



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

January 24, 2017

Ernest J. Kapopoulos, Jr.
Site Vice President
H. B. Robinson Steam Electric Plant
Duke Energy
3581 West Entrance Road, RNPA01
Hartsville, SC 29550

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT – NRC INTEGRATED INSPECTION
REPORT 05000261/2016004

Dear Mr. Kapopoulos:

On December 31, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your H. B. Robinson Steam Electric Plant, Unit 2. On January 11, 2017, the NRC inspectors discussed the results of this inspection with you and members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

The NRC inspectors did not identify any finding or violation of more than minor significance.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Steven D. Rose, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Docket No.: 50-261
License No.: DPR-23

Enclosure:
Inspection Report 05000261/2016004
w/Attachment: Supplemental Information

cc w/ encl: Distribution via Listserv

DISTRIBUTION:
See next page

Ernest J. Kapopoulos, Jr.
 Site Vice President
 H. B. Robinson Steam Electric Plant
 Duke Energy
 3581 West Entrance Road, RNPA01
 Hartsville, SC 29550

SUBJECT: H.B. ROBINSON STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION
 REPORT 05000261/2016004

Dear Mr. Kapopoulos:

On December 31, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your H. B. Robinson Steam Electric Plant, Unit 2. On January 11, 2017, the NRC inspectors discussed the results of this inspection with you and members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

The NRC inspectors did not identify any finding or violation of more than minor significance.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Steven D. Rose, Chief
 Reactor Projects Branch 4
 Division of Reactor Projects

Docket No.: 50-261
 License No.: DPR-23

Enclosure:
 Inspection Report 05000261/2016004
 w/Attachment: Supplemental Information

cc w/ encl: Distribution via Listserv

DISTRIBUTION:
 See next page

DOCUMENT NAME: G:\DRPI\RPB4\ROBINSON\REPORTS\2016 Reports\ROB IR 16-04
 ADAMS ACCESSION NUMBER: ML17024A305

x SUNSI Review Complete By: Steven D. Rose		ADAMS X Yes <input type="checkbox"/> No		X Publicly Available <input type="checkbox"/> Non-Publicly Available		X Non-Sensitive <input type="checkbox"/> Sensitive		Keyword: SUNSI review complete	
OFFICE	RII/DRP	RII/DRP	RII/DRS	RII/DRP	RII/DRP				
NAME	JZeiler	ABeasten	MBates	JDodson	SRose				
SIGNATURE	JXZ via email	AEB2 via email	MAB7 via email	JSD	SDR2				
DATE	1/12/2017	1/12/2017	1/20/2017	1/12/2017	1/24/2017				

OFFICIAL RECORD COPY

E. Kapopoulos, Jr

2

Letter to Ernest J. Kapopoulos, Jr. from Steven D. Rose dated January 24, 2017

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT – NRC INTEGRATED INSPECTION
REPORT 05000261/2016004

DISTRIBUTION:

M. Kowal, RII

S. Price, RII

OE MAIL

RIDSNRRDIRS

PUBLIC

RIDSNrrPMRobinson Resource

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-261

License Nos.: DPR-23

Report No.: 05000261/2016004

Licensee: Duke Energy Progress, Inc.

Facility: H. B. Robinson Steam Electric Plant, Unit 2

Location: 3581 West Entrance Road
Hartsville, SC 29550

Dates: October 1, 2016 through December 31, 2016

Inspectors: J. Zeiler, Acting Senior Resident Inspector
A. Beasten, Resident Inspector
M. Bates, Senior Operations Engineer (Section 1R11.3)

Approved by: Steven D. Rose, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Enclosure

SUMMARY

Integrated Inspection Report 05000261/2016004, October 1, 2016, through December 31, 2016; Duke Energy Progress, Inc., H. B. Robinson Steam Electric Plant, Unit 2, Integrated Inspection Report.

The report covered a 3-month period of inspection by resident inspectors and a regional inspector. 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 April 29, 2015. 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 August 1, 2016. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6.

No findings were identified.

REPORT DETAILS

Summary of Plant Status

The unit began the inspection period at 100 percent rated thermal power (RTP). On October 8, 2016, an automatic reactor trip occurred as a result of a momentary loss of off-site power (LOOP) due to an offsite grid disturbance during Hurricane Matthew. The unit was returned to 100 percent RTP on October 12, 2016, and remained at essentially full power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 2 samples)

a. Inspection Scope

.1 Impending Adverse Weather Conditions

The inspectors reviewed the licensee's preparations to protect risk-significant systems from Hurricane Matthew expected on October 8, 2016. 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 adverse weather conditions. 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 that the licensee implemented periodic equipment walkdowns or other measures to ensure that the condition of plant equipment met operability requirements. Documents reviewed are listed in the Attachment.

