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

October 28, 2005

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 INTEGRATED INSPECTION REPORT 05000395/2005004

Dear Mr. Archie:

On September 30, 2005, the United States Nuclear Regulatory Commission (NRC) completed an inspection at your Virgil C. Summer Nuclear Station. The enclosed integrated inspection report documents the inspection findings, which were discussed on October 13, 2005, 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.

Based upon the results of this inspection, no finding of significance was identified. However, one licensee-identified violation, which was determined to be of very low safety significance, is listed in Section 4OA7 of this report. If you contest the NCV in this report, 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: NRC Integrated Inspection Report 05000395/2005004
w/Attachment: Supplemental Information

cc w/encl.:
R. J. White
Nuclear Coordinator Mail Code 802
S.C. Public Service Authority
Virgil C. Summer Nuclear Station
Electronic Mail Distribution

Kathryn M. Sutton, Esq.
Morgan, Lewis & Bockius LLP
Electronic Mail Distribution

Henry J. Porter, Director
Div. of Radioactive Waste Mgmt.
Dept. of Health and Environmental Control
Electronic Mail Distribution

R. Mike Gandy
Division of Radioactive Waste Mgmt.
S. C. Department of Health and Environmental Control
Electronic Mail Distribution

Ronald B. Clary, Manager
Nuclear Licensing (Mail Code 830)
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Electronic Mail Distribution

Robert M. Fowlkes, General Manager
Engineering Services
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Electronic Mail Distribution

Thomas D. Gatlin, General Manager
Nuclear Plant Operations (Mail Code 303)
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Electronic Mail Distribution

David A. Lavigne, General Manager
Organization Development
South Carolina Electric & Gas Company
Vigil C. Summer Nuclear Station
Electronic Mail Distribution

Distribution w/encl.:
R. Martin, NRR
L. Slack, RII
RIDSNRRDIPMIIPB
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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	50-395
License No.:	NPF-12
Report No.:	05000395/2005004
Licensee:	South Carolina Electric & Gas (SCE&G) Company
Facility:	Virgil C. Summer Nuclear Station
Location:	P. O. Box 88 Jenkinsville, SC 29065
Dates:	July 1, 2005 - September 30, 2005
Inspectors:	J. Zeiler, Senior Resident Inspector M. Cain, Resident Inspector G. Hopper, Senior Operations Engineer, RII (Section 1R11.2) J. Kreh, Emergency Preparedness Inspector, RII (Sections 1EP1 and 4OA1) E. Lea, Senior Operations Engineer, RII (Section 1R11.2) L. Miller, Senior Emergency Preparedness Inspector, RII (Sections 1EP1 and 1EP4) R. Taylor, Reactor Engineer, RII (Section 1R07.2)
Approved by:	K. D. Landis, Chief Reactor Projects Branch 5 Division of Reactor Projects

Enclosure

CONTENTS

SUMMARY OF FINDINGS

IR 05000395/2005004; 07/01/2005 - 09/30/2005; Virgil C. Summer Nuclear Station; Routine Integrated Report.

The report covered a three-month period of inspection by resident inspectors and three announced inspections by regional inspectors. No findings of significance was identified by the NRC. 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.

A. NRC-Identified and Self-Revealing Findings

No findings of significance was identified.

B. Licensee-Identified Violations

One violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and the associated corrective action tracking number is listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

The unit began the inspection period at 100 percent rated thermal power (RTP). On July 27, power was reduced to 84 percent following an electrical fault of the "B" circulating cooling water pump motor. The unit remained at this reduced power to prevent exceeding the circulating cooling water discharge temperature limit until the circulating cooling water pump was repaired and returned to service. The unit returned to 100 percent RTP on August 13. On August 25, an automatic reactor trip occurred due to the trip of the "B" condensate pump and subsequent opening malfunction of the standby "A" condensate pump discharge valve. The unit was restarted on August 27 and achieved 100 percent RTP on August 28. On September 27, power was reduced to 86 percent following the overspeed trip of the "C" main feedwater pump. The plant returned to 100 RTP on September 28 and operated at full power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

The inspectors conducted three partial equipment alignment walkdowns (listed below) to evaluate the operability of selected redundant trains or backup systems with the other train or system inoperable or out-of-service (OOS). Correct alignment and operating conditions were determined from the applicable portions of drawings, system operating procedures (SOPs), final safety analysis report (FSAR), and technical specifications (TS). The inspections included review of outstanding maintenance work requests (MWRs) and related condition evaluation reports (CERs) to verify that the licensee had properly identified and resolved equipment alignment problems that could impact mitigating system availability.

