

UNITED STATES

REGION IV

611 RYAN PLAZA DRIVE, SUITE 400 ARLINGTON, TEXAS 76011-8064

NOV - 2 1993

### MEMORANDUM FOR: James M. Taylor, Executive Director for Operations

FROM: James L. Milhoan, Regional Administrator

SUBJECT: STATUS SUMMARY OF REGION IV STAFF ACTIONS RESULTING FROM THE DIAGNOSTIC EVALUATION AT THE SOUTH TEXAS PROJECT

In response to your memorandum of August 3, 1993, I am providing the attached 90-day status summary for the assigned Region IV staff actions stemming from the Diagnostic Evaluation of South Texas Project (STP), Units 1 and 2.

My staff has reviewed the Diagnostic Evaluation Report, the Confirmatory Action Letter and its supplements, the licensee's Operational Readiness Plan, the inspection finding system, licensing actions, the allegation management system, and your August 3, 1993, memorindum in order to identify the current outstanding issues which must be considered in order to determine the licensee's readiness to restart either unit at STP. The results of this review were documented in NRC Inspection Report 50-498/93-31; 50-499/93-31, which is attached for your information.

To coordinate the NRC activities prior to authorization of unit restart, the South Texas Project Restart Panel is working under the guidance of Manual Chapter 0350. The Panel has submitted and the Associate Director for Projects and I have approved the South Texas Project Restart Action Plan, a copy of which has been forwarded to you. Section D of this plan lists the plant-specific issues which must be reviewed in order to assess the licensee's readiness to restart either unit at STP.

If there are any questions regarding the Restart Action Plan or the status of the Region IV staff action items, please contact me or have your staff contact Bill Johnson at (817) 860-8148.

tamesh.

Dames L. Milhoan Regional Administrator

Attachments:

- Status Summary of Region IV Staff Actions
- NRC Inspection Report 50-498/93-31; 50-499/93-31

9503060157 940831 PDR FDIA LAWRENC94-162 PDR James M. Taylor

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cc w/attachments: T. Murley, NRR (MS 12G18) J. Partlow, NRR (MS 12G18) E. Jordan, AEOD (MS 3701) S. Rubin; AEOD (MS 5219); J. Roe, NRR (MS 13E4) E. Adensam, NRR (MS 13E4) W. Russell, NRR (MS 12G18) S. Black, NRR (MS 13H15) L. Kokajko, NRR (MS 13E16) E. Imbro, NRR (MS 9A1)

### ATTACHMENT 1

### STATUS SUMMARY OF REGION IV STAFF ACTIONS

Issue 1: A number of operator workload issues were raised as a result of the diagnostic evaluation at STP. Given the conditions that were prevalent at STP, the design of the facility, and operator workarounds, the scope of responsibilities and administrative work of the operating staff was excessive. For example, the team concluded that operator staffing, although it exceeded TS minimum requirements, was strained in accomplishing the complex tasks for a scenario involving shutdown from outside the control room.

<u>Staff Action 1.(a)</u>: Assess operating staff workload issues at STP and the management actions to resolve them.

Status: This issue is considered a restart issue. The licensee's Operational Readiness Plan addressed several initiatives to increase staffing and to reduce the administrative workload of the operators. The Region IV inspection in this area is planned to be performed in two segments. The first segment is scheduled for the week of November 1, 1993, and the second segment is scheduled for the week of November 29, 1993.

<u>Issue 3</u>: A limited review of the fire protection area identified deficiencies at STP associated with: the fire protection computer alarm system and operator training on the system, a large backlog of service requests on fire protection systems, control of transient combustibles in the plant, and fire brigade leader qualification. STP management did not oversee and direct the efforts to resolve the above deficiencies in a timely manner.

<u>Staff Action 3</u>: Conduct a followup inspection of the fire protection deficiencies at STP.

Status:This issue includes two restart issues: (1) adequacy<br/>of fire brigade leader training and qualifications;<br/>and (2) adequacy of the fire protection computers and<br/>software, the licensee's success in reducing the<br/>number of spurious fire protection system alarms, and<br/>other fire protection hardware problems. The first<br/>segment of the Region IV inspection of these issues<br/>was conducted during the week of October 18, 1993.<br/>Preliminary results of this inspection were favorable,<br/>indicating considerable progress. A followup<br/>inspection will be scheduled prior to unit restart.

Issue 8:

In the transmittal letter forwarding the diagnostic evaluation report, HL&P was requested to review the report and respond within 60 days describing actions they intend to take to address root causes of identified weaknesses.

Staff Action 8: diagnostic evaluation report for completeness. Prepare an appropriate reply for EDO signature.

Status:

Review and evaluate the licensee's response to the

The licensee submitted its 1994 - 1998 South Texas Project Business Plan on October 15, 1993. The Business Plan and the previously submitted Operational Readiness Plan are intended to address the diagnostic evaluation findings and other performance issues identified by NRC and the licensee. Both are currently under staff review. The STP Restart Panel members discussed the Business Plan in a Panel Meeting that was held on October 28, 1993. In addition, the licensee provided a briefing on the Business Plan in a public meeting at the site on October 29, 1993. A reply to the licensee's submittals is currently being prepared for EDO signature.

#### UNITED STATES



NUCLEAR REGULATORY COMMISSION

REGION IV

611 RYAN PLAZA DRIVE, SUITE 400 ARLINGTON, TEXAS 76011-0064

ATTACHMENT 2

October 15, 1993

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

Houston Lighting & Power Company ATTN: William T. Cottle, Group Vice President, Nuclear P.O. Box 1700 Houston, Texas 77251

SUBJECT: NRC INSPECTION REPORT 50-498/93-31; 50-499/93-31

This refers to the inspection conducted by Messrs. M. A. Satorius and T. O. McKernon during the period September 20-24, 1993. The inspection included a review of activities authorized for your South Texas Project facility. At the conclusion of the inspection, the findings were discussed by telephone conference with those members of your staff identified in the enclosed report.

Areas examined during the inspection are identified in the report. Within these areas the inspection consisted of reviews of the Diagnostic Evaluation Team Report issued on June 10, 1993; the Confirmatory Action Letter, issued February 5, 1993; the Confirmatory Action Letter Supplement, dated May 7, 1993; the second supplement to the Confirmatory Action Letter dated October 15, 1993; items contained in your Operational Readiness Plan; items identified in NRC inspection reports; licensing actions; and selected NRC staff actions resulting from the diagnostic evaluation. As a result of this evaluation, NRC has determined the current outstanding issues that the NRC considers necessary to be addressed prior to the restart of either unit. These restart issues are identified in the enclosed report.

Within the scope of the inspection, no violations or deviations were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be placed in the NRC Public Document Room.



Houston Lighting & Power Company -2-

Should you have any questions concerning this inspection, will be pleased to discuss them with you.

Sincerely,

A. Bill Beach, Director Division of Reactor Projects

Enclosure: NRC Inspection Report 50-498/93-31; 50-499/93-31 w/attachments

cc: Houston Lighting & Power Company ATTN: James J. Sheppard, General Manager Nuclear Licensing P.O. Box 289 Wadsworth, Texas 77483

City of Austin Electric Utility Department ATTN: J. C. Lanier/M. B. Lee 721 Barton Springs Road Austin, Texas 78704

City Public Service Board ATTN: K. J. Fiedler/M. T. Hardt P.O. Box 1771 San Antonio, Texas 78296

Newman & Holtzinger, P. C. ATTN: Jack R. Newman, Esq. 1615 L Street, NW Washington, D.C. 20036

Central Power and Light Company ATTN: G. E. Vaughn/T. M. Puckett P.O. Box 2121 Corpus Christi, Texas 78403

INPO Records Center 700 Galleria Parkway Atlanta, Georgia 30339-5957 Houston Lighting & Power Company

Mr. Joseph M. Hendrie 50 Bellport Lane Bellport, New York 11713

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

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

Licensing Representative Houston Lighting & Power Company Suite 610 Three Metro Center Bethesda, Maryland 20814

Houston Lighting & Power Company ATTN: Rufus S. Scott, Associate General Counsel P.O. Box 61867 Houston, Texas 77208 -3-

Houston Lighting & Power Company

bcc to DMB (IE01)

bcc distrib. by RIV: J. L. Milhoan Section Chief (DRP/A) MIS System RIV File R. Bachmann, OGC, MS: 15-B-18 T. O. McKernon (DRS)

Resident Inspector Lisa Shea, RM/ALF, MS: MNBB 4503 DRSS-FIPS Project Engineer (DRP/A) Section Chief (DRP/TSS)

*RIV:RI:DRS/OPS	*PE:DRP/A	*C:DRP/A	*D:DRS	D:DRP
TOMcKernon;df	MASatorius	WBJohnson	SJCollins	ABBeach
10/ /93	10/ /93	10/ /93	10/ /93	10/ /93

\* Previously concurred

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#### APPENDIX

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

NRC Inspection Report Nos.: 50-498/93-31 50-499/93-31

Licenses: NPF-76 NPF-80

Licensee: Houston Lighting & Power Company P.O. Box 1700 Houston, Texas 77251

Facility Name: South Texas Project Electric Generating Station (STPEGS), Units 1 and 2

Inspection At: Region IV Offices, Arlington, Texas

Inspection Conducted: September 20-24, 1993

Inspectors: Mark A. Satorius, Project Engineer, Project Section A, Division of Reactor Projects

T. O. McKernon, Reactor Inspector, Operations Section, Division of Reactor Safety

Approved:

W. D. Johnson, Chief, Project Section A Date

Inspection Summary

<u>Areas Inspected:</u> Routine in-office inspection of the issues contained in the Diagnostic Evaluation Team (DET) Report, Confirmatory Action Letter (CAL) and Supplements, the licensee's Operational Readiness Plan (ORP), routine and special NRC inspection reports, licensing actions, and NRC staff actions.

