UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

April 28, 2006

South Carolina Electric & Gas Company
ATTN: Mr. Jeffrey B. Archie
Vice President, Nuclear Operations
Virgil C. Summer Nuclear Station
P. O. Box 88
Jenkinsville, SC 29065

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION - NRC PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000395/2006007

Dear Mr. Archie:

On March 31, 2006, the United States Nuclear Regulatory Commission (NRC) completed an inspection at your Virgil C. Summer Nuclear Station. The enclosed report documents the inspection findings which were discussed on March 31, 2006, with you and other members of your staff.

The inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, compliance with the Commission's rules and regulations, and the conditions of your operating license. Within these areas, the inspection involved selected examination of procedures and representative records, observations of activities, and interviews with personnel.

On the basis of the samples selected for review, the team concluded that generally problems were properly identified, evaluated, and corrected. One finding of very low safety significance (Green) was identified during this inspection associated with repairing Main Steam Isolation Valves. The finding was determined to involve a violation of NRC requirements and has been entered into your corrective action program. If you contest the non-cited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the United States 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 Virgil C. Summer Nuclear Station.

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/

Kerry D. Landis, Chief
Reactor Projects Branch 5
Division of Reactor Projects

Docket No: 50-395
License No: NPF-12

Enclosure: Inspection Report 05000395/2006007
w/Attachment: Supplemental Information

cc w/encl.: (See page 3)

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).

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Report to Jeffrey B. Archie from Kerry D. Landis dated April 28, 2006.

SUBJECT: SUMMER NUCLEAR STATION - NRC PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000395/2006007

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	50-395
License No.:	NPF-12
Report No.:	05000395/2006007
Licensee:	South Carolina Electric & Gas (SCE&G) Company
Facility:	Virgil C. Summer Nuclear Station
Location:	P. O. Box 88 Jenkinsville, SC 29065
Dates:	March 13-17 and March 27-31, 2006
Inspectors:	R. Hagar, Senior Resident Inspector, Robinson (Team Leader) N. Garrett, Senior Resident Inspector, Surry R. Carrion, Project Engineer, RII M. Cain, Resident Inspector, V.C. Summer
Approved by:	K. Landis, Chief, Reactor Projects Branch 5 Division of Reactor Projects
Attachment:	Supplemental Information

Enclosure

SUMMARY OF ISSUES

IR 05000395/2006007; 03/13-17/2006, 03/27-31/2006; Virgil C. Summer Nuclear Station; Biennial baseline inspection of the problem identification and resolution program.

The inspection was conducted by two Senior Resident Inspectors, a Project Engineer, and a Resident Inspector. One Green finding, which was a non-cited violation, was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using 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. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

Identification and Resolution of Problems

Overall, the licensee maintained an effective program for the identification and correction of conditions adverse to quality. However, during the inspection, several minor problems were identified. These problems included two cases in which identification of the problem was not complete, accurate, and timely; three cases in which extent-of-condition was not considered; four cases in which corrective actions that were not appropriately focused to correct the problem; and three cases in which corrective actions were not completed in a timely manner commensurate with the safety significance of the issues. The licensee was generally effective at identifying problems at a low threshold and entering them into the Corrective Action Program (CAP). The licensee consistently prioritized issues in accordance with their CAP and routinely performed adequate evaluations that were technically accurate and of sufficient depth. Root cause analyses were performed when appropriate and problem evaluations considered extent of condition and generic implications appropriately. Corrective actions were effective in correcting problems. Management fostered a safety-conscious work environment by emphasizing safe operations and encouraging problem reporting.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

Green. A self-revealing, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified for failure to establish, implement, and maintain adequate maintenance procedures to ensure that the Main Steam Isolation Valves (MSIVs) were capable of performing their safety-related function. Specifically, maintenance procedure MMP-300.023, Main Steam Isolation Valve Air Actuator Maintenance, was inadequate in that it did not include hot-condition checks of the alignment of the bottom spring plate and stanchion gap tolerances.

This finding is greater than minor because it impacts the equipment performance attribute of the Reactor Safety Mitigating Systems Cornerstone in that the failure of the MSIV to close affects the reliability and availability of that valve. This finding was determined to be of very low safety significance because the valve did go closed within a relatively short time, and because the effects of the failure of a single MSIV to close are bounded by accident analysis assumptions. (Section 4OA2 c.(2).2)

B. Licensee-Identified Violation

None

Report Details

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

a. Effectiveness of Problem Identification

(1) Inspection Scope

The team reviewed items selected across the three strategic performance areas (reactor safety, radiation safety, and physical protection) to verify that problems were being properly identified, appropriately characterized, and entered into the Corrective Action Program (CAP) for evaluation and resolution. The team reviewed program documents including Revision 0 of Station Administrative Procedure (SAP)-999, Corrective Action Program, which described the administrative process for documenting and resolving problems. The team also reviewed other program documents including SAP-1356, Cause Determination, Revision 1, and SAP-1351, Operating Experience Program, Revision 4.

The team attended the licensee's daily management review team meetings March 13 - 16 and March 27 - 30, to gauge the effectiveness of the screening process in ensuring that problems were properly captured in the licensee's Condition Evaluation Report (CER) database. The team also listened to daily CER review team phone calls on March 13 - 16, March 27, March 28, and March 30, to determine whether identified problems were properly characterized and prioritized.

The team reviewed a sampling of CERs that had been generated or closed since May 2004, and focused on CERs associated with systems that ranked high on the licensee's risk-significance list. For the team, the licensee conducted several computer database searches and sorts to identify the specific attributes associated with the issues identified and documented in the CAP. Those sorts included CERs issued during the past two refueling outages, CERs that described failures of in-service or Technical Specification (TS) surveillance tests since May 2004, operating experience items initiated since May 2004, and CERs that described the evaluations of and corrective actions taken for NRC-identified findings since May 2004.

The team reviewed plant equipment issues associated with maintenance rule (a)(1) items, functional failures, maintenance preventable functional failures (MPFFs), and repetitive MPFFs, to verify that maintenance rule equipment deficiencies were being appropriately entered into the CAP.

The team toured the plant, including portions of the intermediate building, the auxiliary building, the service water pumphouse, the control room, and the diesel generator building to determine whether equipment and material condition problems were being identified.

While in the control room, the team reviewed the equipment removal and restoration logbook (all open items), and the logbook of open control room discrepancies to determine if problems potentially affecting safe plant operations were properly entered into the CAP process.

In addition, the team reviewed the Nonconformance Control and Corrective Actions Audit dated 3/2/05, the Corrective Action Program Self-Assessment dated October 11-14, 2004, and the CERs generated as a result of these audits, which included CERs 0-C-06-0090, 0-C-05-0457, 0-C-05-0458, and 0-C-05-0459. The team evaluated the assessment's effectiveness in identifying problems in the CAP process and compared the results of the licensee's efforts with the teams findings and observations.

The team reviewed the industry OE program through review of SAP-1351, Revision 4, Operating Experience Program, and interviews with key personnel in the Organization Development & Performance (OD&P) and Nuclear Licensing (NL) departments. Several NRC generic communications were selected to determine if the licensee had screened these items into the CAP by documenting them with a CER. In addition, general review of the CER documentation was performed for selected CERs.

