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

July 14, 2005

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 - INSPECTION REPORT 05000498/2005006 AND 05000499/2005006

Dear Mr. Sheppard:

On June 23, 2005, the Nuclear Regulatory Commission (NRC) completed an inspection at the South Texas Project Electric Generating Station, Units 1 and 2. The enclosed report documents the inspection findings, which were discussed in a debrief meeting at the end of the onsite inspection on June 23, 2005, with you and other members of your staff.

During this triennial fire protection inspection, the inspection team examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and the conditions of your license. The inspection consisted of selected examination of procedures and records, observations of activities and installed plant systems, and interviews with personnel.

Based on the results of this inspection, the NRC has identified one finding that was evaluated under the risk significance determination process as having very low safety significance (green). The NRC has also determined that this finding involved a violation of NRC requirements. This violation is being treated as a noncited violation (NCV), consistent with Section VI.A of the Enforcement Policy. This NCV is described in the subject inspection report. If you contest the violation or significance of this NCV, 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 facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response 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//

Linda Joy Smith, Chief
Plant Engineering Branch
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Dockets: 50-498
50-499
Licenses: NPF-76
NPF-80

Enclosure:
NRC Inspection Report 05000498/2005006 and 05000499/2005006
w/Attachment: Supplemental Information

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Dockets:	50-498, 50-499
Licenses:	NPF-76 NPF-80
Report No:	05000498/2005006 05000499/2005006
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 77483
Dates:	June 6 through June 23, 2005
Team Leader	J. M. Mateychick, Senior Reactor Inspector, Engineering Branch 2
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Accompanying Personnel:	R. Mullikin, Consultant
Approved By:	Linda Joy Smith, Chief Engineering Branch 2 Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000498/2005006, 05000499/2005006; 06/06/2005-06/23/2005; South Texas Project Electric Generating Station, Units 1 and 2; Fire Protection (Triennial)

The NRC conducted an inspection with a team of five regional inspectors. The inspection identified one Green non-cited violation (NCV) and two unresolved items. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process." Findings for which the significance determination process does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC described its program for overseeing the safe operation of commercial nuclear power reactors in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self Revealing Findings

Cornerstone: Mitigating Systems

Green. The team identified a noncited violation of Section III.G.2 of Appendix R to 10 CFR Part 50 for failure to ensure that redundant trains of safe shutdown systems in the same fire area were free of fire damage. For example, cables associated with the charging pumps suction valve from the Refueling Water Storage Tank, CV-MOV-0112C were not physically protected from fire damage. The licensee credited manual actions to mitigate the effects of fire damage in lieu of providing the physical protection required by 10 CFR Part 50, Appendix R, Section III.G.2.

This finding is of greater than minor safety significance because it impacted the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to external events (such as fire) to prevent undesirable consequences. The team found that the manual operator actions implemented to mitigate the effects of fire damage were reasonable (as defined in Enclosure 2 of NRC Inspection Procedure 71111.05T, “Fire Protection (Triennial)”), and could be performed within the analyzed time limits. Therefore, in accordance with Enclosure 2 of NRC Inspection Procedure 71111.05T, the finding was determined to be of very low safety significance (green), and the significance determination process was not entered. The licensee plans to readdress manual actions following incorporation of manual actions into 10 CFR Part 50, Appendix R, Section III.G.2. (Section 1R05.2)

B. Licensee-Identified Findings

None.

REPORT DETAILS

1 REACTOR SAFETY

1R05 Fire Protection

The purpose of this inspection was to review the South Texas Project Electric Generating Station's fire protection program for selected risk-significant fire areas. Emphasis was placed on verification of the licensee's post-fire safe shutdown capability. The inspection was performed in accordance with the NRC regulatory oversight process using a risk-informed approach for selecting the fire areas and attributes to be inspected. The team used the Individual Plant Examination for External Events for the South Texas Project Electric Generating Station to choose risk-significant areas for detailed inspection and review. Inspection Procedure 71111.05T, "Fire Protection (Triennial)," requires selecting three to five fire areas for review. The four areas reviewed during this inspection were:

Fire Area 2: Mechanical & Electrical Auxiliary Building Elevations 10' & 21'

Fire Zones: Z001 (Channel II Distribution Room)
Z002 (Channel II Battery Room)
Z003 (Channel I Distribution Room)
Z004 (Train A ESF Switchgear Room)
Z005 (Train A HVAC Equipment Room & Cleanup Unit)
Z006 (Train A Electrical Penetration Area)
Z010 (Train A Power Cable Vault)
Z013 (Train A Equipment Room)
Z016 (Corridor at Elevation 10')
Z027 (Train A Electrical Chase)
Z028 (Corridor at Elevation 21')
Z029 (Emergency Switchgear Room)
Z030 (Nonradioactive Pipe Chase)
Z037 (Halon Storage Room)
Z084 (Channel I Battery Room)
Z111 (Train A Electrical Chase)
Z128 (Train A CCW Pump & Chiller Room) and Z200 (Tendon Gallery).

Fire Area 4: Mechanical & Electrical Auxiliary Building Elevation 60'c

Fire Zones: Z046 (Train C Electrical Penetration Area)
Z049 (Train C HVAC Equipment Room)
Z050 (Corridor at Elevation 60', Offices, CAS Battery Room and Electrical Equipment Rooms)
Z052 (Train C ESF Switchgear Room)
Z053 (Channel IV Battery and 125 VDC Distribution Room)
Z054 (Motor Generator Room)
Z055 (Miscellaneous Electrical Equipment Room)
Z056 (Control Rod Drive Room)

Z065 (Central Alarm Station)
Z066 (Electrical Equipment Room).

Fire Area 6 : Mechanical & Electrical Auxiliary Building Elevation 86'

Fire Zones: Z019 (Equipment Removal Area)
Z061 (Train B HVAC Equipment Room)
Z062 (Train A HVAC Equipment Room)
Z063 (Train C HVAC Equipment Room)
Z085 (HVAC Equipment Area)
Z097 (Outside Air Intake).

Fire Area 32: Mechanical & Electrical Auxiliary Building Elevations 10', 29', 41', 60' & 95'

Fire Zones: Z103 (Reactor Makeup Water and LASR Storage Tank and Pump Rooms)
Z104 (Refueling Water Storage Tank Room)
Z113 (RCP Oil Feed Tank Room)
Z114 (Radioactive and Nonradioactive Pipe Chases)
Z121 (Decontamination Area)
Z122 (HVAC Intake and Hot Machine Shop)
Z126 (480 V Non-ESF Switchgear)
Z131 (Filter and Demineralizer Area)
Z134 (Nonradioactive Pipe Chase)
Z135 (Radioactive Pipe Penetration Area)
Z145 (Personnel Access to Containment)
Z146 (HVAC Outside Exhaust Equipment).