#### Results:

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- No violations or deviations of NRC requirements were identified.
- The DET report, CAL and Supplements, ORP, routine and special NRC inspection reports, licensing issues, and NRC staff actions assigned by the NRC Executive Director for Operations following the Diagnostic Evaluation were reviewed. Based on this review, issues that the NRC considers necessary to be addressed prior to the restart of either unit (Restart Issues) were identified and listed in Attachment 2.

- Items identified in the review of the DET report, ORP, and NRC staff actions related to Restart Issues were assigned an Inspection Followup Item (IFI) in order to facilitate tracking and eventual closure. In addition to these items, previously identified NRC inspection items and licensing issues that were related to the Restart Issues (e.g., IFIs, unresolved items [URIs] violations, and others) were identified. All of these items related to the Restart Issues were cross-referenced and incorporated into a matrix in Attachment 2.
- Attachment 3 contains a matrix that cross-references items similar in root cause and required corrective action.

# Summary of Inspection Findings:

See Attachments 2 and 3

### Attachments:

6

- Attachment 1 Persons Contacted and Exit Meeting
- Attachment 2 Restart Issues/Related Items Matrix
- Attachment 3 Summary of Inspection Findings/Common Items Reference Matrix

### DETAILS

#### 1 BACKGROUND

Both units at STPEGS were shut down in early February 1993 and remain shutdown as a result of numerous broad scope 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 invediately 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 CAL to the Houston Lighting & Power 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 Supplement, which was subsequently issued on May 7, 1993, identified a number of issues that required resolution prior to either unit being restarted. A second supplement to the CAL was issued on October 15, 1993, and identified additional restart issues.

In addition to the AIT activities, several special inspections were conducted since February 1993, in order to resolve safety and regulatory issues identified at STPEGS. Several of these special inspections resulted in enforcement action being taken against the licensee.

Separate from these turbine-driven auxiliary feedwater pump and other problems, the NRC Office for Analysis and Evaluation of Operational Data conducted a Diagnostic Evaluation of STPEGS during the period March 29 to April 30, 1993. The findings of this evaluation 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 DET report, the licensee submitted their ORP on August 28, 1993. In addition to responding to short-term problems that the licensee considered necessary to resolve prior to restart, the ORP addresses the planned actions in response to the CAL and CAL Supplement of May 7, 1993, special and routine Regional inspections, and other licensee-identified concerns and problems.

In an effort to identify the issues that NRC considers necessary to address prior to restart (Restart Issues), a review was conducted of the DET report, CAL and CAL Supplements, ORP, routine and special NRC reports, licensing issues, and NRC staff actions. As a result of this review, the Restart Issues in the following table were identified.

	RESTART ISSUES
1	Turbine-Driven Auxiliary Feedwater Pump Reliability and Testing Methodology
2	Station Problem Report Process, Threshold, Licensee's Review of Existing Reports for Issues Affecting Operability and Safe Plant Operation
3	Service Request (SR) 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
4	The Postmaintenance Test Program, Including Corrective Actions in Response to Violations and Other Process Improvements and the Basis For Licensee's Confidence That Equipment Removed From Service for Maintenance is Properly Restored to an Operable Status
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
6	Adequacy of Operations Staffing
7	Adequacy of Fire Brigade Leader Training and Qualifications
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
9	Licensee Management's Effectiveness in Identifying, Pursuing, and Correcting Plant Problems
10	NRC Review of the Effectiveness of the Licensee's SPEAKOUT Program
11	Standby Diesel Generator Reliability
12	Essential Chiller Reliability
13	Monitoring of the Licensee's System Certification Program
14	Adequacy of the Licensee's Resolution of the Reliability and Operability of the Feedwater Isolation Bypass Valves
15	Tornado Damper Issues
16	Emergency Preparedness Accountability Drills

These Restart Issues are listed in Attachment 2 and are referenced to items related to restart, such as IFIs, URIs, violations, and others. Closure of each of these items related to restart is not necessary for the associated Restart Issue to be considered resolved.

## 2 DIAGNOSTIC EVALUATION TEAM ITEMS RELATED TO RESTART (92701)

This section was structured to address the issues in the DET Report in a lineby-line format. The Executive Summary, Section 1.0, "Introduction"; Section 3.0, "Root Causes"; and Section 4.0, "Exit Meeting" were not addressed in this line-by-line format because the items addressed in these sections were determined to be identified in the detailed sections of the DET Report or did not contain issues associated to unit restart. Similarly, with several noted exceptions, the introductory sections of Section 2.1, "Operation"; Section 2.2, "Maintenance and Testing"; Section 2.3, "Engineering Support"; and Section 2.4, "Management and Organization," were not addressed because the issues addressed in these sections were also determined to be identified in the detailed portion of the corresponding section of the report. In addition, the positive observations in Sections 2.1, 2.2, 2.3, and 2.4 were not addressed because these issues were determined to be not applicable.

### 2.1 IFIs Identified in the Operations Section of the DET Inspection

2.1.1 Paragraph 2.1.1, "Marginal Staffing for Scope of Responsibility"

2.1.1.1 (Open) IFI 498;499/9331-01: The team found that the assigned workload and poor site support adversely impacted the capability of the shift supervisor and the control room staff to safely operate the plant (identified in paragraph 2.1).

2.1.1.2 (Open) IFI 498;499/9331-02: Operators were significantly affected by degraded plant equipment, including equipment workarounds and the administrative burden associated with the high rate of removal and return of equipment to service (identified in paragraph 2.1).

2.1.1.3 (Open) IFI 498;499/9331-03: The shift supervisors and their control room staff could not effectively maintain the proper focus and overview of plant operations because of their participation in administrative programs and resource-intensive surveillances.

2.1.2 Paragraph 2.1.2, "Poor Support to Operations"

2.1.2.1 (Open) IFI 498;499/9331-04: Poor support to operations was adversely impacting the licensee's capability to safely operate the plant.

2.1.3 Paragraph 2.1.3, "Confusing and Conflicting Management Expectations"

2.1.3.1 (Open) IFI 498;499/9331-05: Management has sent confusing and conflicting guidance to the control room staff through numerous memoranda without soliciting input from the first line supervisors.

2.1.4 Paragraph 2.1.4, "Inconsistent Operator Performance"

No IFIs related to Restart Issues were identified in this paragraph.

2.1.5 Paragraph 2.1.5, "Ineffective Problem Identification and Resolution"

2.1.5.1 (Open) IFI 498;499/9331-06: Management support to correct program and component problems was not always effective.

### 2.2 IFIs Identified in the Maintenance and Testing Section of the DET Inspection

2.2.1 Paragraph 2.2.1, "Ineffective Corrective Maintenance"

2.2.1.1 (Open) IFI 498;499/9331-07: The team found that maintenance and testing weaknesses reduced the reliability of safety-related and balance-of-plant equipment (identified in paragraph 2.2).

2.2.1.2 (Open) IFI 498;499/9331-08: Ineffective corrective and weak preventive maintenance significantly contributed to poor equipment performance (identified in paragraph 2.2).

2.2.1.3 (Open) IFI 498;499/9331-09: Ineffective corrective maintenance, caused by inadequate root cause analysis, poor prioritization of work, and poor craft performance, adversely affected safety-related equipment performance (identified in paragraph 2.2).

2.2.1.4 (Open) IFI 498;499/9331-10: Surveillance and postmaintenance testing did not always verify equipment operability (identified in paragraph 2.2).

2.2.1.5 (Open) IFI 498;499/9331-11: Standby diesel generator (SDG) injector pump hold down studs failed on nine separate occasions. The root cause analysis was shallow and corrective actions were insufficient to preclude recurrence. The licensee did not perform a more detailed analysis of the stud failures until the team became involved.

2.2.2 Paragraph 2.2.2, "Less than Fully Effective Preventative Maintenance Program"

No IFIs related to Restart Issues were identified in this paragraph.

2.2.3 Paragraph 2.2.3, "Maintenance Training Deficiencies"

No IFIs related to Restart Issues were identified in this paragraph.

2.2.4 Paragraph 2.2.4, "Deficiencies in the Replacement Parts Program"

No IFIs related to Restart Issues were identified in this paragraph.

2.2.5 Paragraph 2.2.5, "Insufficient Support to Maintenance"

2.2.5.1 (Open) IFI 498;499/9331-80: Management support to maintenance was poor, reducing the effectiveness of the maintenance process and quality of the maintenance effort.

2.2.6 Paragraph 2.2.6, "Inefficient Work Control Process"

2.2.6.1 (Open) IFI 498;499/9331-12: Several SDG failures resulted from broken fuel oil injector pump hold down studs, many of which were installed using a deficient stud driver tool designed by the system engineer. The system engineer failed to consult design engineering or the SDG vendor while designing the tool.

2.2.6.2 (Open) IFI 498;499/9331-79: Work procedures occasionally contained unneeded information and did not match the experience of the individuals using the procedures. Procedures were sometimes ignored and often revised to correct errors.

2.2.7 Paragraph 2.2.7, "Post-Maintenance Testing Program Not Always Effective"

2.2.7.1 (Open) IFI 498;499/9331-13: Numerous weaknesses in the implementation and programmatic requirements for postmaintenance testing reduced assurance that equipment was operable upon return to service.

2.2.7.2 (Open) IFI 498;499/9331-14: The Post-Maintenance Testing manual used by planners to select the appropriate test requirements did not specify appropriate detail and occasionally specified the wrong test.

