



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

May 1, 2015

Mr. B. Keith Taber  
Vice President - Vogtle  
Southern Nuclear Operating Company, Inc.  
Vogtle Electric Generating Plant  
7821 River Road  
Waynesboro, GA 30830

**SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION  
REPORT 05000424/2015001 AND 05000425/2015001**

Dear Mr. Taber:

On March 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Vogtle Electric Generating Plant Units 1 and 2. On April 30, 2015, the NRC inspectors discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented one finding of very low safety significance (Green) in this report which was also a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a. of the Enforcement Policy. If you contest this NCV, or significance of this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident Inspector at Vogtle.

B. Taber

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

Sincerely,

***/RA/***

Shane Sandal, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Docket Nos.: 05000424, 05000425  
License Nos.: NPF-68 and NPF-81

Enclosures:  
IR 05000424/2015001 and 05000425/2015001  
w/Attachment: Supplemental Information

cc: Distribution via Listserv

B. Taber

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B. Taber

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Letter to B. Keith Taber from Shane Sandal May 1, 2015

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION  
REPORT 05000424/2015001 AND 05000425/2015001

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**U. S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos.: 50-424, 50-425

License Nos.: NPF-68, NPF-81

Report No.: 05000424/2015001 and 05000425/2015001

Licensee: Southern Nuclear Operating Company, Inc. (SNC)

Facility: Vogtle Electric Generating Plant, Units 1 and 2

Location: Waynesboro, GA 30830

Dates: January 1, 2015 through March 31, 2015

Inspectors: L. Cain, Senior Resident Inspector  
A. Alen, Resident Inspector  
D. Mas-Peñaranda, Project Engineer

Approved by: Shane Sandal, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Enclosure

## SUMMARY

IR 05000424/2015-001, 05000425/2015-001; 01/01/2015 - 03/31/2015; Vogtle Electric Generating Plant, Units 1 and 2; Event Follow-up

The report covered a 3-month period of inspection by resident inspectors and a regional inspector. One Green finding is documented in this report. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP) dated June 2, 2011. The cross-cutting aspects are determined using IMC 0310, "Aspects within the Cross-Cutting Areas" dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated January 28, 2013 and revised February 4, 2015. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

### Barrier Integrity Cornerstone

- Green. A self-revealing NCV of TS 5.4.1.a, "Procedures," was identified for the licensee's failure to verify that the total indicated run-out (TIR) for the Unit 2 'B' train containment spray pump was within the limits of procedure 27052-C, Gould 3415 Pump Maintenance Procedure, Ver. 6.0. This violation was entered into the licensee's corrective action program as CR 855892.

The failure to implement maintenance procedure 27052-C was a performance deficiency. The performance deficiency was more than minor because it was associated with the SSC and Barrier Performance attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective in that the failure to verify the 2B CS pump shaft TIR was within the procedural and vendor recommendation limits affected the CS system availability and reliability. The finding to be of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, or heat removal components, and it did not involve a reduction in function of hydrogen igniters in the reactor containment. No cross-cutting aspect was assigned to this finding because the inspectors determined that the cause of the finding was not indicative of current licensee performance. (4OA3)

## REPORT DETAILS

### Summary of Plant Status

Unit 1 remained at or near full rated thermal power (RTP) for the duration of the inspection period.

Unit 2 began the inspection period at or near full RTP. On March 14, 2015, the unit automatically tripped from 100% reactor power due to the loop 3 main steam isolation valve (MSIV) failing closed. The unit was returned to 100 percent power on March 19, 2015, and operated at or near full RTP for the remainder of inspection period.

### 1. REACTOR SAFETY

#### Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

#### 1R01 Adverse Weather Protection (71111.01)

##### a. Inspection Scope

Impending Adverse Weather Conditions: The inspectors reviewed the licensee's preparations to protect risk-significant systems from predicted severe weather conditions of sub-freezing temperatures expected on the week of January 5, 2015. The inspectors evaluated the licensee's implementation of adverse weather preparation procedures and compensatory measures, including operator staffing, before the onset of and during the adverse weather conditions. The inspectors reviewed the licensee's plans to address the ramifications of potentially lasting effects that may result from the sub-freezing temperatures. The inspectors verified that operator actions specified in the licensee's adverse weather procedure maintain readiness of essential systems. The inspectors verified that required surveillances were current, or were scheduled and completed, if practical, before the onset of anticipated adverse weather conditions. The inspectors also verified the licensee implemented periodic equipment walk-downs or other measures to ensure that the condition of plant equipment met operability requirements. Documents reviewed are listed in the Attachment.