For each of these fire areas, the inspection focused on fire protection features, systems and equipment necessary to achieve and maintain safe shutdown conditions, and licensing basis commitments.

Documents reviewed by the team are listed in the attachment.

.1 Shutdown From Outside Main Control Room

a. Inspection Scope

The team reviewed the functional requirements identified by the licensee as necessary for achieving and maintaining hot shutdown conditions to ensure that at least one post-fire safe shutdown success path was available in the event of fire in each of the selected areas and alternative shutdown for the case of control room evacuation. The team reviewed piping and instrumentation diagrams of systems credited in accomplishing safe shutdown functions to independently verify whether licensee's shutdown methodology had properly identified the required components. The team focused on the

following functions that must be available to achieve and maintain safe shutdown conditions:

Reactivity control capable of achieving and maintaining cold shutdown reactivity conditions,

Reactor coolant makeup capable of maintaining the reactor coolant inventory,

Reactor heat removal capable of achieving and maintaining decay heat removal,

Supporting systems capable of providing other services necessary to permit extended operation of equipment necessary to achieve and maintain hot shutdown conditions,

Verify that a safe shutdown can be achieved and maintained with and without off-site power.

A review was also conducted to ensure that all required components in the selected systems were included in the licensee's safe shutdown analysis. The team identified the systems required for each of the primary safety functions necessary to achieve and maintain shutdown conditions. These systems were then evaluated to identify the systems that interfaced with the selected fire areas and were the most risk significant systems required for reaching hot shutdown conditions.

b. Findings

No findings of significance were identified.

.2 Protection of Safe Shutdown Capabilities

a. Inspection Scope

The team reviewed the licensee's piping and instrumentation diagrams, safe shutdown equipment list, safe shutdown design basis documents, and the post-fire safe shutdown analysis to verify whether the licensee's shutdown methodology had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions for equipment in the fire areas selected for review. The team also reviewed and observed walkdowns of the licensee's procedures for achieving and maintaining safe shutdown in the event of a fire to verify that the safe shutdown analysis provisions were properly implemented. The team focused on the following functions that must be ensured to achieve and maintain post-fire safe shutdown conditions: (1) reactivity control capable of achieving and maintaining cold shutdown reactivity conditions, (2) reactor coolant makeup capable of maintaining the reactor coolant level within the level indication in the pressurizer, (3) reactor heat removal capable of achieving and maintaining decay heat removal, (4) supporting systems capable of providing all other services necessary to permit extended operation of equipment necessary to achieving and maintaining hot shutdown conditions, and (5) process monitoring capable of providing direct readings to perform and control the above functions.

The team reviewed the separation of safe shutdown cables, equipment, and components within the same fire areas, and reviewed the licensee's methodology for meeting the requirements of 10 CFR 50.48, Appendix A to Branch Technical Position 9.5-1 and 10 CFR Part 50, Appendix R, Section III.G. Specifically, this was to determine whether at least one post-fire safe shutdown success path was free of fire damage in the event of a fire in the selected areas. In addition, the team reviewed license documentation, such as NRC safety evaluation reports, the South Texas Project Electric Generating Station Updated Final Safety Analysis Report, submittals made to the NRC by the licensee in support of the NRC's review of their fire protection program, and deviations from NRC regulations to verify that the licensee met license commitments.

b. Findings

Introduction: The team identified a noncited violation of Section III.G.2 of 10 CFR Part 50, Appendix R, for failure to ensure that redundant trains of safe shutdown systems in the same fire area were free of fire damage. For example, cables associated with the charging pumps suction valve from the Refueling Water Storage Tank, CV-MOV-0112C were not physically protected from fire damage. The licensee credited manual actions to mitigate the effects of fire damage in lieu of providing the physical protection required by 10 CFR Part 50, Appendix R, Section III.G.2. The team determined that the violation was of very low safety significance (green).

Description: The licensee implemented Procedure 0POP04-ZO-0009, “Safe Shutdown Fire Response,” for use in the event of a fire in areas of the plant that do not require alternative shutdown. For a fire in Fire Area 32, Procedure 0POP04-ZO-0009, Addendum 32, directed operators to perform a manual action outside of the control room to open and deenergize CV-MOV-0112C to manually align the charging pumps suction to the RWST. Section III.G.2 of 10 CFR Part 50, Appendix R requires that cables whose fire damage could prevent the operation or cause maloperation of safe shutdown functions be physically protected from fire damage by one of three methods specified. The use of manual actions to mitigate the effects of fire damage to these cables is not listed as an acceptable method for satisfying this requirement.

In some instances, the NRC has accepted (in formal exemption/deviation approvals and in safety evaluation reports) plant-specific manual actions for mitigating the effects of fire damage. However, the team found that licensee did not have formal approval from the NRC for the use of manual operator actions in lieu of protection as specified in Section III.G.2 of 10 CFR Part 50, Appendix R. In the Safety Evaluation Report, Supplement No. 2, dated January 1987, the staff stated in part, “The applicant's safe shutdown and fire hazards analysis demonstrates that systems needed for hot and cold shutdown are redundant and that at least one of the redundant systems needed for safe hot and cold shutdown would be free of fire damage (except for the control room area) because of separation, fire barriers, and fire detection and suppression, or a combination of these.” The staff accepted the use of manual actions to prevent or respond to potential spurious operations as stated in part, “Actions to overcome the spurious operations, or the compensatory measures to be taken, are indicated in the

applicant's post-fire operator actions and equipment protection requirements (Report 5A019MFP001)."

Valve CV-MOV-0112C is a component required for post-fire safe shutdown and is not a potential spurious operation concern listed in Report 5A019MFP001, therefore, the use of manual actions to mitigate the effects of fire damage is not an acceptable method for satisfying the requirements of Section III.G.2 of 10 CFR Part 50, Appendix R. The team reviewed the manual operator action and determined that it met the criteria for being reasonable as described in Attachment 2 of Inspection Procedure 71111.05T. The licensee entered this finding into their corrective action program as Condition Report 05-8418. Based on this, the team concluded that no immediate safety concern existed.