2.2.8 Paragraph 2.2.8, "Periodic Testing Not Always Effective"

2.2.8.1 (Open) IFI 498;499/9331-15: Previous licensee event reports and NRC enforcement actions documented that the licensee's testing procedures did not ensure all Technical Specification surveillance requirements were being met. Numerous instances had been identified where procedures were inadequate to meet Technical Specification surveillance requirements, thereby reducing assurance that the equipment was operable. Among these was a failure to completely test a manual reactor trip handswitch and the nonconservative setting of one of the four reactor protection channels during a reactor startup. To address these inadequacies, the licensee committed to perform a sample review of Technical Specification surveillance tests and verify their technical adequacy. The licensee's sample indicated that the Technical Specification surveillance program needed strengthening but did appear to satisfy Technical Specification. The licensee later committed to enhance the Technical Specification surveillance procedures.

### 2.3 IFIs Identified in the Engineering Support Section of the DET Inspection

2.3.1 Paragraph 2.3.1, "Weak Support in Resolving Plant Problems"

2.3.1.1 (Open) IFI 498;499/9331-16: Configuration control weaknesses adversely affected safety-related equipment and the quality of design documents (identified in paragraph 2.3).

2.3.1.2 (Open) IFI 498;499/9331-17: The licensee also did not resolve several chronic fire protection issues in a timely manner. The issues included excessive shrinkage of penetration seals, an unreliable fire alarm system, a large backlog of service requests on fire protection systems, and inadequate control of transient combustibles in the plant (identified in paragraph 2.3).

2.3.1.3 (Open) IFI 498;499/9331-18: The engineering departments gave weak support in resolving plant problems. The root cause analyses and resulting corrective actions were often ineffective in preventing repetitive equipment problems.

2.3.1.4 (Open) IFI 498;499/9331-77: Torque measurements and computations associated with testing of motor-operated valves (MOVs) were not evaluated to verify valve operability. Other MOV operability/reliability issues existed.

2.3.2 Paragraph 2.3.2, "System Engineering Program Not Effectively Implemented"

No IFIs related to Restart Issues were identified in this paragraph.

2.3.3 Paragraph 2.3.3, "Engineering Work Backlogs Were Large, Poorly Tracked, and Not Well Managed"

2.3.3.1 (Open) IFI 498;499/9331-81: Engineering backlogs were large, poorly tracked, and not well managed. Informational data bases were often inaccurate or not current.

2.3.4 Paragraph 2.3.4, "Use of Industry and Site Operational Experience Was Inadequate"

No IFIs related to Restart Issues were identified in this paragraph.

2.3.5 Paragraph 2.3.5, "Insufficient Support to Engineering"

No IFIs related to Restart Issues were identified in this paragraph.

2.3.6 Paragraph 2.3.6, "Configuration Control Weaknesses"

2.3.6.1 (Open) IFI 498;499/9331-19: Configuration control weaknesses which adversely affected safety-related plant equipment, were noted in several

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instances, such as molded case circuit breakers, SDGs, and environmental gualification of MOVs.

2.3.7 Paragraph 2.3.7, "Functional and Programmatic Weaknesses Could Adversely Affect the Operability of the Essential Chilled Water System"

2.3.7.1 (Open) IFI 498;499/9331-20: [unctional and programmatic weaknesses were observed in the design, testing, modification, and maintenance of the (essential chilled water system) that, if uncorrected, could adversely affect the operability of the system. This and related essential chilled water system issues are included in Supplement 2 to the CAL.

2.3.7.2 (Open) IFI 498;499/9331-21: The ability of the essential chilled water system to function for extended periods, during a design basis accident under low heat load conditions, was never demonstrated, either by testing the system at various design basis accident heat loads or by engineering analysis.

2.3.8 Paragraph 2.3.8, "Untimely Resolution of Fire Protection Issues"

2.3.8.1 (Open) IFI 498;499/9331-22: The licensee did not resolve numerous fire protection issues in a timely manner. The issues included excessive shrinkage of penetration seals, an unreliable fire alarm system, a large backlog of service requests on fire protection systems, and inadequate control of transient combustibles in the plant.

### 2.4 IFIs Identified in the Management and Organization Section of the DET Inspection

2.4.1 Paragraph 2.4.1, "Ineffective Direction and Oversight"

2.4.1.1 (Open) IFI 498;499/9331-23: The team concluded that the licensee's ineffective corrective action processes were major obstacles to improving plant equipment and human performance. Ineffective problem identification, shallow root cause analyses, inadequate safety evaluations, and lack of aggressive problem resolution resulted in short-term rather than long-term solutions.

2.4.2 Paragraph 2.4.2, "Poor Support and Resource Utilization"

2.4.2.1 (Open) IFI 498;499/9331-24: Staffing levels were marginal or insufficient in several key areas.

2.4.3 Paragraph 2.4.3, "Communications And Teamwork Were Weak"

2.4.3.1 (Open) IFI 498;499/9331-78: Although the Speakout and Employee Assistance Programs were intended to be anonymous, there was a perception by many employees that they were not. 2.4.3.2 (Open) IFI 498;499/9331-25: The threshold of station problem report (SPR) initiation and depth of root cause analyses was not well defined or communicated to staff.

2.4.4 Paragraph 2.4.4, "Ineffective Corrective Action Process"

2.4.4.1 (Open) IFI 498;499/9331-26: The team concluded that the licensee's ineffective corrective action process was a major obstacle to plant equipment and human performance improvement.

2.4.4.2 (Open) IFI 498;499/9331-27: Confusion and lack of training resulted in SPRs not being issued in a timely manner on safety-related equipment.

2.4.4.3 (Open) IFI 498;499/9331-28: An example of inadequate root cause analysis was the licensee's failure to identify the root cause of repeated failures of SDG fuel injector pump hollow hold-down studs.

2.4.5 Paragraph 2.4.5, "Ineffective Utilization of Self-assessment and Quality Oversight Functions"

2.4.5.1 (Open) IFI 498;499/9331-82: Management did not respond effectively to the findings, concerns, and recommendations of their principal selfassessment and quality oversight functions.

2.4.6 Paragraph 2.4.6, "Inadequate Information Systems"

No IFIs related to Restart Issues were identified in this paragraph.

3 CAL AND SUPPLEMENT RESTART ISSUES (92701)

This section addresses the issues identified in the CAL and its Supplements and assigns issue numbers as listed in Attachment 2.

3.1 Restart Issues Identified in the CAL

3.1.1 The CAL states that the licensee will not restart either unit at STPEGS until the NRC staff has been briefed on the results of the licensee's efforts to correct the overspeed trip condition that was affecting the turbine-driven auxiliary feedwater pumps. This issue has been identified as Restart Issue 1 and is listed in Attachment 2.

3.2 Restart Issues Identified in the CAL Supplements

In addition to the issues identified in the CAL, both the CAL Supplements included additional topics that the licensee would be required to brief the NRC staff on prior to restart of either unit at STPEGS.

3.2.1 The first bullet of the CAL Supplement (May 7, 1993) pertained to the licensee's SPR process, including process improvements, threshold, and the results of the licensee's review of existing reports for issues affecting

operability safe plant operation. This issue has been identified as Restart Issue 2 and is listed in Attachment 2.

3.2.2 The second bullet of the CAL Supplement (May 7, 1993) pertained to the SR 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. This issue was identified as Restart Issue 3 and is listed in Attachment 2.

3.2.3 The third bullet of the CAL Supplement (May 7, 1993) pertained to the postmaintenance test program, including corrective actions in response to recent violations and other process improvements and the basis for the licensee's confidence that equipment removed from service for maintenance, was properly restored to an operable status. This issue was identified as Restart Issue 4 and is listed in Attachment 2.

3.2.4 The fourth bullet of the CAL Supplement (May 7, 1993) included the outstanding design and temporary modifications and other engineering backlog items, including the review of issues affecting equipment operability, safe plant operation, and operator work-arounds. This issue was identified as Restart Issue 5 and is listed in Attachment 2.

3.2.5 The fifth bullet of the CAL Supplement (May 7, 1993) addressed the staffing of the operations department, including the adequacy of current staffing levels, plans for replacing planned and unexpected losses to support safe plant startup and operation, and the adequacy of staffing under emergency conditions. This issue has been identified as Restart Issue 6 and is listed in Attachment 2.

3.2.6 The sixth bullet of the CAL Supplement (May 7, 1993) addressed the status of fire brigade leader training, including verification that this training meets regulatory requirements. This issue has been identified as Restart Issue 7 and is listed in Attachment 2.

3.2.7 The seventh bullet of the CAL Supplement (May 7, 1993) addressed the adequacy of fire protection computers, including reliability and functionality of the system. This issue has been identified as Restart Issue 8 and is listed in Attachment 2.

3.2.8 The eighth bullet of the CAL Supplement (May 7, 1993) addressed the licensee management's effectiveness in identifying, pursuing, and correcting plant problems, including any plans for independent reviews. This issue has been identified as Restart Issue 9 and is listed in Attachment 2.

3.2.9 The ninth bullet of the CAL Supplement (May 7, 1993) addressed the results of the licensee's internal restart readiness reviews. Although this issue was not considered by itself a Restart Issue, related items to this issue, such as the line management assessment plan, have been separately identified as IFIs and will be reviewed as part of the restart inspection process.

3.2.10 The first bullet of the second CAL Supplement (October 15, 1993) pertained to the effectiveness of the licensee's SPEAKOUT program in addressing employee safety concerns. This issue has been identified as Restart Issue 10 and is listed in Attachment 2.

3.2.11 The second bullet of the second CAL Supplement (October 15, 1993) pertained to topics associated with standby diesel generator reliability. This issue has been identified as Restart Issue 11 and is listed in Attachment 2.

3.2.12 The third bullet of the second CAL Supplement (October 15, 1993) pertained to essential chiller reliability issues. This issue has been identified as Restart Issue 12 and is listed in Attachment 2.

