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

July 26, 2001

Southern Nuclear Operating Company, Inc.
ATTN: Mr. J. B. Beasley, Jr., Vice President
P. O. Box 1295
Birmingham, AL 35201-1295

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION REPORT NOS. 50-424/01-03 AND 50-425/01-03

Dear Mr. Beasley:

On June 30, 2001, the NRC completed an inspection at your Vogtle Units 1 and 2 reactor facilities. The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. The enclosed report documents the inspection findings which were discussed on July 5, 2001, with Mr. J. Gasser and other members of your staff.

Based upon the results of this inspection, the inspectors identified one finding of very low safety significance (Green) which is a violation of NRC requirements. However, because of it's very low safety significance and because it has been entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny this Non-Cited Violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Vogtle facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be publicly available 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/NRC/ADAMS/index.html* (the Public Electronic Reading Room).

Sincerely,

/RA/

Stephen J. Cahill, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket Nos. 50-424 and 50-425
License Nos. NPF-68 and NPF-81

Enclosure: NRC Integrated Inspection Report 50-424/01-03 and 50-425/01-03
Attachment: List of Documents Reviewed

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U. S. NUCLEAR REGULATORY COMMISSION (NRC)

REGION II

Docket Nos. 50-424 and 50-425

License Nos. NPF-68 and NPF-81

Report No: 50-424/01-03 and 50-425/01-03

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

Facility: Vogtle Electric Generating Plant, Units 1 and 2

Location: 7821 River Road
Waynesboro, GA 30830

Dates: April 1, 2001 through June 30, 2001

Inspectors: J. Zeiler, Senior Resident Inspector
T. Morrissey, Resident Inspector
D. Forbes, Radiation Protection Specialist (Sections 2OS1, 2OS2, 2PS1, and 2PS3)

Approved by: Stephen J. Cahill, Chief
Reactor Projects Branch 2
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000424-01-03, IR 05000425-01-03, on 04/01-06/30/2001; Southern Nuclear Operating Company; Vogtle Electric Generating Plant, Units 1 and 2; Maintenance Rule

This report covers a 13 week period of inspection conducted by resident inspectors and a regional radiation specialist. One Green finding which is 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 are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at *http://www.nrc.gov/NRR/OVERSIGHT/index.html*.

A. Inspector Identified Findings

Cornerstone: Mitigating Systems

Green. The inspectors identified that the licensee failed to implement adequate corrective actions in response to jacket water leakage and chemical residue accumulation which had previously resulted in the failure of both overspeed trip vent valves on the 1A Emergency Diesel Generator (EDG). This finding was also a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action.

This finding was more than minor because a failure of the overspeed trip vent valves could result in engine damage during an overspeed condition. The finding was of very low safety significance because no loss of safety function of the EDG occurred (Section 1R12).

B. Licensee Identified Violations

One violation of very low significance was identified by the licensee and reviewed by the inspectors. Corrective action taken or planned by the licensee appears reasonable. This violation is listed in Section 4OA7 of this report.

Report Details

Summary of Plant Status

Unit 1 operated at essentially 100% Rated Thermal Power (RTP) throughout the inspection period.

Unit 2 began the period operating at 95% RTP. On April 7, a shutdown was commenced from 93% RTP to begin a planned refueling outage. At 46% RTP, a manual reactor trip was initiated when the operating main feedwater pump tripped. On May 4, the unit was restarted following the completion of the refueling outage. The unit attained 100% RTP on May 8 and remained at essentially 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 partial walkdowns of the following systems to evaluate the operability of selected trains or backup systems when the redundant train or system was inoperable or out of service. The walkdowns included verification of local and control room valve switch and breaker positions to ensure the systems were correctly aligned. Licensee documents used to support this inspection activity are listed in the Attachment to this report.