Documents reviewed are listed in the Attachment.

(2) Assessment

The team concluded that site personnel were appropriately generating CERs as required by the licensee's program.

From the review of CERs associated with maintenance rule items and previously issued non-cited violations (NCVs), the team determined that site personnel were appropriately documenting maintenance rule problems in the licensee's CAP process. Maintenance rule evaluations performed using attachments in procedure ES-514, Maintenance Rule Implementation, were appropriately attached to the associated CER in the Problem Identification Program (PIP) database.

The team identified no significant differences between the corrective action process samples reviewed during this inspection and the licensee's self-assessments and audits that were related to the effectiveness of the licensee's corrective action process. Therefore, the team concluded that the self-assessments and audits performed by the licensee were effective in identifying issues, and that deficiencies were appropriately entered into the corrective action process.

The team noted that SAP-1351, Operating Experience Program, Revision 4, sufficiently detailed a process to screen industry operating experience (OE). Industry OE items were routinely reviewed by the licensee's OD&P department and the dispositions of the items were recorded in an OE log.

The team identified the following two cases in which identification of the problem was not complete and accurate:

- When CER 0-C-04-790 was initiated on 3/19/04 for Maintenance Rule tracking purposes to provide the 60-day completion of the functional failure evaluation of the failure of a level switch that had occurred on 1/21/04, the licensee did not identify the delay in initiating the CER as a problem.

- When CER 0-C-04-791 was initiated on 3/19/04 for Maintenance Rule tracking purposes to provide the 60-day completion of the functional failure evaluation of the failure of a level switch that had occurred on 1/28/04, the licensee did not identify the delay in initiating the CER as a problem.

For these same two cases, the team considered that identification of the problem was not timely, because:

- CER 0-C-04-790 was initiated on 3/19/04 for a failure that had occurred on 1/21/04.

- CER 0-C-04-791 was initiated on 3/19/04 for a failure that had occurred on 1/28/04.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The team reviewed a sample of corrective action documents to determine if the licensee appropriately prioritized and evaluated various issues being entered into the CAP. A sample of corrective action documents were selected from the various cornerstones with a focus on issues related to higher risk significant plant systems.

The team reviewed selected CERs, including those associated with industry operating experience issues and nonconformance notices, to determine whether site personnel conducted reviews for generic implications, repetitive conditions, and common-cause failure mode determinations when the condition warranted.

The team attended the licensee's daily management review team meetings March 13 - 16 and March 27 - 30, to determine the level of management attention that problems received. The team also listened to daily CER review team phone calls on March 13 - 16, March 27, March 28, and March 30, to determine whether identified problems were properly characterized and prioritized.

Documents reviewed are listed in the Attachment.

(2) Assessment

The team determined that the licensee was effective in prioritizing and evaluating issues commensurate with their safety significance.

The team concluded that the licensee's problem evaluations appropriately considered extent of condition and generic implications, and operability and reportability of issues were appropriately evaluated and resolved. At the various management meetings, the team observed that the specific issues identified in CERs received a level of discussion commensurate with their safety significance. The team also concluded that root cause analyses were being performed when appropriate.

The team identified the following three cases in which extent of condition was not considered:

- CER 0-C-05-4593 described evaluation of an operating-experience item that showed that failure of a potential transformer in a voltage regulator could cause an over-voltage condition that could affect safety-related components connected to the affected bus. In this evaluation, the licensee did not evaluate the vulnerability of safety-related equipment to the effects of a similar failure at the V.C. Summer station.

- CERs 0-C-05-4301 and 0-C-05-1997 described evaluation of the discovery of mud and sludge coming out of a sample valve in the cooling system of an emergency diesel generator. In this evaluation, the licensee's historical search of related issues failed to identify one previous occurrence.

- CER 0-C-05-4440 described evaluation of an operating experience item regarding a phenomenon called "tin whiskering" in safety-related circuits. In this case, the licensee took no action to assess the possible effects of tin whiskering in systems other than the solid-state protection system, despite vendor recommendations to assess all applications that could be vulnerable to the phenomenon.

In addition, the team identified the following two cases in which root and contributing causes were not identified:

- CER 0-C-05-3144 describes an issue related to returning safety-related valves to service following diagnostic testing with unacceptable results. However, this CER did not describe an evaluation and did not identify any cause; instead, the evaluation section of the CER described a proposed corrective action, but provided no related basis.

- CER 0-C-05-0457 describes an audit-identified finding of a weakness in the licensee's root-cause analysis process. The evaluation section of this CER did not identify any root or contributing causes.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The team reviewed the CERs listed in the Attachment to verify that the licensee had identified and implemented corrective actions commensurate with the safety significance

of the documented issues, and where possible, evaluated the effectiveness of the actions taken. The team also verified that common causes and generic concerns were addressed where appropriate. In addition, the teams reviewed CERs associated with previous NCVs to assess the adequacy of corrective actions.

Documents reviewed are listed in the Attachment.

(2) Assessment

.1 General Observations

From the CER reviews, the team determined that the licensee's corrective actions were effective in correcting problems. Management involvement in the Corrective Action Review Board (CARB) process was also considered to be effective. The team also concluded that corrective actions for previous NCVs were adequate.

The team identified the following four corrective actions as not appropriately focused to correct the problem:

- In CER 0-C-06-0090, sequence 1, the corrective action to improve proper application of CER action level codes was to discuss the proper application of CER action levels and CER categories with the Unit Evaluators and Management Review Team members at the combined CER review team and Management Review Team meeting held on February 8, 2006. The inspection team considered this corrective action to be not appropriately focused to correct the problem because it was a one-time action that was not made part of a process that would provide periodic reinforcement and accountability.

- In CER 0-C-06-0090, sequence 1, the corrective action to improve departmental trending efforts was for the site Vice President task departmental managers to provide departmental trends for their areas at the next Plant Challenge meeting. The inspection team considered this corrective action to be not appropriately focused to correct the problem because it was a one-time action that was not made part of a process that would provide periodic reinforcement and accountability.

- In CER 0-C-06-0090, sequence 1, the corrective action to improve assignment of unit evaluators was to use the teleconference conference system for the CER review team meetings and for unit evaluators to receive reinforcement from senior management. The inspection team considered this corrective action to be not appropriately focused to correct the problem because it was not made part of a process that would provide periodic reinforcement and accountability.

- In CER 0-C-05-4440, the licensee's corrective actions were not appropriately focused to correct the problem of tin whiskering in safety-related circuits because the licensee did not initiate a preventive-maintenance task to clean and inspect installed circuit cards and in-stock spares on a regular basis, despite a vendor

recommendation to do so. In this case, the licensee deviated from a vendor-recommended practice with no documented basis.

