



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
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ARLINGTON, TEXAS 76011-4005**

May 7, 2003

James J. Sheppard, President and  
Chief Executive Officer  
STP Nuclear Operating Company  
P.O. Box 289  
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**SUBJECT: SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION, UNITS 1 AND 2-  
NRC INSPECTION REPORT 50-498/03-06; 50-499/03-06**

Dear Mr. Sheppard:

On March 6, 2003, the NRC completed an inspection at your South Texas Project Electric Generating Station, Units 1 and 2. The enclosed report documents the inspection findings, which were discussed on March 6, 2003, with Mr. J. Sheppard and other members of your staff.

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

On the basis of the sample selected for review, the team concluded that in general, problems were properly identified, evaluated, and corrected. However, some issues related to incorrect classifications and weak extent of condition reviews occasionally resulted in incomplete or untimely corrective actions. Based on the results of this inspection, the NRC has identified one issue that was evaluated under the risk significance determination process as having very low safety significance (Green). The issue involved a failure to address performance issues associated with protected area access control, which is being treated as a noncited violation, consistent with Section VI.A of the Enforcement Policy. The noncited violation is described in the subject inspection report. If you contest the violation or significance of this noncited violation, 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; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the South Texas Project Electric Generating Station, Units 1 and 2.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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/

Anthony T. Gody, Chief  
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Dockets: 50-498; 50-499  
Licenses: NPF-76; NPF-80

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NRC Inspection Report  
50-498/03-06; 50-499/03-06

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**ENCLOSURE 1**

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Dockets: 50-498; 50-499  
Licenses: NPF-76; NPF-80  
Report No.: 50-498/03-06; 50-499/03-06  
Licensee: STP Nuclear Operating Company  
Facility: South Texas Project Electric Generating Station, Units 1 and 2  
Location: FM 521 - 8 miles west of Wadsworth  
Wadsworth, Texas  
Dates: February 24 through March 6, 2003  
Inspectors: G. Johnston, Sr. Operations Engineer, Operations Branch  
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Approved By: A. Gody, Chief  
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Division of Reactor Safety

## SUMMARY OF FINDINGS

IR 05000498; 499/03-06; STP Nuclear Operating Company; 2/24-3/6/2003; South Texas Project Electric Generating Station; Units 1 & 2; Identification and resolution of problems.

The inspection was conducted by region-based inspectors and the senior resident inspector. The number of finding and violations, and the significance of most findings is indicated by their color (green, white, yellow, red) using Inspection Manual Chapter 0609, "Significance Determination Process." One Green noncited violation and one Green finding were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

### **Identification and Resolution of Problems**

In general, the licensee was effective at identifying problems and placing them into the corrective action program. A number of examples were identified where problems were not classified correctly. Some of the preliminary evaluations of the extent of condition resulted in related conditions adverse to quality not being considered in the corrective actions. A higher instance of failures to prevent recurrence of problems in both the radiological protection and physical security organizations was noted. Corrective actions for more significant issues were found to be thorough and implemented in a timely manner. Licensee audits and assessments were found to be effective. The safety conscious work environment was not assessed during this inspection.

### **Cornerstone: Physical Security**

Green. During a review of a security event that occurred on October 28, 2002, the team identified that the licensee did not address performance issues with locating and neutralizing the potential threat from an individual who was thought to have entered the protected area without having been properly searched, as required by 10 CFR 73.55. The team concluded that the applicable station procedure was not used, in part, because the entry conditions were overly restrictive. Additionally, the licensee's corrective actions were untimely, in that, a key element of the event was high traffic flow through search areas during an outage, but corrective actions were not scheduled to be completed prior to the next planned outage. The team concluded that this represented a cross-cutting issue in the identification and resolution of problems area. This issue was in the licensee's corrective action program under Condition Report 02-15914.

Procedure 0POP04-ZO-SEC2, "Response to an 'IMMINENT' AND 'CREDIBLE THREAT' of Sabotage or Tampering Guideline," Revision 1, was determined to be inadequate to cover some situations required by 10 CFR 73.55, which was a violation of South Texas Project Operating License Condition 2.F, and Technical Specification 6.8.1.c. This issue was determined to be of very low safety significance using Appendix E of the Significance Determination Process. Therefore, this violation is being treated as a noncited violation (NCV 50-498; -499/0306-01), consistent with Section VI.A of the NRC Enforcement Policy (Section 40A2.c).

## Report Details

### **4 OTHER ACTIVITIES (OA)**

#### 4OA2 Identification and Resolution of Problems

##### a. Effectiveness of Problem Identification

##### (1) Inspection Scope

The inspectors reviewed items selected across the seven cornerstones to determine if problems were being properly identified, characterized, and entered into the corrective action program for evaluation and resolution. Specifically, the team's review included a selection of approximately 120 condition reports that were opened or closed since the previous problem identification and resolution inspection. The team also reviewed a sample of licensee audits, self assessments, trending reports, system health reports, and various other reports and documents related to the problem identification and resolution program. The audit and self-assessment results were compared with the self-revealing and NRC-identified issues to determine the effectiveness of the audits and self assessments.

