Leak Discovered  
Prompt Operability Determination for CR 01944745; SBLC System Leak Discovered  
BECH-M126; P&ID Standby Liquid Control System; Revision 26

System Description-153; Standby Liquid Control System; Revision 8

1R18

WO 01282163; 1B4206 – Remove Old MCC 1B4206 and Replace Per EC 156061  
EC 156061; 480 V MCC Replacement  
ACE 1918; CAQ – Perform Aggregate Review of ECP 1871 Related CAPs

1R19

ACP 1408.1; Work Order Task(s); Revision 183  
ACP 1410.2; LCO Tracking and Safety Function Determination Program; Revision 32  
Maintenance Directive 024; Post Maintenance Testing Program; Revision 77  
STP 3.5.1-05; HPCI System Operability Test; Revision 58  
STP 3.5.3-02; RCIC System Operability Test; Revision 40  
WO 01337643; 1s203: Calibrate RCIC Turbine Tachometer Circuit  
OI 150; Reactor Core Isolation Cooling System; Revision 76  
APED-E51-009<5>; Elem Diagram RCIC System; Revision 32  
APED-E51-2757-157; RCIC Diagram-Wiring Schematic (48 VDC Tachometer); Revision 1  
WO 40170771; MO2247-O, Lube and Inspect Gear box and Limit Switch  
WO 40176867; MO2318-O; Inspect Lube Gearbox and Limit Switch  
WO 40175686; 1P218-M, Inspect & Perform PI Test  
STP 3.8.1-06B; B Standby Diesel Generator Operability Test (Fast Start); Revision 16  
WO 40184541; 1P229C-M, Change Out Upper Motor Bearing RHR  
CR 01844913; C RHR Motor Oil Reservoir Found Metal Shavings  
WO 40107646; Replace Electrolytic Capacitors  
WO 40168715; MO 2515-O, Lube & Inspect  
WO 40173426; Calibrate TE 2406 (Maintenance Run)  
WO 40172163; FI 2509: Calibrate  
WO 40172161; FIC2509: Replace MPU Board  
WO 40172164; FT2509: Calibrate  
WO 40210633; 1VSFU030A; Replace Activated Carbon (Charcoal)  
CR 01936934; Use of RTV Sealant with 24 hour Cure Time Delays SFU Return  
WM-AA-1002; Critical Maintenance Management; Revision 3  
Equipment-Specific Maintenance Procedure GENERA-F010-01; Fairbanks-Morse, Standby Diesel Generator, 38TD8-1/8; Revision 96  
CR 01938164; B L/O Cooler Floating Head Stud/Nut Installation Issue  
CR 01938469; Question on Technical Specification 3.8.1 by NRC Resident  
CR 01938852; Void on 1E053B1 Channel Head Flange  
OI 324A10; SBDG Standby/Readiness Condition Checklist; Revision 14  
CR 01939105; Unrecognized Technical Specification Time Allowance  
STP NS540002B; B Emergency Service Water Operability Test; Revision 28  
STP NS540003B; B Emergency Service Water Operability Test and Comprehensive Pump Test; Revision 20  
WO 40241095; EC-156057 – 1P099B ESW Pump Control Circuit Appendix R Issue  
CR 01934040; STP 3.3.8.1-05-B, 4 kV Emergency Transfer Undervoltage Failed  
CR 01939266; NRC Question Regarding NOTE in SBDG Fast Start STP