- 2A Spent Fuel Pool Cooling System
- 2A and 2B Residual Heat Removal (RHR) Systems
- 2A Safety Injection (SI) and High Head Safety Injection Systems
- 1B Emergency Diesel Generator (EDG) System

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors conducted tours of the areas listed below to evaluate the licensee's control of combustible materials and ignition sources and the material condition and operational status of fire detection and suppression systems and fire protection barriers. The inspectors compared the licensee's fire protection procedures to the requirements in Updated Final Safety Analysis Report (UFSAR) Section 9. The inspectors periodically reviewed the licensee's fire protection Limiting Condition for Operation (LCO) log to determine if the corrective actions for fire protection degradations were properly prioritized. Additionally, the inspectors reviewed Condition Reports (CRs) 2001000499 and 2001001228 to verify that fire protection issues were being appropriately addressed

in the corrective action program. Licensee documents used to support this inspection activity are listed in the Attachment to this report.

- 2A Spent Fuel Pool Cooling System room
- 2A and 2B RHR pump rooms
- Unit 2 containment building
- 1B EDG room
- 2B SI pump room
- Unit 2 Vital Battery and Charger rooms
- Unit 2 Nuclear Service Cooling Water (NSCW) System Train A building

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On June 11, the inspectors observed a simulator evaluation of licensed operators. The inspectors assessed the following items: 1) correct use and implementation of abnormal operating, emergency operating, annunciator response, and emergency classification procedures, 2) proper control board manipulations, including high-risk operator actions, 3) quality of crew command and control, 4) quality of communications, and 5) effectiveness of the post training critique. The inspectors also verified that the simulator control boards closely matched the control boards in the actual control room. Licensee documents used to support this inspection activity are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule (MR) Implementation

a. Inspection Scope

The inspectors reviewed the following equipment issues and associated CRs to assess the effectiveness of licensee maintenance efforts related to the requirements of 10 CFR 50.65 (the Maintenance Rule) and licensee procedure 50028-C, Engineering Maintenance Rule Implementation. The inspectors reviewed the licensee's implementation of the Maintenance Rule regarding characterization of failures, performance criteria or a(1) performance goals, and corrective actions. The inspectors also reviewed CR's 2001000281, 2001001189 , and 2001000477, to verify that equipment problems were being identified at the appropriate level, entered into the corrective action program, and appropriately dispositioned.

- 1A EDG VR1 field flash interlock relay failure (CR 2001000475)
- 1A EDG mechanical overspeed trip protection degradation (CR2001000477)

- 2B EDG turbocharger oil leak (CR 2001000581)
- Trip of 2B Main Feedwater Pump during surveillance testing (CR 2001000694)
- 2B EDG field flash relay failure (CR 2001001022)
- 2B Engineered Safety Features (ESF) Chiller failure to start (CR 2001001020)

b. Findings

One finding of very low safety significance (Green) was identified by the inspectors for the inadequate implementation of corrective action taken in response to a jacket water leak which previously had led to the failure of both overspeed trip vent valves on the 1A EDG. This finding was also a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action.

On March 4, 2001, the licensee identified (CR 2001000477) that the mechanical overspeed trip vent valves removed during preventive maintenance on the 1A EDG would not function. The two overspeed trip vent valves are replaced on a 2 year periodicity. The engine overspeed protective function is one of the three critical protective functions that is retained during design basis accident emergency operation of the engine. The UFSAR states, in part, that these protective devices would isolate a malfunctioning EDG before it became seriously damaged and therefore, repairs could be performed while the redundant EDG is in operation. The root cause of the failure was the accumulation of jacket water chemical residue on the overspeed trip vent valves which restricted proper valve movement. The accumulation of chemical residue resulted from jacket water leakage that had occurred since the valves were last replaced.

As part of the licensee's corrective action, procedure 11882-1, Outside Area Rounds Sheets, was changed (revision 52) to verify daily that no jacket water, fuel oil or lube oil leakage existed on or near the overspeed trip vent valves. If leakage existed, the procedure directed that it be diverted away from the overspeed vent valves, the unit shift supervisor and system engineer be contacted, and a functional test be performed to verify the valves would operate properly. This procedure revision was implemented April 26, 2001.