In addition, the team identified the following three cases in which corrective actions were not completed in a timely manner commensurate with the safety significance of the issue:

- CERs 0-C-01-0403 and 0-C-04-0741 described a nonconforming condition in which a pipe clamp on a pipe in the component cooling water system (a safety-related system) was making contact with a nearby piece of structural steel. This issue was identified in CER 0-C-01-0403 on 3/21/01 and was resolved under CER 0-C-04-0741 on 5/11/05. In the process, CER 0-C-01-0403 remained open for 1111 days, and CER 0-C-04-0741 remained open 540 days. Disregarding the overlap between CER 0-C-01-0403 and CER 0-C-04-0741, this nonconforming condition was corrected 1512 days after it was first identified.

- In CER 0-C-05-4400, the evaluation of tin whiskering in safety-related circuits was completed approximately ten months after the related operating experience report was received.

- In CER 0-C-04-1064, the corrective action to replace components used to maintain the temperature of the diesel-driven fire pump warm during cold environmental conditions was completed 473 days after the condition was identified.

.2 Inadequate Maintenance Procedures to Repair Main Steam Isolation Valves

Introduction: A self-revealing Green non-cited violation (NCV) was identified for failing to establish, implement, and maintain adequate maintenance procedures to ensure that the Main Steam Isolation Valves (MSIVs) were capable of performing their safety-related function. Specifically, maintenance procedure MMP-300.023, Main Steam Isolation Valve Air Actuator Maintenance, was inadequate in that it did not include hot-condition checks of the alignment of the bottom spring plate and stanchion gap tolerances. This inadequacy resulted in the failure of XVM02801B-MS, 'B' Main Steam Isolation Valve, to go fully closed.

Description: On December 7, 2004, in Mode 2 during a forced plant shutdown due to a steam line break on the high-pressure main turbine, MSIV XVM02801B-MS failed to fully close the first five times that control room operators attempted to close the valve from the Main Control Board (MCB). Those attempts resulted in the valve indicating 'mid-position' both locally and on the MCB. On the sixth attempt, the valve went fully closed. Subsequent investigation and root cause analysis determined that misalignment of the bottom spring plate with the yoke (stanchion) rods had caused increased friction and binding which prevented the valve from fully closing. The misalignment was attributed to thermal expansion tolerance changes and the wear of 'brass tipped' adjustment pins which hold the bottom spring plate away from the stanchion rods. The licensee's corrective action to prevent recurrence was to initiate a preventive-maintenance task sheet to ensure the alignment of the bottom spring plate and stanchion gap tolerances

of the valve during hot conditions coming out of a refueling outage or after maintenance. The licensee also enhanced maintenance procedure MMP-300.023, Main Steam Isolation Valve Air Actuator Maintenance, to include guidance for conducting hot-condition tolerance and set-up of the bottom spring plate and stanchions.

Analysis: The inoperability of valve XVM02801B-MS resulted from the performance deficiency of not including adequate instructions in procedure MMP-300.023. The finding is considered greater than minor because it had a direct impact on the MSIV to perform its safety-related function, which is to close during a high-energy line break or steam generator tube rupture. This finding impacts the equipment performance attribute of the Reactor Safety Mitigating Systems Cornerstone in that the failure of the MSIV to close affects the reliability and availability of that valve. This finding was determined to be of very low safety significance because the valve did go closed on the sixth attempt, and failure of a single MSIV to close is within the accident analysis assumptions.

Enforcement: 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures and Drawings, requires that all activities affecting quality be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Criterion V further requires that instructions, procedures, or drawings include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Contrary to the above, the licensee failed to establish, implement, and maintain adequate maintenance procedures to ensure that the Main Steam Isolation Valves (MSIVs) were capable of performing their safety-related function, in that maintenance procedure MMP-300.023, Main Steam Isolation Valve Air Actuator Maintenance, was inadequate because it did not include hot-condition checks of the alignment of the bottom spring plate and stanchion gap tolerances. Because this finding was determined to be of very low safety significance (Green) and the licensee has entered this issue into their corrective action program as CER 0-C-06-1110, this violation is being treated as a non-cited violation (NCV), consistent with Section VI.A of the NRC's Enforcement Policy, and has been designated NCV 06000395/2006007-01, Failure to Use Adequate Maintenance Procedures to Inspect and Repair Main Steam Isolation Valves.

d. Assessment of Safety-Conscious Work Environment

(1) Inspection Scope

The team informally interviewed licensee personnel to develop a general view of the safety-conscious work environment and to determine if any conditions existed that would cause workers to be reluctant to raise safety concerns. The team also discussed issues with the current Senior Resident Inspector (assigned since 2004) to gain his perspective on the site safety-conscious work environment. The team also reviewed the licensee's employee concerns program (ECP), which provides an alternate method to the CER process for employees to raise safety concerns with the option of remaining anonymous.

(2) Assessment

The team concluded that licensee management generally fostered a safety-conscious work environment by emphasizing safe operations and encouraging problem reporting. Methods available to encourage problem reporting included CERs, maintenance work requests, and the ECP. Interviews with licensee staff did not identify any reluctance to report safety concerns.

4OA6 Meetings

Exit Meeting Summary

The team presented the inspection results to Mr. J. Archie and other members of licensee management at the conclusion of the inspection on March 31, 2006.

The team asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION
PARTIAL LIST OF PERSONS CONTACTED

Licensee

L. Bennett, Plant Support Engineering Supervisor
M. Carr, Plant Support Engineering Engineer
L. Cartin, Design Engineering Engineer
T. Clark, Plant Support Engineering Supervisor
A. Cribb, Nuclear Licensing Supervisor
G. Croxton, Plant Support Engineering Engineer/BS
K. Culp, Organizational Development & Performance Specialist
D. Deardorff, Sr. Engineer/CAP
D. Dobson, Plant Support Engineering Engineer
J. Garza, Plant Support Engineering Engineer
L. Harris, Plant Support Engineering Engineer
J. Heilman, Organizational Development & Performance Supervisor/CAP
M. Hicks, Plant Support Engineering Engineer
D. Jones, Design Engineering Engineer
D. Lavigne, General Manager, Organizational Effectiveness
G. Lippard, Operations Manager
K. Marsh, Organizational Development & Performance Specialist
T. Matlosz, Organizational Development & Performance Manager
D. McGlauflin, Organizational Development & Performance Specialist
F. McKinnon, Plant Support Engineering Engineer
F. O'Neal, Plant Support Engineering Engineer
V. Pearson, Organizational Development & Performance Specialist/CAP
G. Robertson, Plant Support Engineering Engineer
B. Schwartz, Maintenance Rule Coordinator
W. Stuart, Plant Support Engineering Manager
M. Torres, Plant Support Engineering Engineer
J. Turkett, Nuclear Licensing Engineer
B. Waldrop, Plant Support Engineering Engineer
T. Welsh, Plant Support Engineering Engineer
R. Word, Plant Support Engineering Supervisor

NRC

John Zeiler, Senior Resident Inspector

Attachment

ITEMS OPENED, CLOSED AND DISCUSSED

Open/Closed

05000395/2006007-01	NCV	Failure to Use Adequate Maintenance Procedures to Inspect and Repair Main Steam Isolation Valves (Section 4OA2 c.(2).2)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Condition Evaluation Reports