- "B" Emergency Diesel Generator (EDG) walkdown while the "A" EDG was out of service during scheduled maintenance and testing;
- "A" EDG walkdown while the "B" EDG was OOS for scheduled maintenance and testing; and,
- "A" and "B" service water (SW) systems while the "C" SW pump was OOS for scheduled maintenance and testing.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors reviewed recent CERs, MWRs, and impairments associated with the fire suppression system. The inspectors reviewed surveillance activities to determine whether they supported the operability and availability of the fire protection system. The inspectors assessed the material condition of the active and passive fire protection systems and features and observed the control of transient combustibles and ignition sources. The inspectors conducted routine inspections of the following nine areas (respective fire zones also noted):

- Control room (fire zone CB-17.1);
- 1DA switchgear room (fire zone IB-20);
- Turbine building (fire zone TB-1);
- Service water pump house (fire zones SWPH-1, SWPH-3, and SWPH-5.1/5.2);
- Control building cable spreading rooms 425" and 448" elevation (fire zones CB-4 and CB-5);
- “A” and “B” EDG rooms (fire zones DG-1.1/1.2 and DG 2.1/2.2);
- Control building, Operations Support Center, and DRCB-103 cable spread room (fire zones CB-1.1, CB-1.2, CB-2, and CB-5);
- Turbine driven emergency feedwater pump room (fire zone IB-25.2); and,
- “A,” “B,” and “C” charging pump rooms (fire zones AB-1.5, AB-1.6, and AB-1.7).

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

.1 Annual Review

a. Inspection Scope

On July 26, the inspectors observed heat exchanger testing for the “A” EDG heat exchangers cooled by the service water system which included the EDG lube oil cooler, jacket water cooler and intercooler heat exchangers (HXs). The EDG system is ranked by the licensee as the 12th highest risk significant system based on importance. The inspectors reviewed the test results and subsequent evaluation by the licensee. This review verified that the frequency of testing was sufficient and established acceptance criteria were appropriate to detect any potential EDG HX deficiencies. The review also verified whether heat sink performance problems were adequately identified and entered into the licensee’s corrective action program. Trending analysis, test frequency, and future testing plans for the EDG HXs were discussed with the system engineer responsible for monitoring heat exchanger performance. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Biennial Inspection

a. Inspection Scope

The inspectors reviewed inspection records, test results, maintenance work orders, and other documentation to ensure that HX deficiencies that could mask or degrade performance were identified and corrected. Risk significant heat exchangers reviewed included the component cooling water HXs along with the “A” and “B” EDG intercooler, jacket water, and lube oil HXs. Documents reviewed during this inspection are listed in the Attachment to this report.

The inspectors reviewed HX inspection and cleaning completed procedures, inspection frequency, and tube plugging maps. In addition, the inspectors reviewed eddy current test reports for the EDG intercooler HX. The inspectors reviewed to determine that: selected heat exchanger test methodology was consistent with (NRC Generic Letter 89-13, Service Water System Problems Affecting Safety-Related Equipment) commitments; test conditions were appropriately considered; test or inspection criteria were appropriate and met; test frequency was appropriate; as-found results were appropriately dispositioned such that the final condition was acceptable; and, test results considered test instrument inaccuracies and differences.

The inspectors also reviewed general health of the SW system via review of design basis documents, system health reports, and discussions with the SW system engineer. These documents were reviewed to verify the design basis was being maintained and to verify adequate SW system performance under current preventive maintenance, inspections and frequencies. The inspectors also walked down the SW intake structure and observed a chemical treatment to the SW back up to Emergency Feedwater System.

CERs were reviewed for potential common cause problems and problems which could affect system performance to confirm that the licensee was entering problems into the corrective action program and initiating appropriate corrective actions. In addition, the inspectors conducted a walk down of all selected HXs and major components for the SW system to assess general material condition and to identify any degraded conditions of selected components.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

.1 Quarterly Review of Licensed Operator Requalification Training Activities

a. Inspection Scope

On September 6, 2005, the inspectors observed performance of senior reactor operators and reactor operators on the plant simulator during licensed operator requalification training. The training scenario (LOR-SA-073B) involved a 6000 gpm small break loss-of-coolant accident (SBLOCA). The inspectors verified that training included risk-significant operator actions and implementation of emergency classification and the emergency plan. The inspectors assessed overall crew performance, communication, oversight of supervision, and the evaluators' critique. The inspectors verified that any training issues were appropriately captured in the licensee's corrective action program (CAP).

b. Findings

No findings of significance were identified.

