



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

ENCLOSURE 4

REGION IV

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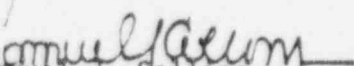
MAR - 2 1994

MEMORANDUM FOR: L. J. Callan, Regional Administrator  
L. A. Reyes, Acting Associate Director for Projects  
Office of Nuclear Reactor Regulation

FROM: Samuel J. Collins, STP Restart Panel Chairman

SUBJECT: COMPLETION OF SOUTH TEXAS PROJECT UNIT 1 RESTART ACTION PLAN

Attached for your information is Revision 4 of the South Texas Project Restart Action Plan. As noted in the cover memorandum for Revision 0, the Restart Action Plan status has been updated and issued approximately monthly by the Panel. The purpose of this revision is to update the checklists following the completion of the remainder of the checklist items in preparation for restart of STP, Unit 1.

  
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STP Restart Panel Chairman

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Action Plan - Revision: 4

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SOUTH TEXAS PROJECT UNIT 1 RESTART ACTION PLAN - REVISION 4

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## A. GENERAL

### A.1 PURPOSE

To provide a basis to plan and coordinate NRC review activities for restart of the South Texas Project units.

### A.2 OBJECTIVES

To ensure that NRC review efforts are consistently developed and implemented, specific guidance is provided to support:

- a. Determining restart issues for review,
- b. Identification of the basic tasks needed to review and approve plant restart, and
- c. Coordination and tracking of restart review activities.

### A.3 BACKGROUND

Both units at STP were shut down in early February 1993. They have remained shut down as a result of numerous broad problems identified by the NRC and the licensee.

On February 3, 1993, following a reactor trip, the Unit 2 turbine-driven auxiliary feedwater pump started and immediately tripped on overspeed. On February 4, 1993, Unit 1 was required to shut down as a result of repeated failures of the turbine-driven auxiliary feedwater pump to start on demand and operate without tripping on overspeed. As a result of these turbine-driven auxiliary feedwater pump problems, NRC issued a Confirmatory Action Letter (CAL) to the Houston Lighting and Power (HL&P) Company on February 5, 1993, and dispatched an augmented inspection team (AIT) to investigate the details surrounding the turbine-driven auxiliary feedwater pump problems. The CAL, and its two supplements, identified a number of issues which required resolution prior to either unit being restarted.

The NRC Region IV Regional Administrator chartered the STP Review Panel on March 11, 1993. The purpose of the STP Review Panel is to:

- Assure consistent approach to issues being identified at South Texas Project and attempt to reach an agency consensus and united approach to addressing the problems at South Texas Project.
- Assure that the followup on safety significant issues is being properly coordinated and scheduled.
- Schedule significant meetings and inspections.
- Assure that the views and concerns of different NRC offices are properly addressed.
- Assure proper coordination for the followup of issues that are identified by the Diagnostic Evaluation Team (DET) inspection.

On April 12, 1993, it was determined that NRC Inspection Manual Chapter 0350, "Staff Guidelines for Restart Approval," was applicable for the South Texas Project Electric Generating Station (STP) because of its extended shutdown and previous indications of serious deficiencies in licensee management effectiveness. The STP Review Panel assumed the role and responsibilities of the STP Restart Panel. These responsibilities include:

1. Reviewing available information related to the plant shutdown
2. Developing the Restart Action Plan
3. Reviewing the licensee's corrective action or improvement program and ensuring that it addresses identified problems and weaknesses
4. Maintaining an ongoing overview of licensee performance
5. Conducting periodic meetings with the licensee to discuss progress toward satisfactory completion of the program
6. Providing oversight and coordination of the NRC's followup activities, reviewing inspection plans and findings, and reviewing licensee performance; identifying areas where NRC inspection and technical review are needed
7. Providing periodic assessments of licensee performance and corrective actions to NRC management
8. Providing a recommendation to the Regional Administrator and the Director of NRR for approval of restart after satisfactory completion of the licensee's restart program

In addition to the AIT activities, several special inspections have been conducted since February 1993, in response to compliance and regulatory issues at STP. Several of these inspections resulted in enforcement action being taken. Corrective actions have been proposed by the licensee.

Additionally, the NRC Office for Analysis and Evaluation of Operational Data conducted a diagnostic evaluation of the STP during the period March 29 to April 30, 1993. The findings of this effort were forwarded to the licensee on June 10, 1993. Numerous items were documented in this report, including a number of issues that NRC considered of sufficient scope and safety significance to require resolution prior to either unit being restarted.

In initial response to the Diagnostic Evaluation Team (DET) report, the licensee submitted a letter on August 5, 1993, and forwarded their Operational Readiness Plan (ORP) on August 28, 1993. In addition to responding to the DET short-term problems that the licensee considered necessary to resolve prior to restart, the ORP addressed the planned actions in response to the CAL, special and routine Regional inspections, and other identified concerns and problems. The ORP addressed initiatives that the licensee considered necessary to be completed prior to the resumption of power operation on either unit. The licensee's Business Plan was issued in October 1993. It describes the initiatives being undertaken to effect sustained performance improvements at the site.

#### A.4 RESTART ACTION PLAN OVERVIEW

A comprehensive NRC review of the restart process is required. The plants are in a safe shutdown condition and measures are in place to physically maintain the plants in a safe shutdown condition. This Restart Action Plan is intended to include expected NRC actions that will be required to be taken before restart of the STP units, including those actions not directly related to the initiating event. The plan defines: the actions which must be accomplished by the NRC, as a minimum, to approve restart; which organization has the lead responsibility for each action; which plant specific issues must be resolved before restart; and who has the actual responsibility for restart approval. The Panel retains responsibility for assessment of the issue and determining whether the issue has been satisfactorily addressed. The STP Restart Panel will make updates and minor revisions to the Restart Action Plan without seeking approval from the Regional Administrator and the Associate Director for Projects. Revisions which are determined by the Panel to be significant will be submitted for approval.

Section B, "PROCESS," of this plan provides generic tasks that support the Restart Action Plan. This section outlines the overall review process needed for the NRC to authorize restart of the facility.

Section C, "ISSUES," contains issues for consideration and areas requiring assessment during the restart review. The issues in this section are broader than the plant specific restart issues and have been determined to be applicable because of the declining performance of the licensee and the extended length of the shutdown. It will not be necessary for each item on the checklists to be assessed, but enough items on a checklist must be reviewed to assess the broader areas such as management oversight and effectiveness.

Section D, "PLANT SPECIFIC STARTUP ISSUES," lists plant-specific issues which must be evaluated and resolved prior to plant startup. This list was developed from a review of the Diagnostic Evaluation Team Report, the Executive Director for Operations staff actions memorandum following the Diagnostic Evaluation, the Confirmatory Action Letter and its supplements, the licensee's Operational Readiness Plan, the allegation review process, and routine and special NRC reports, including the Augmented Inspection. Criteria for selection of restart issues ensured inclusion of issues whose resolution is required to: ensure safe facility operation; comply with Technical Specification and other regulatory requirements; satisfy the plant's design and licensing basis; ensure effective management oversight; or ensure an effective corrective action process. Each of the restart issues is, or will be, included on the licensee's restart issue list. Prior to restarting either STP unit, the licensee will resolve each restart issue to its satisfaction and to the NRC's satisfaction. The licensee will provide a briefing for the NRC staff on the readiness for plant restart, including the issues included in the Confirmatory Action Letter and its supplements prior to restart. This meeting will be open to public observation.

Section E, "RESTART INSPECTIONS," lists the inspections to be completed to evaluate the licensee's response to the startup issues. Issues listed in Sections C and D will be assessed or inspected by resident inspectors, regional inspectors, or an Operations Readiness Assessment Team. In addition, some areas or items may be assessed by the STP Restart Panel.

Each of the checklists in Sections B and C include columns to record the NRC organization with lead responsibility for the item and the date the item was closed. The list in Section D includes a column to record the date the issue was closed. The reference/information notes following each checklist table will document the detailed status of each item, including reference to closeout documentation.

The STP Restart Panel is responsible for implementation of the STP Restart Action Plan. The STP Restart Panel will maintain and periodically review the Restart Action Plan. These actions should: (1) determine review status, (2) verify necessary tasks and items are complete for each phase of the review, and (3) ensure that review tasks and issues for assessment remain consistent with the known facts and status of the restart effort. The generic lists in Sections B and C should be reviewed when significant milestones are completed and prior to restart authorization to ensure any emerging items are considered.

B. PROCESS

i. INITIAL NRC RESPONSE:

This section outlines the general NRC restart review process. The major process steps (i.e., Initial Response, Initial Notifications, etc.) are broken down into potential tasks that are provided in a checklist format. The short discussion before each major process step provides insight into the intended activity. An effort was made to place the major steps and tasks in the general order of performance; however, the exact sequence of events cannot be predicted in advance. Thus, many of the major process steps and the specific tasks are expected to be performed in parallel.

The tables provide a column to indicate the lead responsible organization and closeout date. Tasks which the restart panel has determined to not be applicable to the STP restart process are marked "NA."

TASK	RESP ORG	DATE CLOSED
a. Initial notification and NRC management discussion of known facts and issues	RIV	02/04/93
b. Identify/implement additional inspections (i.e., AIT, IIT, or Special)	RIV	02/04/93
c. Determine need for formal regulatory response (i.e., Order or CAL)	RIV	02/05/93
d. Determine need for senior management involvement	RIV, NRR	03/11/93
e. Identify other parties involved, i.e., NRC Organizations, other Federal agencies, and industry organizations	RIV, NRR	02/25/93

Reference Information

- B.1.a PN 4-93-003
- B.1.b PN 4-93-003: AIT dispatched. AIT Inspection Report 9307 issued on 03/24/93.
- B.1.c PN 4-93-003: CAL 4-93-04 issued
- B.1.d STP Review Panel Charter approved
- B.1.e AEOD was the only other organization involved in the short-term response.



B.2 NOTIFICATIONS:

Initial notification of the event quickly communicates NRC's understanding of the event and its immediate response to the parties having an interest in the event. Notification to regional and headquarters offices of cognizant Federal agencies may be appropriate. As the review process continues, additional and continuing notifications may be required.

TASK	RESP ORG	DATE CLOSED
a. Issue Daily and Directors Highlight	NRR	02/16/94
b. Issue PN	RIV	02/04/93
c. Conduct Commissioner Assistants' Briefing	RIV	06/25/93
d. Issue Commission Paper	NA	NA
e. Cognizant Federal agencies notified (i.e., FEMA, EPA, DOJ, DOL)	NA	NA
f. State and Local Officials notified	RIV	02/14/94
g. Congressional notification	NA	NA

Reference/Information

- B.2.a Directors Highlight 02/17/93 and approximately weekly thereafter, 02/16/94 notification issued of restart approval.
- B.2.b PN 4-93-003
- B.2.c Conducted in conjunction with the Commission briefings on the results of the June 93 and January 94 senior managers meetings.
- B.2.d NA
- B.2.e NA
- B.2.f Monthly public meeting announcements. The Deputy Regional Administrator and the STP Restart Panel Chairman briefed the Texas Public Utility Commission and the Austin City Council on 09/09/93. The Governor's office has been kept apprised of events at the South Texas Project through her appointed State Liaison Officer. The Regional State Liaison Officer contacts the Governor's representative when the NRC and STP have public meetings. Additionally, the Governor's representative is mailed or faxed meeting notices, news releases, and inspection reports.
- B.2.g PN 4-93-003. NRR discussed with Congressional Affairs.