Analysis: This finding is of greater than minor safety significance because it impacted the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to external events (such as fire) to prevent undesirable consequences. Specifically, a fire in Fire Area 32 has the potential to cause damage to circuits which could adversely affect the ability of the licensee to place CV-MOV-0112C in its required position. The team reviewed Procedure 0POP04-ZO-0009 and stepped through the manual actions directed in the procedure with licensee operations personnel. The team found that the manual operator action was reasonable (as defined in Enclosure 2 of Inspection Procedure 71111.05T), and could be performed within the analyzed time limits. Since the manual operator action was considered reasonable, the significance determination process was not entered. The team determined that this finding is of very low safety significance (green) in accordance with the guidance in Enclosure 2 to Inspection Procedure 71111.05T.

Enforcement: The licensee's Fire Hazard Analysis states that it will comply with the requirements of Appendix R. Appendix R, Section III.G.2 to 10 CFR Part 50 requires that cables whose fire damage could prevent the operation or cause maloperation of safe shutdown functions be physically protected from fire damage. Contrary to this requirement, the licensee implemented a methodology that utilized a manual operator action to mitigate the effects of fire damage in lieu of providing physical protection from fire damage. This is a violation of 10 CFR Part 50, Appendix R, Section III.G.2. The Green finding is an indicator that while compensatory measures in the form of manual actions have been implemented and are reasonable, the licensee has not met the requirements of Section III.G.2 of 10 CFR 50, Appendix R. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000498,499/2005006-01, Failure to ensure redundant safe shutdown systems located in the same fire area are free of fire damage.

.3 Passive Fire Protection

a. Inspection Scope.

For the selected fire areas, the team evaluated the adequacy of fire area barriers, penetration seals, fire doors, electrical raceway fire barriers and fire rated electrical cables. The team observed the material condition and configuration of the installed barriers, seals, doors, and cables. The team compared the as-installed configurations to the approved construction details and supporting fire tests. In addition, the team reviewed license documentation, such as NRC safety evaluation reports, and deviations from NRC regulations and the National Fire Protection Association (NFPA) code to verify that fire protection features met license commitments.

b. Findings

No findings of significance were identified.

.4 Active Fire Protection

a. Inspection Scope.

For the selected fire areas, the team evaluated the adequacy of fire suppression and detection systems. The team observed the material condition and configuration of the installed fire detection and suppression systems. The team reviewed design documents and supporting calculations. In addition, the team reviewed license basis documentation, such as NRC safety evaluation reports, and deviations from NRC regulations and the National Fire Protection Association (NFPA) codes to verify that fire suppression and detection systems met license commitments.

The team also observed an announced site fire brigade drill and the subsequent drill critique using the guidance in Inspection Procedure 71111.05AQ. Team members observed the fire brigade turnout, donning of protective gear, use of fire preplans, simulated fire fighting activities in the plant, communications between the fire brigade members and with operations personnel, support of fire brigade activities by operations, radiological controls and security, and the licensee's critique of the drill performance.

b. Findings

No findings of significance were identified.

.5 Protection From Damage From Fire Suppression Activities

a. Inspection Scope

For the sample areas, the team verified that redundant trains of systems required for hot shutdown were not subject to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression systems including the effects of flooding.

b. Findings

No findings of significance were identified.

.6 Alternative Shutdown Capability

a. Inspection Scope

The team reviewed the licensee's alternative shutdown methodology to determine if the licensee properly identified the components, systems, and instrumentation necessary to achieve and maintain safe shutdown conditions from the auxiliary shutdown panel and alternative shutdown locations. The team focused on the adequacy of the systems selected for reactivity control, reactor coolant makeup, reactor heat removal, process monitoring and support system functions. The team verified that hot and cold shutdown from outside the control room could be achieved and maintained with offsite power available or not available. The team verified that the transfer of control from the control room to the alternative locations was not affected by fire-induced circuit faults by reviewing the provision of separate fuses for alternative shutdown control circuits.

The team also reviewed the operational implementation of the licensee's alternative shutdown methodology. Team members observed a walk-through of the control room evacuation procedures with two non-licensed operators, one licensed reactor operator, and one licensed senior reactor operator. The team observed operators simulate performing the steps of Procedure 0POP04-ZO-0001, "Control Room Evacuation," Revision 27, which provided instructions for performing an alternative shutdown from the auxiliary shutdown panel and for manipulating equipment in the plant. The team verified that the minimum number of available operators, exclusive of those required for the fire brigade, could reasonably be expected to perform the procedural actions within the applicable plant shutdown time requirements and that equipment labeling was consistent with the procedure. Also, the team verified that procedures, tools, dosimetry, keys, lighting, and communications equipment were available and adequate to support successfully performing the procedure as intended. The team also reviewed records for operator training conducted on this procedure.

b. Findings

(1) "Hot-sticking" Motor-Operated Valves (MOVs)

Introduction. The team documented an unresolved item to address potential problems with the licensee's method for operating motor-operated valves at the motor-control centers ("hot-sticking"). Specific concerns included: 1) the hot-sticking method was not consistent with 10 CFR 50, Appendix R, Section III.L.3, in that the method relied on circuits that were not independent of the fire areas; 2) failure or hot-shorting of the circuits could result in mal-operation of the valves; and 3) in some situations the over-thrusting would result in valve or actuator stresses exceeding the yield point on some components.

Description. For fires in numerous fire areas, including the control room, the licensee uses a MOV repositioning method called "hot-sticking." In short, operators reposition, or check the position, of a given valve by pushing in either the open or close contactor at the valve's motor control center. Operators were trained that a contactor will "suck in" if the valve is not in its required position. Then the valve will travel to the requested position and the contactor will pop out. For valves already in the required position the contactor will immediately pop back out. The team identified the following concerns with this method:

The method utilizes circuits that are not independent of the fire area. If the control room circuit fails or hot shorts occur, the method will not work as intended. The reliance on circuits that are within the fire area is not consistent with 10 CFR 50, Appendix R, Section III.L.3, which states, in part, ...the alternative shutdown capability shall be independent of the specific fire area(s). The failure modes are described below:

- Open Circuit: A control circuit failure (open circuit) could result in improper indication to operators when hot-sticking valves. In this instance, following a hot-sticking attempt, the MOV contactor would immediately pop back out. Operators were trained that this response means "the valve is already in the required position." In reality, however, the valve could be in the opposite position.

- Hot Short: A hot short could cause a valve to start repositioning to an inappropriate position after hot-sticking has occurred. While an operator would open the valve's breaker after repositioning the valve, the valve would still be able to reposition for at least a few seconds before the operator could open the breaker. Some of the valves had very short stroke times (about 10 seconds).