3.2.13 The fourth bullet of the second CAL Supplement (October 15, 1993) addressed the licensee's system certification program. This issue has been identified as Restart Issue 13 and is listed in Attachment 2.

3.2.14 The fifth bullet of the second CAL Supplement (October 15, 1993) pertained to the reliability and operability of the feedwater isolation bypass valves associated with both units. This issue has been identified as Restart Issue 14 and is listed in Attachment 2.

3.2.15 The sixth bullet of the second CAL Supplement (October 15, 1993) addressed the adequacy of tornado damper testing. This issue has been identified as Restart Issue 15 and is listed in Attachment 2.

3.2.16 The seventh bullet of the second CAL Supplement (October 15, 1993) addressed the effectiveness of emergency preparedness personnel accountability. This issue has been identified as Restart Issue 16 and is listed in Attachment 2.

4 IFIS IDENTIFIED IN THE ORP (92701)

This section was structured to address items related to Restart Issues identified in the licensee's ORP. Several of these IFIs are similar in character and scope to previously identified items related to Restart Issues, and the matrix of common items in Attachment 3 was included to identify and cross-reference common items.

4.1 (Open) IFI 498;499/9331-29: A new methodology will be developed to properly characterize the existing maintenance backlog and newly generated SRs.

4.2 (Open) IFI 498;499/9331-30: Additional backlog reduction goals for resumption of power operation established for engineering evaluations are:

- Demonstrate progress on completing a general backlog reduction from a peak value of approximately 1400 items down to 600 items by the end of 1993.
- No Operating Experience Reports, SPRS, Design Change Requests, Document Change Notices, or nondesign change Plant Change Forms (PCFs) greater than 1 year old without an engineering evaluation.

4.3 (Open) IFI 498;499/9331-31: Additional backlog reduction goals established for administrative/programmatic changes are:

- Update the 311 vendor documents with five or more open amendments that have been identified by Operations and Maintenance as impacts on their performance.
- Update key control room design drawings.
- No Master Parts List Change Forms open greater than 60 days.
- Demonstrate progress on reducing PM and SR history backlogs from 6100 to 200 by the end of 1993.

4.4 (Open) IFI 498;499/9331-32: The effectiveness of the Department Management Team and the Site Management Team will be periodically evaluated by STPEGS senior management.

4.5 (Open) IFI 498;499/9331-33: Technical Services will further support Operations by qualifying more personnel as fire brigade leaders.

4.6 (Open) IFI 498;499/9331-34: Power ascension will be coordinated by Power Ascension Test sponsors reporting directly to the plant manager.

4.7 (Open) IFI 498;499/9331-35: The certification and acceptance process will be procedurally controlled and documented by two procedures. One procedure will define a comprehensive package that demonstrates each key system has been adequately reviewed and any outstanding items have been appropriately evaluated and dispositioned. A second procedure will be developed that will require a comprehensive walkdown followed by acceptance of the system by the plant manager.

4.8 (Open) IFI 498;499/9331-36: Senior shift managers will provide continuous management representation and presence during selected evolutions throughout the power ascension program. The senior shift manager's primary function will be to ensure that the exercise of command and control authority of licensed operators is not diluted by the increased level of activities. The senior shift manager will also be responsible for assessing the conduct of Operations, Maintenance, and other support groups. 4.9 (Open) IFI 498;499/9331-37: The goal for Unit 1 and common power block SRs is below 1000.

4.10 (Open) IFI 498;499/9331-38: The goal for Unit 2 power block SRs is below 850.

4.11 (Open) IFI 498;499/9331-39: There will be no outstanding SRs that adversely affect plant safety or reliability (Priority 1 and 2).

4.12 (Open) IFI 498;499/9331-40: All Engineering backlog items that do not meet these general criteria will be completed:

- Open engineering work items that do not adversely affect plant material condition as determined by the size and age of the particular backlog.
- Open engineering work items that have no significant impact on safetyrelated equipment or system operability.

4.13 (Open) IFI 498;499/9331-41: Additional backlog reduction goals for resumption of power operations established for design/physical changes were:

- Reduction in the number of undispositioned nonconforming PCFs to less than 50 that are greater than 30 days old.
- Reduction to 15 Temporary Modifications from the current level of 24 installed for greater than 6 months for Unit 1 and Common.

4.14 (Open) IFI 498:499/9331-42: The additional backlog reduction goal established for carryover items from past programs was to either complete the engineering work product or convert the item to a current work program.

4.15 (Open) IFI 498;499/9331-43: The turbine-driven auxiliary feedwater pumps will be subjected to an augmented surveillance program that will confirm the reliability of the equipment.

4.16 (Open) IFI 498;499/9331-44: Engineering will perform calculations related to the essential chilled water system, which will provide the basis for evaluation and analysis of minimum and maximum chilled water loads under a range of weather-related conditions and postulated design basis accidents. Strategies will be developed to operate and test the system, and an evaluation of proposed chiller enhancements will be completed.

4.17 (Open) IFI 498;499/9331-45: Ensure that the essential chillers were capable of performing their design function.

4.18 (Open) IFI 498;499/9331-46: The status of the Technical Support Center diesel will be evaluated as part of the assessment process prior to the resumption of power operation.

4.19 (Open) IFI 498;499/9331-47: All SRs involving automatic functions will be evaluated and necessary work performed to ensure that no significant impact on system operability or operator burden exists. Any remaining inoperable automatic functions will be analyzed in the aggregate to ensure safe and reliable plant operation will not be unacceptably impacted.

4.20 (Open) IFI 498;499/9331-48: The status of the solenoid-operated valve issues will be evaluated as part of the assessment process.

4.21 (Open) IFI 498;499/9331-49: Management will review the number of components on increased surveillance testing frequency to ensure that the burden on operations and maintenance relating to the testing of these components will not adversely affect the safe operation of the plant.

4.22 (Open) IFI 498;499/9331-50: The plant modification for permanent flow instrumentation in the auxiliary feedwater system will be installed.

4.23 (Open) IFI 498;499/9331-51: Precision calibrations were being performed on the installed flow instruments in the component cooling water heat exchanger outlet to the essential cooling water system to preclude having to use temporary flow instruments.

4.24 (Open) IFI 498;499/9331-52: Design Changes or PCFs have been initiated to eliminate the use of temporary flow instruments or temporary pressure gages in the surveillance tests for the following systems: Essential Chilled Water, High Head Safety Injection, Spent Fuel Pool Cooling, and Screen Wash Booster Pumps. The status of these changes will be evaluated as part of the assessment.

4.25 (Open) IFI 498;499/9331-53: The assessment process will evaluate and determine the acceptability of continued operation at specific milestones including: prior to Mode 4; prior to criticality; power ascension above 50 percent power; completion of the first week of full power operation; after maintaining full power for 1 month; as determined thereafter. The process will include involvement of line and senior management, station assessment oversight groups (e.g., Nuclear Assurance, Independent Safety Engineering Group, Plant Operations Review Committee (PORC), Nuclear Safety Review Board (NSRB), Planning & Assessment) the Operational Readiness Review Panel (ORRP), outside consultants, and industry groups as determined by STPEGS executive management.

4.26 (Open) IFI 498;499/9331-54: In order to assure a consistent and integrated approach to the internal assessment process, a Line Management Assessment Plan will be prepared by line management and approved by the Group Vice President, Nuclear prior to core reload. Conceptually, the plan will consist of the following elements:

 Line managers with assessment responsibilities associated with resumption of operations will be defined. Assessment points or plateaus will be defined from core reload to 100 percent reactor power.

- Line managers designated above will prepare self-assessment checklists/plans for their functional area for each of the assessment milestones. These checklist/plans will address the hardware, program, and performance issues described in this ORP, including issues described in the NRC's CAL and CAL Supplement and appropriate issues for the diagnostic evaluation response. The checklists will both review performance to date and readiness to proceed to the next plateau.
- Prior to advancing beyond any assessment milestone, the checklists for that plateau will be completed and reviewed. The PORC will review the checklists for those functions that directly report to or support the Plant Managers organization. The ORRP will review the results of the PORC review and checklists from functions that are outside the plant manager's organization; e.g., Nuclear Licensing.

4.27 (Open) IFI 498;499/9331-55: In addition to the Line Management Assessment Plan, an Independent Assessment Plan will also be prepared and approved prior to core reload. Conceptually, this plan will address the following:

- An integrated surveillance/observation plan for internal (e.g., Quality Assurance [QA], Assessments, and Independent Safety Engineering Group) and external industry groups for specific plant events. This process will be managed and coordinated by the Nuclear Assurance Department.
- A review of the Line Management Assessment Plan at each assessment plateau. The plan will contain specific criteria for the assessment of the process. The General Manager-Nuclear Assurance will give the Group Vice President, Nuclear an independent opinion on readiness to proceed to the next plateau as an input on each plateau decision.
- Prior to ascending to Mode 4 and prior to criticality, the independent members of the NSRB will conduct a review of the decision/assessment process to date and provide that input to the General Manager-Nuclear Assurance.
- After reaching 100 percent power, the General Manager-Nuclear Assurance will conduct a critique of the independent assessment process and provide a report on the lessons learned and recommendations on improvements for the follow-on unit.
- Collectively, the Plant Manager and ORRP will report to the Vice President, Nuclear Generation and the Group Vice President, Nuclear on performance to date and readiness to proceed to the next plateau. They will also provide a recommendation on whether or not to proceed to the next plateau.

- The Vice President, Nuclear Generation will recommend and the Group Vice President, Nuclear will approve proceeding to the next plateau.
- After reaching 100 percent power, an overall critique of the process will be conducted by the Vice President, Nuclear Generation. Lessons learned and recommendations from that critique will be factored into the plan for the follow-on unit.

