

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-498/88-52
50-499/88-52

Construction Permit: CPPR-129

Dockets: 50-498
50-499

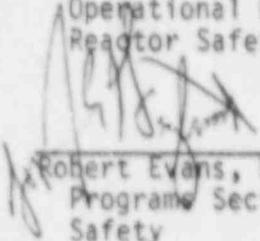
Licensee: Houston Lighting & Power Company (HL&P)
P.O. Box 1700
Houston, Texas 77001

Facility Name: South Texas Project, Units 1 and 2 (STP)

Inspection At: STP Site
Matagorda County, Texas

Inspection Conducted: August 8 through September 2, 1988

Inspectors:  10/12/88
Darwin R. Hunter, Senior Reactor Inspector
Operational Programs Section, Division of
Reactor Safety Date

 10/12/88
Robert Evans, Reactor Inspector, Operational
Programs Section, Division of Reaction
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Approved:  10/12/88
J. E. Gagliardo, Chief, Operational Programs
Section, Division of Reactor Safety Date

Inspection Summary

Inspection Conducted August 8 through September 2, 1988 (Report 50-498/88-52;
50-499/88-52)

Areas Inspected: Routine unannounced inspection of the maintenance procedures,
emergency procedures, and Technical Specifications associated with STP-2.

Results: Within the three areas inspected, no violations or deviations were identified. Two unresolved items were identified (paragraphs 3.2.2, 3.3.1, and 5.5) and will be subject to future in-depth inspections.

DETAILS

1. Personnel Contacted

H&P

- *G. L. Parkey, Plant Superintendent, Unit 2
- *J. D. Green, Manager, Inspection and Surveillance
- *J. A. Slabinski, Operations QC Supervisor, Unit 2
- *V. R. Albert, Manager, Nuclear Plant Engineering
- *S. E. Hill, Maintenance Supervisor, Unit 2
- *S. D. Phillips, Project Compliance Engineer
- *M. F. Polishak, Lead Engineer
- *M. L. Duke, Staff Engineer
 - P. R. Bufkin, Lead Electrical QC Inspector
 - J. S. Gilstrap, Lead Mechanical QC Inspector
 - B. J. Mower, Mechanical Maintenance Supervisor
 - H. R. McNeal, Electrical Maintenance Technical Supervisor
 - J. Lewis, I&C Supervisor
- *J. T. Westermeier, General Manager
- *S. M. Dew, Operations Support Manager
- *M. A. McBurnett, Operations Support Licensing Manager
- *D. N. Brown, Construction Manager
- *W. G. Wellborn, Supervising Project Engineer
- *T. J. Jordon, Project QA Manager
- *S. M. Head, Supervising Project Engineer
- *A. W. Harrison, Supervising Project Engineer
- *J. Bailey, Engineering and Licensing Manager
- *J. E. Geiger, Nuclear Assurance General Manager
- *S. L. Rosen, Operations Support General Manager
- T. Mitchell, Plant Operations Support Supervisor
- *C. R. Beauers, Radiation Section Supervisor
- *J. R. Lovell, Technical Services Manager
- *D. R. Keating, Quality Engineering Manager
- *M. Wisenburg, Plant Superintendent, Unit 1
- *W. S. Blair, Maintenance Manager
- *L. Giles, Operations Manager, Unit 2
- *J. Loesch, Plant Operations Manager
- *S. Eldridge, Plant Operations Support Manager
- *G. Ondriska, Startup Supervisor

Bechtel Engineer Corporation (BEC)

- *C. F. O'Neil, Unit 2 Engineering Manager
- *R. D. Bryan, Construction Manager
- *L. W. Hurst, Project Manager
- *R. W. Miller, Project QA Manager

Ebasco Service, Inc.

- *E. P. Rosol, Site Manager
- *R. A. Moore, Assistant QC Site Supervisor
- *R. Abel, Quality Program Site Manager
- *W. M. Purdee, QA Site Supervisor

Other personnel of HL&P, Bechtel Engineering Corporation, and Ebasco Service, Inc., were contacted and attended the exit interviews.