In the case where the necessary control room circuits are undamaged, and a valve is already in its required position, valves and actuators can be over-thrust and over-torqued well in excess of manufacturers ratings. The hot-sticking method drives the valves into their seats with locked rotor torque. The licensee performed a detailed analysis to address this concern. The licensee concluded that, while catastrophic valve/actuator failure is not expected, the stress to some valve components would exceed the yield point.

In response to the inspectors continued concerns, the licensee provided prompt training to plant operators to ensure that operators understood the vulnerabilities associated with the hot-sticking method. The licensee verified that adequate indication was available in all cases to ensure that mal-operation of valves could be promptly identified and corrected. The licensee captured this issue in Condition Report 05-8004.

The licensee had procedural instructions to hot-stick over 75 different valves for fires in several different fire areas. The NRC inspectors had not completed the impact review concerning all the fire areas by the close of the inspection. This issue is unresolved pending completion of that review (URI 05000498;499/2005006-02).

Analysis. A significance determination will be performed following additional inspection to close the unresolved item.

Enforcement. Enforcement will be considered when closing the unresolved item.

(2) Thermohydraulic Analysis Inconsistencies

Introduction. The team opened an unresolved item to address inconsistencies between the licensee's thermohydraulic analysis and the South Texas Project licensing basis. The inconsistencies affect the control room fire time-line that operators must meet in order to successfully accomplish safe shutdown.

Discussion. The team performed a walkdown with plant operators to verify that alternate shutdown actions could be performed within the time limits derived by the licensee's thermohydraulic analysis.

The team identified that NC-7079, "Fire Hazards Analysis," Revision 1 (thermohydraulic analysis) contained inappropriate assumptions. For alternate shutdown outside the control room (control room fire), the licensing basis credits scramming the reactor from the control room and no other control room actions. However, NC-7079 assumed that the following additional actions would be accomplished prior to exiting the control room:

Isolating main steam isolation valves
Isolating feedwater
Securing charging
Isolating letdown

Since the licensee had not obtained NRC approval for the deviations to the licensing basis, credit for the actions from the control room was inappropriate. Completing the actions outside the control room would have an impact on the thermohydraulic analysis results and the associated time-line. The inspectors could not complete the assessment of the licensee's response to a control room fire because of these issues.

In response to the inspectors concerns, the licensee agreed to make adjustments to the analysis and regenerate the operator response time line. This is an unresolved item pending NRC review of the revised documents (URI 05000498;499/2005006-03).

Analysis. The team will perform a significance evaluation when following up to the unresolved item.

Enforcement. The team will consider enforcement when closing the unresolved item.

.7 Circuit Analyses

a. Inspection Scope

The team reviewed the licensee's post-fire safe shutdown analysis to verify that the licensee had identified both required and associated circuits that may impact safe shutdown. The NRC inspection of associated circuits had been the subject of a moratorium since November 2000, but was reinitiated in January 2005.

On a sample basis, the team verified those cables for equipment required to achieve and maintain hot shutdown conditions in the event of fire in selected fire zones had been properly identified. In addition, the team verified that these cables had either been adequately protected from the potentially adverse effects of fire damage, mitigated with approved manual operator actions, or analyzed to show that fire-induced faults (e.g., hot shorts, open circuits, and shorts to ground) would not prevent safe shutdown. In order to accomplish this, the team reviewed electrical schematics and cable routing data for power and control cables associated with each of the selected components.

Since the licensee utilized thermoset cables, the team reviewed the following cable failure modes for selected required circuits and associated circuits:

- Spurious actuations due to any combination of conductors within a single multiconductor cable
- A maximum of two cables considered where multiple individual cables may be damaged by the same fire
- For cases involving direct current control circuits, the potential spurious operation due to failures of the control cables.
- For cases involving decay heat removal system isolation valves at high-pressure/low-pressure interfaces, the vulnerability of three-phase power cables due to three-phase proper polarity hot shorts.

In addition, the team verified, on a sample basis, that circuit breaker coordination and fuse protection have been analyzed, and are acceptable as means of protecting the power source of the designated redundant or alternative safe shutdown component.

For the selected fire areas, the team also reviewed the location and installation of diagnostic instrumentation that was necessary for achieving and maintaining safe shutdown conditions to ensure that in the event of a fire, this instrumentation would remain functional.

b. Findings

No findings of significance were identified.

.8 Communications

a. Inspection Scope

The team reviewed the adequacy of the communication system to support plant personnel in the performance of alternative safe shutdown functions and fire brigade duties. The team verified that sound-powered phones were available for use and maintained in working order. The team reviewed that the electrical power supplies and cable routing for the sound powered phone system would allow them to remain functional following a fire in the control room fire area.

b. Findings

No findings of significance were identified.

.9 Emergency Lighting

a. Inspection Scope

The team reviewed the emergency lighting system required to support plant personnel in the performance of alternative safe shutdown functions to verify it was adequate to support the performance of manual actions required to achieve and maintain hot shutdown conditions, and for illuminating access and egress routes to the areas where manual actions are required. The locations and positioning of emergency lights were observed during a walkthrough of the control room evacuation procedure.

b. Findings

No findings of significance were identified.

.10 Cold Shutdown Repairs

a. Inspection Scope

The team reviewed licensee procedures to determine whether repairs were required to achieve cold shutdown and to verify that the repair material was available on the site. The team verified that the licensee did not use repairs to achieve cold shutdown.

b. Findings

No findings of significance were identified.

.11 Compensatory Measures

a. Inspection Scope

The team reviewed the licensee's program with respect to compensatory measures in place for out-of-service, degraded, or inoperable fire protection and post-fire safe shutdown equipment, systems or features.

The team reviewed Procedures 0PGP03-ZA-0514, “Controlled System or Barrier Impairment;” 0PGP03-ZF-0001, “Fire Protection Program;” and 0PGP03-ZF-0018, “Fire Protection System Operability Requirements” to determine whether the procedures adequately controlled compensatory measures for fire protection systems, equipment and features (e.g., detection and suppression systems and equipment, and passive fire barriers).

The team reviewed Procedures 0PGP03-ZA-0090, “Work Process Program;” 0PGP03-ZA-0091, “Configuration Risk Management Program;” 0PGP05-ZE-0002, “Configuration Risk Management System Guidelines;” and Configuration Risk Management System Guidelines CRM0550, “CRM System Guidelines Auxiliary Feedwater System;” and CRM0810, “CRM System Guidelines Charging System” to determine whether the procedures adequately controlled compensatory measures for out-of-service, degraded, or inoperable post-fire safe shutdown equipment, systems or features.