4.28 (Open) IFI 498;499/9331-56: Major changes were underway within the operational organizations in Nuclear Generation. The thrust was to unitize the Operations and Maintenance organizations to provide more organizational focus and to shorten communication chains within the organization.

4.29 (Open) IFI 498;499/9331-57: A six-crew operating schedule will be implemented. Each crew will consist of five licensed and five nonlicensed operators.

4.30 (Open) IFI 498;499/9331-58: A program modification to the fire protection computer revising over 1000 alarm messages to a more user friendly format which provides the type and location of each alarm device and automatically provides a hard copy printout of the associated Fire Pre-Plan document number for ease of reference will be installed.

4.31 (Open) IFI 498;499/9331-59: To enhance operational emphasis on safetyrelated and power block operations and to further reduce the burden on the operators, the responsibility for nonsafety-related support systems outside the protected area will be transferred to the Technical Services Department.

4.32 (Open) IFI 498;499/9331-60: Operators will receive specific training which, as a minimum, will consist of:

- Performance on the simulator of a reactor and plant startup from Mode 4 to turbine roll with performances of surveillances and malfunctions. At-power operation casualties will be included.
- Training on modifications made during the outage.

4.33 (Open) IFI 498;499/9331-61: Typically assign two supervisors for each maintenance crew: one supervisor to provide enhanced field management of the crew and the other to plan the work for the next week.

4.34 (Open) IFI 498;499/9331-62: Criteria for Maintenance Effectiveness and Material Condition

 No outstanding SRs that affect unit safety or reliability - No Priority 1s or 2s.

- Demonstrate ability to manage maintenance workload Total open SRs meets goal (less than 1000 in Unit 1) and workoff rate trend remains positive.
- Changes in SR generation rate are evaluated and understood to ensure threshold for deficiency identification was acceptable - (SR generation rate is consistent with plant condition).
- PM deferrals analyzed and corrective actions in progress Goal (less than 20) met and trend remains positive.
- Main Control Board deficiencies Goal (less than 10) met and trend remains positive.
- Inoperable automatic control functions Aggregate does not adversely affect operations ability to perform quality rounds and handle normal work load. Positive trend continuing in resolving inoperable functions.

4.35 (Open) IFI 498;499/9331-63: A test system for the system performance software will be initialized onsite.

4.36 (Open) IFI 498;499/9331-64: The overall ability of Nuclear Engineering management to manage the required work load has been enhanced through assignment of a new Vice President, Nuclear Engineering, with further improvement following a comprehensive realignment of the Engineering organization to be completed prior to resumption of power operation.

4.37 (Open) IFI 498;499/9331-65: During the plant startup, Engineering will provide 24-hour on-shift support to facilitate effective interface between Operations, Maintenance, and Engineering. This will be accomplished by 24-hour staffing of the Technical Support Engineering organization. The onshift staff will have direct access to Design Engineering and other startup components of the Engineering organization on an as-needed basis throughout the startup phase.

4.38 (Open) IFI 498;499/9331-66: As part of the effort to reduce the burden on the Operations staff and to allow them to focus on the power block, the Technical Services Department will be assuming the responsibility for certain tasks that are outside the protected area.

4.39 (Open) IFI 498;499/9331-67: STPEGS will ensure that line management ownership of the corrective action process is established, necessary enhancements to the SPR process are implemented and proven, and any existing backlog of SPR actions were assessed for potential impact on equipment operability and safe plant operation.

4.40 (Open) IFI 498;499/9331-68: The "Post-Maintenance Test" program was restructured to consolidate program information and to better define and communicate testing requirements.

5 NRC SPECIAL AND ROUTINE INSPECTION REPORTS AND NRC STAFF ACTIONS (92701)

5.1 <u>Previously Identified Unresolved Items, IFIs, and Violations in Routine</u> and Special Inspection Reports

5.1.1 (Open) IFI 498;499/9116-02: Operator overtime issues.

5.1.2 (Open) IFI 498;499/9214-03: SDG availability issues.

5.1.3 (Open) IFI 498:499/9221-03: SDG availability issues.

5.1.4 (Open) IFI 498;499/9224-03: Essential Chiller reliability and unavailability issues.

5.1.5 (Open) IFI 498:499/9208-01: Reactor coolant system overcooling.

5.1.6 (Open) Violation 499/9226-03: Failure to perform an adequate postmaintenance test.

5.1.7 (Open) Violation 498;499/9235-02: Failure to initiate an SPR.

5.1.8 (Open) Violation 499/9304-03: Failure to maintain minimum control room shift staffing.

5.1.9 (Open) URI 499/9315-03: Cause of high fuel oil strainer differential pressure unknown.

5.1.10 (Open) IFI 498;499/9324-01: Feedwater check valve and isolation bypass valve leakage.

5.1.11 (Open) URIs 498;499/9319-01 through -07: Feedwater isolation bypass valve issues.

5.1.12 (Open) IFI 498;499/9306-07: This IFI concerned the opening differential pressure trace of AlSIMOV0001B, the pressurizer power-operated relief valve associated with both units.

5.1.13 (Open) Violation 498;499/9217-02: This violation concerned the failure of cognizant licensee personnel to inform the control rooms that both units were in Technical Specification 3.0.3.

5.1.14 (Open) Violation 498;499/9217-04: Failure to follow procedures in the issuance of guidance pertaining to the Technical Specifications.

5.1.15 (Open) Violation 498;499/9224-01: Failure to take adequate corrective action to preclude essential chill water itch malfunctions during valving-in processes following maintenance.

5.1.16 (Open) Violation 498;499/9235-06: Two examples of fire protection violations.

5.1.17 (Open) Violation 498;499/9303-01: Eight examples of station personnel self-verification problems.

5.1.18 (Open) IF1 498;499/9304-04: Reactivity management followup item concerning operation of the boron thermal regeneration system.

5.1.19 (Open) Violations 498;499/9305-01, 04, 05, 07: These violations concern the inoperability of the turbine-driven auxiliary feedwater pump and the emergency diesel generators.

5.1.20 (Open) Violation 499/9308-02: Violation of the Technical Specifications for Valve SI-31A being inoperable for an entire fuel cycle.

5.1.21 (Open) Violation 498/9308-04: Inadequate corrective action performed resulting in numerous motor-operated valve problems.

5.1.22 (Open) Violation 498;499/9309-01: Transient combustibles not stored in accordance with licensee requirements.

5.1.23 (Open) Violation 498/9311-04: Reactivity management violation resulting from a failure to maintain an operable boron injection flow path as required by the Technical Specifications.

5.1.24 (Open) Violation 499/9315-01: Technical Specification violation concerning a residual heat removal pump that was restored to service with the incorrect reference data being used in previous surveillance testing.

5.1.25 (Open) Violation 498/9320-02: Technical Specification violation concerning solid state protection system testing being conducted without the latest procedural revisions included in the surveillance package.

5.1.26 (Open) Violation 498/9321-01: Corrective action violation concerning failures to take prompt action following the discovery that seismic fasteners were missing on the card cages and power supply racks of the Qualified Display Parameter System.

5.1.27 (Open) Violation 499/9322-01: Two examples of operations personnel failing to follow procedures resulting in a loss of spent fuel pool cooling for over 13-hours.

5.1.28 (Open) Violation 499/9322-02: Corrective action violation concerning the failure to take action to preclude recurrence of safety-related valves changing position during break-before-make bus transfers.

5.1.29 (Open) URI 498;499/9325-02: An item unresolved pending further NRC review concerning station accountability during day shifts.

5.1.30 (Open) LER 498/92-04: Concerns the failure to adequately test the shunt trip coil of the reactor trip breakers.

5.1.31 (Open) LER 498/92-07: Unplanned engineered safety features actuation due to inadequate surveillance test.

5.1.32 (Open) LER 498/92-14: Unplanned engineered safety features actuation due to inadequate surveillance test.

5.1.33 (Open) LER 498/92-16: Unplanned engineered safety features actuation due to inadequate surveillance test.

5.1.34 (Open) LER 498/92-20: Toxic gas monitor not in correct condition for plant operations due to operator error.

5.1.35 (Open) LER 498/93-05: Emergency Diesel Generator 13 failed to start on demard due to paint fouling the fuel metering rods.

5.1.36 (Open) LER 498/93-07: Turbine-driven auxiliary feedwater pump inoperable due to repetitive overspeed trips.

5.1.37 (Open) LER 498/93-17: Feedwater isolation bypass valve inoperable due to positioner and solenoid equipment being beyond its qualification life.

5.1.38 (Open) LER 498/93-20: Feedwater isolation bypass valve inoperable due to inadequate closing pressure forced the valves to open at normal operating pressures.

5.1.39 (Open) LER 499/92-04: Technical Specification 3.0.3 entry due to Target Rock solenoid operated containment isolation valves failing to close.

5.1.40 (Open) LER 499/93-04: Reactor trip due to the startup steam generator feedwater pump failing to operate because of recurrent problems with water intrusion into the pump's lube oil system.

5.1.41 (Open) LER 499/93-05: Control room unmanned by a senior reactor operator during Mode 4 operations.

5.1.42 (Open) LER 499/93-12: Loss of spent fuel pool cooling for approximately 13-hours.

5.2 IFIs Related to Office of Nuclear Reactor Regulation (NRR) Actions

5.2.1 (Open) IFI 498;499/9331-69: The licensee's response to Bulletin 88-08, "Thermal Stresses in Piping Connected to Reactor Coolant Systems."

5.2.2 (Open) IFI 498;499/9331-70: This IFI concerned the licensee's commitment to revise the Technical Specifications that require specific levels of boron concentration in shutdown margin calculations.