On June 1, 2001, the inspectors identified jacket water leakage and evidence of chemical residue buildup on both 1A EDG overspeed trip vent valves. Upon notifying the licensee, prompt action was taken to functionally test, clean, and shield the overspeed vent valves from the active jacket water leak. The as-found testing adequately demonstrated that the overspeed trip vent valves would still properly operate even with the limited amount of accumulated chemical residue. That same day, the licensee issued a standing order instructing operations shift personnel on the need to visually inspect the trip valves from above and from a close distance. Due to the equipment orientation, any other view could hinder observation of chemical residue accumulation. Based on EDG work history reviews and interviews with maintenance personnel, the inspectors determined that there were two jacket water leaks identified by the licensee since April 26, 2001, that were in the vicinity of the overspeed vent valves. The most recent leakage was identified by painters on May 29, 2001, and while an MWO was initiated by maintenance, an assessment of the leakage impact on the overspeed vent valves was not performed at that time.

The inspectors determined that from May 29 to June 1, the outside area operators had not properly identified jacket water leakage and chemical residue on the trip vent valves and therefore had not taken the actions required by procedure 11882-1. If left uncorrected, this issue could have become a more significant safety concern since jacket water chemical residue buildup can render the overspeed trip function inoperable, leaving the EDG vulnerable to severe damage if an actual overspeed condition occurred. This finding was considered to be of very low safety significance (Green) because no loss of safety function of the EDG occurred.

10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, requires, in part, that conditions adverse to quality, are identified and corrected. The corrective actions of CR 2001000477 were not adequately nor fully implemented. The outside area operators failed to identify active jacket water leakage and chemical residue buildup on the overspeed trip vent valves and therefore, did not take the actions required by procedure 11882-1. This resulted in a recurrence of jacket water chemical residue buildup on the overspeed trip vent valves. Because the violation is of very low safety significance and has been entered into the licensee's corrective action program (CR 2001001316), this finding is considered an NCV in accordance with Section VI.A.1 of the NRC Enforcement Policy. The finding is identified as NCV 50-424/01-03-01, Failure to Prevent Recurrence of Chemical Residue Accumulation on EDG Overspeed Trip Valves.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

a. Inspection Scope

For the maintenance activities listed below, the inspectors evaluated the licensee's risk management effectiveness and compliance with 10 CFR 50.65(a)(4). The inspectors verified that appropriate risk assessments were conducted prior to work performance and that risk management controls were implemented in accordance with licensee procedure 00354-C, Maintenance Scheduling. The inspectors verified that plant risk was reassessed for emergent work activities.

- Replace low voltage power supplies for Unit 1 Power Range Channel N41 (MWO 10101102)
- Repair leaking fitting on Main Steam Isolation Valve 2HV3036B actuator (MWO 20101526)
- Repair 1A EDG fuel injector tubing (MWO 10101496)
- Functional test, clean and inspect 1A EDG mechanical overspeed trip vent valves (MWO 10101574)
- Replace Unit 1 Generator Generex power supply monitor board (MWO 10101384)
- Replace 2A Solid State Protection System 15 volt DC power supply (MWO 20101792)
- Troubleshoot pressurizer pressure channel 2PO457 erratic bistable operation (MWO 20101821)

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions and Events

a. Inspection Scope

On April 7, the inspectors observed control room operators respond to an unexpected loss of all main feedwater flow and subsequent manual reactor trip. The inspectors reviewed operating logs, sequence of event logs, and computer data of plant equipment response to ensure that equipment important to safety operated as designed. The inspectors reviewed procedures 18016-C, Condensate and Feedwater Malfunction, and 19000-C, E-0 Reactor Trip or Safety Injection, to verify the operating crew responded appropriately to the transient. The cause of the transient is discussed in Section 4OA3 of this report.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following operability evaluations to assess the technical adequacy of the evaluations, the adequacy of compensatory measures, and the impact on continued plant operation. Additionally, the inspectors verified that the operability evaluations were processed in accordance with procedure 00150-C, Condition Reporting and Tracking System.