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution

a. Inspection Scope

The team reviewed a sample of Condition Reports to verify that the licensee was identifying fire protection-related issues at an appropriate threshold and entering those issues into the corrective action program. A listing of Condition Reports reviewed is provided in the attachment to this report.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

Debrief Meeting Summary

The team leader presented the inspection results to Mr. J. Sheppard, President and Chief Executive Officer, and other members of licensee management at the conclusion of the onsite inspection on June 23, 2005.

At the conclusion of this meeting, the team leader confirmed to the licensee's management that no materials considered to be proprietary had been examined during the inspection.

KEY POINTS OF CONTACT

Licensee

C. Albury, Supervising Engineer
M. Berg, Manager Testing/Programs Engineering
W. Bullard, Manager Health Physics
D. Chamberlain, Supervising Engineer, Component Engineering
F. Cox, Fire Protection Engineer (Exelon)
D. Dayton, Systems Engineer
G. Gaytko, Engineering Specialist
E. Heacock, Design Engineer
M. Head, Manager Licensing
K. House, Manager Design Engineering
J. Jacob, Supervisor Quality
T. Jordan, Vice-President Engineering
R. Kersey, Design Engineer
D. Leazar, Manager Nuclear Fuels & Analysis
M. McBurnett, Manager Nuclear Safety Assurance
J. Mertink, Manager Operations Division - Unit 1
M. Mielsch, Engineering Administration
J. Phelps, Manager Operations Division - Unit 2
B. Powell, Operations Specialist
G. Powell, Manager Systems Engineering
D. Rohan, Operations Procedures
R. Savage, Licensing Staff Specialist
P. Serra, Manager Plant Protection
J. Sheppard, President & Chief Executive Officer
D. Stillwell, Supervisor Configuration Control & Analysis
W. Stillwell, PRA Supervisor
K. Taplett, Licensing Staff Engineer
D. Towler, Manager Operations Support
J. Trbovich, Design Engineer
T. Walker, Manager Quality
D. Wiegand, Fire Protection Engineer
R. Wiegand, Design Engineer
C. Younger, Test Engineering

NRC

J. Cruz, Senior Resident Inspector

ITEMS OPENED AND CLOSED

Opened and Closed

05000498,499/2005006-01	NCV	Failure to ensure redundant safe shutdown systems located in the same fire area are free of fire damage (Section 1R05.2)

Opened

05000498,499/2005006-02	URI	"Hot-sticking" Motor-Operated Valves (MOVs) (Section 1R05.6.1)
05000498,499/2005006-03	URI	Thermohydraulic Analysis Inconsistencies (Section 1R05.6.2)

LIST OF DOCUMENTS REVIEWED

The following documents were selected and reviewed by the team to accomplish the objectives and scope of the inspection.

CABLE ROUTING DATA (UNIT 2)

Component	Component	Component	Component
FCV-0205	FV-7523	FV-7524	FV-7525
FV-7526	HCV-0218	LV-3119	MOV-0019
MOV-0025	MOV-0033A	MOV-0033B	MOV-0033C
MOV-0033D	MOV-0048	MOV-0065	MOV-0085
MOV-0121	MOV-0137	MOV-0151	MOV-0297
MOV-0339	MOV-0356	MOV-0374	MOV-0390
MOV-0393	MOV-8377A	MOV-8377B	PCV-0655A
PCV-0655B	PCV-0655C	Pump 2A	Pump 2B
Pump 2C	Pump 021	Pump 022	Pump 023

CALCULATIONS

Number	Title	Revision
H200.B03	Automatic Sprinkler Corporation of America Hydraulic Calculation for MEAB (Fire Area 4, Fire Zone 052) (Unit 2)	2
H200.B14	Automatic Sprinkler Corporation of America Hydraulic Calculation for MEAB (Fire Area 4, Fire Zone 046) (Unit 2)	2
NC-7079	Fire Hazards Analysis	0
5A011MC6023	Appendix R Evaluation	10
5A011MC6023, Attachment 1	10 CFR 50, Appendix R Post Fire Safe Shutdown Logic Diagrams	10
5A011MC6023, Attachment 2	Appendix R Evaluation	9 & 10

5A019MFP001	Report for Post Fire Operation Actions and Equipment Protection Requirements for South Texas Project Nuclear Operating Company	14
7Q270MC5052	Fire Protection System Available Pressures	2

DRAWINGS

Number	Title	Revision
0E0AAAA, Sheet 1	Single Line Diagram - Main One Line Diagram Unit No. 1 & 2	18
2D33291	QDPS Pigtail Connection Diagram	3
2-E-CV12-03	Elementary Diagram CVCS-Letdown Orifice Isolation FV-0012	2
2E0CV12	Elementary Diagram CVCS-Letdown Orifice Header Isolation FV-0011	4
5A019MF0007	Component Cooling Water System Safe Shutdown Logic Diagram	1
5A019MF027	Chemical & Volume Control System Safe Shutdown Logic	2
5N129F05013 #2	Piping and Instrumentation Diagram - Safety Injection System	26
5N129F05014 #2	Piping and Instrumentation Diagram - Safety Injection System	16
5N129F05015 #2	Piping and Instrumentation Diagram - Safety Injection System	17
5N129F05016 #2	Piping and Instrumentation Diagram - Safety Injection System	17
5R149F05001 #2	Piping and Instrumentation Diagram - RCS Primary Coolant Loop	28
5R149F05003 #2	Piping and Instrumentation Diagram - RCS Pressurizer	19
5R169F20000 #2	Piping and Instrumentation Diagram - Residual Heat Removal System	23
5R17905005 #1	Piping and Instrumentation Diagram - Chemical and Volume Control System	26

5R179F05005 #2	Piping and Instrumentation Diagram - Chemical and Volume Control System	25
5R17905006 #1	Piping and Instrumentation Diagram - Chemical and Volume Control System	15
5R179F05006 #2	Piping and Instrumentation Diagram - Chemical and Volume Control System	11
5R17905007 #1	Piping and Instrumentation Diagram - Chemical and Volume Control System	39
5R179F05007 #2	Piping and Instrumentation Diagram - Chemical and Volume Control System	40
5R179F05008 #2	Piping and Instrumentation Diagram - Chemical and Volume Control System BTRS Sub System	15
5R17905009 #1	Piping and Instrumentation Diagram - Chemical and Volume Control System	21
5R179F05009 #2	Piping and Instrumentation Diagram - Chemical and Volume Control System	21
5R209F05017	Piping and Instrumentation Diagram - Component Cooling Water System	15
5R209F05017 # 2	Piping and Instrumentation Diagram - Component Cooling Water System	19
5R209F05018 # 2	Piping and Instrumentation Diagram - Component Cooling Water System	18
5R209F05019 # 1	Piping and Instrumentation Diagram - Component Cooling Water System	13
5R209F05019 # 2	Piping and Instrumentation Diagram - Component Cooling Water System	16
5R209F05020 # 1	Piping and Instrumentation Diagram - Component Cooling Water System	16
5R209F05020 # 2	Piping and Instrumentation Diagram - Component Cooling Water System	14
5R209F05021 #1	Piping and Instrumentation Diagram - Component Cooling Water System	13
5R289F05038 #1	Piping and Instrumentation Diagram - Essential Cooling Water System Train 1A	13
5R289F05038 #2, Sheet 1	Piping and Instrumentation Diagram - Essential Cooling Water System Train 2A	16