2. Documents Reviewed

- ° Letter, HL&P to NRC, dated June 1, 1988, Unit 1 and Unit 2 Combined Technical Specification Submittal
- ° Lesson Plan, dated June 22, 1988, Differences Between Unit 1 and Unit 2
- ° Letter ST-HL-AE-2770, HL&P to NRC, dated August 22, 1988, Response to NRC Concerns Regarding Emergency Operating Procedures
- ° Letter ST-PL-AE-2080, HL&P to NRC, dated April 15, 1987, Response to NRC Questions on Procedures Generation Package
- ° Letter St-HL-AE-1848, HL&P to NRC, dated February 11, 1987, Response to NRC Comments on the Procedures Generation Package
- ° Letter ST-HL-AE-1266, HL&P to NRC, dated June 14, 1985, Procedures Generation Package

3. Maintenance Procedures

Selected maintenance program administrative procedures and implementing procedures were reviewed to ensure that controls had been established, which addressed the requirements.

3.1. Background and Requirements

Discussions and record reviews revealed that the Unit 2 maintenance activities were being controlled almost identically to those in Unit 1, and the necessary Unit 2 plant-specific procedures were being reviewed and approved in accordance with established administrative controls. Management had established a completion date for all the required procedures (about 1100) for September 30, 1988. At the time of the inspection the licensee had completed about 40-50 percent of the required procedures and was reevaluating the scheduled completion date.

The maintenance program and maintenance procedures were reviewed for format and content to ensure the safety-related activities were controlled and the quality of the equipment maintained. The maintenance program and maintenance procedures were reviewed considering the following requirements and guidance: STP FSAR,

Sections 13.1 and 13.5; STP FSAR, Section 17.2., STP Operational QA Program; Appendix B to 10 CFR 50; STP Technical Specifications, Sections 6.5.3 and 6.8; Appendix A to Regulatory Guide 1.33-1978; ANSI N18.7-1976; ANSI N45.2-1977; and ASME, Section III, NA-4000.

3.2 General Procedures

The inspector reviewed selected plant administrative procedures associated with the STP maintenance program including the following:

- ° OPGP03, ZA-0002, Revision 13, Plant Procedures
- ° OPGP03, ZA-0007, Revision 4, Classification of Procedures
- ° OPGP03, ZA-0010, Revision 11, Plant Procedure Compliance, Implementation, and Review
- ° OPGP03, ZA-0039, Revision 8, Plant Procedures Writer's Guide (FCR 88-1270)
- ° OPGP03, ZB-0009, Revision 1, Lubrication Monitoring Program
- ° OPGP03, ZE-0004, Revision 7, Plant Surveillance Programs
- ° OPGP03, ZE-0005, Revision 9, Plant Surveillance Procedure Preparation
- ° OPGP03, ZE-0020, Revision 0, Post-Maintenance Testing Program
- ° OPGP03, ZM-0001, Revision 12, Measuring and Test Equipment Control Program
- ° OPGP03, ZM-0002, Revision 15, Preventive Maintenance Program
- ° OPGP03, ZM-0004, Revision 4, Lubrication Program
- ° OPGP03, ZM-0003, Revision 18, Maintenance Work Request Program
- ° OPGP03, ZM-0016, Revision 0, Installed Plant Instrumentation Calibration Verification Program
- ° OPGP03, ZM-0021, Revision 0, Control of Configuration Changes During Maintenance or Troubleshooting
- ° OPGP03, ZO-0001, Revision 7, Equipment Clearance
- ° OPMP01, ZA-0004, Revision 5, Maintenance Procedures
- ° QCP2.0, Revision 3, Inspection Activities

The procedures appeared to be well-written and inclusive of the requirements with only a few comments and concerns, which were reviewed with licensee representatives.