0-C-98-0754, Change TS section 4.5.2.b.2 to delete the reference to ECCS pump casings.
0-C-98-1047, Groundwater in-leakage at the (Residual Heat Removal) and (Reactor Building) spray pipe penetrations through the AB wall.
0-C-99-0007, The A Condensate Pump discharge valve took 8 minutes to open during a plant transient.
0-C-99-0131, PZR (Pressurizer) Backup Group 2 Heater SWGR (Switchgear) tripped without apparent reason.
0-C-02-0916, Groundwater in-leakage around guard pipes and coating/concrete failure around penetration sleeves.
0-C-02-1726, The B Station Instrument Air Compressor was given a start signal and would not load.
0-C-02-1757, A Diesel Generator breaker tripped open while paralleled to offsite power.
0-C-02-1980, Air header pressure started dropping with B Instrument Air compressor running at 85 psig; manually started A compressor which immediately tripped on high air temperature; started supplemental air compressor and recovered air pressure.
0-C-02-2500, Switch did not actuate during functional test (ILS01929).
0-C-02-2748, A Instrument Air Compressor tripped on low oil pressure on startup.
0-C-02-2820, TS Amendment: CER created to transfer this issue from Licensing PIP 0-L-99-0138. [Licensee Event Report] 1998-008: Missed [Technical Specification] Surveillance Requirement to vent [residual heat removal] pump casings. Opened to track completion of [Licensee Event Report], Tech Spec amendment & NRC Inspection items.
0-C-02-2872, The security latch on [door] DRCB/503 failed.
0-C-02-2883, Field failure of 40DG relay caused [Diesel Generator] A output breaker to open.
0-C-02-3061, Instrument Air Compressor B surge alarm and inlet filter high differential pressure received; compressor would not maintain system pressure.
0-C-02-3688, A [Emergency Diesel Generator] experienced high lube oil strainer [differential pressure] during the surveillance run per [Surveillance Test Procedure] -125.002A, STTS#0218392.
0-C-03-0433, RIS 2003-02: Importance of giving NRC advance notice of license renewal.
0-C-03-0506, [V.C. Summer Nuclear Station] [Nuclear Regulatory Commission] Integrated Inspection Report # 50-395/02-04. Four (4) non-cited violations of low significance (Green) were identified during the inspection period of September 29, 2002 through January 4, 2003.
0-C-03-1847, Corrective Action Program does not have an effective process for identifying repetitive events.
0-C-03-2171, Lube Oil Strainer [differential pressure] exceeded log limits during surveillance testing.
0-C-03-2837, XVC03162A failed leakage testing during the performance of [surveillance test procedure] 123.003A.
0-C-03-3364, Wires inadvertently loosened while performing relay change-out.
0-C-03-3500, During run-in on A Diesel Generator, the fuel supply line on the right bank ruptured at the threads.
0-C-03-3663, Lead found not connected on one side of diode D1 in XPN5504 [Diesel Generator] B Control Panel.

0-C-03-3800, Sample valve XVT-20989-DG for sampling B Diesel Generator Jacket Cooling Water appears to be clogged.
0-C-03-4348, Unable to control speed of turbine driven emergency feedwater pump during surveillance test.
0-C-03-4399, While performing [preventive maintenance tasking sheet] #0313350 ILS01902 did not actuate.
0-C-04-0049, QA-AUD-200312-0 Station does not adequately recognize and classify risk significance relative to the [condition evaluation report] Process. The [corrective action program] lacks organizational ownership, upper management support, and lacks an adequate corrective action follow-up process.
0-C-04-0165, Westinghouse Technical Bulletin, TB-04-2, Solid State Protection System Master Relay, that needs to be reviewed for applicability to VCSNS.
0-C-04-0187, New Federal Signal Electronic Sirens may have defective amplifiers that could be adversely affected by cold temperatures. These sirens have not yet been installed.
0-C-04-0188, OE17156 - [Solid State Protection System] Safeguard Driver Board degradation found during inspections.
0-C-04-0223, Ice storm resulted in the loss of greater than 25% of the Early Warning Siren System.
0-C-04-0241, OE17609 - Reactivity Excursion upon Starting Standby Centrifugal Charging Pump for Surveillance Test.
0-C-04-0289, NRC questioned gap on pivot point for trip throttle valve, XVT02865-MS on the Turbine Driven Emergency Feedwater Pump.
0-C-04-0355, Pressurizer Back-up Group 2 Heaters tripped again for no apparent reason.
0-C-04-0389, The audible alarm for the [Early Warning Siren System] computer was found silenced which disabled the prompting that the [Early Warning Siren System] operability had dropped below 85%.
0-C-04-0460, NRC Information Notice 2004-01: Auxiliary Feedwater Pump Recirculation Line Orifice Fouling - Potential Common Cause Failure. NRC document that needs to be reviewed for applicability.
0-C-04-0462, The station encountered a loss of greater than 25% of the EWSS capability due to an ice storm which interrupted electrical power to nearly half of the sirens
0-C-04-0479, This [condition evaluation report] is being initiated to provide a mechanism to track any procedural corrective actions which may be determined to be required relative to previously closed CER-03-0128.
0-C-04-0747, While placing XFL-8A in service, Reactor Coolant Pump Seal Injection flows on A and B [Reactor Coolant Pumps] decreased to 2.7 and 4.1 gpm respectively.
0-C-04-0766 ,The corrective action to resolve the pipe support condition in CER-01-0403 is considered untimely. CER-04-0741 should address if an NCN condition existed since the condition was identified in 3/21/03 (refer to CER-01-0403).
0-C-04-0790, The [condition evaluation report] is generated for Maintenance Rule tracking purposes to provide the 60-day completion of the functional failure evaluation of level detection system Level Switch ILS01926.
0-C-04-0791, The [condition evaluation report] is generated for Maintenance Rule tracking purposes to provide the 60-day completion of the functional failure evaluation of level detection system Level Switch ILS01905.