5R289F05038 #2, Sheet 2	Piping and Instrumentation Diagram - Essential Cooling Water System Train 2B	12
5R289F05038 #2, Sheet 3	Piping and Instrumentation Diagram - Essential Cooling Water System Train 2B	15
5S141F00024 Sheet 1	Piping & Instrumentation Diagram - Auxiliary Feedwater	8
5S142F00024 Sheet 1	Piping & Instrumentation Diagram - Auxiliary Feedwater	9
5S142F00024 Sheet 2	Piping & Instrumentation Diagram - Auxiliary Feedwater	3
5S199F00020 #2	Piping and Instrumentation Diagram - Condensate Storage	27
5V109V00008 #2	Piping & Instrumentation Diagram - HVAC Mechanical Auxiliary Building Supplementary Exhaust System and Supplementary Cooling System Flow Diagram	18
5V119V25000 #2	Piping & Instrumentation Diagram - HVAC Electrical Auxiliary Bldg Main Area System	16
5V119V25003 #2	Piping & Instrumentation Diagram - HVAC Electrical Auxiliary Building & Control Room Outside Air Make-Up System	19
5V119V25004 #2	Piping & Instrumentation Diagram - HVAC Control Room Envelope System	19
7E569E03046	Appendix R light Locations	0
7M149M24513 #2	Fire Areas Mechanical & Electrical Auxiliary Building Plan at El. 10'-0"	9
7M149M24514 #2	Fire Areas Mechanical & Electrical Auxiliary Building Plan at El. 21'-0", 23'-0", 29'-0" & 30'-0"	10
7M149M24515 #2	Fire Areas Mechanical & Electrical Auxiliary Building Plan at El. 35'-0", 41'-0" & 51'-6"	14
7M149M24519 #2	Fire Areas Mechanical & Electrical Auxiliary Building Plan at El. 60'-0"	9
7M149M24517 #2	Fire Areas Mechanical & Electrical Auxiliary Building Plan at El. 72'-0", 74'-0" & 76'-0"	7
7M149M24518 #2	Fire Areas Mechanical & Electrical Auxiliary Building Roof Plan	8

7M149M24519 #2	Fire Areas Mechanical & Electrical Auxiliary Building Partial Plan at El. 19'-0", 41' & 48'	6
7Q27F05049 #2	Piping and Instrumentation Diagram Deluge Valve House No. 21 Fire Protection	14
7Q27F05053 #2	Piping and Instrumentation Diagram Mechanical Electrical Aux. Bldg. Fire Protection	21
9E0AAAB #1	Class 1E 125 VDC & 120 Vital AC, Non-Class 1E 48V, 125V, 250V, DC & 120V Vital AC, Non-Class 1E Inverter Power for Computer 208V/120V AC Regulated Power	22
9E0AF01 #2 Sheet 1	Elementary Diagram - Auxiliary Feedwater Pumps Nos. 21, 22 & 23	7
9E0AF01-02 #2	Elementary Diagram - Auxiliary Feedwater Pumps Nos. 11, 12 & 13	3
9E0AF03 #2 Sheet 1	Elementary Diagram - Aux. Feedwater Isolation MOV-0048, MOV-0065, & MOV -0085	12
9E0AF05 #2 Sheet 1	Elementary Diagram - Aux Feedwater to Steam Generators Regulating Valves FV-7523, FV-7524 & FV-7525	14
9EAF06-01 #1	Elementary Diagram - Aux Feedwater Turbine Steam Inlet MOV-0143 & FV-0143	11
9EAF09 #1	Elementary Diagram - Aux Feedwater Pump 14 Turbine Trip and Throttle Valve MOV-0514	14
9EAF09-01 #2	Elementary Diagram - Aux Feedwater Pump 14 Turbine Trip and Throttle Valve MOV-0514	12
9EAF13-01 #1	Elementary Diagram - Aux Feedwater to Steam Generator 1D Regulating Valve FV-7526	14
9E0AF13-01 #2	Elementary Diagram - AFW to Steam Generator 1D Regulating Valve FV-7526	13
9EAF14-01 #1	Elementary Diagram - Aux Feedwater Turbine Pump 14 Isolation MOV-0019	11
9E0AF14-01 #2	Elementary Diagram - Aux Feedwater Turbine Pump 14 Isolation MOV-0019	10
9EAF15-01 #1	Elementary Diagram Master Block Diagram - Aux Feedwater System QDPS Interface	6
9E0AF15-01 #2	Elementary Diagram Master Block Diagram - Auxiliary Feedwater System QDPS Interface	6

9EOCC05 #2	Elementary Diagram - CCW Common Header Inlet Isolation MOV's 0316, 0314 & 0312	12
9E0CC07-01 #2	Elementary Diagram - RCP 1A, 1B, 1C and 1D Thermal Barrier CCW Disch MOV's 0339, 0374, 0390 and 0356	9
9EOCC13 #2	Elementary Diagram - RC Pumps Inside CTMT CCW Outlet Isolation MOV's 0542 and 0403	11
9E0CC14 #2 Sheet 1	Elementary Diagram - RCDT Heat Exchanger & Excess Letdown Heat Exchanger Isolation MOV's 0297 & 0393	11
9E0CV07 #2 Sheet 1	Elementary Diagram - CVCS Charging Line Block MOV 0025	9
9E0CV08-01 #2	Elementary Diagram - CVCS Seal Water Injection Isolation MOV-0033A, B, C & D	9
9E0CV33-01 #2	Elementary Diagram - RCS Auxiliary Spray Valve LV-3119	7
9E0CV38-01 #2	Elementary Diagram - Pressurizer Level & Charging Flow Valve FCV-0205	7
9E0CV40 #2 Sheet 1	Elementary Diagram - Cent. Charging Pump 2A & 2B Isolation MOV's 8377A, 8377B & Bypass MOV 8348	14
9E0CV41-01, #2	Elementary Diagram - Seal Water Injection Valve HCV-0218	9
9EODG01 #2	Elementary Diagram - Standby Diesel Generator DG11 4.16KV Feeder Breaker	13
9EODG03 #2	Elementary Diagram - Standby DG 21, 22 and 23 Control, Instrument and Alarms	16
9EODG04 #1	Elementary Diagram - Standby DG 11, 12 and 13 Emergency Control and Instrumentation	14
9EODG04 #2	Elementary Diagram - Standby DG No 21 Emergency Control and Instrumentation	18
9E0EW01 #2 Sheet 1	Elementary Diagram - Essential Cooling Water Pumps 2A, 2B & 2C	12
9E0EW02 #2	Elementary Diagram - Essential Cooling Water Pumps 1A, 1B & 1C	8

