



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

February 14, 2007

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

SUBJECT: SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION - NRC
INTEGRATED INSPECTION REPORT 05000498/2006005 AND
05000499/2006005

Dear Mr. Sheppard:

On December 31, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your South Texas Project Electric Generating Station, Units 1 and 2, facility. The enclosed integrated report documents the inspection findings, which were discussed on January 11, 2007, with you and other members of your staff.

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

This report documents, one self-revealing finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. In addition, two licensee-identified violations, which were determined to be of very low safety significance, are listed in Section 4OA7 of this report. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as noncited violations (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest these noncited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at South Texas Project Electric Generating Station, Units 1 and 2, facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be made available electronically for public inspection

in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Claude E. Johnson, Chief
Project Branch A
Division of Reactor Projects

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

Enclosure:
NRC Inspection Report 05000498/2006005 AND 05000499/2006005
w/Attachment: Supplemental Information

cc w/enclosure:
E. D. Halpin
Site Vice President
STP Nuclear Operating Company
P.O. Box 289
Wadsworth, TX 77483

Ken Coates
Plant General Manager
STP Nuclear Operating Company
P.O. Box 289
Wadsworth, TX 77483

S. M. Head, Manager, Licensing
STP Nuclear Operating Company
P.O. Box 289, Mail Code: N5014
Wadsworth, TX 77483

C. Kirksey/C. M. Canady
City of Austin
Electric Utility Department
721 Barton Springs Road
Austin, TX 78704

J. J. Nesrsta/R. K. Temple
City Public Service Board
P.O. Box 1771
San Antonio, TX 78296

Jack A. Fusco/Michael A. Reed
Texas Genco, LP
12301 Kurland Drive
Houston, TX 77034

Jon C. Wood
Cox Smith Matthews
112 E. Pecan, Suite 1800
San Antonio, TX 78205

A. H. Gutterman, Esq.
Morgan, Lewis & Bockius
1111 Pennsylvania Avenue NW
Washington, DC 20004

Institute of Nuclear Power Operations (INPO)
Records Center
700 Galleria Parkway SE, Suite 100
Atlanta, GA 30339

Director, Division of Compliance & Inspection
Bureau of Radiation Control
Texas Department of State Health Services
1100 West 49th Street
Austin, TX 78756

Brian Almon
Public Utility Commission
William B. Travis Building
P.O. Box 13326
1701 North Congress Avenue
Austin, TX 78701-3326

Environmental and Natural
Resources Policy Director
P.O. Box 12428
Austin, TX 78711-3189

Judge, Matagorda County
Matagorda County Courthouse
1700 Seventh Street
Bay City, TX 77414

STP Nuclear Operating Company

-4-

Terry Parks, Chief Inspector
Texas Department of Licensing
and Regulation
Boiler Program
P.O. Box 12157
Austin, TX 78711

Susan M. Jablonski
Office of Permitting, Remediation and Registration
Texas Commission on Environmental Quality
MC-122, P.O. Box 13087
Austin, TX 78711-3087

Ted Enos
4200 South Hulen
Suite 630
Fort Worth, TX 76109

Electronic distribution by RIV:
 Regional Administrator (**BSM1**)
 DRP Director (**ATH**)
 DRS Director (**DDC**)
 DRS Deputy Director (**RJC1**)
 Senior Resident Inspector (**JLD5**)
 Branch Chief, DRP/A (**CEJ1**)
 Senior Project Engineer, DRP/A (**TRF**)
 Team Leader, DRP/TSS (**MAS3**)
 RITS Coordinator (**MSH3**)
 W. Koo (**WHK**)
 J. Collins (**JXC**)
 M. Scott (**MLS3**)
 DRS STA (**DAP**)
 D. Cullison, OEDO RIV Coordinator (**DGC**)
ROPreports
 STP Site Secretary (vacant)

SUNSI Review Completed: CEJ ADAMS: Yes No Initials: CEJ
 Publicly Available Non-Publicly Available Sensitive Non-Sensitive

R:\REACTORS\STP\2006\STP2006-05RP-JLD.wpd

RIV:RI:DRP/A	SRI:DRP/A	SPE:DRP/A	C:DRS/PSB	C:DRS/EB
JLTaylor	JLDixon	TRFarnholtz	MPShannon	WBJones
E-CEJ	E-CEJ	/RA/	/RA/	/RA/
02/1/07	02/1/07	02/6/07	01/31/07	01/31/07
C:DRS/OB	C:DRS/PEB	C:DRP/A		
ATGody	LJSmith	CEJohnson		
/RA/	/RA/	/RA/		
01/31/07	01/31/07	02/14/07		

OFFICIAL RECORD COPY

T=Telephone

E=E-mail

F=Fax

**U.S. NUCLEAR REGULATORY COMMISSION
REGION IV**

Dockets: 05000498, 05000499
Licenses: NPF-76, NPF-80
Report: 05000498/2006005 AND 05000499/2006005
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: October 8, 2006 through December 31, 2006
Inspectors: B. Baca, Health Physicist
J. Dixon, Senior Resident Inspector
G. Guerra, CHP, Health Physicist
M. Murphy, Senior Operations Engineer
G. Replogle, Senior Reactor Inspector
J. Taylor, Resident Inspector
B. Tharakan, Health Physicist

Approved By: Claude E. Johnson, Chief, Project Branch A
Division of Reactor Projects

Enclosure

TABLE OF CONTENTS

SUMMARY OF FINDINGS	-3-
1R04 <u>Equipment Alignment</u>	-5-
1R05 <u>Fire Protection</u>	-6-
1R06 <u>Flood Protection Measures</u>	-7-
1R08 <u>In-service Inspection Activities</u>	-7-
1R11 <u>Licensed Operator Requalification Program</u>	-11-
1R12 <u>Maintenance Effectiveness</u>	-12-
1R13 <u>Maintenance Risk Assessments and Emergent Work Control</u>	-13-
1R15 <u>Operability Evaluations</u>	-14-
1R19 <u>Postmaintenance Testing</u>	-14-
1R20 <u>Refueling and Other Outage Activities</u>	-15-
1R22 <u>Surveillance Testing</u>	-16-
RADIATION SAFETY	-17-
2OS1 <u>Access Control To Radiologically Significant Areas</u>	-17-
2OS2 <u>As Low as Reasonably Achievable (ALARA) Planning and Controls</u>	-19-
OTHER ACTIVITIES	-21-
4OA1 <u>PI Verification</u>	-21-
4OA2 <u>Identification and Resolution of Problems</u>	-22-
4OA3 <u>Follow-up</u>	-24-
4OA5 <u>Other Activities</u>	-25-
4OA6 <u>Meetings, Including Exit</u>	-29-
4OA7 <u>Licensee-Identified Violations</u>	-30-
ATTACHMENT: SUPPLEMENTAL INFORMATION	A-1
KEY POINTS OF CONTACT	A-1
LIST OF DOCUMENTS REVIEWED	A-2
LIST OF ACRONYMS	A-10

SUMMARY OF FINDINGS

IR 05000498/2006005, 05000499/2006005; 10/08/06 - 12/31/06; South Texas Project Electric Generating Station, Units 1 and 2; Access Controls to Radiologically Significant Areas.

This report covered a 3-month period of inspection by resident and regional inspectors. The inspection identified three Green findings, two of which were licensee-identified noncited violations. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management's review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Occupational Radiation Safety

- Green. The inspector reviewed a self-revealing, noncited violation of Technical Specification 6.12.1.b. for failure to monitor and control workers' dose in a high radiation area. Two contract support workers for nozzle dam removal were not able to read their electronic dosimeter due to poor lighting and personal protective equipment. A radiation protection technician in the area was also unable to read one of the worker's electronic dosimeter, but allowed the work to continue. In addition, one of the worker's received an electronic dosimeter alarm which was not heard until the worker exited the area. As an immediate corrective action, the individuals involved were counseled and received remedial high radiation area refresher training.

The finding was greater than minor because it is associated with the occupational radiation safety exposure control attribute and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation. The failure to monitor and control workers' dose in a high radiation area lead to additional personnel dose. The finding was determined to be of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding had a cross-cutting aspect in human performance associated with work practices because the workers and associated radiation protection personnel did not use human error prevention techniques such as not proceeding in the face of uncertainty or unexpected circumstances (Section 2OS2).

B. Licensee-Identified Violations

Two violations of very low safety significance which were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and their corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period in Refueling Outage 1RE13. Unit 1 went critical on November 3, 2006, closed the main turbine output breaker on November 4, 2006, and achieved 100 percent rated thermal power (RTP) on November 8, 2006. Unit 1 operated at or near full RTP for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent RTP and operated at or near full RTP for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (71111.04)

Partial Walkdown

a. Inspection Scope

The inspectors: (1) walked down portions of the two below listed risk important systems and reviewed plant procedures and documents to verify that critical portions of the selected systems were correctly aligned, and (2) compared deficiencies identified during the walk down to the licensee's Updated Final Safety Analysis Report (UFSAR) and corrective action program (CAP) to ensure problems were being identified and corrected.