##### b. Findings

No findings were identified.

#### 1R04 Equipment Alignment (71111.04)

##### a. Inspection Scope

Partial Walkdown: The inspectors verified that critical portions of following three systems/trains risk-significant systems were correctly aligned. The inspectors determined the correct system lineup by reviewing plant procedures and drawings. The inspectors verified that critical portions of the selected systems were correctly aligned by performing partial walkdowns. Documents reviewed are listed in the Attachment.

- Unit 1 train 'B' high head safety injection (HHSI) system while the train 'A' was out of service (OOS) for planned maintenance
- Unit 1 train 'A' emergency diesel generator (EDG) while the train 'B' EDG was OOS for a jacket water leak repair
- Offsite circuit No. 1 while offsite circuit No. 2 was OOS for emergent repairs of a faulty capacitor voltage transformer

Complete Walkdown: The inspectors verified the alignment of the Unit 1 train B EDG system while the train A EDG was out of service due to a planned maintenance outage (AOT). The inspectors selected this system for assessment because it is a risk-significant mitigating system. The inspectors determined the correct system lineup by reviewing plant procedures, drawings, the updated final safety analysis report, and other documents. In order to identify any deficiencies that could affect the ability of the system to perform its function(s), the inspectors reviewed records related to outstanding design issues and maintenance work requests. The inspectors verified that the selected system was correctly aligned by performing a complete walk down of accessible components.

To verify the licensee was identifying and resolving equipment alignment discrepancies, the inspectors reviewed corrective action documents, including condition reports and outstanding work orders, as well as periodic reports containing information on the status of risk-significant systems, including maintenance rule reports and system health reports. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05AQ)

a. Inspection Scope

Quarterly Inspection

The inspectors evaluated the adequacy of selected fire plans by comparing the fire plans to the defined hazards and defense-in-depth features specified in the fire protection program. In evaluating the fire plans, the inspectors assessed the following items: (1) control of transient combustibles and ignition sources, (2) fire detection systems, (3) water-based fire suppression systems, (4) gaseous fire suppression systems, (5) manual firefighting equipment and capability (6) passive fire protection features, (7) compensatory measures and fire watches, and (8) issues related to fire protection contained in the licensee's corrective action program. The inspectors toured the following five fire areas to assess material condition and operational status of fire protection equipment. Documents reviewed are listed in the Attachment.

- Unit 1 auxiliary building (AB) Level "1", auxiliary component cooling water (ACCW) heat exchanger rooms for "A" and "B" trains, fire zones 49 and 52



- Unit 1 AB level “C”, pipe penetration area and centrifugal charging pump rooms for “A” and “B” trains , fire zones 14B, 19, 20, and 21
- Unit 1 auxiliary feedwater (AFW) pump house, fire zones 155, 156, 157A, and 157B
- Unit 2 EDG building, fire zones 162 and 164
- Unit 1 control building Level “A”, 4.16kV switchgear and remote shutdown rooms, fire zones 91, 92, 97, 98, and 103

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11)

a. Inspection Scope

Resident Inspector Quarterly Review - Licensed Operator Regualification: The inspectors observed a simulator scenario on February 4, 2015, conducted for training of an operating crew in accordance with the licensee’s accredited regualification training program.

The inspectors assessed the following:

- licensed operator performance
- the ability of the licensee to administer the scenario and evaluate the operators
- the quality of the post-scenario critique
- simulator performance

Resident Inspector Quarterly Review - Licensed Operator Performance: The inspectors observed licensed operator performance in the main control room on March 16, 2015, during the performance of a Unit 2 reactor startup.

The inspectors assessed the following:

- use of plant procedures
- control board manipulations
- communications between crew members
- use and interpretation of instruments, indications, and alarms
- use of human error prevention techniques
- documentation of activities
- management and supervision

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)a. Inspection Scope

The inspectors assessed the licensee's treatment of the two issues listed below in order to verify the licensee appropriately addressed equipment problems within the scope of the Maintenance Rule (MR) (10 CFR 50.65). The inspectors reviewed procedures and records in order to evaluate the licensee's identification, assessment, and characterization of the problems as well as their corrective actions for returning the equipment to a satisfactory condition. Documents reviewed are listed in the Attachment. The inspectors also interviewed system engineers and the maintenance rule coordinator to assess the accuracy of performance deficiencies and extent of condition.

