



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

July 27, 2010

Mr. Michael Annacone
Vice President
Carolina Power and Light Company
Brunswick Steam Electric Plant
P. O. Box 10429
Southport, NC 28461

**SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION
REPORT NOS.: 05000325/2010003 AND 05000324/2010003**

Dear Mr. Annacone:

On June 30, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Brunswick Unit 1 and 2 facilities. The enclosed integrated inspection report documents the inspection findings, which were discussed on July 15, 2010, with you and other members of your staff.

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

The report documents one self-revealing finding of very low safety significance (Green). This finding was determined not to involve violations of NRC requirements and was entered into your corrective action program. Additionally, three licensee-identified violations, which were determined to be of very low safety significance, are listed in this report. If you contest any finding, 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 the Brunswick Steam Electric Plant.

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In accordance with 10 CFR 2.390 of the NRC's Rules of Practice, a copy of this letter, 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 (PARS) component of NRC's document system (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/

Randall A. Musser, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Docket Nos.: 50-325, 50-324
License Nos.: DPR-71, DPR-62

Enclosure: Inspection Report 05000325, 324/2010003
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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Letter to Michael J. Annacone from Randall A. Musser dated July 27, 2010

SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT - NRC INTEGRATED INSPECTION
REPORT NOS.: 05000325/2010003 AND 05000324/2010003

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-325, 50-324
License Nos.: DPR-71, DPR-62
Report Nos.: 05000325/2010003, 05000324/2010003
Licensee: Carolina Power and Light (CP&L)
Facility: Brunswick Steam Electric Plant, Units 1 & 2
Location: 8470 River Road, SE
Southport, NC 28461
Dates: April 1, 2010 through June 30, 2010
Inspectors: P. O'Bryan, Senior Resident Inspector
G. Kolcum, Resident Inspector
A. Nielsen, Health Physicist (4OA6)
G. Kuzo, Sr. Health Physicist (4OA6)
Approved by: Randall A. Musser, Chief
Reactor Projects Branch 4
Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000325/2010003, 05000324/2010003; 04/01/10 – 06/30/10; Brunswick Steam Electric Plant, Units 1 & 2; Follow-up of Events.

This report covers a three-month period of inspection by resident inspectors and an announced baseline inspection by regional inspectors. This report contains one self-revealing Green finding. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. A self-revealing Green finding was identified for an inadequate design change to the Unit 1 feedwater flow instrument sensing lines (Plant Modification (PM) 77-039). As a result of the inadequate design change, pressure pulsation dampeners (snubbers) were installed in the feed flow instrument sensing lines which prevented the instruments from detecting a loss of feed flow in time to prevent a reactor scram by initiating a recirculation pump runback. This was revealed after a loss of the 1B reactor feed pump (RFP) and a reactor low level scram on May 5, 2010. After the scram, the licensee adjusted the snubbers so that they respond properly to changes in feed flow and entered the issue into their corrective action program (AR #397712).

The inadequate design change implemented by PM 77-039 was a performance deficiency. The finding was more than minor because it was associated with the initiating events cornerstone attribute of design control, and it affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability and that challenge critical safety functions during shutdown, as well as during power operations. Specifically, the performance deficiency caused a reactor scram. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, inspectors concluded that the transient initiator did not contribute to both the likelihood of a reactor trip and to the likelihood that mitigation equipment or functions would not be available. As a result, the issue was of very low safety significance (Green). The cause of this finding has no cross-cutting aspect because the modification took place in 1977 and is not indicative of current licensee performance. (Section 4OA3.1)

B. Licensee-Identified Violations

Violations of very low safety significance that were identified by the licensee have been reviewed by inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

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REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period shutdown for a refueling outage (B118R1). Unit 1 was restarted and the reactor was critical on April 24, 2010. Unit 1 was synchronized to the grid on April 27, 2010, and reached rated thermal power on May 1, 2010. On May 5, 2010, the reactor scrammed due to low reactor water level after loss of the 1B reactor feed pump. The reactor was restarted on May 7, 2010, synchronized to the grid on May 9, 2010, and reached rated power on May 11, 2010. The unit operated at or near rated thermal power until June 28, 2010, when the 1B reactor feed pump tripped again and power was reduced to approximately 63%. The unit returned to rated thermal power on June 30, 2010, and operated at or near rated thermal power for the remainder of the inspection period.