The team interviewed station personnel and evaluated corrective action documentation to determine the licensee's threshold for identifying problems and entering them into the corrective action program. The team evaluated the licensee's efforts in establishing the scope of problems by reviewing operational logs, action plans, maintenance action items, and results from surveillance tests.

In addition, the team reviewed the licensee's evaluation of selected industry experience information, including operator event reports and NRC and generic notices, to assess if issues applicable to the South Texas Project Electric Generating Station were appropriately addressed.

##### (2) Findings

Overall, the licensee was effective in identifying issues and entering them into the corrective action program. However, the team noted that the threshold for writing a condition report was so low that the process generated nearly 20,000 condition reports in 2002. This large number challenged the licensee's ability to make decisions very early in the corrective actions process about the level of attention an issue would eventually get. The corrective action process was managed to address issues at a level consistent with procedural guidance. This resulted in a small number of root and probable cause assessments being conducted.

The team noted that condition reports did not always include a clear statement of the problem to be resolved. Further, the initial description was seldom updated, even when the initial description was inaccurate or the issue evolved significantly. This made the evaluation effort of the team difficult and somewhat dependent on the licensee staff to gather the information necessary for the team to evaluate the issues. The team noted that failing to provide a clear problem description; link related information to the condition report; and failing to include references in the condition report could pose a future problem understanding the corrective actions taken due to staff turnover.

### **Issue Classification Errors**

The team independently reviewed numerous condition reports in addition to the ones where the significance level was increased by the Operating Experience Group to be consistent with Procedure OPGP03-ZX-0002. However, recent procedure changes required personnel who initiated a condition report to use the classification guidance provided by a checklist in Addendum 1 to Procedure OPGP03-ZX-0002. It appeared that the issue classification guidance was not always referred to when writing a condition report. The Operating Experience Group was monitoring compliance to this guidance to preclude under-classification.

Procedure OPGP03-ZX-0002 identifies four condition levels. The levels are, beginning with the lowest level and progressing to the highest level:

- Condition Not Adverse to Quality (CNAQ)
- Condition Adverse to Quality-Department Level (CAQ-D)
- Condition Adverse to Quality-Station Level (CAQ-S)
- Significant Condition Adverse to Quality (SCAQ)

Guidance for the application of these condition levels is provided by a checklist in Addendum 1 to Procedure OPGP03-ZX-0002.

During a review of the condition reports, the team noted that three condition reports were classified at the CNAQ level. When the team compared the classification of these condition reports with the guidance provided in Addendum 1, the team determined that these condition reports should have been classified at the CAQ-D level as follows:

- Condition Reports 01-5556 (100 GPH leak into reactor coolant drain tank from Valve RC-0085) and 01-6086 (Work activities to fix Valve RC-0085) involved the use of incorrect valve packing in Valve RC-0085, a reactor coolant system boundary valve. The incorrect packing was installed in 1993, and the fact that the packing was incorrect was not identified until March 2001 when the valve was taken off its backseat to support the performance of other maintenance work. Due to the use of the incorrect packing, the valve had excessive leakage via the valve stem leak-off line to the reactor coolant drain tank. The checklist in Procedure OPGP03-ZX-0002 stated that a condition report CAQ-D classification is required for "A deficiency in equipment, material, documentation, or procedure that affected the safe, reliable, operation of the plant." The checklist also included a specific example that stated, "Unexpected increase in reactor coolant

system leakage. . . ." The 100 GPH leakage to the reactor coolant drain tank was an unexpected increase in reactor coolant system leakage.

- Condition Report 01-14699 (Procedure 0POP04-AE-0001 did not provide guidance to recover the loss of a class 1E bus with no diesel generator available) involved an inadequate operations procedure. On September 18, 2001, normal power to the 4.16 kV E1C switchgear was lost due to maintenance activities being conducted on the "C" train sequencer. At the time this power was lost, the backup standby diesel was inoperable due to maintenance activities. The applicable procedure for this loss-of-power event was Procedure 0POP04-AE-0001. However, because this procedure only provided guidance for restoring power to the E1C switchgear when the standby diesel generator was operable and provided no guidance regarding cross-connecting the E1C switchgear to another Class 1E bus, the operators had to use another procedure, 0PGP03-ZA-0010, to restore the power. To cover the needed revision to Procedure 0POP04-AE-0001, a second Condition Report, 01-14773 (Enhance Procedure 0POP04-AE-0001), was written. Procedure 0POP04-AE-0001 was subsequently revised to provide appropriate guidance. The checklist in Procedure 0PGP03-ZX-0002 stated that a condition report CAQ-D classification is required for "A deficiency in equipment, material, documentation, or procedure that affected the safe, reliable, operation of the plant." This checklist also included a specific example that stated, "Quality procedures could not be performed as written or may not achieve the intended results." Procedure 0POP04-AE-0001 could not be performed as written.
- Condition Reports 02-3019 (oil sample results for Unit 2 Power Operated Relief Valve 2A indicate that particulate counts were not in specification) and 02-7052 (oil analysis results for Power Operated Relief Valve 2D total acid number was above the acceptance criteria) reported that the chemistry analysis of the oil in Power Operated Relief Valves 2A and 2D indicated that the analyzed parameters exceeded their specified values. Oil that exceeded the specified values could result in the power operated relief valves being in an unacceptable (i.e., inoperable) condition. The checklist in Procedure 0PGP03-ZX-0002 stated that a condition report CAQ-D classification is required for "A condition which would render equipment . . . unacceptable if not acted on in a timely manner." This checklist also included a specific example that stated, "Chemistry parameter out of specification" as a condition that could cause this equipment to be in an unacceptable condition.