- November 8, 2006, Unit 2, essential cooling water (ECW) Train A while Train C was in extended allowed outage for maintenance
- November 27, 2006, Unit 2, essential chilled water Train C while Train A was in an outage for maintenance

Documents reviewed by the inspectors included:

- UFSAR
- Procedure 0POP02-EW-0001, "Essential Cooling Water Operations," Revision 38
- Procedure 0POP02-CH-0001, "Essential Chilled Water System," Revision 37

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

Quarterly Inspection

a. Inspection Scope

The inspectors walked down the six below listed plant areas to assess the material condition of active and passive fire protection features and their operational lineup and readiness. The inspectors: (1) verified that transient combustibles and hot work activities were controlled in accordance with plant procedures; (2) observed the condition of fire detection devices to verify they remained functional; (3) observed fire suppression systems to verify they remained functional and that access to manual actuators was unobstructed; (4) verified that fire extinguishers and hose stations were provided at their designated locations and that they were in a satisfactory condition; (5) verified that passive fire protection features (electrical raceway barriers, fire doors, fire dampers steel fire proofing, penetration seals, and oil collection systems) were in a satisfactory material condition; (6) verified that adequate compensatory measures were established for degraded or inoperable fire protection features and that the compensatory measures were commensurate with the significance of the deficiency; and (7) reviewed the UFSAR to determine if the licensee identified and corrected fire protection problems.

- October 12, 2006, Unit 1, Electrical Auxiliary Building 60-foot elevation engineered safety features switchgear room Train C, Battery/125 vdc distribution rooms, and penetration area (Fire Zones Z046, Z052, and Z053)
- October 17, 2006, Unit 1, reactor containment building (Fire Zones Z202 and Z219)
- October 25, 2006, Unit 1, auxiliary shutdown panel and qualified display processing system (QDPS) trains (Fire Zones Z071-073 and Z017)
- November 8, 2006, Unit 2, ECW pump rooms Trains A and B (Fire Zones Z604 and Z605)
- November 27, 2006, Unit 2, essential chilled water pump room Train C (Fire Zone Z139) and volume control tank and valve room (Fire Zone Z119)
- December 5, 2006, Units 1 and 2, safety injection pump room Trains A, B, and C, -21 foot elevation (Fire Zones Z305-307)

The inspectors completed six samples.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

Annual External Flooding

a. Inspection Scope

The inspectors: (1) reviewed the UFSAR, the flooding analysis, and plant procedures to assess seasonal susceptibilities involving external flooding; (2) reviewed the UFSAR and CAP to determine if the licensee identified and corrected flooding problems; (3) inspected underground bunkers/manholes to verify the adequacy of (a) sump pumps, (b) level alarm circuits, (c) cable splices subject to submergence, and (d) drainage for bunkers/manholes; (4) verified that operator actions for coping with flooding can reasonably achieve the desired outcomes; and (5) walked down the below listed areas to verify the adequacy of: (a) equipment seals located below the floodline, (b) floor and wall penetration seals, (c) watertight door seals, (d) common drain lines and sumps, (e) sump pumps, level alarms and control circuits, and (f) temporary or removable flood barriers.

- October 13, 16, and 17, 2006, Units 1 and 2, reviewed UFSAR and flooding analysis, walked down all external walls and penetrations and inspected all external water-tight flood doors

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R08 In-service Inspection Activities (71111.08)

.1 Inspection Activities Other Than Steam Generator Tube Inspections, Pressurized Water Reactor Vessel Upper Head Penetration Inspections, Boric Acid Corrosion Control (BACC)

a. Inspection Scope

The procedure requires review of two or three types of nondestructive examination (NDE) activities (volumetric, surface, and visual). The inspector reviewed examples of two different NDE types, including ultrasonic and visual.

The procedure requires review of one or two examinations from the previous outage with recordable indications that were accepted for continued service. No examples were noted during the previous outage.

If the licensee completed welding on the pressure boundary for Class 1 or 2 systems since the beginning of the previous outage, the procedure requires verification for one-to-three welds that acceptance and preservice examinations were done in accordance with American Society of Mechanical Engineers (ASME) Code. No pressure boundary welds were completed since the previous outage.

The procedure requires verification that one or two ASME Section XI Code repairs or replacements meet Code requirements. There were no Section XI Code repairs or replacements.

The inspector verified, through direct observation or record review, that ultrasonic and visual examinations of the components listed below were performed in accordance with ASME Code requirements.

<u>System</u>	<u>Component/Weld Identification</u>	<u>Examination Method</u>	<u>Observation or Record review</u>
Reactor Coolant System	8-RC-1214-1	Ultrasonic	Record Review
Reactor Coolant System	8-RC-1214-3	Ultrasonic	Record Review
Safety Injection	12-SI-1315-10	Ultrasonic	Record Review
Reactor Coolant System	12-RC-1312-2	Ultrasonic	Record Review
Reactor Coolant System	12-RC-1322-3	Ultrasonic	Observation
Reactor Coolant system	Lower Head BMI-46	Ultrasonic	Record Review
Reactor Coolant System	RC-1312-7	Ultrasonic	Record Review
Pressurizer	PSR-1-Heaters	Visual (VT-1/3)	Record Review
Reactor Coolant System	Loop A Outlet Nozzle to Safe End	Visual (VT-1/3)	Record Review
Reactor Coolant System	Loop B Outlet Nozzle to Safe End	Visual (VT-1/3)	Record Review

<u>System</u>	<u>Component/Weld Identification</u>	<u>Examination Method</u>	<u>Observation or Record review</u>
Reactor Coolant System	Loop C Outlet to Safe End	Visual (VT-1/3)	Record Review
Reactor Coolant System	Loop D Outlet to Safe End	Visual (VT-1/3)	Record Review
Reactor Coolant System	Safe End to Reactor Pressure Vessel (RPV) Loop A Inlet Nozzle	Visual (VT-1/3)	Record Review
Reactor Coolant System	Safe End to RPV Loop B Inlet Nozzle	Visual (VT-1/3)	Record Review
Reactor Coolant System	Safe End to RPV Loop C Inlet Nozzle	Visual (VT-1/3)	Record Review
Reactor Coolant System	Safe End to RPV Loop D Inlet Nozzle	Visual (VT-1/3)	Record Review

During the review of each examination, the inspector verified that the correct procedures were used, that examinations and conditions were as specified in the procedure, and that test instrumentation or equipment was properly calibrated and within the allowable calibration period. The inspector also reviewed documentation such as ultrasonic and visual inspection records to determine if the indications revealed by the examinations were compared against the ASME Code specified acceptance standards. This review also determined that indications were appropriately dispositioned.

The inspector verified the NDE certifications of those personnel observed performing examinations or identified during review of completed examination packages.

The inspectors completed one sample under Section 02.01.

b. Findings

No findings of significance were identified.

.2 Reactor Vessel Upper Head Penetration Inspection Activities

a. Inspection Scope

This was the first outage where upper head penetration examinations were performed on Unit 1. In lieu of this inspection procedure, regional and resident inspectors performed Temporary Instruction (TI) 2515/150, "Reactor pressure Vessel Head and

Vessel Head Penetration Nozzles,” Revision 3. This inspection is documented in Section 4OA5 of this report.

.3 BACC Inspection Activities Pressurized Water Reactors

a. Inspection Scope

The inspector reviewed a sample of BACC walkdown visual examination activities. The inspector determined that the licensee's visual inspections emphasized locations where boric acid leaks could cause degradation of safety significant components.

The inspector reviewed four engineering evaluations performed for boric acid found on piping and components. The review verified that ASME Code wall thickness requirements were maintained and that the degraded conditions were properly entered and dispositioned in the licensee's CAP.

The inspectors completed one sample under Section 02.03.

b. Findings

No findings of significance were identified.

.4 Steam Generator Tube Inspection Activities

a. Inspection Scope

The inspector verified that the steam generator tube eddy current examination scope and expansion criteria met the Technical Specification (TS) requirements, industry guidelines, and commitments made to the NRC. The inspector confirmed that known areas of potential degradation based on site-specific and industry experience were included in the scope of the inspection. The licensee performed a 100 percent tube inspection of the Steam Generator D due to a known problem with small loose parts from a feedwater heater. The licensee inspected a smaller scope of tubes in the other steam generators, consistent with TS requirements. The inspector observed the collection and analysis of eddy current data by contractor personnel and verified that: (1) the eddy current probes being utilized were appropriate for identifying the expected types of indications, (2) probe position location verification was being performed, (3) calibration requirements were being adhered to, and (4) probe travel speed was in accordance with procedural requirements.

The inspector verified that the licensee compared flaws detected during the current outage against the previous outage data and that appropriate repair criteria was specified. The inspector noted that one tube in the Steam Generator D was plugged due to wear-related wear from loose parts. Tube plugging activities during the inspection were in accordance with procedural requirements and were within the allowable limits for tube plugging.

The inspectors completed one sample under Section 02.04.

b. Findings

No findings of significance were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspection procedure requires review of a sample of problems associated with in-service inspections documented by the licensee in the CAP for appropriateness of the corrective actions.