- Seismic operability of Component Cooling Water System while pump removed (CR 2001000529)
- RHR relief valve 2PSV8856B fails pressure test (CR2001000995)
- 2B Motor Driven Auxiliary Feedwater (MDAFW) Pump miniflow valve failure to close (CR 2001001064)
- 1B EDG ESF HVAC bypass flow through partial open door (CR 2001001228)
- Vital Battery 1CD1B resistance exceeded acceptance criteria (CR 2001001532)

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds

a. Inspection Scope

The inspectors reviewed conditions that required compensation by the operators (workarounds) existing on both units during the report period. The inspectors evaluated if these workarounds could increase the likelihood of an initiating event or could affect multiple mitigating systems. The inspectors also periodically evaluated the cumulative effects of potential workarounds on the operator's ability to correctly and timely respond to plant transients.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed or witnessed post-maintenance testing for the following maintenance activities to determine whether the testing adequately verified that the work activities were properly performed and demonstrated that the equipment was operable. Other documents reviewed included procedure 29401-C, Work Order Functional Tests, and the system outage schedule where applicable. Additionally, the inspectors reviewed CR 2001000199 to verify that the licensee had adequately identified and implemented appropriate corrective actions for the associated post-maintenance test problem.

- Replacement of low voltage power supplies for Unit 1 Power Range Channel N41 (MWO 10101102)
- 1A RHR room cooler system outage (MWO's 10002763, 10100412 and 10101352)
- Calibration of 2A MDAFW Pump Flow Control Valve Flow Transmitter 2FT-5155 (MWO 20002211)
- Unit 2 NSCW pump #4 system outage (MWO 20101792)
- Preventive maintenance on 2A EDG (MWO 20002612)
- Replacement of Unit 2 Pressurizer Pressure Channel 2PO457 bistable circuit board (MWO 20101821)

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities associated with the scheduled Unit 2 refueling outage (2R8) that began April 7. The specific activities are listed below and licensee documents reviewed to support the inspection activities are listed in the Attachment to this report.

Review of Outage Planning: The inspectors reviewed the licensee's outage schedule and outage risk assessment conducted by the Independent Safety Engineering Group to ensure that the licensee had appropriately considered risk, industry experience, previous site specific problems, and had developed mitigation strategies for losses of key safety functions and incorporated defense-in-depth.

Shutdown Activities: The inspectors witnessed aspects of reactor shutdown and reactor coolant system cooldown and verified that cooldown rates were adhered to in accordance with Technical Specifications (TS) and plant procedure requirements.

Licensee Control of Outage Activities: The inspectors sampled several clearances and confirmed that tags were properly installed and that associated equipment was appropriately configured to support the function of the clearance. The inspectors verified that reactor coolant system pressure, level, and temperature instruments were properly installed and configured to provide reliable indications. The inspectors reviewed the status and configuration of electrical systems to ensure that the configurations met TS, licensee procedure requirements, and outage risk planning assumptions. The inspectors observed decay heat removal parameters to assess proper system function. The inspectors observed spent fuel pool operations to verify that outage work was not impacting the ability of the system to perform its function. The inspectors reviewed containment penetration controls to verify that containment closure was being maintained as appropriate when required. The inspectors reviewed reactor coolant system inventory controls to ensure that required and alternate means of inventory additions were maintained and that precautions for inventory losses were properly implemented.

Reduced Inventory and Mid-Loop Conditions: The inspectors reviewed activities associated with reduced inventory and mid-loop conditions to verify that licensee commitments to Generic Letter 88-17 were being implemented.

Refueling Activities: The inspectors observed core unload and reload activities to ensure fuel handling operations were performed in accordance with TS and plant procedures. The inspectors reviewed the licensee's actions upon identifying fuel assembly top nozzle spring screw failures to ensure that all safety concerns were addressed prior to plant startup. The inspectors reviewed the core reload video tape to ensure that fuel assemblies and their associated inserts were reloaded in the correct positions and orientations.