Classification at the CAQ-D level would have provided additional reviews, including a multi-disciplinary review that was not required for condition reports classified at the CNAQ level. While the team noted that all of these condition reports were incorrectly classified as CNAQ, they also noted that the licensee had taken appropriate corrective actions and, as such, no violation of 10 CFR Part 50, Appendix B, occurred.

The team assessed the significance of improperly classifying issues. The large majority of issues in the condition reporting system were assigned to the categories of "Condition Not Adverse to Quality," or "Condition Adverse to Quality - Department Level." The team noted that neither of these categories received a review to determine the cause of

the problem. Two of the above examples occurred prior to procedure changes discussed above, which appear to be effective. The remaining example, which occurred after the procedure changes, reflected an isolated example of under classification of condition reports.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The team reviewed condition reports and supporting documentation, including root cause evaluations, to ascertain whether the licensee identified and considered the full extent of conditions, generic implications, common causes, and previous occurrences. In addition, the inspectors reviewed licensee evaluations of selected industry operating experience information, including operating event reports and NRC and vendor generic notices, to assess if issues applicable to the South Texas Project Electric Generating Station were appropriately addressed.

(2) Findings

In general, the inspectors determined that the licensee was effective in the prioritization and evaluation of issues identified at the plant. Nevertheless, some issues were not identified or adequately addressed because of weak or nonexistent extent of condition reviews. A number of examples of inadequate classification of issues were identified, but were dated, having been addressed by the change to the classification process. In addition, documentation of the details associated with the extent of condition and corrective actions were, by themselves, of little value. To ascertain the extent of reviews and corrective actions, discussions with the personnel involved were required. During the review of numerous condition reports, the inspectors concluded that for the more significant condition reports ("Conditions Adverse to Quality - Station" and "Significant Conditions Adverse to Quality"), the licensee conducted a thorough and timely review of the issues. For the less significant condition reports ("Conditions Adverse to Quality - Departmental" and "Conditions Not Adverse to Quality"), the licensee typically addressed the immediate problem but rarely looked for generic issues or broader potential consequences. The classification of issues at a lower tier meant that the evaluation would only require that the condition reported be addressed with immediate corrective action, the minimum required by 10 CFR Part 50, Appendix B. The licensee's process for reviewing those issues determined to be less significant relied heavily on the limited personnel involved in the review and, in some cases, the broader consequences of issue were not considered or identified.

**Extent of Condition and Corrective Actions**

A number of examples were discussed over the period covered by this inspection. The licensee missed opportunities to identify the broader consequences of issues. The team noted some improvement with regard to this potential weakness during 2002. Specifically, the team noted that the licensee's effort to address the weakness was largely due to an initiative by the Operating Experience Group in reviewing newly generated condition reports on a daily basis.

Examples highlighting this weakness are discussed below:

- In February 2003, Unit 1 experienced a plant trip when a power supply failed in the condensate polisher system (Condition Report 03-3192). This unexpectedly resulted in the loss of all condensate flow. Subsequently, the licensee identified that three similar events (Condition Reports 94-1578, 97-16979, and 97-12272) had previously occurred, which had not resulted in plant trips. The licensee had failed to recognize that reliability issues with this power supply represented a potential plant trip. The power supply was original equipment, was 15 years old, and had no preventive maintenance item to periodically replace it. [NRC Inspection Report 50-498; 499/02-06]
- In December 2002, NRC resident inspectors noted that the licensee failed to identify a trend in declining performance of the circulating water system. Inspectors noted that the licensee was treating problems symptomatically rather than noting the trend and determining the cause. [NRC Inspection Report 50-498; -499/02-05]
- In February 2002, the licensee failed to perform a proper assessment of operability, which resulted in a failure to identify that the control room ventilation system being inoperable in excess of the allowed outage time in the technical specifications. [NRC Inspection Report 50-498; -499/01-08]
- In December 2001, the licensee failed to adequately implement corrective actions following an event where small fish clogged the intake system. [NRC Inspection Report 50-498; 499/01-10]
- In December 2001, questions raised by NRC inspectors resulted in the licensee reviewing results from electrohydraulic fluid samples taken from Steam Generator Power-Operated Relief Valves 2MSPV7411, 2MSPV7431, and 2MSPV7441 in October 2001, which were found to be out of specification. [NRC Inspection Report 50-498; -499/01-04]

The team noted that extent of condition reviews done in evaluating radiological protection issues were particularly weak. Each of the following condition reports had aspects of inadequate evaluations for extent of condition and evidenced some level of recurrence.