- 3.2.1 Section 2.0, Definitions, of OPGP03-ZM-0003, Maintenance Work Request Program; Section 2.0, Definitions, of OPGP03-ZA-0007, Classification of Procedures; and Section 5.4, Determination of Required PMT, of OPGP03-ZE-0200, Post-Maintenance Testing, contained requirements regarding the maintenance of equipment including "repair" activities. The definition of "repair" was the "process of restoring an item to a condition such that the capability of the item to function reliably and safely is not impaired even though the item does not meet the original required condition." This usage of "repair" was discussed with the licensee representative to ensure that the "repair" activities could not result in "modification" activities, a change to the drawings or specifications, and require handling within the design control program (design, design review, design verification, and safety evaluation considerations). Generally, the maintenance activities discussed in detail in the standards and guides, address the activities as "rework" or "like-for-like" replacements rather than "repair" or "use-as-is" activities. The licensee representative indicated that the use of "repair" was for performing activities within the specifications such as "lapping" or "cutting" valve seats and "repair" of ASME Code class components. However, the licensee representative noted that the use of the term "repair" would be reviewed to ensure that no "modifications" to equipment could occur as "repairs." The NRC inspectors had no further questions regarding this matter at this time.
- 3.2.2 Procedures OPGP03-ZA-0002, Plant Procedures; OPGP03-ZA-0039, Plant Procedures Writer's Guide; OPGP03-ZM-0003, Maintenance Work Request Program; and OPMP01-ZA-0004, Maintenance Procedures, did not contain requirements or guidance to ensure the establishment of quality inspection points within the procedures regarding critical characteristics to assure the quality of the activities (work operations).

Document review and discussions with personnel revealed that the licensee practices, in most cases, consisted of the consideration of quality inspection points by the quality control group during the preparation of a work package, immediately prior to the work operation. Furthermore, Procedure QP2.0, "Inspection Activities," Step 6.7.3, provided guidance for QC to concentrate on major maintenance activities rather than all safety-related maintenance activities, which included routine, nonroutine, preventive, calibration, testing, etc. Personnel interviews and document reviews confirmed this philosophy and practice. The procedure reviewed for performing the more routine, repetitive type maintenance activities (paragraph 3.3) such as preventive

maintenance, equipment removal and overhaul, and calibration did not contain specifically identified inspections of the apparent critical characteristics of the work operation. The critical characteristics would include, but not be limited to, such items as clearances, locking device installation, tack welds installation, application of heat to components, certain parts installation, and cleanliness, in order to ensure continued equipment operation during accident conditions. This issue has the potential of being a violation of Criterion X of Appendix B to 10 CFR 50, and will be considered an unresolved item (498/8852-01; 499/8852-01) pending additional inspection of maintenance activities.

Notwithstanding, the lack of specifically identified quality inspection points in the procedures, the procedures reviewed generally contained adequate detail and, acceptance criteria, and the required documentation regarding the work operation performance was provided by the craftsman/technician.

The review by the NRC inspectors revealed that Procedure OPGP03-ZA-0010, "Plant Procedure Compliance, Implementation, and Review," addressed independent verification, in detail, providing the definition, application, responsibilities, methods, and documentation of the activity (value position, date, and initials). Procedure reviews and interviews revealed that this quality inspection ("peer" inspection) activity appeared to be adequately specified and controlled. For instance, the procedure provided detailed guidance for the required use of the independent verification (inspection) if the item would render the component/systems incapable of performing the designated safety function. The independent verification function provided for the inspection/verification of a predetermined item which would render the component/systems inoperable of performing the designated function, as appropriate. This specific aspect of independent inspection appeared to be adequately controlled and specified.

No other violations or deviations were identified in the review of this program area.

