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

MAR 10 1993

MEMORANDUM FOR: James L. Milhoan, Regional Administrator

FROM: A. Bill Beach, Director, Division of Reactor Projects

SUBJECT: STP REVIEW PANEL CHARTER

Per your letter of February 24, 1993, please find enclosed the draft STP Review Panel Charter for your approval.

A. Bill Beach, Director
Division of Reactor Projects

STP Review Panel Charter Approved

James L. Milhoan
3-11-93

cc: Panel Members
T. Stetka

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DRAFT

STP REVIEW PANEL CHARTER

PURPOSE

The purpose of the STP Review Panel is to:

- Assure consistent approach to issues being identified at South Texas Project and attempt to reach an agency consensus and united approach to addressing the problems at South Texas Project.

- Assure that the followup on safety significant issues are being properly coordinated and scheduled.

- Schedule significant meetings and inspections.

- Assure that the views and concerns of different NRC offices are properly addressed.

- Assure proper coordination for the followup of issues that are identified by the Diagnostic Evaluation Team (DET) inspection.

MEETING FREQUENCY AND ATTENDANCE

The STP Review Panel will be convened approximately weekly through the Diagnostic Evaluation Team assessment period.

The Panel will be composed of the following members:

Bill Beach, Director, DRP - Panel Chairman
Art Howell, Deputy Director, DRS
Dwight Chamberlain, Deputy Director, DRSS
Marty Virgilio, Assistant Director for Region IV & V Reactors, NRR

NOTE: Panel members may designate appropriate substitutes. NRR attendance may be via telecon.

Minutes for each meeting will be the responsibility of the DRP Section Chief responsible for South Texas Project.

DURATION OF THE PANEL

The duration of the STP Review Panel will be at the discretion of the Region IV Regional Administrator.

STP REVIEW PANEL

MEETING MINUTES - MARCH 18, 1993

ATTENDEES

B. Beach, Director, DRP
T. Stetka, Chief, Projects Section D
G. Sanborn, Enforcement Officer
A. Howell, Deputy Director, DRS
J. Callan, Director, DRSS
*M. Virgilio, Assistant Director, Region IV & V Reactors, NRR

* By Telecon.

PANEL SUBJECTS

- The panel discussed the recently revised NRC Manual Chapter 0350 regarding plant restart approval. The discussion centered around whether STP was at the point that the requirements of this MC need to be implemented. It was decided that the implementation of this MC is not needed at this time. However, it was felt that if more problems were to occur at the site, that the need to implement these requirements would be reconsidered. This issue will be addressed again at the next panel meeting.

- The enforcement conference for the MOV issues (IR 93-08), scheduled for next Thursday, March 25, was discussed. It was stated that the preliminary assessment will be completed today and sent to the conference attendees. It was also stated that NRR will most probably participate in the conference by telephone.

- An escalated enforcement case was opened for the AIT followup special inspection that was completed on March 12. The enforcement conference for this action will be scheduled for Thursday, April 15, in the afternoon.

- The special inspection regarding the fuse sizing issue for the SSPS power supplies had an exit conducted on Wednesday, March 10. However, due the request from NRR (that was discussed in the March 9 Panel Meeting) to have the licensee review their activities for responding to NRC generic communications regarding fuse sizing (i.e., GLs and INs) and to include this information as a part of the inspection, the inspection period was extended. The final exit for this inspection will be conducted this week and the report issued shortly thereafter. It is expected that this issue will become an escalated enforcement issue.

- Art Howell provided a briefing on the in progress special inspection of the licensee's SG manway and handhole activities. The identification of leakage from manways was apparently initially identified back in 1985 and was continuously identified thereafter. The results, however, were inconsistent in that one inspection would identify a leak whereas a followup inspection would not identify a leak in the same area and no work had been performed to fix the leak. The first time that an assessment of this leakage was performed was in September 1990 even though their program required an assessment each time leakage was identified. This assessment

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stated that the leakage was not a problem. A Service Request (SR) to repair the problem was written in 1991, but this SR was subsequently cancelled and a new SR written. During the current outage they replaced 6 studs and 4 nuts. While the licensee apparently has a good program to detect and correct these types of occurrences, they apparently have not properly implemented the program. It was agreed by the panel that this issue would be handled as a Deviation to the program identified by the GL and that a followup management meeting with the licensee will be held. At this meeting the licensee will be requested to address how they handle generic issues, especially those identified to them by the NRC.

- Bill Beach provided information regarding Commissioner Curtiss's visit of March 12. The commissioner was apparently disappointed with the plant's performance and told the licensee that they may be placed on the NRC's problem plant list.

- Bill Beach also discussed the DET briefing that was conducted last week (March 11). He stated that security issues were discussed, especially the fact that excessive compensatory measures have to be taken due to equipment failures.

- The next STP Review Panel is scheduled for 3:00 pm, Thursday, March 25.

STP REVIEW PANEL

MEETING NOTES - MARCH 29, 1993

ATTENDEES

B. Beach, Director, DRP
A. Howell, Deputy Director, DRS
D. Chamberlain, Deputy Director, DRSS
G. Sanborn, Enforcement Officer
M. Satorius, Project Engineer, Project Section D
C. Hackney, State Liaison Officer
*M. Virgilio, Assistant Director, Region IV & V Reactors, NRR
*S. Black, Director, Project Directorate IV-2, NRR
*B. Reckley, Project Manager, NRR

PANEL SUBJECTS

- Current Plant Status was discussed, including recent issues concerning EDG 22 problems with trips on the cooldown cycle, adequacy of outage maintenance, and an apparent valid failure concerning a problem with the attachment studs for the fuel injector pump for the 5L cylinder shearing and rendering the EDG out-of-service.

- The enforcement conference for the MOV issues was discussed. The message that will result from this action may not be of sufficient strength to accomplish the goal of conveying to the licensee that their corrective action program needs significant improvement. Future identified Criterion XVI issues with the licensee will need to be umbrella'ed with this enforcement action.

- The AIT followup inspection was discussed. This inspection had identified ten apparent violations, with three having the potential for escalated enforcement. The Panel decided that the appropriate manner to disposition the large number would be to direct the licensee in the cover letter which violations would be considered the primary focus point of the enforcement conference. In addition, a number of Criterion V issues could probably be grouped into one violation. The enforcement conference is being scheduled for April 16, 1993, with the report to be issued by April 6 or 7.

- The special inspection regarding the fuse sizing issues was discussed. There appeared to be some confusion within the Panel concerning the status of the report. The last Panel meeting had indicated that further review of generic communications was needed in order to complete the inspection. This review was completed, the exit conducted, and the inspection completed on March 17, 1993. The report needs to be issued ASAP, and an enforcement action number assigned. DRP projects that the report will be issued during the week of March 29.

- Art Howell briefed the Panel on the status of the steam generator manway stud elongation issue. Although a number of issues were identified, it appears that one non-escalated boric acid program implementation

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violation will be cited. Concerning this issue, there were seven examples of failures to follow procedures,; however, DRS has no lingering safety questions or concerns. A concern for future consideration was linked to the fuse issue, in that the licensee's response to generic communications appears to be weak.

- Art Howell also briefed the Panel on the status of the MOV followup inspection that was conducted last week to investigate two allegations. The first concerned an issue identified during the CSTI regarding the voidance of an SPR that addressed inadequate MOV corrective maintenance procedures. The inspectors determined that specific work instructions were used in lieu of maintenance procedures and that these instructions were adequate; however, little corrective actions were initiated to determine root causes of failures and the licensee is generally conducting only symptomatic repairs. The second allegation consisted of a MOVATS contractor identifying MOV test anomalies and reporting these to the licensee. The inspectors determined that the licensee's corrective action process appeared to successfully address the concerns of the alleger and resolve the issue.

- A short discussion was held on the upcoming enforcement discretion conference call concerning the licensee's digital rod position indication system and rod control system problems.