- Unit 2 train "B" containment spray pump (CS) failed to start from main control board
- Unit 2 train "A" essential (ESF) chilled water system chiller failure due to relay failure

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)a. Inspection Scope

The inspectors reviewed the five maintenance activities listed below to verify the licensee assessed and managed plant risk as required by 10 CFR 50.65(a)(4) and licensee procedures. The inspectors assessed the adequacy of the licensee's risk assessments and implementation of risk management actions. The inspectors also verified that the licensee was identifying and resolving problems with assessing and managing maintenance-related risk using the corrective action program. Additionally, for maintenance resulting from unforeseen situations, the inspectors assessed the effectiveness of the licensee's planning and control of emergent work activities.

- Unit 1, on January 13-14, 2015, 'YELLOW' equipment out of service (EOOS) risk profile due to planned maintenance on the train 'A' nuclear service cooling water (NSCW) pump #5 motor replacement and unplanned maintenance on the train 'A' EDG
- Unit 1, on January 28, 2015, 'YELLOW' EOOS due to off-normal AC power source alignment with the offsite circuit #2 OOS and NSCW pump #5 OOS
- Unit 1, on February 26-27, 2015, 'GREEN' EOOS due to the "B" EDG being OOS for emergent repairs of the jacket water subsystem
- Unit 1, week of March 9-13, 2015, 'YELLOW' EOOS risk condition associated with the planned extended allowed outage time (AOT) of the Unit 1 "A" EDG
- Unit 1, week of March 16-20, 2015, 'ORANGE' EOOS risk condition associated with the planned extended AOT of the Unit 1 "A" EDG

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors selected the six operability determinations or functionality evaluations listed below for review based on the risk-significance of the associated components and systems. The inspectors reviewed the technical adequacy of the determinations to ensure that technical specification operability was properly justified and the components or systems remained capable of performing their design functions. To verify whether components or systems were operable, the inspectors compared the operability and design criteria in the appropriate sections of the technical specification and updated final safety analysis report to the licensee's evaluations. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment.

- Unit 2, Immediate determination of operability (IDO) for the train "B" EDG due to a jacket water leak coming from the jacket water keep warm pump, CAR 249231
- Unit 2, IDO for the train "A & B" emergency diesel generators (EDG) due to a Part 21 notification for ABB Group KF under frequency relays, CAR 249146
- Unit 1, IDO for the unit 1 containment building grout spalling, CAR 255147
- Unit 1, IDO for an oil leak on the outboard bearing of the motor-drive auxiliary feedwater pump, CAR 256242
- Unit 1, IDO for the train "B" EDG due to a jacket water leak coming from the jacket water connection to the intercooler on the left bank, 249121
- Unit 1, IDO for the train "B" EDG due to air leak on the intake flange of the left intercooler jacket water leak coming from the jacket water connection to the intercooler on the left bank, 249122

b. Findings

No findings were identified.

1R18 Plant Modifications

a. Inspection Scope

The inspectors verified that the plant modification listed below did not affect the safety functions of important safety systems. The inspectors confirmed the modification did not degrade the design bases, licensing bases and performance capability of risk significant

structures, systems and components. The inspectors also verified modifications performed during plant configurations involving increased risk did not place the plant in an unsafe condition. Additionally, the inspectors evaluated whether system operability and availability, configuration control, post-installation test activities, and changes to documents, such as drawings, procedures, and operator training materials, complied with licensee standards and NRC requirements. In addition, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with modifications. Documents reviewed are listed in the Attachment.

- SNC 475956, Unit 2 FLEX Core Cooling, Ver. 2

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the eight maintenance activities listed below to verify the work performed was completed correctly and the test activities were adequate to verify system operability and functional capability. The inspectors evaluated these activities for the following: acceptance criteria were clear and demonstrated operational readiness; effects of testing on the plant were adequately addressed; test instrumentation was appropriate; tests were performed in accordance with approved procedures; equipment was returned to its operational status following testing; and test documentation was properly evaluated. Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with post-maintenance testing. Documents reviewed are listed in the Attachment.