3.3. Maintenance Implementing Procedures

The inspector reviewed selected maintenance implementing procedures associated with the STP equipment including the following:

OPMP01-ZA-0032, Revision 6, Vendor Calibration of Measuring and Test Equipment

OPMP04-AF-0001, Revision 5, Auxiliary Feedwater Power Maintenance (FCR 88-1086) (FCR 88-1196)

OPMP04-CC-0001, Revision 6, Component Coding Water Pump Maintenance

OPMP04-DG-0007, Revision 1, Standby Diesel Generator GT-24 Turbo Charger Maintenance

OPMP04-MS-0009, Revision 0, Main Steam Safety Valve Maintenance

OPMP04-RC-0008, Revision 3, Pressurizer Safety Valve Removal and Reinstallation

OPMP04-SI-0002, Revision 2, High Head Safety Injection Pump Maintenance

OPMP05-NA-0002, Revision 2, 4160V Gould Tests (FC88-1038)

OPMP05-NA-0005, Revision 0, General Electric 4160 Volt Breaker Tests (NSR) (FC88-1362)

1PMP05-NA-1016, Revision 0, Switchgear Maintenance - 4160 Volt Bus 1D Cubicle 16

1PMP05-NA-1017, Revision 0, Switchgear Maintenance - 460 Volt Bus 1D Cubicle 17
OPMP06-ZT-0115, Revision 2, Calibration of the Newport 264 Series Digital Pyrometer

1PMP07-LM-0100, Revision 2, Reservoir Makeup Pumps and Discharge Valve Monthly Preventive Maintenance (NSR)

OPMP07-ZI-0001, Revision 0, I&C Valve Lineup RCB (FCR 88-0341)

2PSP02-RC-0439, Revision 0, RCS Flow Loop 3 Set 3 ACOT (F-0439)

2PSP05-RC-0439, Revision 0, RCS Flow Loop 3 Set 3 Calibration (F-0439)

The procedures appeared to be generally acceptable, with some exceptions. The procedures included the proper detail to be performed by a qualified craftperson. The comments and concerns associated with the exceptions were discussed with the licensee. In the majority of instances the concerns were considered to have minor safety significance; however, in the following instances the concerns appeared to have more safety significance:

- 3.3.1 The maintenance procedures regarding the auxiliary feedwater pumps, the high head safety injection pumps, the component cooling water pumps, and the Standby Emergency Diesel Generator GT-24 turbocharger included general steps specifying removal and reinstallation of piping, electrical and instrumentation components, and insulation as necessary to perform the maintenance on the equipment. The procedures did not include or reference the procedures associated with the steps required to perform these activities, which may include such operations as rigging, torquing, cleanliness, handling, and storage. Consequently,

specific performance steps and the inspection requirements associated with such activities were not fully addressed in the procedures. Document reviews and personnel interviews indicated that during the work review process specific procedures were written and considered the needed steps and acceptance criteria regarding the activities. Further, inspections of the safety-related activities would be considered at the time by the QC personnel were assigned to the work planning activity. This was an area noted by the inspector where the procedures should be written early in plant life and should be more specific to ensure the safety-related work operation was adequately controlled and inspected.

- 3.3.2 The maintenance and calibration procedures reviewed did not include adequate quality inspection points. The licensee utilized QC inspection points (QIPs), QC notification points (QNP), and QC verification points (QVPs). These QC points specified in the safety-related maintenance and calibration procedures were limited in number and scope.

The few instances where QC inspections were provided within the procedures only addressed cleanliness and condition of parts and torquing of fasteners. Other potential critical characteristics, which were not required to be inspected by the procedures, included measurements, component heating, as found/as left data, O-ring replacement, lubrication, seal installation, special processes, visual checks, locking device installation, drain plug installation, and cleanliness. Interviews revealed that maintenance pre-planning activities may include these items in the instructions provided by the work planners; however, all potential critical characteristics associated with the safety-related work operation may not be determined and noted in the instructions. The NRC inspector reviewed 14 safety-related maintenance and calibration procedures and none of the procedures contained consistent and necessary qualification control inspection points to assure continued equipment operation during accident conditions. This matter was discussed with the licensee and the programmatic aspects of this concern are included in paragraph 3.2.2 as an apparent violation.

No other violations or deviations were identified in the review of this program area.

4. Technical Specification Review

The NRC inspectors reviewed the Unit 1 and Unit 2 Combined Technical Specification Submittal, dated June 1, 1988, from HL&P to the NRC, which annotated the required changes to the Technical Specifications (TS). Selected requested changes were reviewed to ensure that the specifications were clear. The changes included both editorial and substantive changes and are presently being reviewed by the NRC.