- A licensee-identified noncited violation associated with Condition Report 02-15286, dated October 20, 2002, was contained in NRC Inspection Report 50-498; 499/02-09. The issue involved contract workers climbing down from above to the Unit 2 Steam Generator D work platform. This area was posted as a locked high radiation area, with warning lights (radiological conditions at the time was actually a high radiation area), but workers disregarded the signs and safety precautions and entered the area. The

condition report discussed that radiation protection supervisors did not consider this area accessible from above. However, approximately 1 year earlier, a similar event occurred when two engineers climbed down from above to the Unit 1 Steam Generator D platform. Corrective actions to prevent this from occurring were considered but not documented in Condition Report 01-16511. [NRC Inspection Report 50-498; 499/02-09]

- There were two instances (Condition Reports 01-2577 and 02-2719) where the licensee failed to identify and post high radiation areas located on the resin riser cover for a high integrity container. This container was used to sluice and dewater resin. The area of high radiation involved areas where piping penetrated the riser cover. Surveys were done, but failed to adequately check for streaming radiation fields.

In Condition Report 01-2577 corrective actions consisted of discussing the event with the Unit 2 health physics technicians; sending a memorandum to all health physics technicians and supervisors; and covering this event in training. The responsible organization determined that a procedure change was not necessary. The radiation levels were 80 mrem/hr at 30 cm, which was the licensee administrative level to post the area as a high radiation area.

Approximately 1 year later, a similar instance, as described in Condition Report 02-2719 occurred. One technician failed to perform an adequate survey and missed a high radiation field (170 mrem/hr at 30 cm) caused by streaming radiation. The licensee revised Procedure OPRP07-ZR-0009, "Guideline for Preparation and Shipment of High Integrity Containers," Revision 19, to specifically specify that the riser slot be surveyed at multiple levels to identify streaming radiation or dose gradients. 10 CFR 20.1501(a) requires, in part, that a licensee conduct surveys that are reasonable to evaluate the extent of radiation levels. The safety significance of this finding was determined to be very low (Green) by the Occupational Safety Significance Determination Process because there was no actual over-exposure or substantial potential for an over-exposure, and the ability to assess dose was not compromised. This violation is being treated as a licensee identified noncited violation consistent with Section VI of the NRC enforcement policy.

- Condition Report 02-9454, dated June 29, 2002, described an unposted high radiation area, caused by a startup crud burst, on a chemical and volume control line located in Room 108 of the mechanical auxiliary building. The licensee had two previous opportunities to identify and correct the deficiency, as well as operational history, but failed to do an adequate extent of condition evaluation. This chemical and volume control line was routinely posted as a high radiation area during shutdowns, due to crud bursts. Although startup crud bursts were not as common as shutdown crud bursts, crud bursts have occurred during startups. Condition Report 01-3517, dated March 3, 2001, documented an unposted high radiation area on this same line. A review of chemistry logs indicated that the plant was restarted on March 2 and an associated crud burst occurred. The only corrective actions taken were to post the area as a high radiation area and survey other areas containing chemical and volume control

pipings. Health physics technicians did not identify any additional high radiation areas. No long-term corrective actions were identified.

Condition Report 01-12600, dated August 6, 2001, documented an unposted high radiation area in the reactor containment building. This unposted high radiation area was identified at the boundary of another high radiation area. The boundary was established prior to entering Mode 3, but this and other reactor containment postings were not verified during or after power ascension. One of the corrective actions was to revise the outage plan book to have health physics technicians verify high radiation boundaries in containment at full power; however, no consideration was given to other areas of the plant (i.e., mechanical auxiliary building) where radiation levels could be adversely impacted by changing plant conditions. Condition Report 02-9454 was dispositioned in NRC Inspection Report 50-498; 499/02-05 as a noncited violation for failure to perform adequate surveys.

The licensee's practice of not consistently performing an effective extent of condition review, resulted in several instances of inadequate or inappropriate corrective actions. Each of these issues had crosscutting aspects in the area of problem identification and resolution. The licensee's lack of effectiveness in addressing extent of condition was noted across several organizations, but this weakness was particularly notable in the area of radiation protection. The licensee staff recognized that a potential weakness in the condition reporting process existed during the initial identification and prioritization of issues. The daily reviews by the Operating Experience Group of new condition reports was the licensee's chosen method to address this recognized weakness and some improvements in the process were noted by the team.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The inspectors reviewed items selected across the seven cornerstones to determine if problems were addressed by effective corrective actions as evidenced by nonrecurrence and permanence. Specifically, the team's review included a selection of approximately 120 condition reports that were opened or closed over the interval from the prior problem identification and resolution inspection. The team also reviewed a sample of licensee audits and self assessments, trending reports, system health reports, and various other reports and documents related to the problem identification and resolution program.