- A discussion was conducted on the adequacy of the Panel addressing all the bases within MC 0350. Based on a discussion between Jack Roe of NRR and the Regional Administrator, Region IV's position that the MC 0350 procedure would not be formally entered was sustained. The Panel reviewed the requirements of the MC and determined that the actions of the Oversight Panel were accomplishing the intent of the MC. An attachment that addresses this review are attached to these minutes.

- The topics to be addressed at the STP CAL public meeting was discussed. The Panel's consensus was that the complete agenda of topics would not be established until the actual meeting date was determined. This decision was based upon the fact that the number of issues continues to be dynamic, and as the date of the meeting continues to be extended, due to licensee's problems with issue resolution and new issue identification, new concerns are presented that should be addressed at the public meeting. The earliest projected date for the public meeting is April 9, 1993.

- The next meeting will be held on Tuesday, April 6, 1993, while Bill Beach is at Headquarters, with Region IV participating via Telecon.

STP REVIEW PANEL

MEETING NOTES - APRIL 6, 1993

ATTENDEES

*J. Milhaon
*B. Beach, Director, DRP
A. Howell, Deputy Director, DRS
T. Stetka, Chief, Project Section D
W. Johnson, Chief, Project Section A
M. Satorius, Project Engineer, Project Section D
C. Hackney, State Liaison Officer
J. Gilliland, Public Affairs Officer
*M. Virgilio, Assistant Director, Region IV & V Reactors, NRR
*S. Black, Director, Project Directorate IV-2, NRR
*B. Reckley, Project Manager, NRR

* Participated via Telecon

PANEL SUBJECTS

- Current Plant Status was discussed by Tom Stetka, including recent issues concerning EDG 22 problems with the attachment studs for the fuel injector pump for the 5L cylinder (item being followed by the DET) and the DRPI/Rod Control problems that the licensee has addressed over the past week. This issue of the Rod Control system will probably be an additional topic for the discussions at the CAL Public Meeting.

- The enforcement conference for the AIT followup inspection (EDG/AFW) issues was discussed. Eight apparent violations were identified. Two corrective action weaknesses were identified and these were characterized in the cover letter as a continuation of problems previously discussed in management meetings and enforcement conferences. This approach was taken to umbrella these Criterion XVI problems with past problems. An enforcement pre-panel will be conducted following the Oversight Panel Meeting today. The conference is scheduled for April 16, 1993.

- The special inspection regarding the fuse sizing issues was discussed. This report is ready to be issued and the enforcement conference is scheduled for April 22. 1993. The report has two apparent violations and involves an undersized fuse feeding the solid state protection system (SSPS) that during a steam break accident would not be sufficiently sized to carry all the SSPS loads required to mitigated the accident. An enforcement pre-panel will also be conducted following the Oversight Panel Meeting today.

- The Panel discussed the DET and any findings that had developed. The findings are generally in line with observations that the Region has had concerning the licensee. One issue concerning the EDG trips that occur during the cooldown cycle was discussed and it was decided that the resident inspectors would follow that issue. In addition, if the licensee decides to delete the requirement for the cooldown cycle (one

possibility that has surfaced from the residents following the event) the Panel would pursue further clarification and would request technical assistance from the branches at NRR and the results of any interaction that the licensee has with the EDG vendor.

- The Panel discussed the fact that Bill Hehl was meeting with representatives of the City of Austin (one of STP's owners) and a group of interveners that had a number of environmental concerns.

- There was a discussion on whether there were sufficient concerns to invite the licensee in for a management meeting to discuss the boric acid corrosion program implementation, overall corrective action program implementation, and other comprehensive issues. In addition, the appropriate method to invite the licensee in for discussion was discussed. This topic will be discussed further at the next Panel Meeting.

- The need for an order to the licensee requiring a third party review of the corrective action program was discussed. A Confirmatory Order following the management meeting that would be conducted in early May would also be an option if the corrective action program were specifically discussed at the meeting. This issue will also be discussed at the next Panel Meeting.

- Joe Gilliland discussed the recent articles that were run by the Houston Chronicle on STP. In addition, he mentioned that the reporter most responsible for the articles was collecting information for further followup articles on STP's security program.

- The Panel discussed a recent DRS inspection to close an unresolved item concerning the voidance of an SPR that was also identified in the OSTI. This unresolved item was directly linked to an allegation concerning MOVs that is also presently open. The issue involves MOV degradation that was occurring because of inadequate repair procedures. In the review of issue, inspectors did find that MOV problems were being addressed with symptomatic repairs and that no rigorous root cause analysis was being performed. In addition, the inspectors noted that there were repeat cases of high operating current, local leak rate test deficiencies, and other problems that were due to poor procedures; however, it appeared that the licensee did follow their process for voidance of an SPR. The Panel decided that the issue was resolved and the cover letter will discuss this and additional examples of related poor practice issues.

- The Panel decided that it would be appropriate to revisit Manual Chapter 0350 in the next meeting, to ensure that the Panel's actions were accomplishing the intent of the MC.

- The topics to be addressed at the STP CAL public meeting was discussed. The Panel's consensus was that the complete agenda of topics would not be established until the actual meeting date was determined. Topics presently included:

  Toxic Gas Monitors
  Corrective Action Efforts (in general)
  Service Request Backlog

  An additional topic that may be included is EDG problems. In addition, it was decided that the topics would be documented in a letter to the licensee, prior to the meeting. The best date for the CAL Public Meeting has been tentatively set for April 19, 1993.

- The next meeting will be held on Thursday, April 16, 1993, in Region IV at 8:30 am with NRR participating via Telecon.

STP REVIEW PANEL

MEETING NOTES - APRIL 12, 1993

ATTENDEES

B. Beach, Director, DRP
A. Howell, Deputy Director, DRS
D. Chamberlain, Deputy Director, DRSS
T. Stetka, Chief, Project Section D
W. Johnson, Chief, Project Section A
M. Satorius, Project Engineer, Project Section A
G. Sanborn, Enforcement Officer
R. Wise, Allegation Coordinator
L. Williamson, Director Office of Investigation, RIV Field Office
*M. Virgilio, Assistant Director, Region IV & V Reactors, NRR
*S. Black, Director, Project Directorate IV-2, NRR
*B. Reckley, Project Manager, NRR

* Participated via Telecon

PANEL SUBJECTS

- The Allegation Coordinator discussed all the current open allegations at STP. A number have been referred to OI for further investigation and several aged allegations are being considered by DOL. DRS was able to close the technical issues regarding two allegations involving MOVs; the report will be signed out this week.

  Four relatively new allegations that were received by the DET. Two of these allegations were referred to OI and an investigator is on site this week conducting interviews with the concerned party. The third new allegation is being resolved internally by the Region coordinating with Headquarters. The last new allegation involving accidental discharge of firearms inside the protected area has been assigned to DRSS for action.

- The enforcement conference for the AIT followup inspection (EDG/AFW) issues was discussed, with an enforcement pre-panel being conducted by the Panel members. The rating factors for mitigation and escalation were considered, with a discussion on the manner that the eight apparent violations would be grouped and characterized. Presently, it appeared to the Panel that two severity level III violations had been identified; however, depending on the manner that the licensee approached the issues at the enforcement conference, the final disposition of the violations would remain pending. The conference has been rescheduled for April 22, 1993.

- The special inspection regarding the fuse sizing issues was not discussed because the enforcement conference was rescheduled for May 6, 1993. The Panel will discuss this issue at the next meeting.

- The Panel decided that the proposed management meeting to be requested in conjunction with the steam generator stud elongation inspection report would not conducted. The issues that the Panel felt were

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necessary for discussion would be addressed in either the restart meeting (which satisfies the CAL requirements), or a separate meeting to be held at an unspecified date concerning the licensee's continued corrective action program implementation problems.

- The Panel discussed the DET and any findings that had developed. Bill Johnson presented an encapsulation of the DET's findings over the first two weeks of the inspection. This encapsulation is attached to these meeting notes. In addition, Bill Hehl, the DET Leader will brief the Panel via telecon on his observations on April 22, 1993.

- There has been no better date proposed for the CAL public meeting. Presently, the official date that the licensee is willing to commit to is April 19, 1993; however, the Panel's consensus is that that date will slip by at least one week and more probably two weeks.