The inspector reviewed in-service inspection related condition reports (CRs) issued during the current and past refueling outages and verified that the licensee identified, evaluated, corrected, and trended problems. During this effort, the inspector evaluated the effectiveness of the licensee's CAP, including the adequacy of the technical resolutions.

The inspectors reviewed seven corrective action reports which dealt with in-service inspection activities and found the corrective actions were appropriate. CRs reviewed are listed in the documents reviewed section. From this review, the inspectors concluded that the licensee has an appropriate threshold for entering issues into the CAP and has procedures that direct a root cause evaluation when necessary. The licensee also has an effective program for applying industry operating experience.

The inspectors completed one sample under Section 02.05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Quarterly Inspection

a. Inspection Scope

On November 28, 2006, the inspectors observed testing and training of senior reactor operators and reactor operators to identify deficiencies and discrepancies in the training, to assess operator performance, and to assess the evaluator's critique. The training scenario involved pressurizer level and steam generator flow failing low, followed by a reactor coolant pump trip, which does not trip the reactor, requiring a manual reactor trip. Finally, a small break loss-of-coolant accident that requires manually actuating safety injection and containment spray.

Documents reviewed by the inspectors are listed in the Attachment.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

.2 Biennial Inspection

a. Inspection Scope

Following the completion of the annual operating examination testing cycle, which ended the week of December 13, 2006, the inspector reviewed the overall pass/fail results of the annual individual job performance measure operating tests, and simulator operating tests administered by the licensee during the operator licensing requalification cycle. Fifteen separate crews participated in simulator operating tests, and job performance measure operating tests, totaling 92 licensed operators. All of the crews tested passed the simulator portion of the annual operating test. All of the licensed operators passed the job performance measure portion of the examination.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed the two below listed maintenance activities to: (1) verify the appropriate handling of structure, system, and component (SSC) performance or condition problems; (2) verify the appropriate handling of degraded SSC functional performance; (3) evaluate the role of work practices and common cause problems; and (4) evaluate the handling of SSC issues reviewed under the requirements of the Maintenance Rule, 10 CFR Part 50, Appendix B, and TSs.

- October 16, 2006, Unit 1, Load Center E1C and Motor Control Center E1C1
- November 30, 2006, Units 1 and 2, reactor containment fan coolers

Documents reviewed by the inspectors are listed in the Attachment.

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

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

Risk Assessment and Management of Risk

a. Inspection Scope

Risk Assessment and Management of Risk

The inspectors reviewed the one below listed assessment activity to verify: (1) performance of risk assessments when required by 10 CFR 50.65 (a)(4) and licensee procedures prior to changes in plant configuration for maintenance activities and plant operations; (2) the accuracy, adequacy, and completeness of the information considered in the risk assessment; (3) that the licensee recognizes, and/or enters as applicable, the appropriate licensee-established risk category according to the risk assessment results and licensee procedures; and (4) that the licensee identified and corrected problems related to maintenance risk assessments.

- October 7 through November 4, 2006, Unit 1, Refueling Outage 1RE13 activities

Documents reviewed by the inspectors included:

- Shutdown Risk Assessment Group Report for Refueling Outage 1RE13, dated September 25, 2006

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

Emergent Work Control

a. Inspection Scope

The inspectors: (1) verified that the licensee performed actions to minimize the probability of initiating events and maintained the functional capability of mitigating systems and barrier integrity systems; (2) verified that emergency work-related activities such as troubleshooting, work planning/scheduling, establishing plant conditions, aligning equipment, tagging, temporary modifications, and equipment restoration did not place the plant in an unacceptable configuration; and (3) reviewed the UFSAR to determine if the licensee identified and corrected risk assessment and emergency work control problems.

- November 8, 2006, Unit 2, unplanned pump overhaul on the ECW Pump 2C due to damage to the spider bearing and sleeve which resulted in entry into an unplanned extended allowed outage time

Documents reviewed by the inspectors included:

- Procedure 0POP01-ZO-0006, "Extended Allowed Outage Time," Revision 13, dated November 3, 2006

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors: (1) reviewed plants status documents such as operator shift logs, emergent work documentation, deferred modifications, and standing orders to determine if an operability evaluation was warranted for degraded components; (2) referred to the UFSAR and design basis documents to review the technical adequacy of licensee operability evaluations; (3) evaluated compensatory measures associated with operability evaluations; (4) determined degraded component impact on any TSs; (5) used the significance determination process to evaluate the risk significance of degraded or inoperable equipment; and (6) verified that the licensee has identified and implemented appropriate corrective actions associated with degraded components.

- December 12, 2006, Unit 2, loose coupling bolt identified on high head safety injection Pumps 2A and 2C (CRs 06-16277, -16284, and -16330)
- December 20, 2006, Units 1 and 2, water intrusion into safety-related and non safety-related manways including ECW and turbine generator building cable vaults

Documents reviewed by the inspectors are listed in the Attachment at the end of this report.

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors selected the three below listed postmaintenance test activities of risk significant systems or components. For each item, the inspectors: (1) reviewed the applicable licensing basis and/or design-basis documents to determine the safety functions; (2) evaluated the safety functions that may have been affected by the maintenance activity; and (3) reviewed the test procedure to ensure it adequately tested

the safety function that may have been affected. The inspectors either witnessed or reviewed test data to verify that acceptance criteria were met, plant impacts were evaluated, test equipment was calibrated, procedures were followed, jumpers were properly controlled, the test data results were complete and accurate, the test equipment was removed, the system was properly realigned, and deficiencies during testing were documented. The inspectors also reviewed the UFSAR to determine if the licensee identified and corrected problems related to postmaintenance testing.

- November 2, 2006, Unit 1, ECW return throttle Valve EW-0064 replacement per Work Order 452229, "CCW Heat Exchanger 1B ECW Return Throttle Valve"
- December 7, 2006, Unit 2, high head safety injection Pump 2A replacement per: CR 06-16438; Work Order 461862; Design Change Packages (DCPs) 06-16479-1 and 06-16436-9; Procedures 0PMP-05-SI-0001, "High Head Safety Injection Pump Motor Inspection," Revision 6; 0PSP-03-SI-0010, "High Head Safety Injection Pump 1A(2A) Reference Values Measurement," Revision 9; and 0PMP-SI-04-002, "High Head Safety Injection Pump Maintenance," Revision 10
- December 20, 2006, Unit 1, testing of turbine-driven auxiliary feedwater (AFW) Pump 14 after maintenance per CR 06-16805, Work Authorization Number 330481, and Procedure 0PSP3-AF-0007, "Auxiliary Feedwater Pump 14(24) Inservice Test," Revision 31

The inspectors completed three samples.

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed the following risk significant refueling items or outage activities for the Unit 1 Refueling Outage 1RE13 to verify defense in depth commensurate with the outage risk control plan, compliance with the TSs, and adherence to commitments in response to Generic Letter 88-17, "Loss of Decay Heat Removal": (1) the risk control plan, (2) tagging/clearance activities, (3) reactor coolant system instrumentation, (4) electrical power, (5) decay heat removal, (6) spent fuel pool cooling, (7) inventory control, (8) reactivity control, (9) containment closure, (10) reduced inventory or midloop conditions, (11) refueling activities, (12) heatup and cooldown activities, (13) restart activities; and (14) licensee identification and implementation of appropriate corrective actions associated with refueling and outage activities. The inspectors' containment inspections included observation of the containment sump for damage and debris, supports, braces, and snubbers for evidence of excessive stress, water hammer, or aging. Additionally, the inspectors reviewed the licensee's activities associated with the

following evolutions: (1) pressurizer surge line weld overlay, (2) volumetric head inspection, (3) emergency sump screen replacement, (4) temporary reactor head cover, and (5) Steam Generator D foreign object search and retrieval.

The inspectors completed one sample.

b. Findings

A licensee identified finding was reviewed and is listed in Section 4OA7 of this report.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the UFSAR, procedure requirements, and TSs to ensure that the three below listed surveillance activities demonstrated that the SSC's tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the following significant surveillance test attributes were adequate: (1) preconditioning; (2) evaluation of testing impact on the plant; (3) acceptance criteria; (4) test equipment; (5) procedures; (6) jumper/lifted lead controls; (7) test data; (8) testing frequency and method demonstrated TS operability; (9) test equipment removal; (10) restoration of plant systems; (11) fulfillment of ASME Code requirements; (12) updating of performance indicator (PI) data; (13) engineering evaluations, root causes, and bases for returning tested SSCs not meeting the test acceptance criteria were correct; (14) reference setting data; and (15) annunciators and alarms setpoints. The inspectors also verified that the licensee identified and implemented any needed corrective actions associated with the surveillance testing.