9E0EW04 #2 Sheet 2	Elementary Diagram - Essential Cooling Water Pumps, Trains A, B & C Discharge MOVs 0121, 0137 & 0151	10
9E0DJAB #2 Sheet 1	Single Lime Diagram - 125V DC Class 1E Distr. Switchyard E2D11 (Channel II)	18
9E0PMAM #2 Sheet 1	Single Line Diagram - 480V Class-1E Motor Control Center E2C4	16
9E0PKAA-01 #2	Single Line Diagram - 4.16KV Class-1E Switchgear E2A	10
9E0PKAB-01 #2	Single Line Diagram - 4.16KV Class 1E Switchgear E2B	9
9E0PKAC-01, #2	Single Line Diagram - 4.16KV Class 1E Switchgear E2C	9
9E0PMAA #2 Sheet 1	Single Line Diagram - 480V Class-1E Motor Control Center E2A1	21
9E0PMAB #2 Sheet 1	Single Line Diagram - 480V Class 1E Motor Control Center E2A2	22
9E0PMAC #2 Sheet 1	Single Line Diagram - 480V Class-1E Motor Control Center E2A3	14
9E0PMAD #2 Sheet 1	Single Line Diagram - 480V Class 1E Motor Control Center E2B1	23
9E0PMAE-01 #2	Elementary Diagram - 480V Class-1E Motor Control Center E2B2	14
9E0PMAF #2 Sheet 1	Single Line Diagram - 480V Class-1E Motor Control Center E2B3	15
9E0PMAJ #2 Sheet 1	Single Line Diagram - 480V Class-1E Motor Control Center E2C3	14
9E0PMAK #2 Sheet 1	Single Line Diagram - 480V Class-1E Motor Control Center E2A4	15
9E0PMAM #2 Sheet 1	Single Line Diagram - 480V Class-1E Motor Control Center E2C4,	16
9E0RC13-01 #2	Elementary Diagram - Reactor Coolant Pressurizer Power Relief Valves PCV-0655A and PCV-0656A	9
9E0RC18-01 #2	Elementary Diagram - Reactor Coolant Pressurizer Spray Valves PCV-0655B & PCV-0655C	3

9E0RC22-03 #2	Elementary Diagram Master Block Diagram - Reactor Coolant System PRZR Spray Valves	3
9E0VFAA-01 #2	Single Line Diagram - Class 1E 120/208V Distribution Panel DPA135, DPB135 & DPC135	11
9E0VFAB #2 Sheet 1	Single Line Diagram - Class 1E 120/208V Distribution Panel DPA235, DPB235 & DPC235	13
9E0VFAC-01 #2	Single Line Diagram - Class 1E 120/208V Distribution Panel DPA335, DPB335 & DPC335	9
9E0VFAD-01 #2	Single Line Diagram - Class 1E 120/208V Distribution Panel DPA435, DPB435 & DPC435	8
9E569E03751	Electrical Auxiliary Bldg. Lighting & Communications Plan elevation 10'-0"	15
9-E-AM11-01 #2	Master Block Diagram, Qualified Display Processing System (QDPS)	7
9-E-AM11-02 #2	Master Block Diagram, Qualified Display Processing System (QDPS)	7
9-E-DG02-01 #2	Standby DG 11, 12 & 13 Metering	6
9-E-DG05-01 #2	Standby DG 11, 12, &13 Protection and Control	8
9-M-34-9-E-50429 #2	Riser Diagram Elect Aux Bldg Fire Alarm & Detection Riser Diagram 06	7
9-M-34-9-E-50412 #2	Riser Diagram Elect Aux Bldg Fire Alarm & Detection Riser Diagram 10	6
9-M-34-9-E-50423 #2	Riser Diagram Elect Aux Bldg Fire Alarm & Detection Riser Diagram 11	7
9-E-RC01-01 #1	Elementary Diagram Reactor Coolant Pump 1A, 1B, 1C & 1D	10
9-E-RC10-01 #2	Master Block Diagram, Reactor Coolant System Loop 1	5
9-E-RC10-03 #2	Master Block Diagram, Reactor Coolant System Loop 3	6
9-E-RC22-01 #2	Master Block Diagram, Reactor Coolant System Pressurizer	5
9-W-01-9-E-0465 #2	Mech. And Elect. Aux. Bldg. Fire Detection Plan El. 10'-0"	11

9-W-01-9-E-0466 #2	Mech. And Elect. Aux. Bldg. Fire Detection Plan El. 21'-0" & 29'-0"	6
9-W-01-9-E-0467 #2	Mech. And Elect. Aux. Bldg. Fire Detection Plan El. 35'-0" & 41'-0"	8
9-W-01-9-E-0468 #2	Mech. And Elect. Aux. Bldg. Fire Detection Plan El. 60'-0"	6
9-W-01-9-E-0469 #2	Mech. And Elect. Aux. Bldg. Fire Detection Plan El. 72'-0" & 86'-0"	7
9-W-01-9-E-50410	Electrical Wiring Legend, Notes & Symbols Fire Alarm & Detection	3
9-W-01-9-E-50471 #2	Mechanical & Electrical Auxiliary Building Fire Detection Partial Plans for Miscellaneous Areas	4
9-W-01-9-E-50100	Telephone Entry Terminal System One-Line Diagram	12
9-W-01-9-E-50101	Paging System Unit 1 and 2	4
9-W-01-9-E-50102	Electrical Communications Command Control Console One-Line Diagram	5
9-W-01-9-E-50103	Electrical Communications Maintenance Jack Station One-Line Diagram	0
79AB-001	Solenoid Operated Globe Valve	E
14926-0295(2)00096-NSP	Deluge Valve House No. 21 (Unit 2)	13
14926-0295(2)00187-ESP	M.E.A.B. Manual Pre-Action System	4
EC-5053	Protective Device Study for Appendix R	4
G5-553-137	Control Schematic	L
PW-N10071-756	Terminal Block Arrangement Auxiliary Shutdown Panel ZLP-100	3
SK-M-0013	Fire Protection System Loop Hydraulic Model	A