- The topics to be addressed at the STP CAL public meeting was discussed. As at previous Panel meetings, the consensus was that the complete agenda of topics would not be established until the actual meeting date was determined. Topics presently included:

  Toxic Gas Monitors
  Corrective Action Efforts (in general)
  Service Request Backlog
  Rod Control Problems and vendor information program problems
  Continuing EDG problems

- A briefing will be conducted on Thursday April 15, 1993, to discuss the IG/OI investigations that were conducted at STP. NRR members of the Panel will participate in that briefing and inform the remainder of the Panel of the results.

- The Panel discussed the recent routine resident inspector's inspection report. That report identified six severity level IV violations. The Panel decided that one violation, with four examples of a failure to properly conduct self-verification, will not be cited, but rather incorporated into an enforcement package on self-verification problems presently at OE in Headquarters.

- The Panel decided that it would be appropriate to enter Manual Chapter 0350. Bill Johnson was tasked to review the Manual Chapter, and determine the action that would be needed to ensure that the requirements of Manual Chapter 0350 were being addressed.

- The next meeting will be held on Thursday, April 22, 1993, in Region IV at 8:30 am with NRR participating via Telecon.

ATTACHMENT TO THE STP REVIEW PANEL

MEETING NOTES - APRIL 12, 1993

INTERIM DET FINDINGS AND CONCERNS AT STP - SUMMARY - 4/12/93

1001 TECHNICAL SPEC INTERPRETATIONS
- CONCERN ABOUT INTERFACE BETWEEN TS INTERPRETATIONS AND OPS POLICIES AND PRACTICES MANUAL
- CONCERN ABOUT SCOPE OF REVIEW AND MGMT CONTROLS APPLIED TO P&P MANUAL
- WHY SO MANY TSIs, WHY NOT REVISE TS. TSIs MAY BE A WAY TO REVISE TS WITHOUT NRC APPROVAL
- PEN AND INK CHANGES TO CR TS

1002 OPERATOR STAFFING LEVELS
- MAY NOT BE ADEQUATE FOR EXISTING WORK LOAD
- PIPELINE MAY NOT BE EFFECTIVE
- INSUFFICIENT TIME FOR MEANINGFUL OJT
- MANY OPERATOR WORK-AROUNDS
- STAFFING LEAN FOR SURVEILLANCES
- ADMIN BURDENS

1003 OPERATOR WORK-AROUNDS
- INCREASE NORMAL OPERATOR WORK LOAD

1004 LCO ENTRIES - MANY DUE TO 3-TRAIN SYSTEM

1007 AUX BOILERS, ONE OUT OF SERVICE, ONE LIMITED TO 40%

1008 OVERTIME CONTROL - APPARENT BLANKET APPROVAL FOR RPOs TO EXCEED OVERTIME CONTROLS

1009 LABELLING - EXTENSIVE USE OF MAGIC MARKER LABELS

1010 PMT
- DIFFICULT FOR OPERATORS
- CUMBERSOME, PROCESS PROBLEMS FOR SS
- UNDUE RESPONSIBILITY ON SS, MINIMAL FRONT END INVOLVEMENT

1011 DESIGN CONCERN - AUTO TRANSFER OF RHR FLOW CONTROL FROM CR TO AUX SD PANEL ON LOSS OF POWER

1012 POOR TEST SCHEDULING
- EXCESS LCO ENTRIES SINCE DO NOT TAKE ADVANTAGE OF EQUIPMENT RUNS DURING THE PERIOD WHICH ARE MADE FOR OTHER PURPOSES

1013 CUMBERSOME SURVEILLANCES
- SIGNIFICANT SCOPE, LONG PROCEDURES, HIGH MANPOWER REQMTS

1014 MGMT RESPONSE, EVAL OF PROBLEMS
- CHILLING EFFECT

1015 AUTHORITY OF SS
- DECISIONS CONSTANTLY CHALLENGED ON OPERABILITY, OT AUTHORIZATION, PRIORITIES

1016 TRIPS TO OTHER PLANTS - BUDGET AND STAFFING LIMITS

1017 OPS INFLUENCE THROUGHOUT PLANT - LACK OF OPS PERSONNEL IN OTHER DEPTS

1018 NIGHT ORDERS, MEMOS - MAY DIRECT ACTIVITIES WHICH SHOULD BE CONTROLLED BY PROCEDURES

1019 LOOSE FASTENERS - MANY NOTED ON ELECTRICAL PANELS

1020 TRAINING OFFICES - REMOTE LOCATION WITH RESPECT TO SIMULATOR

1021 CLOCKS IN CONTROL ROOM NOT SYNCHRONIZED

1022 LOCKED VALVES AND DEVICES - MANY COMPARED TO OTHER PLANTS

1023 TARGET ROCK VALVES
- HOW TO TEST THE VALVES
- LONG STANDING PROBLEM

1024 LIMITED EFFECTIVENESS OF OPERATIONS SELF ASSESSMENT CAPABILITY

1025 WORK TRIAGE SYSTEM NOT PROCEDURALIZED

1026 OUTAGE SCHEDULING COMPUTER PROGRAM PROBLEMS

1027 TRAINING - CONCERN ABOUT ABILITY TO ACCOMPLISH AS PLANNED - OJT FROZEN, EVALUATOR REQUAL, DEFERRED DUE TO OUTAGE

2001 EDG FUEL PUMP HOLD DOWN BOLTS
- POOR ROOT CAUSE
- POOR MAINTENANCE PROCESS
- FAILURE TO EVALUATE TOOLS
- VENDOR INFO NOT INCLUDED IN PROGRAM

2002 EDG START LOGS - INTERPRETATION PROBLEMS
- VALID VS NONVALID FAILURES
- VALID VS NONVALID TESTS
- REINTERPRETATIONS OF CONCLUSIONS

2003 EDG EXCESS WEAR VS RUN TIME

2004 VETIP WEAKNESSES

2005 EDG HISTORY RECORDS INADEQUATE

2006 QC ENGINEERS NOT DOCUMENTING EDG PROBLEMS

2007 MATERIAL REDUCTION PROGRAM WEAKNESS

2008 NO PROCEDURE FOR TROUBLESHOOTING EDG OR WRITING EDG HEALTH REPORTS

2009 VETIP WEAKNESS - DRAWINGS ILLEGIBLE

2010 EDG MATERIAL CONDITION IDENTIFICATION WEAKNESSES

2011 VETIP WEAKNESS - REVIEW OF EDG PM PROGRAM

2012 WEAKNESS IN IDENTIFYING PROBLEMS - CRAFT

2013 TRAINING APPLICATION WEAKNESS

2014 SYSTEM ENGINEER PERFORMANCE
- NOT PERFORMING SOME OF THEIR REQD FUNCTIONS
- DO NOT FULLY UNDERSTAND THEIR SYSTEMS
- UNABLE TO PURSUE CORRECTION OF PROBLEMS

2015 REPEAT MAINTENANCE ON EDGs
- POOR MAINTENANCE PRACTICES
- PARTS PROCUREMENT
- ENGINEERING ALLOWED USE OF INCOMPATIBLE MATL

2016 PMT PROCEDURES FOR MOLDED CASE CKT BRKRS WEAK

2017 IST - MANY COMPONENTS IN ALERT RANGE

2018 CREW LEADER FIELD SUPERVISION GOALS NOT MET, CANNOT BE MET BASED ON JOB DESCRIPTION

2019 MAINTENANCE MORALE SUFFERED DUE TO SHIFT SCHEDULE

2021 NO REFRIGERATION TRAINING FOR I&C

2022 PARTS AVAILABILITY PROBLEMS, LACK OF SPARE PARTS

2024 COMPUTER IS SLOW RESPONDING TO INQUIRIES

2025 PEOPLE MAKE THE PROGRAMS WORK, NOT THE PROCEDURES

2026 MAINT RESOURCES CONSTRAINED BY EFFORT TO GET OFF INPO TRAINING PROBATION

2027 SURVEILLANCE TESTING PROGRAM INADEQUATE, PROCEDURES WEAK

2028 POOR FEEDWATER SYSTEM DESIGN AND MATERIAL CONDITION PLACES EXTRA BURDEN ON OPS AND MAINT, CAUSES SYSTEM PERTURBATIONS

