UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

January 26, 2004

James J. Sheppard, President and
Chief Executive Officer
STP Nuclear Operating Company
P.O. Box 289
Wadsworth, Texas 77483

SUBJECT: SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION - NRC INTEGRATED INSPECTION REPORT 05000498/2003004 AND 05000499/2003004

Dear Mr. Sheppard:

On December 31, 2003, the US Nuclear Regulatory Commission (NRC) completed an inspection at your South Texas Project Electric Generating Station, Units 1 and 2, facility. The enclosed integrated report documents the inspection findings, which were discussed on January 5, 2004, with you and members of your staff.

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

This report documents one finding with at least very low safety significance (Green) pending evaluation under the significance determination process (SDP). This finding does not present an immediate safety concern because it involves an inadequate procedure that has been corrected. Additionally, this report documents one finding of very low safety significance (Green), evaluated under the risk significance determination process, which was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it was entered into your corrective action program, the NRC is treating this finding as a noncited violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy. If you contest any 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 U.S. Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at South Texas Project Electric Generating Station, Units 1 and 2, facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be made 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/

William D. Johnson, Chief
Project Branch A
Division of Reactor Projects

Dockets: 50-498
50-499
Licenses: NPF-76
NPF-80

Enclosure:
NRC Inspection Report 05000498/2003004 and 05000499/2003004
w/Attachment: Supplemental Information

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**ENCLOSURE**

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

| | |
|---|---|
| Dockets: | 50-498, 50-499 |
| Licenses: | NPF-76<br>NPF-80 |
| Report No: | 05000498/2003004 and 05000499/2003004 |
| Licensee: | STP Nuclear Operating Company |
| Facility: | South Texas Project Electric Generating Station, Units 1 and 2 |
| Location: | FM 521 - 8 miles west of Wadsworth<br>Wadsworth, Texas 77483 |
| Dates: | September 21 through December 31, 2003 |
| Inspectors: | J. Cruz, Senior Resident Inspector<br>G. L. Guerra, Resident Inspector<br>M. E. Murphy, Senior Operations Engineer<br>G. Werner, Senior Operations Engineer<br>P. J. Elkmann, Emergency Preparedness Inspector |
| Approved By: | W. D. Johnson, Chief<br>Project Branch A<br>Division of Reactor Projects |

## SUMMARY OF FINDINGS

IR 05000498/2003004, 05000499/2003004; 09/21/03 - 12/31/03; South Texas Project Electric Generating Station; Units 1 & 2; Integrated Resident Report; Event Followup, power operated relief valve unresolved item closure.

This report covered a 3-month period of inspection by the resident inspectors and Region IV inspectors. One green noncited violation and one unresolved item with at least very low safety significance were identified. The significance of any findings are indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609 "Significance Determination Process." Findings for which the Significance Determination Process 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

Cornerstone: Initiating Events

- TBD. The inspectors identified a violation having at least very low significance because a procedure used to calibrate a pressurizer pressure channel allowed it to lift a power operated relief valve and reduce reactor coolant system pressure while the plant was at 100 percent power. On March12, 2003, in Unit 1, the pressurizer power operated relief valve lifted because the channel under test was not deselected. The procedure used during the calibration had been improperly revised and inadvertently permitted the described equipment configuration. The control room operators and instrument and control technicians conducting the calibration had discussed the channel selection anomaly but concluded that it was inconsequential concluding that the procedure must have previously been successfully completed since there were no revision bars next to the steps. The control room operators and the technicians failed to recognize that the channel being tested, although not the channel controlling the master pressure controller, was controlling the power operated relief valve that subsequently opened.

  This finding is unresolved pending completion of a significance determination. This finding is greater than minor because it affected the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to have at least very low significance because it contributed to the likelihood of a primary system loss of coolant accident initiator and was reasonably within the licensee's ability to foresee and correct, and should have been prevented. This finding does not present an immediate safety concern (Section 4OA3).

- Green The inspectors identified a noncited violation of Technical Specification 6.8.1.a regarding Regulatory Guide 1.33 required procedure.

Licensee procedure “Conduct of Operations,” Revision 21, requires, in part, that if the plant does not perform or respond as expected, operations personnel will take conservative action to return the plant to a known condition. On March 26, 2003, operators inappropriately responded to plant conditions making an event more significant because operators did not understand and control the impact of the restoration of power to an instrumentation panel. They also did not understand the interactions between the normal pressurizer controller and the cold overpressure mitigation system.