- Maintenance work order (MWO) SNC 617663, Unit 1, Replace gasket and packing and reassemble 1A EDG lube oil heat exchanger, 1/14/15
- MWO SNC 646125, Unit 2, Troubleshoot 'slow to trip' condition of the A train main feed pump during unit power ascension, 3/19/15
- MWO SNC 648025, Unit 1, Investigate and restore safety injection pump B lube oil cooler NSCW flow rates below expected range, 2/28/15
- MWO SNC413627, Unit 2 control building ventilation Agastat relay calibration and replacement, 1/18/15
- MWO SNC420615, Unit 1, A train EDG post-maintenance functional testing, 3/16/15
- MWO SNC551465, B Train NSCW Tower Fan Motor 3 Agastat Relay-Replace/Calibration, 2/24/15
- MWO SNC627708, Unit 2, Investigate/repair air leak at engine control panel, 1/7/15
- MWO SNC642119, 2HV9378, Investigate and repair loss of instrument air to containment, 3/4/15

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the six surveillance tests listed below and either observed the test or reviewed test results to verify testing adequately demonstrated equipment operability and met technical specification and licensee procedural requirements. The inspectors evaluated the test activities to assess for preconditioning of equipment, procedure adherence, and equipment alignment following completion of the surveillance. Additionally, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with surveillance testing. Documents reviewed are listed in the Attachment.

Surveillance Tests

- 14239-2, Ver. 4.1 , auxiliary feedwater (AFW) Pumphouse emergency safeguards feature (ESF) HVAC Test
- 14668A-1 Ver. 8.1, Train A Diesel Generator Operability Test
- 14980B-1 Ver. 26.2, Diesel Generator 1B Operability Test
- 14980B-2 Ver. 25.4, Diesel Generator 2B Operability Test

Reactor Coolant System (RCS) Leak Detection

- 14905-1 Rev. 69, RCS Leakage Calculation (Inventory Balance)

In-Service Tests (IST)

- 14804A-1 Ver. 6, Safety Injection Pump A In-service and Response Time Tests

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed the emergency preparedness drill conducted on February 18, 2015. The inspectors observed licensee activities in the simulator to evaluate implementation of the emergency plan, including event classification, notification, and protective action recommendations. The inspectors evaluated the licensee's performance against criteria established in the licensee's procedures. Additionally, the

inspectors attended the post-exercise critique to assess the licensee's effectiveness in identifying emergency preparedness weaknesses and verified the identified weaknesses were entered in the corrective action program.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors reviewed a sample of the performance indicator (PI) data, submitted by the licensee, for the PIs listed below. The inspectors reviewed plant records compiled between January 1, 2014, and December 31, 2014, to verify the accuracy and completeness of the data reported for the station. The inspectors verified that the PI data complied with guidance contained in Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," and licensee procedures. The inspectors also confirmed the PIs were calculated correctly. In addition, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with PI data. Documents reviewed are listed in the Attachment.

Cornerstone: Initiating Events

- Unplanned Scrams per 7000 Critical Hours
- Unplanned Power Changes per 7000 Critical Hours
- Unplanned Scrams with Complications

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems

.1 Routine Review

The inspectors screened items entered into the licensee's corrective action program in order to identify repetitive equipment failures or specific human performance issues for follow-up. The inspectors reviewed condition reports, attended screening meetings, or accessed the licensee's computerized corrective action database.

.2 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors selected condition reports CR10011430/CAR249447, Unit 1 “A” train EDG oil leak on lube oil heat exchanger head, and CR 10003042, mechanical seal on unit 2 component cooling water (CCW) pump 3 degraded. The inspectors evaluated the following attributes of the licensee’s actions. Documents reviewed are listed in the Attachment.

- complete and accurate identification of the problem in a timely manner
- evaluation and disposition of operability and reportability issues
- consideration of extent of condition, generic implications, common cause, and previous occurrences
- classification and prioritization of the problem
- identification of root and contributing causes of the problem
- identification of any additional condition reports
- completion of corrective actions in a timely manner

b. Findings and Observations

No findings were identified.

4OA3 Event Follow-up

.1 (Closed) Unresolved Item (URI) 05000425/2014004-01, Notice of Enforcement Discretion (NOED) 14-2-03 to allow mechanical seal replacement and testing of the Unit 2 “B” Containment Spray Pump.”

(Closed) Licensee Event Report (LER) 05000425/2014-002-00, Containment Spray Pump Technical Specification Exceeded Upon Enforcement Discretion Approval (NOED 14-2-03)

a. Inspection Scope

In NRC Integrated Inspection Report 05000424, 425/2014004, the inspectors identified a URI for the issuance of NOED 14-2-03. The inspectors reviewed the associated LER, apparent cause determination, and corrective actions to determine if any performance deficiencies contributed to the need for the NOED. Documents reviewed are listed in the Attachment.

b. Findings

Introduction: A Green self-revealing NCV of TS 5.4.1.a, “Procedures,” was identified for the licensee’s failure to verify that the total indicated run-out (TIR) for the Unit 2 ‘B’ train containment spray pump was within the limits of procedure 27052-C, Gould 3415 Pump

Maintenance Procedure, Ver. 6.0. As a result, during pump surveillance the throttle bushing contacted the shaft on the inboard side of the pump that damaged the inboard mechanical seal and rendered the pump inoperable.