.2 Biennial Review of Licensed Operator Requalification Program

a. Inspection Scope

The inspectors reviewed the facility operating history and associated documents in preparation for this inspection. During the week of August 8, 2005, the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of simulator operating tests associated with the licensee's operator requalification program. Each of the activities performed by the inspectors was done to assess the effectiveness of the licensee in implementing requalification requirements identified in 10 CFR 55, "Operators' Licenses." The evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," and Inspection Procedure 71111.11, "Licensed Operator Requalification Program." The inspectors also reviewed and evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations. The inspectors observed four crews during the performance of the operating tests. Documentation reviewed included written examinations, Job Performance Measures (JPMs), simulator scenarios, licensee procedures, on-shift records, licensed operator qualification records, watchstanding and medical records, simulator modification request records and performance test records, the feedback process, and remediation plans. The records were inspected against the criteria listed in Procedure 71111.11. Documents reviewed during this inspection are listed in the Attachment to this report.

Following the completion of the annual operating examination testing cycle which ended on August 31, 2005, the inspectors reviewed the overall pass/fail results of the biennial written examination, the individual JPM operating tests, and the simulator operating

tests administered by the licensee during the operator licensing requalification cycle. These results were compared to the thresholds established in Manual Chapter 609 Appendix I, Operator Requalification Human Performance Significance Determination Process.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors evaluated two equipment issues described in the CERs listed below to verify the licensee's effectiveness of the corresponding preventive or corrective maintenance associated with structures, systems or components (SSCs). The inspectors reviewed maintenance rule (MR) implementation to verify that component and equipment failures were identified, entered, and scoped within the MR program. Selected SSCs were reviewed to verify proper categorization and classification in accordance with 10 CFR 50.65. The inspectors examined (a)(1) corrective action plans to determine if the licensee was identifying issues related to the MR at an appropriate threshold and that corrective actions were established and effective. The inspectors' review also evaluated if maintenance preventable functional failures (MPFF) or other MR findings existed that the licensee had not identified. The inspectors reviewed the licensee's controlling procedures, i.e., engineering services procedure (ES)-514, "Maintenance Rule Implementation," and the Virgil C. Summer "Important To Maintenance Rule System Function and Performance Criteria Analysis" to verify consistency with the MR requirements.

- CER 0-C-05-0856, Failure of "B" Train control room emergency ventilation system (CREVS) to operate properly during routine monthly surveillance; and,
- CER 0-C-05-1412 and 0-C-05-3300, Failure of diesel air compressor (XAC0014) to load resulting in MPFF determination and exceeding the MR performance criteria.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the licensee's assessments of the risk impacts of removing from service those components associated with planned and emergent work items. The inspectors evaluated the five selected work activities listed below for: (1) the effectiveness of the risk assessments performed before maintenance activities were

conducted; (2) the management of risk; (3) that, upon identification of an unforseen situation, necessary steps were taken to plan and control the resulting emergent work activities; and (4) that emergent work problems were adequately identified and resolved. The inspectors evaluated the licensee's work prioritization and risk characterization to determine, as appropriate, whether necessary steps were properly planned, controlled, and executed for the planned and emergent work activities listed below:

- Work Week 2005-27, Risk assessment for "A" EDG OOS due to alarm panel power supply failure and "A" residual heat removal pump OOS for scheduled maintenance;
- Work Week 2005-28, Risk assessment for "B" EDG OOS for scheduled quarterly preventive maintenance and testing;
- Work Week 2005-30, Risk assessment for "A" EDG OOS for emergent work to calibrate kilowatt recorder with "B" circulating cooling water pump OOS;
- Work Week 2005-32, Risk assessment for "C" SW pump OOS for scheduled maintenance with "B" circulating cooling water pump OOS; and,
- Work Week 2005-33, Risk assessment for "B" charging pump OOS for scheduled maintenance and testing.

b. Findings

No findings of significance were identified.

1R14 Operator Performance During Non-Routine Evolutions and Events

a. Inspection Scope

The inspectors evaluated operator response and preparations for the four listed non-routine events to ensure they were appropriate and in accordance with required alarm response, abnormal and emergency procedures. The inspectors also evaluated performance and equipment problems to ensure that they were entered into the CAP.

- July 27, unexpected trip of the non-safety-related "B" circulating cooling water pump which resulted in a controlled manual power reduction from 100 percent to 83 percent power (CER 0-C-05-2967);
- August 25, automatic reactor trip due to the trip of "B" condensate pump and subsequent failure of "A" condensate pump discharge valve to open (CERs 0-C-05-3339, 0-C-05-3344, 0-C-05-3345, 0-C-05-3346, 0-C-05-3347, 0-C-05-3348, and 0-C-05-3349);
- August 25, Notification of Unusual Event due to the unexpected trip of the "B" condensate pump and subsequent smoke/fire from the pump motor lasting greater than fifteen minutes (CER 0-C-05-3349); and,
- September 27, unexpected trip of the "C" main feedwater pump which resulted in a controlled manual power reduction from 100 percent to 86 percent power (CERs 0-C-05-3542 and 0-C-05-3714).

b. Findings

No findings of significance were identified

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed six operability evaluations affecting risk significant mitigating systems to assess, as appropriate: (1) the technical adequacy of the evaluations; (2) whether operability was properly justified and the subject component or system remained available, such that no unrecognized increase in risk occurred; (3) whether other existing degraded conditions were considered; (4) where compensatory measures were involved, whether the compensatory measures were in place, would work as intended, and were appropriately controlled; and (5) the impact on technical specifications (TSs) limiting conditions for operations and the risk significance in accordance with the Significance Determination Process (SDP). Also, the inspectors verified that the operability evaluations were performed in accordance with procedure SAP-1131, "Corrective Action Program."