Heatup and Startup Activities: The inspectors verified that TS and licensee procedural requirements were met for mode changes. The inspectors performed a walkdown of containment prior to reactor startup to verify that debris had not been left which could affect performance of the containment sumps. The inspectors observed reactor startup and the approach to criticality to ensure conformance to TS and licensee procedural requirements. The inspectors reviewed reactor physics testing results to verify that core operating limit parameters were consistent with the design.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed the following surveillance tests or reviewed the test data to assess if the surveillance met TS, UFSAR, and licensee procedure requirements. The inspectors verified that test acceptance criteria was met and that the results adequately demonstrated that the equipment was operationally ready and capable of performing its intended safety functions. Additionally, the inspectors reviewed CRs 2001000999 and

2001001040 to verify that the licensee had adequately identified and implemented appropriate corrective actions for the associated surveillance test problems.

- 24920-2, Containment Penetration No. 67A Pressurizer Liquid Sample Line Local Leak Rate Test
- 14667-2, Train B Diesel Generator and ESFAS Test
- 14450-2, RCS Pressure Isolation Valve Inservice Leak Test
- 14980-1, Diesel Generator Operability Test (6 month fast start, 1A EDG)
- 14980-2, Diesel Generator Operability Test (slow start of 2A EDG)
- 14805-2, Residual Heat Removal Pump and Check Valve IST and Response Time Test
- 14420-2, Solid State Protection System and Reactor Trip Breaker Train A Operability Test

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors evaluated Temporary Modifications (TM) 2001-V2T001 and TM 2001-V2T025 and associated 10 CFR 50.59 screening against the system design basis documentation to verify that the modifications did not adversely affect the safety functions of important safety systems. Additionally, the inspectors assessed if the modifications were developed and implemented in accordance with procedure 00307-C, Temporary Modifications.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

On May 30, 2001, the inspectors observed an emergency response facility activation drill. The inspectors observed licensee activities in the main control room (simulator) and Technical Support Center to assess whether classification, notification, and protective action recommendation activities were in accordance with licencee procedures 91001-C, Emergency Classification and Implementing Instructions, and 91002-C, Emergency Notifications.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY
Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiological Significant Areas

a. Inspection Scope

The inspectors evaluated radiological access controls during the Unit 2 refueling outage. The inspection included plant walk downs; evaluating controls for selected exposure significant work areas; evaluating controls for radiological surveys, postings, and barricades were complete and accurate for airborne radioactivity areas, radiation areas, high radiation areas, locked high radiation areas, and very high radiation areas as prescribed in licensee procedures and plant specific TS. The inspectors performed independent radiation surveys to evaluate whether prescribed Radiation Work Permits (RWPs), procedures, and engineering controls were in place for exposure controls and to verify locked high radiation area controls. The inspectors evaluated whether appropriate dosimetry was being used and alarming dosimeter set points were consistent with RWP requirements. During plant walk downs the inspectors evaluated air sampler locations for sampling for airborne radioactivity. During pre-job briefings and job performance observations the inspectors also evaluated radiation worker and health physics technician awareness and proficiency for complying with and maintaining prescribed radiological controls for internal and external radiation exposure. The RWPs evaluated included 01-8000, 01-8001, and 01-8300.

CRs related to radiation protection activities and radiological control deficiencies were evaluated to determine if any involved a potential for unintended exposures greater than 100 millirem (mrem), an overexposure, or substantial potential for an overexposure. The CRs evaluated included 2001000324, 2001000696, and 2001000873.

Licensee activities were evaluated against licensee procedures, UFSAR, TS, and 10 CFR Part 20 requirements listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

2OS2 As Low As Reasonably Achievable (ALARA) Planning and Controls

a. Inspection Scope

The inspectors performed plant walk downs to evaluate job site implementation of ALARA controls during the Unit 2 refueling outage. The inspectors evaluated the integration of ALARA requirements into work procedures. The inspectors evaluated the accuracy of person-hour estimating provided by maintenance planning to the radiation protection group and person-hour tracking provided by radiation protection and

evaluated whether dose rate reduction activities are taken into consideration during work scheduling.