.2 Seasonal Extreme Weather Conditions

The inspectors conducted a detailed review of the station's adverse weather procedures written for the preparation of extreme low temperatures. The inspectors verified that weather-related equipment deficiencies identified during the previous year had been placed into the work control process and/or corrected before the onset of seasonal extremes. The inspectors evaluated the licensee's implementation of adverse weather preparation procedures and compensatory measures before the onset of and during seasonal extreme weather conditions. Documents reviewed are listed in the Attachment. The inspectors evaluated the following risk-significant systems:

- Service water intake area including service water pumps, fire water pumps, and condenser circulating water pumps
- Diesel generator for emergency operations facility (EOF), technical support center (TSC), and security systems

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04 – 3 samples)

a. Inspection Scope

Partial Walkdown

The inspectors verified that critical portions of the selected systems were correctly aligned by performing partial walkdowns. The inspectors selected systems for assessment because they were a redundant or backup system or train, were important for mitigating risk for the current plant conditions, had been recently realigned, or were a single-train system. The inspectors determined the correct system lineup by reviewing plant procedures and drawings. Documents reviewed are listed in the Attachment.

The inspectors selected the following systems or trains to inspect:

- Safety injection (SI) pump 'B' while SI pump 'A' was out of service for scheduled preventive maintenance
- Charging pump 'A' and 'B' while charging pump 'C' was out of service for scheduled pump drive unit repairs
- Emergency diesel generator (EDG) 'A' while EDG 'B' was out of service for scheduled 24-month inspection and maintenance activities

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05Q – 4 samples)

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:

- control of transient combustibles and ignition sources
- fire detection systems
- water-based fire suppression systems
- gaseous fire suppression systems
- manual firefighting equipment and capability
- passive fire protection features
- compensatory measures and fire watches
- issues related to fire protection contained in the licensee's corrective action program

The inspectors toured the following four fire areas to assess material condition and operational status of fire protection equipment. Documents reviewed are listed in the Attachment.

- Dedicated shutdown diesel generator enclosure, fire zone 25D
- SI pump room, fire zone 3
- Spent fuel pool area, fire zone 28A
- EDG 'A' room, fire zone 2

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11 – 2Q & 1A samples)

a. Inspection Scope

.1 Resident Inspector Quarterly Review of Licensed Operator Requalification

On November 15, 2016, the inspectors observed an evaluated simulator scenario administered to an operating crew conducted in accordance with the licensee's accredited requalification training program. The scenario evaluated the operator's ability to respond to a loss of residual heat removal (RHR) core cooling due to a LOOP event while the unit was shutdown in Mode 5.

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

Documents reviewed are listed in the attachment.

.2 Resident Inspector Quarterly Review of Licensed Operator Performance in the Actual Plant/Main Control Room

On October 10, 2016, the inspectors observed licensed operator performance in the main control room during a reactor restart from a LOOP event. 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.

.3 Annual Review of Licensee Requalification Examination Results

On April 1, 2016, the licensee completed the annual requalification operating examinations required to be administered to all licensed operators in accordance with Title 10 of the Code of Federal Regulations (CFR) 55.59(a)(2), "Requalification Requirements," of the NRC's "Operator's Licenses." The inspectors performed an in-office review of the overall pass/fail results of the individual operating examinations and the crew simulator operating examinations in accordance with Inspection Procedure (IP) 71111.11, "Licensed Operator Requalification Program." These results were compared to the thresholds established in Section 3.02, "Requalification Examination Results," of IP 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12 – 2 samples)

a. Inspection Scope

The inspectors assessed the licensee's treatment of the issues listed below to verify the licensee appropriately addressed equipment problems within the scope of the maintenance rule (10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants"). The inspectors reviewed procedures and records 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. In addition, the inspectors performed a review of quality control to ensure licensee was in compliance with their Quality Assurance Program requirements. Documents reviewed are listed in the Attachment.

- Condition Report (CR) 02057190, RHR pump 'A' excessive pump seal leakage
- CR 02063189, charging pump 'C' failed to start due to Gyrol drive unit loss of prime (including quality control review of replacement Gyrol drive internal check valve)

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 4 samples)

a. Inspection Scope

The inspectors reviewed the maintenance activities listed below to verify that 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. Documents reviewed are listed in the Attachment.