Unit 2 began the inspection period at rated thermal power. On May 20, 2010, the 2B reactor feed pump tripped and reactor power was reduced to approximately 63%. Power was returned to 100% on May 21, 2010. On May 26, 2010, reactor power was reduced to approximately 90% to facilitate repairs to the 2C condensate pump. On May 27, 2010, the unit was returned to 100% and operated at or near rated thermal power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

.1 Readiness of Offsite and Alternate AC Power Systems

a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate alternating current (AC) power systems during adverse weather were appropriate. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator (TSO) and the plant to verify that the appropriate information was being exchanged when issues arose that could impact the offsite power system. Examples of aspects considered in the inspectors' review included:

- The coordination between the TSO and the plant during off-normal or emergency events;
- The explanations for the events;
- The estimates of when the offsite power system would be returned to a normal state; and
- The notifications from the TSO to the plant when the offsite power system was returned to normal.

The inspectors also verified that plant procedures addressed measures to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system prior to or during adverse weather conditions. Specifically, the inspectors verified that the procedures addressed the following:

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- The actions to be taken when notified by the TSO that the post-trip voltage of the offsite power system at the plant would not be acceptable to assure the continued operation of the safety-related loads without transferring to the onsite power supply;
- The compensatory actions identified to be performed if it would not be possible to predict the post-trip voltage at the plant for the current grid conditions;
- A reassessment of plant risk based on maintenance activities which could affect grid reliability, or the ability of the transmission system to provide offsite power; and
- The communications between the plant and the TSO when changes at the plant could impact the transmission system, or when the capability of the transmission system to provide adequate offsite power was challenged.

Documents reviewed are listed in the attachment to this report. The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into its corrective action program in accordance with station corrective action procedures.

b. Findings

No findings were identified.

.2 Summer Seasonal Readiness Preparations

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather for selected systems, including conditions that could lead to an extended drought as a result of high temperatures.

During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. Specific documents reviewed during this inspection are listed in the attachment. The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into its corrective action program in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- service water
- emergency AC power systems

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

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

- Emergency diesel generators (EDGs) #1, #2, and #3 on April 30, 2010 during maintenance on EDG #4;
- Unit 1 reactor protection system divisions A and B on April 27, 2010, to verify proper instrument valve lineup after an instrument was discovered to be inappropriately isolated; and
- Unit 2 reactor protection system divisions A and B on April 29, 2010, to verify proper instrument valve lineup after an instrument was discovered to be inappropriately isolated.

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, Technical Specification (TS) requirements, outstanding work orders, 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 that system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

The inspectors performed a complete system alignment inspection of the service water system 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 line-ups, electrical power availability, system pressure and temperature indications, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support

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systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding work orders (WOs) was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program (CAP) database to ensure that system equipment alignment problems were being identified and appropriately resolved. The documents used for the walkdown and issue review are listed in the attachment.

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Quarterly Resident Inspector Tours

a. Inspection Scope

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

- Control Room 49' Elevation (0PFP-CB-14);
- Service Water Building 20' Elevation (0PFP-SW-1a);
- Transformer Yard (0PFP-TY);
- East Yard (0PFP-EY);
- Diesel Generator Cell 1 23' Elevation (1-PFP-DG-5); and
- Diesel Generator Cell 2 23' Elevation (1-PFP-DG-4).

The inspectors reviewed 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 had implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected 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. Using the documents listed in the attachment, 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 corrective action program.

b. Findings

No findings were identified.

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1R06 Flood Protection Measures

.1 Review of Areas Susceptible To 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 (AOPs), for licensee commitments. The specific documents reviewed are listed in the attachment. 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 corrective action program 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. The following areas represent two samples of this inspection procedure:

- Unit 1 Reactor Building 50' elevation including areas impacted by the reactor building closed cooling water and residual heat removal service water systems; and
- Unit 2 Reactor Building 50' elevation including areas impacted by the reactor building closed cooling water and residual heat removal service water systems.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program

a. Inspection Scope

On May 26, 2010, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification examinations 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:

- licensed operator performance;
- crew's 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.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

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

- Reactor feed pump 1B flow instrument failure. (AR #398384); and
- 1B Conventional service water pump lower bearing oil degradation. (AR#398788)

The inspectors reviewed events where ineffective equipment maintenance may have resulted in equipment failure 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; and
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and verifying appropriate performance criteria for structures, systems, and components (SSCs)/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 that maintenance effectiveness issues were entered into the corrective action program with the appropriate significance characterization.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

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

- Week of May 10, 2010, during emergent maintenance on the 1B conventional service water pump;
- Week of April 18, 2010, shutdown risk with Unit 1 Main Steam Isolation Valve (MSIV) maintenance and Emergency Core Cooling System (ECCS) defeated;
- Yellow risk for Unit 2 for 0MST-RHR26R, Residual Heat Removal (RHR)/Core Spray Low Pressure Channel Calibration on May 11, 2010;
- Week of June 21, 2010, with the 1B turbine building closed cooling water system heat exchanger out of service, EDG #4 local operability testing, and primary containment isolation system testing; and
- Emergent repairs of the 1B service air compressor and the 1B reactor feed pump on June 28, 2010.