2032, 2033 PRA/IPE NOT USED IN MAINTENANCE AND TESTING

2035 SICK TIME GREATLY INCREASED THIS YEAR

2036 HOUSEKEEPING POOR IN SOME AREAS

2037 NO FORMAL COMPUTER TRAINING FOR CREW LEADERS AND HEAD JOURNEYMEN

2038 LACK OF IDENTIFICATION AND CORRECTIVE ACTION FOR REPEAT EQUIPMENT FAILURES

2039 HIGH TURNOVER OF MAINTENANCE MGMT IN RECENT YEARS

2040 MANY REVISIONS TO WORK PACKAGES

2041 DIFFICULT FOR PLANNERS TO IDENTIFY PARTS

2042 BATTERY DISCHARGE SURVEILLANCE TEST PROCEDURE WEAK

2043 SPR INVESTIGATOR NOT KNOWLEDGEABLE ON THE PROBLEM

2044 MOVATS PROCEDURE CUMBERSOME, 289 PAGES, EDGES TAPED TOCETHER TO PREVENT LOSS OF PAGES, THUS NOT READILY USED IN THE FIELD

2045 DIFFICULT TO DETERMINE PMT REQUIREMENTS

2046 WORK CONTROL PROCESS LACKS OVERALL COORDINATION

2047 ONLY 20% OF MAINT PERSONNEL HAVE PRIOR NUCLEAR EXPERIENCE

20- PLANNERS WORK 10 -12 HOURS PER DAY

20- MANY PM FEEDBACKS AWAIT PROCESSING

3001 CIRCUIT BREAKER OPERABILITY CONCERNS - GREASE HARDENING AND OTHER CONCERNS

3002 MANY UNINCORPORATED AMENDMENTS TO VENDOR DRAWINGS

3003 SYSTEM ENGINEER WALKDOWNS WEAK, MANY NOT DONE, TOO BUSY

3004 FUEL INJECTOR PUMP HOLD DOWN STUDS - RECURRING PROBLEM, INADEQUATE CORRECTIVE ACTION

3005 UNSECURED MATERIAL STORED IN SEISMIC AREA

3006 UNIT 1 CONTROL RODS STUCK, LACK OF RESPONSE TO VENDOR INFO

3007 ESSENTIAL CHILLER MODIFICATION PROBLEMS

3009 STP IS OUTLIER IN LERs CAUSE CODES

3010 REDUCING RESOURCES AFTER INITIAL PROBLEM CORRECTION

3011 CIRCUIT BREAKER SETPOINTS WRONG

3013 TORNADO DAMPER TESTING - DOES NOT SHOW DAMPERS WILL ACTUATE AS REQUIRED

3014 EDG ROCKER ARM OPERABILITY, FAILURE TO TORQUE, DID NOT USE VENDOR INFO

3016 POOR TRAINING FOR SYSTEM ENGINEERS

3018 RCA NOT DONE BY THE MOST KNOWLEDGEABLE PEOPLE

3019 SYSTEM ENGINEER RESPONSIBILITIES ARE TOO BROAD, CANNOT HANDLE LONG TERM TASKS, FOCUS ON CURRENT URGENT SITUATION

3020 SYS ENG SUPV CANNOT CONTROL SYS ENG WORKLOAD

3021 INADEQUATE EQUIPMENT HISTORY DATABASE

3022 MANAGEMENT INFORMATION SYSTEM WEAKNESS

3023 TOO MANY SYSTEMS PER SYS ENG

3024 MANY ENGINEERING BACKLOGS

3025 REPEAT FAILURES ON TOXIC GAS ANALYZERS

3026 PRA NOT REVISED BASED ON ACTUAL COMPONENT PERFORMANCE

3028 ESSENTIAL CHILLER TESTING CONCERNS

3029 ESSENTIAL CHILLER OPERABILITY CONCERNS POST DBA

3030 INCONSISTENCIES WITH EDG FAILURE DOCUMENTATION

3031 MODIFICATIONS DELAYED, DEFERRED, OR CANCELLED

3032 CONCERN WITH CONTROL AND IMPACT OF TEMPORARY MODIFICATIONS

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

April 29, 1993

Docket: 50-498
50-499
License: 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 50-498/92-35; 50-499/92-35 RESPONSE

Thank you for your letters of April 1 and 2, 1993, in response to our letter and Notice of Violation dated March 3, 1993. We have reviewed your response to Violation 9235-02, which cited four examples of your failure to take appropriate corrective actions to ensure that conditions adverse to quality are identified and that actions are taken to preclude recurrence. In the response, you state that you consider that the first example, although a violation of requirements, was not a nonconforming condition. The staff's concern on this matter was that the foreign material in the fuel oil strainer was considered a condition adverse to quality. A condition adverse to quality would have necessitated your corrective action program to initiate a formal root cause analysis.

Based on your response to Violation 9235-02, we understand that supplemental information will be provided on the second example of Violation 9235-02 by May 11, 1993.

Our review of your response to the third example of Violation 9235-02 determined that your root cause of the violation was inadequate. Your violation response identifies the cause of the Auxiliary Feedwater Pump 24 problems as being provided in Licensee Event Report (LER) 1-93-007. Our review of this LER indicates that the issues addressed in LER 1-93-007 were separate from the problems described in NRC Inspection Report 50-498/92-35; 50-499/92-35. This was discussed in a telephone conversation between Mr. Wayne Harrison of your staff and Mr. Mark Satorius of this office on April 15, 1993. Based on that conversation, we understand that additional information concerning this example of this violation will be provided by May 11, 1993.

In your response to Violation 9235-02, you also indicate that, until full compliance is achieved on December 15, 1993, the necessity for initiating station problem reports to fully investigate apparent adverse trends in equipment condition will be emphasized to station personnel. In light of the poor performance that South Texas Project has exhibited in identifying and addressing conditions adverse to quality, as evidenced by the recent escalated

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enforcement issues, we would expect that, in addition to emphasizing the importance of initiating station problem reports, a more proactive and comprehensive program to address the weaknesses identified in your corrective action program would be developed. We understand that this topic will be specifically addressed in the public meeting which is not yet scheduled prior to the Unit 1 startup following successful completion of your auxiliary feedwater system testing program.

After further discussions with your staff, we agree with your position that Violation 498;499/9235-03 should be modified to restrict its application to Surveillances 1/2-PSP02-SF-0001A, -1B, -1C, -2A, -2B, and -2C performed prior to September 1991.

In addition, we have reviewed your reply to Violations 9235-05 and -06 and find them responsive to the concerns raised in our Notice of Violation. We will review the implementation of your corrective actions to these two violations during a future inspection to determine that full compliance has been achieved and will be maintained.

Sincerely,

A. Bill Beach, Director
Division of Reactor Projects

cc:
Houston Lighting & Power Company
ATTN: William J. Jump, Manager
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City Public Service Board
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Central Power and Light Company
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Mr. Joseph M. Hendrie
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Licensing Representative
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Houston Lighting & Power Company
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

June 25, 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 50-498/92-35; 50-499/92-35 RESPONSE

We acknowledge your response to our letter dated April 29, 1993, which provided supplemental information related to our letter and Notice of Violation dated March 3, 1993. We have also reviewed your response to the first example of Violation 9235-02. As we stated in our last letter to you involving this matter, regardless of whether the foreign material in the fuel oil strainer met your definition of a condition adverse to quality, it nonetheless constituted a problem associated with a significant piece of safety-related equipment that should be investigated, analyzed, and corrected to preclude recurrence. Thus, our position remains unchanged. Your corrective action program is the vehicle that is presently in place to accomplish these activities and we encourage you to actively pursue enhanced utilization of this program in order to improve your documented past poor performance in correcting problems.