Licensee activities were evaluated against licensee procedures, UFSAR, TS, and 10 CFR Part 20 requirements listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

.1 Effluent Release Processing

a. Inspection Scope

The inspectors evaluated laboratory quality control (QC) program activities for liquid and airborne sample radionuclide analyses. The inspectors discussed and reviewed, as applicable, current gamma spectroscopy and liquid scintillation detection equipment calibrations and daily system performance results. The inspectors also evaluated preparation, processing and storage of composite samples, radionuclide concentration lower level of detection (LLD) capabilities and achieved accuracies, and results of the quarterly cross-check spiked radionuclide samples analyzed during calendar year 2000.

The inspectors reviewed the Quality Assurance (QA) VSAER-2001-031 report performed April 9, 2001, for chemistry and environmental monitoring programs. The offsite effluent dose results as reported in the April 26, 2001, Annual Radiological Effluent Release Report, were evaluated against 10 CFR Part 20 requirements, Appendix I to 10 CFR Part 50 design criteria, TS, UFSAR details, and the Offsite Dose Calculation Manual (ODCM), Revision (Rev.) 17. In addition, the inspectors evaluated liquid release permit 10088.002.0251L for a Unit 1 Waste Monitor tank release and gaseous release permit 10127.025.041G for a plant vent stack release against ODCM requirements and appropriate alarm setpoints. The inspectors also reviewed licensee CRs which included 2001000081, 2001000148, 2001000345, 2001000535, 2001001073, and 2001001469.

.b Findings

No findings of significance were identified.

.2 Airborne Effluent Vent Flow and Air Cleaning System Surveillance

a. Inspection Scope

The inspectors evaluated current surveillance activities for filtration testing of Penetration Rooms, Control Room Emergency Ventilation, and Post Accident Containment Ventilation systems.

The inspectors reviewed program activities against TS, UFSAR, American Nuclear Institute Standard N510(1989), Testing of Nuclear Air-Cleaning Systems, and Regulatory Guide (RG) 1.52, Design, Testing and Maintenance Criteria for Post Accident Engineered Safety-Feature Atmosphere Cleanup System Air Filtration and Adsorption Units of Light Water Cooled Nuclear Power Plants, Rev. 2. The following procedures were reviewed during inspection of this program area:

- Procedure 24169-1, Containment Vent Flow IF-2565 Channel Calibration
- Procedure 24666-1, Plant Vent Radiogas Flow IF-12442 Channel Operational Test and Channel Calibration
- Procedure, 24667-1, Plant Vent Widerange Radiogas Flow IF-12444 Channel Operational Test and Channel Calibration

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring Program

.1 Radiological Environmental Monitoring Program (REMP) Implementation

a. Inspection Scope

The inspectors evaluated REMP sampling QC activities for selected sample types listed in the 2000 Annual Radiological Environmental Monitoring Report, dated April 26, 2001. Activities reviewed included assessment of trends for reported inter-laboratory comparison results; verification of LLD capabilities for selected gamma emitting radionuclides in fish, gross beta analyses for particulate sample filters, and tritium analyses for surface water analyses; and collection and preservation of surface water samples. The inspectors also verified pump flow calibrations and airflow determinations for selected particulate and charcoal airborne sampling systems.

The REMP QC activities were reviewed against RG 4.1, Programs for Monitoring Radioactivity in the Environs of Nuclear Power Plants, Rev 1, April 1975, and RG 1.21, Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials In Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plant, June 1974. Program implementation and sample monitoring activities were verified against TS, ODCM Rev. 17, and the 2000 Annual Environmental Monitoring Report details. The inspectors reviewed and evaluated the use of procedure ENV-851, Dust/Gaseous Iodine Air Flow Calibration, Rev. 5, and procedure ENV-859, Radiological Monitoring River Water, Rev. 10.

b. Findings

No findings of significance were identified.

.2 Controls for Unrestricted Release of Material from the Radiologically Controlled Area (RCA)

a. Inspection Scope

The inspectors reviewed and evaluated the licensee's program implementation for monitoring potentially contaminated material for unconditional release from the Radiologically Controlled Area (RCA). The evaluation included current direct monitoring activities and recent licensee initiatives to evaluate hard-to-detect radionuclides. Availability and accuracy of survey instruments used for release, e.g., friskers, proportional counters, and small article monitors (SAM-9), were verified for RCA control points. The inspectors also reviewed in-service instrumentation calibration records and alarm setpoints. The inspectors observed the calibration of a SAM-9 using licensee procedure 43689-C, Calibration of the Small Articles Monitor Models Sam-9 and Sam-11. The inspectors also observed and evaluated routine release survey activities using licensee procedure 46024-C, Release of Materials From the RCA, Rev. 2.