0-C-04-0818, OE17978 - Foreign Material Found in Component Cooling Water Heat Exchanger. This is an Operating Experience issue that needs to be evaluated for applicability to VCSNS.
0-C-04-0879, Apparent [reactor coolant system] boundary leakage identified at the seal injection line to the C [reactor coolant pump] during the reactor building building entry today while investigating unidentified [reactor coolant system] leakage.
0-C-04-0881, [reactor coolant system] boundary leakage identified at the seal injection line to the C [reactor coolant pump]. This [condition evaluation report] will document issues related to Boric Acid and the necessary evaluations per SAP-1100.
0-C-04-0884, [Licensee Event Report] 2004-001: [valve] IFV00498-FW apparently failed closed while decreasing power resulting in a reactor trip due to Lo-Lo steam generator (S/G) in the C S/G.
0-C-04-0988, This [condition evaluation report] is to track the Root Cause Analysis on the C Reactor Coolant Pump Seal Injection Line leak and associated corrective actions.
0-C-04-1064, Diesel Fire Pump, XPP0134B, Keep Warm System not maintaining temperature warm.
0-C-04-1069, ILT00459 failed low while attempting to electrically isolate IPT00950 on W.O. 0407763.
0-C-04-1121, Reactor Coolant System is leaking into Residual Heat Removal discharge header and level control valve 115A. Reactor Coolant System Unidentified leakage is 0.23 gpm with flow through letdown demins. Leakage is 0.13 gpm with demins bypassed.
0-C-04-1239, Steam Propagation Door DRCB/302 found open and unattended.
0-C-04-1385, Pressurizer (PZR) Backup Group 2 Heater breaker spuriously tripped.
0-C-04-1490, During SSPS A train logic testing, Slave A test pushbutton (position 18) did not respond as required. A4 LED was found on prior to testing that position and would not extinguish.
0-C-04-1527, RCP seal leakage in accordance with WCAP-10541 may no longer be acceptable to the NRC for use in the FPER and its supporting Safe Shutdown (SSD) analysis.
0-C-04-1786, Lube oil leak on A diesel generator shaft driven pump while engine in operation.
0-C-04-1900, RCS Total Flow Rate is decreasing. If trend continues, A loop flow rate will decrease below the 100% loop design flow rate.
0-C-04-2170, B Feedwater Pump oil coolers appear to be fouled or fouling based on temperature rise in the oil operating temp.
0-C-04-2262, Plant downpower due to high circulating water (CW) temp.
0-C-04-2308, Operating Event (OE)18617 - Main Feedwater Regulating Valve (MFRV) Plug-Stem Separation (Follow-Up to OE 17781), is an OE event that needs to be evaluated for applicability to VCSNS.
0-C-04-2381, NRC Integrated Inspection Report 05000395/2004003 identified two Green findings Non-Cited Violation (NCV) on Reactor Coolant Pump (RCP) C weld repair and NCV on drawing and NCV on drawing control loss of Reactor Coolant System (RCS) Pressurizer heater control.
0-C-04-2388, Addresses the Green licensee-identified non-cited violation on the disabled computer alarm associated with the EWSS documented in NRC Report 05000395/2004002.
0-C-04-2410, Sight glass/indicator for feedwater heater is obsolete.
0-C-04-3051, Box purchased through Investment Recovery was found to contain packaged radioactive materials.
0-C-04-3121, Operating Experience Screening Self-Assessment SA04-OD-05.

0-C-04-3230, While performing a maintenance history review for several level switches in the LD (Level Detection) system, found three level switches that had failed functional testing, but not declared as Maintenance Rule Functional Failures.
0-C-04-3262, A Residual Heat Removal (RHR) pump (XPP0031A) breaker (XSW1DA1 06A) failed to close during attempted start per STP 205.004.
0-C-04-3386, [Licensee Event Report] 2004-003: During the restart of the A train loading sequencer after completion of the maintenance run on A diesel generator (DG) the undervoltage test switch was inadvertently actuated.
0-C-04-3644, Corrective Action Program Self-Assessment SA-04-OD-02.
0-C-04-3702, Damper XDP0023B open limit switch did not make up during an attempted fan (XFN0030) start.
0-C-04-3755, QA Audit QA-AUD-200414-0, Nonconformance Control, QA finding. Program inadequacies and violations were noted regarding the issuance and control of QA Findings via PIP [condition evaluation report] database.
0-C-04-3772, During the unit shutdown, the C feedwater regulating valve (FWRV) response was very slow.
0-C-04-3775, Extraction Steam Pipe Failure.
0-C-04-3786, B Main Steam Isolation Valve had mid position indication when valve was closed.
0-C-04-3803, IPT00950 Indication Drifting Low.
0-C-04-3840, Quality Service Observation of activities associated with [condition evaluation report] 04-3803 (IPT-0950).
0-C-04-3856, C SW (Service Water) Pump breaker (XSW1EB 02) charging springs failed to charge.
0-C-04-3931, XSWDB-05, PZR (Pressurizer) Backup Group 2 Heater breaker tripped.
0-C-04-4366, PZR (Pressurizer) Backup Group 2 Heater breaker tripped again for no apparent reason.
0-C-05-0069, XSWDB-05, PZR (Pressurizer) Backup Group 2 Heater breaker tripped during manual makeup.
0-C-05-0142, A diesel generator (DG) air start valve was leaking air when XVP10987A-DG was open during return to operation (RTO) clearing. While investigating the source of air leakage the A DG started in Maintenance and was secured. The RPMs exceeded 115 but the DG never reached operating speeds.
0-C-05-0230, OE19460 - Time Delay Relays Exceed TS Allowable Value.
0-C-05-0299, NRC (Nuclear Regulatory Commission) Inspection Report 2004-005 covers a three-month period (9/26-12/31/04).
0-C-05-0306, IFV00478, 488, 498 Maintenance Recommendations from information obtained at the 2005 Air-Operated Valve (AOV) users group conference.
0-C-05-0330, The required documentation for a Maintenance Rule Functional Failure/Exceeding Performance Criteria following event declaration was not completed within the time prescribed in ES-0514.
0-C-05-0402, OE19880 - Multiple TGSCC Found in RCS Cold Leg Sample System Tubing (Beaver Valley 1).
0-C-05-0457, QA Audit QA-AUD-200414-0 identified a finding in the root cause analysis process.
0-C-05-0458, QA Audit QA-AUD-200414-0 identified that corrective action levels were assigned incorrectly per SAP-1131, Enclosure B.

0-C-05-0459, During audit QA-AUD-200414-0 identified Finding regarding SAP-1142, Trending of Station Deficiencies.
0-C-05-0573, While testing B Diesel Generator (DG) annunciator, the IB operator notified the Control Room that he was hearing relay chatter and auxillary equipment was starting and stopping.
0-C-05-0616, OE19872 - Improper linkage adjustment on moisture separator level switches caused main turbine trip. - Catawba Nuclear Station.
0-C-05-0731, The replacement Reactor Coolant Pump studs to be installed during RF-15 did not address Section XI requirements for baseline Ultrasonic Inspection.
0-C-05-0847, OE20033 - Update to OE19734 - Diesel Generator Speed And Voltage Failed To Reach Required Values In Under 10 Seconds.
0-C-05-0856, Damper limit switch on XDP0023B in need of adjustment
0-C-05-0975, Measured outside air flow on A control room ventilation emergency mode to be 1029 scfm.
0-C-05-0977, Apparent missed surveillance of both trains of CB ventilation outside air inleakage measurement.
0-C-05-0993, High differential pressure noted on B D/G (Diesel Generator) lube oil duplex strainer.
0-C-05-1101, VCS (V.C. Summer) does not currently have a procedure to address multiple loss of annunciators.
0-C-05-1282, Recommend reactor engineer (RE) revise appropriate reactor engineering procedures (REPs) to remove manipulation of valve 8484 and that operating procedures (OPs) revise appropriate station operation procedures (SOPs) to lower volume control tank (VCT) level during approach-to-criticality rather than manipulate valve 8484 which could introduce gas into the vented system.
0-C-05-1412, Problems occurred when loading diesel air compressor (XAC0014)
0-C-05-1505, During outage work activities on the emergency feedwater turbine (EFW) Turbine (TPP0008), engineering noted as-built differences on the stem drain lines for the Trip Throttle valve and the Governor valve.
0-C-05-1508, During outage work activities on the emergency feedwater (EFW) Turbine (TPP0008), engineering noted as-built differences on the stem drain lines for the Trip Throttle valve and the Governor valve.
0-C-05-1518, OE 20450-Preliminary-Millstone Unit 3 Automatic Reactor Trip needs to be evaluated.
0-C-05-1688, CR Ventilation vendor test results when compared to our system line-up do not appear to be accurate.
0-C-05-1729, High lube Oil Strainer (XEG0001B-E) Differential Pressure.
0-C-05-1799, While inspecting SSPS (Solid State Protection System) Universal Logic Card per Millstone OE (Operating Experience), found degraded diode CR47.
0-C-05-1809, TB-05-4: During inspection of SSPS (Solid State Protection System) circuit boards per OE 20450, Westinghouse Briefing on SSPS (Solid State Protection System) Tin Whiskers, a tin whisker was identified on a Universal logic card, SN 3113.
0-C-05-1891, The ultrasonic thickness measurement for MIC (Microbiologically-Induced Corrosion) component IB-221-12 shows remaining wall thickness less than the established minimum wall. This is downstream of XVC-3125A- SW.
0-C-05-1997, When sampling A D/G (Diesel Generator) jacket water cooling, I discovered mud and sludge coming out of sample valve for inside the cooling system.