This issue was greater than minor because it affected the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations, in that operators contributed to initiating this event and making it more significant. The performance deficiency was determined to represent a finding of very low safety significance. This was based on a Phase 1 screening in accordance with Manual Chapter 0609, Appendix G, “Shutdown Operations Significance Determination Process.” The major factors in this determination were the continued availability of methods to control reactor coolant system pressure and the short period of time that the cold overpressure mitigation system was nonfunctional (Section 4OA5).

B. Licensee-Identified Violations

None.

## REPORT DETAILS

Summary of Plant Status

Unit 1 operated at essentially 100 percent power throughout the inspection period.

Unit 2 operated at essentially 100 percent power for most of the inspection period. On November 6, Unit 2 reduced power to 87 percent to open, inspect, and repair a tube leak in Feedwater Heater 25A and returned to full power shortly thereafter. Additionally, on December 23 the licensee initiated shutdown activities as required by Technical Specifications due to the Emergency Diesel Generator 22 thrown rod event. A full description of the event is documented in NRC Inspection Report 05000498;499/2004006. Power was reduced to approximately 30 percent prior to the licensee being granted an emergency license amendment which extended the allowed outage time for Emergency Diesel Generator 22. Unit 2 returned to 100 percent power on December 24, 2003.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

Complete System Walkdown. On December 29, 2003, the inspectors completed a detailed review of the alignment and condition of the Unit 2 containment spray system to determine if there were any discrepancies between the actual equipment alignment versus what was procedurally required. During the walkdown, Plant Operating Procedure 0POP02-CS-0001, "Containment Spray Standby Lineup," Revision 8, was used by the inspectors to verify that major system components were correctly labeled and aligned. The inspectors also reviewed open condition reports on the system for any deficiencies that could affect the ability of the system to perform its design function. Documentation associated with control room deficiencies, temporary modifications, operator workarounds, and items tracked by plant engineering were also reviewed to assess their collective impact on system operation.

Partial System Walkdowns. The inspectors conducted partial walkdowns of the following three risk-significant systems to verify that they were in their proper standby alignment as defined by system operating procedures and system drawings. During the walkdowns, inspectors examined system components for materiel conditions that could degrade system performance. In addition, the inspectors evaluated the effectiveness of the licensee's problem identification and resolution program in resolving issues which could increase event initiation frequency or impact mitigating system availability.

- On October 7 the inspectors verified the condition of the Unit 1 Train C emergency diesel generator. This walkdown was performed while the Train B emergency diesel generator was out of service for planned maintenance during a plant Train B systems extended allowed outage. The inspectors compared

system equipment and control board lineups to Plant Operating Procedure 0POP02-DG-0003, "Emergency Diesel Generator 13," Revision 37.

- On October 14 the inspectors performed a partial system walkdown on the Unit 2 Train A essential cooling water system during a Train B planned maintenance outage. The inspectors compared system equipment and control board lineups to Plant Operating Procedure 0POP02-EW-0001, "Essential Cooling Water Operations," Revision 28.

- On October 28 the inspectors performed a partial system walkdown on the Unit 1 Train B safety injection system during a Train A planned maintenance outage. The inspectors compared system equipment and control board lineups to Plant Operating Procedure 0POP02-SI-0002, "Safety Injection System Initial Lineup," Revision 16.

b. Findings

No findings of significance were identified

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors toured six plant areas to assess the licensee's control of transient combustible materials, the material condition and lineup of fire detection and suppression systems, and the material condition of manual fire equipment and passive fire barriers. The licensee's fire preplans and fire hazards analysis report were used to identify important plant equipment, fire loading, detection and suppression equipment locations, and planned actions to respond to a fire in each of the plant areas selected. Compensatory measures for degraded equipment were evaluated for effectiveness. The following plant areas were inspected:

- Unit 2 Train A Channel I and II 125vdc battery and distribution rooms on September 30 (Fire Zones 001, 002, 003, and 084)

- Unit 2 radioactive pipe penetration area on October 29 (Fire Zone 135)

- Unit 1 Train A electrical switchgear, cable routing room, electrical penetration area, and battery rooms on November 5 (Fire Area 2)

- Unit 2 Train A electrical switchgear, cable routing room, electrical penetration area, and battery rooms on November 6 (Fire Area 2)

- Unit 1 Train C electrical switchgear, cable routing room, electrical penetration area, and battery rooms on December 15 (Fire Area 3)

- Unit 2 Emergency Diesel Generator 22 engine room on December 9, 2003, (Fire Zone Z501)