- October 18, 2016, scheduled reactor protection and engineered safety feature actuation system (ESFAS) Train 'B' logic testing
- November 8, 2016, scheduled valve maintenance in motor driven auxiliary feedwater pump (MDAFW) 'B' flow path
- November 14-19, 2016, scheduled 24-month inspection and maintenance on EDG 'B', along with heavy load lifts in the turbine crane bay on November 18 – 19, 2016
- December 13, 2016, scheduled steam driven auxiliary feedwater (SDAFW) pump steam supply valve operator inspection/testing

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 2 samples)

a. Inspection Scope

.1 Operability and Functionality Review

The inspectors selected the operability determination listed below for review based on the risk-significance of the associated components and systems. The inspectors reviewed the technical adequacy of the determination to ensure that Technical Specification (TS) 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 TS and updated final safety analysis report to the licensee's evaluation. 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.

- CR 02067661, Power light on steam dump controller module TC-408E was not illuminated as expected

.2 Operator Work-Around Review

The inspectors performed a detailed review of the licensee's operator work-around, operator burden, and control room deficiency lists for the station in effect on December 15, 2016, to verify that the licensee identified operator workarounds at an appropriate threshold and entered them in the corrective action program. The inspectors verified that the licensee identified the full extent of issues, performed appropriate evaluations, and planned appropriate corrective actions. The inspectors reviewed compensatory actions and their cumulative effects on plant operation. The inspectors also attended a licensee quarterly aggregate operator impact assessment team meeting to ensure the licensee was evaluating potential operator challenge issues, appropriately characterizing, and prioritizing the issues. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 1 sample)

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 (SSCs). The inspectors also verified that the risk profile of the plant configuration during implementation of the modification 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.

- Engineering Change (EC) 405956, Replacement of charging pump 'C' Gyrol drive oil pump inlet check valve

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 6 samples)a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the 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.

- Work Order (WO) 20077605, OST-352-1, containment spray pump 'A' post maintenance testing following scheduled preventive maintenance
- WO 20115561, Special work order instructions for service water pump 'A' post maintenance testing following blackout safeguards relay replacement
- WO 20112048, OST-101-3, charging pump 'C' post maintenance testing following Gyrol drive internal check valve replacement
- WO 20043327, OST-252-2, RHR pump 'B' post maintenance testing following scheduled alarm relay replacement
- WO 13545653, OP-604 and OST-409-2, EDG 'B' post maintenance testing following scheduled 24 month preventive maintenance activities
- WO 20097869, OST-151-3 and OST-155-3, SI pump 'C' post maintenance testing following scheduled preventive maintenance

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
- 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.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 3 samples)a. Inspection Scope

The inspectors reviewed the surveillance tests listed below and either observed the test or reviewed test results to verify testing activities adequately demonstrated that the affected SSCs remained capable of performing the intended safety functions (under

conditions as close as practical to design bases conditions or as required by technical specifications) and maintained their operational readiness.

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.

Routine Surveillance Tests

- MST-023, Safeguard Relay Rack Train 'B', Rev. 22
- OST-409-2, EDG 'B' Fast Speed Start, Rev. 64

In-Service Tests (IST)

- OST-201-2, MDAFW System Component Test – Train 'B', Rev. 33

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 – 1 sample)

a. Inspection Scope

The inspectors reviewed a sample of the performance indicator (PI) data, submitted by the licensee, for the Unit 2 PI listed below. The inspectors reviewed plant records compiled between October 1, 2015, and September 30, 2016, 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 verified the accuracy of reported data that were used to calculate the value of each PI. 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: Mitigating Systems

- high pressure injection system

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 2 samples)

.1 Routine Review

The inspectors screened items entered into the licensee's corrective action program to identify repetitive equipment failures or specific human performance issues for followup. The inspectors reviewed CRs, attended screening meetings, or accessed the licensee's computerized corrective action database.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors reviewed issues entered in the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues and human performance trends, but also considered the results of inspector daily condition report screenings, licensee trending efforts, and licensee human performance results. The review nominally considered the 6-month period of July 2016 through December 2016, although some examples extended beyond those dates when the scope of the trend warranted. The inspectors compared their results with the licensee's analysis of trends. Additionally, the inspectors reviewed the adequacy of corrective actions associated with a sample of the issues identified in the licensee's trend reports. The inspectors also reviewed corrective action documents that were processed by the licensee to identify potential adverse trends in the condition of SSCs as evidenced by acceptance of long-standing non-conforming or degraded conditions. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.3 Annual Followup of Selected Issues

a. Inspection Scope

The inspectors conducted a detailed review of CR 02063189, Charging pump 'C' failure to rotate with demand at 70 percent due to loss of Gyrol drive unit oil prime.