0-C-05-2042, [Licensee Event Report] 2005-001: Relay testing per EMP405.024 caused a loss of all balance of plant busses, loss of 1DB, and auto-start of B DG (Diesel Generator).
0-C-05-2178, 115-kilovolt (kV) bus voltage below allowed limits. Station Operating Procedure (SOP)-304 limit for current plant configuration is 116.4 kV; actual voltage on bus was 115.1 kV.
0-C-05-2196, The A Safety Injection (SI) Accumulator was overfilled due to faulty level indication caused by four transmitter isolation valves being closed through the valve lineup indicated these valves were open.
0-C-05-2226, Approximately 3 gpm leakage into the Pressure Relief Tank (PRT); the reason for the inleakage for the PRT was determined to be XVR08121: the seal return path relief valve to the PRT.
0-C-05-2286, B RHR pump was required to be placed in Pull to Lock (PTL) per GOP-2 at RCS temperature of 250 degrees Fahrenheit (EF). It was not placed in PTL as required until approximately 258 EF.
0-C-05-2300, Licensee Event Report (LER) 2005-002: A Motor-Driven Emergency Feed Pump (MDEFP) switch was in PTL , rendering the pump inoperable during Mode 3 escalation.
0-C-05-2399, TR5-47 - Review of circuit card/board related failures that contributed to automatic and manual scrams (addendum to TR5-43), is an OE (Operating Experience) event that needs to be evaluated.
0-C-05-2620, Review of (Refueling Outage)15 (Condition Evaluation Report)s indicates that three major human-performance errors occurred in managing plant configuration during (Refueling Outage)15.
0-C-05-2728, A DG (Diesel Generator) alarm panel malfunction.
0-C-05-2948, When OE Report 20940 was reviewed, it was noted that the V. C. Summer Nuclear Station (VCSNS) had not evaluated Fisher Information Notice 2004-02 and some other earlier vendor notices.
0-C-05-3036, Electrical (ES) System Maintenance Rule status goes to (a)(1).
0-C-05-3055, Commenced STP0125.008 (Diesel Generator Load Test) after the completion of STP0125.013 (Diesel Gen. A Semi-annual Operability Test). Could not obtain 110% load per recorder (IYR01803) on XCP6224. Main control board indication reached 4680KW.
0-C-05-3144, Test personnel are not recording test parameters and allowable values on ICP-240.169 Valve Diagnostic Procedure attachment as required per procedure.
0-C-05-3191, Measured stroke time on XVB0003B-AH greater than max allowed on STP-124.001 (510449).
0-C-05-3218, Valve found in abnormal condition due to diaphragm leak. With B charging pump in pull-to-lock, valve XVG09684B-CC is open.
0-C-05-3237, While in progress of racking up B Charging pump breaker (XSW1DB 15), breaker spring failed to charge.
0-C-05-3238, While in progress of racking up B Charging pump breaker (XSW1DB 15), breaker spring failed to charge. ([condition evaluation report] deleted to 0-0-C-05-3238)
0-C-05-3300, This [condition evaluation report] is to document the Maintenance Rule (a)(1) goal condition on the Instrument Air (IA) System, established on 8/18/05 for exceeding the IA Performance Criteria 2c, Diesel Air Compressor Unavailability, due to a Maintenance Preventable Functional Failure (MPFF).
0-C-05-3329, TDEFW (Turbine Driven Emergency Feedwater) Pump bearing cooling piping was noted to have incomplete piping supports.

0-C-05-3349, [Licensee Event Report] 2005-003: Reactor Trip resulted from failure of A Condensate Pump Discharge Valve, XVB00614A-CO to open while starting A Condensate pump following trip of B Condensate Pump.
0-C-05-3357, Westinghouse Technical Bulletin TB-04-22, Revision 1: Reactor Coolant Pump Seal Performance and Appendix R Compliance.
0-C-05-3429, OE 20825 - Unplanned scram caused by surveillance test being performed while another surveillance test had been temporarily halted for troubleshooting (Browns Ferry) is an OE event that needs to be evaluated for applicability to VCSNS
0-C-05-3527, Possible loose part internal to valve actuator.
0-C-05-3621, Feedwater (FW) System IFV00498-FW) Mainteneance Rule status goes to (a)(1)
0-C-05-3753, Sparks due to metal to metal rubbing issued from A CCW (Component Cooling Water) pump inboard seal when pump started for re-test.
0-C-05-4301, While sampling the B DG (Diesel Generator) jacket water cooling, mud and sludge was discovered to be coming from the sample tap.
0-C-06-0090, Corrective Action Program Self-Assessment SA05-OD-05
0-C-06-0142, Fisher Information Notice: FIN 93-03, Supplement 1, Possible butterfly valve taper pin failures. Operating experience document that needs to be reviewed for applicability.
0-C-06-0393, TSC (Technical Support Center) Engineering Area rearranged without consulting Emergency Services. Labeled Emergency Response Equipment was removed and placed into storage contrary to posted notice.