5.2.3 (Open) IFI 498;499/9331-71: Concerns the licensee's commitment to revise the Technical Specifications concerning the surveillance requirements of turbine-driven auxiliary feedwater pump testing.

5.2.4 (Open) IFI 498;499/9331-72: Concerns additional information requested by NRR in the licensee's initial response to Generic Letter 93-04.

# 5.3 IFIs identified from NRC Staff Actions

5.3.1 (Open) IFI 498;499/9331-73: NRC will assess the operating staff workload issues at STPEGS and licensee management's action to resolve these staffing issues.

5.3.2 (Open) IFI 498;499/9331-74: NRC will assess the licensee's engineering analysis for essential chiller operation under low heat load accident conditions.

5.3.3 (Open) IFI 498;499/9331-75: NRC will assess the licensee's action to resolve fire protection deficiencies at STPEGS. These deficiencies include: (1) fire protection computer alarm system and operator training on the system; (2) a large backlog of SRs on fire protection systems; (3) control of transient combustibles in the plant; and (4) Fire Brigade leader qualifications and the impact on operations staffing.

5.3.4 (Open) IFI 498;499/9331-76: Failure of tornado dampers could prevent cooling of safety-related components and systems. Thirty dampers had not been tested to verify their designed operation. The licensee agreed to test the dampers. NRC will evaluate the licensee's test procedures and results.

### ATTACHMENT 1

### **1 PERSONS CONTACTED**

### 1.1 Licensee Personnel

J. Sheppard, General Manager, Nuclear Licensing M. Coughlin, Senior Licensing Engineer other members of the licensee's staff

### 1.2 NRC Personnel

W. Johnson, Chief, Project Section A, Division of Reactor Projects M. Satorius, Project Engineer, Project Section A, Division of Reactor Projects T. McKernon, Reactor Inspector, Operations Section, Division of Reactor Safety

### 2 EXIT MEETING

A telephonic exit meeting was conducted on October 8, 1993. During this meeting, the inspectors reviewed the scope and findings of this report. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.

# ATTACHMENT 2

# RESTART ISSUES/RELATED ITEMS MATRIX

	RESTART ISSUE	RELATED ITEMS
1	Turbine-driven Auxiliary Feedwater Pump Reliability and Testing Methodology	9331-07, 08, 09, 10, 43, 50, 71 9305-04, 05, 07 Unit 1 LER 9307 Unit 2 LER 9304
2	Station Problem Report Process, Threshold, Licensee's Review of Existing Reports for Issues Affecting Operability and Safe Plant Operation	9331-06, 18, 23, 25, 26, 27, 28, 67 9235-02 9224-01 9321-01 9322-02 9308-02, 04
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, 03, 07, 08, 09, 29, 31, 37, 38, 39, 47, 49, 62, 79, 80
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, 04, 07, 10, 13, 14, 15, 51, 63, 68, 79 9226-03 9320-02 9305-01, 05, 07 Unit 1 LER 9204, 9207, 9214, 9216, 9305

	RESTART ISSUE	RELATED ITEMS
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, 04, 08, 12, 16, 18, 19, 20, 21, 30, 31, 40, 41, 42, 44, 45, 48, 52, 64, 65, 77,81 9208-01 9306-07 9315-01 Unit 1 LER 9220 Unit 2 LER 9204
6	Adequacy of Operations Staffing	9331-01, 03, 24, 56, 57, 59, 60, 65, 66, 73 9116-02 9304-03, 04 9311-04 9322-01 Unit 2 LER 9305 Unit 2 LER 9312
7	Adequacy of Fire Brigade Leader Training and Qualifications	9331-04, 33, 75
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, 04, 17, 22, 58, 75 9235-06 9309-01
9	Licensee Management's Effectiveness in Identifying, Pursuing, and Correcting Plant Problems	9331-04, 05, 06, 17, 18, 22, 23, 25, 32, 34, 35, 37, 46, 54, 55, 56, 61, 62, 65, 67, 69, 70, 72, 73, 80, 82 9321-01 9322-02 9224-01 9217-02, 04 9303-01 9308-02, 04 Unit 1 LER 9204

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	RESTART ISSUE	RELATED ITEMS	
10	NRC Review of the Effectiveness of the Licensee's SPEAKOUT Program	9331-78	
11	Standby Diesel Generator Reliability	9331-08, 09, 11, 12, 13, 16, 19, 28 9214-03 9221-03 9305-01 9315-03 Unit 1 LER 9305	
12	Essential Chiller Reliability	9331-10, 13, 20, 21, 44, 45, 74 9224-03	
13	Monitoring of the Licensee's System Certification Program	9331-35, 53	
14	Adequacy of the Licensee's Resolution of the Reliability and Operability of the Feedwater Isolation Bypass Valves	9319-01 through 07 9324-01 Unit 1 LER 9317 Unit 1 LER 9320	
15	Tornado Damper Issues	9331-76	
16	Emergency Preparedness Accountability Issues	URI 498;499/9325-02	

# ATTACHMENT 3

# SUMMARY OF INSPECTION FINDINGS AND COMMON ITEMS IFI/URI/VIOLATIONS REFERENCE

IFI Number	Descriptor	Report Section	Common Items (IFI,URI,VIOs,etc)
9331-01	Adverse impact to control room staff by workload and site support	2.1.1.1	9331-36, 57, 59, 65, 66, 73
9331-02	Operators affected by degraded equip.; equip. walkarounds, etc.	2.1.1.2	9331-06, 29, 35
9331-03	Focus and overview of Plt. operations not effectively maintained by SS/CR staff	2.1.1.3	9331-36, 49, 53, 56, 57, 65, 73
9331-04	Poor support to Operations	2.1.2.1	9331-05, 24, 36, 49, 53, 54, 55, 57, 65, 73
9331-05	Confusing and conflicting mgt. guidance to Ctrl. Rm. staff	2.1.3.1	9331-25, 27, 36, 56
9331-06	Ineffective mgt. support to correct program & component problems	2.1.5.1	9331-18, 23, 26, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 50, 51, 58, 62, 75 9214-03, 9221-03, 9224-03, 9315-03, 9324-01, 07; 9306-07

IFI Number	Descriptor	Report Section	Common Items (IFI,URI,VIOs,etc)
9331-07	M & T weaknesses reduced reliability of plt. equip.	2.2.1.1	9331-10, 13, 14, 20, 35, 43, 44, 68, 71 9235-02 9226-03
9331-08	Ineffective CMs & PMs contributed to poor equip. performance	2.2.1.2	9331-9, 16, 17, 20, 22, 37, 38, 39, 47, 62, 75 9324-01, 07
9331-09	Ineffective CMs resulting from inadequate RCAs, work control & craft performance	2.2.1.3	9331-11, 12, 17, 18, 23, 25, 28, 64, 75
9331-10	Equip. operability not always verified by surv. & PMTs	2.2.1.4	9331-07, 13, 14, 15, 20, 43, 63, 68, 71 9226-03
9331-11	Poor RCA for SDG hold down bolts	2.2.1.5	9331-09, 13, 18, 19, 28; 9214-03; 9221-03
9331-12	Configuration control/ engineering communication for SDG hold down bolts	2.2.6.1	9331-08, 09, 16, 18, 19, 25, 28, 64
9331-13	PMT program and implementation weaknesses	2.2.7.1	9331-07, 10, 14, 20, 68 9226-03 9320-02 9303-01 9305-01, 05, 07 Unit 1 LER 9207, 9214, 9216, 9305
9331-14	Inadequate PMT manual	2.2.7.2	9331-07, 13, 20, 68; 9226-03
9331-15	TS Surv. program and procedures need enhancement	2.2.8.1	9331-10, 49, 71

IFI Number	Descriptor	Report Section	Common Items (IFI, URI, VIOs, etc)
9331-16	Configuration control weaknesses affected safety- related equipment	2.3.1.1	9331-12, 18, 19, 20, 21, 28, 34
9331-17	Fire protection issues not resolved in a timely manner	2.3.1.2	9331-02, 04, 22, 58, 75 9235-01 9309-01
9331-18	Engrg. RCA & corrective actions weak	2.3.1.3	9331-11, 12, 16, 21, 23, 26, 28, 33, 40
9331-19	Configuration control weaknesses	2.3.6.1	9331-12, 16, 20, 22, 41, 44
9331-20	Weaknesses in essen. CHW system design, testing, mods. & maintenance	2.3.7.1	9331-22, 44, 45, 46, 52, 74 9224-03
9331-21	Design analysis of the essen. CHW sys. under DBA not performed	2.3.7.2	9331-20, 44, 45, 46, 74; 9224-03
9331-22	Fire protection issues not resolved	2.3.8.1	9331-17, 59, 76; 9235-01; 9309-01
9331-23	Ineffective corrective action processes	2.4.1.1	9331-09, 11, 17, 18, 26, 27
9331-24	Staffing levels marginal or insufficient	2.4.2.1	9331-01, 02, 03, 24, 49, 56, 57, 59, 60, 65, 66, 73 9116-02; 9208-01; 9304-03, 04; 9311-04; 9322-01 Unit 2 LERs 9305, 9312