Your staff, as well as the NRC staff, has expended sufficient time and resources discussing and documenting this matter. This amount of correspondence on this particular issue indicates to us that your staff has not fully developed the necessary sensitivity, rigor, and initiation threshold for documenting problems using your corrective action program. We point out that on May 18, 1993, this same emergency diesel generator suffered a valid failure, due to conditions similar to the conditions identified in the first example of Violation 9235-02.

We have also reviewed the additional information provided for the second and third examples of Violation 9235-02 and find it responsive to the concerns raised in our Notice of Violation. We will review the implementation of your

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corrective actions for these issues during a future inspection to determine that full compliance has been achieved and will be maintained.

Sincerely,

A. Bill Beach, Director
Division of Reactor Projects

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

November 22, 1994

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 289
Wadsworth, Texas 77483

SUBJECT: NRC INSPECTION REPORT 50-498/94-34; 50-499/94-34

This refers to the inspection conducted by Dr. D. Blair Spitzberg and other members of an NRC team during the period October 31 through November 4, 1994. The inspection included a review of activities authorized for your South Texas Project Electric Generating Station facility. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed report.

Areas examined included the implementation of your emergency plan and procedures during your annual emergency exercise. Within these areas, the inspection consisted of selective examination of procedures and representative records, interviews with personnel, and observations by the inspectors. The inspection findings are documented in the enclosed inspection report.

Overall, your performance during the exercise was excellent, and your emergency response staff demonstrated effective implementation of your emergency plan.

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

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

Sincerely,

Samuel J. Collins, Director
Division of Radiation Safety
and Safeguards

B/13

Enclosure:
Appendix - NRC Inspection Report
50-498/94-34; 50-499/94-34

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APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-498/94-34
50-499/94-34

Operating Licenses: NPF-76
NPF-80

Licensee: Houston Lighting & Power Company
P.O. Box 289
Wadsworth, Texas 77483

Facility Name: South Texas Project Electric Generating Station

Inspection At: Matagorda County, Texas

Inspection Conducted: October 31 through November 4, 1994

Inspectors: D. B. Spitzberg, Ph.D., Team Leader
A. D. McQueen, Emergency Preparedness Analyst
J. E. Whittemore, Reactor Inspector
R. Azua, Resident Inspector, Fort Calhoun Station
D. Barss, Emergency Preparedness Specialist, Office of Nuclear Reactor Regulation

Accompanying
Personnel: Gary Bethke, Comex Corporation

Approved: Blaine Murray
B. Murray, Chief, Reactor Inspection Branch

11/15/94
Date

Inspection Summary

Areas Inspected: Routine, announced inspection of the licensee's performance and capabilities during an annual exercise of the emergency plan and implementing procedures. The inspection team observed activities in the Control Room (simulator), Technical Support Center, Operational Support Center, and the Emergency Operations Facility.

Results:

- The Control Room staff's performance in event analysis, classification, and notification of offsite authorities was strong. Communication of conditions to Control Room staff from senior personnel was good. The Control Room personnel also maintained a thorough knowledge of overall conditions and established realistic priorities based on this knowledge (Section 3.1).

- The Technical Support Center performed well during the exercise and provided timely and effective analysis of scenario plant conditions. Contrary to the previous exercise, administrative and engineering support in the Technical Support Center was considered strong (Section 4.1).

- The Operational Support Center was staffed and activated in a timely manner. Facility personnel were knowledgeable of their responsibilities with the facility coordinator displaying excellent command and control. Communications between the in-plant response teams and the Operational Support Center and the licensee's actions in response to the personnel injury were also found to be very good (Section 5.1).

- The Emergency Operations Facility was activated promptly and performed well during the exercise. Emergency classifications and offsite notifications were timely and accurate. Radiological assessments and Protective Action Recommendations were appropriate (Section 6.1).

- The scenario provided sufficient challenges to demonstrate exercise objectives. Several minor problems were noted in which scenario data was either unrealistic or was not sufficiently prepared (Section 7.1).

- The licensee's critique process was effective in properly characterizing exercise findings and capable of identifying areas in need of corrective action (Section 8.1).

Summary of Inspection Findings:

- Exercise weakness (498/9317-02; 499/9317-02) was closed (Section 9.1).

- Exercise weakness (498/9317-03; 499/9317-03) was closed (Section 9.2).

- Exercise weakness (498/9317-05; 499/9317-05) was closed (Section 9.3).

- Exercise weakness (498/9317-06; 499/9317-06) was closed (Section 9.4).

- Weakness (498/9325-04; 499/9325-04) was closed (Section 9.5).

Attachment:

Attachment - Persons Contacted and Exit Meeting

DETAILS

1 FACILITY STATUS

The licensee was operating both units at 100 percent power level during the week of the inspection.

2 PROGRAM AREAS INSPECTED (82301)

The licensee's annual emergency preparedness exercise began at 6:30 a.m. on November 2, 1994. Licensee's participants included the "blue" emergency response team. Other participants in the exercise included NRC regional base and site teams, the State of Texas, and county and local officials. The performances of state and local response organizations were evaluated by representatives of the Federal Emergency Management Agency (FEMA), which will issue a separate report. On November 3, 1994, an ingestion pathway exercise was held using the radiological conditions from the November 2, 1994, plume phase scenario. The licensee did not participate in the ingestion pathway exercise. The ingestion pathway exercise was evaluated by FEMA.

The scenario for the exercise was dynamically simulated using the licensee's Control Room simulator. The initial conditions for the scenario included increased iodine activity levels and the following major equipment out of service: one of three emergency diesels, one instrument air compressor, one electric fire pump, and one of three trains of emergency cooling water. The major events simulated were as follows:

- A nitrogen cylinder damaged "C" main steam line valves in the valve cubicle.

- A tornado touched down in the incoming high wire offsite power supply towers, causing a loss of all offsite power and reactor trip. One diesel failed to start, following the loss of offsite power, resulting in declaration of an Alert. The "A" and "C" steam generator safety valves failed open on the trip, and the "C" main steam isolation valve failed to shut.

- An hour and 15 minutes later, the remaining diesel generator output breaker opened on a bus fault, causing loss of all AC power, and escalation to a Site Area Emergency.

- An hour and 45 minutes after the loss of all AC, the "C" steam generator suffered a tube rupture, which initiated a release to atmosphere via the previously failed "C" main steam safety valve. The tube rupture and loss of all AC resulted in escalation to General Emergency.

The remainder of the scenario consisted of efforts to recover the failed equipment and bring the reactor to cold shutdown conditions.

3 CONTROL ROOM (82301-03.02)

The inspection team observed and evaluated the augmented Control Room staff as they performed tasks in response to exercise events indicated by the active Unit 1 Control Room simulator used for the exercise. These tasks included detection and classification of event-related conditions, detailed analysis of conditions, notification of licensee personnel, and notification of offsite authorities.

3.1 Discussion

Upon being informed of the tornado watch, Control Room personnel were quick to implement the licensee's severe weather plan in accordance with Procedure OPOP04-ZO-0002, "Severe Weather Conditions," Revision 7. All preparations were made prior to the tornado impacting the incoming power supplies.

Early in the scenario, a simulator malfunction prevented the expected conditions to cause an ALERT declaration when 4160 VAC Bus 13 did not de-energize as expected. A drill controller recognized the error immediately and communicated with the simulator computer operator to attain the conditions needed to support and drive the scenario.

The shift supervisor declared an Alert 2 minutes after the appropriate emergency action level initiating conditions were met. The shift supervisor declared himself the emergency director and correctly used Procedure OERP01-ZV-IN01, "Emergency Classification," Revision 2, to determine the correct classification for the observed conditions. The shift supervisor immediately announced the declaration and the specific emergency action levels requiring the declaration to the Control Room staff. Within 1 minute, a Control Room operator initiated the plant staff call-out notification process. Notification of plant staff was completed quickly using the Emergency Notification and Response System in accordance with Procedure OERP01-ZV-IN02, "Emergency Response Organization Notification," Revision 6.