(2) Findings

The team noted that condition reports did not always include a clear statement of the problem to be resolved. Further, the initial description was seldom updated, even when the initial description was inaccurate or the issue evolved significantly. This made it difficult to assess the effectiveness of corrective actions in some cases because it was unclear what problem was being addressed. The team was able, however, with considerable assistance from licensee staff to evaluate the corrective actions.

The team reviewed a selection of effectiveness reviews performed by the licensee for "Significant Conditions Adverse to Quality and Conditions Adverse to Quality - Station Level." These were performed independently some time after the last action was completed. The results of each effectiveness review was reviewed by the Plant Operations Review Committee. The team noted that the issue owner was assigned responsibility to identify the time to perform and criteria used to assess the effectiveness of the corrective actions. In examples reviewed, the criteria used were very limited, and often consisted in a statement of "no repeat failures" since the condition report was closed. These practices detracted from the independence of the review, but no specific problems were noted.

### **Access Control Observations**

The team noted that 60 condition reports were written between February 2001 and February 2003 relating to not removing plant access properly in approximately 69 cases. These included badge revocation due to employment termination and individuals outside the Continuing Behavior Observation Program (CBOP) for more than 31 days. This triggered a system generated trend condition report only twice during this period. Condition Report 01-13854, dated August 30, 2001, documented that this was a valid trend for the station and assigned action to the department with the largest number of badge revocation problems. This department determined the trend to be invalid for the department, so no action was taken. The access authorization group created an action to create a software tool to automatically remove access for individuals who might exceed 31 days outside the CBOP, but that tool was not yet implemented at the time of this inspection. The team concluded that this trend remained valid, and that the planned corrective actions were untimely and did not address the full scope of the problem.

This trend had existed well before the period covered by this inspection, and had not been effectively addressed. In September 1999, a contract employee was terminated, but returned to the site a week later and was found inside the protected area. This was documented in Condition Report 99-13652, Security Event Report 99-S04, and Noncited Violation 2000-003-03. That condition report noted 33 cases of improper badge revocations during the period of January 1999 through April 14, 2000. In April 2000, an outage worker was laid off but returned for an appreciation lunch within the protected area the following day. The individual's badge had not been revoked as required. This was documented in Condition Report 00-6209, "Security Event Report 00-S01," and Noncited Violation 2000-008-01. In that condition report, the licensee documented the results of an effectiveness review on Condition Report 99-13652 that concluded the earlier corrective actions were less than effective and had contributed to the later event. It further stated that this conclusion was "reviewed by key personnel involved in the original event to both gain consensus and as lessons learned, but no additional follow-up actions were deemed necessary." Some time later, the licensee implemented a process that ensured that access badges were revoked. However, the process for updating the access computer had not changed.

The licensee had identified numerous failures of the access authorization program to promptly terminate access in the security computer over a period of several years. The licensee repeatedly addressed specific failures as isolated incidents, a strategy which

was ineffective in preventing recurrence. The overall trend was recognized and documented in the corrective action program, but corrective actions were vague, untimely and ineffective in correcting the trend. The large number of problems over a prolonged period of time represented a failure in the licensee's identification and resolution of problems with the access authorization program.

This finding was considered minor because each instance following the April 2000 event was a computer control issue only and that no individual terminated for-cause inappropriately gained access to the protected area. In addition, changes discussed above were effective in preventing personnel who were subject to routine employee terminations from gaining access to the protected area.

With respect to the licensee's ability to identify and correct issues associated within the physical security cornerstone, the team found that the licensee had removed the applicability of the station corrective action program to issues identified under the physical security program. While 10 CFR Part 50, Appendix B, does not require issues identified within the physical security program to be identified and corrected, NUREG-0908, "Acceptance Criteria for the Evaluation of Nuclear Power Reactor Security Plans," Revision 1, does indicate, in part, that an acceptable security plan would affirm to correct any deficiencies identified.

The licensee wrote Condition Report 03-6082 to evaluate whether removing the security program from the operations quality assurance program represented a reduction in commitments and, thus, should have been submitted to the NRC for prior approval in accordance with 10 CFR 50.54.

### **Physical Security Corrective Action Implementation**

During a review of a security event that occurred on October 28, 2002, the team identified that the licensee did not address performance issues with locating and neutralizing the potential threat from an individual who was thought to have entered the protected area without having been properly searched, as required by 10 CFR 73.55. The applicable station procedure was not used, in part, because the entry conditions were overly restrictive. Additionally, the licensee's corrective actions were untimely, in that, a key element of the event was high traffic flow through search areas during an outage.