<u>Operating Experience CERs</u>
0-C-04-1250, OE18120 - Potential Common Mode Failure for Instrument Air. This is an Operating Experience event that needs to be evaluated for applicability to VCSNS.
0-C-04-1413, Westinghouse Infogram IG-04-4 recommends setting the nuclear instrumentation (NI) plateau voltage to 600 Volts vs. the 800 Volts they are now set at or set by a plateau calculation.
0-C-04-3457, OE19054 - High Temperature on the Turbine Driven Auxiliary Feedwater Pump (TDAFP) Coupling End Bearing following corrective maintenance.
0-C-04-3726, Westinghouse Technical Bulletin TB-04-22: Reactor Coolant Pump Seal Performance and Appendix R Compliance. Operating Experience information to be reviewed for applicability to VCSNS (V.C. Summer Nuclear Station).
0-C-05-0956, OE20024 - River Bend (Update to OE19690) Loss of Division 1 Safety Bus During Surveillance Testing, is an OE event that needs to be evaluated for applicability to VC Summer Nuclear Station (VCSNS).
0-C-05-1079, SER2-05 - Gas Intrusion in Safety Systems, is an OE event that needs to be evaluated for applicability to VCSNS.
0-C-05-1337, NRC Information Notice (IN) 2005-08: Monitoring vibration to detect circumferential cracking of reactor coolant pump and reactor recirculation pump shafts. Operating experience information that needs to be reviewed by VCSNS.
0-C-05-2255, NRC Information Notice (IN) 2005-11: Internal flooding/spray-down of safety-related equipment due to unsealed equipment hatch floor plugs and/or blocked floor drains. Industry Operating Experience that requires VCSNS review.
0-C-05-3712, SEN-257 - Internal Flood Design Deficiencies.
0-C-05-3838, OE21175-(Byron)- 2B Feedwater Pump Trip Causes Unit Runback - Update to OE20724.

0-C-05-4032, SER4-05 - Errors in the Preparation and Implementation of Modifications.
0-C-05-4276, TB-05-2 - Potential Shorting of Printed Circuit Board Used in Barton Model 763A Pressure and Model 764 Differential Pressure Transmitters. Operating Experience document that needs to be reviewed for applicability to VCSNS (V.C. Summer Nuclear Station).
0-C-05-4345, NRC Information Notice (IN) 2005-30, Safe Shutdown Potentially Challenged by Unanalyzed Internal Flooding Events and Inadequate Design. Industry operating experience document that needs to be reviewed for applicability.
0-C-05-4400, NRC Information Notice 2005-25, Inadvertent Reactor Trip and Partial Safety Injection Actuation Due to Tin Whiskers. Industry operating experience issue that needs to be reviewed for applicability.
0-C-05-4593, OE21532 - Trip of the System Auxiliary Transformer (SAT) Feed Breaker to Bus 143 Due to Ground Fault in Potential Transformer.

Root-Causes Analyses

RC-03-0006, License Amendment Request - LAR 02-2820, Emergency Core Cooling Systems - Exclusion of Safety Injection Pumps from the Requirement to Vent ECCS Pumps.
RC-04-0988, Weld Failure and Pressure Boundary Leakage on C Reactor Coolant Pump Seal Injection Nozzles.
RC-04-1069, Wrong Lead Lifted Due to Use of Illegible Drawing Resulting in Loss of Letdown, 6/3/04.
RC-04-3386, Inadvertent Loss of Bus 1DA, 2/2/05.
RC-04-3786, Main Steam Isolation Valve XVM02801B-MS Indicated Mid Position When Stroked Closed.
RC-04-0884, [Licensee Event Report] 2004-001: Feedwater Reg Valve IFV00498.
RC-04-0884, Revision 1, [Licensee Event Report] 2004-001: Feedwater Reg Valve IFV00498.
RC-05-0035, Licensee Event Report 2004-003-01, Safety System Actuation Due to Inadvertent actuation of IDA Undervoltage Test Switch - Supplement 1.
RC-05-0069, Pressurizer Backup Heater Breaker Trip During Manual Makeup.
RC-05-0069, Addendum, Pressurizer Backup Heater Breaker Trip During Manual Makeup.
RC-05-0091, Withdrawal of License Amendment Request - LAR 02-2820, Emergency Core Cooling Systems - Exclusion of Safety Injection Pumps from the Requirement to Vent ECCS Pumps.
RC-05-0731, The replacement (Reactor Coolant Pump) studs to be installed in RF-15 did not address Section XI requirements for baseline Ultrasonic Inspection.
RC-05-2042, Loss of the (Balance of Plant) and 1DB Buses during Testing of 86T3 Differential Lockout Relay, Revision 1.

Procedures

ES-514, Maintenance Rule Program Implementation, Rev. 3.
FPP-025, Fire Containment, Rev. 3.
MMP-300.023, Main Steam Isolation Valve Air Actuator Maintenance, Revs. 2, 3, and 4.
SAP-1351, Operating Experience Program, Rev. 4.
SAP-1356, Cause Determination, Rev. 1.
SAP-143, Preventative Maintenance Program, Rev. 11.
SAP-999, Corrective Action Program, Rev. 0.

STP-105.006, Safety Injection/Residual Heat Removal Monthly Flowpath Verification Test, Rev. 11.
STP-130.004D, Main Steam Isolation Valve Full Stroke Test (Mode 4), Rev. 1.

Other Documents
1MS-94B-865-6, Main Steam Isolation Valve Vendor Technical Manual.
BWXT Report 1318-001-04-17, Analysis of a Leaking Reactor Coolant Pump (RCP) Seal Injection Nozzle Flange to Thermal Barrier Weld Joint From V.C. Summer Nuclear Station, May 2004.
Engineering Information Request 81112, [condition evaluation report] 05-3191, XVB00003B-Ah exceeds maximum allowable stroke time of 2 seconds dated 8/14/05.
Engineering Change Request 50064, Diesel Generator Air Start After Cooler Removal.
Engineering Change Request 70222, Revise and update effected documents due to identified changes in system pressure or modifications to system.
Engineering Change Request 70818, Revised guidance for restoration of RCP (Reactor Coolant Pump) seal cooling during an Appendix R fire.
Failure Mechanism Analysis (FMA) 04-884.
Information Notice 2005-11: Internal flooding/spray-down of safety-related equipment due to unsealed equipment hatch floor plugs and/or blocked floor drains.
Licensee Event Report 1998-008-00, Missed Surveillance Test for ECCS Subsystems - Tavg $350EF
Licensee Event Report 2004-001-00, Reactor Trip Due to Valve Failure During Forced Shutdown
Licensee Event Report 2005-002-00, Mode 3 Entry with an Inoperable Emergency Feedwater Pump.
Letter, BWXT to Stokes, Evaluation of Leak in C RCP Seal Injection Nozzle, May 4, 2004.
Main Steam [Important to Maintenance Rule] System Function Worksheet dtd 9/12/00.
Main Control Room Operator Logs for 12/7/04 - 12/10/04.
Maintenance Rule (a)(1) System Goal Status, February, 2006.
Maintenance Rule Unacceptable Performance of Failure Cause Determine Form: Instrument Air Supply, dated 07/03/02.
Maintenance Rule Expert Panel Meeting Minutes for 7/14/05.
Maintenance Rule Unacceptable Performance of Failure Cause Determine Form: Instrument Air Supply, dated 09/21/05.
Maintenance Rule Unacceptable Performance of Failure Cause Determine Form: Instrument Air Supply, dated 08/22/05.
Maintenance Rule Unacceptable Performance of Failure Cause Determine Form: Instrument Air System, dated 03/03/05.
Maintenance Rule Unacceptable Performance of Failure Cause Determine Form: Emergency Feedwater System, dated 10/27/05.
Maintenance Rule Unacceptable Performance of Failure Cause Determine Form: Instrument Air Supply, dated 06/25/02.
Maintenance Rule Unacceptable Performance of Failure Cause Determine Form: Instrument Air System, dated 10/10/02.
Maintenance Rule Unacceptable Performance of Failure Cause Determine Form: Residual Heat Removal System, dated 02/01/05.
Maintenance Rule Expert Panel Meeting Minutes for January 4, 2006.