ENGINEERING EVALUATIONS

Number	Title	Revision
0PGP04-ZA-0002	Use of Hot Sticks to Operate Motor-Operated Valves, dated June 20, 2005	0

ENGINEERING REPORTS

Number	Title	Revision
5A019MFP001	Report for Post Fire Operator Actions and Equipment Requirements	1 & 13

PROBLEM IDENTIFICATION REPORTS (Condition Reports)

02-7943	05-7884*	05-8007*	05-8128	05-8315*	05-8416
02-9328	05-7886	05-8031	05-8142	05-8316*	05-8418*
04-13163	05-7887*	05-8052	05-8158	05-8320*	05-8435
05-898	05-7888*	05-8057	05-8163	05-8345	05-8436
05-5860	05-7923	05-8058	05-8213	05-8371	05-8447
05-7852	05-7999	05-8106	05-8274	05-8375	05-8487*
05-7858*	05-8004*	05-8107	05-8275	05-8396	05-5860
05-7867*	05-8004-3*	05-8116	05-8276	05-8413	05-8487

*CRs initiated due to inspection activities.

PROCEDURES

Number	Title	Revision
0PGP03-FP-00001	Safe Shutdown Methodology and Operations	0
0PTP03-FP-0109	Sprinkler/Spray System Visual Inspection	2
0PTP03-FP-0111	Deluge Water Spray/Automatic Sprinkler Valve Verification and Valve Reset	5
0PTP03-FP-0123	Fire Barrier Penetration Seal Visual Examination	6
0PGP03-ZA-0090	Work Process Program	29
0PGP03-ZA-0091	Configuration Risk Management Program	6
0PGP03-ZA-0514	Controlled System or Barrier Impairment	0
0PGP03-ZF-0001	Fire Protection Program	17
0PGP03 -ZF-0011	STPEGS Fire Brigade	8
0PGP03-ZF-0014	Fire Prevention Surveys	11
0PGP03 -ZF-0018	Fire Protection System Operability Requirements	12

0PGP03 -ZF-0019	Control of Transient Fire Loads and Use of Combustible and Flammable Liquids and Gases	4
0PGP04-ZA-0002	Condition Report Engineering Evaluation	5
0POP04-ZO-0001	Control Room Evacuation	26 & 27
0POP04-ZO-0008	Fire/Explosion	11
0POP04-ZO-0009	Safe Shutdown Fire Response, Addendum 2	4
0POP04-ZO-0009	Safe Shutdown Fire Response, Addendum 4	4
0POP04-ZO-0009	Safe Shutdown Fire Response, Addendum 6	4
0POP04-ZO-0009	Safe Shutdown Fire Response, Addendum 32	4
0POP04-ZO-0009	Safe Shutdown Fire Response, Addendum 81	4
0POP04-ZO-0009	Safe Shutdown Fire Response, Addendum 82	4
0POP04-ZO-0009	Safe Shutdown Fire Response, Addendum 83	4
0PGP05-ZE-0002	Configuration Risk Management System Guidelines	2
0PGP05-ZV-0011	Emergency Communications	4
0POP01-ZA-0017	Emergency Operating Procedure Revision and Implementation and In-Plant Validation Check List for Procedure 0PO01-ZO-0001	10
0PTP03-FA-0101	Fire Detection System Functionality Test	14

MISCELLANEOUS DOCUMENTS

Number	Title	Revision
	Fire Hazards Analysis Report	Amend-ment 15
	Overview of the South Texas Project fire Protection Program & Safe Shutdown Methodology	May 24, 2005
	Post Fire Operator Actions and Equipment Protection Requirements	Revision 14
	South Texas Project Fire Induced Circuit Failure Assessment, prepared by Nexus Technical Services Corporation	3/11/05
	STP Fire Protection Program Licensing Basis	0

	Updated Final Safety Analysis Report	12
	Validation package for 0POP04-ZO-0001, “Control Room Evacuation”	Revision 25
	Vendor Technical Document for... Reactor Coolant Pump Model W-11013-A1	Revision 1
	Westinghouse Seal General Assembly Drawings Using High Temperature O-Rings	November, 1991
	Westinghouse Owners Group Reactor Coolant Pump Seal Performance for Appendix R Assessments	January, 2005
CREE # 05-5860-1	Condition Report Engineering Evaluation for Condition Report 05-0586	6/08/05
CREE # 05-8004-1	Condition Report Engineering Evaluation for Condition Report 05-8004	6/20/05
CREE # 05-8004-3	Condition Report Engineering Evaluation for Condition Report 05-8004	1
CRM0550	CRM System Guidelines Auxiliary Feedwater System	4
CRM0810	CRM System Guidelines Charging System	1
JPM042.02	Locally Establish CCW [Component Cooling Water] Flow During a Control Room Evacuation	Revision 7
0MAB32-FP-0126	Fire Preplan Mechanical Auxiliary Building 480V Non-ESF Switchgear	3
NC-7079	Fire Hazards Analysis	Revision 1
NUREG-0781	NRC Safety Evaluation Report related to the operation of South Texas Project, Units 1 & 2	4/86
NUREG-0781, Supplement No. 2	NRC Safety Evaluation Report related to the operation of South Texas Project, Units 1 & 2	1/87
NUREG-0781, Supplement No. 3	NRC Safety Evaluation Report related to the operation of South Texas Project, Units 1 & 2	5/87
NUREG-0781, Supplement No. 4	NRC Safety Evaluation Report related to the operation of South Texas Project, Units 1 & 2	7/87
NUREG-0781, Supplement No. 5	NRC Safety Evaluation Report related to the operation of South Texas Project, Units 1 & 2	3/88

NUREG-0781, Supplement No. 7	NRC Safety Evaluation Report related to the operation of South Texas Project, Units 1 & 2	3/89
7A369MB1033	Design Basis Document Fire Hazards System	3
7Q270MS0048	Specification For Preaction Sprinkler System	7

WORK AUTHORIZATION NUMBERS (WAN's)

233411	246535	246913	251931	417277	64346
239440	246910	248576	261840	64274	31846234