Description: On August 20, 2014, the licensee conducted a post-maintenance test (PMT) of the 2B CS pump following routine maintenance and testing. Approximately 30 minutes into the pump run, operators noted overheating and slight smoke coming from the pump's inboard mechanical seal area. The pump was immediately stopped and declared inoperable. Pump disassembly revealed extensive contact between the pump shaft and seal throttle bushing. Also, chipping and blistering on both the internal and external sides of the mechanical seal faces was noted. The licensee determined that the pump failure was not related to the maintenance activities conducted prior to the PMT on August 20, 2014. Instead, the pump failure was determined to be caused by a nonconformance of the pump shaft TIR. The licensee identified that the TIR, at the inboard side of the pump shaft, was outside the vendor recommendation of 0.002 inches (2 mils). The pump had been worked in 2008 (MWO 2081077401) and the shaft TIR was documented to be left at 4 mils which was outside the limits of the pump maintenance procedure 27052-C, Gould 3415 Pump Maintenance Procedure, Ver. 6.0. No bases or justification for accepting this condition was documented by the licensee or identified by the inspectors. The inspectors concluded that the out-of-specification TIR affected the long-term capability of the pump to perform its safety function to limit containment pressure and temperature during postulated accident conditions. The licensee installed new mechanical seals, replaced the pump shaft, and verified the TIR was within procedural limits.

Analysis: The failure to implement maintenance procedure 27052-C for the 2B CS pump was a performance deficiency. The performance deficiency was more than minor because it was associated with the SSC and Barrier Performance attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective in that the failure to verify the 2B CS pump shaft TIR was within the procedural and vendor recommendation limits affected the CS system availability and reliability. The inspectors used IMC 0609, Att. 4, "Initial Characterization of Findings," issued June 19, 2012, for Barrier Integrity Cornerstone, and IMC 0609, App. A, "The Significance Determination Process (SDP) for Findings At-Power," issued June 19, 2012, and determined the finding to be of very low safety significance (Green) because the finding did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation system, or heat removal components, and it did not involve a reduction in function of hydrogen igniters in the reactor containment. No cross-cutting aspect was assigned to this finding because the inspectors determined that the cause of the finding was not indicative of current licensee performance.

Enforcement: Technical Specification 5.4.1.a, "Procedures," required, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix A to Regulatory Guide (RG) 1.33, "Quality Assurance Program Requirements," of February 1978. RG 1.33, Appendix A, Item 9 recommended, in part, that maintenance activities that can affect the performance of safety-related equipment be covered by written procedures. Maintenance procedure



27052-C, Gould 3415 Pump Maintenance Procedure', Ver. 6.0 required the licensee to verify that the TIR did not exceed 2 mils. Contrary to the above, the licensee did not implement procedures for maintenance on safety-related equipment. On June 25, 2008, the licensee failed to verify that the 2B CS pump shaft TIR was within the maintenance procedure limits resulting in pump failure on August 20, 2014. This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy. This violation was entered into the licensee's corrective action program as CR 855892. (NCV 05000425/2015001-02, Failure to Implement Maintenance Procedure for Containment Spray Pump).

#### 4OA5 Other Activities

##### .1 Operation of an Independent Spent Fuel Storage Installation (ISFSI) (60855.1)

###### a. Inspection Scope

The inspectors performed a walkdown of the onsite ISFSI and monitored the activities associated with the dry fuel storage campaign completed as of March 31, 2015. The inspectors reviewed changes made to the ISFSI programs and procedures, including associated 10 CFR 72.48, "Changes, Tests, and Experiments," screens and evaluations to verify that changes made were consistent with the license or certificate of compliance. The inspectors reviewed records and observed the loading activities to verify that the licensee recorded and maintained the location of each fuel assembly placed in the ISFSI. The inspectors also reviewed surveillance records to verify that daily surveillance requirements were performed as required by technical specifications. Documents reviewed are listed in the attachment.

###### b. Findings

No findings were identified.