B.3 ESTABLISH AND ORGANIZE THE NRC RESTART PROCESS:

It will be necessary to establish and organize the NRC restart review to ensure the effective coordination of resources in evaluating the restart process. Effective interfaces within and outside the NRC are critical to properly identify, coordinate, and resolve the pertinent issues. Consider both regional and headquarters offices of cognizant State and Federal agencies.

TASK	RESP ORG	DATE CLOSED
a. Establish the Restart Panel	RIV	03/11/93
b. Assess available information (i.e., inspection results, licensee self-assessments, industry reviews)	PANEL	10/21/93
c. Obtain input from involved parties both within NRC and other Federal agencies, such as FEMA, EPA, DOJ, DOL	PANEL	02/14/94
d. Conduct Regional Administrator Briefing	PANEL	02/93
e. Conduct NRR Executive Team Briefing	NRR	06/93
f. Develop the Case Specific Checklist (CSC)	RIV/DRP	10/21/93
g. Develop the Restart Action Plan	RIV/DRP	10/21/93
h. Regional Administrator approves Restart Action Plan	RIV	10/21/93
i. NRR Associate Director and/or NRR Director approves Restart Action Plan	NRR	10/25/93
j. Implement Restart Action Plan	PANEL	10/25/93
k. Modify CAL/Order as necessary	RIV/DRP	10/15/93

Reference/Information

- B.3.a First Panel meeting held on 02/25/93. Panel charter approved on 03/11/93.
- B.3.b Panel meeting notes of 02/25/93. Restart Action Plan approved 10/21/93.
- B.3.c No external issues identified. R. Emcn contacted FEMA HQ Marty DiGregory on 12/22/93. No off-site EP issues affect restart. Per C. Hackney, letter from FEMA issued 02/03/94. No congressional interest per Tom Madden 02/01/94. (Reference: L. Kokajko memo to file dated 02/02/94) No DOL or DOJ restart restraints per L. Kokajko 02/01/94. (References: L. Kokajko memos to file dated 02/01/94 and 02/02/94)
- B.3.d Briefings provided following Panel meetings.

- B.3.e Full discussion at June 93 and January 94 Senior Managers Meetings. NRR will provide periodic Executive Team briefings.
- B.3.f This document includes the CSC.
- B.3.g This document is the Restart Action Plan.
- B.3.h Restart Action Plan approved by Regional Administrator 10/21/93.
- B.3.i Restart Action Plan approved by NRR Associate Director 10/25/93.
- B.3.j Restart Action Plan implementation in progress 10/25/93.
- B.3.k CAL Supplement issued May 7, 1993. CAL Supplement 2 issued on October 15, 1993.



#### B.4 REVIEW IMPLEMENTATION:

The review can be accomplished by a variety of methods including inspections, testing, evaluation of licensee self-assessments, evaluation of licensee action plans, and regulatory actions (i.e., Orders, CAL's). Early establishment of the review areas will assist in defining the methods to perform the review. Once the licensee has developed its corrective action plan, the NRC shall review that plan to verify its completeness and adequacy. The NRC will also need to determine which corrective actions will be required to be implemented before restart and, thus, become restart issues which can be deferred to some later date as long-term corrective actions. The discussions and issues provided in Section C of this appendix provide additional information to support the review activities described below.

##### B.4.1 Root Causes and Corrective Actions:

TASK	RESP ORG	DATE CLOSED
a. Evaluate findings of AIT, IIT, or Special Team Inspection	RIV	03/24/93
b. Licensee performs root cause analysis and develops corrective action plan for root causes	PANEL	10/15/93
c. NRC evaluates licensee's root cause determination and corrective action plan	PANEL	11/18/93

##### Reference/Information

B.4.1.a AIT IR 9331, AIT Followup IR 9305 dated 04/08/93.

B.4.1.b DET response status letter submitted 08/05/93. Operational Readiness Plan submitted 08/28/93. Business Plan submitted 10/15/93. ORP clarification submitted 12/31/93.

B.4.1.c NRC letters of 08/26/93 and 09/22/93 acknowledged receipt of licensee submittals of 08/05/93 and 08/28/93. NRC letter of 11/18/93 acknowledged receipt of Business Plan.

##### B.4.2 Assessment of Equipment Damage:

This section is not applicable for the South Texas Project restart approval.

### B.4.3 Determine Restart Issues and Resolution:

The establishment of the restart issues that require resolution before restart demands a clear understanding of the issues and the actions required to address those issues by both the NRC and the licensee. This table outlines steps to determine the restart issues and NRC's evaluation of their resolution.

TASK	RESP ORG	DATE CLOSED
a. Review/evaluate licensee generated restart issues	PANEL	10/05/93
b. Independent NRC identification of restart issues (consider sources external to NRC and licensee)	PANEL	09/27/93
c. NRC/licensee agreement on restart issues	PANEL	10/15/93
d. Evaluate licensee's restart issues implementation process	PANEL	02/01/94
e. Evaluate licensee's implementation verification process	PANEL	02/01/94

#### Reference/Information

- B.4.3.a Public meeting and Panel meeting.
- B.4.3.b Panel meeting notes. IR 9331
- B.4.3.c CAL Supplement 2 issued. Lists compared in IR 9333.
- B.4.3.d Refer to IR 9331 and subsequent reports. Panel discussion 02/01/94.
- B.4.3.e Line management assessment and independent assessment processes reviewed in IRs 9333, 9343, and 9354. Addressed in ORAT inspection. Discussed in Panel meeting 02/01/94.

#### B.4.4 Obtain Comments:

Since some shutdowns involve a broad number of issues, solicitation of comments from diverse sources may be appropriate. The decision to solicit comments from a group and the level of participation should be made on a case-by-case basis. Input from these groups should be factored into the restart process when they contribute positively to the review. Note: If needed, comments concerning the adequacy of state and local emergency planning and preparedness must be obtained from FEMA headquarters through NRR.

TASK	RESP ORG	DATE CLOSED
a. Obtain public comments	PANEL	02/14/94
b. Obtain comments from State and Local Officials	PANEL	02/14/94
c. Obtain comments from applicable Federal agencies	PANEL/NRR	NA

#### Reference/Information

- B.4.4.a DET public exit meeting at site 7/03/93. Public meetings at site 07/16/93 and 09/08/93. Public meeting in the RIV office 10/05/93. Public meetings at site 10/29/93, 12/02/93, and 01/07/94. ORAT exit meeting on 01/21/94 was open for public observation. Public meeting at site 02/14/94.
- B.4.4.b The Deputy Regional Administrator and the STP Restart Panel Chairman briefed the Texas Public Utility Commission and the Austin City Council on 09/09/93. City of Austin representatives met with the Restart Panel Chairman on 11/16/93. The Governor's office has been kept apprised of events at the South Texas Project through her appointed State Liaison Officer. The Regional State Liaison Officer contacts the Governor's representative when the NRC and STP have public meetings. Additionally, the Governor's representative is mailed or faxed meeting notices, news releases, and inspection reports.
- B.4.4.c Not needed for implementation review.

B.4.5 Closeout Actions:

When the actions to resolve the restart issues and significant concerns are substantially complete, closeout actions are needed to verify that planned inspections and verifications are complete. The licensee should certify that corrective actions required prior to restart are complete and that the plant is physically ready for restart. This table provides actions associated with completion of significant NRC reviews and preparations for restart.

TASK	RESP ORG	DATE CLOSED
a. Evaluate licensee's restart readiness self-assessment	PANEL	02/15/94
b. NRC evaluation of applicable items from section C "ISSUES" complete	PANEL	02/15/94
c. Restart issues closed	PANEL	02/15/94
d. Conduct NRC Restart Readiness Team Inspection	NRR	01/21/94
e. Issue Augmented Restart Coverage Inspection Plan	RIV/DRP	02/01/94
f. Comments from other parties considered	PANEL	02/14/94
g. Determine that all conditions of the CAL and its Supplements are satisfied	PANEL	02/15/94
h. Re-review of Generic Restart Checklist complete	PANEL	02/15/94

Reference/Information

- B.4.5.a Discussed in IRs 9333, 9343, and 9354. Addressed in ORAT inspection. Discussed in panel meeting 2/15/94.
- B.4.5.b Panel meeting 02/15/94.
- B.4.5.c Refer to Section D for status of the restart issues.
- B.4.5.d ORAT inspection completed and public exit held.
- B.4.5.e Draft plan presented to Panel members 02/01/94.
- B.4.5.f 02/14/94 Public Meeting.
- B.4.5.g 02/14/94 Public meeting, 02/15/94 Panel Meeting
- B.4.5.h 02/14/94 Public meeting, 02/15/94 Panel Meeting

B.5 RESTART AUTHORIZATION:

When the restart review process has reached the point that the issues have been identified, corrected, and reviewed, a restart authorization process is begun. At this point the restart panel should confirm that all actions are substantially complete and that the panel has not overlooked any items.

TASK	RESP ORG	DATE CLOSED
a. Prepare restart authorization document and basis for restart	PANEL CHAIRMAN	02/15/94
b. NRC Restart Panel approves Restart Authorization	PANEL	02/15/94
c. No restart objections from other applicable HQ offices	NRR	02/15/94
d. No restart objections from applicable Federal agencies	PANEL	02/15/94
e. Regional Administrator concurs in Restart Authorization	RIV	02/15/94
f. NRR Associate Director and/or NRR Director Concurs in Restart Authorization	NRR	02/14/94
g. EDO concurs in Restart Authorization	RIV/RA	02/14/94
h. Conduct ACRS briefing/notification	NRR	NA
i. Conduct Commission briefing/notification	NA	02/17/94
j. Commission concurs in Restart Authorization	NA	NA
k. Regional Administrator authorizes restart	RIV	02/15/94

Reference/Information

- B.5.a CAL letter to HL&P 02/15/94.
- B.5.b 02/14/94 Public Meeting and 02/15/94 Panel Meeting.
- B.5.c 02/14/94 Public Meeting and 02/15/94 Panel Meeting.
- B.5.d On 12/22/93 Richard Emch discussed STP with FEMA HQ Marty DiGregory. No off-site EP issues affect STP restart. Letter from FEMA 02/03/94. No congressional interest per Tom Madden 02/01/94. No DOL or DOJ restart restraints per L. Kokajko 02/01/94.
- B.5.e 02/15/94 CAL letter.
- B.5.f RIV RA briefing of D/EDO and DD/NRR on 02/14/94.
- B.5.g RIV RA briefing of D/EDO and DD/NRR on 02/14/94.
- B.5.h Preliminary ACRS staff notification made by M. Virgilio to J. Larkins 05/08/93. Not required prior to restart. Briefing will be provided after restart if requested.
- B.5.i Not required prior to restart but was accomplished during 1/27/94 operating reactors briefing. Commission briefing paper also provided on 02/17/94.
- B.5.j NA
- B.5.k 02/15/94 CAL letter.