The inspectors evaluated the following attributes of the licensee's actions:

- 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

Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153 - 3 samples)

.1 Declaration of a Notice of Unusual Event Due to LOOP during Hurricane Matthew

a. Inspection Scope

The inspectors reviewed the licensee's actions associated with the events that occurred on October 8, 2016, associated with the licensee's declaration of a Notice of Unusual Event (NOUE) following a momentary LOOP as a result of severe voltage drop on the offsite transmission grid due to adverse weather conditions associated with Hurricane Matthew. As a result of the LOOP, an automatic reactor trip occurred, the auxiliary feedwater pumps automatically started due to loss of power to the motor driven main feedwater pumps, and both EDGs automatically started and provided power to the vital buses. The NOUE was terminated once the transmission grid was determined to be reliable and power to the vital buses was transferred from the EDGs to offsite power. The cause of the LOOP was subsequently determined to be caused by a failed relay in the plant switchyard which prevented the grid fault from being isolated. The inspectors responded to the TSC and evaluated the status of mitigating systems and fission product barriers, equipment and personnel performance, and plant management decisions to assist NRC management in making an informed evaluation of plant conditions. As appropriate, the inspectors conducted the following actions during the evolutions:

- evaluated plant parameters and status, including assessment of mitigating system and components required to maintain the plant in a safe configuration and in accordance with TS requirements
- evaluated whether alarms/conditions preceding and following the event were as expected
- evaluated the proper performance of plant systems and components
- evaluated the appropriateness of operator actions and whether emergency procedures were followed
- confirmed proper NRC classification and reporting of the event

b. Findings

No findings were identified.

.2 (Closed) Licensee Event Report (LER) 2016-003-00, Failure of Lake Robinson Tainter Gates to Fully Open During Performance of Functionality Testing

On August 11, 2016, the licensee determined that the failure of the two Lake Robinson Tainter Gates to fully open during functional testing on June 6, 2016, and July 7, 2016, represented an unanalyzed condition that significantly degraded the plant's ability to cope with the worst case design basis external site flooding events. Corrosion buildup on the lift gate chains caused the lift gates to become bound preventing full travel. Both Tainter Gates were subsequently repaired, tested, and restored to their original licensing basis design function. The licensee determined that the root cause of the event was the failure to recognize the safety risks associated with not maintaining the equipment commensurate with its safety significance for site flooding protection. The inspectors reviewed the LER described above, the associated root cause report (CR 02043826), and discussed the issue with licensee staff. The inspectors previously identified that the licensee had failed to scope the external flood protection function of the Tainter Gates in the Maintenance Rule monitoring program resulting in ineffective Tainter Gate maintenance and testing being performed. The enforcement aspects of this violation are documented in Section 1R12 of NRC IR 05000261/2016003. This LER is closed.

.3 (Closed) LER 2016-004-00, Reactor Trip During the Performance of a Visual Inspection of the Main Turbine Trip Block

On August 24, 2016, with the plant at 100 percent power, Unit 2 experienced a turbine trip followed by an automatic reactor trip during the performance of a visual inspection of the Main Turbine Trip Block. During removal of the cover, the turbine trip mechanism lever was contacted causing an automatic turbine/reactor trip. There was no procedural guidance directing the removal of the cover or potential manipulation of the turbine trip block lever. Formal risk assessment was not performed and mitigation capabilities were not integrated into the visual inspection activities. The licensee took immediate corrective actions to reemphasize the need to enter all applicable types of work activities into the work management process and to conduct formal risk assessments in accordance with the risk management program. Training and communication plans were developed to reinforce the use of risk recognition in the decision making process for non-intrusive evolutions, data gathering activities, and visual inspections. The enforcement aspects of this LER were documented in Section 1R13 of NRC IR 05000261/2016003. This LER is closed.