#### 4OA6 Meetings, Including Exit

##### .1 Exit Meeting

On April 30, 2015, the resident inspectors presented the inspection results to Mr. B. Keith Taber and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee personnel:

C. Nesbitt, Training Manager  
R. Collins, Chemistry Manager  
A. Vineyard, Performance Improvement Supervisor  
G. Saxon, Plant Manager  
T. Baker, Security Manager  
M. Johnson, Radiation Protection Manager  
J. Klecha, Operations Director  
K. Taber, Site Vice-President  
D. Myers, Maintenance Director  
D. Sutton, Site Projects Director  
F. Pournia, Site Engineering Director

### **LIST OF REPORT ITEMS**

#### Open and Closed

NCV 05000425/2015001-02, Failure to Implement Maintenance Procedure for Containment Spray Pump (4OA3)

#### Closed

URI 05000425/2014004-01, Notice of Enforcement Discretion (NOED) 14-2-03 to allow mechanical seal replacement and testing of the Unit 2 "B" Containment Spray Pump."(4OA3)

LER 05000425/2014-002-00, Containment Spray Pump Technical Specification Exceeded Upon Enforcement Discretion Approval (NOED 14-2-03) (4OA3)

### **LIST OF DOCUMENTS REVIEWED**

#### **Section 1R01: Adverse Weather Protection**

##### Procedures

11877-1, Cold Weather Checklist, completed 1/8/15 and 1/9/15

11877-2, Cold Weather Checklist, completed 1/8/15 and 1/9/15

#### **Section 1R04: Equipment Alignment**

##### Procedures

11006-1, Chemical and Volume Control System Alignment, Ver. 38.3

11145-1, Rev 15.1, Diesel Generator Alignment

11146-1 Rev. 7.1, Diesel Generator Fuel Oil Transfer System Alignment

14980A-1, Rev. 26.3, Diesel Generator 1A Operability Test

#### Completed Procedures

14230-2, Offsite AC Circuit Verification and Capacity/Capability Evaluation, completed on 1/28/15

Drawings

1X4DB116-2, Ver. 37 P&ID Chemical and Volume Control System, System Number 1208  
 1X4DB170-1 Rev. 46.0, P&I Diagram Diesel Generator System Train A – System No. 2403  
 1X4DB170-2 Rev. 46.0, P&I Diagram Diesel Generator System Train B – System No. 2403

**Section 1R05: Fire Protection**Procedures

29100-C, Portable Fire Extinguishers and Fire Hose Stations Visual Inspection, Version 62.11  
 92040-C, Fire Protection Operability and LCO Requirements, LCO Number 1-15-027,  
 Completed 2/23/15  
 927149-1, Zone 49 Auxiliary Building Level 1 Fire Fighting Preplan, Rev. 3.0  
 92714B-1, Zone 14B Auxiliary Building – Level C Fire Fighting Preplan, Rev. 2.2  
 927152-1, Zone 52 Auxiliary Building Level 1 Fire Fighting Preplan, Rev. 2.0  
 92719-1, Zone 19 Auxiliary Building CVCS Centrifugal Charging Pump Rooms Fire Fighting  
 Preplan, Rev. 4.1  
 92720-1, Zone 20 Auxiliary Building CVCS Pump Room Train A Fire Fighting Preplan, Rev. 4.1  
 92721-1, Zone 21 Auxiliary Building CVCS NCP Room Fire Fighting Preplan, Rev. 5.1  
 92791-1 Rev. 4.1, Zone 91 – Control Building – Level A Fire Fighting Preplan  
 92792-1 Rev. 3.1, Zone 92 – Control Building – Level A Fire Fighting Preplan  
 92797-1 Rev. 3.0, Zone 97 – Control Building – Level A Fire Fighting Preplan  
 92798-1 Rev. 3.0, Zone 98 – Control Building – Level A Fire Fighting Preplan  
 92803-1 Rev. 2.1, Zone 103 – Control Building – Level A Fire Fighting Preplan  
 92855-1 Rev. 2.2, Zone 155 – Auxiliary Feedwater Pumphouse – Train B Fire Fighting Preplan  
 92856-1 Rev. 3.1, Zone 156 – Auxiliary Feedwater Pumphouse – Train A Fire Fighting Preplan  
 92857A-1 Rev. 2.2, Zone 157A – Auxiliary Feedwater Pumphouse – Train C Fire Fighting  
 Preplan  
 92857B-1 Rev. 1.2, Zone 157B – Auxiliary Feedwater Pumphouse Fire Fighting Preplan  
 92861-2 Rev. 1.1, Zone 161 – Diesel Generator Building Fire Fighting Preplan  
 92863-2 Rev. 0.2, Zone 163 – Diesel Generator Building – Train A DFO Day Tank Fire Fighting  
 Preplan