B.6 RESTART AUTHORIZATION NOTIFICATION:

Notify the applicable parties of the restart authorization. Communication of planned actions is important at this stage to ensure that NRC intentions are clearly understood.

TASK	RESP ORG	DATE CLOSED
a. Commission	NRR	02/17/94
b. EDO	RIV/NRR	02/14/94
c. Congressional Affairs	NRR	02/14/94
d. ACRS	NRR	NA
e. Applicable Federal Agencies	RIV/NRR	02/15/94
f. Public Affairs	RIV	02/14/94
g. State and Local Officials	RIV	02/14/94

Reference/Information

- B.6.a Commissioners Assistants briefed by NRR 02/14/94. Briefing paper issued 02/17/94.
- B.6.b Briefing conducted 02/14/94.
- B.6.c Congressional Affairs briefed by NRR 02/14/94.
- B.6.d Not required prior to restart. Briefing will be provided after restart if requested.
- B.6.e See B.3.c.
- B.6.f Attended 2/14/94 CAL meeting.
- B.6.g SLO notifications completed on 02/14/94 and public meetings held. See B.2.f.



C. ISSUES

C.1 ASSESSMENT OF ROOT CAUSE IDENTIFICATION AND CORRECTION:

C.1.1 ROOT CAUSE ASSESSMENT:

The root cause(s) of the event or the conditions requiring the shutdown should be identified and corrected. A comprehensive licensee corrective action plan should be developed that addresses the root cause(s) and all applicable issues including corrective action, implementation, and verification. The corrective action plan should also include sufficient measures to prevent recurrence of problems. The NRC shall review the licensee's corrective action plan to verify its completeness and adequacy and to determine which corrective actions will be required to be implemented before restart and which can be deferred to some later date as long-term corrective actions.

The NRC staff will review the licensee's corrective action activities and use the appropriate tools available in the regulatory program to determine the acceptability of these actions with respect to safe operations. The tools which are available include: staff reviews; the systematic assessment of licensee performance (SALP); inspections, including special team inspections; requests under 10 CFR 50.54(f); senior management meetings; enforcement conferences; and a restart panel. The results of the staff's reviews will be documented by safety evaluations, license amendments, orders, Confirmatory Action Letters, inspection reports, Commission meeting transcripts, and enforcement documents.

ISSUES	RESP ORG	DATE CLOSED
1. Conditions requiring the shutdown are clearly understood	RIV	02/05/93
2. Root causes of the conditions requiring the shutdown are clearly understood	PANEL	06/10/93
3. Root causes of other significant problems are clearly understood	PANEL	06/10/93
4. Evaluate adequacy of the root cause analysis program	RIV NRR/DRIL	02/01/94

Reference/Information

1. CAL of 02/05/93; CAL Supplements of 05 07/93 and 10/15/93; DET Report of 06/10/93
2. CAL of 02/05/93; CAL Supplements of 05 07/93 and 10/15/93; DET Report of 06/10/93. TDAFW issues discussed in IR 9338.
3. CAL of 02/05/93; CAL Supplements of 05 07/93 and 10/15/93; DET Report of 06/10/93
4. Favorable findings in IR 9343. Significant improvements noted in IR 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.

Weaknesses were noted but improvements were in progress. Discussed in Panel meeting 02/01/94.

C.1.2 DAMAGE ASSESSMENT:

Not applicable for South Texas Project.

C.1.3 CORRECTIVE ACTIONS:

ISSUES	RESP ORG	DATE CLOSED
1. Evaluate adequacy of the comprehensive corrective action plan	PANEL	11/18/93
2. Evaluate adequacy of the corrective action programs for specific root causes	RIV NRR/DRIL	02/01/94
3. Assess control of corrective action item tracking	RIV NRR/DRIL	01/27/94
4. Effective corrective actions for the conditions requiring the shutdown have been implemented	RIV NRR/DRIL	02/15/94
5. Effective corrective actions for other significant problems have been implemented	RIV NRR/DRIL	02/15/94
6. Adequacy of the licensee's corrective action verification process	RIV NRR/DRIL	01/27/94

Reference/Information

1. DET response status letter submitted 08/05/93. Operational Readiness Plan submitted 08/28/93. Business Plan submitted 10/15/93. NRC letters of 08/26/93 and 09/22/93 acknowledged receipt of licensee submittals of 08/05/93 and 08/28/93. NRC letter of 11/18/93 acknowledged receipt of Business Plan.
2. IR 9338 addressed auxiliary feedwater. Other issues addressed in IRs 9344, 9354, and 9345. ORAT input on adequacy was discussed in 01/27/94 Panel meeting. Discussed in Panel meeting 02/01/94.
3. IR 9333 found that appropriate mechanisms were in place to control SPR backlogs and manage new incoming SPRs. SPR backlog noted in IR 9343. Updated in IR 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
4. IR 9338 addressed root causes for TDAFW pump issues. ORAT input on adequacy was discussed in 01/27/94 Panel meeting. Panel meeting 02/15/94. IR 94-09.



5. Addressed in IRs 9335, 9344, 9345, and 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting. Discussed in Panel meeting 02/01/94.
6. Addressed in IR 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.

C.1.4 SELF-ASSESSMENT CAPABILITY:

The occurrence of an event may be indicative of potential weaknesses in the licensee's self-assessment capability. A strong self-assessment capability creates an environment where problems are readily identified, prioritized, and tracked. Effective corrective actions require problem root cause identification, solutions to correct the cause, and verification methods that ensure the issue is resolved. Senior licensee management involvement in self-assessment is treated separately.

ISSUES	RESP ORG	DATE CLOSED
1. Effectiveness of Quality Assurance Program	RIV/DRS	12/14/93
2. Adequacy of Industry Experience Review Program	RIV/DRS	01/27/94
3. Adequacy of licensee's Independent Review Groups	RIV/DRS	12/14/93
4. Adequacy of deficiency reporting system	RIV NRR/DRIL	01/27/94
5. Staff willingness to raise concerns	RIV/DRS	02/01/94
6. Effectiveness of PRA usage	NA	NA
7. Adequacy of Commitment Tracking Program	NA	NA
8. External audit (i.e., INPO) capability	PANEL	02/01/94
9. Quality of 10 CFR 50.72 and 50.73 Reports	NA	NA

Reference Information

1. Program adequacy noted in IR 9343.
2. Program adequacy noted in IR 9343. ORAT input on adequacy was discussed in 01/27/94 Panel meeting. Addressed for Diesel generators in IR 9344. Weaknesses noted in IR 9407.
3. Review group adequacy noted in IR 9343. Independent assessment addressed in IR 9406.
4. Addressed in IRs 9343 and 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
5. Addressed in IR 9352. ORAT input on adequacy was discussed in 01/27/94 Panel meeting. Discussed in Panel meeting 02/01/94. Licensee CAL letter 01/29/94.
6. NRC review of licensee's PSA completed 08/31/93.
7. NA

8. INPO review/assistance visit completed 09/24/93. Other independent reviews have been conducted in the areas of security management, standby diesel generators, employee concerns program, and operational readiness. Panel meeting 02/01/94.
9. NA

## C.2 ASSESSMENT OF LICENSEE MANAGEMENT:

The licensee's management organization should be assessed by NRC staff to ensure that qualified personnel, the proper environment, and resources are provided to ensure that the problems and their root causes have been or are being rectified. The organization must demonstrate that it can coordinate, integrate, and communicate its objectives so that they are assigned appropriate priorities regarding safety significance and are completed in a timely manner. NRC reviews will determine if the licensee has effective corporate management oversight and involvement in plant operations and problem resolution.

The licensee's management must appreciate the safety significance of certain issues and ensure that these issues are resolved. The licensee's organization should: (1) exhibit good teamwork among its subelements; (2) provide strong engineering and technical support for plant activities; (3) possess the internal ability to recognize safety problems, develop and implement adequate corrective actions and verify their effectiveness; (4) possess an independent self-assessment capability that can identify and correct performance problems; and (5) have adequate administrative and technical resources available to accomplish the stated goals and objectives.

C.2.1 Management Oversight and Effectiveness

ISSUES	RESP ORG	DATE CLOSED
1. Management commitment to achieving improved performance	PANEL NRR/DRIL	01/27/94
2. Performance goals/expectations developed for the staff	PANEL NRR/DRIL	01/27/94
3. Goals/expectations communicated to the staff	PANEL NRR/DRIL	01/27/94
4. Resources available to management to achieve goals	PANEL NRR/DRIL	01/27/94
5. Qualification and training of management	PANEL NRR/DRIL	01/27/94
6. Management's commitment to procedure adherence	PANEL NRR/DRIL	01/27/94
7. Management involvement in self-assessment and independent self-assessment capability	PANEL NRR/DRIL	01/27/94
8. Effectiveness of management review committees	PANEL NRR/DRIL	01/27/94
9. Effectiveness of internal management meetings	PANEL NRR/DRIL	01/27/94
10. Management in-plant time	PANEL NRR/DRIL	01/27/94
11. Management's awareness of day-to-day operational concerns	PANEL NRR/DRIL	01/27/94
12. Ability to identify and prioritize significant issues	PANEL NRR/DRIL	01/27/94
13. Ability to coordinate resolution of significant issues	PANEL NRR/DRIL	01/27/94
14. Ability to implement effective corrective actions	PANEL NRR/DRIL	01/27/94

Reference/Information

1. Favorable general comments in IR 9343. Other restart inspections noted good management response to correcting problems related to the restart issues. Favorable comments in IR 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
2. Favorable comments in IR 9343. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
3. Favorable comments in IR 9343. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
4. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
5. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
6. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
7. Favorable comments in IR 9343. Addressed in IR 9406. Addressed in public meetings. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
8. Favorable comments in IR 9343. Addressed in IR 9406. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
9. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
10. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
11. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
12. Favorable comments in IR 9343 and 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
13. Favorable comments in IR 9343. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
14. Favorable comments in IR 9343 and 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.

C.2.2 Management Organization and Support:

ISSUES	RESP ORG	DATE CLOSED
1. Structure of the organization	PANEL	01/27/94
2. Ability to adequately staff the organization	RIV/DRS	01/27/94
3. Effect of any management reorganization	PANEL	01/27/94
4. Establishment of proper work environment	RIV NRR/DRIL	01/27/94
5. Ability to foster teamwork among the staff	RIV NRR/DRIL	01/27/94
6. Ability to resolve employee concerns	RIV/DRS	01/27/94
7. Ability to provide engineering support	RIV/DRS NRR/DRIL	01/27/94
8. Adequacy of plant administrative procedures (SPR, PMT, Work Control, ECO)	RIV/DRP/DRS	01/27/94
9. Information exchange with other utilities	RIV/DRS	01/27/94
10. Participation in industry groups	RIV/DRS	12/14/93
11. Ability to function in the emergency response organization	RIV/DRSS	12/08/93
12. Coordination with offsite emergency planning officials	NA	NA

Reference/Information

1. IR 9341 addressed operations and maintenance. IR 9345 addressed engineering. Reorganization addressed in several public meetings. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
2. IR 9341 addressed operations and maintenance. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
3. IR 9347 addressed effect on Emergency Preparedness. IR 9341 addressed operations and maintenance. IR 9345 addressed engineering. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
4. Favorable findings for operations department noted in IR 9341. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
5. Favorable comments in IR 9343. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
6. Addressed in IR 9352. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
7. Good support for operations noted in IR 9341. Addressed in IR 9345. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
8. Work control process addressed in IRs 9353 and 9345. Weakness noted in IR 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.