Licensee activities were evaluated against 10 CFR Part 20 requirements and UFSAR details. Established detection limits were reviewed against guidance provided in NRC Circular 81-07 and Information Notice 85-92.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

.1 Initiating Events Cornerstone

a. Inspection Scope

The inspectors verified the data submitted by the licensee to the NRC for the three initiating event PIs (unplanned reactor scrams, reactor scrams with loss of normal decay heat removal, and unplanned power changes), from September 2000 through June 2001. The data was verified using the licensee's Monthly Operating Reports, operator logs, Licensee Event Reports (LERs), and NRC Inspection Reports.

b. Findings

No findings of significance were identified.

.2 Mitigating Systems Cornerstone

a. Inspection Scope

The inspectors verified the data submitted by the licensee to the NRC for the Safety System Functional Failures PI from January 2001 through June 2001. The data was verified using the licensee's Monthly Operating Reports, operator logs, and LERs.

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up

(Closed) LER 50-425/01-001-00, Reactor Trip While Testing the Main Feedwater Pump Trip Signals

The licensee identified that Instrumentation and Control personnel failed to fully open a sliding link as required during TS surveillance testing of the main feedwater pump trip signals. This failure caused a trip of the operating main feedwater pump and resulted in a manual reactor trip due to the loss of all main feedwater. Licensee documents reviewed are included in the Attachment to this report.

The inspectors evaluated this issue for risk and determined that it had a credible impact on safety since it resulted in a manual reactor trip which is a challenge to plant safety equipment. The finding was evaluated using the NRC's Significance Determination Process and determined to be of very low safety significance (Green) since it had no other safety impact other than slightly increasing the likelihood of an uncomplicated reactor trip. This issue was entered in the licensee's corrective action program as CR 2001000694. The regulatory significance of this item is dispositioned in Section 4OA7 of this report.

4OA5 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on July 5, 2001. Interim exits were held April 20 and June 29, 2001, to discuss the results of inspections conducted by a region-based radiation specialist. No proprietary information was identified.

4OA7 Licensee Identified Violations

The following finding of very low significance 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.

NCV Tracking Number	Requirement Licensee Failed to Meet
NCV 50-425/01-03-02	Unit 2 TS 5.4.1.a requires that written procedures be implemented covering the activities listed in Regulatory Guide 1.33, Rev. 2, Appendix A, February 1978. The failure to fully open a sliding link in accordance with TS surveillance procedure 14236-2, SGFPT A and SGFPT B Trip TADOT, on April 7, 2001, was a violation of TS 5.4.1.a. This failure resulted in a loss of main feedwater flow and subsequent manual reactor trip. This issue was placed in the licensee's corrective action program as CR 2001000694. (Section 4OA3)

Supplementary Information

PARTIAL LIST OF PERSONS CONTACTED

Licensee

W. Bargeron, Manager Operations
R. Brown, Manager Training and Emergency Preparedness
W. Burmeister, Manager Engineering Support
D. Carter, Chemistry Manager
J. Dixon, Radiation Protection Manager
G. Frederick, Plant Operations Assistant General Manager
J. Gasser, Nuclear Plant General Manager
I. Kochery, Technical Manager
J. Williams, Manager Maintenance
P. Rushton, Plant Support Assistant General Manager

NRC

S. Cahill, Chief, Region II Reactor Projects Branch 2

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

50-424/01-03-01	NCV	Failure to Prevent Recurrence of Chemical Residue Accumulation on EDG Overspeed Trip Vent Valves (Section 1R12)
50-425/01-03-02	NCV	Failure to Follow Procedures Results in Manual Reactor Trip (Section 4OA7)