Condition Reports

10020961, Spanner wrench missing from fire hose cabinet  
 10030410, Zone 52 Detector #3 is Going Bad  
 10030945, Lighting Cord in Contact with Sprinkler Head

**Section 1R11: Licensed Operator Regualification Program**Other Documents

V-RQ-SE-15103 Ver. 1.1, As-Left Evaluation – Steam Generator Tube Rupture Event with a  
 Faulted Steam Generator Condition

**Section 1R12: Maintenance Rule Effectiveness**Procedures

27720-C, Ver. 31, 4.16kV/13.8 kV Switchgear Cubicle Maintenance

Other Documents

NUMARC93-01, Rev. 4A Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants  
 SEV-2874, Plant Response to: IN 2002-04, "Wire Degradation at Breaker Cubicle Door Hinges," June 28, 2002  
 CARs177825, 212916, 249555  
 CRs10009618, 10009618, 10009629, 10009629, 10009988, 10012314, 10022428, CR134963, 135127, 620910, 874414

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**Other Records

EOOS risk profile for January 28, 2015.  
 EOOS risk profile for the week of 1/13-14/15  
 EOOS risk profile of for the week of 2/27/15

**Section 1R15: Operability Evaluations**

NMP-AD-012, Ver. 12.4, Operability Determination and Functionality Assessment  
 NMP-AD-012-GL01, Ver. 5.0, Prompt Determination of Operability Guideline  
 CARs 249146, 255147, 249146, 249231, 256242, 249122  
 CRs 10006680, 10006680, 10008234, 10009013, 10028538, 10046270, 10046270, 10005744

Other Records

AX4AK01-00509, Ver. 22, Standby Diesel Generator Diesel instruction Manual Volume I  
 Part 21 Report No. 2014-90-00, Part 21 Notification of Potential Defect Regarding KF Relay  
 ZPA Rating, 12/17/14

Procedures

11882-2, Ver. 80, Outside Area Rounds Sheet  
 17038-2 Ver. 32, Annunciator Response Procedure for ALB 38 on EAB Panel

Drawings

2X4DB170-2, Ver. 42.2 P&I Diagram, Diesel Generator System 'Train B,' System No. 2403

**Section 1R18: Plant Modifications**Work Orders

SNC394731, 1302 Train C TDAFW Pump Auto Start Full Flow Test – 18 Months  
 SNC505790, 1302 PERF TDAFW/RTT and Manual Initiation – 18 Months  
 SNC587286, U2 SAM Functional Test for FLEX Core Cooling MDAFW Piping Mod  
 SNC587287, U2 SAM Functional Test for FLEX Core Cooling TDAFW Piping Mod

CR 869763, Unacceptable Weld, 9/22/2014

Drawings

475956M002, P&I Diagram Auxiliary Feedwater System, System Number 1302, Ver. 1  
 475956M003, AFW System Fabrication Isometric, AFW Pump House, Area 8C, Ver. 1  
 475956M004, AFW System Fabrication Isometric, AFW Pump House, Area 8C, Ver. 2

**Section 1R19: Post Maintenance Testing****Procedures**

14850-2, Rev. 48, Cold Shutdown Valve Inservice Test  
 14980B-2, Diesel Generator 2B Operability Test, Attachment 1, Inspecting The Control Air System following Maintenance that Isolates and Restores the Control Air System, Completed 1/6/15  
 23290-C, Agastat Series 2100 and 7000 Timing Relay Calibration, Ver. 34.3  
 14980A, 1A Diesel Generator Operability Test, completed on 1/14/2015  
 83308-C, Ver. 31.3 Testing pf Safety-Related NSCW System Coolers  
 NMP-MA-14-001, Ver. 3.0, Post Maintenance Testing Guidance

**Drawings**

1X3D-BD-K03G, Elementary Diagram Nuclear Service Cooling Water System 1-1202-W4-002-M03, Ver. 14  
 2X4AA12-00233, SGFPT Controls Diagram 200psig Control System, Ver. 2  
 2X4AA12-00235, SGFPT Controls Diagram Trip System, Ver. 2  
 AX4AJ04-00104, Ver. 4.0, Cooled Motor Hot Gas By-pass P&ID  
 AX4AJ04-00139, Ver. 8.0, Emergency Safety Feature Chiller Line Diagram, Sheet 3  
 AX4AJ04-00140, Ver. 7.0, Emergency Safety Feature Chiller Line Diagram, Sheet 2