- November 2, 2006, Unit 1, in-service testing of ECW Pump 2C, reviewed Procedures 0PSP03-EW-0019, "Essential Cooling Water System Train C Testing," Revision 32; 0PSP03-SI-0023, "RCS Pressure Isolation Check Valve Leak Test," Revision 13; and 0PSP03-EW-0012, "Essential Cooling Water Pump 1C(2C) Reference Values Measurement," Revision 10
- December 11, 2006, Unit 1, reactor coolant inventory calculation for identified and unidentified leak rate from November 8 through December 5, 2006, reviewed Procedure 0PSP03-RC-0006, "Reactor Coolant Inventory," Revision 15
- December 19, 2006, Unit 1, in-service testing of containment isolation valves, reviewed Procedures 0PSP03-SI-0024, "Safety Injection System 1B(2B) Valve Operability Test," Revision 16; and 0PSP03-CC-0007, "Component Cooling Water System Train 1A(2A) Valve Operability Test," Revision 13

The inspectors completed three samples.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control To Radiologically Significant Areas (71121.01)

a. Inspection Scope

This area was inspected to assess the licensee's performance in implementing physical and administrative controls for airborne radioactivity areas, radiation areas, high radiation areas, and worker adherence to these controls. The inspector used the requirements in 10 CFR Part 20, the TSs, and the licensee's procedures required by TSs as criteria for determining compliance. During the inspection, the inspector interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspector performed independent radiation dose rate measurements and reviewed the following items:

- PI events and associated documentation packages reported by the licensee in the occupational radiation safety cornerstone
- Controls (surveys, posting, and barricades) of three radiation, high radiation, or airborne radioactivity areas
- Radiation work permits, procedures, engineering controls, and air sampler locations
- Conformity of electronic personal dosimeter alarm set points with survey indications and plant policy; workers' knowledge of required actions when their electronic personnel dosimeter noticeably malfunctions or alarms
- Barrier integrity and performance of engineering controls in airborne radioactivity areas
- Adequacy of the licensee's internal dose assessment for any actual internal exposure greater than 50 millirem Committed Effective Dose Equivalent
- Physical and programmatic controls for highly activated or contaminated materials (nonfuel) stored within spent fuel and other storage pool
- Self-assessments, audits, licensee event reports, and special reports related to the access control program since the last inspection
- Corrective action documents related to access controls
- Licensee actions in cases of repetitive deficiencies or significant individual deficiencies
- Radiation work permit briefings and worker instructions
- Adequacy of radiological controls such as, required surveys, radiation protection job coverage, and contamination controls during job performance

- Dosimetry placement in high radiation work areas with significant dose rate gradients
- Changes in licensee procedural controls of high dose rate - high radiation areas and very high radiation areas
- Controls for special areas that have the potential to become very high radiation areas during certain plant operations
- Posting and locking of entrances to all accessible high dose rate - high radiation areas and very high radiation areas
- Radiation worker and radiation protection technician performance with respect to radiation protection work requirements

The inspector completed 21 of the required 21 samples.

b. Findings

Introduction. The inspectors reviewed a self-revealing, noncited violation of TS 6.12.1.b. for failing to monitor and control two workers' dose in a high radiation area. The violation had very low safety significance.

Description. On October 26, 2006, two contract workers supporting the nozzle dam removal activity exited the B and C steam generator bullpen, a high radiation area, with one of the worker's dosimeter in a dose alarm. The alarm set point was 75 mrem and the worker received 81 mrem. Each worker used a standard electronic dosimeter which was placed in a plastic bag and then under their personal protective clothing. Due to the work area's poor lighting and the personal protective equipment, the workers were unable to read their dosimeters. A radiation protection technician in the work area attempted to assist one of the workers and was also unable to read the worker's dosimeter, but allowed the work to continue. The other worker did not request assistance. As immediate corrective actions, the licensee provided counseling and remedial high radiation area refresher training to the contract workers.

The inspector reviewed the licensee's investigation results and noted that it identified two causal factors. The first was a failure of the workers to attend a pre-job briefing which required telemetry for the work activity and the second was a failure of the health physics staff to recognize that the workers did not attend the briefings and were not wearing telemetry. The inspector identified the licensee's only corrective action was to counsel the workers and provide remedial training. There was no corrective action to address the health physics deficiency. The inspector contacted licensee representatives on January 25, 2007, to discuss the lack of a second corrective action. During the conversation, the inspector was informed that the initial investigation finding was incorrect, in that, the investigation report stated that the workers were required to attend a pre-job briefing and wear telemetry for remote monitoring. However, because of the work assigned, the workers did not require either. The initial investigation did not reflect a review of personal statements collected after the event. The personal statements indicated a different set of causal factors for the event. The statements referenced poor lighting and personal protective equipment as the major problems that prevented

reading the electronic dosimetry. The inspector concluded that the investigation and evaluation lacked thoroughness. The licensee acknowledged the finding and wrote Condition Report 07-01297, which reopened the corrective action to correct the investigation and develop additional corrective actions.

Analysis. The failure to monitor and control workers' exposure in a high radiation area is a performance deficiency. The finding was greater than minor because it is associated with the occupational radiation safety exposure control attribute and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation. The failure to monitor and control workers' exposure in a high radiation area led to additional personnel dose. The finding was determined to be of very low safety significance because it did not involve: (1) an as low as is reasonably achievable (ALARA) planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding had a cross-cutting aspect in human performance associated with work practices because the workers and associated radiation protection personnel did not use human error prevention techniques such as not proceeding in the face of uncertainty or unexpected circumstances.

Enforcement. Technical Specification 6.12.1.b. states, in part, that individuals entering high radiation areas greater than 100 mR/hr but less than 1,000 mR/hr shall be controlled by a Radiation Work Permit and shall be provided with or accompanied by one or more radiological monitoring methods. These methods include a radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received or individuals are under surveillance by radiation protection personnel that are responsible for controlling personnel radiation exposure in the area. However, the licensee's controls did not ensure the workers could read their dosimeters in high radiation areas. In addition, one worker did not hear his dosimeter alarm until exiting the area. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program (Condition Report 06-14600), this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000498/2006005-01, Failure to monitor and control workers' exposure in a high radiation area.

2OS2 As Low as Reasonably Achievable Planning and Controls (71121.02)

a. Inspection Scope

The inspector assessed licensee performance with respect to maintaining individual and collective radiation exposures ALARA. The inspector used the requirements in 10 CFR Part 20 and the licensee's procedures required by TSs as criteria for determining compliance. The inspector interviewed licensee personnel and reviewed:

- Current 3-year rolling average collective exposure
- Five outage or on-line maintenance work activities scheduled during the inspection period and associated work activity exposure estimates which were likely to result in the highest personnel collective exposures; and ten work activities from previous work history data which resulted in the highest personnel collective exposures

- Site specific ALARA procedures
- Five work activities of highest exposure significance completed during the last outage
- ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements
- Intended versus actual work activity doses and the reasons for any inconsistencies
- Integration of ALARA requirements into work procedure and radiation work permit documents
- Person-hour estimates provided by maintenance planning and other groups to the radiation protection group with the actual work activity time requirements
- Shielding requests and dose/benefit analyses
- Dose rate reduction activities in work planning
- Post-job (work activity) reviews
- Assumptions and basis for the current annual collective exposure estimate, the methodology for estimating work activity exposures, the intended dose outcome, and the accuracy of dose rate and man-hour estimates
- Method for adjusting exposure estimates, or re-planning work, when unexpected changes in scope or emergent work were encountered
- Exposure tracking system
- Use of engineering controls to achieve dose reductions and dose reduction benefits afforded by shielding
- Workers use of the low dose waiting areas
- Exposures of individuals from selected work groups
- Source-term control strategy for exposure reduction initiatives
- Specific sources identified by the licensee for exposure reduction actions, priorities established for these actions, and results achieved since the last refueling cycle
- Radiation worker and radiation protection technician performance during work activities in radiation areas, airborne radioactivity areas, or high radiation areas
- Self-assessments, audits, and special reports related to the ALARA program since the last inspection

- Resolution through the corrective action process of problems identified through post-job reviews and post-outage ALARA report critiques
- Corrective action documents related to the ALARA program and follow-up activities such as initial problem identification, characterization, and tracking
- Effectiveness of self-assessment activities with respect to identifying and addressing repetitive deficiencies or significant individual deficiencies

The inspectors completed 24 of the required 29 samples.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 PI Verification (71151)

Cornerstone: Mitigating Systems

a. Inspection Scope

The inspectors reviewed licensee submittals for the one PI listed below for the period April through September 2006 for Units 1 and 2. The definitions and guidance of Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 4, were used to verify the licensee's basis for reporting each data element in order to verify the accuracy of PI data reported during the assessment period. The inspectors reviewed licensee event reports (LERs), out-of-service logs, operating logs, and the maintenance rule database as part of the assessment. Licensee PI data were also reviewed against the requirements of Procedures OPGP05-ZN-007, "Preparation and Submittal of NRC Performance Indicators," Revision 1, and OPGP05-ZV-013, "Performance Indicator Tracking Guide," Revision 1.

- mitigating systems performance index (MSPI)

The inspectors completed one sample for each unit.

b. Findings

See Section 4OA5 of this report for items identified during the TI 2515/169, "Mitigating Systems Performance Index Verification," inspection.