4OA6 Meetings, Including Exit

On January 11, 2017, the resident inspectors presented the inspection results to Mr. Kapopoulos and other members of the licensee's staff. The inspectors confirmed that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

F. Giannone, Training Manager
T. Giese, Manager, Operations Training
D. Hall, Nuclear Oversight Manager
S. Hall, Acting Radiation Protection Superintendent
G. Hartzler, Chemistry Manager
D. Hoffman, Manager, Operations
J. Kammer, General Manager, Engineering
E. Kapopoulos, Site Vice President
T. Kirwin, Manager, Maintenance
J. Krakuszeski, Plant General Manager
C. Orr, Manager, Nuclear Work Management
T. Pilo, Regulatory Affairs Manager
D. Pitsley, Manager, Emergency Preparedness
C. Sherman, Organizational Effectiveness Director
J. Wild, Regulatory Affairs

NRC personnel

J. Zeiler, Senior Resident Inspector
A. Beaten, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

05000261/2016-003-00	LER	Failure of Lake Robinson Tainter Gates to Fully Open During Performance of Functionality Testing (Section 4OA3.2)
05000261/2016-004-00	LER	Reactor Trip During the Performance of a Visual Inspection of the Main Turbine Trip Block (Section 4OA3.3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Impending Adverse Weather Conditions

AP-053, Severe Weather Response, Rev. 6
OMM-021, Operation During Adverse Weather Conditions, Rev. 50
CRs 02004634, 02004685, 02075102, and 02021343

Seasonal Extreme Weather Conditions

AD-WC-ALL-0230, Seasonal Readiness, Rev. 0
AP-058, Seasonal Readiness, Rev. 3
OP-925, Cold Weather Operation, Rev. 67
CR 02013362

Section 1R04: Equipment Alignment

Partial Walkdown

OP-202, Safety Injection and Containment Vessel Spray System, Rev. 98
Drawing 5379-01082, Sheet 2, Safety Injection Pump Flow Diagram, Rev. 55
WO 20075874, Lubrication samples from safety injection pump 'A'
DBD/R87038/SD02, Design Basis Document Safety Injection System, Rev. 20
OP-301, Chemical and Volume Control System Operations and Alignments, Rev. 115
OP-604, Diesel Generators 'A' and 'B', Rev. 114

Section 1R05: Fire Protection

AD-EG-ALL-1520, Transient Combustible Control, Rev. 4
OMM-002, Fire Protection Manual, Rev. 51
OMM-003, Fire Protection Pre-Plans/Unit No. 2, Rev. 74
AOP-041, Response to the Fire Event, Rev. 9
HBR2-11937, Fire Pre-Plan D.S. Diesel Enclosure, Sheet 52, Rev. 2
HBR2-11937, Fire Pre-Plan Safety Injection Pump Room, Sheet 19, Rev. 2
HBR2-11937, Fire Pre-Plan Spent Fuel Pit, Sheet 44, Rev. 1
HBR2-11937, Fire Pre-Plan A Emergency Diesel Generator Room, Sheet 10, Rev. 4

Section 1R11: Licensed Operator Requalification

Resident Inspector Quarterly Review of Licensed Operator Requalification

GP-007, Plant Cooldown from Mode 3 to Mode 5, Rev. 104
AOP-020, Loss of Residual Heat Removal (Shutdown Cooling), Rev. 47
EPP-25, Energizing Supplemental Plant Equipment Using the DSDG, Rev. 28
DSP-008, RHR Pump Power Repair Procedure, Rev. 11
Scenario Package LOCT Cycle 16-10 (Outage 9), Rev. 1

Resident Inspector Quarterly Review of Licensed Operator Performance in the Actual Plant/Main Control Room

AD-OP-ALL-1000, Conduct of Operations, Rev. 6
AD-OP-ALL-0203, Reactivity Management, Rev. 4
GP-003, Normal Plant Startup From Hot Shutdown to Critical, Rev. 108
GP-005, Power Operation, Rev. 130

Section 1R12: Maintenance Effectiveness

AD-EG-ALL-1210, Maintenance Rule Program, Rev. 0
 Work Order 20107123, Replace RHR pump 'A' pump seal
 Work Order 20111690, Charging pump 'C' would not rotate at 70 percent demand
 Work Order 20112810, Add oil to Gyrol drive of charging pump 'C'
 Modification EC 405956, Replace charging pump 'C' Gyrol drive internal check valve
 Work Order 20112048, Replace charging pump 'C' Gyrol drive internal check valve

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

AD-WC-ALL-0200, On-Line Work Management, Rev. 6
 AD-OP-ALL-0201, Protected Equipment, Rev. 1
 OMM-48, Work Coordination and Risk Assessment, Rev. 63
 OMP-003, Shutdown Safety Function Guidelines, Rev. 56