- CER 0-C-05-2728, failure of "A" EDG alarm panel annunciator power supply;
- CER 0-C-05-3121, excessive amount of oil found in "C" SW pump motor compartment;
- CER 0-C-05-3055, failure to obtain 110 percent load during "A" EDG 24-hour surveillance test;
- CER 0-C-05-3156, failure to maintain "A" EDG load within proper range during 24-hour surveillance testing;
- CER 0-C-05-3188, combined intercept and intermediate stop valve #3 failed to trip closed during testing; and,
- CER 0-C-05-3237, "B" charging pump motor breaker charging springs failed to charge during breaker operation. .

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

For the six maintenance activities listed below, the inspectors reviewed the associated post-maintenance testing (PMT) procedures and witnessed either the testing and/or reviewed test records to assess whether: (1) the effect of testing on the plant had been adequately addressed by control room and/or engineering personnel; (2) testing was adequate for the maintenance performed; (3) test acceptance criteria were clear and adequately demonstrated operational readiness consistent with design and licensing basis documents; (4) test instrumentation had current calibrations, range, and accuracy

consistent with the application; (5) tests were performed as written with applicable prerequisites satisfied; (6) jumpers installed or leads lifted were properly controlled; (7) test equipment was removed following testing; and (8) equipment was returned to the status required to perform its safety function. The inspectors verified that these activities were performed in accordance with general test procedure (GTP)-214, "Post Maintenance Testing Guideline."

- PMT for "A" EDG following scheduled maintenance via MWR 0506612;
- PMT for "B" EDG following scheduled quarterly preventive maintenance activities;
- PMT for "B" chiller following scheduled annual preventive maintenance via MWR 0502905;
- PMT for "A" EDG following emergent maintenance to calibrate kilowatt recorder via MWR 0510635;
- PMT for "C" SW pump following scheduled maintenance via MWRs 0302182, 0503929, 0503856, and 0504352; and,
- PMT for "B" charging pump following scheduled maintenance via MWRs 0306977, 0417518, 0504024, and 0508373.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed and/or reviewed the six surveillance tests listed below to verify that TS surveillance requirements were followed and that test acceptance criteria were properly specified to ensure that the equipment could perform its intended safety function. The inspectors verified that proper test conditions were established as specified in the procedures, that no equipment preconditioning activities occurred, and that acceptance criteria had been met.

In-Service Tests:

- Surveillance Test Procedure (STP)-220.001A, "Motor Driven Emergency Feedwater Pump and Valve Test."

Rector Coolant System Leakage Tests:

- STP-114.002, "Operational Leakage Calculation."

Other Surveillance Tests:

- STP-125.008, "Diesel Generator A 24 Hour Load Test;"

- STP-395.041, “IPT00494, “C” Steam Generator Main Steam Header Pressure Transmitter Rack Calibration;”
- STP-205.002, “RCS Flowrate Measurement;” and,
- STP-212.002, “Reactor Building Spray Pump Test” (for Train “B”).

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed Bypass Authorization Requests 05-04 and 05-05 and CERs 0-C-05-2390 and 0-C-05-3010 involving the temporary isolation of the alarm input for two failing containment heat detectors, ITE65044 and ITE06045. These detectors provide fire detection near the “A” steam generator and “B” steam generator, respectively. The inspectors verified that the temporary modifications did not affect fire system operability or availability as described in the FSAR. In addition, the installation of the temporary modification was verified in accordance with the MWR package, that adequate configuration controls were in place, procedures and drawings were updated, and post-installation tests verified operability of the affected systems. The inspectors noted that there were additional heat detectors still operable in the subject fire zones, therefore the removal of these detectors would not significantly impact the fire detection capability in the areas.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation

a. Inspection Scope

Prior to the inspection activity, an in-office review was conducted of the exercise objectives and scenario submitted to the NRC to determine if the exercise would test major elements of the emergency plan as required by 10 CFR 50.47(b)(14).

The onsite inspection consisted of the following review and assessment:

- The adequacy of the licensee’s performance in the biennial exercise was reviewed and assessed regarding the implementation of the risk-significant planning standards (RSPS) in 10 CFR 50.47 (b) (4), (5), (9), and (10), which are emergency classification, offsite notification, radiological assessment, and protective action recommendations, respectively.

