



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-8064**

October 11, 2002

William T. Cottle, President and  
Chief Executive Officer  
STP Nuclear Operating Company  
P.O. Box 289  
Wadsworth, Texas 77483

**SUBJECT: SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION - NRC  
INSPECTION REPORT 50-498/02-08; 50-499/02-08**

Dear Mr. Cottle:

On September 21, 2002, the NRC completed an inspection at your South Texas Project Electric Generating Station, Units 1 and 2, facility. The enclosed report documents the inspection findings which were discussed on September 26, 2002, with Mr. J. Sheppard and other members of your staff.

This 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. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. This inspection was the second in a series of three inspections to cover steam generator replacement activities at the South Texas Project, Unit 2. This inspection covered design and planning activities in support of steam generator replacement.

Based on the results of this inspection no finding of significance was identified.

In accordance with 10 CFR 2.790 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/*

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

STP Nuclear Operating Company

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

Enclosure:  
NRC Inspection Report  
50-498/02-08; 50-499/02-08

cc w/enclosure:  
Tom Jordan, Vice President  
Engineering & Technical Services  
STP Nuclear Operating Company  
P.O. Box 289  
Wadsworth, Texas 77483

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

A. Ramirez/C. M. Canady  
City of Austin  
Electric Utility Department  
721 Barton Springs Road  
Austin, Texas 78704

M. T. Hardt/W. C. Gunst  
City Public Service Board  
P.O. Box 1771  
San Antonio, Texas 78296

D. G. Tees/R. L. Balcom  
Houston Lighting & Power Company  
P.O. Box 1700  
Houston, Texas 77251

Jon C. Wood  
Matthews & Branscomb  
112 E. Pecan, Suite 1100  
San Antonio, Texas 78205

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

C. A. Johnson/R. P. Powers  
AEP - Central Power and Light Company  
P.O. Box 289, Mail Code: N5022  
Wadsworth, Texas 77483

INPO  
Records Center  
700 Galleria Parkway  
Atlanta, Georgia 30339-5957

Director, Division of Compliance  
& Inspection

Bureau of Radiation Control  
Texas Department of Health  
1100 West 49th Street  
Austin, Texas 78756

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

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

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

G. R. Bynog, Program Manager/  
Chief Inspector  
Texas Department of Licensing & Regulation  
Boiler Division  
P.O. Box 12157, Capitol Station  
Austin, Texas 78711

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

STP Nuclear Operating Company

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

Electronic distribution by RIV:  
 Regional Administrator (**EWM**)  
 DRP Director (**KEB**)  
 DRS Director (**EEC**)  
 Senior Resident Inspector (**NFO**)  
 Branch Chief, DRP/A (**WDJ**)  
 Senior Project Engineer, DRP/A (**CJP**)  
 Staff Chief, DRP/TSS (**PHH**)  
 RITS Coordinator (**NBH**)  
 Scott Morris (**SAM1**)  
 STP Site Secretary (**LAR**)  
 Dale Thatcher (**DFT**)

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**ENCLOSURE**

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Dockets: 50-498  
50-499

Licenses: NPF-76  
NPF-80

Report No: 50-498/02-08; 50-499/02-08

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 16 - September 21, 2002

Inspectors: N. F. O'Keefe, Senior Resident Inspector  
G. L. Guerra, Resident Inspector  
R. P. Mullikin, Senior Reactor Inspector, Engineering and Maintenance  
Branch, Division of Reactor Safety  
J. L. Taylor, Reactor Inspector, Engineering and Maintenance Branch  
J. B. Nicholas, Ph.D., Senior Health Physicist, Plant Support Branch  
Division of Reactor Safety

Approved By: W. D. Johnson, Chief, Project Branch A, Division of Reactor Projects

Attachment: Supplemental Information

## SUMMARY OF FINDINGS

South Texas Project Electric Generating Station  
NRC Inspection Report 50-498/02-08; 50-499/02-08

IR 05000498-02-08; IR 05000499-02-08; on 06/16-09/21/2002; South Texas Project Nuclear Operating Company; South Texas Project Electric Generating Station, Unit 2. Integrated Resident & Regional Report of Steam Generator Replacement Activities.