9. Addressed in IR 9343. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
10. Addressed in IR 9343. IR 9344 noted active support of Cooper-Bessemer Owners Group.
11. IR 9347.
12. NA



### C.3 ASSESSMENT OF PLANT AND CORPORATE STAFF:

The licensee staff must be capable of recognizing and carrying out their responsibilities to ensure public health and safety. An adequate number of fully qualified licensee staff shall be assigned. A proactive attitude toward safety issues should be demonstrated in all aspects of operations. In this regard, the licensee staff should display attentiveness to duty, fitness for duty, a disciplined approach to activities, a sensitivity for trends in the plant, security awareness, an openness of communications, and a desire for teamwork that supports effective relations between different groups (e.g., management, operations, health physics, maintenance, engineering, security, and contractors).

#### C.3.1 Assessment of Staff:

ISSUES	RESP ORG	DATE CLOSED
1. Staff commitment to achieving improved performance	PANEL NRR/DRIL	01/27/94
2. Staff's safety consciousness	PANEL NRR/DRIL	01/27/94
3. Understanding of management's expectations/goals	PANEL NRR/DRIL	01/27/94
4. Understanding of plant issues and corrective actions	PANEL NRR/DRIL	01/27/94
5. Morale	PANEL NRR/DRIL	01/27/94
6. Staff (union)/management relationship	NA	NA
7. Structure of the organization	PANEL NRR/DRIL	01/27/94
8. Effect on the staff of any reorganization	PANEL NRR/DRIL	01/27/94
9. Resources available to the staff	PANEL NRR/DRIL	01/27/94
10. Qualifications and training of the staff	PANEL NRR/DRIL	01/27/94
11. Staff's work environment	PANEL NRR/DRIL	01/27/94
12. Staff's fitness for duty	NA	NA
13. Attentiveness to duty	PANEL NRR/DRIL	01/27/94
14. Level of attention to detail	PANEL NRR/DRIL	01/27/94



15. Adequacy of staffing	PANEL NRR/DRIL	01/27/94
16. Off-hour plant staffing	PANEL NRR/DRIL	01/27/94
17. Rotation schedule for shift workers	PANEL NRR/DRIL	01/27/94
18. Staff overtime usage	PANEL NRR/DRIL	01/27/94
19. Amount of contractor usage	PANEL NRR/DRIL	01/27/94
20. Staff/contractor relationship	PANEL	02/01/94
21. Understanding of the allegation process and protection of workers who communicate with the NRC	RIV/DRS	02/01/94
22. Procedure usage/adherence	RIV/DRP	01/27/94
23. Awareness of plant security	RIV/DRSS	09/01/93
24. Understanding of offsite emergency planning issues	NA	NA

Reference/Information

1. Favorable comments in IR 9343. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
2. Favorable comments in IR 9343. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
3. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
4. SDG problems handled well per IR 9336. Addressed in IR 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
5. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
6. NA
7. Unitization addressed in IR 9341. Engineering addressed in IR 9345. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
8. Unitization addressed in IR 9341. Engineering addressed in IR 9345. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
9. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
10. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
11. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
12. NA
13. Favorable comments in IR 9345. Weakness noted in IR 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
14. Weakness noted in IR 9354. Favorable comments in IR 9345. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
15. Operations and maintenance addressed in IR 9341. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
16. Off-hour engineering support to operations and maintenance addressed in IR 9341. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.

17. Six shift rotation addressed in IR 9406. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
18. Operator overtime addressed in IR 9406. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
19. Current status and ORAT input were discussed in 01/27/94 Panel meeting.
20. Weaknesses in control of motor operated valve contractor addressed in IR 9345. Addressed in 01/07/94 public meeting. Discussed in Panel meeting 02/01/94.
21. Addressed in IR 9352. Discussed in Panel meeting 02/01/94.
22. Good procedure adherence noted in IRs 9330 and 9341. Mixed observations in IR 9345. Weakness noted in IR 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
23. STP Security force management initiatives and the results of an independent security force management assessment were discussed in a management meeting with the licensee on September 1, 1993. No restart issues were identified as a result of this meeting or previous security inspection findings.
24. No restart issues have been identified in this area.

C.3.2 Assessment of Corporate Support:

Not Applicable for South Texas Project.

C.3.3 Operator Issues:

ISSUES	RESP ORG	DATE CLOSED
1. Licensed operator staffing meets requirements and licensee goals	RIV/DRS NRR/DRIL	01/27/94
2. Level of formality in the control room	RIV/DRS NRR/DRIL	01/27/94
3. Adequacy of control room simulator training	RIV/DRS NRR/DRIL	11/02/93
4. Control room/plant operator awareness of equipment status	RIV/DRS NRR/DRIL	01/27/94
5. Adequacy of plant operating procedures	RIV/DRS NRR/DRIL	01/27/94
6. Procedure usage/adherence	RIV/DRS NRR/DRIL	01/27/94
7. Log keeping practices	NA	NA

Reference/Information

1. IR 9341. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
2. Favorable observations in IR 9330. Generally effective communications and command and control noted, with exceptions, in IR 9334. Mixed observations in IR 9336. Significant improvement noted in IR 9345. ORAT input on adequacy was discussed in 01/27/94 Panel meeting. ORAT input was very favorable.
3. Results of 09/27/93 - 10/01/93 exams (IR 93-34)
4. Favorable observations in IR 9330. Good response to SFP level decrease noted in IR 9336. Operator weaknesses contributed to RCS overfill in IR 9336. Favorable observations in IRs 9341 and 9345. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
5. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
6. Some favorable observations in IR 9330, but equipment clearance order problems noted in IRs 9330 and 9336. Favorable observations in IR 9341. Weakness noted in IRs 9345 and 9354. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
7. No restart issues have been identified in this area. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.

#### C.4 ASSESSMENT OF PHYSICAL READINESS OF THE PLANT:

The physical condition of the plant is of principal importance not only when a shutdown is the result of a physical event or a hardware deficiency but for other reasons as well, especially following prolonged outages.

The causes of significant equipment problems should be identified and appropriate corrective actions taken. Operational testing should verify that each significant equipment problem has been resolved. As appropriate, the complete spectrum of preoperational and startup testing programs may need to be expanded to cover the more complex types of problems or the effects on plants that have been shut down for extended periods.

The licensee must be able to demonstrate that all needed safety equipment is operational before restart. Systems and equipment need to be available and aligned. Surveillance tests should also be up to date. The maintenance backlog should be managed at controllable levels and should be evaluated for impact on safe operation. Maintenance must also be capable of responding to equipment failures during startup and operation and should not be hindered by unresolved chronic problems with equipment readiness. Procedures should be adequate and up to date. The emergency preparedness function both onsite and offsite needs to be capable of protecting public health and safety.

ISSUES	RESP ORG	DATE CLOSED
1. Operability of technical specifications systems	RIV/DRP NRR/DRIL	01/27/94
2. Operability of required secondary and support systems	RIV/DRP NRR/DRIL	01/27/94
3. Results of prestartup testing	RIV/DRP	02/01/94
4. Adequacy of system lineups	RIV/DRP NRR/DRIL	01/27/94
5. Adequacy of surveillance tests/test program	RIV/DRP NRR/DRIL	01/27/94
6. Significant hardware issues resolved (i.e., damaged equipment, equipment ageing, modifications)	PANEL	02/01/94
7. Adequacy of the power ascension testing program	PANEL	02/15/94
8. Adequacy of plant maintenance program effectiveness	RIV/DRS NRR/DRIL	02/01/94
9. Maintenance backlog managed and impact on operation assessed	RIV/DRS	02/01/94
10. Adequacy of plant housekeeping and equipment storage	RIV/DRP	01/27/94
11. Adequacy of emergency preparedness accountability drills	RIV/DRSS	12/08/93

#### Reference/Information

1. ORAT input on adequacy was discussed in 01/27/94 Panel meeting. Walkdowns did not identify system lineup problems.
2. Fire protection system improvements noted in IR 9337. Deferred maintenance on non-certified systems addressed in IR 9353. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
3. Postmaintenance and postmodification testing addressed in IRs 9338, 9339, 9342, 9344, 9335, 9346, 9354, 9404, 9355. Discussed in Panel meeting 02/01/94.
4. ORAT input on adequacy was discussed in 01/27/94 Panel meeting. ORAT system walkdowns found systems were properly aligned.
5. Addressed in IRs 9345 and 9346. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
6. TDAFW issues addressed in IR 9338. Other issues addressed in IRs 9335, 9344, 9345, 9354, 9406, and 9409. Discussed in Panel meeting 02/01/94.
7. DRP review completed 9409. Inspection coverage per 02/03/94 DRP memo. Panel meeting 02/15/94.
8. Favorable comments in IR 9353. ORAT input on adequacy was discussed in 01/27/94 Panel meeting. Discussed in Panel meeting 02/01/94.

9. Progress noted in IR 9353. Addressed in IR 9408. Discussed in Panel meeting 02/01/94.
10. Improvement noted in IRs 9336 and 9337. Material condition improvement noted in IR 9353. Significant improvement noted in IR 9345. ORAT input on adequacy was discussed in 01/27/94 Panel meeting.
11. Addressed in IR 9347.

C.5 ASSESSMENT OF COMPLIANCE WITH REGULATORY REQUIREMENTS:

The plant and its prospective operation must not be in conflict with any applicable regulations or requirements of any document authorizing restart (such as license amendments, orders, or a CAL). Restart should not conflict with any ongoing matter such as an Atomic Safety and Licensing Board hearing.

ISSUES	RESP ORG	DATE CLOSED
1. Applicable license amendments have been issued	NRR	01/25/94
2. Applicable exemptions have been granted	NA	NA
3. Applicable reliefs have been granted	NA	NA
4. Imposed Orders have been modified/rescinded	NA	NA
5. Confirmatory Action Letter conditions have been satisfied	PANEL	02/15/94
6. Significant enforcement issues have been resolved	PANEL	02/01/94
7. Allegations have been appropriately addressed	PANEL	02/01/94
8. 10 CFR 2.206 Petitions have been appropriately addressed	NRR	07/08/93
9. ASLB hearings completed	NA	NA
10. Licensee issuance of JCO related to Generic Letter 93-04, Rod Control System Failure and Withdrawal of Rod Control Cluster Assemblies	RIV/DRP	11/01/93

Reference Information

1. Auxiliary Feedwater testing Technician Specification Amendment 58 issued 01/25/94.
2. NA
3. NA
4. NA
5. This item includes licensee commitments in response to ORAT inspection (NRR letter of 01/27/94). The licensee provided a status of the CAL issues in a letter dated 01/29/94. Public meeting at the site on 02/14/94; 02/15/94 Panel meeting.



6. No outstanding enforcement issues affect restart. Discussed in Panel meeting 02/01/94.
7. No outstanding allegations affect restart. Discussed in Panel meeting 02/01/94.
8. Saporito Petition acknowledgement letter of 07/08/93
9. NA
10. JCO approved by plant managers 11/01/93.