- The overall adequacy of the emergency response facilities with regard to NUREG-0696, “Functional Criteria for Emergency Response Facilities” and Emergency Plan commitments. The facilities assessed were the simulator, Technical Support Center, Operations Support Center, and Emergency Operations Facility.

- Other performance areas besides the RSPS, such as the emergency response organization’s (ERO) recognition of abnormal plant conditions, command and control, intra- and inter-facility communications, prioritization of mitigation activities, utilization of repair and field monitoring teams, interface with offsite agencies, and the overall implementation of the emergency plan and its implementing procedures.

- Past performance issues from NRC inspection reports and Federal Emergency Management Agency exercise reports to determine effectiveness of corrective actions as demonstrated during this exercise to ensure compliance with 10 CFR 50.47(b)(14).

- The post-exercise critique to evaluate the licensee’s self-assessment of its ERO performance during the exercise and to ensure compliance with 10 CFR 50 Appendix E.IV.F.2.g.

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

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspectors evaluated the 10 CFR 50.54(q) reviews associated with non-administrative emergency plan changes, implementing procedures changes, and emergency action level changes. The revisions covered the period from August 2004 to July 2005. The licensee had implemented Radiation Emergency Plan Revisions 49 and 50.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 01, "Emergency Action Level and Emergency Plan Changes." The applicable planning standard, 10 CFR 50.47(b)(4) and its related 10 CFR 50, Appendix E requirements were used as reference criteria. The criteria contained in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1 and Regulatory Guide 1.101, Emergency Planning and Preparedness for Nuclear Power Reactors, Revision 4, were also used as references.

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

b. Findings:

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

On September 6, 2005, the inspectors reviewed and observed the performance of a simulator drill that involved failure of PT-475, NI-43, stator water cooling resulting in a turbine runback and a 6000 gpm SBLOCA which required an Site Area Emergency to be declared (LOR-SA-073B). The inspectors assessed emergency procedure usage, emergency plan classification, notifications and the licensee's identification and entrance of any problems into their CAP. This inspection evaluated the adequacy of the licensee's conduct of the drill and critique performance.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors reviewed the licensee's procedure for developing the data for the Emergency Preparedness PIs which are: (1) Drill and Exercise Performance (DEP); (2) ERO Drill Participation; and (3) Alert and Notification System Reliability. The inspectors examined data reported to the NRC for the period July 2004 to March 2005. Procedural guidance for reporting PI information and records used by the licensee to identify potential PI occurrences were also reviewed. The inspectors verified the accuracy of the PI for DEP through review of a sample of drill and event records. The inspectors reviewed selected training records to verify the accuracy of the PI for ERO drill participation for personnel assigned to key positions in the ERO. The inspectors verified the accuracy of the PI for Alert and Notification System reliability through review of a sample of the licensee's records of periodic system tests.

The inspection was conducted in accordance with NRC Inspection Procedure 71151, "Performance Indicator Verification." The applicable planning standard, 10 CFR 50.9 and NEI 99-02, Revision 3, "Regulatory Assessment Performance Indicator Guidelines," were used as reference criteria.

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

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Screening of Corrective Action Items

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by either attending daily plant status and screening meetings that briefly discussed major CERs, or accessing the licensee's computerized corrective action database and reviewing each CER that was initiated.

b. Findings

No findings of significance were identified.

.2 Annual Sample Review

a. Inspection Scope

The inspectors reviewed one issue in detail to evaluate the effectiveness of the licensee's corrective actions for important safety issues documented in CER 0-C-04-3702 and CER 0-C-05-0856. The two CERs were associated with the failure of "B" Train CREVS to properly operate during routine monthly surveillance testing (STP 360.032) for Area Radiation Monitor, RMA-1. Specific details documented in the CERs are summarized below.

- CER 0-C-04-3702: The licensee's investigation identified that the damper open limit switch for Damper XDP0023B failed to make-up preventing fan XFN0030, "B" Train CREVS, from starting on November 26, 2004, due to the limit switch not being adjusted properly. The CER stated that the corrective action was to slightly adjust the limit switch. The STP was subsequently re-performed and passed.

- CER 0-C-05-0856: The licensee's investigation identified that the damper open limit switch for Damper XDP0023B failed to make-up preventing fan XFN0030, "B" Train CREVS, from starting on March 16, 2005, due to the limit switch not being adjusted properly. The CER stated that the immediate corrective action was to slightly adjust the limit switch. The proposed corrective action was to identify all engineered safety features equipment actuated indirectly via a limit switch and evaluate the need to revise appropriate procedures to ensure limit

switch as-left settings were within design specifications and would ensure positive actuation. The STP was subsequently re-performed and passed.