4.1 Reactor Coolant System Pressure/Temperature Limits

The change provided specific heatup and cooldown curves for STP Unit 1 and Unit 2.

4.2 D. C. Sources

The change provided specific identifiers for STP Unit 1 and Unit 2 for Battery Banks A, D, B, and C.

4.3 Radiation Monitoring - ESFAS

The change provided for inclusion of the EsFAS radiation monitoring instrumentation in the ESFAS bases of the TS in accordance with the STP design.

4.4 Reactor Vessel Toughness

The change provided the STP Unit 2, Table B 3/4.4-1, cataloging the reactor vessel components and critical information and data.

4.5 Fuel Storage

The change addressed the addition of the high density fuel racks and changed the storage capacity from 196 to 1969 fuel assemblies.

4.6 Charging Header Pressure - Low

The change provided the new charging header pressure-low channel to the TS as a containment isolation system.

4.7 Chemical Detection Systems

The change increased the setpoint for anhydrous ammonia/ammonium hydroxide from 5ppm or less to 25 ppm or less and decreased the system response time from 25 seconds to 5 seconds.

The requested changes appeared to be clear. The inspector had no significant questions regarding the requested changes to the STP Unit 1 and Unit 2 TS. No violations or deviations were identified in the review of this program area.

5. Emergency Operating Procedures (42452)

5.1 Purpose

The purpose of the inspection was to ascertain whether STP Unit 2 emergency operating procedures (EOPs) are prepared to adequately control safety-related functions in the event of system or component malfunctions.

5.2 Procedures Reviewed

The following STP procedures were reviewed during this inspection:

- ° OPGP03-ZA-0002, Revision 13, "Plant Procedures"
- ° OPGP03-ZA-0027, Revisions 3 and 4, "Emergency Operating Procedures Preparation, Approval, Implementation, and Revision"
- ° OPOP01-ZA-0006, Revisions 3 and 4, "Emergency Procedures Writers Guide and Verification"
- ° 2POP04-CV-0003, Revision 0, "Emergency Boration"
- ° 2POP05-E0-ES00, Revision 0, "Rediagnosis"
- ° 2POP05-E0-FRH2, Revision 0, "Response to Steam Generator Overpressure"
- ° 2POP05-E0-FRH4, Revision 0, "Response to Loss of Normal Steam Release Capabilities"
- ° 2POP05-E0-FRH5, Revision 0, "Response to Steam Generator Low Level"

5.3 Status of EOP Completion

During the inspection of Unit 2 procedures, 4 of 49 EOPs and 1 of 41 off normal procedures were reviewed. Currently, 12 of 49 EOPs had been approved, including 7 that were approved during the time frame of the inspection. All remaining Unit 2 EOPs were scheduled to be completed, approved, and implemented by October 31, 1988.

A comparison of the current STP Unit 2 EOP index to the Westinghouse Owner's Group Emergency Response Guidelines (WOG ERG) index was performed. All required ERGs were reflected in the EOP index, indicating that all EOPs had been or will be prepared and approved for all WOG ERGs, with one exception. Procedure 2POP05-E0-ES05, "Natural Circulation Cooldown Without Letdown," was not in the WOG ERGs. The plant specific technical guidelines (PSTGs) for this procedure were developed by Westinghouse and were briefly reviewed by the NRC inspectors.

The STP Unit 2 EOP and off normal procedure indexes were compared to the "Procedures for Combating Emergencies and Other Significant Events" section of Regulatory Guide 1.33, Revision 2, "QA Program Requirements (Operation)." No discrepancies were identified between the indexes and Regulatory Guide 1.33.

5.4 Plant Specific Values

The plant specific values in the EOPs reviewed were compared to calculations in the EOP Setpoint Document, Revision 2. No problems or discrepancies were observed between the plant specific values used in the EOPs and the setpoint document values.