Closed

50-425/01-001-00	LER	Reactor Trip While Testing the Main Feedwater Pump Trip Signals (Section 4OA3)

Attachment: List of Documents Reviewed

ATTACHMENT 1
LIST OF DOCUMENTS REVIEWED

Section 1R04:

Drawing No. 2XDB130, Spent Fuel Pool Cooling and Purification System
Drawing Nos. 2X4DB114-118, Chemical and Volume Control System
Drawing Nos. 2X4DB119-121, Safety Injection System
Drawing No. 2X4DB122, Residual Heat Removal System

Section 1R05:

Procedure 92000-C, Fire Protection Program
Procedure 92015-C, Use, Control and Storage of Flammable/Combustible Materials
Procedure 92020-C, Control of Ignition Sources
Request for Engineering Assistance (REA) 99-VAA650, Door Database

Section 1R11:

Procedure 10000-C, Conduct of Operations
Procedure 18001-C, Primary Systems Instrumentation Malfunction
Procedure 19000-C, Reactor Trip or Safety Injection
Procedure 19010-C, Loss of Reactor or Secondary Coolant
Procedure 19012-C, Post-Loca Cool Down and Depressurization
Procedure 91001-C, Emergency Classification and Implementing Instructions

Section 1R20:

2R8 Revision 0 Schedule, dated March 28, 2001
2R8 Pre-Outage Schedule Risk Assessment, dated February 16, 2001
Clearance No. 20115150, RHR pump Train A
CR 2000001852
CR 2000001906
CR 2000001965
Procedure 12006-C, Unit Cooldown to Cold Shutdown
Procedure 18019-C, Loss of Residual Heat Removal
Procedure 18004-C, Reactor Coolant System Leakage
Procedure 13005-2, Reactor Coolant System and Refueling Cavity Draining
Procedure 11899-2, RCS Draindown Configuration Checklist
Procedure 12008-C, Mid-Loop Operations
Procedure 23985-2, RCS Temporary Water Level System
Procedure 28917-C, RCS Midloop Level Indication and Vacuum Refill Operation
Procedure 14406-2, Boron Injection Flow Path Verification - Shutdown
Procedure 12007-C, Refueling Operations (Entry into Mode 6)
Procedure 93300-C, Conduct of Refueling Operations
Procedure 93663-C, Verification of Core Loading Pattern
Procedure 14210-2, Containment Building Penetrations Verification - Refueling
Procedure 11911-2, Containment Penetration Local Leak Rate Test
Procedure 18030-C, Loss of Spent Fuel Pool Level or Cooling
Procedure 12000-C, Post Refueling Operations (Mode 6 to Mode 5)
Procedure 12001-C, Unit Heatup to Hot Shutdown (Mode 5 to Mode 4)
Procedure 12002-C, Unit Heatup to Normal Operating Temperature and Pressure
Procedure 14900-C, Containment Exit Inspection
Procedure 12003-C, Reactor Startup (Mode 3 to Mode 2)

Procedure 12004-C, Power Operation (Mode 1)
Procedure LPPT-GAE/GBE-01, Low Power Physics Test Program with Dynamic Rod Worth Measurement

Section 2OS1 and 2OS2:

Procedure 00910-C, VEGP ALARA Program
Procedure 40001-C, Health Physics Department Selection And Training
Procedure 43005-C, Establishing And Posting Radiation Controlled Areas And High Radiation Area Access Control
Procedure 43007-C, Issuance, Use, And Control Of Radiation Work Permits
Procedure 45012-C, Individual Radiation Exposure Records And Reports
Procedure 45013-C, Issuance, Use And Collection Of Personnel Dosimetry
Procedure 00930-C, Radiation And Contamination Control
Procedure 00008-C, Plant Lock And Key Control
Procedure 25269-C, Steam Generator Manway Cover Removal And Installation

Section 4OA1:

Event Report 2-2001-01, Reactor Trip Due to Loss of Feedwater Flow
CR 2001000694, Manual Reactor Trip Following Trip of Both Main Feedwater Pumps
Procedure 14236-2, SGFPT A and SGFPT B Trip TADOT