Maintenance Rule Expert Panel Meeting Minutes for July 15, 2005.
Maintenance Rule Expert Panel Meeting Minutes for August 2, 2004.
Plant Health Committee Meeting Minutes for Thursday, March 2, 2006.
Plant Health Committee Meeting Minutes for Tuesday, March 14, 2006.
Probabilistic Risk Analysis (PRA) Evaluation ER14446, PRA Impact of [condition evaluation report] 04-3262 Condition in the Significance Determine Process (SDP).
QA-AUD-200414-0, Nonconformance Control and Corrective Actions Audit, dated 3/2/05.
Quality Assurance Surveillance QA-SUR-200438-0, Review of station policy concerning insertion of manual reactor trips compared to the industry best practices.
Reactor Trip Report - 03/30/04.
SA05-OD-05, Corrective Action Program Self-Assessment, Dec 5 – 9, 2005.
Self-Assessment Report; Assessment Number: SA04-OD-02, Corrective Action Program Self-Assessment, October 11-14, 2004
Significant Event Notice 257, Internal Flood Design Deficiencies.
Surveillance Test Task Sheet (STTS) Number 0410250, Diesel Generator A Operability Test.
Surveillance Test Task Sheet No. 0415128 (for RHR pump B, completed October 14, 2004).
Surveillance Test Task Sheet No. 0406219 (for Service Water (SW) Train A Valve Operability Test).
Surveillance Test Task Sheet No. 0415128, RHR B Pump and Valve Operability Test (Group A).
Surveillance Test Task Sheet No. 0521711, Component Cooling Pump A Comprehensive Test.
Surveillance Test Task Sheet No. 0510449, Control Room Train B Air Handling System Operation Test.
Westinghouse Technical Bulletin TB-04-22, Revision 1: Reactor Coolant Pump Seal Performance and Appendix R Compliance.
Westinghouse Infogram, IG-0-4, Nuclear Instrumentation Power Range Channel Detector High voltage Setting, April 28, 2004.
Westinghouse Technical Bulletin TB-05-2, Potential Shorting of Printed Circuit Board Used in Barton Model 763A Pressure and Model 764 Differential Pressure Transmitters.
Westinghouse Technical Bulletin TB-05-4, Potential Tin Whiskers on Printed Circuit Board Components.
Work Request 9404338, Troubleshoot and correct (XVM02801B-MS, B Main Steam Isolation Valve).
Work Request 9404330, Repair the valve (XVM02801B-MS, B Main Steam Isolation Valve).
Work Order 0411249, Lube oil leak on the discharge of attached lube oil pump. (A Diesel Generator).
Work Request 9404173, Adjust or repair the nuts on the guide rod plate.
(Nuclear Licensing) Evaluation of [condition evaluation report] 05-2300, Action 6, Feb., 2006.

Technical Work Records
38821, During STP-220.002\0317596, TDEFW pump test, rpm speed could not be adjusted below 4200 rpm.
38828, This [condition evaluation report] generated for Maintenance Rule tracking purposes to provide the 60-day completion of the functional failure evaluation from the failure of LD System Level Switch ILS01926 on PMTS 0313186.
40201, Failure of DRCB/302 to close - [condition evaluation report] 04-1239, 4/27/04.
CER 04-3767, Diesel-Driven Air Compressor Failure to Start.

CER 04-3775, Extraction Steam Pipe Failure.
CER 05-1412, Diesel Driven Instrument Air Compressor Failed to Load.
CER 05-2286, Action 1 Evaluation.
CER 05-2622, Diesel Air Compressor Battery Failure Due to Loss of Level.
CR14992, EIR 81129 - Operating with standby condensate pump discharge valve open. Tab 2.14.
ES 514, Cause Evaluation for IFV00498 Failing Closed.
FM06742, XAA0029A(B) max resistance to preclude damper bypass, 11/8/05.
FM06742, Air flow instrumentation [condition evaluation report] 05-0975, 2/27/06.
GR11674, CER 04-0015 Maintenance rule cause determination - turbine driven emergency feedpump governor valve linkage and speed control problem.
JB17136, NCN (Non-conformance Notice) 99-0131, Disposition 18, Independent Review. Tab 00404.
JB17136, NCN (Non-conformance Notice) 99-0131, Disposition 19, Independent Review. Tab 00405.
LC13109, CER-04-1527, Action 6, Review of TB-04-22. Tab 615.
LS11312, CER/NCN 05-1891: Pipe Wall Thinning Associated With XVB03125B-SW. Tab 164.
MC15002, [condition evaluation report] # 04-3786, Operability Evaluation. Tab MS.
MT17700, ES-514 cause determination for the failures of ILS01902, ILS01905, and ILS01926, 5/27/04.
MT17700, RCA 02-2500 for magnetrol level switches, 10/22/02.
MT17700, ES-514 Cause Determination for the failures of level switches 1LS01902, 1LS01929, and 1LS01966 ([condition evaluation report] 04-3230, Action #1, #2 & #3). Tab 3-32.
MT17700, PZR (Pressurizer) Backup Group #2 Heater breaker XSW1DB 05 Operability Recommendation. Tab 3-33A.
MT17700, ES-514 cause determination for the failures of ILT00459 on 4/11/04 ([condition evaluation report] 04-1069, Action 2), 8/2/04.
RM19910, NCN 03-3500: A D/G (Diesel Generator) (XEG0001A-E), Fuel Supply Pipe Broken at Pipe Threads. File 01-49.
WO 15209, NCN 05-3329, 50.59 Screening for accept-as-is. Tab EF/871.

Work Orders
0419265, Investigate cause of breaker failure.
0510706, Charging pump B oil cooler component cooling water supply, packing leak.
0511749, Charging pump B oil cooler component cooling water supply, valve failed to close.
0511789, Charging pump B oil cooler component cooling water supply, breaker closing spring not charged.

LIST OF ACRONYMS

ADAMS	-	Agency Wide Documents Access and Management System
CAP	-	Corrective Action Program
CARB	-	Corrective Action Review Board
CER	-	Condition Evaluation Report
ECP	-	Employee Concerns Program
ECR	-	Engineering Change Request
INPO	-	Institute of Nuclear Power Operations
IR	-	Inspection Report
MPFF		Maintenance Preventable Functional Failure
MRT	-	Management Review Team
MWR	-	Maintenance Work Request
NCN	-	Nonconformance Notice
NCV	-	Non-Cited Violation
NL	-	Nuclear Licensing
NRC	-	Nuclear Regulatory Commission
OD&P	-	Organization Development & Performance
OE	-	Operating Experience
PIP	-	Primary Identification Program
QA	-	Quality Assurance
RCA	-	Root Cause Analysis
SAP	-	Station Administrative Procedure
SCE&G	-	South Carolina Electric & Gas Company
SPB	-	Steam Propagation Barrier
WO	-	Work Order