The inspectors assessed whether the issues were identified in a timely manner; documented accurately and completely; properly classified and prioritized; adequately considered extent of condition, generic implications, common cause, and previous occurrences; adequately identified root causes/apparent causes; and, identified appropriate corrective actions. Also, the inspectors verified the issues were processed in accordance with SAP-1131, "Corrective Action Program."

b. Findings and Observations

No findings of significance were identified; however, the inspectors identified that the licensee's investigation and corrective actions for the CERs lacked thoroughness. Specifically, the inspectors identified weaknesses with the CERs as follows:

- CER 0-C-04-3702 was screened (for significance) as a "3D," for an "Other" evaluation to be performed by Instrumentation and Control (I&C) personnel. Under the licensee's CAP, this type of evaluation does not require the cause of a condition to be determined. The subsequent evaluation of this CER merely restated the immediate corrective action taken without any further conclusions as to the cause of the limit switch being out of adjustment. The inspectors determined that had the CER been screened to a higher evaluation type, it would have directed greater emphasis in understanding the cause of the condition.

- CER 0-C-04-3702 was not recognized and/or classified as a MPFF of a risk significant system until September 15, 2005, during a review of the CER 0-C-05-0856 event by the system engineer as a result of another problem with the same damper. Had the earlier failure event been properly identified as a MPFF in a timely manner, it is likely that increased attention would have been given to the issue, possibly precluding the March 16, 2005, repetitive event. The failure to properly identify the November 2004 damper failure as a MPFF and subsequently failing to establish proper goal setting after the second damper MPFF in March 2005, was identified as a licensee-identified non-cited violation (NCV) of 10 CFR 50.65 (a)(1) and is documented in Section 4OA7 of this report.

- CER 0-C-05-0856 was marked "No" in the "Repetitive Condition" section even though the CER documents the November 26, 2004 event as being a repetitive occurrence.

- CER 0-C-05-0856 did not accurately or effectively reflect the actual immediate corrective actions taken to help preclude recurrence. Discussions with I&C personnel revealed that the damper limit switch was adjusted to approximately 90 percent actuation point versus 95 percent actuation point. This corrective action provided greater margin of assurance of proper limit switch actuation on subsequent damper operations. However, since the corrective action was not captured as a permanent limit switch setup configuration, it was unlikely that

subsequent adjustments and/or corrective repairs to the damper and limit switch would incorporate this limit switch actuation setpoint change. The CER corrective action due date for enhancing preventive and corrective maintenance procedures associated with the damper/limit switch setup configuration was scheduled for February 28, 2006. Based on the inspectors' questioning the timeliness of this corrective action, the licensee re-evaluated the due date and determined that an earlier completion date was prudent.

4OA5 Other

.1 (Discussed) Temporary Instruction (TI) 2515/163, "Operational Readiness of Offsite Power"

Completion of this TI was documented in NRC Inspection Report 05000395/2005003. However, after an NRC headquarters review of the data provided, additional information related to the TI was requested. The inspectors collected this information from licensee discussions, site procedures and licensee documentation. The information was subsequently provided to the headquarters staff for further analysis.

.2 (Closed) Licensee Event Report (LER) 50-395/2005-001-00: Emergency Diesel Generator Start and Load Due to Loss of Vital Bus

The inspectors reviewed the subject LER and CER 0-C-05-2042 to verify the accuracy of the LER and the appropriateness of the corrective actions. No new findings of significance were identified. This issue was previously discussed in NRC Integrated Inspection Report 05000395/2005003 and the maintenance/operations personnel human errors that caused the inadvertent actuation was the subject of a self-revealing NCV of TS 6.8.1 for the failure to adequately review and understand the impact of protective relay maintenance/testing prior to allowing the work to commence.

.3 (Closed) LER 50-395/2005-001-01: Emergency Diesel Generator Start and Load Due to Loss of Vital Bus, Supplement 1

The inspectors reviewed the subject LER and CER 0-C-05-2042 to verify the accuracy of the LER and the appropriateness of the corrective actions. The supplement to this LER provide the results of the licensee's root cause investigation into the cause of the event. No new findings of significance were identified. The regulatory significance of this issue was previously discussed in NRC Integrated Inspection Report 05000395/2005003.