IFI Number	Descriptor	Report Section	Common Items (IFI, URI, VIOs, etc)
9331-25	Threshold of SPRs	2.4.3.7	9331-06, 18, 23, 27, 67 9235-02; 9224-01; 9321-01 9322-02 EA 93-047; EA 93-057
9331-26	Ineffective corrective action process	2.4.4.1	9331-06, 08, 11, 18, 22, 23, 25, 28, 61, 62, 67
9331-27	SPR training & confusion	2.4.4.2	9331-06, 23, 25, 67 9235-02
9331-28	Inadequate RCA for SDG fuel injector hold down bolts	2.4.4.3	9331-11, 12, 16, 18, 19, 23, 25, 30, 67
9331-29	Develop new method to characterize maintenance backlog	4.1	
9331-30	Engineering backlogs reduced	4.2	
9331-31	Additional backlog reduction goals	4.3	
9331-32	Effectiveness of dpt. mgt. team periodically evaluated	4.4	
9331-33	Tech. Services will qualify more fire brigade leaders	4.5	
9331-34	Power ascension coordinated	4.6	9331-35, 36, 49, 53, 54, 55, 65
9331-35	System Certification and Acceptance Process	4.7	9331-36, 37, 38, 43, 46, 47, 49, 53, 62, 71, 75 9214-03; 9222-03; 9224-03; 9319-01

IFI Number	Descriptor	Report Section	Common Items (IFI, URI, VIOs, etc)
9331-36	Senior Shift Managers provide continuous mgt. repr. and presence	4.8	9331-01, 03, 04, 24, 53, 54, 55, 56, 59, 73
9331-37	SRs below 1000 Unit 1 and common power block	4.9	9331-31, 38, 39, 47, 75
9331-38	SRs below 850 Unit 2 power block	4.10	9331-31, 39, 47, 75
9331-39	No outstanding Priority 1 & 2 SRs	4.11	9331-31, 37, 38, 47, 75
9331-40	Engineering backlog items	4.12	9331-33, 41, 42, 45, 46, 47, 50, 51, 52, 58, 74, 76
9331-41	Additional backlog reduction items	4.13	9331-31, 42, 45, 46, 47, 50, 51, 52, 58, 74, 76
9331-42	Carryover items from past programs	4.14	9331-31, 41, 45, 46, 47, 50, 51, 52, 58, 74, 76
9331-43	TDAFW augmented surveillance program	4.15	9331-07, 13, 15, 35, 49, 50, 71 9305-04, 05
9331-44	Engineering calcs. for the essen. CHW system, tests and proposed enhancements	4.16	9331-16, 20, 21, 40, 45
9331-45	Ensure essen. chillers perform their design function	4.17	9331-10, 13, 20, 21, 40, 44, 21, 74 9224-03
9331-46	Status of the TSC diesel evaluated	4.18	9331-33, 40, 35

IFI Number	Descriptor	Report Section	Common Items (IFI, URI, VIOs, etc)
9331-47	SRs involving automatic functions	4.19	9331-31, 37, 38, 39, 35
9331-48	SOV issues evaluated	4.20	9331-30, 35, 40, 62
9331-49	Mgt. review of components on increased number of surveillances	4.21	9331-15, 35, 43, 71
9331-50	Install of AFW permanent flow instrumentation	4.22	9331-30, 40, 52
9331-51	Calibrations of the CCW heat exchangers flow instruments	4.23	9331-06, 18, 30, 40
9331-52	Evaluation of design changes to eliminate temporary flow instruments	4.24	9331-30, 40, 50
9331-53	Continued operation assessed at different milestones	4.25	9331-03, 04, 55, 35, 36
9331~54	Line management Assessment Plan	4.26	9331-03, 04, 35, 53, 55, 56
9331-55	Independent Assessment Plan	4.27	9331-03, 04, 53, 54, 56
9331-56	Changes to improve communications	4.28	9331-01, 02, 03, 05, 13, 15, 25, 27, 36, 49, 61, 65, 67, 73, 79
9331-57	Six-crew operating schedule implemented	4.29	9331-01, 03, 24, 73
9331-58	Fire protection computer modification	4.30	9331-75, 37, 38, 22, 17, 08

IFI Number	Descriptor	Report Section	Common Items (IFI, URI, VIOs, etc)
9331-59	Non-safety-related support systems transferred to Tech. Services Dpt.	4.31	9331-64, 66
9331-60	Operator Training	4.32	9331-56, 27, 25, 04
9331-61	Two supervisors for each mnt. crew	4.33	9331-62, 67, 56, 13, 09, 08, 06
9331-62	Maintenance effectiveness and mtl. condition criteria	4.34	9331-61, 67, 68, 37, 38, 39, 25, 26, 13, 10, 09, 08, 07
9331-63	Test system for system performance software	4.35	9331-56, 26, 23, 18, 10, 06
9331-64	Realignment of engineering organization	4.36	9331-56, 40, 24, 06
9331-65	24 Hour on-shift support to operations by engineering	4.37	9331-73, 56, 36, 34, 26, 23, 18, 06, 04
9331-66	Tech Services Dpt. assuming more responsibilities	4.38	9331-65, 64, 40, 06, 04
9331-67	Line mgt. ownership of the corrective action process	4.39	9331-62, 61, 56, 49, 27, 26, 25, 23, 10, 09, 08, 07
9331-68	PMT program restructured	4.40	9331-62, 14, 13, 10, 07
9331-69	Bulletin 88-08 Response "Thermal Stress-ppg conn'd. to RCS"	5.2.1	9331-30, 40
9331-70	Revise TS related to specific boron concentration in S/D margin calcs.	5.2.2	9331-15, 10, 04

IFI Number	Descriptor	Report Section	Common Items (IFI,URI,VIOs,etc)	
9331-71	Revise TS related to surv. testing of TDAFW pmp.	5.2.3	9331-50, 43, 15	
9331-72	Add'l. information related to GL 93-04 (Control Rod Information and Single Failure)	5.2.4	9331-30, 81	
9331-73	Operating staff workloads	5.3.1	9331-67, 65, 60, 57, 56, 38, 37, 36, 27, 25, 06, 04, 01	
9331-74	NRC assess licensee's analysis of the essen. CHW sys. chiller under low heat load accident	5.3.2	9331-44, 45, 40, 20, 21, 30	
9331-75	Licensee's corrective actions on fire protection deficiencies	5.3.3	9331-22, 17, 58	
9331-76	Tornado damper issues	5.3.4	9331-30, 40	
9331-77	MOV operability/reliability issues	2.3.1 5.1.12	9331-19, 48; 9306-07	
9331-78	Speakout/EAP not anonymous	2.4.3.1	9331-56, 82	
9331-79	Work procedures in error	2.2.6.2	9331-06, 07, 14, 15, 23, 56, 68	
9331-80	Management support to Mgt.	2.2.5.1	9331-06, 24, 32, 49, 56, 61, 67	
9331-81	Engineering backlogs large	2.3.3.1	9331-30, 31, 40, 44, 45, 46, 48, 52, 72, 74, 77	
9331-82	Management response to self-assessment functions	2.4.5.1	9331-06, 32, 53, 54, 55, 56	

NOV 1 8 1993

MEMORANDUM FOR: **Team Members** 

FROM:

Jeffrey Jacobson, Team Leader Team Development Section A Special Inspection Branch Division of Reactor Inspection and Licensee Performance Office of Nuclear Reactor Regulation

SUBJECT: SOUTH TEXAS PROJECT OPERATIONAL READINESS ASSESSMENT INSPECTION PLAN

The inspection plan for the South Texas Project Operational Readiness Assessment Team (ORAT) inspection is enclosed for your information and use.

The inspection plan was derived from the guidance contained in Inspection Procedures (IP) 93806 and 93802, Operational Readiness Assessment and Operational Safety Team inspections, respectively. The plan defines the inspection scope, team composition, inspection assignments, and logistical information.

You should treat this document for internal use only. Please contact me at (301) 504-2977 if you have any questions.

### **ORIGINAL SIGNED BY**

Jeffrey B. Jacobson, Team Leader Special Inspection Branch Division of Reactor Inspection and Licensee Performance Office of Nuclear Reactor Regulation

Enclosure: As stated

Distribution (w/enclosure): EVImbro, NRR PSKoltay, NRR LKokajko WJohnson **FSIB** R/F Contral Files

OFFICE:	RSIB:DRIL /	SC:RSIB:DRIL	AC.RSIB:DRIL	
NAME :	JJacobstr. sp	PSKoltay For	DPNenkin	
DATE:	11/ 18 /93	11/ 18 /93	11/ /93	

OFFICIAL RECORD COPY DOCUMENT NAME: STPORAT

(9312010399-XA)10PF

### SOUTH TEXAS PROJECT OPERATIONAL READINESS ASSESSMENT TEAM (ORAT) INSPECTION PLAN

### I. General Inspection Objectives

The inspection will be performed in accordance with Inspection Procedures (IP) 93802, Operational Safety Team Inspection, and IP 93806, Operational Readiness Assessment. The latter was designed to assess operational readiness of new plants under the 2514 inspection program. However, the procedure can be adapted to aid the team in assessing the operational readiness of older plants returning to power operations following extended outages. Therefore, the objective of this inspection is to provide a significant input for an NRC determination of the licensee's operational readiness. The major focus of the inspection will be to ascertain the readiness of the licensee to conduct safe plant operations across the spectrum of licensee programs. The team will examine the readiness of in-place programs, plant hardware, procedures, and personnel to proceed with Unit 1 restart.

II. Inspection Plan

### A. <u>Objectives</u>

The independent assessment of the South Texas Project (STP) readiness for restart and return to power operations will be based on:

1. Monitoring daily activities in the areas of: operations, testing, maintenance, engineering and technical support, and quality verification to gain objective evidence that the licensee is ready to operate the facility.

2. An evaluation of selected portions of Houston Lighting and Power's Operational Readiness Plan and Business Plan for STP. The team's evaluation of these documents will focus on ensuring realistic performance goals and performance monitoring programs have been established to permit the safe restart and operation of STP Unit 1.