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

On December 31, 2003, the inspectors completed an inspection of the essential cooling water intake structure to verify that the licensee's internal flood mitigation plans and equipment were consistent with the licensee's design requirements and risk-analysis assumptions. The inspectors reviewed the Updated Final Safety Analysis Report, the Individual Plant Examination for External Events Report, Flood Calculation MC-5216, "Flooding Calculation for the Essential Cooling Water intake Structure," Revision 2, and various historical license basis documents to evaluate the internal flooding design and how current station procedures support that design. The inspectors reviewed internal flooding vulnerabilities and the protective features installed to mitigate the impact of any flooding.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

.1 Quarterly Inspection

a. Inspection Scope

On October 22, 2003, the inspectors assessed Crew 2A performance during licensed operator simulator requalification training. The inspectors observed control room simulator scenarios that included a loss of all AC power and a steam generator tube leak. The inspectors observed crew performance to evaluate the clarity and formality of communications, the correct use of procedures, the performance of high risk operator actions, the monitoring of critical safety functions, and the oversight and direction provided by the shift supervisor. The inspectors observed the operators' use of emergency action levels and protective action recommendations for accuracy and timeliness, reviewed the scenario sequence and objectives, observed the training critique, and discussed the crew's performance with training instructors. In addition, the inspectors attended the critique held by the operating crew to assess individual performance and training effectiveness.

b. Findings

No findings of significance were identified.

.2 Biennial Inspection

a. Inspection Scope

The inspectors (1) evaluated examination security measures and procedures for compliance with 10 CFR 55.49; (2) evaluated the licensee's sample plan for the written examinations for compliance with 10 CFR 55.59 and NUREG-1021, as referenced in the facility requalification program procedures; and (3) evaluated maintenance of license conditions for compliance with 10 CFR 55.53 by review of facility records (medical and administrative), procedures, and tracking systems for licensed operator training, qualification, and watchstanding. In addition, the inspectors reviewed remedial training for examination failures for compliance with facility procedures and responsiveness to address areas failed.

The inspectors (1) interviewed seven personnel (two operators, four instructors/ evaluators, and one training supervisor) regarding the policies and practices for administering examinations; (2) observed the administration of three dynamic simulator scenarios to two operations crews and one staff crew by facility evaluators; (3) observed the administration of five job performance measures in the simulator by three evaluators.

The inspectors also reviewed the remediation process for four individuals, who had written examination failures in 2001. The licensee provided a summary of the results for the 2003 biennial examinations. There was one written exam failure and the individual was remediated and passed the retake examination prior to returning to licensed duties. One individual was incapacitated in an accident after taking the written examination and was unable to take the operating portions of the exams, he has been removed from licensed duties until he is able to take these examinations. The results of the examinations were assessed to determine the licensee's appraisal of operator performance and the feedback of performance analysis to the requalification training program. The inspectors also observed the examination security maintenance for the operating tests during the examination week.

Additionally, the inspectors assessed the South Texas Project plant-referenced simulator for compliance with 10 CFR 55.46 using Baseline Inspection Procedure IP-71111.11 (Section 03.11). The inspectors assessed the adequacy of the facility licensee's simulation facility (simulator) for use in operator licensing examinations and for satisfying experience requirements as prescribed in 10 CFR 55.46, "Simulation Facilities."

The inspectors reviewed a sample of simulator performance test records (i.e., transient tests, surveillance tests, malfunction tests, core performance tests, and normal plant evolution tests), simulator work request records, and processes for ensuring simulator fidelity commensurate with 10 CFR 55.46. The inspectors also interviewed personnel involved in the licensee's simulator configuration control program as part of this review.

b. Findings

No findings of significance were identified.

1R12 Maintenance Implementation (71111.12)

a. Inspection Scope

On December 12, 2003, the inspectors independently verified that licensee personnel properly implemented 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," for the following equipment performance problems:

- 120 volt AC Class 1E Vital Power Inverters (Condition Report 03-17257)

The inspectors reviewed whether the structures, systems, or components were properly characterized in the scope of the Maintenance Rule Program and whether the failure or performance problem was properly characterized. In addition, the inspectors assessed the appropriateness of the established performance criteria. The inspectors also independently verified that the corrective actions and responses implemented were appropriate and adequate. Discussions with the responsible system engineer were also held.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13)

a. Inspection Scope

The inspectors assessed whether the performance of risk assessments for selected planned and emergent maintenance activities was in accordance with 10 CFR 50.65(a)(4). The inspectors assessed the completeness and accuracy of the information considered in the risk assessments and compared the actions taken to manage the resultant risk with the requirements of the licensee's Configuration Risk Management Program. The inspectors reviewed these assessed risk configurations against actual plant conditions and any in-progress evolutions or external events to verify that the assessments were accurate, complete, and appropriate for the conditions. In addition, the inspectors walked down the control room and plant areas to verify that

compensatory measures identified by the risk assessments were appropriately performed. The inspectors reviewed the following four activities:

- (Common) Implementation of temporary instrument/service air systems for installation of new permanent systems (T1-00-81-89 and T2-00-81-90) on September 29
- Unit 1 Cumulative effect of online maintenance during a Train B systems extended allowed outage work week on October 6
- (Common) North bus electrical outage to perform planned maintenance a shunt reactor circuit switch on October 24
- Unit 2 Down power to 87 percent to open, inspect, and repair a tube leak in Feedwater Heater 25A, November 6

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions (71111.14, 71153)

a. Inspection Scope

The inspectors observed two nonroutine evolutions described below to verify that they were conducted in accordance with licensee procedures and Technical Specification requirements. The inspectors reviewed the licensee's planning documents, attended pre-job briefs, and observed personnel performance in the control room and in the field.

- Unit 2 Response to Emergency Diesel Generator 22 thrown rod event on December 9. The specifics of this event were documented in NRC Inspection Report 05000498;499/2004006.
- Unit 2 reactor down power to 30 percent and return to full power operations on December 23 and 24.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected three operability evaluations conducted by licensee personnel during the report period involving risk-significant systems or components. The inspectors evaluated the technical adequacy of the licensee's operability determination,

determined whether appropriate compensatory measures were implemented, and determined whether or not other pre-existing conditions were considered, as applicable. Additionally, the inspectors evaluated the adequacy of the licensee's problem identification and resolution program as it applied to operability evaluations. Specific operability evaluations reviewed are listed below:

- Unit 2 Feedwater isolation bypass Valve 7147A failed closing stroke time test on October 23 (CR 03-16140)

- (Common) Essential Switchgear 4.16 kV breakers with six coil latching mechanism springs on September 29 (CR 03-13724)

- (Common) Two aluminum-bronze piping flanges in the essential cooling water system with evidence of throughwall dealloying defects on October 24 (CR 03-15710 and 03-15730)

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors reviewed licensee-identified operator workarounds and other existing equipment conditions with the potential to be workarounds to verify that they had been identified and assessed in accordance with STP's Total Impact Assessment document and to determine if the functional capability of the system or human reliability in responding to initiating events had been affected. The ability of operators to implement normal and emergency operating procedures with the existing equipment issues was specifically evaluated. The following one emergent item was reviewed:

- Unit 2 Emergent - Degradation of the automatic close function for the reactor containment building personnel airlock on November 18

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed postmaintenance test procedures and associated testing activities for four risk-significant mitigating systems. In each case, the associated work orders and test procedures were reviewed against the attributes in Inspection Procedure 71111, Attachment 19, to determine the scope of the maintenance activity

and determine if the testing was adequate to verify equipment operability. The Updated Final Safety Analysis Report, Technical Specifications, and design basis documents were also reviewed, as applicable, to determine the adequacy of the acceptance criteria listed in the test procedures. The inspectors witnessed or reviewed the results of postmaintenance testing for the following maintenance activities:

- Unit 2 Plant Surveillance Procedure 0PSP03-MS-0001, "Main Steam System Valve Operability Test," Revision 20, for steam generator power operated relief Valve 2A after actuator replacement on October 8
- Unit 1 Plant Operating Procedure 0POP02-AF-0001, "Auxiliary Feedwater," Revision 18, following planned maintenance on September 30
- Unit 1 Train C essential cooling water 4160 volt breaker full functional tests after cell switch refurbishment on November 13
- Unit 1 Train C component cooling water 4160 volt breaker full functional tests after cell switch refurbishment on November 13

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors evaluated the adequacy of three periodic tests of important nuclear plant equipment. This review included aspects such as preconditioning, the impacts of testing during plant operations, the adequacy of acceptance criteria, test frequency, procedure adherence, record keeping, the restoration of standby equipment, test equipment and the effectiveness of the licensee's problem identification and resolution program. The inspectors observed or reviewed the following tests:

- Unit 2 0PSP03-MS-0003, "Main Turbine Steam Inlet Valve Operability Test," Revision 25, on September 21
- Unit 2 0PSP03-AF-0007, "Auxiliary Feedwater Pump 14(24) Inservice Test," Revision 27, on October 2
- Unit 2 0PSP03-FW-0001,"Feedwater System Valve Operability Test," Revision 13, on October 24