Cornerstone: Occupational Radiation Safety

a. Inspection Scope

The inspector reviewed licensee documents from January 1 through December 20, 2006. The review included corrective action documentation that identified occurrences in locked high radiation areas (as defined in the licensee's TSs), very high radiation

areas (as defined in 10 CFR 20.1003), and unplanned personnel exposures (as defined in NEI 99-02). Additional records reviewed included ALARA records and whole body counts of selected individual exposures. The inspector interviewed licensee personnel that were accountable for collecting and evaluating the PI data. In addition, the inspector toured plant areas to verify that high radiation, locked high radiation, and very high radiation areas were properly controlled. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 4, were used to verify the basis in reporting for each data element.

- occupational exposure control effectiveness

The inspector completed one sample.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety

a. Inspection Scope

The inspector reviewed licensee documents from January 1 through December 20, 2006. Licensee records reviewed included corrective action documentation that identified occurrences for liquid or gaseous effluent releases that exceeded PI thresholds and those reported to the NRC. The inspector interviewed licensee personnel that were accountable for collecting and evaluating the PI data. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 4, were used to verify the basis in reporting for each data element.

- Radiological Effluent Technical Specification/Offsite Dose Calculation Manual
Radiological Effluent Occurrences

The inspector completed one sample.

b. Findings

No findings of significance were identified.

40A2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

The inspectors performed a daily screening of items entered into the licensee's CAP. This assessment was accomplished by reviewing work orders, CRs, etc., and attending corrective action review and work control meetings. The inspectors: (1) verified that equipment, human performance, and program issues were being identified by the licensee at an appropriate threshold and that the issues were entered into the CAP; (2) verified that corrective actions were commensurate with the significance of the issue; and (3) identified conditions that might warrant additional follow-up through other

baseline inspection procedures. The inspectors used the licensee's Procedure OPGP03-X-002, "Condition Reporting Process," Revision 30, for understanding the threshold level for generating a CR.

.2 Occupational Radiation Safety Problem Identification and Resolution

a. Inspection Scope

The inspector evaluated the effectiveness of the licensee's problem identification and resolution process with respect to the following inspection areas:

- Access Control to Radiologically Significant Areas (Section 2OS1)
- ALARA Planning and Controls (Section 2OS2)

b. Findings

Section 2OS1 describes a self-revealing finding that involved an inadequate licensee investigation and evaluation.

.3 Semiannual Trend Review

a. Inspection Scope

The inspectors completed a semi-annual trend review of repetitive or closely-related issues that were documented in trend reports, problem lists, PIs, health reports, quality assurance audits, corrective action documents, etc., to identify trends, that might indicate the existence of more safety significant issues. The inspectors' review consisted of the 6-month period of July through December 2006. When warranted, some of the samples expanded beyond those dates to fully assess the issue. The inspectors compared and contrasted their results with the results contained in the licensee's quarterly trend reports. Corrective actions associated with a sample of their issues identified in the licensee's trend report were reviewed for adequacy.

b. Findings

No findings of significance were identified. However, the inspectors did make the following observations which were shared with licensee management. The licensee has captured each of these events in their CAP under various CRs.

- Both Units 1 and 2 seem to be having an increasing trend in material issues associated with the personnel air lock. These issues range from air leakage at fittings, solenoids not working, door opening concerns, and most notable a recent high occurrence of the door seals failing to pass the pressure test. This has resulted in a high frequency of rework on one of the door seals. None of these issues has challenged containment integrity.
- Two nonconforming parts issues were reviewed that have been long standing items that were just recently identified. This could be indicative of other potential nonconforming latent issues. The nonconforming parts were associated with an

oiler on the turbine-driven AFW pump, that was 4 ounces rather than 8 ounces, and not having all the necessary paperwork to onsite dedicate the volume boosters associated with safety-related valves. Neither of these issues impacted the ability of the equipment to operate and satisfy its safety-related function.

- There have been several issues with the standby diesel generators that could indicate an increasing trend in material degradation. Several small items have been identified as needing repair, i.e., clamps, clips, screws, and various other tie downs. Additionally, more significant item degradations or failures have also challenged diesel functionality, i.e., compression pressure sample valves, fuel oil nipple tubing crack, and emergency mode voltage card.

40A3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) LER 05000498/2006002, "Simultaneous Inoperability of Two Essential Chilled Water Trains"

On March 31, 2006, at 10:51 a.m., essential chilled water Train C was declared inoperable because Essential Chiller 12C breaker failed to open when the control room hand switch was moved to the "stop" position. At 11:24 a.m. Essential Chiller 12A cycled off. At 12:04 p.m., the plant operator discovered that Essential Chiller 12A was not running even though the chilled water outlet temperature was above the chiller automatic start set point. At 12:07 p.m., essential chilled water Train A was declared inoperable and the plant entered TS 3.0.3 because two trains of essential chilled water were inoperable simultaneously. At 3:06 p.m., Essential Chiller 12C was declared operable following satisfactory maintenance and testing. Thus, the plant was in TS 3.0.3 for approximately 2 hours and 59 minutes. TS 3.0.3 requires actions to change modes if not exited within 1 hour. The LER was reviewed by the inspectors and no findings of significance were identified and no violation of NRC requirements occurred. The licensee documented the failed equipment in CRs 06-4478, -4479, and -4480. This LER is closed.

.2 Notice of Enforcement Discretion 06-4-001, Unit 2 High Head Safety Injection Pump 2A Repair and Testing

On December 3, 2006, South Texas Project Nuclear Operating Company requested the NRC to exercise discretion to not enforce compliance with the actions required in Unit 2 TS 3.5.2, "ECCS Subsystems - T avg greater than or equal to 350 deg F," Action a, and the actions required in TS 3.6.2.1, "Containment Spray System." The NRC granted the request to exercise discretion. This issue relates to planned maintenance activities, replacing the mechanical seal and o-rings, that were performed on the Unit 2 high head safety injection Pump 2A. During the disassembly of the pump, problems were encountered due to reduced uncoupled vertical travel of the pump shaft and the oxidation binding of the half-coupling to the pump shaft. As a result, hydraulic tool force was used to remove the spool piece connecting the pump and motor shaft and to remove the pump shaft half-coupling. The mechanical seal package and o-rings were replaced and the pump casing was filled with water to check freedom of rotation. At this point, it was determined that the forces used to disassemble the pump during maintenance most likely caused an internal obstruction preventing the shaft from rotating. The rotating assembly of the pump was replaced to restore the pump to

operable status. The licensee entered the failure into their CAP as CR 06-16436. Pending the licensee's completion of the root cause investigation, removed pump disassembly, LER submittal, and the NRC's review of the circumstances and the evaluation, this issue is considered an Unresolved Item (URI) 05000499/2006005-02, "Unit 2 High Head Safety Injection Pump 2A Repair and Testing."

.3 Notice of Enforcement Discretion 06-4-002, Unit 1 Capacitor Failure in Inverter 1202 Affecting QDPS

On December 17, 2006, South Texas Project Nuclear Operating Company requested the NRC to exercise discretion to not enforce compliance with the actions required in Unit 1 TS 3.3.3.6, "Accident Monitoring Instrumentation," Table 3.3-10, Number 11, Action 35, for the Unit 1 "D Train" AFW flow and the actions required in TS 3.7.1.2 "Auxiliary Feedwater System," Action b, for the AFW system. The NRC granted the request to exercise discretion. This issue relates to an electrical transient that occurred on Distribution Panel DP1202 for the 120 VAC distribution system. Visual inspection revealed a failed capacitor in the inverter that supplies power to Distribution Panel DP1202. As a result of this failed capacitor, a ground fault occurred which resulted in the ensuing electrical transient. Consequently, several loads were lost on Distribution Panel DP1202, notably, QDPS Cabinet D2 which provides flow indication and control function for Train D AFW. During the repair activities to restore QDPS, several failed components were identified. The most limiting was two of three read-only memory chips located on the central processing unit for which no spares were available. The licensee has entered this event into their CAP as CR 06-16998. Pending the licensee's completion of the root cause investigation, LER submittal, and the NRC's review of the circumstances and the evaluation, this issue is considered as Unresolved Item (URI) 05000498/2006005-03, "Unit 1 Capacitor Failure in Inverter 1202 Affecting QDPS."

40A5 Other Activities

.1 Review of Third Party Evaluation

A review of a biennial evaluation and assessment conducted by the Institute of Nuclear Power Operations was completed by the inspectors.

.2 TI 2515/150, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzles (NRC Order EA-03-009)"

a. Inspection Scope

The inspectors performed applicable sections of TI 2515/150 on Unit 1 to determine whether the inspections by the licensee are consistent with the licensee's response to NRC Order EA-03-009, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzles," and any subsequent related correspondence between the licensee and the NRC staff. The licensee's ultimate corrective action repair plan is the replacement of the RPV head on Unit 1 during Refueling Outage 1RE15 in 2009.