This inspection was conducted by resident, regional health physics, and regional engineering inspectors. This inspection was the second in a series of three inspections to cover steam generator replacement activities at the South Texas Project in accordance with the approved inspection plan. This inspection covered design and planning activities by the licensee. No findings of significance were identified. Unit 1 was included in this inspection to the extent of inspecting representative examples of licensee activities common to both units.

## Report Details

### Plant Status

Unit 1 operated at full power throughout the inspection period.

Unit 2 began the inspection period at approximately 7 percent power restarting from a manual plant trip on June 14, 2002. Full power was achieved on June 20. On July 7, the unit automatically tripped on high steam generator level. The unit was restarted on July 9, and achieved full power the next day. The unit operated at full power for the remainder of the inspection period.

#### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

#### 1R17 Evaluation of Permanent Plant Modifications for Steam Generator Replacement

##### a. Inspection Scope (71111.17, 50001)

The inspectors reviewed five permanent plant modification packages and associated documentation, such as safety evaluations associated with the replacement of the Units 1 and 2 steam generators, to verify that they were performed in accordance with regulatory requirements and plant procedures. The inspectors also reviewed procedures governing plant modifications to evaluate the effectiveness of the programs for implementing modifications to risk-significant systems, structures, and components, such that these changes did not adversely affect the design and licensing basis of the facility. Permanent plant modifications and procedures reviewed are listed in the attachment to this report.

The inspectors interviewed the cognizant engineers for selected modifications as to their understanding of the modification packages.

##### b. Findings

No findings of significance were identified.

#### 2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

#### 2OS2 ALARA Planning and Controls

##### a. Inspection Scope (71121.02, 50001)

The inspector interviewed radiation workers and radiation protection personnel throughout the radiologically controlled area to determine their knowledge of as low as is reasonably achievable (ALARA) practices and conducted independent radiation surveys of selected work areas. The following radiation protection program controls, planning, and preparation items were reviewed to determine whether the licensee had an adequate program to maintain occupational exposure as low as is reasonably achievable during the upcoming Unit 2 Steam Generator Replacement Outage, 2RE09:



- ALARA program procedures
- Radiation protection department self-assessments (external exposure control, performed October 3 through November 8, 2001, and ALARA planning/radiation protection/generation support, performed May 20-23, 2002)
- Radiation Protection Quality Monitoring Reports (MN-02-0-0451 and MN-02-0-0477)
- Health Physics Observation Reports (HP-02-2-0086, HP-02-0-0188, HP-02-1-0218, HP-02-2-0235, HP-02-2-0228, HP-02-2-0309, HP-02-1-0322, HP-02-2-0400, HP-02-0-0407, HP-02-2-0453, HP-02-2-0455, and HP-02-2-0481)
- ALARA and radiological work planning for three activity packages that may result in some of the highest personnel collective exposures during the 2RE09 Steam Generator Replacement Outage (steam generator replacement - feedwater baseplate modification, steam generator replacement - sever/modify/reinstall secondary piping systems, and steam generator replacement - remove/reinstall/modify upper and lower lateral restraints)
- Processes used to estimate and track personnel exposures
- Plant collective exposure history for the past 3 years, current exposure trends, and 3-year rolling average dose information
- Use of engineering controls to achieve dose reductions, including six temporary shielding request packages planned for installation during 2RE09
- Contamination control processes proposed for 2RE09
- Emergency contingency planning proposed for radiological work activity packages to be conducted during 2RE09
- Staffing and training plans for radiation protection coverage during 2RE09
- Prejob briefings, job site inspection, and ALARA controls involved with the preparation and transfer of a high integrity container from the Unit 1 truck bay to the radwaste storage yard prior to shipment offsite for disposal
- A summary of ALARA related condition reports written between February 1 and July 12, 2002, with eighteen reviewed in detail (02-1550, 02-2647, 02-2659, 02-2715, 02-2763, 02-3753, 02-4190, 02-4191, 02-4729, 02-5392, 02-5394, 02-5706, 02-7036, 02-7923, 02-8370, 02-8507, 02-9206, and 02-9582).