The inspectors observed the operations manager enter the Control Room prior to the ALERT declaration. Upon initial declaration, he initiated the operations manager alert check list, that was contained in Procedure OERP01-ZV-TS03, "Operations Manager," Revision 3. After initiating the check list, the inspectors observed the operations manager provide a thorough and accurate briefing to the NRC resident inspectors upon their arrival in the Control Room.

The notification of the ALERT declaration to local authorities was completed within 8 minute of the declaration. Notification to NRC was completed within 13 minutes. The notifications were made in accordance with Procedure OERP01-ZV-IN02, "Notification to Offsite Agencies," Revision 4. The initial notification to the NRC did not contain information about two stuck open steam generator safety valves or complications with the turbine driven auxiliary feedwater pump, that had tripped on automatic startup. However, these symptoms had occurred during the plant trip and had not been investigated prior to initial notification. Therefore, only the electrical

system problems that resulted in the ALERT classification were reported during the initial notification. Once the NRC notification was made, a licensed operator established continuous emergency notification system communications with the NRC on a head set. Updates to local authorities were also initiated.

The Technical Support Center notified the Control Room that it was ready to assume the emergency director responsibilities from the Control Room at 7:32 a.m. The inspectors observed the shift supervisor assemble and prioritize all pertinent information and conduct a thorough turnover over the telephone. The emergency director responsibilities were transferred to the Technical Support Center eight minutes after it was operational and ready. The transfer was completed correctly with no loss of status information.

Upon the transfer of emergency direction out of the Control Room, announcements over the PA system did not come into the Control Room simulator. The Control Room staff was not aware that a Site Area Emergency had been declared for about 10 minutes following the declaration. The Control Room was also unaware of the initial site evacuation announcement. The emergency notification system phone talker knew of these conditions, but he did not inform others in the Control Room. A site technician was called to the simulator and adjusted or repaired the plant page speaker and all later messages were heard and understood.

Unit 1 entered a condition that required a Site Area Emergency at 8:17 a.m., when all AC power was lost. The Site Area Emergency was quickly declared and implemented in accordance with the emergency plan and appropriate implementing procedures. The inspectors reviewed Procedure OPOP05-EO-EC00, "Loss of All AC Power," Revision 1, and noted that Step 14 required operators to shed nonessential DC loads in order to conserve essential DC power sources. The inspectors did not observe any effort by the Control Room staff to conserve or monitor DC power sources until 9:45 a.m. or about 1 1/2 hours after the loss of power occurred. This observation was considered an area of potential improvement.

A steam generator tube rupture occurred at 10 a.m. that started a direct release to atmosphere through a stuck open steam generator safety valve. The shift supervisor announced to the Control Room, that a release was in progress and notified the other emergency response facilities at 10:05 a.m. These other facilities were reminded by the Control Room that an announcement was required, because personnel were being dispatched to the field to address various problems. Control Room personnel were reluctant to make the announcement, because they had no valid meteorological data. Eventually, the Control Room personnel became impatient and made the announcement of the release at 10:16 a.m. after requesting and attaining meteorological data from the lead exercise controller. The prompt announcement of such a significant change in plant conditions was noted as an area of potential improvement.

After recovering pressurizer level, Control Room personnel recognized the need to terminate safety injection in order to preclude an increase in reactor coolant system pressure and reinitiation of the release. The immediate plan was to maintain reactor coolant system inventory by periodically jogging either a charging or safety injection pump. However, the emergency operating

procedures would not allow the termination of safety injection, because the required subcooling could not be attained. The required subcooling could not be attained, because the reactor coolant system was depressurized to near atmospheric pressure. Therefore, the licensee invoked the provisions of 10 CFR 50.54(x) to violate the approved emergency procedure in order to recover coolant inventory without reinitiating a radiological release.

During the entire exercise, the inspectors observed licensee personnel in the Control Room carry out emergency response responsibilities. Inspectors observed the Control Room on-site communicator perform thorough, concise, closed loop telephone communications throughout the exercise. Additionally, the shift supervisor and operations manager discussed and arranged recovery priorities. The priorities were continually updated and maintained on a portable white board visible to everyone in the Control Room. During the latter part of the exercise, Control Room personnel were proactive in pursuing novel methods of restoring power to one 4160 Volt essential bus.

3.2 Conclusions

The Control Room staff's performance in event analysis, classification, and notification of offsite authorities was strong. Communication of conditions to Control Room staff from senior personnel was good. The Control Room personnel also maintained a thorough knowledge of overall conditions and established realistic priorities based on this knowledge.

4 TECHNICAL SUPPORT CENTER (82301-03.03)

The inspection team observed and evaluated the Technical Support Center staff as they performed the full range of tasks necessary to respond to the exercise scenario. These tasks included detection and classification of events; notification of Federal, State, and local response agencies; analysis of plant conditions; formulation of corrective action plans; prioritizing mitigating actions; and formulating recovery and re-entry plans.

4.1 Discussion

The Technical Support Center was activated in a prompt and orderly fashion, and smooth transitions of Command and Control from the Control Room to the Technical Support Center and later to the Emergency Operations Facility were executed. The site accountability objective was met with the efficient and prompt reporting of accountability status to the Technical Support Center following the declaration of the Site Area Emergency. The one missing individual was located within a 3-minute search. Although no classifications were made from the Technical Support Center, the Technical Support Center staff performed well in its analysis of the core melt sequence in progress, providing timely advice to the Emergency Operations Facility. This resulted in a proper and conservative escalation to General Emergency by the Emergency Operations Facility and initiation of Protective Action Recommendations prior to the actual start of radiological release.

The Technical Support Center administrative group was prompt and efficient in orchestrating the large volume of incoming and outgoing messages and

telefaxes. Their logging and distribution system facilitated prompt awareness of response status among all Technical Support Center managers and provided an auditable record of exercise paper transactions.

Several effective techniques were used in the Technical Support Center to keep all personnel focused on the mitigation of the simulated accident sequence. Techniques included: well kept status boards, frequent key manager meetings, and frequent briefings of all facility personnel by the Technical Support Center manager.

The manager's meetings held in the Technical Support Center at a frequency of about one per hour were useful in exchanging information and updating plant status and mitigation efforts among the Technical Support Center managers. The meetings tended to be long; however, several on the order of 20-25 minutes. These meetings effectively tied up key managers for the duration of the meeting. The inspectors noted from player comments overheard in the Operational Support Center and Emergency Operations Facility that on several occasions, management counterpart communications between their facility and the Technical Support Center were delayed because of the length of the Technical Support Center managers' meetings. This observation was found to be an area of potential improvement.

Throughout the exercise, the inspectors noted that the engineering group in the Technical Support Center was very creative and effective in analyzing the large number of plant component and system problems included in this exercise scenario. Solutions to over 35 separate problems were produced in forms ranging from sound technical advice to written repair and system line-up procedures. Although the majority of the prioritized mitigation tasks established and directed by the Technical Support Center were well communicated to the Operational Support Center and Control Room and the results carefully tracked, isolated conflicts in direction occurred. The most notable conflict occurred when the top repair priority, the 11 diesel generator was scavenged for parts to repair the 12 diesel generator which had been assigned a lower priority repair objective.

Although the majority of the Technical Support Center mitigating actions recommended were well analyzed and technically accurate, the following departed from realistic thinking:

- Sticking a fire hose down the organ pipe of a blowing main steam safety valve
- Expecting furmanite to plug a blowing main steam safety valve
- Opening a primary power operated relief valve to provide heat removal (this is also a violation of the current Westinghouse Emergency Procedure Guidelines)

The inspectors noted that the Technical Support Center did not undertake to perform dose projections to backup or validate the efforts by the Emergency

Operations Facility. This was identified as an area for potential improvement.

4.2 Conclusions

The Technical Support Center performed well during the exercise and provided timely and effective analysis of scenario plant conditions. Contrary to the previous exercise, administrative and engineering support in the Technical Support Center was considered strong.

5 OPERATIONAL SUPPORT CENTER (82301-03.05)

The inspectors evaluated the performance of the Operations Support Center staff as they performed tasks in response to the exercise. These tasks included activation of the Operations Support Center and its effectiveness in providing support to operations, including the coordination of emergency in-plant response teams.