.4 (Closed) LER 50-395/2005-002-00: Mode 3 Entry with an Inoperable Emergency Feedwater Pump

The inspectors reviewed the subject LER that assessed the cause and corrective actions for the May 28, 2005, Mode 3 entry with an inoperable Emergency Feedwater Pump. This event was caused by a human performance error when an operator inadvertently left the "A" Motor Driven Emergency Feedwater Pump switch in the "Pull-

to-Lock" position while the plant escalated to Mode 3. This issue was previously reviewed in Section 4OA7 of NRC Integrated Inspection Report 05000395/2005003 and was the subject of a licensee-identified NCV of TS 3.0.4 for entry into an operational mode without meeting the conditions of the Limiting Condition for Operation, which was determined to be of very low safety significance (Green). This issue was also reviewed under Section 4OA2, "Semi-Annual trend Review," of NRC Integrated Inspection Report 05000395/2005003, where the inspectors identified an increasing trend in Operator mis-positioning events due to human performance errors and procedure quality problems. No additional findings of significance were identified during this review.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Jeff Archie and other members of the licensee staff on October 13, 2005. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee-Identified Violations

The following finding of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which met the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a NCV.

- 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Paragraph (a)(1), states, in part, that the licensee "...shall monitor the performance or condition of structures, systems, or components, against licensee-established goals, in a manner sufficient to provide reasonable assurance that such structures, systems, and components...are capable of fulfilling their intended functions." Contrary to the above, the licensee failed to properly identify the November 26, 2004, failure of the "B" Train CREVS as a Maintenance Preventable Functional Failure (MPFF). This resulted in the failure to establish goals and monitor the performance of the "B" Train CREVS under Maintenance Rule Paragraph (a)(1) to prevent recurrence following a subsequent MPFF of the "B" Train CREVS on March 16, 2005, at which time the system performance exceeded its Maintenance Rule Paragraph (a)(2) performance criteria. This violation is of very low safety significance because it did not result in a loss of safety function of the CREVS. This issue was entered into the licensee's corrective action program as CER 0-C-05-3599.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

J. Archie, Vice President, Nuclear Operations
F. Bacon, Manager, Chemistry Services
M. Browne, Manager, Quality Systems
A. Cribb, Acting Supervisor, Nuclear Licensing
M. Findlay, Manager, Nuclear Protection Services
M. Fowlkes, General Manager, Engineering Services
T. Franchuk, Supervisor, Quality Assurance
D. Gatlin, General Manager, Nuclear Plant Operations
D. Lavigne, General Manager, Organizational Effectiveness
G. Lippard, Manager, Operations
G. Moffit, Manager, Nuclear Operations Training
P. Mothena, Acting Manager, Health Physics and Safety Services
J. Nesbitt, Manager, Materials and Procurement
K. Nettles, General Manager, Nuclear Support Services
R. Stokes, Manager, Design Engineering
W. Stuart, Manager, Plant Support Engineering
R. Sweet, Acting Manager, Nuclear Licensing
A. Torres, Manager, Planning / Scheduling and Project Management
R. Williamson, Supervisor, Emergency Services
S. Zarandi, Manager, Maintenance Services

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

None

Closed

05000395/2005001-00	LER	Emergency Diesel Generator Start and Load Due to a Loss of Vital Bus (Section 4OA5.2)
05000395/2005001-01	LER	Emergency Diesel Generator Start and Load Due to a Loss of Vital Bus, Supplement 1 (Section 4OA5.3)
05000395/2005002-00	LER	Mode 3 Entry with an Inoperable Emergency Feedwater Pump (Section 4OA5.4)

Discussed

2515/163	TI	Operational Readiness of Offsite Power (Section 4OA5.1)

LIST OF DOCUMENTS REVIEWED

Section 1R07: Heat Sink Performance - Annual Review

Procedures
NRC Inspection Procedure IP-71111.07, Heat Sink Performance
ES-560.211, Service Water Heat Exchanger Performance, Revision 8
PTP-213.002, Service Water System Heat Exchanger Data Collection, Revision 1

Section 1R07: Heat Sink Performance - Biennial Review

PMTS 0403480, Service Water HX Performance For 110% Run (Lube Oil HX), 04/01/2005
PMTS 0403483, Service Water HX Performance For 110% Run (Jacket Water HX), 04/01/2005
PMTS 0403485, Service Water HX Performance For 110% Run (Intercooler HX), 04/01/2005
Work Orders Associated With Service Water Pumps

ES-560.211, Service Water System Heat Exchanger Performance, Revision 8
ES-505, Service Water System Corrosion Monitoring and Control Program, Revision 1
SAP-1255, Service Water System Reliability Optimization Program, Revision 0
PTP-213.002, Service Water System Heat Exchanger Data Collection, Revision 1

Diesel Generator HX Performance Testing Trends
SW Pump Discharge Monthly Maximum Temperatures Summary

Condition Evaluation Reports
0-C-05-1588, Pit Indications in B Intercooler tubes
0-C-05-2345, Construct Testing Protocol to Enhance Testing Methodology
0-C-02-2581, Self Assessment of Service Water HX Performance Testing Program
0-C-05-1686, Eddy Current Test Results in Error
0-C-03-2402, SW Water Hammer Evaluation