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.

b. Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following six issues:

- Unit 1 condensate storage tank level indication failure (AR #395057);
- Unit 1 high pressure coolant injection (HPCI) inlet steam trap high level switch failure on April 28, 2010 (AR #396398);
- Unit 1 reactor water cleanup inlet isolation valve failed to close on a low level 2 signal on May 5, 2010 (AR #397718);
- Unit 1 reactor core isolation cooling (RCIC) and HPCI failed to inject on a reactor low level 2 signal on May 5, 2010 (AR #397720);

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- Unit 1 remote shutdown panel RCIC controller in manual on May 14, 2010 (AR #399444); and
- Unit 2 main steam isolation valve reactor protection system relay actuation on May 27, 2010 (AR #401788).

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 also reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations.

b. Findings

No findings were identified.

1R18 Plant Modifications

a. Inspection Scope

The following engineering design package was reviewed and selected aspects were discussed with engineering personnel:

Temporary Plant Modification:

- Reactor feed pump flow instrument pressure dampening settings, Engineering Change (EC) 76975

This document and related documentation were reviewed for adequacy of the associated 10 CFR 50.59 safety evaluation screening, consideration of design parameters, implementation of the modification, post-modification testing, and relevant procedure, design, and licensing document revisions. The inspectors observed ongoing and completed work activities to verify that installation was consistent with the design control documents.

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

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

- OOP-39, Diesel Generator Operating Procedure on April 7, 2010, for EDG #2 after governor inspection;
- OPT-80.1, Reactor Pressure Vessel ASME Section XI Pressure Test on April 18, 2010, after maintenance;
- OPT-14.2.1, Single Rod Scram Insertion Times Test on April 18, 2010, after control rod drive maintenance;
- OMST-22R, Digital Feedwater Control Functional Test after implementation of EC 66863, Digital Feed Control System software change on April 26, 2010;
- 1OP-09, Neutron Monitoring System Operating Procedure on April 27, 2010, after maintenance; and
- OPT-01.9E, Axial Alignment of Traversing Incore Probes on April 28, 2010, after maintenance.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following: 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, and test documentation was properly evaluated. The inspectors evaluated the activities against TS and the UFSAR 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 corrective action program and that the problems were being corrected commensurate with their importance to safety.

b. Findings

No findings were identified.

1R20 Outage Activities

.1 Refueling Outage Activities

a. Inspection Scope

The inspectors reviewed the outage plan and contingency plans for the Unit 1 refueling outage, conducted from February 27, 2010, to April 24, 2010, to confirm that the licensee had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of

defense-in-depth. Documents reviewed during the inspection are listed in the attachment.

- Licensee configuration management, including maintenance of defense-in-depth for key safety functions and compliance with the applicable TS when taking equipment out of service;
- Implementation of clearance activities and confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing;
- Installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication, accounting for instrument error;
- Controls over the status and configuration of electrical systems to ensure that TS and outage safety plan requirements were met, and controls over switchyard activities;
- Monitoring of decay heat removal processes, systems, and components;
- Controls to ensure that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system;
- Reactor water inventory controls including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss;
- Controls over activities that could affect reactivity;
- Maintenance of secondary containment as required by TS;
- Refueling activities, including fuel handling and sipping to detect fuel assembly leakage;
- Startup and ascension to full power operation, tracking of startup prerequisites, walkdown of the drywell (primary containment) to verify that debris had not been left which could block emergency core cooling system suction strainers, and reactor physics testing; and
- Licensee identification and resolution of problems related to refueling outage activities.

b. Findings

No findings were identified.

.2 Other Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for a Unit 1 forced outage, conducted May 5, 2010, to May 9, 2010. The forced outage was due to a reactor scram after the 1B reactor feed pump spuriously tripped and reactor level reached the low reactor level scram setpoint. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor cooldown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, control of containment activities, startup and heatup activities, and identification and resolution of problems associated with the outage.

b. Findings

No findings were identified.

1R22 Surveillance Testing

.1 Routine Surveillance Testing

a. Inspection Scope

The inspectors either observed surveillance tests or reviewed the test results for the following activities to verify the tests met TS surveillance requirements, UFSAR commitments, inservice testing requirements, and licensee procedural requirements. The inspectors assessed the effectiveness of the tests in demonstrating that the SSCs were operationally capable of performing their intended safety functions.