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness (EP)

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors performed an in-office review of Revision 6 to Emergency Plan Implementing Procedure 0ERP01-ZV-IN01, "Emergency Classification," submitted October 21, 2003. This revision: (1) added an additional radiation monitor for characterizing the status of containment, (2) defined terms used in the procedure, (3) provided guidance for after-the-fact discovery of emergency conditions, and (4) updated titles. This revision was compared to its previous revision, to the criteria of NEI 99-01, "Methodology for Development of Emergency Action Levels," Revision 2, and to the requirements of 10 CFR 50.47(b) and 50.54(q) to determine if the revision decreased the effectiveness of the emergency plan. This inspection completed the required one sample.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Barrier Integrity Performance Indicator Review

a. Inspection Scope

On November 24 and 25, 2003, the inspectors reviewed performance indicator data for the period from the second quarter of 2002 through the third quarter of 2003 to assess the accuracy and completeness of the indicator reporting. The inspectors used NEI 99-02, "Regulatory Assessment Performance Indication Guideline", Revision 2, as guidance for this inspection. The following two performance indicators were reviewed for both units:

- Reactor Coolant System Activity
- Reactor Coolant System Leak Rate

b. Findings

No findings of significance were identified.

4OA3 Event Followup (71153)

.1 Pressurizer Power Operated Relief Valve Lift at Full Power Operations (71153)

a. Inspection Scope

The inspectors conducted a followup inspection for an event in which a pressurizer power operated relief valve (PORV) lift occurred during a surveillance test at full power operations. Discussions and interviews were held with licensee personnel immediately after the event on March 12, 2003. Individuals interviewed included instrumentation and controls work group personnel, the Unit 1 shift supervisor, and the control room operators that were on watch during the event. The corrective actions implemented in response to this event were detailed in accordance with the licensee's Corrective Action Program in Condition Record 03-3929. The following documents were reviewed and used as criteria for evaluating the licensees' response to this event:

- 0PSP02-RC-0455, "Pressurizer Pressure ACOT," Revisions 13, 14, 15, and 16
- Condition Records 02-18063, 03-3929

b. Findings

Introduction: A finding was identified for an inadequate procedure for equipment calibration that resulted in a pressurizer PORV lifting at 100 percent power. The finding has preliminarily been determined to have at least very low safety significance. This is an unresolved item (URI) pending completion of the SDP.

Description: On March 12, 2003, a Unit 1 a pressurizer PORV lifted during a pressurizer pressure channel calibration. The plant was at 100 percent power at the time of the event. Plant Surveillance Procedure 0PSP02-RC-0455, "Pressurizer Pressure ACOT," Revision 15, allowed performing the calibration surveillance with any channel combination selected. Control room operators and the I&C technicians discussed this anomaly but concluded that the procedure must have been successfully completed in the past since there were no revision bars next to the applicable steps. They were unaware that a number of revisions had been issued since the last time the procedure had been completed. The control room operators and the I&C technicians failed to recognize that the channel being tested, although not the channel controlling the master pressure controller, was controlling the PORV that subsequently opened when the calibration test signal exceeded the setpoint for the PORV. The PORV reclosed after seven seconds when the I&C technicians dialed the calibration test signal down in accordance with the procedure. They were unaware that the valve had opened. The action of the PORV resulted in a pressurizer pressure drop from 2235 to 2193 psig, and a decrease of approximately 0.8 percent in pressurizer level. Plant Surveillance Procedure 0PSP02-RC-0455, "Pressurizer Pressure ACOT," Revision 15, was inadequate because it allowed the calibration surveillance to be performed in a manner which resulted in a breach in the reactor coolant system.

The error was introduced in Revision 13 of the above procedure as a result of a procedure feedback form generated by operations personnel which was misunderstood by the procedure writer. In response to the feedback form, the procedure writer revised the wrong section of the procedure. Another unrelated procedure change request was also submitted resulting in Revision 14, which still contained the channel selection error.

Revision 14 was determined to contain additional errors and Revision 15 was issued with the channel selection error still in place. When Revision 15 was issued revision bars identifying the changes incorporated with Revision 13 and 14 were deleted. The failure of the licensee's review and comment process to identify the channel selection error was identified as a contributing cause of the event. Following the event, Revision 16 was issued and corrected the channel selection error.