**Work Orders**

SNC413627, Unit 2 control building Agastat relay calibration and replacement  
 SNC420615, Unit 1, A train EDG post maintenance functional testing  
 SNC551465, B Train NSCW TWR Fan Motor 3 Agastat Relay-Replace/Calibration  
 SNC617663, Repair lube oil leak on 1A EDG lube oil cooler  
 SNC629718, Investigate and repair 2A ESF chiller cycling on low evaporator water temperature  
 SNC642119, 2HV9378, Investigate loss of instrument air to containment  
 SNC648025, SI pump B lube oil cooler measured flow below expected range

**Other Records**

LCO/TR Number 1-2015-023  
 LCO/TR Number 2-2015-029  
 Unit 2 Control Room operator logs for 3/18-19/15  
 Unit 2 Engineering Support logs for 3/18-19/15  
 Unit 2 operator logs for 3/4/15  
 CRs10001627, 10007682, 10011433, 10033287, R10035386, 10041979, 10043197

**Section 1R22: Surveillance Testing****Procedures**

14905-1 Rev. 69, RCS Leakage Calculation (Inventory Balance), Completed 3/11/15  
 14804A-1 Rev. 6, SI Pump A Inservice and Response Time Tests, Completed 1/15/15  
 14239-2, Ver. 4.1, AFW Pumphouse ESF HVAC Test, Completed 2/28/15  
 11885B-2, Diesel Generator 2B Operating Log, Completed 1/6/15  
 14980B-2, Diesel Generator 2B Operability Test, Completed 1/6/15  
 11885B-1, Diesel Generator 1B Operating Log, Completed 2/23/15  
 14980B-1, Diesel Generator 1B Operability Test, Completed 2/23/15  
 14668A-1 Ver. 8.1, Train A Diesel Generator Operability Test, Completed 3/20/15

Work Orders

SNC 432351, 36M-Cal, AFWB HVAC, MDAFW Pump B Room Supply Fan 2, Temp Switch, 2/28/15

SNC 555323, AFW ESF HVAC – 'B' Train 19-Month, 2/28/15

SNC584415, Unit 2, Monthly (Train B) diesel generator operability test, 1/6/15

SNC595614, Unit 1, Monthly (Train B) diesel generator operability test, 2/23/15

Other Records

1X6AG02-00016 Ver. 13.0, Instruction Manual for Pacific Pumps Safety Injection Pumps

Diagrams

1X4DB121, Ver. 42.0 P&I Diagram Safety Injection System, System No. 1204

**Section 40A1: Performance Indicator (PI) Verification**

Procedures

00163-C, Rev. 14.6, NRC Performance Indicator and Monthly Operating Report Preparation and Submittal

**Section 4OA2: Identification and Resolution of Problems**

CAR 249447, Apparent Cause for oil leak on the 1A EDG lube oil heat exchanger

CR10011430, 10024658, 10027486, 883051

TE911252, Perform monthly post-run torque inspection

TE911253, Revise GEN-95-Chapter-28 to provide additional detail on heat exchanger head installation

1X4AK01-00346, Lube Oil Cooler Drawing

Chapter 28, Ver. 6.0, Diesel Generator Surveillance Manual – GEN-95 Lube Oil Heat Exchanger

**Section 4OA3: Event Follow-up**

27052-C, Ver. 8.5, Gould 3415 Pump Maintenance

CAR212674, CR 2008106941

MWOs 2081077401, SNCEMP2014-027W02

**Section 4OA5: Other Activities (ISFSI)****Completed Procedures**

NMP-RE-004, Irradiated Fuel Assembly/Insert Component Visual Inspection, Completed 3/11/15 for MPC No. 343

93665-C, Dry Cask Loading Verification, Completed 3/11/15 for MPC No. 343

**Procedures**

93722-C, Ver. 2, Forced Helium Dehydration

**Other Documents**

Holtec International, "Holtec International Final Safety Analysis Report for the HI-STORM 100 Cask System" February 13, 2010 (Rev. 9)

Holtec International, Component Completion Record (CCR) for HI-STORM 824, 9/30/2014

Holtec International, Component Completion Record (CCR) for MPC 343, 8/29/2014

VEGP Independent Spent Fuel Storage Installation 10CFR 72.212 Report, 1/1/2015 (Ver. 2)