The team noted that the identified corrective actions were not scheduled to be completed prior to the next planned outage. Therefore, a potential existed that adequate personnel searches may continue to be impacted during high traffic conditions from situations that could occur prior to the scheduled outage. This represented a cross-cutting issue in the identification and resolution of problems area in that the licensee did not address the immediacy of implementing corrective action in revising Procedure 0POP04-ZO-SEC2, "Response to an 'IMMINENT' AND 'CREDIBLE THREAT' of Sabotage or Tampering Guideline," Revision 1. This issue was in the licensee's corrective action program under Condition Report 02-15914.

Procedure 0POP04-ZO-SEC2, "Response to an 'IMMINENT' AND 'CREDIBLE THREAT' of Sabotage or Tampering Guideline," Revision 1, was determined to be inadequate to cover some situations required by 10 CFR 73.55, which was a violation of South Texas Project Operating License Condition 2.F, and Technical Specification 6.8.1.c. This issue was determined to be of very low safety significance using Appendix E of the Significance Determination Process. Therefore, this violation is being treated as a noncited violation (NCV 50-498; -499/0306-01). Consistent with Section VI.A of the NRC Enforcement Policy.

d. Assessment of Safety-Conscience Work Environment

This area is planned for review at a later date.

4OA6 Meetings, including Exit

The team discussed these findings with Mr. J. Sheppard, Vice President and Assistant to the President and CEO, and other members of the licensee's staff on March 6, 2003. Licensee management provided no further comment on the findings. A supplemental meeting was conducted on April 23, 2003, to discuss the physical security observations discussed in Section 4OA2 above.

Licensee management did identify materials examined during the inspection as proprietary. None of that material was retained by the inspectors.

4OA7 Licensee Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are a violation of NRC requirements, which meet the criteria of Section IV of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as noncited violation.

- Technical Specification 6.8.1 requires implementation of procedures listed in Regulatory Guide 1.33, Revision 2, Appendix A. Regulatory Guide 1.33, Appendix A, Section 7.e.(1), specifies procedures for access control to radiation areas including a radiation work permit system. Plant Procedure 0PGP03-ZR-0051, "Radiological Access and Work Controls," Revision 15, Step 4.4.3, requires workers to review and comply with applicable radiation work permits. There were numerous radiation work permit violations identified in the licensee corrective actions system; however, the following two examples had the most significance.
- On November 11, 2002, two workers entered the pressurizer cubicle, which was posted as a high radiation area. Neither worker was briefed by radiation protection and were not familiar with the radiological conditions. Additionally, one worker was working under a radiation work permit that did not allow entry into a high radiation area (Condition Report 02-18011).

- On November 25, 2002, a worker was working in the reactor cavity without the required set of two protective shoe covers. This area was posted as a high contamination area with contamination levels as high as 11.5 mrad (Condition Report 02-17729).

The safety significance of this finding was determined to be very low by the Occupational Radiation Safety Significance Determination Process because there was no actual over-exposure or substantial potential for an over-exposure, and the ability to assess dose was not compromised.

2. One instance of failure to properly survey a high radiation area was identified (Condition Report 02-2719). For details, see Section 4OA2b.(2).

## ATTACHMENT

### KEY POINTS OF CONTACT

#### Licensee

R. Aguilera, Supervisor, Radiation Protection  
M. Berg, Manager, Operating Experience Group  
M. Berrens, Manager, Generation Support  
T. Bowman, Manager, Operations Division, Unit 1  
D. Chamberlain, Supervisor, Plant Design Engineering  
J. Crenshaw, Manager, Systems Engineering  
E. Halpin, Plant General Manager  
T. Jordan, Vice President, Engineering and Technical Services  
A. Kent, Manager, Testing/Programs  
D. Leazar, Manager, Fuels and Analysis  
M. Meier, Manager, Generation Station Support  
G. Parkey, Vice President, Generation  
L. Peter, Manager, Operations Division, Unit 2  
D. Rencurrel, Manger, Operations  
P. Serra, Manger, Plant Protection  
J. Sheppard, Vice President and Assistant to the President and CEO

#### NRC

C. O'Keefe, Senior Resident Inspector

### ITEMS OPENED, CLOSED, AND DISCUSSED

#### Open and Closed

50-498; 499/0306-01	NCV	Inadequate procedure for responding to an unknown individual in a protected or vital area required by License Condition 2.F and Technical Specification 6.8.1(Section 40A2).
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The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings:

#### CALCULATIONS

ZC-7024, Loop Uncertainty Calculation for RWST Level Monitoring Instrumentation, Revision1  
MC-5037, RWST Volumes and Limits, Revision 9