Analysis: This finding is greater than minor because it affected the Initiating Events Cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was determined to have at least very low safety significance because it contributed to the likelihood of a primary system LOCA initiator and was reasonably within the licensee's ability to foresee and correct, and should have been prevented.

Enforcement: Technical Specification 6.8.1.a requires that procedures be established, implemented, and maintained covering the applicable procedures in Appendix A of Regulatory Guide 1.33. Appendix A, Item 8.b, requires procedures be maintained for the surveillance tests listed in the Technical Specifications. Plant Surveillance Procedure 0PSP02-RC-0455, "Pressurizer Pressure ACOT," Revision 15 was not maintained in that it was inadequate because it allowed performing the calibration surveillance with any channel combination selected causing, on March 12, 2003, a pressurizer PORV to lift while the plant was at 100 percent power. Pending completion of the finding's safety significance, this finding is identified as Unresolved Item (URI) 05000498/2003004-01, Pressurizer Power Operated Relief Valve Lift at Full Power Operations.

.2 (Closed) Licensee Event Report 05000498/2002002-00 Electrical Auxiliary Building Supply Fans in a Condition That Could Have Prevented the Fulfillment of a Safety Function

On November 8, 2002, while Unit 1 was at 100 percent power and Unit 2 was defueled, the licensee determined that the Unit 2 electrical auxiliary building (EAB) Supply Fan 21C tripped because the current overload trip setting on the fan motor breaker was too low. The subsequent investigation determined that the EAB HVAC supply fans in each unit would not have fulfilled their design safety function under the following specific analyzed conditions: (1) a reduced voltage grid condition, and (2) a Mode 1 safety injection. The investigation found that when the licensee had upgraded the supply fan motors during plant construction, the current overload trip setting was adjusted to 100 percent. A setting in the 115 to 130 percent range was specified by design documentation and the higher setting was intended to account for overload device tolerances and potential undervoltage conditions. A similar event was reviewed by the inspectors during the inspection period for Inspection Report 05000498;499-2002005 and was determined to be a violation of 10CFR50, Appendix B, Criterion III, "Design Control." However, the significance of this issue is significantly less due to the specific conditions required and the response time available to operators in responding to the loss of cooling to the EAB. This finding is dispositioned as a violation of minor significance that is not subject to enforcement action in accordance with Section IV of

the NRC's Enforcement Policy. The corrective actions implemented in response to this event were detailed in accordance with the licensee's Corrective Action Program in Condition Record 02-16534. No additional issues were identified by the inspectors. This LER is closed.

.3 (Closed) Licensee Event Report 0500498/2002003-00 Manual Reactor Trip due to Apparent Loss of Open Loop Cooling Water System Pressure

On November 16, 2002, Unit 1 was manually tripped in response to indications of a loss of all open loop cooling. Upon initiation of the manual trip, all safety related equipment operated as required. The details of this event and the NRC's subsequent issuance of a Green finding regarding the monitoring of plant equipment performance were documented in Inspection Report 0500498;499/2002005. The corrective actions implemented in response to this event were documented in accordance with the licensee's Corrective Action Program in Condition Records 02-17026, 02-17225, 02-17274 and 02-19225. No additional issues were identified by the inspectors. This LER is closed.

.4 (Closed) Licensee Event Report 0500498/2003003-00 Bottom Mounted Instrumentation Indications

On April 12, 2003, boric acid residue was discovered on two bottom mounted instrumentation nozzles of the Unit 1 reactor vessel. The residue was determined to have resulted from leakage from the reactor coolant system pressure boundary, a condition prohibited by the Technical Specifications. A second Technical Specification violation involving reactor coolant system structural integrity requirements was also identified. Based on the NRC's review of the event, the NRC elected to exercise enforcement discretion in accordance with Section VII.B.6 of the Enforcement Policy and did not take enforcement action for these violations. The details of this event and the NRC's subsequent dispositioning of the findings were documented in Inspection Report 0500498/2003008. The corrective actions implemented in response to this event were documented in accordance with the licensee's Corrective Action Program in Condition Records 03-3248, 03-6266, 03-10938 and 03-11746. No additional issues were identified by the inspectors. This LER is closed.