The procedure requires that, if the licensee is performing nonvisual NDE of the RPV head, the inspectors should review 10 percent of the vessel head nozzle volumetric examinations. The inspectors reviewed volumetric examinations of 9 control element

drive mechanisms and the RPV head vent out of a total of 76 nozzles. The inspectors also verified that examination methods used were capable of identifying stress corrosion cracking. The licensee performed a combination of ultrasonic examination of the vessel head penetration (VHP) nozzle base material and an assessment to determine if leakage has occurred into the interference fit zone, except for the RPV head vent which was inspected by eddy current. The inspectors observed the ultrasonic examinations of five control element drive mechanism penetrations and briefly answered the following:

- (1) For each of the examination methods used during the outage, was the examination:
- (a) Performed by qualified and knowledgeable personnel? (Briefly describe the personnel training/qualification process used by the licensee for this activity.)

Yes, the licensee verified that all individuals involved were knowledgeable, qualified, and that their certifications were up to date. The licensee contracted the data collection and analysis activities to Areva. The individuals that examined the data were at a minimum Ultrasonic Level II qualified. The licensee observed Areva performing an EPRI demonstration that was successful. The inspectors reviewed the certification records for personnel performing the automated examinations and data analysis.

- (b) Performed in accordance with demonstrated procedures?

Yes, Areva procedures were used which have been used at other facilities. The inspectors verified that qualified personnel performed the examinations in accordance with approved procedures. Examinations and procedures reviewed are listed in the Attachment.

- (c) Able to identify, disposition, and resolve deficiencies?

Yes, Areva identified, dispositioned and resolved the following deficiencies: (1) one penetration with a manufacturing defect - 14 percent through wall bound within the weld, (2) one penetration that the required 1 inch below the weld could not be achieved - relaxation request being submitted, (3) one penetration that had loss of backwall - but lateral wave signal indicated good coupling, (4) one penetration that required alternate methods - eddy current - due to component configuration - flush with head contour, and (5) one penetration was not flush with the head contour as per the design drawing - the licensee approved a DCP that verified the as-built condition was in accordance with ASME Code.

- (d) Capable of identifying the PWSCC and/or RPV head corrosion phenomena described in the Order?

Yes, the licensee, in conjunction with Areva, is capable of identifying head corrosion as described in the Order. The procedural controls in place and the requirements of the inspecting personnel were adequate to ensure that the licensee was capable of identifying small leaks.

- (2) What was the physical condition of the reactor vessel head (e.g., debris, insulation, dirt, boron from other sources, physical layout, viewing obstructions)?

The licensee did not perform a visual inspection of the top of the head during this outage. However, based on the volumetric examination data the head is in good condition. This was the licensee's first volumetric examination of the reactor VHPs.

- (3) Could small boron deposits, as described in the Bulletin 01-01, be identified and characterized?

Yes, the licensee has a program in place through visual examination and has reviewed Areva's program and procedures to ensure that they are capable of detecting and characterizing small boron deposits.

- (4) What material deficiencies (i.e., cracks, corrosion, etc.) were identified that required repair?

One indication was determined to be a manufacturing defect that was bound within the weld and did not connect to the wetted surface. There were no repairs on the RVH.

- (5) What, if any, impediments to effective examinations, for each of the applied methods, were identified (e.g., centering rings, insulation, thermal sleeves, instrumentation, nozzle distortion)?

The licensee did not encounter any impediments to effective examinations. The licensee was able to achieve 360° coverage, at least one inch below, and at least 2 inches above the weld for all but one penetration. On CRDM 69 the licensee was only able to achieve 0.73 inches below the weld and as such are preparing a relaxation request to the Order.

- (6) What was the basis for the temperatures used in the susceptibility ranking calculation, were they plant-specific measurements, generic calculations (e.g., thermal hydraulic modeling, instrument uncertainties), etc.?

The temperature used in the calculation was the average temperature from the unheated junction thermocouples. This plant-specific data was averaged over the operating cycle and then an 8° instrument uncertainty was added to achieve the average temperature for that cycle.

- (7) During non visual examinations, was the disposition of indications consistent with the guidance provided in Appendix B of this TI? If not, was a more restrictive flaw evaluation guidance used?

Yes, the licensee ensured that the disposition of indications would be in accordance with Appendix B of this TI. However, no indications were found that invoked this requirement.

- (8) Did procedures exist to identify potential boric acid leaks from pressure-retaining components above the RPV head?

Yes, licensee Procedure OPGP03-ZE-0033, "RCS Pressure Boundary Inspection for Boric Acid Leaks," Revision 9, provides guidance on how, when, where, and why boric acid walkdowns are performed to identify leakage.

- (9) Did the licensee perform appropriate follow-on examinations for the indications of boric acid leaks from pressure-retaining components above the RPV head?

The licensee did not observe indications of boric acid leakage above the head.

b. Findings

No findings of significance were identified.

.3 TI 2515/166, "Pressurized Water Reactor Containment Sump Blockage"

a. Inspection Scope

The objective of this TI is to support the NRC's review of licensees' activities in response to NRC Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized Water Reactors (PWRs)." This TI requires NRC inspectors to verify actions implemented in response to NRC Generic Letter 2004-02 are complete and, where applicable, are programmatically controlled. It is not the objective of this TI to determine the adequacy of the licensee actions taken in response to Generic Letter 2004-02. NRR will review licensee Generic Letter responses and conduct audits to assess the adequacy of licensee actions.

b. Findings

No findings of significance were identified.

.4 TI 2515/169, "Mitigating Systems Performance Index Verification"

a. Inspection Scope

The objective of this TI is to verify that licensees have correctly implemented the MSPI guidance for reporting unavailability and unreliability of the monitored systems. The following questions and answers document any anomalies identified during the inspection:

- (1) For the sample selected, did the licensee accurately document the baseline planned unavailability hours for the MSPI systems?

The inspectors reviewed the planned unavailability for all the MSPI systems and did find some discrepancies between planned and unplanned unavailability hours and where the licensee had counted them. The licensee captured this issue in CR 06-17274.

- (2) For the sample selected, did the licensee accurately document the actual unavailability hours for the MSPI systems?

Again, the inspectors reviewed the actual unavailability hours for all MSPI systems and did find some discrepancies between planned, unplanned, and reactor not critical hours and where the licensee had counted them. The licensee also captured this issue in CR 06-17274.

- (3) For the sample selected, did the licensee accurately document the actual unreliability information for each MSPI monitored component?

Yes, the inspectors did not find any issues with unreliability information for any of the MSPI monitored components.

- (4) Did the inspector identify significant errors in the reported data, which resulted in a change to the indicated index color? Describe the actual condition and corrective actions taken by the licensee, including the date when the revised PI information was submitted to the NRC.

The inspectors did not identify any errors which resulted in a color change to the PI. However, the inspector did identify a situation where all of the data that the licensee had calculated for each of the MSPI systems was correct, but the values that were in the INPO consolidated data entry database for calculating the MSPI value were incorrect. The licensee has captured this condition in CR 06-17274 and plans to submit the corrected PI data as part of the fourth quarter 2006 submittal.

- (5) Did the inspector identify significant discrepancies in the basis document which resulted in (1) a change to the system boundary; (2) an addition of a monitored component; or (3) a change in the reported index color? Describe the actual condition and corrective actions taken by the licensee, including, the date of when the bases document was revised.

No, the inspector did not identify any issue with the basis document that resulted in a change to a monitored system. The only issues that were identified with the bases document are discussed above and are related to the classification of planned and unplanned hours and the discrepancy between the hours recorded on site and in the INPO consolidated data entry database. The licensee has preliminarily reverified/re-entered all of the MSPI data for both units with no index color change results.

40A6 Meetings, Including Exit

On October 20, 2006, the inspector presented the occupational radiation safety inspection results to Mr. J. Sheppard, President and Chief Executive Officer and other members of his staff who acknowledged the findings. The inspector confirmed that proprietary information was not provided or examined during the inspection.

On October 20, 2006, the inspector presented the results of the in-service inspection effort to Mr. J. Sheppard, President and Chief Executive Officer, and other members of licensee management. Licensee management acknowledged the results. During the inspection, the inspector asked whether any materials examined should be considered proprietary. No proprietary information was identified.

On December 20, 2006, the inspector presented the occupational radiation safety inspection results to Mr. J. Mertink, Acting Plant Manager, and other members of his staff who acknowledged the findings. On January 9, 2007, the inspector conducted a teleconference to discuss changes to the occupational radiation safety inspection results with Mr. R. Gangluff, Chemistry, Environmental, & Health Physics Manager, and other plant staff who acknowledged the final inspection results. Additionally on January 25, 2007, the inspector conducted a teleconference with Mr. W. Bullard, Health Physics Manager, and other licensee staff members to clarify the occupational radiation safety inspection results. The inspector confirmed that proprietary information was not provided or examined during the inspection.

On January 11, 2007, the inspectors presented the inspection results of the October 8 through December 31, 2006, inspection to Mr. James J. Sheppard, President and Chief Executive Officer, and other members of the licensee's management staff at the conclusion of the inspection. The licensee acknowledged the findings presented. The inspectors noted that while proprietary information was reviewed, none would be included in this report.

On January 11, 2007, the inspector conducted a telephonic exit meeting to present the inspection results to Mr. J. Calvert, Operations Training Manager, who acknowledged the findings. The inspector confirmed that proprietary information was not provided or examined during the inspection.