## 1R22

STP 3.5.1-05; HPCI System Operability Test; Revision 62  
STP NS520001; HPCI System Leakage Inspection Walkdown; Revision 21  
CR 01929618; Flows for ESW Needed Adjusting During STP NS540003A  
CR 01930398; Use of Performance Grace for STP 3.5.1-07, HPCI Simulated Automatic Actuation  
ACP 1407.6; Surveillance Frequency Control Program; Revision 0  
ACP 1407.8; Surveillance Test Interval Evaluation Form Instructions; Revision 1  
ACP 1407.9; Engineering Evaluation of Proposed Surveillance Test Interval Changes; Revision 2  
ACP 1407.10; Implementing and Monitoring of Approved Surveillance Frequency Change; Revision 0  
WO 01362568; Perform Discharge Test of Battery 3.8.4-04B 1D2  
WO 01362569; Perform Discharge Test of Battery 1D1  
CR 01948337; Incorrect Battery Surveillance Frequency in TRM  
CR 01948433; Non-Conformance Condition Not Recognized for Battery 1D1  
CR 01948435; Non-Conformance Condition Not Recognized for Battery 1D2  
CR 01948437; Non-Conformance Condition Not Recognized for Battery 1D4  
CR 01948544; Question Concerning Surveillance Frequency for SR 3.7.3.1  
CR 01948549; Surveillance Frequency Missing from Chapter 4 of TRM  
CR 01948550; Documentum References Not as Expected for TRM Chapter 4  
CR 01948552; Documentation of Changes in TRM Chapter 4.0  
STP 3.1.7-01; SBLC Pump Operability Test; Revision 36  
STP NS930002; Main Turbine Stop and Combined Intermediate Valves Test; Revision 5  
STP 3.3.1.1-13; Turbine Control Valve EOC RPT Logic and RPS Instrument Functional Test; Revision 15  
STP 3.3.1.1-19; Functional Test of TSV Closure Input to RPS and RPT; Revision 15  
STP 3.7.7-01; Bypass Valves Test; Revision 17  
STP 3.5.1-04; LPCI Subsystem Simulated Automatic Actuation; Revision 11  
CR 01941259; Improper Placekeeping During LPCI Simulated Auto-Actuation

## 1EP6

AOP 914; Security Events; Revision 54  
Drill Scenario and Controller's Material for EP Dress Rehearsal Drill on March 5, 2014  
DAEC Emergency Plan-Section D; Emergency Classification System; Revision 27  
CR 01945823; 14DRCR: No Shift Communicator Scheduled for EP Drill  
CR 01945833; 14DRCR: Static on the ALL-CALL Phone Challenged Crew/STA  
CR 01945835; 14DRCR: Determine Correct OPS Staffing Response During HAB Event  
CR 01945844; 14DRCR: Notification Time Challenged on ALERT Upgrade  
CR 01945851; 14DRCR: Not Enough Briefs in the Control Room  
CR 01945852; 14DRCR: OSM Did Not Sign NOTE 5 Before Transmission  
CR 01945856; 14DRCR: NOTE 5 Not Officially Signed by OSM for Authorization  
CR 01945864; 14DROSC: Initial/Continuing Training on HAB Scenario Required  
CR 01945867; 14DRORAA: Minimum Staffing Not Achieved  
CR 01945868; 14DRCR: OSM Caught Issues with NOTE 5 During Review  
CR 01945874; 14DRCR: OSM Did Not Ask for OSC/TSC Personnel to Come Back  
CR 01945882; 14DRTSC: On-Shift Chemistry Tech Evacuated Site  
CR 01945894; 14DRTSC: ENS NRC Communicator Location  
CR 01945981; 14DRCR: Simulated Validation Code from 'NRC' Incorrect



CR 01945982; 14DRCR: Declaration of General Emergency and EAL Bases for HG 1.2  
CR 01945983; 14DRCR: GE Classification Earlier Than Expected, DEP-PI Evaluate  
CR 01945988; 14DROSC: Transfer of Command and Control Not Communicated  
CR 01946053; 14DRTSC: Delay in Performing ERDS Link to NRC  
CR 01946058; 14DRTSC: NRC Reporting Requirements for 10 CFR 50.54(x)