5.5 Technical Adequacy of EOPs

The NRC inspectors assessed EOP technical adequacy by comparing the EOPS to the WOG ERGs and piping and instrument diagrams. A physical walkdown of the procedures was performed to compare the procedure to as-built plant conditions. During the review, numerous typographical and editorial errors were observed to be in the EOPs. The errors by EOP included:

- 2POPO5-E0-ES00: Wrong procedure title in Step 4.0, and valve number error in Addendum 3
- 2POPO5-E0-FRH2: Valve number errors in Steps 2.2 and 4.4. Delete word "contr" from Step 4.2.2 to agree with Step 7.0.b.2
- 2POPO5-E0-FRH4: Wrong power supplies listed in Step 1.1, wrong switch position title in Step 1.2.1, and power supply breakers missing from Step 1.1.c (secondary operator copy)
- 2POPO5-E0-FRH5: Wrong valve numbers in Step 4.1.a.2, wrong pressure indicators listed in Step 3.1.2, panel location and nameplate engraving missing from valves listed in Step 4.1.c, contingency action missing from Step 3.1.2 of secondary operator copy, and primary and alternate indications in Step 4.0 of secondary operator copy reversed
- 2POPO4-CV-0003: Title of Section 4.0 incorrect in Step 1.2.2, and nameplate engravings incorrect in Steps 4.1.1, 5.1, and 5.2

Because of the types of errors identified, the NRC staff will conduct an additional EOP team inspection in the immediate future. This area will be treated as an unresolved item (498/8852-02; 499/8852-02) pending the additional inspection.

5.6 Deviations from WOG ERGs

One of the areas included during the comparison of EOPs to ERGs was to note deviations from the generic guidelines (ERGs) and to determine if the identified deviations were properly justified and documented.

All Unit 2 EOPs were developed from Unit 1 EOPs. The documentation of deviations from ERGs was included in Unit 1 EOP packages, but not Unit 2 EOP packages. Therefore, the review of Unit 2 EOP deviations was performed using Unit 1 documentation packages.

Several justifications for apparent deviations from the ERGs could not be located, including:

- ° In 2POPO5-EO-ES00, Conditional Information page, the "AFW Supply" section was not in agreement with the ERG's.
- ° In 2POPO5-EO-FRH2, Step 4.4, the additional step to open the MSIV above seat drain valves was not included in the ERGs.
- ° In 2POPO5-EO-FRH4, Step 2.0, "Contingency Action," the ERG's wording implied instructions to open the PORVs. This step was not included in the EOP.

In accordance with OPOP01-ZA-0006, the EOP step justification/verification form was used to document deviations from the ERGs.

During the review of Unit 1 EOP packages, it was observed some deviation justifications were incorporated into the EOP packages using reviewer comment forms. The resolution section of the EOP discrepancy/comment form provided information or a response that was incorporated into the EOPs. The information incorporated into the EOPs resulted in or justified ERG deviations. For example, a comment was made about Step 1, Note 1, of ERG ES-0.0. The resolution section of the comment form tried to justify why the note was not present in 2POPO5-EO-ES00. (EOP step justification/verification form could not be located for this item) A second example was a comment on the use of the words "not faulted" versus "intact" to describe steam generator integrity in 2POPO5-EO-ES00. The ERGs used and defined the word "faulted," while the EOPS used the word "intact." The use of comment forms to justify ERG deviations was not the intent of Steps 2.2 and 2.3 of OPOP01-ZA-0006.

The causes of unjustified or inadequately justified deviations from the ERGs noted by the NRC inspectors indicated apparent programmatic weaknesses, as demonstrated by the following:

- ° Deviations were going unidentified and uncorrected through several levels of review, including PORC and QA reviews.
- ° EOP procedure writers may not have recognized the significance of the deviation or correct method of documenting deviations.
- ° The technical basis documents (ERGs and associated deviations) were not easily or adequately accessible. This could lead to inconsistencies between the basis documents and the EOPs they support. Note: An up-to-date, controlled technical basis is necessary.

The lack of documentation supporting justifications from the WOG ERGs was also reported in NRC Inspection Report 50-498/87-08; 50-499/87-08 (498/8708-61), which is currently still open. This concern was discussed with the licensee and the licensee stated all justification forms for deviations from ERGs will be compiled into an easily auditable form by Unit 2 fuel load and the review and documentation of all deviation justifications will be completed prior to the first refueling outage for Unit 1.