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA5 Steam Generator Replacement Activities

.1 Outage Planning and Controls

a. Inspection Scope (50001)

The inspectors inspected the licensee's activities associated with planning for the steam generator replacement in Unit 2 using the guidance provided in NRC Inspection Procedure 50001, "Steam Generator Replacement." The inspectors observed the licensee and its contractors increase staffing levels to the planned staffing requirements that had been outlined for the outage. The inspectors evaluated project planning and status with regard to the observed activities of replacement steam generator preparation for installation and the construction of the containment outside lift system. The inspectors reviewed the licensee's readiness review package and attended portions of the readiness review meetings. The inspectors discussed actions to avoid adverse impacts on the operating unit during steam generator replacement activities and special processes for problem identification and resolution progress with licensee personnel.

b. Findings

No findings of significance were identified.

.2 Security Considerations

a. Inspection Scope (50001)

The inspectors reviewed and discussed with plant protection personnel the licensee's plan for access/authorization and badging to accommodate the large numbers of temporary outage workers needed for the outage. This plan was assessed using the guidance provided in NRC Inspection Procedure 50001, "Steam Generator Replacement."

b. Findings

No findings of significance were identified.

4OA6 Meetings, including Exit

On July 18, 2002, the inspectors presented the results of the ALARA planning and controls inspection to Mr. J. Sheppard, Vice President and Assistant to President/CEO, and other members of licensee management.

On August 15, 2002, the inspectors presented the results of the permanent plant modifications inspection to Mr. J. Sheppard and other members of licensee management.

On September 26, 2002, the inspectors presented the results of the resident inspection to Mr. J. Sheppard and other members of licensee management.

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

## ATTACHMENT

### Supplemental Information

#### PARTIAL LIST OF PERSONS CONTACTED

##### Licensee

R. Aguilera, Supervisor, Radiation Protection  
S. Blossom, Assistant Installation Manager  
T. Bowman, Manager, Unit 1, Operations  
B. Bullard, Supervisor, Radiation Protection  
R. Gangluff, Manager, Chemistry  
E. Halpin, Plant Manager  
S. Head, Manager, Licensing  
C. Johnson, Director, Oversight  
T. Jordan, Vice President, Engineering and Technical Services  
M. Kanavos, Manager, Plant Modifications  
R. Kerr, Staff Engineer, Quality Assurance  
J. LeValley, Area Project Manager  
R. Lovell, Manager, Training  
M. Ludwig, Quality Auditor  
M. McBurnette, Director, Quality and Licensee  
F. Mangan, Vice President, Business Services  
M. Meier, Manager, Human Resources/Information Technology  
A. Moldenhauer, Engineer, Probabilistic Risk Analysis  
J. Meyers, Senior Health Physics Specialist  
W. Mookhoek, Senior Licensing Specialist  
M. Oswald, Supervising Engineer, Design Engineering  
G. Parkey, Vice President, Generation  
R. Piggott, Senior Licensing Specialist  
J. Price, Supervisor, Design Engineering  
K. Richards, Installation/Return to Service Manager  
J. Sheppard, Vice President & Assistant to the President/CEO  
J. Simmons, Health Physics Steam Generator Replacement Project Manager  
C. Stone, Supervisor, Radiation Protection  
D. Towler, Manager, Generation Quality

##### Licensee Contractor

J. Atwell - Project Manager - Bechtel  
S. Pearson - Site Manager - Bechtel

## DOCUMENTS REVIEWED

The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings:

### DESIGN CHANGE PACKAGES

NUMBER	DESCRIPTION
DCP 98-00243-15	Change Tave (Unit 1)
DCP 98-19443-7	Reactor upper Head T-Cold Conversion (Unit 2)
DCP 98-19447-1	Steam Generator Replacement - SG Level Trip Setpoint Changes (Unit 2)
DCP 98-19447-8	SGRP EOP Setpoint Changes (Unit 2)
DCP 99-15476-3	Isolate Steam Generator Blowdown on a Reactor Trip (Unit 2)

### PROCEDURES

OPGP04-ZE-0309	"Design Change Package," Revision 10
OPGP03-ZR-0050	"Radiation Protection Program," Revision 5
OPGP03-ZR-0052	"ALARA Program," Revision 4
OPRP07-ZR-0001	"ALARA Engineering and Procedure Review," Revision 3
OPRP07-ZR-0004	"Temporary Shielding," Revision 6
OPRP07-ZR-0009	"Performance of High Exposure Work," Revision 18
OPRP07-ZR-0010	"Radiation Work Permits," Revision 8
OPRP07-ZR-0011	"Radiological Work ALARA Reviews," Revision 4