Section 1R15: Operability Evaluations**Operability and Functionality Review**

AD-OP-ALL-0102, Operational Decision Making, Rev. 0
 AD-OP-ALL-0105, Operability Determination and Functionality Assessments, Rev. 3
 Work Order 20114819, Troubleshoot/repair power light on steam dump controller module TC-408E not illuminated
 AOP-015, Secondary Load Rejection, Rev. 16
 Standing Instruction 16-012, Operator actions with degraded steam dump operation

Operator Work-Around Review

AD-OP-ALL-0202, Aggregate Operator Impact Assessment, Rev. 1
 OMM-001-8, Control of Equipment and System Status, Rev. 56
 Operator Challenge Aggregate Impact Assessment Forms
 Open or outstanding operational decision making items, operational focus list items, standing instruction items, Control Room deficiencies, operationally significant equipment deficiencies, operator burdens, and Operator Work Around Logs
 Selected RNP Operations Shift Turnover Reports and Control Room Logs
 Quarterly Aggregate Operator Impact Assessment Agenda for December 15, 2016

Section 1R18: Plant Modifications

AD-EG-ALL-1103, Procurement Engineering Products, Rev. 2
 AD-EG-ALL-1110, Design Review Requirements, Rev. 3
 AD-EG-ALL-1130, Activation of Engineering Changes, Rev. 2
 AD-EG-ALL-1132, Preparation and Control of Design Change Engineering Changes, Rev. 6
 AD-EG-ALL-1133, Preparation and Control of Equivalent Change Engineering Changes, Rev. 2
 AD-LS-ALL-0008, 10CFR50.59 Review Process, Rev. 0
 Design Basis Document DBD/R87038, Chemical & Volume Control, Rev. 8
 CR 2063189, Charging pump 'C' would not rotate
 Work Order 20112048, Replace vertical check valve on Gyrol of charging pump 'C'

Section 1R19: Post Maintenance Testing

PLP-033, Post Maintenance Testing Program, Rev. 64
 OP-202, Safety Injection and Containment Vessel Spray System, Rev. 98

5379-01082 SH00002, Safety Injection System Flow Diagram, Rev. 55
5379-01082 SH00001, Safety Injection System Flow Diagram, Rev. 47

Section 1R22: Surveillance Testing

OMM-015, Operations Surveillance Testing, Rev. 49
OP-402, Auxiliary Feedwater System, Rev. 97
OP-604, Diesel Generators 'A' and 'B', Rev. 114
PM-008, Emergency Diesel Generator Inspection Number 2 (24 Months), Rev. 74 Section 7
Drawing G-190196, Main & Extraction Steam System Flow Diagram, Rev. 62
CR 2078580, EDG 'B' Overspeed Test Outside Acceptance Criteria
CR 1987001, OST-151-3 Aborted due to Test Equipment Failure

Section 4OA1: Performance Indicator (PI) Verification

AD-LS-ALL-0004, NRC Performance Indicators and Monthly Operating Report, Rev. 1
AD-BO-ALL-0002, Performance Measures Program, Rev. 3
RNP-M/MECH-1904, RNP NRC Mitigating System Performance Index (MSPI) Basis Document,
Rev. 2

Section 4OA2: Problem Identification and Resolution

AD-PI-ALL-0100, Corrective Action Program, Rev. 6
AD-PI-ALL-0101, Root Cause Evaluation, Rev. 2
AD-PI-ALL-0102, Apparent Cause Evaluation, Rev. 2
AD-PI-ALL-0103, Quick Cause Evaluation, Rev. 2
AD-PI-ALL-0104, Prompt Investigation Response Team, Rev. 2
AD-LS-ALL-0006, Notification/Reportability Evaluation, Rev. 1
AD-EG-ALL-1311, Failure Investigation Process (FIP), Rev. 0

Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

EOP-E-0, Reactor Trip or Safety Injection, Rev. 7
EOP-ES-0.1, Reactor Trip Response, Rev. 8
GP-004, Post Trip Stabilization, Rev. 24
OMM-001-6, Operations Assessments, Rev. 36
OMM-001-7, Notifications, Rev. 23
OST-551-2, Turbine Trip Functional Test (Quarterly During Power Operation), Rev. 8
CRs 02056554, 02055272, 02057103, 02075516, 02070303, 02067785, 02056816, 02055272,
02057105, and 02069829