- OPT-12.16.L, Switchgear E2 and Unit Substation E6 Local Control on April 7, 2010;
- OPT-12.22, Load Test For Severe Accident Mitigation Alternative (SAMA) Diesels on April 9, 2010;
- OPT-20.5, Integrated Primary Containment Leak Rate Test (ILRT) on April 10, 2010;
- OPM-NE001, Low Power Range Monitor (LPRM) Detector Performance Evaluation on April 13, 2010; and
- OSMP-NE002, Source Range Monitor (SRM) and Intermediate Range Monitor (IRM) Detector Pre-Installation and Post-Installation Testing on April 21, 2010.

b. Findings

No findings were identified.

.2 In-Service Testing (IST) Surveillance

a. Inspection Scope

The inspectors reviewed the performance of OPT-8.1.4b, Unit 2 RHR Service Water System Operability Test – Loop B on May 12, 2010, to evaluate the effectiveness of the licensee's American Society of Mechanical Engineers (ASME) Section XI testing program for determining equipment availability and reliability. The inspectors evaluated selected portions of the following areas: 1) testing procedures, 2) acceptance criteria, 3) testing methods, 4) compliance with the licensee's IST program, TS, selected licensee commitments and code requirements, 5) range and accuracy of test instruments, and 6) required corrective actions.

b. Findings

No findings were identified.

1EP6 Emergency Planning Drill Evaluation

a. Inspection Scope

The inspectors observed a site emergency preparedness training drill conducted on May 18, 2010, and a simulator-based training scenario on May 26, 2010 (two samples). The inspectors reviewed the drill scenario narratives to identify the timing and location of classifications, notifications, and protective action recommendations development activities. During the drills, inspectors assessed the adequacy of event classification and notification activities. The inspectors observed portions of the licensee's post-drill evaluations. The inspectors verified that the licensee properly evaluated the drill's performance with respect to performance indicators and assessed drill performance with respect to drill objectives.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

.1 Mitigating Systems Cornerstone

a. Inspection Scope

- Mitigating Systems Performance Index (MSPI), Emergency AC Power and
- MSPI, Cooling Water Systems.

The inspectors sampled licensee submittals for the MSPI performance indicators listed above for the period from the second quarter 2009 through the first quarter 2010. The inspectors reviewed the licensee's operator narrative logs, issue reports, MSPI derivation reports, event reports and NRC Integrated Inspection reports for the period 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. Specific documents reviewed are described in the attachment to this report.

- Safety System Functional Failures

The inspectors reviewed licensee submittals for the Safety System Functional Failures performance indicator for the period from the second quarter 2009 through the first quarter 2010. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, issue reports, event reports and NRC Integrated Inspection reports for the period to validate the accuracy of the submittals. Specific documents reviewed are described in the Appendix to this report

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems

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

a. Inspection Scope

To aid in the identification of repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed frequent screenings of items entered into the licensee's corrective action program. The review was accomplished by reviewing daily action request reports.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program (CAP) and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screenings discussed in Section 4OA2.1 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the six-month period of January 1, 2010, through June 30, 2010, although some examples expanded beyond those dates where the scope of the trend warranted.

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

b. Assessments and Observations

Inspectors identified an adverse trend in the licensee's fire protection program. Specifically, several errors have been made when implementing fire watches for fire protection impairments. Between January 1, 2010, and June 30, 2010, fire watches were not properly conducted on at least six different occasions. The licensee documented these failures in their CAP and initiated an adverse trend condition report (AR #398727).

Inspectors also identified, concurrent with the licensee, an adverse trend in plant configuration control events. Between January 1, 2010, and June 30, 2010, several valves and switches have been found out of their correct positions. In one instance, a safety-related instrument was isolated (see finding in Section 4O3A of this report). In another instance, a risk-significant pump was found isolated (see section 4OA7 of this report). Other events have not led to risk-significant issues, but further support this adverse trend. The licensee has initiated corrective actions for this adverse trend.

.3 Selected Issue Follow-up Inspection

a. Inspection Scope

The inspectors selected the licensee's corrective actions for degraded conditions associated with electrolytic capacitors for detailed review. The inspectors reviewed this report to verify that the licensee identified the full extent of the issue, performed an appropriate evaluation, and specified and prioritized appropriate corrective actions. The inspectors evaluated the report against the requirements of the licensee's corrective action program as delineated in corporate procedure CAP-NGGC-0200, Corrective Action Program, and 10 CFR 50, Appendix

b. Findings

No findings were identified.