.5 (Closed) Licensee Event Report 05000499/2002001-00 Gaseous Waste Processing System Oxygen Monitor Automatic Trip Inoperable

On January 30, 2002, the licensee conducted a review of the logs maintained by the Gaseous Waste Processing System (GWPS) operators. The review determined that on January 17, 2001, the handswitch and valve configuration of the GWPS rendered the system's automatic trip feature inoperable for approximately 12 hours and made necessary the performance of sampling to determine oxygen concentration. The licensee identified no documentation to indicate that the sampling had been performed as required. The licensee did determine that there was no record of alarms or instrument indications of high oxygen concentration during the 12 hour period of the event. This event was reviewed by the inspectors and was determined to be a violation

of Technical Specification 3.3.3.11. The finding was dispositioned as a violation of minor significance that was not subject to enforcement action in accordance with Section IV of the NRC's Enforcement Policy. The corrective actions implemented in response to this event were detailed in accordance with the licensee's Corrective Action Program in Condition Record 02-1660. No additional issues were identified by the inspectors. This LER is closed.

4OA5 Other

(Closed) URI 05000498/2003002-07: Inappropriate Operator Response to PORV Lifts during Solid Plant Operations

Introduction: A Green NCV was identified for the failure of reactor operators to appropriately respond to an event with multiple pressurizer PORV lifts during operations in a water solid condition. The event was caused, in part, because operators did not understand and control the impact of the restoration of power to an instrumentation panel, and did not understand the interactions between the normal controller and the cold overpressure mitigation system. This was identified as a violation of Technical Specification 6.8.1 and Regulatory Guide 1.33 required procedure.

Description: On March 26, 2003, operators responded inappropriately during a shutdown event. Shortly after shutdown for a refueling outage, with Unit 1 in Mode 5 and in solid plant conditions, the unit experienced a series of pressurizer power-operated relief valve lifts and resulting pressure transients. Operators were unable to diagnose the problem due to the rapid plant response. As a result, operators isolated all the Technical Specification required low temperature over pressure protection paths inappropriately. The event was caused, in part, because operators did not understand and control the impact of the restoration of power to an instrumentation panel and did not understand the interactions between the normal controller and the cold overpressure mitigation system. A full description of the event and operator response is documented in NRC Inspection Report 05000498;499/2003002.

Analysis. This issue was greater than minor because it affected the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations, in that operators contributed to initiating this event and making it more significant. A Region IV Senior Reactor Analyst determined that the performance deficiency represented a finding of very low risk significance (Green). This was based on a Phase 1 screening in accordance with Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process." The major factors in this determination were the continued availability of methods to control reactor coolant system pressure and the short period of time that the cold overpressure mitigation system was nonfunctional.

Enforcement. Technical Specification 6.8.1.a requires that procedures be established, implemented, and maintained covering the applicable procedures in Appendix A of Regulatory Guide 1.33. Appendix A, Item 1.b, requires procedures on the authorities and responsibilities for safe operation and shutdown. Licensee procedure, "Conduct of

Operations," Revision 21, requires, in part, that if the plant does not perform or respond as expected, operations personnel will take conservative action to return the plant to a known condition. On March 26, 2003, operators inappropriately responded to plant conditions making this event more significant because operators did not understand and control the impact of the restoration of power to an instrumentation panel. The operators also did not understand the interactions between the normal pressurizer controller and the cold overpressure mitigation system. Because this failure to appropriately respond to plant conditions is of very low safety significance (Green) and has been entered into the Corrective Action Program (CR 03-4704), this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000498/2003004-02, Inappropriate Operator Response to PORV Lifts during Solid Plant Operations.

4OA6 Meetings, Including Exit

The results of the emergency preparedness inspection were presented to Mr. A. Morgan, Supervisor, Emergency Preparedness, and other members of licensee management on November 4, 2003.

The results of the biennial licensed operator requalification inspection were presented to Mr. James H. Calvert , Manager, Operations Training, and other members of licensee management on November 21, 2003.

The results of the resident inspection were presented to Mr. J. Shepherd, President and CEO, and other members of licensee management on January 5, 2004.

In each case, the inspectors asked the licensee representatives whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