#### 2RS8

RP-AA-108-1002; Shipment of Radioactive Material; Revision 2  
RP-AA-108-1003; Radioactive Materials Surveys for Shipment; Revision 1  
RP-AA-108-1004; Packaging Radioactive Materials for Shipment; Revision 0  
RWH 3405.4; Inspection, Handling and Control of High Integrity Containers; Revision 27  
RWH 3405.6; Inspection, Handling and Control of Sealand Containers; Revision 3  
RWH 3406.1; Waste Classification and Characterization; Revision 8  
RWH 3410.1; Process Control Program; Revision 18  
12-005-R; 10 CFR 61 Compliance Data Technical Basis for DAEC Condensate Resin;  
September 24, 2012  
08-001-R; 10 CFR 61 Compliance Data Technical Basis for DAEC Reactor Water Clean-up  
Resin; June 10, 2008  
08-001-R; 10 CFR 61 Compliance Data Technical Basis for DAEC Dry Active Waste;  
August 13, 2013  
Radioactive Material Shipment 12-11; March 16, 2012  
Radioactive Material Shipment 12-13; April 6, 2012  
Radioactive Material Shipment 12-66; November 8, 2012  
Radioactive Material Shipment 13-26; June 25, 2013  
CR 01767251; Repeat/Emergent ISS: Radwaste Processing Capability Reduced  
CR 01907105; Radwaste Operator Discovers Pressurized Torus Grit Drums  
CR 01871307; Radwaste LLRPSF Crane and Platform Scales Need Calibration  
CR 01910594; High Rad Trash Cask Shipment Stopped Due to Bolting Issue  
CR 01917179; Rad Material Label Does Not Match Container Contents

#### 4OA1

NRC PI Data Calculation, Review and Approval; Unplanned Scrams per 7000 Critical Hours;  
Dated First Quarter 2013 through Fourth Quarter 2013  
NRC PI Data Calculation, Review and Approval; Unplanned Scrams with Complications; Dated  
First Quarter 2013 through Fourth Quarter 2013  
NRC PI Data Calculation, Review and Approval; Unplanned Power Changes per 7000 Critical  
Hours; Dated First Quarter 2013 through Fourth Quarter 2013

#### 4OA2

PI-AA-204; Condition Identification and Screening; Revision 24  
PI-AA-100-1007; Apparent Cause Evaluation; Revision 7  
VNDR-12-35; Vessel Specimen Removal Procedure; Revision 0  
WO 40135159; STP NS620002 Nil Ductility Transition Temperature Sample Test  
OP-AA-100-1002; Plant Status Control Program; Revision 1  
AD-AA-100-1006; Procedure and Work Instruction Use and Adherence; Revision 3  
STP 3.3.8.1-05B; 1A4 4KV Emergency Transformer Supply Undervoltage Calibration;  
Revision 2

BECH-E023; Schematic Meter & Relay Diagram 4160 V System Essential SWGR: 1A3 & 1A4;  
Revision 32

BECH-E104<002>; 4160 V & 480 V System Control & Protection; Revision 14

CR 01934040; STP 3.3.8.1-05-B, 4 kV Emergency Transfer Undervoltage Failed

CR 01934040; AR Assignment 1, Past Operability Review

CR 01940605; Relay 127/SB2 Past Operability Review Errors and Omissions

## LIST OF ACRONYMS USED

ACP	Administrative Control Procedure
ADAMS	Agencywide Document Access Management System
AFP	Area Fire Plan
AOP	Abnormal Operating Procedure
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DAEC	Duane Arnold Energy Center
DRP	Division of Reactor Projects
ESW	Emergency Service Water
HPCI	High Pressure Coolant Injection
IMC	Inspection Manual Chapter
IP	Inspection Procedure
kV	KiloVolt
LPCI	Low Pressure Coolant Injection
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
OI	Operating Instruction
OOS	Out-of-service
PARS	Publicly Available Records System
PCIV	Primary Containment Isolation Valve
PFP	Pre-Fire Plan
PI	Performance Indicator
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
RWCU	Reactor Water Cleanup
RWS	River Water Supply
SBGT	Standby Gas Treatment
SBDG	Standby Diesel Generator
SBLC	Standby Liquid Control
STP	Surveillance Test Procedure
TDAP	Training Department Administrative Procedure
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
WO	Work Order

R. Anderson

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Sincerely,

/RA/

Christine Lipa, Chief  
Branch 1  
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