4OA3 Follow-up of Events

.1 Unit 1 Reactor Scram

a. Inspection Scope

The inspectors reviewed the plant's response to a trip of the 1B reactor feed pump and a Unit 1 reactor low level scram on May 5, 2010. The feed pump trip was caused by a malfunction in the reactor feed pump digital control system, and the reactor scrambled when the recirculation pump runback control circuit did not receive the feed pump low flow signal prior to reactor level reaching the reactor low level scram setpoint. Without the feed pump low flow input to the runback circuit, the recirculation pumps did not runback as designed and prevent the reactor scram. Documents reviewed in this inspection are listed in the attachment.

b. Findings

Introduction. A self-revealing Green finding was identified for an inadequate design change to the Unit 1 feedwater flow instrument sensing lines. As a result of the inadequate design change, pressure pulsation dampeners (snubbers) were installed in the feed flow instrument sensing lines which prevented the instrument from detecting a loss of feed flow in time to prevent a reactor scram by initiating a recirculation pump runback. This was revealed after a loss of the 1B reactor feed pump (RFP) and a reactor low level scram on May 5, 2010.

Description. On May 5, 2010, Unit 1 experienced a loss of the 1B RFP. The expected plant response for a loss of a RFP at 100 percent reactor power is a recirculation pump runback, initiated at less than approximately 16.4 percent feedwater flow from one RFP coincident with reactor water level of 182 inches or less, to less than 65 percent reactor power. This reactor power is within the capability of the remaining RFP and reactor level is not expected to reach the low level scram setpoint of 166 inches. After the loss of the 1B RFP on May 5, 2010, however, the recirculation pumps did not runback and reactor level fell to the low level scram setpoint and a reactor scram occurred.

The recirculation pumps failed to runback because the pressure in the RFP flow (differential pressure) instrument lines did not decay enough to reach the low RFP flow setpoint prior to the reactor water level reaching 166 inches. The pressure in the RFP flow instrument lines did not drop fast enough because there are pressure pulsation dampening devices (snubbers) installed in the instrument lines. These snubbers are adjustable and the setting used was not sufficient to allow the instrument to properly respond to the loss of RFP flow. These snubbers were installed by Plant Modification 77-039 in 1977. PM 77-039 was initiated in order to eliminate needle fluctuations on a RFP flow gauge, which uses the same sensing lines as the RFP flow instrument. PM 77-039 did not adequately address the effects of the snubbers on the flow instrument, resulting in the loss of the recirculation pump runback capability for loss of one RFP. A similar modification was made to the Unit 2 RFP flow instrument lines in 2007 (EC 66310). EC 66310 was also inadequate in that it would have prevented a runback of the recirculation pumps in time to prevent a scram upon trip of a Unit 2 RFP. However, since 2007, no Unit 2 RFP has tripped at 100 percent reactor power. After the Unit 1 reactor scram, the licensee adjusted the instrument line snubbers so that they responded properly to changes in RFP flow and entered the issue into their corrective action program (AR #397712).

Analysis. The inadequate design change implemented by PM 77-039 was a performance deficiency. The finding was more than minor because it was associated with the initiating events cornerstone attribute of design control, and it affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability and that challenge critical safety functions during shutdown, as well as during power operations. Specifically, the performance deficiency caused a reactor scram. Using the Inspection Manual Chapter 0609, Significance Determination Process, Phase 1 Worksheet, the inspectors concluded that the transient initiator did not contribute to both the likelihood of a reactor trip and to the likelihood that mitigation equipment or functions would not be available. As a result, the issue was of very low safety significance (Green). The cause of this finding has no cross-cutting aspect because the modification took place in 1977 and is not indicative of current licensee performance.

Enforcement. This finding did not involve a violation of regulatory requirements; therefore enforcement action does not apply. Because the finding does not involve a violation a regulatory requirements and has very low safety significance, it is identified as FIN 05000325/2010003-01, Inadequate Design Change Results in an Automatic Reactor Scram.

.2 (Closed) LER 05000325/2010-001-00 Reactor Core Isolation Cooling (RCIC) Manually Started to Maintain RPV Level Following Pre-planned Scram.

On February 27, 2010, after a scheduled Unit 1 shutdown for refueling, the 1A reactor feed pump experienced a high casing drain water level, requiring it to be shutdown. Since the 1A reactor feed pump was the only running reactor feed pump at the time, the RCIC system was placed into service to maintain reactor water level. At the time of the reactor shutdown, the licensee had removed the 1B reactor feed pump and the 1A south condenser from service. This plant configuration led to a high level in the 1A south condenser hotwell and the loss of the only running reactor feed pump. This event was documented as a Green non-cited violation in NRC inspection report 05000325, 324/2010002, Section 1R20 as finding number 05000325/2010002-02, Inadequate Risk Evaluation for Removing the 1A South Condenser from Service. This LER is closed.

.3 (Closed) LER 05000325/2010-002-00 Operation Prohibited by Technical Specifications – Reactor Protection System (RPS) Instrumentation.