PLANT PROCEDURES

Document	Title	Revision
0PRP11-ZR-0005	Reactor Startup Actions	0
0PGP03-ZR-0051	Radiological Access and Work Controls	15
0POP04-AE-0001	Loss of any 13.8 KV or 4.16 KV Bus	20
0PMP05-NA-0017	480 Volt Type K Breaker Overhaul/Lubrication (Generic)	2
0PGP03-ZX-0002	Condition Reporting Process	22,23,24
0PMP04-SG-0007	Steam Generator PORV Hydraulic Actuator Maintenance	10
0PSP04-DG-0004	Standby Diesel Generator Fuel Oil Tank Inspection	5
0PGP03-ZA-0010	Performing and Verifying Station Activities	25
0PMP02-ZG-0011	Alternate Valve Packing and Live-load Valve Packing	4,16
0PGP03-ZM-0004	Lubrication Program	14
0PGP03-ZX-0013	Industry Events Analysis	5
0PGP04-ZA-0108	Vendor Document Control Program	8
0PGP03-ZA-0116	Overtime	6
0PGP09-ZA-0002	Fitness for Duty	13
0HRP01-ZA-0003	Fitness for Duty Program	15
0PGP09-ZA-0003	Behavior Observation Program	7

AUDITS AND ASSESSMENTS

Nuclear Safety Review Board Self-assessment Quality Program Implementation, November 2001

Self-assessment of the Self-assessment Process, December 2001

Plant Operations Procedure Adherence Self-assessment, August 2002

Plant Design Engineering Self-assessment on work quality, September 2002

Fire Protection Self-assessment, April 2002

Plant Modifications and Design Basis Engineering Self-assessment, December 2001

Nuclear Fuels and Analysis Assessment of Recent Problems Regarding Calorimetric Power Calculation, November 2001

Maintenance Department Focused Self-assessment of Electrical Safety, August 2002

Self-assessment of Air Operated Valve Maintenance Program, February 2002

Audit 02-05 Comprehensive Risk Management, Risk Management, Exemptions from Special Treatment Requirements of 10 CFR Parts 21, 50 and 100

CONDITION REPORTS

00-11749	01-19684	01-9519	02-14126	02-1877	02-9239
00-19700	01-19700	01-9519	02-14131	02-2093	02-9454
01-11631	01-19870	02-10341	02-14136	02-2715	03-1061
01-11631	01-220	02-10510	02-14137	02-2763	03-1097
01-12600	01-2916	02-10511	02-14139	02-2811	03-1334
01-1406	01-3024	02-10517	02-14158	02-2834	03-1805
01-14128	01-3517	02-10814	02-14511	02-3019	03-1919
01-14307	01-3767	02-10820	02-15277	02-3022	03-2751
01-14699	01-3951	02-11115	02-15286	02-3665	03-3089
01-14773	01-4128	02-11844	02-15375	02-3762	03-3103
01-14840	01-4135	02-12358	02-15465	02-4059	03-3192
01-14883	01-4158	02-12900	02-15555	02-4822	03-3297
01-15518	01-4268	02-13325	02-16056	02-4863	94-427
01-1558	01-4307	02-13350	02-16116	02-660	94-467
01-16500	01-5556	02-13389	02-16350	02-6607	96-15748
01-16511	01-6063	02-13766	02-17351	02-7052	96-8448
01-169	01-6086	02-13875	02-17616	02-7111	97-11843
01-19586	01-8843	02-13880	02-17729	02-7131	97-19952
01-19637	01-9172	02-13882	02-18010	02-7652	98-1540
01-19641	01-9307	02-14080	02-18011	02-810	99-1913
01-19642	01-9476	02-14125	02-18147	02-8251	99-9682
01-19681					

OTHER

Preventative Maintenance Activities

PM# MM-1-MS-91000086, Replace Fyrquel, Revision 7

PM# MM-1-MS-91000086, Replace Fyrquel Steam Generator 1C Power Operated Relief Valve, Revision 6, performed 5/29/01.

- PM# MM-2-MS-91000091, Replace Fyrquel S/G 2D Main Steam Outlet Power Operated Relief Valve, Revision 7, performed 6/12/02.
- PM# MM-2-MS-91000090, Replace Fyrquel, Revision 7, performed 1/14/02.
- PM# MM-2-MS-91000088, Replace Fyrquel, Revision 7, performed 4/23/02.
- PM# MM-1-MS-94004052, Inspect Operator/Replace Desiccant, Revision 2, performed 2/21/02.

#### Plant Impact Evaluations (PIE)

- PIE 02-810, Wire Degradation at Breaker Cubicle Door Hinges, 1/15/02.
- PIE 02-1877, Use of Sodium Hypochlorite for Cleaning Diesel Fuel Oil Supply Tanks, 2/20/02.
- PIE 01-4158, Circuit Breaker Fault Results in Fire, Loss of Off-site Power, Reactor Scram, and Severe Turbine Damage, 3/12/2001.
- PIE 02-656, Circuit Breaker Fault Results in Fire, Loss of Off-site Power, Reactor Scram, and Severe Turbine Damage, 1/10/2002.
- PIE 01-8422, Centrifugal Charging Pump Thrust Bearing Damage not Detected due to Inadequate Assessment of Oil Analysis Results and Selection of Pump Surveillance Points, 5/16/01.
- PIE 99-16244, Update to OE-9634: Hydrogen Storage Facility Fire and Unusual Event, 11/4/99.