C.6 COORDINATION WITH INTERESTED AGENCIES/PARTIES:

Coordination with other interested parties and agencies is important to ensure that concerns and requirements of these organizations are factored into the restart authorization.

ORGANIZATION	RESP ORG	DATE CLOSED
1. Federal Emergency Management Agency	RIV/NRR	02/03/94
2. Environmental Protection Agency	NA	NA
3. Department of Justice	PANEL	02/01/94
4. Department of Labor	PANEL	02/01/94
5. Appropriate State and Local Officials	RIV	02/14/94
6. Appropriate Public Interest Groups	RIV	02/14/94
7. Local News Media	RIV	02/14/94

Reference/Information

1. Completed per FEMA Region VI memo of 02/03/94.
2. NA
3. No DOJ restart restraints per L. Kokajko 02/01/94 (Reference: L. Kokajko memo to file dated 02/02/94).
4. No DOL restart restraints per L. Kokajko 02/01/94 (Reference: L. Kokajko memo to file dated 02/01/94).
5. Completed per 02/07/94 press release and issued meeting notice; public meeting 02/14/94.
6. Completed per 02/07/94 press release and issued meeting notice; public meeting 02/14/94.
7. Completed per 02/07/94 press release and issued meeting notice; public meeting 02/14/94.

D. PLANT SPECIFIC STARTUP ISSUES

The list of plant specific restart issues was developed from a review of the Diagnostic Evaluation Team Report, the Confirmatory Action Letter and supplements, the licensee's Operational Readiness Plan, routine and special NRC reports, the allegation process, and NRC staff actions assigned by the Executive Director for Operations following the Diagnostic Evaluation. NRC Inspection Report 50-498/499-9331 identified and assigned an Inspection Followup Item for each item related to issues which require resolution prior to the restart of either STP unit. This table will be updated periodically to reflect the status of inspection activities at STP.

The table following this page lists the plant-specific restart issues and their current status.



	RESTART ISSUE	RELATED ITEMS	DATE CLOSED
1	Turbine-driven Auxiliary Feedwater Pump Reliability and Testing Methodology	9331-07(9338-0) (9346-0) (9404-0), 08(9338-0) (9344-0) (9345-0) (9353-0), (9404-0), 09(9338-0) (9344-0) (9353-0) (9404-0), 10(9338-0) (9346-0), 43(9338-C), 50(9338-0), 71(9338-C) 9305-04(9338-C), 05(9338-0) (9406-C), 07(9338-C) Unit 1 LER 9307(9338-0) Unit 2 LER 9304(9338-0)	02/14/94 9338 9409
2	Station Problem Report Process, Threshold, Licensee's Review of Existing Reports for Issues Affecting Operability and Safe Plant Operation	9331-06(9338-0)(9354-C), 18(9344-0) (9345-0) (9354-0), 23(9354-0), 25(9406-C), 26(9354-0), 27(9354-0), 28(9344-0) (9354-C), 67(9354-C) 9235-02(9354-C) (9404-C) 9224-01(9354-C) (9404-C) 9321-01(9333-C) 9322-02(9333-C) 9308-02(9345-C), 04(9345-C)	02/01/94 9354
3	Service Request Backlog, Including Reduction Accomplished During the Current Outages and the Licensee's Review of Outstanding SRs for Issues Affecting Equipment Operability, Safe Plant Operation, and Operator Work-arounds	9331-02(9345-0) (9353-C), 03(9340-0) (9341-C) (9346-0) (9353-C), 07(9338-0) (9346-0), (9404-0), 08(9338-0) (9344-0) (9345-0) (9353-0), (9404-0), 09(9338-0) (9344-0) (9353-0) (9404-0), 29(9353-C), 31(9345-C), 37(9353-0), 38(9353-0), 39(9353-0), 47(9353-0), 49(9345-C) (9353-0), 62(9353-0), 79(9353-0) (9346- 0), 80(9353-C)	02/01/94 940E

	RESTART ISSUE	RELATED ITEMS	DATE CLOSED
4	The Postmaintenance Test Program, Including Corrective Actions in Response to Violations and Other Process Improvements and the Basis For the Licensee's Confidence That Equipment Removed From Service for Maintenance is Properly Restored to an Operable Status	9331-03(9340-0) (9341-C) (9346-0) (9353-C), 04(9337-0) (9346-0) (9353-0), 07(9338-0) (9346-0), (9404-0), 10(9338-0) (9346-0), 13(9339-0) (9344-0) (9346-0), 14(9339-C), 15(9346-0), 51, 63 (9346-C), 68(9339-C), 79(9353-0) (9346-0) 9226-03(9339-C) (9404-C) 9320-02(9339-C) 9305-01, 05, 07(9344-C) Unit 1 LER 9204(9339-C), 9207(9339-C), 9214(9339-C), 9216(9339-C), 9305(9344-C)	02/01/94 9346 9354
5	The Outstanding Design Modifications, Temporary Modifications, and Other Engineering Backlog Items, Including the Licensee's Review of These For Issues Affecting Equipment Operability, Safe Plant Operation, and Operator Work-arounds	9331-02(9337-0) (9345-0) (9353-C), 04(9337-0) (9346-0), 08(9338-0) (9344-0) (9345-0) (9353-0), (9404-0), 12(9344-0), 16, 18(9344-0) (9345-0) (9354-0), 19(9344-0) (9345-C), 20(9404-C), 21(9404-C), 30(9345-0), 31(9345-C), 40(9345-C), 41(9345-0), 42(9345-0), 44(9404-C), 45(9404-C), 48(9345-C), 52(9338-0) (9345-C), 64(9345-C), 65(9340-0) (9341-C), 77(9345-C), 81(9345-C) 9208-01(9406-C) 9306-07(9353-0) 9315-01(9345-C) Unit 1 LER 9220(9345-C), Unit 2 LER 9204(9345-C)	02/01/94 9355

	RESTART ISSUE	RELATED ITEMS	DATE CLOSED
6	Adequacy of Operations Staffing	9331-01(9340-0) (9341-C), 03(9340-0) (9341-C) (9346-0) (9353-C), 24(9340-C), 56(9340-0) (9341-C), 57(9340-0) (9341-0) (9406-C), 59(9340-0) (9341-C), 60(9340-C), 65(9340-0) (9341-C), 66(9340-0) (9341-C), 73(9340-0) (9341-C) 9116-02(9340-0) (9341-0) (9406-C) 9304-03(9340-C), 04(9340-C) 9311-04(9340-C) 9322-01(9340-C) Unit 2 LERs 9305(9340-C), 9312(9340-C)	02/01/94 9341
7	Adequacy of Fire Brigade Leader Training and Qualifications	9351-04(9337-0) (9346-0), 33(9337-C), 75(9337-0) (9345-C)	02/01/94 9337
8	Adequacy of Fire Protection Computers and Software, the licensee's Success in Reducing the Number of Spurious Fire Protection System Alarms, and Other Fire Protection Hardware Problems	9331-02(9337-0) (9345-0) (9353-C), 04(9337-0) (9346-0), 17(9337-0) (9345-C), 22(9337-0) (9345-C), 58(9337-C), 75(9337-0) (9345-C) 9235-06(9337-0) 9309-01(9337-C)	02/01/94 9345

	RESTART ISSUE	RELATED ITEMS	DATE CLOSED
9	Licensee Management's Effectiveness in Identifying, Pursuing, and Correcting Plant Problems	9331-04(9337-0)(9346-0), 05(9406-C), 06(9338-0)(9354-C), 17(9338-0)(9345-C), 18(9344-0)(9345-0)(9354-0), 22(9337-0)(9345-C), 23(9354-0), 25(9406-C), 32, 34, 35(9338-0)(9345-C), 37(9353-0), 46, 54(9406-C), 55(9343-0)(9406-C), 56(9340-0)(9341-C), 61(9406-C), 62(9353-0), 65(9340-0)(9341-C), 67(9354-C), 69, 70(9338-C), 72(9338-C), 73(9340-0)(9341-C), 80(9353-C), 82(9343-C) 9321-01, 9322-02 9224-01(9354-C)(9404-C) 9217-02(9406-C), 04 9303-01(9406-0) 9308-02(9345-C), 04(9345-C) Unit 1 LER 9204(9339-C)	02/01/94
10	NRC Review of the Effectiveness of the Licensee's SPEAKOUT Program	9331-78(9352-C)	02/01/94 9352
11	Standby Diesel Generator Reliability	9331-08(9338-0)(9344-0)(9345-0)(9353-0)(9404-0), 09(9338-0)(9344-0)(9353-0)(9404-0), 11(9344-C), 12(9344-0), 13(9344-0), 16, 19(9344-0)(9345-C), 28(9344-0)(9354-C) 9214-03(9344-C) 9221-03(9344-C) 9305-01(9344-C) 9315-03(9330-C) Unit 1 LER 9305(9344-C)	02/01/94 9344
12	Essential Chiller Reliability	9331-10(9338-0)(9346-0), 13(9344-0), 20(9404-C), 21(9404-C), 44(9404-C), 45(9404-C), 74(9404-C) 9224-03(9404-C)	02/01/94 9404

RESTART ISSUE		RELATED ITEMS	DATE CLOSED
13	Monitoring of the Licensee's System Certification Program	9331-35(9338-0) (9345-C), 53(9345-0)	02/01/94 9345
14	Adequacy of the Licensee's Resolution of the Reliability and Operability of the Feedwater Isolation Bypass Valves	9319-01 through 07(9335-C) 9324-01(9335-0) (9406-C) Unit 1 LER 9317(9335-C) Unit 1 LER 9320(9335-0) (9406-C) 9335-01(9406-C)	02/15/94 9406 9409
15	Tornado Damper Issues	9331-76(9342-C)	02/01/94 9342
16	Emergency Preparedness Accountability Issues	URI 498;499/9325-02(9347-C)	02/01/94 9347

Reference/Information

1. Resolved with exception of Mode 3 testing in IR 9338. Mode 3 testing completed IR 9409.
2. IR 9354 proposed closing this issue. ORAT found corrective action program to be weak, but improvements were in progress and program was adequate to support restart. Discussed in Panel meeting 02/01/94.
3. Progress noted in IR 9353. Followup in IR 9408. Discussed in Panel meeting 02/01/94.
4. Progress noted in IR 9339. Significant program improvement noted in IR 9346, but implementation weaknesses exist. Correction of weaknesses addressed in IR 5354. Discussed in Panel meeting 02/01/94.
5. Progress noted in IR 9345. Followup conducted in IR 9355. Discussed in Panel meeting 02/01/94.
6. Progress noted in IR 9340. Operator administrative workload reductions noted in IRs 9346 and 9353. Closed in IR 9341 dated 12/16/93. Discussed in Panel meeting 02/01/94.
7. Closed in IR 9337 dated 11/23/93. Discussed in Panel meeting 02/01/94.
8. Addressed in IR 9345. Discussed in Panel meeting 02/01/94.
9. Favorable observations with respect to fire protection issues in IR 9337. Favorable comments with respect to TDAFW issues in IR 9338. Favorable observations with respect to operator staffing issues in IRs 9339 and 9341. Favorable observations with respect to tornado damper issues in IR 9342. Good response to refueling machine problems noted in IR 9335. Good response to SR backlog noted in IR 9353. Favorable overall findings in IR 9343. Favorable findings with respect to PMT noted in IR 9346. Favorable observations with respect to standby diesel generators in IR 9344. Favorable observations in IR 9345. Addressed in IR 9355. Panel discussions on 01/27/94 and 02/01/94.