On April 25, 2010, the licensee discovered that pressure transmitter 1-B21-PT-N023B (Unit 1 reactor steam dome pressure) was reading downscale and declared the instrument inoperable. The plant was in mode 2 at 900 psig at the time. The licensee investigated and found that the instrument isolation valves were closed. The valves were closed during maintenance conducted while in mode 5 during the refueling outage that ended on April 24, 2010. This instrument is required to be operable in modes 1 and 2 per TS 3.3.1.1. Therefore, the licensee entered a mode with an LCO not met, which is prohibited by TS 3.0.4. Also, the instrument was isolated in mode 2 for 41 hours and 47 minutes, a condition which is prohibited by TS 3.3.1.1. Upon discovery of the shut instrument isolation valves, the licensee reopened the valves and restored operability of the instrument. Other corrective actions included changes to maintenance procedures that require independent verification of valve positions. This finding is more than minor because it is associated with the configuration control attribute of the Mitigating System Cornerstone and it adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is considered to have very low safety significance (Green) using the Phase 1 worksheet of manual chapter 0609 because although the pressure switch was not functional as a result of the finding, all trips of the reactor protection system remained functional. The pressure switch does not represent a train of the reactor protection system and therefore, a train of equipment did not lose function. Also, the finding is not potentially risk-significant due to a seismic, flooding, or severe weather event. The licensee-identified finding involved a violation of TS 3.0.4 and 3.3.1.1. The enforcement aspects of the violation are discussed in Section 4OA7 of this report. This LER is closed.

.4 (Closed) LER 05000325,324/2008-003-00 Reactor Building Crane Design Inadequacy

On June 11, 2008, as a result of a review of the reactor building crane design, the licensee determined that the structural design of the Unit 1 and Unit 2 reactor building cranes did not ensure structural integrity during a design basis seismic event. This deficiency existed since original plant construction. This design deficiency was a performance deficiency which is more than minor because it adversely affected the initiating events cornerstone objective of limiting the likelihood of those events that upset

plant stability and challenge critical safety functions during shutdown as well as during power operations. Brunswick LER 2008-003-00 was screened in phase 1 as impacting mitigating systems and the crane performance deficiency degraded seismic protection and a phase 3 significance determination process evaluation was required. A bounding phase 3 analysis was performed by a Senior Risk Analyst with the analysis resulting in a risk increase of approximately mid E-8 which is well below the Green threshold for both core damage frequency and large early release frequency. The risk was mitigated by the low probability of a design basis seismic event and the short duration exposure period when the cranes were used during operational or shutdown modes. The licensee has implemented corrective actions to correct the design deficiency. The enforcement aspects of the violation are discussed in Section 4OA7 of this report. This LER is closed.

.5 Alert Declaration Due to Inadvertent Halon System Discharge

a. Inspection Scope

Inspectors responded to the emergency diesel building basement fire suppression system activation on June 6, 2010. The halon system activation resulted in the declaration of an alert by control room operators due to the EDG building being inaccessible. The inspectors observed operator and emergency response organization actions during and after the event. Inspectors also discussed the event with licensee management to ensure short term corrective actions were appropriate. As the result of the event, the NRC chartered a special inspection team to investigate emergency response organization performance. The results of the special inspection will be published in inspection report 2010007.

b. Findings

No findings were identified

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status reviews and inspection activities.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On May 27, 2010, the inspectors held a teleconference with licensee staff to discuss the status of BSEP's groundwater monitoring program. The licensee provided an update on tritium concentrations in water collected from onsite and offsite surface and ground water sampling locations and discussed ongoing remediation efforts associated with the primary source of contamination, i.e., the onsite Storm Drain Stabilization Pond (SDSP). Although seasonal fluctuations can occur, the inspectors noted that onsite tritium concentrations have generally trended downward since 2007 when the contamination was discovered and corrective actions were initiated to mitigate releases of tritium to the SDSP. The inspectors also noted that although very low concentrations of tritium have been identified periodically in the offsite environs, e.g., Nancy's Creek immediately adjacent to the SDSP, all reported values for offsite samples have remained significantly below established regulatory limits. The meeting details are documented in NCR 00402755. Publicly available information regarding onsite groundwater monitoring and radionuclide concentrations in the environment near BSEP can be found in the Annual Radiological Environmental Operating Report. The 2009 Annual Report is currently available through the Agencywide Documents Access and Management System (ADAMS) at <http://www.nrc.gov/reading-rm/adams.html> (accession number ML101380657).

On July 15, 2010, the inspector presented the inspection results to Mr. Michael Annacone and other members of the licensee staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection period.

4OA7 Licensee-Identified Violations

The following findings of very low significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy, for being dispositioned as an NCV.