Section 1R11: Licensed Operator Requalification

Active Simulator Discrepancy Report

Simulator Transient Tests
IST 7.1 Simultaneous Closure of MSIVs
IST 7.2 Simultaneous Trip of All RCPs
IST 7.3 Main Turbine Trip
IST 7.4 Max Reactor Coolant System Rupture With LOSP
IST 7.5 Maximum Unisolable MSL Rupture
IST 7.6 Slow Primary System Depressurization
IST 7.7 Manual Reactor Trip
IST 7.8 Simultaneous Trip of All FWPs
IST 7.9 Trip of any Single RCP
IST 7.10 Maximum Rate Power Ramp

Malfunction Testing
IST 6.6.1 Station Blackout
IST 6.6.12 Generator Breaker Trip Without Turbine Trip
IST 6.12.6.1 Reactor Coolant System Small Leak
IST 13.1.1 Loss of vital 120VAC Bus

Procedures
Nuclear Training Manual (NTM) - Appendix II.5A, Licensed Operator Requalification Program Annual Examination, Revision 6
NTM - Appendix II.5, Requalification Program for Licensed Operators and Senior Operators, Revision 9
NTM Chapter 1, Introduction, Revision 9
NTM Chapter 2, Job and Task Analysis, Revision 4
NTM Chapter 3, Design, Revision 5
NTM Chapter 4, Development, Revision 7
NTM Chapter 5, Implementation of Nuclear Training, Revision 9
NTM Chapter 6, Program Evaluations, Revision 11
NTM Chapter 7, Training Documentation, Revision 13

Section 1EP1: Exercise Evaluation

Plans and Procedures
EPP-001, Activation and Implementation of Emergency Plan, Revision 26
EPP-001.2, Alert, Revision 6C
EPP-001.3, Site Area Emergency, Revision 6C
EPP-001.4, General Emergency, Revision 7
EPP-002, Communication and Notification, Revision 34B
EPP-005, Offsite Dose Calculations, Rev. 19E
EPP-012, Onsite Personnel Accountability and Evacuation, Revision 12
EPP-051, Emergency Operations Facility, Revision 7

Records and Data from 07/20/2005 exercise
Completed Emergency Notification Form (Messages 1-7) for State and local agencies

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Procedures, Records, and Data
EP-100, Radiation Emergency Plan, Revision 50
SAP-1110, Emergency Preparedness, Revision 1, Attachment 2,"Determination of a Decrease in the effectiveness of the Radiation Emergency Plan" for EP-100, Radiation Emergency Plan, Revision 50
EP-100, Radiation Emergency Plan, Revision 49
SAP-1110, Emergency Preparedness, Revision 1, Attachment 2,"Determination of a Decrease in the effectiveness of the Radiation Emergency Plan" for EP-100, Radiation Emergency Plan, Revision 49
SAP-1110, Emergency Preparedness, Revision 1

Section 4OA1: Performance Indicator Verification

Procedures, Records, and Data
EPP-106, Emergency Preparedness Performance Indicator Procedure, Revision 0
Siren System Availability Test Records for July 2004 - March 2005
Selected training records of drill/exercise participation by ERO personnel during 2004-2005
Documentation package (scenario, time line, notification messages, critique report) for ERO drill on 09/08/2004
Documentation of DEP Opportunities from Operations Simulator Evaluations on 08/10/2004, 10/05/2004, 10/11/2004, 01/19/2005, 02/09/2005, 03/14/2005

LIST OF ACRONYMS

CAP	Corrective Action Program
CER	Condition Evaluation Report
CFR	Code of Federal Regulations
CREVS	Control Room Emergency Ventilation System
DEP	Drill and Exercise Performance
EDG	Emergency Diesel Generator
ERO	Emergency Response Organization
ES	Engineering Services Procedure
FIN	Finding
FSAR	Final Safety Analysis Report
GTP	General Test Procedure
HX	Heat Exchanger
I&C	Instrumentation and Control
IMC	Inspection Manual Chapter
JPM	Job Performance Measure
LER	Licensee Event Report
MPFF	Maintenance Preventable Functional Failures
MR	Maintenance Rule
MWR	Maintenance Work Request
NCV	Non-cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OOS	Out-of-Service
PI	Performance Indicator
PMT	Post-Maintenance Testing
RIS	Regulatory Issue Summary
RSPS	Risk Significant Planning Standard
RTP	Rated Thermal Power
SBLOCA	Small Break Loss-of-Coolant Accident
SDP	Significance Determination Process
SSC	Structures, Systems and Components
SOP	System Operating Procedure
STP	Surveillance Test Procedure

SW	Service Water
TI	Temporary Instruction
TS	Technical Specification