10. IR 9352 issued 01/21/94. Panel discussion on 02/01/94.
11. Addressed in IR 9344. Followup open items in IR 9355. Discussed in Panel meeting 02/01/94.
12. Addressed in IR 9404. Discussed in Panel meeting 02/01/94.
13. Favorable observations in IR 9336. Addressed in IR 9345. Discussed in Panel meeting 02/01/94.
14. Significant progress noted in IR 9335. Addressed in IR 9406. Mode 3 testing completed IR 9409.
15. Closed in IR 9342 dated 11/19/93. Discussed in Panel meeting 02/01/94.
16. Closed in IR 9347 dated 12/08/93. Discussed in Panel meeting 02/01/94.



E. RESTART INSPECTIONS

	INSPECTION	RESP		SCHEDULE
		ORG	LEAD	
1	TDAFW PUMPS	DRP	MAS	10/18/93 02/94
2	SPR PROCESS, THRESHOLD, REVIEW RESULTS	DRS	TOM +RI	10/12/93 12/13/93
3	SERVICE REQUEST BACKLOG STATUS AND REVIEW, EFFECT ON EQUIPMENT OPERABILITY, SAFE OPERATION, OPERATOR WORK-AROUNDS	DRP	MAS LDG MFR	11/29/93 12/06/93 01/24/94
4	POSTMAINTENANCE TEST PROGRAM	DRS	TOM RBV	10/25/93 11/29/93
5	ENGINEERING BACKLOGS	DRS	TFW	11/15/93
6	OPERATIONS STAFFING	DRS/DRP	JLP JIT	11/01/93 11/29/93
7	FIRE BRIGADE LEADER QUALIFICATIONS	DRS	GLC	10/18/93
8	FIRE PROTECTION COMPUTERS	DRS	GLC	10/18/93
9	MANAGEMENT EFFECTIVENESS IN IDENTIFYING, PURSUING, AND CORRECTING PLANT PROBLEMS	DRP/DRS/DRSS		EACH INSPECTION
10	SPEAKOUT REVIEW	DRS/HQ	DAP	11/29/93
11	EDG ISSUES	DRS/NRR	TFW	11/08/93 12/13/93 01/18/93
12	ESSENTIAL CHILLER ISSUES	DRP/NRR	MAS	01/03/94
13	SYSTEM CERTIFICATION	DRP/DRIL SRI/ORAT		12/93
14	FEEDWATER ISOLATION BYPASS VALVES	DRS	DAP	11/15/93 01/10/94
15	TORNADO DAMPERS	DRP/NRR	MAS	11/01/93
16	EP ACCOUNTABILITY	DRSS	BXM	11/18/93
17	LICENSEE'S READINESS ASSESSMENT	RIV/NRR	PANEL	12/93 - 01/94
18	ORAT	DRIL	BJJ	12/06/93 01/12/94

Fuller

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

OVERVIEW OF PERFORMANCE - 4/8/94

PLANT OPERATIONS

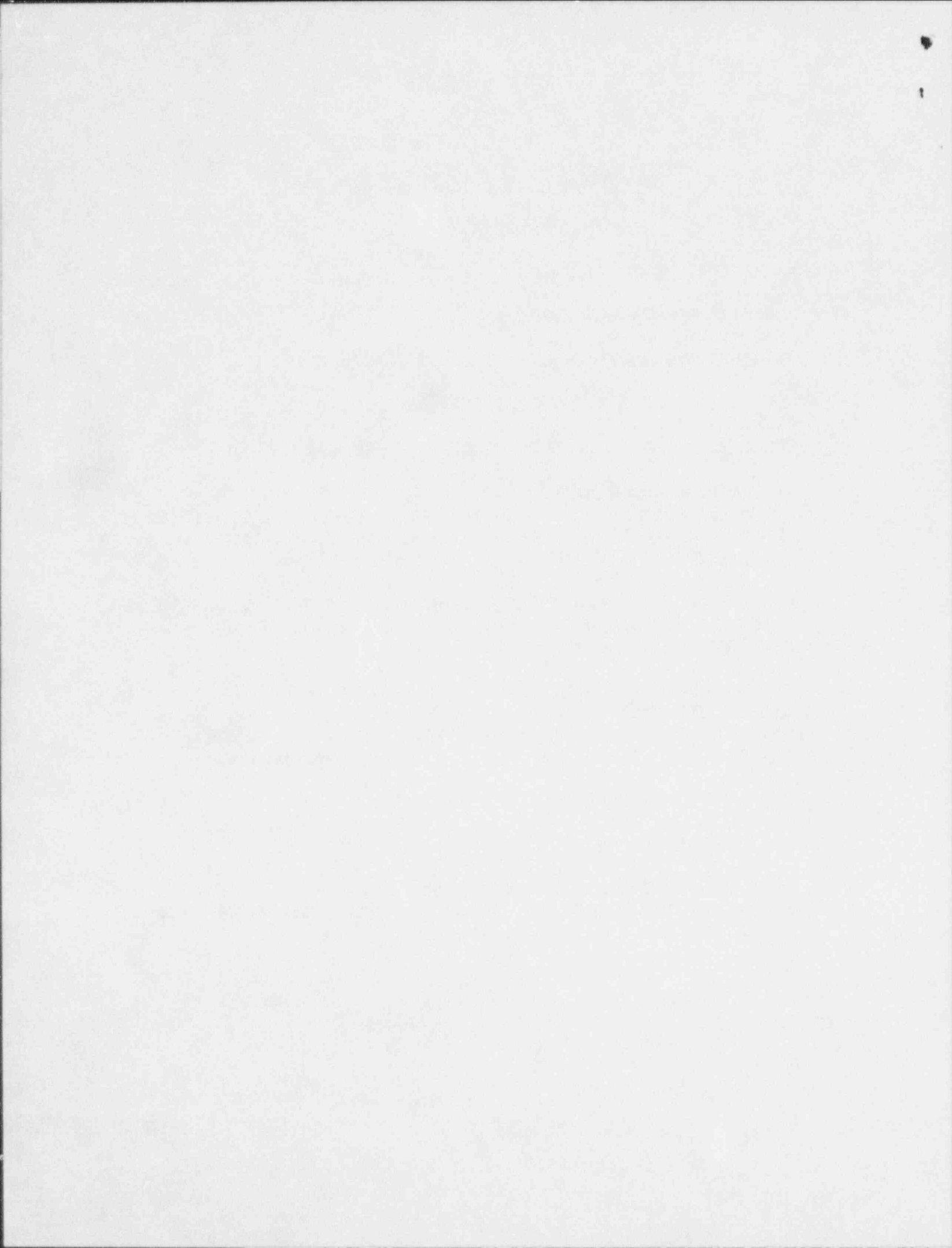
● OPERATOR PERFORMANCE MIXED

- OVERALL PERFORMANCE GOOD
- GENERALLY GOOD OVERSIGHT BY SENIOR OPERATORS
- EXCELLENT RESPONSE TO PLANT TRIP ON FEBRUARY 28
- GOOD ATTENTIVENESS TO PLANT INDICATIONS AND ALARMS
- OPERATIONS WORK CONTROL GROUP HAS REDUCED THE NON-WATCHSTANDING ACTIVITIES IN THE CONTROL ROOM AND ALLOWED FOR OPERATORS TO BE LESS DISTRACTED AND ABLE TO FOCUS ON THE OPERATION OF THE PLANT
- OPERATOR DECORUM AND PROFESSIONALISM IN THE CONTROL ROOM HAS IMPROVED, BUT THERE CONTINUE TO BE EXAMPLES OF WEAK COMMUNICATIONS AND FORMALITY
- REACTOR PLANT OPERATORS HAVE NOT ALWAYS MET MANAGEMENT'S EXPECTATIONS FOR IDENTIFICATION OF UNACCEPTABLE COMPONENT MATERIAL CONDITIONS. NRC INSPECTORS ARE FINDING MINOR DISCREPANCIES WHICH SHOULD HAVE BEEN IDENTIFIED BY PLANT STAFF.
- SELF-VERIFICATION NOT ALWAYS PRACTICED

● STAFFING ENHANCEMENTS

- OPERATIONS CURRENTLY ON A FULL SIX SHIFT ROTATION, WITH ADDITIONAL REACTOR PLANT OPERATORS - PERMITTED MORE THOROUGH PLANT TOURS AND SHIFT SUPERVISION

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## **SOUTH TEXAS PROJECT**

### **● MANAGEMENT OVERSIGHT MIXED**

- **SHIFT MANAGERS ASSIGNED TO SHIFTS DURING POWER ASCENSION AND MIDLOOP OPERATIONS WERE NOT ALWAYS EFFECTIVE IN THEIR OVERSIGHT: THE SHIFT MANAGER DURING THE LOSS OF SHUTDOWN COOLING WAS NOT AWARE THAT THE SSPS SURVEILLANCE WAS BEING PERFORMED. PLANT CONDITIONS, BEING IN MID-LOOP WERE NOT APPROPRIATELY CONSIDERED BEFORE CONDUCTING THE TEST.**
- **A VIOLATION WAS IDENTIFIED CONCERNING OPERATORS INAPPROPRIATELY REVISING STATION PROCEDURES BY MARKING VARIOUS STEPS 'NA', AS DIRECTED IN NIGHT ORDERS**