- TS 3.0.4 requires that, when an LCO is not met, entry into a mode or other specified condition in the Applicability shall not be made (with certain exceptions). TS 3.3.1.1 requires that the reactor vessel steam dome pressure high instrument channels be operable in mode 2, or an inoperable channel be placed in trip within 12 hours. Contrary to these requirements, on April 25, 2010, the licensee identified that pressure transmitter 1-B21-PT-N023B was isolated, rendering the associated reactor vessel steam dome pressure instrument and trip channel inoperable. The channel had been inoperable during the transition to mode 2, and for greater than 12 hours in mode 2 without the channel being placed in trip. Upon discovery, the licensee put the instrument back into service and the event was entered into the licensee's CAP as AR #395552. This finding is of very low safety significance because the reactor protection system uses redundant actuation logic and did not lose function as a result of one channel being inoperable.
- 10 CFR 50, Appendix A, criterion 2, Design Basis for Protection Against Natural Phenomena states, in part, that structures, systems, and components important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes. Contrary to this, original design of the Unit 1 and Unit 2 reactor building cranes were not adequate to withstand a design basis seismic event. The

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licensee entered the condition into their CAP as AR #251648 and modified the cranes to correct the condition. This finding is of very low safety significance due to the very low probability of a design basis seismic event.

- Technical Specification Section 5.4.1.a, Administrative Control (Procedures), states, in part, that written procedures shall be established, implemented, and maintained, covering applicable procedures recommended in Regulatory Guide 1.33, Appendix A, November 1972 (Safety Guide 33, November 1972). Regulatory Guide 1.33, Appendix A, November 1972, (Safety Guide 33, November 1972) states, in part, that startup, shutdown, and operation of the control rod drive (CRD) system shall be implemented. OP-08, section 8.2 requires that valve 1-C11-F014B, the B CRD pump discharge valve, be left open when securing the pump. Contrary to this, on May 25, 2010, the licensee discovered the B CRD pump discharge valve locked shut. The B CRD pump was last run on April 8, 2010. Upon discovery of the locked shut valve, the licensee reopened the valve. This finding was determined to be of very low safety significance because the B pump was isolated, excluding time that the plant was in mode 4 or 5, for less than 30 days. Per the Brunswick phase 2 SDP worksheet, the issue is of very low safety significance (Green). This finding has been entered into the licensee's CAP as AR #401157.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

M. Annacone, Site Vice President
L. Beller, Superintendent, Operations Training
W. Brewer, Manager – Maintenance
A. Brittain, Manager – Security
B. Davis, Manager – Engineering
P. Dubrouillet, Supervisor - Operations Support
L. England, Corporate Lead Environmental Specialist
L. Grzeck, Lead Engineer - Technical Support
R. Ivey, Manager – Nuclear Oversight Services
J. Johnson, Manager – Environmental and Radiological Controls
P. Mentel, Manager - Support Services
M. McGowan, Environmental Supervisor
M. Millinor, Sr., Chemistry Specialist
R. Mosier, Communication Specialist
W. Murray, Licensing Specialist
C. Nelson, Sr. Chemistry Specialist
A. Pope, Supervisor – Licensing and Regulatory Affairs
E. Rochelle, Supervisor - Radiological Controls Supervisor
T. Sherrill, Engineer - Technical Support
J. Titrington, Superintendent – Design Engineering
M. Turkal, Lead Engineer - Technical Support
J. Vincelli, Superintendent - Environmental and Radiological Controls
M. Williams, Manager - Training
E. Wills, Plant General Manager

NRC Personnel

Randall A. Musser, Chief, Reactor Projects Branch 4, Division of Reactor Projects Region II

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000325/2010003-01	FIN	Inadequate Design Change Results in an Automatic Reactor Scram (Section 4OA3.1)
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Closed

05000325/2010-001	LER	Reactor Core Isolation Cooling (RCIC) Manually Started to Maintain RPV Level Following Pre-planned Scram (Section 4OA3.2)
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05000325/2010-002	LER	Operation Prohibited by Technical Specifications – Reactor Protection System (RPS) Instrumentation (Section 4OA3.3)
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05000325,324/2008-003	LER	Reactor Building Crane Design Inadequacy (Section 4OA3.4)
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

0AOP-13.0, Operation during Hurricane, Flood Conditions, Tornado, or Earthquake
0A1-68, Brunswick Nuclear Plant Response to Severe Weather Warnings
0PEP-02.1, Initial Emergency Actions
0PEP-02.6, Severe Weather
0O1-01.03, Non-Routine Activities
0OP-50.1, Diesel Generator Emergency Power System Operating Procedure
1OP-43, Unit 1 Service Water System Operating Procedure
2OP-43, Unit 2 Service Water System Operating Procedure