#### Part 21 Reports

- 2001-33, Potential Defect Concerning Type CVE/CVE-1 Relays
- 2002-06, Potential Defect Class 1E Type CV-2 and CV-22 Relays
- 2001-28, Rosemount Model 1159 Remote Diaphragm Seals
- 2002-24, Rosemount Model 1159 Differential Pressure Transmitter Temperatures
- 2002-23, Non-conforming Rosemount Pressure Transmitters and Spare Parts
- 2001-19, R-11 Radiation Monitor Spiking
- 2001-17, Boron Dilution Analysis - Instantaneous Mixing and Dilution Front Models (Revision 0 and 1)

Information Notices

- 2002-01, Metal-clad Switchgear Failures and Consequent Losses of Offsite Power
- 2002-04, Wire Degradation at Breaker Cubicle Door Hinges
- 2002-07, Use of Sodium Hypochlorite for Cleaning Diesel Fuel Oil Supply Tanks
- 2001-06, Centrifugal Charging Pump Thrust Bearing Damage not Detected due to Inadequate Assessment of Oil Analysis Results and Selection of Pump Surveillance Points
- 2001-12, Hydrogen Fire at Nuclear Power Station

Miscellaneous

- CRM2300, Reactor Protection System, Revision 1
- Outage Scheduling and Scope Control - 1RE10 Add/Delete Form
- Training Attendance Sheets for Mechanical Maintenance Continuing Training (MMC022)
- 01-6063, "Procedure Use and Adherence Lessons Learned" training slides
- Service Request 146264, Repack valve [1R142XRC0085] with alternate packing during 2RE03, dated 2/3/92.
- CRWO 415162, Repack RC0085 during 2RE09 with revised design alternate packing configuration, dated 11/13/02.
- Administrative Policy STP-502, "Drugs and Alcohol - Fitness for Duty," Rev 2
- Operations Quality Assurance Plan, Revision 15
- Site Security Plan

ITEMS REQUESTED FROM THE LICENSEE PRIOR TO ONSITE INSPECTION

1. Summary list of all currently open/active items for:
  - Condition Reports of significant conditions adverse to quality
  - operator work-arounds
  - engineering review requests
  - maintenance requests
  - temporary modifications
  - procedure change requests
  - training needs request/evaluation

control room and safety system deficiencies  
human performance issues

2. Summary list of all items completed/resolved/closed since February 1, 2002 for:

Condition Reports of significant conditions adverse to quality  
operator work-arounds  
engineering review requests  
maintenance requests  
temporary modifications  
procedure change requests  
training needs request/evaluation  
control room and safety system deficiencies  
human performance issues

3. Summary list of all Condition Reports generated during the specified period and sorted by:

chronology  
initiating organization

4. All quality assurance audits and surveillances of corrective action activities since February 1, 2002.

5. All corrective action activity and functional area self-assessments and Non-NRC third party assessments since February 1, 2002.

6. Corrective action performance trending/tracking reports generated since February 1, 2002.

7. Current revision of the following procedures: "Condition Reporting Process"

8. Any additional governing procedures/policies/guidelines for:

Condition Reporting  
Corrective Action Program  
Root Cause Evaluation/Determination  
Operator Work-Arounds  
Work Requests  
Engineering Requests  
Temporary Modifications  
Procedure Change Requests  
Deficiency Reporting and Resolution  
Training Needs Request/Evaluation

9. For each of the items applicable to South Texas Project listed below please provide the following:

Full text of the condition report (please indicate any findings that did not result in a condition report or corrective actions)

Any "Roll-up" or "Aggregating" Conditions Reports related to the generic communication or condition report.

Root Cause analysis report (if applicable)

Risk significance assessments

Probable Cause evaluation (if applicable)

Approved corrective actions

Basis for extending originally approved due dates

Evidence of corrective action completion (work packages, design change documentation, temporary modifications, training lesson plans/material, training attendance records, procedure revisions, etc.)

10. Part 21 Reports

Items reviewed internally for applicability, and any generated Condition Reports

11. NRC Information Notices

Items reviewed internally for applicability, and any generated Condition Reports

12. LERs

Items reviewed for reportability since February 1, 2002, and any Condition Reports issued requiring review.

13. Noncited violations

Condition Reports generated pertaining to NRC/Licensee identified Noncited violations.

14. Current System Health Reports or similar system information

15. Listing of plant safety issues generated through the employee concerns program since February 1, 2002

16. Listing of action items generated by the plant safety review committees since February 1, 2002

17. Current predictive performance summary reports