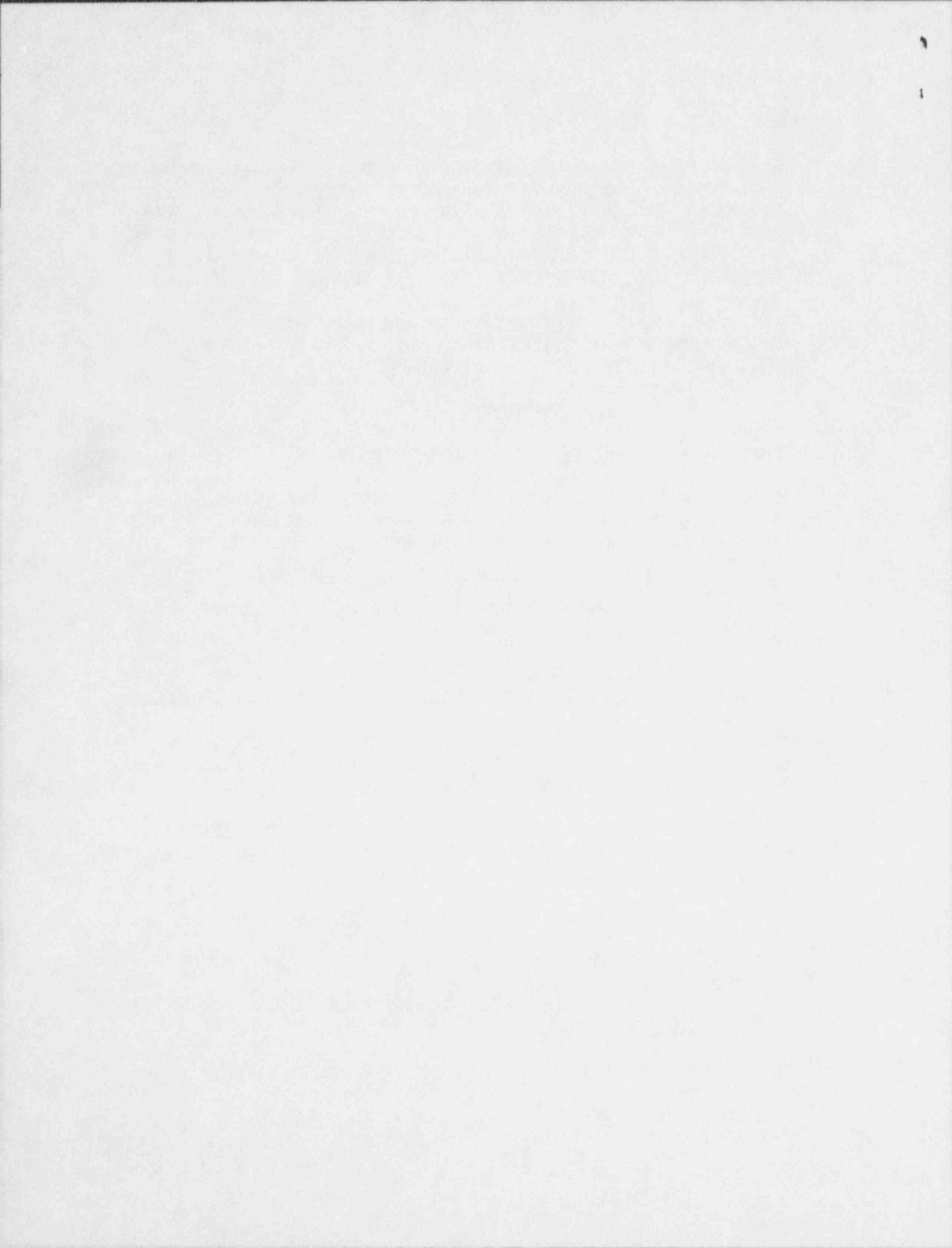
### **MAINTENANCE**

### **● WORK PRIORITIZATION AND PLANNING SUCCESSES**

- **MAINTENANCE BACKLOG APPEARS TO BE UNDER CONTROL AND MANAGEABLE, BUT IT MAY BE A CHALLENGE TO KEEP THE BACKLOG MANAGEABLE DURING SUSTAINED OPERATION WITH BOTH UNITS AT POWER.**
- **THE STATION IS CURRENTLY IN THE BEST MATERIAL CONDITION IN OVER 18 MONTHS**
- **OPERATIONS WORK CONTROL GROUP APPEARS TO BE EFFECTIVE - 'ROVER' INITIATIVE VIEWED AS A EXCELLENT MECHANISM TO WORK OFF MINOR MAINTENANCE**
- **EFFECTIVE WORK COORDINATION STILL REMAINS A CHALLENGE, ESPECIALLY IN THE AREA OF CONTRACTOR CONTROL**
- **NEW PLANNER GUIDANCE APPEARS TO HAVE BEEN MORE EFFECTIVE IN PREPARING WORK PACKAGES AND IDENTIFYING POST MAINTENANCE TEST REQUIREMENTS**
- **TWO SUPERVISORS PER CREW - PROVIDING MORE FIELD SUPERVISION**
- **MAINTENANCE TRAINING CERTIFICATIONS HAVE BEEN ACCOMPLISHED BEYOND LICENSEE GOALS**

### **● WORKER PERFORMANCE MIXED**

- **MULTIPLE EXAMPLES OF GOOD CONTROL OF WORK ACTIVITIES**
- **INADEQUATE CONTROL OF JUMPERS RESULTED IN DAMAGE TO A PRESSURIZER BLOCK VALVE**



## **SOUTH TEXAS PROJECT**

### **● CONTINUED EQUIPMENT PROBLEMS**

- RECURRENT VALID FAILURES OF SDG 11
- REPETITIVE INADVERTENT STARTS ON SDG 21
- SEVERAL SECONDARY SYSTEM PROBLEMS HAVE OCCURRED. SOME PROBLEMS WERE EXPECTED, BUT WE EXPECT THAT THE ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS SHOULD BE ADEQUATE TO LIMIT REPETITIVE PROBLEMS.
  - STEAM GENERATOR (SG) POWER-OPERATED RELIEF VALVES CONTINUE TO FAIL SURVEILLANCE TESTS DUE TO CONTAMINATION PROBLEMS IN THE HYDRAULIC OIL SYSTEMS
  - RECURRENT SG FEEDWATER PUMP PROBLEMS INCLUDING SPEED CONTROL PROBLEMS, THROTTLE VALVE SEAT LEAKAGE, AND ELECTRO-HYDRAULIC CONTROL PROBLEMS
  - FEEDWATER REGULATING VALVE PROBLEMS, THE CAUSE OF SEVERAL REACTOR TRIPS PRIOR TO THE EXTENDED FORCED OUTAGES, CONTINUE TO PERFORM UNRELIABLY AND WERE THE CAUSE OF THE UNIT 1 REACTOR TRIP ON FEBRUARY 28, 1994
  - CHILLER 11C TRIPPED ON LOW OIL PRESSURE DURING A SAFETY INJECTION ACTUATION

### **● EQUIPMENT SUCCESSES**

- TESTING OF UNIT 1 TURBINE-DRIVEN AUXILIARY FEEDWATER PUMP WAS COMPLETED, AND THE REPAIRS CONDUCTED ON THAT COMPONENT APPEAR TO HAVE ENHANCED ITS RELIABILITY
- LICENSEE INITIATIVES HAVE IMPROVED MATERIAL CONDITION OF ESSENTIAL CHILLERS, AND THE COLD WEATHER MODIFICATION HAS INCREASED COLD WEATHER RELIABILITY
- BETTER SECONDARY PLANT PERFORMANCE DURING THE MARCH STARTUP



# **SOUTH TEXAS PROJECT**

## **ENGINEERING**

- **NEW MANAGEMENT - APPEARS TO BE EFFECTIVE**
- **BACKLOGS REDUCED - IMPROVED WORK MANAGEMENT SYSTEMS**
- **GENERALLY GOOD SUPPORT TO OPERATIONS AND MAINTENANCE, BUT BETTER SUPPORT COULD LIMIT SECONDARY SYSTEM REPETITIVE EQUIPMENT PROBLEMS.**
- **CONTAINMENT SUMP ISSUES**
  - **THIS ISSUE SHOULD HAVE BEEN IDENTIFIED BY THE LICENSEE**
  - **LICENSEE'S ENGINEERING EFFORTS IN THE EVALUATION OF THE SAFETY SIGNIFICANCE OF THE SUMP ISSUE WERE WEAK**
- **ESSENTIAL CHILLERS**
  - **ENGINEERING ANALYSIS ON THE ABILITY OF THE CHILLERS TO PERFORM THEIR FUNCTION DURING DESIGN BASED ACCIDENT AT LOW LOAD WAS CONSIDERED GOOD**
- **SYSTEM ENGINEERING**
  - **ENGINEER'S SYSTEM KNOWLEDGE HAS SHOWN IMPROVEMENT**
  - **IMPROVEMENT NEEDED IN THE AREA OF PROCEDURE USAGE**
- **SYSTEM CERTIFICATION**
  - **LICENSEE EFFORTS IN THIS AREA ARE VIEWED AS POSITIVE**

## **SOUTH TEXAS PROJECT**

### **PLANT SUPPORT**

- **EP EXERCISE AND DRILLS ACCEPTABLE**
- **IMPROVING PERFORMANCE IN SECURITY**
  - **SECURITY RESPONSE TO A SECURITY COMPUTER FAILURE WAS VERY GOOD**
  - **IMPROVING MORALE WITHIN THE SECURITY FORCE**
  - **EXCESSIVE OVERTIME HAS DECREASED RESULTING FROM THE ADDITION OF OFFICERS TO IMPROVE STAFFING LEVELS**
  - **IMPROVED SECURITY EQUIPMENT MAINTENANCE HAS RESULTED REDUCED EXCESSIVE NUMBERS OF COMPENSATORY POSTING THAT HAVE EXACERBATED PAST OVERTIME ISSUES**
  - **NEW SECURITY MANAGER VIEWED AS A POSITIVE**
- **OVERALL STRONG PERFORMANCE IN RADIATION PROTECTION**
- **FIRE PROTECTION**
  - **THE MAINTENANCE BACKLOG FOR THE FIRE PROTECTION SYSTEM IS MANAGEABLE**
  - **SIGNIFICANT EFFORT HAS BEEN INITIATED TO UPGRADE THE SYSTEM WITH MANY IMPROVEMENTS NOTED**

## **SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION**

### **OVERVIEW OF PERFORMANCE - 4/8/94**

#### **PLANT OPERATIONS**

- OPERATOR PERFORMANCE
- STAFFING ENHANCEMENTS
- MANAGEMENT OVERSIGHT

#### **MAINTENANCE**

- WORK PRIORITIZATION AND PLANNING
  - WORKER PERFORMANCE
- CONTINUED EQUIPMENT PROBLEMS
  - EQUIPMENT SUCCESSES

## SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

### OVERVIEW OF PERFORMANCE - 4/8/94

#### ENGINEERING

- NEW MANAGEMENT
- BACKLOGS REDUCED - IMPROVED WORK MANAGEMENT SYSTEMS
- GENERALLY GOOD SUPPORT TO OPERATIONS AND MAINTENANCE
  - CONTAINMENT SUMP ISSUES
    - ESSENTIAL CHILLERS
    - SYSTEM ENGINEERING
    - SYSTEM CERTIFICATION

#### PLANT SUPPORT

- EMERGENCY PREPAREDNESS EXERCISE AND DRILLS
  - PERFORMANCE IN SECURITY
  - PERFORMANCE IN RADIATION PROTECTION
    - FIRE PROTECTION

**SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION**

**OVERVIEW OF PERFORMANCE - 4/8/94**

**OVERALL**

- CORRECTIVE ACTION PROGRAMS
- PLANT MATERIAL CONDITION IMPROVED
- AREAS NEEDING CONTINUED EMPHASIS

April 20, 1994

~~PRE-DECISIONAL~~

NARRATIVE SUMMARY OUTLINE FOR  
PLANTS DISCUSSED AT THE LAST SMM  
SOUTH TEXAS PROJECT

I. HISTORY

South Texas Project (STP) was first discussed at the January 1993, Senior Management Meeting (SMM), initially because of poor and declining performance for two systematic assessment of licensee performance periods. Repetitive hardware problems had resulted in numerous plant trips, transients, engineering safety features actuation, and forced outages. STP was subsequently discussed at the June 1993 SMM, when it was placed on the list of plants that were considered poor performers. Both units at STP were shutdown under a Confirmatory Action Letter (CAL) which was issued in February 1993, as a result of many NRC and licensee identified problems. As discussed in the Narrative Summary for the previous three SMM discussion papers, the identified problems were grouped into three broad areas, including material condition and housekeeping, human performance, and organizational performance. A Diagnostic Evaluation was conducted in March and April 1993, and the findings of that inspection were presented to the licensee on June 3, 1993.