Section 1R04: Equipment Alignment

0OP-50.1, Diesel Generator Emergency Power System Operating Procedure
Drawing D-02265, sheets 1A and 1B, drawing D-02266, sheets 2A and 2B, Piping Diagram for Diesel Generators Starting Air System Units 1 and 2
Drawing D-02268, sheets 1A and 1B, drawing D-02269, sheets 2A and 2B, Piping Diagram for Diesel Generators Fuel Oil System Units 1 and 2
Drawing D-02270, sheets 1A and 1B, drawing D-02271, sheets 2A and 2B, Piping Diagram for Diesel Generators Lube Oil to Lube Oil System Units 1 and 2
Drawing D-02272, sheets 1A and 1B, drawing D-02273, sheets 2A and 2B, Piping Diagram for Diesel Generators Jacket Water System Units 1 and 2
Drawing D-02272, sheets 1A and 1B, drawing D-02273, sheets 2A and 2B, Piping Diagram for Diesel Generators Jacket Water System Units 1 and 2
Drawing D-02274, sheets 1 and 2, Piping Diagram for Diesel Generators Service and Demineralized Water System Units 1 and 2
1OP-03, Unit 1 Reactor Protection System Operating Procedure
2OP-03, Unit 2 Reactor Protection System Operating Procedure
1OP-43, Unit 1 Service Water System Operating Procedure
2OP-43, Unit 2 Service Water System Operating Procedure

Section 1R05: Fire Protection

0PFP-CB, Control Building Prefire Plans
0PFP-DG, Diesel Generator Building Prefire Plans
0PFP-PBAA, Power Block Auxiliary Areas Prefire Plans SW, RW, AOG, TY, EY
0PFP-013, General Fire Plan
1PFP-RB, Reactor Building Prefire Plans Unit 1
1PFP-TB, Turbine Building Prefire Plans Unit 1
2PFP-RB, Reactor Building Prefire Plans Unit 2
2PFP-TB, Turbine Building Prefire Plans Unit 2
0OP-41, Fire Protection and Well Water System
0PFP-MBPA, Miscellaneous Buildings Pre-Fire Plans – Protected Area
0PT-34.11.2.0, Portable Fire Extinguisher Inspection

Section 1R06: Flood Protection

EGR-NGGC-0351 Condition Monitoring of Structures

Section 1R11: Licensed Operator Requalification

OTPP, Licensed Operator Continuing Training Program

TRN-NGGC-0014, NRC Initial Licensed Operator Exam Development and Administration

1EOP-01-LPC, Level/Power Control

0PEP-2.1.1, Emergency Control – Notification of Unusual Event, Alert, Site Area Emergency, or General Emergency

0PEP-02.1, Initial Emergency Actions

Section 1R12: Maintenance Effectiveness

ADM-NGGC-0101, Maintenance Rule Program

NUMARC 93-01, Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants

ADM-NGGC-0203, Preventive Maintenance and Surveillance Testing Administration

EGR-NGGC-0351, Condition Monitoring of Structures

ADM-NGGC-0203, Preventive Maintenance and Surveillance test Administration

Section 1R13: Maintenance Risk Assessment and Emergent Work Control

0AP-022, BNP Outage Risk Management

ADM-NGCC-0104, Work Management Process

0AI-144, Risk Management

ADM-NGGC-0006, Online EOOS Model

Section 1R15: Operability Evaluations

OPS-NGGC-1305, Operability Determinations

OPS-NGGC-1307, Operational Decision making

Section 1R18: Plant Modifications

EGR-NGGC-0005, Engineering Change

EGR-NGGC-0011, Engineering Product Quality

Section 1R19: Post Maintenance Testing

0PLP-20, Post Maintenance Testing Program

Section 1R20: Outage Activities

1OP17, Residual Heat Removal System Operating Procedure

0GP-01, Prestartup Checklist

0GP-02, Approach to Criticality and Pressurization of the Reactor
0GP-03, Unit Startup and Synchronization
0GP-12, Power Changes
0SMP-RPV502, Reactor Vessel Reassembly
0MMM-015, Operation and Inspection of Cranes and Material Handling Equipment

Section 4OA1: Performance Indicator Verification

Procedures

REG-NGGC-0009, NRC Performance Indicators and Monthly Operating Report Data

Records and Data

Monthly PI Reports, April 2009 – March 2010

Section 4OA2: Identification and Resolution of Problem

ARs: 383735, 384952, 390759, 394579, 396580, 398727, 392925, 395432, 387518, 395552, 395834, 385422, 385046, 388097

Section 4OA3: Event Followup

Scram procedure

0GP-01, Prestartup Checklist

0GP-02, Approach to Criticality and Pressurization of the Reactor

0GP-03, Unit Startup and Synchronization

0GP-12, Power Changes

0MMM-015, Operation and Inspection of Cranes and Material Handling Equipment

Section 4OA6: Meetings, Including Exit

NCR 00402755