## KEY POINTS OF CONTACT

Licensee

R. Aguilera, Supervisor, Radiation Protection
W. Bealefield, Senior Staff Specialist
M. Berrens, Manager, Generations Support
C. Bowman, Manager, Plant Engineering
W. Bullard, Manager, Health Physics
J. Calvert, Manager, Operations Training
K. Coates, Manager, Maintenance
J. Crenshaw, Manager, Plant Engineering
R. Gangluff, Manager, Chemistry
E. Halpin, General Manager, Plant
W. Harrison, Staff Sr., Engineer Licensing
S. Head, Manager, Licensing
D. Huberak, Senior Tech, Radiation Protection
T. Hurley, Supervisor, Operations Training
T. Jordan, Vice President, Engineering and Technical
J. Jump, Manager Training
A. Khosla, Owner Liaison
D. Leazar, Manager, Nuclear Fuels and Analysis
J. Lovell, Manager, Industry Alliances
J. Loya, Engineer LIcensing
C. Lunsford, Supervisor, Generation Support
M. McBurnett, Manager, Quality and Licensing
M. Meier, Manager Generation Station Support
J. Mertink, Manager, Unit 1 Operations
B. Mookhoek, Senior Engineer LIcensing
G. Powell, Manager, Operating Experience Group
D. Rencurrel, Manager, Operations
R. Savage, Senior Staff Specialist
J. Sheppard, President and CEO
C. Stone, Supervisor, Health Physics
D. Towler, Manager, Quality
T. Walker, Manager, Quality
J. Winters, Systems Engineer

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Open

| | | |
|---|---|---|
| 05000498/2003004-01 | URI | Pressurizer Power Operated Relief Valve Lift at Full Power Operations (Section 4OA3) |

| | | |
|---|---|---|
| 05000498/2003004-02 | NCV | Inappropriate Operator Response to PORV Lifts during Solid Plant Operations (Section 4OA5) |

Closed

| | | |
|---|---|---|
| 05000498/2003004-02 | NCV | Inappropriate Operator Response to PORV Lifts during Solid Plant Operations (Section 4OA5) |
| 05000498/2003002-07 | URI | Inappropriate Operator Response to PORV Lifts during Solid Plant Operations (Section 4OA5) |
| 050-498/2002-002-00 | LER | Electrical Auxiliary Building Supply Fans in a Condition That Could Have Prevented the Fulfillment of a Safety Function (Section 4OA3) |
| 050-498/2002-003-00 | LER | Manual Reactor Trip Due to Apparent Loss of Open Loop Cooling Water System Pressure (Section 4OA03) |
| 050-498/2003-003-00 | LER | Bottom Mounted Instrumentation Indications (Section 4OA03) |
| 050-499/2002-001-00 | LER | Gaseous Waste Processing System Oxygen Monitor Automatic Trip Inoperable (Section 4OA03) |

## LIST OF DOCUMENTS REVIEWED

In addition to the documents identified in the inspection report, the following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings:

Procedures

| | | |
|---|---|---|
| 0PGP03-ZT-0132, | "Licensed Operator Requalification" | Rev 5 |
| LOR-GL-0001, | "LOR Training Program Guidelines" | Rev 8 |
| LOR-GL-0002, | "LOR Annual and Biennial Evaluation Guidelines" | Rev 9 |
| LOR-GL-0003, | "LOR Exam Bank Guidelines" | Rev 1 |
| LOR-GL-0006, | "LOR Conduct of Simulator Training Guidelines" | Rev 12 |
| 0PGP03-ZA-0123, | "Implementation of Training Programs" | Rev 11 |

Records

Ltr. from STP Manager, Nuclear Training to NRC Chief, Operations Branch, "Alternate Requalification Program for Institute of Nuclear Power Operations Loanee," dtd 6/11/01

Selected RO and SRO Evaluation Summaries for Scenarios given the Inspection week

Selected Crew Simulator Evaluation Summaries for the inspection week

Examination Material

Simulator Scenarios:

| | |
|---|---|
| 035-08 | R0 |
| 035-14 | R0 |
| 035-16 | R0 |
| 035-18 | R0 |
| 035-19 | R0 |

Written Examinations:

Last Annual written examinations
Biennial written exams for 2003

Job Performance Measures:

| | | |
|---|---|---|
| 012.01 | Terminate ECCS Flow | R08 |
| 018.01 | Perform an FRS1 Emergency Boration | R07 |
| 085.01 | Transfer Main Feedwater Control | R07 |
| 087.01 | Check if Containment Spray is Required | R05 |
| 133.01 | Respond to a Safe Shutdown Fire | R00 |
| 134.01 | Declare Emergency Action Levels | R00 |
| 135.01 | Declare Emergency Action Levels | R00 |

**LIST OF ACRONYMS**

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|---|---|
| ACOT | analog channel operability test |
| ALARA | As Low As is Reasonably Achieved |
| CFR | *Code of Federal Regulations* |
| CR | condition record |
| EAB | electrical auxiliary building |
| GWPS | gaseous waste processing system |
| I&C | instrument and control |
| LER | licensee event report |
| NCV | noncited violation |
| PORV | power operated relief valve |
| URI | unresolved item |