5.1 Discussion

The Operational Support Center was staffed and activated within 1 hour after the ALERT was declared. Upon activation, the facility was fully functional. The Operational Support Center coordinator was found to be knowledgeable of his responsibilities and displayed excellent command and control throughout the exercise. The facility size contributed to a certain level of noise and congestion, but this was maintained at a minimum by the facility coordinator. The coordinator kept the facility staff informed throughout the exercise by holding a facility briefing every 20 minutes.

The exercise scenario presented excellent challenges for the Operational Support Center. For example, over 40 in-plant response teams were dispatched during the exercise. This was a much higher number than is observed during a typical exercise. The emergency in-plant response teams were noted to have received good prejob briefings and were appropriately debriefed upon completion of their efforts. These briefings included discussions with health physics personnel to help the in-plant response teams maintain their radiation exposure ALARA. Communication between the in-plant response teams and the Operational Support Center was found to be very good. Prioritization of the in-plant response team efforts was found to be maintained at a good level in the Operational Support Center. Prioritization was mainly dictated from the Technical Support Center, but the Operational Support Center coordinator made appropriate changes when field conditions warranted them.

The licensee's use of mock-ups during the exercise provided the in-plant response teams with a measure of realism which allowed them to better gauge their success in anticipating the actions required. Other than a couple of minor errors, the overall performance of the in-plant response teams during this exercise was found to be good. In addition, the licensee's response to a simulated personnel injury was found to be excellent. Licensee's personnel were quick to respond to the scene. The health physics technician performed appropriate surveys of the injured worker and of the area surrounding him, keeping the emergency medical team informed. The emergency medical team

personnel rapidly tended to the worker's injuries, securing his broken arm, and transporting him out of the area and off the plant site. The complete effort was performed in a safe and timely manner.

Even though the overall performance of the Operational Support Center was found to be good, some areas were noted as areas for potential improvement. These included the following:

- Contrary to the requirements set forth in Station Procedure OERP01-ZV-OS01, "Operations Support Center Coordinator," some of the Operational Support Center personnel left the facility without requesting the approval of the Operational Support Center coordinator. Sometimes this was done without arrangements being made for proper telephone coverage. As a result, some phones went unanswered.

- Contrary to the requirements set forth in Station Procedures OERP01-ZV-OS03, "Radiological Coordinator," and OERP01-ZV-OS04, "Radiological Manager," the licensee stopped having a health physics technician simulate performing habitability surveys of the facility. This had been done to minimize the traffic in the facility. This action artificially reduced the traffic in the facility and did not address the traffic concern that would be experienced in a real event.

- Changes to the priority list sometimes did not get disseminated to the in-plant response teams, resulting in a delay in the dispatch of some of the high priority teams to the field. Another condition that also contributed to the delay in dispatching in-plant response teams to the field was the number of teams that were being formed at the height of the exercise. This resulted in a shortage of controllers, radios, and people to provide prejob briefings.

- The Operational Support Center Team Status boardkeeper was found to be overwhelmed on some occasions that required support from the Operational Support Center assistant coordinator, to keep it current. At times, the support came from the facility coordinator, providing a distraction from his assigned duties.

- Some messages that were transmitted over the public address system were not sufficiently audible in the Operational Support Center. This required some facility personnel to have to stand in the hallway outside the facility to hear and understand these messages.

5.2 Conclusions

The Operational Support Center was staffed and activated in a timely manner. Facility personnel were knowledgeable of their responsibilities with the facility coordinator displaying excellent command and control. Communications between the in-plant response teams and the Operational Support Center and the licensee's actions in response to the personnel injury were also found to be very good.

6 EMERGENCY OPERATIONS FACILITY (82301 - 03.04 & 03.07)

The inspectors observed the Emergency Operations Facility staff as they performed tasks in response to the exercise. These tasks included activation of the Emergency Operations Facility, accident assessment and classification, offsite dose assessment, protective action decisionmaking and implementation, notifications and communications, coordination of offsite field monitoring teams, and interaction with offsite officials.

6.1 Discussion

The inspectors observed that the Emergency Operations Facility was promptly activated 38 minutes after an Alert was announced over the plant public address system. Facility management, technical, and administrative support personnel demonstrated knowledge of their duties and performed them in a prompt and effective manner throughout the exercise. Command and control demonstrated by the Emergency Director was effective. The Emergency Director conducted effective event update briefings of the entire facility staff about every 30 minutes and provided immediate briefings when important changes in plant status occurred. Emergency operations group managers and the state of Texas lead representative each reviewed status of their individual areas of responsibility during the periodic briefings. Emergency Operations Facility personnel conducted themselves in a professional manner and demonstrated discipline in maintaining low noise levels in the facility.

Event assessment and classifications made from the Emergency Operations Facility were timely and based on known plant conditions and appropriate emergency action levels. Offsite notifications were also timely and generally contained appropriate information. Minor inaccuracies and incorrect data on notification message forms were identified quickly and corrected within minutes.

Security and radiological entry controls for the Emergency Operations Facility were appropriately established and maintained. Radiological conditions for the facility were updated by the radiation protection manager at each periodic managers' briefing. When radiological conditions warranted, dosimetry was provided to all personnel. Habitability surveys were conducted at regular intervals in addition to the use of installed monitors in the facility.

Radiological conditions were evaluated and properly considered in making event classifications. Protective Action Recommendations were made in accordance with established procedural guidance and were reevaluated as conditions changed. Discussions were conducted with the state of Texas representative before the issuance of Protective Action Recommendations to ensure they understood the basis for the recommendations.

There was good cooperation and sharing of information between licensee and the state of Texas dose assessment personnel. Independent dose assessments were compared and found to be in reasonable agreement. When the NRC Site Team arrived, they were asked to provide a dose assessment for comparison. The results of the NRC and licensee's dose projection were found to be in agreement within about 20 percent.

Field monitoring teams were staffed within 30 minutes of the declaration of an Alert. These teams were briefed and ready for dispatching to monitoring locations within 1 hour of the Alert declaration. These teams were effectively used throughout the exercise to identify, monitor, track, and characterize the plume. Field team monitoring results were reported in a timely manner to the Emergency Operations Facility and were posted for use by dose assessment personnel. The field teams were kept informed of changing plant conditions, meteorology, dose projections, and protective actions, including the use of potassium iodide when appropriate. As part of the field monitoring teams initial briefing, they were provided with a multiplication factor for converting self-reading dosimeter reading to total effective dose equivalent (TEDE) dose. This information was not recorded on the briefing forms. This information could be included on the briefing forms for future reference and as a reminder to field personnel.

Dose assessment personnel performed initial dose projections based on a range of potential release conditions before the simulated release occurred. These projections were used to predict when conditions would warrant protective action recommendations. When plant parameters and monitors indicated the start of an off site release, dose projections were calculated using available information in accordance with procedural guidance. As plant and meteorological conditions changed, dose assessments were properly reevaluated.

The dose assessment specialist made good use of field monitoring results to determine a source term and refine dose assessments. However, the radioactive release source term (in uci/sec) used in various facilities was not consistent as follows:

- The release rate posted in the Technical Support Center was computed by the RM-11 system.

- The Emergency Operations Facility posted different release rate values computed using the formula contained OERP01-ZV-TP01, "Offsite Dose Calculations," for steam generator tube rupture.

- The Emergency Operations Facility Dose Assessment team used a source term based upon ratioing coolant chemistry data, using main steam line monitor data, to match field survey results.

- The release rate information called for on the back side of NRC Form 361 was not filled in on the forms reviewed by the inspectors.

The derivation and use of consistent source term information was identified as an area for potential improvement. In a related matter, the inspectors noted that the default partitioning assumptions in Procedure OERP01-ZV-TP01 (maximum iodine fraction of 0.2 percent) for a steam generator tube rupture were nonconservative in the case of the hot/dry steam generator simulated in this exercise. This procedure also lacked any discussion of the automatic source term calculation features of the RM-11 system.