5.7 Writers Guide Compliance

As part of the review, the EOPs were compared to the requirements given in OPOP01-ZA-0006, "EOP Writers Guide and Verification." Two discrepancies were noted:

- ° The use of asterisks (*) to denote safety-related equipment was required by Step 7.3. Unit 1 EOPs used asterisks, but Unit 2 EOPs did not. Step 7.3 has since been deleted by the licensee.
- ° Brackets ([]) were used in the EOPs when specifying adverse containment values. This was in disagreement with Section 14.3 and 6.14 of the writers guide. The licensee corrected Step 14.3 during a recent revision of OPOP01-ZA-0006, but Step 6.14 required revision to change the word "parenthesis" to "brackets."

5.8 Verification and Validation Process

The verification and validation (V&V) process of EOPs was reviewed. The Unit 2 EOPs were converted from Unit 1 procedures, using guidelines given in Procedure OPGP03-ZA-0002. Unit 1 EOPs were reviewed, verified, and validated using guidelines given in Procedure OPGP03-ZA-0027. The level of review, as well as V&V, of Unit 2 EOPs was less stringent using guidelines given in OPGP03-ZA-0002. However, the guidelines of OPGP03-ZA-0027 applied to both Unit 1 and Unit 2 procedures; therefore, a conflict existed between OPGP03-ZA-0027 and OPGP03-ZA-0002. The licensee revised OPGP03-ZA-0027 during the time interval of the inspection to clearly state how Unit 1 EOPs would be converted to Unit 2 procedures, and how Unit 2 procedures would be reviewed.

A comparison of Unit 2 EOP errors and discrepancies were compared to the same EOPs for Unit 1. It was observed that most errors were also found in the Unit 1 procedures. This observation indicated the original V&V done on Unit 1 procedures was weak or the procedures were inadequately proof-reviewed between revisions. The carryover of Unit 1 EOP errors into the Unit 2 EOPs indicated the Unit 2 conversion and review process was weak. These errors also went undetected during the TS required PORC and the quality assurance reviews.

The licensee provided information on how the Unit 2 EOP walkdowns will be upgraded, and that an independent editorial review will be performed on all EOPs. The licensee also stated Unit 1 EOPs will be reverified by walkdown by December 31, 1988. Other areas of the V&V process that required further licensee consideration were design engineering and human factor specialist reviews. NUREG-0899, "Guidelines for the Preparation of EOPs," Step 3.3.4, states, "Because of the variety of information and skills needed, writing the EOP requires a team approach. The team skills should include, but not be limited to, technical writing, human factors, power plant operation, operator training, and engineering design." The NRC noted that design engineers should review EOPs to ensure an engineering analysis is performed. In order to address this concern the licensee responded by adding the Support (design), Nuclear and Plant Engineering departments in the review process (Step 5.3 of OPGP03-ZA-0027).

However, the human factor specialist involvement in the EOP development was found to be minimal. NUREG 0737, Supplement No. 1, Step 7.1.a, states, "The use of human factored, function oriented, emergency operating procedures will improve human reliability and the ability to mitigate the consequence of a broad range of initiating events and subsequent multiple failures or operator errors, without the need to diagnose specific events."

The EOPs in use at STP have not been given a rigorous human factors review to ensure the EOPs were clear, organized and consistent with the writers guide. Pending licensee response, this will be tracked as an open item (498/8852-03; 499/8852-03).

5.9 Other Areas Inspected

5.9.1 Section 6.2.3 of NUREG 0899 states, "Licensees and applicants should consider establishing a program for the ongoing evaluation of the EOPs." The STP EOPs will be reviewed by the licensee as required by Procedure OPGP03-ZA-0010, "Plant Procedure Compliance, Implementation and Review." The licensee will perform a review on a biennial basis, using the procedure biennial review form and associated checklist.