40A7 Licensee-Identified Violations

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

- The licensee identified a violation for the failure to conspicuously post a high radiation area. Part 20.1902(b) of Title 10 of the Code of Federal Regulations states, in part, that the licensee shall post each high radiation area with a conspicuous sign or signs bearing the radiation symbol and the words "Caution, High Radiation Area." Specifically, on October 9, 2006, the access ladder at the 83-foot elevation to the A/D steam generator platform, a high radiation area, was not conspicuously posted "High Radiation Area" as required. The finding was greater than minor because it is associated with the Occupational Radiation Safety Program and Process attribute and affects the cornerstone objective. The failure to conspicuously post radiation areas could increase personnel dose and does not inform the worker of potential radiological hazards. The finding was determined to be of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding was placed into the licensee's CAP as CR 06-13009.
- The licensee identified a violation for the failure to label containers holding radioactive materials. Part 20.1904(a) of Title 10 of the Code of Federal Regulations states, in part, that the licensee shall ensure that each container of licensed material bears a durable, clearly visible label bearing the radiation symbol and the words "Caution, Radioactive Material" and that the label must provide sufficient information to permit individuals handling or using the

containers, or working in the vicinity of the containers, to take precautions to avoid or minimize exposures. Specifically, on October 13, 2006, an unlabeled job box was discovered with an unlabeled bag of materials inside. The dose rates outside the box were 10 millirem per hour at 30 centimeters and the dose rates outside the bag were 25 millirem per hour at 30 centimeters. The finding was greater than minor because it is associated with the Occupational Radiation Safety Program and Process attribute and affects the cornerstone objective. The failure to label containers could increase personnel dose and does not inform the worker of potential radiological hazards. The finding was determined to be of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. This finding was placed into the licensee's CAP as CR 06-13436.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

R. Aguilera, Radiological Manager, Radiological Engineering
M. Berg, Manager, Testing and Programs Engineering
T. Bowman, General Manager, Oversight
W. Bullard, Manager, Health Physics
G. Chitwood, Lead Evaluator, Operations Training
K. Coates, Plant General Manager
D. Cobb, Manager, STP Employee Concerns Program (EAP)
J. Cook, Process Improvement Leadership Team
J. Crenshaw, General Manager Oversight
A. Dunlap, Instructor, Operations Training
L. Earls, Consulting Engineer, Radiation Protection
R. Engen, Manager, Maintenance Engineering
T. Frawley, Manager, Performance Improvement
R. Gangluff, Manager; Chemistry, Environmental, & Health Physics
E. Halpin, Site Vice President
W. Harrison, Senior Engineer, Quality and Licensing
E. Heacock, Engineer, Electrical & I&C Design
S. Head, Manager, Licensing
K. House, Manager, Design Engineering
T. Hurley, Supervisor, Operations Training
W. Jump, Manager, Work Management
M. McBurnett, Vice President, Oversight & Regulatory Affairs, Unit 3 & 4
A. McGalliard, Supervisor, System Engineering
L. Merritt, System Engineer for RCFC
J. Mertink, Manager, Operations
W. Mookhoek, Senior Engineer, Licensing
M. Murray, Manager, System Engineering
G. Powell, Manager, Site Engineering
D. Rencurrel, Vice President, Engineering
M. Ruvalcaba, Supervisor, Systems Engineering
R. Savage, Staff Specialist, Licensing
J. Sheppard, President and CEO
D. Stillwell, Supervisor, Configuration Control and Analysis
D. Swett, Supervisor, Radiation Protection
K. Taplett, Senior Engineer, Licensing
S. Thomas, Process Improvement Leadership Team
T. Walker, Manager, Quality
D. Zink, Engineer, Electrical & Auxiliary Systems

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000499/2006005-02	URI	Unit 2 High Head Safety Injection Pump 2A Repair and Testing (Section 4OA3)
05000498/2006005-03	URI	Unit 1 Capacitor Failure in Inverter 1202 Affecting QDPS (Section 4OA3)

Opened and Closed

05000498/2006005-01	NCV	Failure to Monitor and Control Workers' Exposure in a High Radiation Area (Section 2OS1)
---------------------	-----	--

Closed

05000498/2005002	LER	Simultaneous Inoperability of Two Essential Chilled Water Trains (Section 4OA3)
------------------	-----	---

LIST OF DOCUMENTS REVIEWED

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

Section 1R08: In-service Inspection Activities

Boric Acid Leak Evaluations

1R141TRC0502
1R61XRH0061B
1R61XRH0061C
2R141TRC0056

CRs

02-5328	06-6702	06-8538	06-986
06-11621	06-7072	06-8711	
06-12769	06-7789		

Procedures

OPEP10-ZA-000, "General Ultrasonic Examination," Revision 0

OPEP10-ZA-0001, "Qualification and Certification of Nondestructive Examination Personnel for Examination methods Other than the Ultrasonic Examination Method for In-service Inspection Program," Revision 4

OPEP10-ZA-001, "Color Contrast Solvent Removable Liquid Penetrant Examination for ASME XK PSI/ISI," Revision 0

OPEP10-ZA-0002, "Qualification and Certification of Nondestructive Examination Personnel for the Ultrasonic Examination method for the In-service Inspection Program," Revision 2

OPEP10-ZA-002, "ASME XI Examination for VT-1 and VT," Revision 0

OPEP10-ZA-0004, "General Ultrasonic Examination," Revision 2

OPGP03-ZE-0028, "Contaminated System Leakage Test Program," Revision 6

OPGP03-ZE-0033, "RCS Boric Acid Leak Evaluation (Typical)," Revision 9

OPGP03-ZE-0133, "Boric Acid Corrosion Control Program," Revision 0

OPGP03-ZO-0044, "Steam Generator Management Program," Revision 3

OPGP03-ZX-0002, "Condition Reporting Process," Revision 31

UTI-PDI-UT-2, "Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds," Revision 2

Miscellaneous

"1RE13 Degradation Assessment," dated September 19, 2006

"In-Service Inspection Program Plan for the Second Interval of the South Texas Project Electric Generating Station, Units 1 and 2," dated February 22, 2005

"In-Service Steam Generator Inspection of South Texas Unit-1 (1RE13)," dated September 29, 2006

Letter from the licensee to the NRC dated August 22, 2006, "Alternative to ASME Section XI Requirements for Application of Weld Overlay"

Letter from the licensee to the NRC dated September 19, 2006, "Requirements for Application of Weld Overlay"

"STP Delta 94 ASME/DENT/AVB Combination Standard Assembly (As-Built)," Revision 0

TSs, Section 6.8.3.o, "Steam Generator Program"

Tube plugging maps for all 4 Unit 1 steam generators

Drawing 9026205D, "RVCH Vent line Calibration Standard," Revision 3

Section 1R11: Licensed Operator Requalification Program

CRs

05-1796 05-10382

Procedures

0POP04-RP-0001, "Loss of Automatic Pressurizer Pressure Control," Revision 13

0POP04-RC-0004, "Steam Generator Tube Leakage," Revision 22

0POP04-FW-0001, "Loss of Steam Generator Level Control," Revision 22

0POP05-EO-E000, "Reactor Trip or Safety Injection," Revision 10

0POP05-EO-E030, "Steam Generator Tube Rupture," Revision 19

Section 1R12: Maintenance Effectiveness

CRs

06-16279 06-16401 06-16407

Miscellaneous

Maintenance rule functional failure trends and System PSA functional failures for System PK

Maintenance rule functional failure trends and System PSA functional failures for system PM

Performance criteria, goals and monitoring list for System PK (480 VAC 1E Load Centers)

Performance criteria, goals and monitoring list for System PM (480 VAC Class 1E MCC and Distribution Panels)

Third Quarter System Health Report for Containment HVAC System

WAN 298533 (ref CR 05-7366) MCC E1C1 Cubicle F1 replacement (DCP-98-687-8)

Preventive Maintenance Work Orders

EM-1-86004810, Transformer E1C1 maintenance, WAN 247210

EM-1-86007459, Lube RCFC 12A, WAN 226452

MM-1-90002087, Cleaning/Inspection of RCFC Fan 12A RCFC Cooling Coil (10 Coils),
WAN 256627

MM-1-90002090, Cleaning/Inspection of Reactor Containment Fan Cooler Cooling Coil
(10 Coils), WAN 256630

MM-1-86011201, Internal Inspection/Lubrication of RCFC Fan 12A Backdraft Damper, WAN 288497

MM-1-93002833, External Inspection/Lubrication of RCFC Fan 12A Backdraft Damper, WAN 265656

PT-1-93002874, Vibration Monitoring of RCFC 12A, WAN 288847

Section 1R15: Operability Evaluations

CRs

05-11548	05-15242	06-9503	06-9530
05-11558	05-15317	06-9504	06-9644
05-11757	05-15621	06-9505	06-9669
05-11882	06-9502	06-9518	

Miscellaneous

3E189ES020-D, "600-Volt Class 1E Power Cable, South Texas Project Units 1 & 2"