### B. Team Members

The ORAT team members are listed below:

Jeffrey B. Jacobson - Team Leader - NRR/RSIB - (301) 504-2977 (jbj) Steven Alexander (301) 504-2995 Donald Taylor (703) 894-5421 Richard Pelton (301) 504-1028 Robert DePriest (301) 504-2966 Desiree Calhoun (314) 676-3181 Vacant Vacant Vacant Vacant

### C. <u>Report Input</u>

A specific inspection report outline will be developed by the team leader and provided to all team members during the inspection. All report inputs should address only those areas detailed in the report outline. Additional report writing guidance is contained in Attachment C.

The policy of the Special Inspection Branch is to have the report issued within 45 days after the conclusion of the inspection. This necessitates timely completion of inspection feeder reports as further described in the inspection schedule.

### D. <u>Team Assignments</u>

Specific team assignments are given in Attachment A to this plan. In addition to those specific assignments please be cognizant of the items in the Restart Action Plan checklists (Attachment E) which have been assigned to the ORAT (DRIL). The ORAT team's findings may be used as a basis for close-out of these items.

### E. Preparation

Adequate time should be allotted to thoroughly review any preparatory material and to develop your own individual inspection plan prior to starting the onsite inspection.

IV. Inspection Schedule

November 29-December 3	Team members review preparatory information and develop individual inspection plans. Inspection plans should be available for review prior to the commencement of the inspection.
December 6	Arrive on-site by 12:30 p.m. for a brief team meeting followed by a 1:00 p.m. entrance meeting. The remainder of the day will be for badging and initial licensee contact discussions.
December 7-10	Arrangements should be made early in the week for observing significant work activities/plant evolutions. Begin inspection. (Note: This first week of the inspection we will focus on observing maintenance, testing, and system certifications. We will also be reviewing the licensee's corrective action programs and their Operational Readiness and Business plans.)
December 10	Team departs site at 11:30 a.m.

December 13-January 4 As required, team members will perform in-office review of documentation. The amount of inoffice review required will vary for each team member, however, in no case should it exceed one week. Team arrives on-site at 7:30 a.m. January 5 January 5-7 Inspection continues (Note: During the second phase of the inspection we will focus on operations and systems readiness and continue with the inspection areas of phase one). In the morning the team continues with the January 8 inspection. In the afternoon we will assess the results of the inspection effort to date and establish inspection focus for the remainder of the inspection. January 9 Day off (tentative). January 10-13 Team conducts the remainder of the inspection. assesses status of previously identified concerns, and finalizes inspection results. Team conducts NRC pre-exit meeting at 1:00 p.m. January 13 to brief NRC management and finalize inspection findings. Conduct exit meeting with licensee at 10:00 a.m. January 14 Team members can plan to leave the site by 11:00 a.m. January 17-21 Team members generate inspection report input and submit to team leader by COB on January 21.

V. <u>Travel Itinerary</u>

The suggested hotel for the team is the Matagorda Inn in Bay City, Texas. Their phone number is 409-244-5400. Their rate is \$41 and they are about 25 minutes from the site.

VI. Inspection routine

Normal working hours will be from 7:30 a.m. till 5:00 p.m. while on-site including Saturday. Overtime will be approved by the team leader and should be anticipated in advance by team member line management.

At some point during the second phase of the inspection, we will conduct 48 hours of continuous control room observation. Inspectors on shift should allow over-lap time for their turnover. The inspector coming off the night shift will also brief the team leader. Please maintain a log for the duration of the shift coverage.

Team meetings will be held daily at 4:00 p.m. The resident inspectors are invited to participate. All team members findings should be submitted on forms supplied as Attachment D in sufficient detail to support the inspector's observations and conclusions. Team members should ensure their findings have been discussed with their licensee counterparts. The team leader will debrief licensee management on a daily basis and will rely upon the finding forms to support those discussions.

At each team meeting, update information on previously identified findings will be reviewed as needed to maintain the item current with additional observations or licensee actions. The daily team meetings should last no more than 1 hour. Please keep discussions brief and to the point.

Inspection activities will essentially cease at noon on January 13. Team members will devote the remaining time to prepare for the NRC management preexit meeting and for the licensee exit meeting on the following day. The preexit meeting is the team's exit with our management, and the most important meeting of the inspection. Prepare a brief summary of your area(s), no longer then 10 minutes. Be prepared to present and defend all your findings. And, PLEASE, NO SURPRISES AT THE PRE-EXIT AND EXIT MEETINGS, i.e. no items that haven't been previously discussed with the team leader and the licensee. The following information should be utilized to charge your inspection related efforts to:

50-498, 499 Docket Number: Inspection Report Number: 93-202 Inspection Procedure: 93806/93802 IPE code: HT IORT (designate module completion as P) IMI code:

Site contacts: Scott Head (512) 972-7136

Attachments:

- A) Inspection Assignments
- B) Maps to Site
- C) Report Writing GuidelinesD) Deficiency Sheet
- E) South Texas Project Restart Action Plan

### ATTACHMENT A - INSPECTION ASSIGNMENTS

Operations Review (See RAP checklists C.3.3 and C.4)

Operating shift professionalism Shift routine and conduct of shift turnovers Response to and tracking of annunciators and off-normal conditions Equipment out-of-service controls Tracking and authorizing ongoing surveillance and maintenance activities Operations logs both inside and outside of the control room Procedure compliance Verification of system line-ups (system config. control-clearances) Housekeeping and material control Independent verification practices Observations of surveillance performance and valve lineups Control room documents Training on new modifications Emergency drill (to be determined) Switchyard control practices

### Surveillance and Testing

Surveillance procedure review, field verification and validation Interface between operations and testing organizations Observation of surveillance activities Technical Specification Surveillance LCO tracking and control Control of system interface between unit 1 and 2

Human Factors (Pelton)

Control Room Environment Control Room Design Alternate Shutdown Procedures Unit 1 and Unit 2 Interfaces Shift Staffing Emergency and Abnormal Operating Procedures

Maintenance (Taylor/Depriest)

Maintenance work observations Backlog of work requests Work prioritization Material condition and system labeling Preventive maintenance program Backlog of preventive maintenance work Failure trending and predictive maintenance

### Root Cause and Corrective Action Programs (see RAP checklists C.1.3, C.1.4)

Adequacy of root cause program Implementation of Root Cause Program Generic Letter 83-28 implementation (Evaluation of NRC notices, vendor manual control, etc.) Corrective Action Program Implementation (NCR review, etc.) Operability Determinations Justifications for continued operation

## Post Maintenance Testing/Engineering Adequacy (Alexander)

Specification of post maintenance testing requirements Implementation of testing requirements Evaluation of test results 10CFR50.59 evaluations for selected modifications

# Operational Readiness and Business Plans (Calhoon/Pelton)

Establishment of performance goals and monitoring programs Evaluation of deferred and emergent work System certification process Evaluation of backlog review process Evaluation of line management and independent assessments

General Observations (All)

System walkdowns Management oversight and effectiveness (RAP checklist C.2.1 and C.2.2) Staff assessment (checklist C.3.1)

### ATTACHMENT C

### REPORT WRITING GUIDELINES

- Write in the past tense to describe things as they were at the time of the inspection.
- 2. Write in the third person.

(Since this is a team effort, use Team vs individual) Refer to the team as "The team"; the team found... Refer to Licensee Personnel as "The licensee", The licensee performed design basis calculations... Refer to the facility as STP.

 Write so that the questions "Who, What, Where, When and How" are always answered for the informed reader.

For example, the statement, "the deficiency was resolved" barely answers the "What" but does not answer "Who, Where, When, or How"; The licensee resolved the deficiency on February 29, 1992, by installing a...

4. Answer the "So What" question in your write up.

Do not make statements without including a conclusion as to what they meant and identify any significance involved. Observations are acceptable, but should be identified as such.

- AVOID USING ACRONYMS AND ABBREVIATIONS.
  - a. For frequently used names or titles (more than 3 times) an acronym may be appropriate. If used, however, <u>always include a definition</u> <u>or explanation in your write up and be consistent</u>. If in doubt, spell it out.
  - b. For abbreviations as 125V, etc, use either 125V, 125 volt, 4.16kV, 2200kW, etc. (no space between the number and unit). Do not use 500A, 500 amp., ka or AH spell out amperes.
  - c. For direct current use dc do not capitalize. When required to clarify that a current is ac, add it after the voltage otherwise leave off; 125Vdc, 120V or 120Vac.
- 6. References to documents must always include the following identification: [Document number]. "[full title]." Revision []. However, once a document has been identified, the entire identification need not be repeated. If no revision number is specified, provide the document date.

### DO NOT PROVIDE A LIST OF REFERENCES OR REFER TO INPUTS AS REFERENCE [X]!

 Main sections of the report should address the (1) SCOPE, areas reviewed during the inspection and; (2) FINDINGS, discussion of what was observed and noteworthy during the inspection; and (3) CONCLUSIONS. A summary of deficiencies should be identified in the appropriate section of the report as well as a more detailed write-up for each deficiency which should be submitted on a Deficiency sheet.

- The report should discuss STRENGTHS as well as WEAKNESSES and problems; however, avoid providing advice or recommendations.
- Ensure that all findings indicate who identified the issue the NRC or the licensee. Provide examples to substantiate the finding.
- 10. Remember to keep the discussion SHORT, CONCISE, and STRUCTURED. The report should be understandable to an informed reader. Stay with the facts and do not include conjuncture or supposition. If you reviewed an area and found it adequate, say so through a short paragraph.
- 11. Forward an input for each applicable section of the report to the team leader. Each section should be clearly identified and in the previously issued style and format. <u>Input should be DOUBLE SPACED and TYPED</u> with two spaces between sentences and a blank line between paragraphs.

Identify who the input is from and a return fax number (if applicable). If written input is unclear, it will be marked up requesting clarification and returned to the originator for correction.

Input should be submitted in WordPerfect via either a disk or on E-Mail.