The CAL for Unit 1 was lifted on February 15, 1994, and the unit subsequently entered Modes 2 and 1. The unit attained 28 percent power before a manual reactor trip was initiated because a feedwater regulating valve failed closed. The unit restart was delayed because of a steam generator tube plug leak. The unit was restarted on March 21 and full power operation was attained on April 7. Unit 2 completed reloading the reactor vessel on April 3, 1994, and entered Mode 5 on April 8.

II. CHANGES SINCE LAST SMM

Based on the results of the Operational Readiness Assessment Team, the February 14, 1994, public meeting, and Region IV's inspection efforts at STP since October 1993, the restart issues were found to have been adequately addressed and the CAL was lifted for Unit 1. The staff provided 24 hour coverage of plant activities during the startup and power ascension of Unit 1.

The STP Restart Panel developed a Restart Action Plan, following the guidance in Manual Chapter 0350, "Staff Guidance for Restart Approval." The Panel used this plan to ensure coordination of NRC resources associated with the restart of Unit 1. A similar approach has been taken for Unit 2. Management meetings with the licensee have been held approximately monthly. Most of these meetings have been held at the site. All of the management meetings have been open to public observation.

A portion of the licensee's own assessment of the adequacy of the effectiveness of their programs consists of independent self-assessments of performance that are being performed by the licensee's Nuclear Assurance Department. These assessments are being conducted at specific milestones during the recovery of both units. Region IV has conducted inspections which assessed both the quality and independence of these self-assessments and the thoroughness and degree of adequacy that the licensee had addressed previously and recently identified problems. In addition to this assessment, the licensee has conducted independent assessments utilizing an outside party. These assessments identified areas for improvement which included the size of the station problem report backlog. These improvement items were discussed by the licensee during the April 8, 1994, public meeting.

An Office of the Inspector General inspection report that received limited distribution and was issued February 18, 1993, identified that violations of 10 CFR 50.7 had occurred involving two former security force personnel. This

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issue was subsequently referred to the Department of Justice. A demand for information was sent to the licensee on September 29, 1993, and a response has been received. The licensee denied the violations.

The Operational Readiness Assessment Team completed its inspection activities in January 1994. The team identified continuing weaknesses with configuration management and the corrective action program but the team was generally supportive of Unit 1 restart.

A special inspection conducted by the resident inspector staff was performed in January 1994. The inspection addressed issues identified by the residents during a reactor containment building sump inspection. Specifically, the as-found condition of the emergency containment sump enclosures did not meet the design basis because openings in the sump screen were too wide and debris could enter the sump during the recirculation phase of the design basis accident.

An issue has been identified concerning non-Technical Specification governed; but safety-related heating, ventilation, and air conditioning tornado dampers. The specific issue, which was first identified by the Diagnostic Evaluation Team (DET), referred to the absence of any testing or maintenance documentation that would indicate that these components had been tested since their installation. Although this issue was not included in the DET report, it was assigned as a staff action, and the Restart Panel identified the issue as a Restart Issue. A Restart Issue inspection closed this issue in November 1993. However, the licensee has subsequently reported that a section of one tornado damper originally believed to be functional, would not have been capable of performing its safety-related function in the event of a tornado at the station. The regional staff performed a special inspection with the Office of Investigation to review details associated with the failure to make a 10 CFR 50.72 Notification and an inconsistency between the subject LER and restart issue inspection report. Two violations were cited.

The Regional Staff conducted an assessment of licensee performance as Unit 1 approached 90% power. The results of this assessment indicated that generally plant operators were performing acceptably, with a few exceptions noted in the areas of oversight and control of plant tests and surveillances. However, there were several persistent hardware issues that have not been fully resolved. These issues include continuing material condition and reliability problems with steam generator feedwater pumps, steam generator power-operated relief valves, emergency diesel generators, and feedwater regulating valves.

On March 10, 1994, while in mid-loop operation in support of the leaking steam generator tube repair, the licensee lost shutdown cooling for approximately five minutes. This event occurred during the performance of a solid state protection system surveillance when licensed operators failed to inform the control room of procedure adherence problems encountered during the performance of the activity. A management meeting was conducted with the licensee on March 16, 1994. During that meeting the licensee informed the staff that no hardware problems had been identified with the solid state protection system. The contributing factors to the loss of shutdown of cooling was a lack of management oversight and an unacceptable performance by the operators conducting the surveillance.

The licensee has experienced several problems with emergency diesel generators. These problems stemmed from former poor work practices, weak procedures, subcomponent failures, and failure to effectively use vendor information. Efforts in late 1993 by the licensee to improve maintenance practices and thereby improve the reliability of emergency diesel generators has resulted in extensive diagnostic testing that the staff considers to be

indicative of good responsiveness to resolving the previously identified problems in this area. However, other problems with emergency diesel generators have recently been identified. These problems consist of a relay problem with the field flash circuit of Standby Diesel Generator 11, which has been determined to have rendered the machine inoperable from February 3 to March 11, 1994; inadvertent starts of Standby Diesel Generator 21; and a broken piston and other signs of significant degradation of Standby Diesel Generator 22. A management meeting, open to public observation, was conducted with the licensee on March 16, 1994, to discuss these recently identified emergency diesel generator problems and the actions the licensee has taken, or plans to take, to resolve them. Subsequently, Standby Diesel Generator 22 experienced a fuel injection pump (jerk pump) hold down bolt failure. This has been a recurring failure on the these engines. The Region IV and NRR staffs are continuing to follow up on the potential standby diesel generator operational concerns.

A request by Thomas J. Saporito in accordance with 10 CFR 2.206 to shut down the facility due to a variety of issues has been acknowledged and denied. The final Director's Decision is still under review. This decision has been delayed until the Department of Justice completes its review of possible criminal violations in regard to whistleblower activities. Additionally, various allegations have been made at the facility by current and former plant workers, and these are under review.

### III. FUTURE ACTIVITY

Region IV has scheduled the inspection activities required to assess the licensee's efforts to restart Unit 2. A public meeting following the completion of the inspection effort will be held to ascertain whether the Unit 2 restart CAL should be lifted. The licensee has scheduled May 16, 1994, as the date for the restart of Unit 2. Based on the preliminary results of the inspections conducted to date and an assessment of the licensee's restart plan, Region IV anticipates that this date is achievable. The largest threat to the schedule is resolution of diesel generator problems.

Unit 2 remains in its third refueling outage and is currently in Mode 5. The licensee has shifted the majority of the work activities to Unit 2 to facilitate completion of restart work activities.

## LISTING OF SIGNIFICANT INSPECTIONS CONDUCTED WITHIN THE PREVIOUS YEAR

<u>DATE OF INSPECTION</u>	<u>AREA OF INSPECTION</u>
March-April 1993	Diagnostic Evaluation
December 1993	Employee Concern Program Review
December 1993-January 1994	Operational Readiness Assessment Team Inspection
February - April 1994	Continuous Control Room Observations

## LISTING OF NRC SENIOR MANAGERS MEETINGS WITH THE LICENSEE'S BOARD OF DIRECTORS

<u>DATE OF MEETING</u>	<u>PURPOSE</u>	<u>NRC MANAGERS ATTENDING</u>
June 3, 1993	DET Exit	E. Jordan J. Parlow J. Milhoan
August 4, 1993	HL&P Board	J. Taylor T. Murley J. Milhoan

## DATA SUMMARY

## I. OPERATIONAL PERFORMANCE

A. SCREEN SUMMARYUnit 1

On February 28, 1994, the unit was manually tripped from 28 percent thermal power because of a failed closed feedwater regulating valve. An automatic reactor trip would have occurred because of decreasing steam generator level.

Unit 2

None

B. Significant Operator Errors

On March 10, 1994, with Unit 1 in Mode 5 an unexpected safety injection actuation occurred on all three trains during restoration from a solid state protection system logic functional test. The reactor operators transitioned from Train S to Train R which resulted in the safety injection actuation signal, a loss of shutdown cooling and a gravity feed path from the refueling water storage tank to the reactor coolant system. It was determined that the operators had conducted the surveillance test on the incorrect train and that inadequate management oversight had been provided in permitting the activity to be performed with the plant in midloop operation.

C. Procedures

A number of procedure weaknesses and examples of licensee personnel failing to follow procedures have been identified since the last SMM. These include:

- the reactor startup procedure did not provide clear guidance on linearly extrapolating the critical boron concentration,
- two temperature switches were replaced in a standby diesel generator room without first conducting a prejob briefing,
- valve maintenance technicians failed to verify the station component valve identifications matched resulting in work being conducted on the incorrect valve,
- operators performed a surveillance on the incorrect train resulting in a safety injection actuation signal and loss of shutdown cooling.

## II. CONTROL ROOM STAFFING

A. Number of Licensed Operators

[HOLB]

B. Number and Length of Shifts

[HOLB]

C. Role of STA

One STA is shared between the two units. They are not assigned to a specific shift crew, nor do they receive training with a specific shift crew. STAs do not hold a senior operator's license. The STA's primary duty is to act as an accident prevention and mitigation advisor to the shift supervisor.

D. Regualification Program Evaluation

[HOLB]

## III. PLANT-SPECIFIC AND UNIQUE DESIGN INFORMATION

A. Plant-Specific Information

Owners:	Houston Lighting and Power Company City of San Antonio Central Power & Light Company City of Austin
Reactor Supplier/Type:	Westinghouse/4-loop PWR
Capacity, MWT:	3800 MWT
Architect/Engineer:	Bechtel
Constructor:	Ebasco
Commercial Operation:	Unit 1: August 25, 1988 Unit 2: June 19, 1989

B. Unique Design Information

Containment: Dry, carbon steel lined, prestressed, reinforced concrete, cylindrical structure with a hemispherical dome

Emergency Core Cooling Systems: Three high head safety injection, low head safety injection, and containment spray pumps; three safety injection accumulators; three motor-driven, 50 percent capacity, auxiliary feedwater pumps, one turbine-driven, 50 percent capacity auxiliary feedwater pump per unit

AC Power: Eight 345 kV offsite sources; three 5500 kW Cooper-Berkeley emergency diesel generators per unit

DC Power: Four sets of batteries powering four independent Class 1E 125-VDC subsystems per unit

## IV. SIGNIFICANT MPAC OR PLANT-UNIQUE ISSUES

A. Generic Licensing Items

PROJECTS

## V. STATUS OF THE PHYSICAL PLANT

A. Problems Attributed to Aging

STP is a relatively new site and no major aging problems have manifested themselves. Because of the length of construction, however, equipment and components are not considered new. There have been many plant events and forced outages primarily because of balance-of-plant equipment problems.

B. Other Hardware Issues

Several longstanding problems associated with the EDGs, the main feedwater system, essential chillers, and MOVs were addressed prior to the Unit 1 startup. Continuing concerns with the adequacy of corrective actions to resolve standby diesel generator fuel injector pump (jerk pump) bolt failures are being addressed by the licensee.

The maintenance backlog has been reduced; however, the licensee's ability to maintain the backlog within reason remains to be demonstrated following the return to power operations.

VI. PRA

A. PRA Insights

[SPSB]

B. PRA Profile

[SPSB]

C. Core Damage Precursor Events

[SPSB]

VII. ENFORCEMENT HISTORY

[OE]