Status boards in the Emergency Operations Facility were maintained in a timely and accurate manner and generally contained appropriate and sufficient data for response. The status board for protective actions, however, was not well formatted. Information recorded on the board made it unclear whether the Protective Action Recommendation included a full radius for the 2 and 5 mile area. The inspectors verified that licensee personnel clearly understood the Protective Action Recommendations issued, but from reading the status board, the complete recommendation was not effectively communicated.

6.2 Conclusions

The Emergency Operations Facility was activated promptly and performed well during the exercise. Emergency classifications and offsite notifications were timely and accurate. Radiological assessments and Protective Action Recommendations were appropriate.

7 SCENARIO AND EXERCISE CONDUCT (82301)

The inspection team made observations during the exercise to assess the challenge and realism of the scenario and to evaluate the conduct of the exercise.

7.1 Discussion

The inspectors determined that the scenario posed effective challenges to all licensee objectives evaluated by the NRC inspection team. The scenario was particularly challenging in the number of in-plant repair activities initiated. Despite the overall challenges presented by the scenario, the inspectors identified the following problems in which scenario data was either unrealistic or was not sufficiently prepared for the exercise needs:

- No Iodine spike was simulated following the reactor trip as would be expected. Instead, the dose equivalent iodine value was decreased from about 13 to 6 uci/ml.

- The scenario unrealistically increased Dose Equivalent Iodine and other coolant activities by two orders of magnitude at 10 a.m., during a slow depressurization of the coolant system.

- Containment airborne activity and containment radiation levels were not consistent during the last 3 or 4 hours of the exercise. Containment airborne levels of magnitude E-2 uci/cc, regardless of the nuclide mix, will result in containment radiation levels greater than the 4 R/Hr presented by the scenario. Also, there was no scenario mechanism for the containment airborne levels to reach E-2 uci/cc.

- During the core uncovery period of the scenario after 11:30 a.m., the "C" main steam line monitor readings in the scenario were unrealistically decreased from 5.6 uci/cc to lesser values.

- The actual core damage in this scenario would have been far worse than that simulated with the core in an uncovered state for 1 to 2 hours.

- Because the operating crew chose a different path than expected, the reactor coolant system was not cooled down and depressurized as early as anticipated by the scenario. As a result, the accumulators did not dump and provide additional cooldown as expected. This caused the simulator to provide plant and available radiological parameter values that were vastly different than those expected. To compensate, the controllers switched to hardcopy scenario data. The inspectors observed, however, that adequate preparations had not been taken to provide sufficient copies of hardcopy data for the operators. During one period, it appeared that the shift technical advisor had been relegated to the role of data reader.

- During the latter part of the exercise, controllers were forced to make numerous on-the-spot changes to hardcopy data sheets to clear up confusion of operations personnel.

Although the scenario faults did not significantly affect meeting exercise objectives, they provided negative training in terms of what should be expected both radiologically and thermo-hydraulically during a situation of this nature. This was identified as an area for potential improvement.

7.2 Conclusions

The scenario provided sufficient challenges to demonstrate exercise objectives. Several minor problems were noted in which scenario data was either unrealistic or was not sufficiently prepared.

8 LICENSEE SELF-CRITIQUE (82301-03.02.b.12)

The inspectors observed and evaluated the licensee's formal self-critique on November 4, 1994, to determine whether the process would identify and characterize weak or deficient areas in need of corrective action.

8.1 Discussion

At the licensee's request, the inspectors attended the individual facility critiques immediately following the exercise. The facility critiques provided good input into the formal critique process. The formal NRC critique held on November 4, 1994, presented the reviewed findings from each facility. The formal critique was comprehensive and, like the NRC findings, identified no exercise weaknesses. Most of the areas of potential improvement identified by the NRC team were similarly characterized and discussed during the licensee's formal critique.

8.2 Conclusions

The licensee's critique process was effective in properly characterizing exercise findings and was capable of identifying areas in need of corrective action.

9 FOLLOWUP ON PREVIOUS INSPECTION FINDINGS

9.1 (Closed) Exercise Weakness (498/9317-02; 499/9317-02): This weakness was identified during the 1993 exercise. This weakness pertained to performance lacking in providing technical assessment, diagnosis, and mitigating activities in the Technical Support Center.

During the 1994 exercise, the entire Technical Support Center staff, and in particular the Technical Support Center engineering staff, was extremely proficient in analyzing and developing solutions to a myriad of complex simulated plant systems failures. The efforts were taken to completion with the development of written procedures and interfaces with the Operations Support Center to insure that the corrective actions were translated into Operations Support Center Team field repair actions. More than 35 separate mitigative actions were developed and implemented during this 9-hour exercise.

9.2 (Closed) Exercise Weakness (498/9317-03; 499/9317-03): This weakness was identified during the 1993 exercise. This weakness was the result of insufficient administrative staff being present in the Technical Support Center, without steps being taken to obtain additional staffing or to reassign the missing staffs' responsibilities.

During the 1994 exercise, minimum staffing requirements in the Technical Support Center were met within approximately 24 minutes following declaration of the Alert emergency classification. The administrative staff was particularly efficient in logging and distributing virtually every important piece of incoming and outgoing documentation during the 1994 exercise.

9.3 (Closed) Exercise Weakness (498/9317-05; 499/9317-05): This weakness was identified during the 1993 exercise. This weakness was the result of inaccuracies and omissions in offsite notification messages.

During the 1994 exercise, all offsite notifications messages were completed within the prescribed timeframe, and had only minor errors which were corrected during the exercise. Although this weakness is closed, the licensee is cautioned to pay particular attention to the need, in both the exercise and actual environment, to make accurate notifications for both units, in the case where both units are affected by a common initiating event.

9.4 (Closed) Exercise Weakness (498/9317-06; 499/9317-06): This weakness was identified during the 1993 exercise. The 1993 post exercise self-critique process by the licensee failed to identify or properly characterize several areas in need of corrective action.

Following the 1994 exercise, both the individual facility critiques and the formal NRC critique held immediately prior to the NRC exit meeting were realistic and comprehensive. The licensee's controllers, evaluators, and participants identified essentially the same problems as those identified by the NRC inspection team.

9.5 (Closed) Weakness (498/9325-04; 499/9325-04): This weakness was identified during the operational status inspection and pertained to the failure of the operator crews to properly calculate dose projections.

During the walkthroughs conducted in August 1994 (NRC Inspection Report 50-498/94-29; 50-499/94-29) and the 1994 exercise, the licensee demonstrated timely and accurate calculations of dose assessments.

ATTACHMENT

1 PERSONS CONTACTED

1.1 Licensee Personnel

*L. S. Barton, Offsite Emergency Preparedness Program Manager
*H. W. Bergendahl, Manager, Operations Support
W. T. Cottle, Group Vice President, Nuclear
*M. A. Coughlin, Senior Licensing Engineer
*M. A. Covell, Senior Consultant
*J. R. Fast, Maintenance Manager, Unit 1
*J. F. Groth, Vice President, Nuclear Generation
*D. R. Keating, Director, Quality Assurance
*J. R. Loven, Operations Manager, Unit 1
*L. E. Martin, General Manager, Nuclear Assurance and Licensing
*R. Masse, Plant Manager, Unit 2
*C. Parkey, General Manager, Generation Support
*F. J. Puleo, Staff Specialist
*S. L. Rosen, Director, Industrial Relations
*P. Serra, Manager, Emergency Response
*J. J. Sheppard, Assistant Group Vice President
*K. Struble, Shift Supervisor
*F. R. Timmons, Security Director
*G. Walker, Site Public Affairs Specialist

1.2 NRC Personnel

*D. P. Loveless, Senior Resident Inspector
*J. M. Keeton, Resident Inspector
*D. M. Garcia, Resident Inspector

* Denotes those present at the exit meeting

2 EXIT MEETING

The inspection team met with the licensee representatives and other personnel indicated in Section 1 of this attachment on November 4, 1994. The team leader summarized the scope and findings of the inspection as presented in this report. The licensee did not identify as proprietary any of the materials provided to, or reviewed by, the inspection team during the inspection.