5.9.2 The original procedures generation package (PGP) submitted to the NRC, and responses to NRC comments on the PGP, were reviewed by the NRC inspectors. It was noted the licensee does not have a unique PSTG, but developed the EOPs directly from the WOG ERGs. One exception was 2POPO5-EO-ES05, "Natural Circulation Cooldown Without Letdown." This procedure was not found in the WOG ERGs index, but a PSTG for the procedure was reviewed (South Texas Safety Grade Cold Shutdown/Fire Hazards Operational Evaluation Report, Appendix B, ES-0.5, Revision 2, dated March 31, 1987).

5.9.3 During the review of the responses to NRC comments on the PGP (HL&P letter ST-HL-AE-1848), three HL&P responses appeared not to be incorporated as committed:

- ° B.16.c response - revising writers guide to specify method of location aids for addendums to the EOPs.
- ° B.18.a response - revising writers guide to reflect requirement to underline headings in EOPs.
- ° C.1 response - revise OPGP03-ZA-0027 to include human factors experts to be a component of the future validation team(s).

Pending licensee resolution, the above deficiencies will be tracked as an open item (498/8852-04; 499/8852-04).

5.9.4 A program to check EOP revisions to the basis documents (WOG ERGs and their associated deviations) should be clearly stated in OPGP03-ZA-0027. Changes in setpoints, instrumentation or plant equipment should be compared to the basis documents for potential effects on the EOPs. If the EOP revision process is not controlled carefully, the situation where EOPs could degrade in quality and technical accuracy may occur.

As stated previously, the licensee does not have a unique PSTG. A commitment was made by the licensee to compile justifications for deviations from the WOG ERGs into an easily auditable form prior to Unit 2 fuel load. This "document" will resemble a PSTG and should be controlled. This document, as well as any other document included in the technical guidelines, should be audited by the QA organization on a regular basis (in accordance with commitments to Regulatory Guide 1.33/ANSI N18.7-1976/ANS-3.2).

5.9.5 NUREG CS99, Step 4.4, states, "As a primary basis of plant EOPs, PSTG should be subject to examination under the plants overall QA program (see Regulatory Guide 1.33). Licensee and applicants are responsible for ensuring that its technical guidelines are accurate and up to date. Thus, review and control of the technical guidelines should be included in the established QA program."

5.10 Summary

During the review of this program area (EOPs), no violations or deviations were identified. Two unresolved items were identified.

6. Unresolved Item

Unresolved items are matters about which more information is required in order to ascertain whether or not the items are acceptable, violations, or deviations. The following two unresolved items were discussed in this report:

<u>Paragraph</u>	<u>Item</u>	<u>Subject</u>
3.2.2 and 3.3.1	498/8852-01; 498/8852-01	Independent inspection of critical characteristics
5.5	498/8852-02; 498/8852-02	EOP errors

7. Management Exit

The NRC inspectors summarized the scope and findings associated with the inspection, including the review of Unit 2 maintenance procedures, TS changes (continuing), and emergency operating procedures.

The licensee disagreed with the NRC inspectors' comment regarding the apparent lack of quality inspection points within the specific detailed maintenance procedures. However, the licensee agreed to look at the expressed concern objectively.

The licensee review and approval of the remaining Unit 2 procedures was reviewed in general. The NRC inspectors noted that substantial number of procedures remained to be completed and noted the need to maintain the quality of the procedures during the heavy workload period. The licensee acknowledged the comment.

During the exit interview, the scope of the findings on EOPs were presented to the licensee. The failure to incorporate commitments (paragraph 5.9.3) was reported as an apparent deviation. The apparent deviation was later determined to be an open item, since plant safety had not been compromised by the failure of the licensee to incorporate the commitments.

The technical adequacy section (5.5) of EOPs was reported to the licensee as an open item. The open item was upgraded to an unresolved item when the issue was reviewed by NRC management. The licensee was later notified (September 30, 1988) by telephone of the NRC's concern in this area and the scheduled EOP team inspection.

The licensee did not identify as proprietary any of the material provided to or reviewed by the NRC inspectors during the inspection.