4E189ES1081, "Specification for 600 Volt Power Cable," Revision 6

Comment Letter, "Environmental Qualification Report for P.O. NO. 35-1197-4060/8060," dated September 1, 1983

Comment Letter, "Environmental Qualification Report for P.O. NO. 14926-6415," dated September 14, 1984

Evaluation for Submergence Qualification for Cables and Splices South Texas Project, Revision 1

Preventative Maintenance Work Orders

05000351, "Inspect Electrical Manhole Sump Pump System"

06000696, "Inspect Class 1 Electrical Manholes"

06000707, "Inspect Non-Safety Related Electrical Manholes"

Section 2OS1: Access Controls to Radiologically Significant Areas

Audits and Self-Assessments

Quality Audit Report 06-01(RC), Radiological Controls/Radwaste/REMP Program, dated March 21, 2006

Quality Monitoring Report, MN-06-0-18521, dated September 20, 2006

Quality Monitoring Report, MN-06-9-16546, dated June 29, 2006

Functional Area Periodic Summary, Radiological Controls/Radwaste/REMP, dated April - September 2006

CRs

06-1615	06-3775	06-12441	06-13469
06-1616	06-4215	06-12450	06-13501
06-1745	06-4216	06-12502	06-13849
06-2156	06-5037	06-12710	06-14113
06-2279	06-5066	06-12904	06-14119
06-2868	06-5068	06-13009	06-14295
06-2884	06-6799	06-13135	06-14600
06-3052	06-7307	06-13149	06-14768
06-3307	06-7386	06-13323	06-14771
06-3338	06-7388	06-13354	
06-3455	06-8309	06-13436	

Miscellaneous/Other

Unit 1 Spent Fuel Pool Inventory, dated July 19, 2006
Unit 2 Spent Fuel Pool Inventory, dated July 25, 2006
Personal statements associated with CR 06-14600

Procedures

0PGP03-ZR-0050, "Radiation Protection Program," Revision 9
0PGP03-ZR-0051, "Radiological Access and Work Controls," Revision 21
0PRP01-ZR-0005, "Access Control Point Management," Revision 13
0PRP04-ZR-0013, "Radiological Survey Program," Revision 18
0PRP04-ZR-0015, "Radiological Posting and Warning Devices," Revision 20
0PRP04-ZR-0015, "Radiological Posting and Warning Devices," Revision 21
0PRP07-ZR-0010, "Radiation Work Permits," Revision 18

Radiation Work Permits

2006-0-0003	2006-0-0054	2006-1-0047	2006-1-0090
2006-0-0010	2006-0-0114	2006-1-0069	2006-1-0105
2006-0-0013	2006-0-0133	2006-1-0076	

Section 2OS2: ALARA Planning and Controls

ALARA Review Packages

06-9205-02	06-9205-05	06-9205-08	06-9205-11
06-9205-03	06-9205-06	06-9205-09	06-9205-12
06-9205-04	06-9205-07	06-9205-10	

CRs

05-13524	06-4054	06-11570	06-13031
06-8801	06-5670	06-11799	06-13340
06-2922	06-8755	06-12502	06-13354
06-3255	06-10401	06-12651	06-13536
06-3455	06-11393	06-12765	06-14598
06-3703	06-11568	06-12909	06-14601

Miscellaneous

Collective worker dose results

EPRI TR-108737 Data Units 1 & 2

1RE13 Dose Projections

1RE13 Dose Graphs

ALARA Review Committee Meeting Minutes, dated March 20, May 11, June 8, July 26, September 11, and October 6, 2006

ALARA 5 Year Plan 2006-2010, Revision 0

Procedures

0PGP03-ZR-0051, "Radiological Access and Work Controls," Revision 21

0PGP03-ZR-0052, "ALARA Program," Revision 9

0PRP02-ZR-0013, "Determination of Skin Dose," Revision 7

0PRP07-ZR-0009, "Performance of High Exposure Work," Revision 26

0PRP07-ZR-0010, "Radiation Work Permit," Revision 18

0PRP07-ZR-0011, "Radiological Work ALARA Reviews," Revision 7

0PRP07-ZR-0011, "Radiological Work ALARA Reviews," Revision 8

Radiation Work Permits

2006-0-0003	2006-0-0013	2006-0-0114	2006-0-0133
2006-0-0010	2006-0-0054		

Shielding Requests

2006-1-010 Safety Injection Lines Outside Room 208

2006-1-016 4 inch line CV-1002-BB2

2006-1-017 4 inch line CV-1006-KB2

Section 4OA1: PI Verification

CRs

06-2279	06-6799	06-15250	06-15555
06-3255	06-7987		

Miscellaneous

Radiation Protection Corrective Action Program and Human Performance Monitoring Report - 2nd Quarter 2006

Monthly Occupational Radiation Safety Cornerstone PI Review, dated January through September 2006

Public Radiation Safety Cornerstone RETS/ODCM Radiological Effluent Occurrence Data Transmittal Sheet

Section 4OA5: Other Activities

TI 2515/166, Pressurized Water Reactor Containment Sump Blockage

Drawings

SFS-STP-GA, "Sure-Flow Strainer General Arrangement," Revision 4

SFS-STP-PA-7100, "Sure-Flow Strainer Module Assembly," Revision 4

SFS-STP-PA-7101, "Sure-Flow Strainer Module Details," Revision 5

SFS-STP-PA-7102, "Sure-Flow Strainer Master Core Tube Layouts," Revision 1

SFS-STP-PA-7103, "Sure-Flow Strainer Sections and Details," Revision 1

SFS-STP-PA-7104, "Sure-Flow Strainer Component Details," Revision 4

SFS-STP-PA-7105, "Sure-Flow Strainer Component Details," Revision 2

SFS-STP-PA-7150, "Sure-Flow Strainer Track Assembly Details," Revision 1

SFS-STP-PA-7156, "Sure-Flow Sump Cover ,," Revision 4

SFS-STP-PA-7157, "Sure-Flow Strainer Plenum Box," Revision 1

Miscellaneous

ALIN-CAL-STPEGS-2916-004, "Generic Safety Issue 191 Containment Sump Evaluation: Debris Accumulation and Head Loss," Revision A

Letter from the licensee to the NRC dated March 8, 2005, "90-Day Response to Generic Letter 2004-02: Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized-Water Reactors"

Letter from the licensee to the NRC dated August 7, 2003, "60-day response to NRC Bulletin 2003-01"

Letter from the licensee to the NRC dated November 11, 2004, "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized Water Reactors"

Letter from the licensee to the NRC dated August 31, 2005, "Supplement 1 to the Response to Generic Letter 2004-02"

Letter from the licensee to the NRC dated January 30, 2006, "Response to Generic Letter 2004-02"

Calculation TDI-6005-01, "SFS Surface Area, Flow and Volume Calculations," dated August 31, 2006

Calculation TDI-6005-06, "Total Head Loss - South Texas Project Units 1 and 2," dated September 27, 2006

DCP 02-5326-18, "Install Emergency Sump Strainers," dated March 30, 2006

"Structural Evaluation of Containment Emergency Sump Strainers," Revision A

"Vendor Technical Information, Handling and Installation Manual for Emergency Core Cooling System Suction Strainers," dated September 7, 2006

Procedures

OPGP05-ZN-0002, "Licensing Commitment Management and Administration," Revision 4

OPSP04-XC-0001, "Inspection of Containment emergency Sumps," Revision 14

TI 2515/150, Reactor Pressure Vessel Head and VHP Nozzles

Miscellaneous

Areva Drawing 6038345 D, "South Texas Units 1&2 UT Scan Plan," Revision 0

Certification Reports on Areva personnel performing data analysis

DCP 06-12914-5, "Reactor Head Degassing Vent Line - Resolution to a Nonconforming Condition," dated October 17, 2006

Electronic Data Scans for penetrations: 1, 4, 20, 30, 52, 60, 63, 67, 78, and the RPV head vent

Procedures

Areva 54-ISI-603-002, "Automated Ultrasonic Examination of RPV Closure Head Penetrations Containing Thermal Sleeves," dated September 13, 2006

Areva 54-ISI-604-001, "Automated Ultrasonic Examination of Open Tube RPV Closure Head Penetrations," dated September 6, 2006

Areva 54-ISI-605-01, "Automated Ultrasonic Examination of RPV Closure Head Small Bore Penetrations," dated September 13, 2006

OPGP03-ZE-0033, "RCS Pressure Boundary Inspection for Boric Acid Leaks," Revision 9

LIST OF ACRONYMS

AFW	auxiliary feedwater
ALARA	as low as reasonably achievable
ASME	American Society of Mechanical Engineers
BACC	boric acid corrosion control
CAP	corrective action program
CFR	<i>Code of Federal Regulations</i>
CR	condition report
DCP	design change package
ECW	essential cooling water
LER	licensee event report
MSPI	mitigating systems performance index
NDE	nondestructive examination
PI	performance indicator
QDPS	qualified display processing system
RPV	reactor pressure vessel
RTP	rated thermal power
SSC	structure, system, and component
TI	temporary instruction
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
VHP	vessel head penetration
WAN	work authorization number