

SOUTH TEXAS PROJECT  
ELECTRIC GENERATING STATION  
UNITS 1 & 2

-PRESALP BOARD-

-MIP CLOSE OUT-

-INTERIM MIP-

July 21, 1992

SALP Period

June 02, 1991 - Aug 01, 1992

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C/6 15/10/92

# STP SALP

## SCHEDULE

July 21, 1992	Pre-SALP Board - 9:00 a.m.
August 02, 1992	SALP Period Ends
August 7, 1992	Individual Inputs Due to Responsible Organizations by COB
August 14, 1992	Inputs Due to Chief, Reactor Project Section D by COB
September 2, 1992	SALP Board - 9:00 a.m.
September 30, 1992	Draft SALP Report Issued to Licensee
October 13, 1992	Public Meeting with the Licensee at Bay City Convention Center, Bay City, Texas - 11:00 p.m

## INSPECTION REPORTS

91-05	Wagner	EDSFI	05/28 - 06/28/91
91-19	Tapia	Resident	06/01 - 07/12/91
91-20	Terc	Annual Emergency Exercise	08/19 - 08/23/91
91-21	Tobin	Physical Security (Team)	08/06 - 08/15/91
91-22	Tapia	Resident	07/13 - 08/23/91
91-23	Tapia	Special - Integrity Issues	04/04 - 04/05/91 07/23 - 07/26/91 09/10 - 09/12/91
91-24	Gilbert	ECW Weld Cracking	08/05 - 08/09/91
91-25	Tapia	Resident	08/24 - 10/04/91
91-26	Gilbert	ISI	09/30 - 10/04/91
91-27	Garrison	ECW Weld Cracking	09/24 - 09/25/91
91-28	Tapia	Resident	10/05 - 11/15/91
91-29	Bess	Maintenance Program	10/28 - 11/01/91
91-30	Tapia	Resident	11/16 - 12/20/91
91-31	Murphy	Surv Testing/Cal Program	12/09 - 12/13/91
91-32	Dexter	Physical Security	12/09 - 12/13/91
91-33	Stewart	ISI On U2 Outage/Followup	12/03 - 12/06/91
91-34	Tapia	Resident	12/21 - 02/01/92
91-35	Tapia	Reactive Insp - U2 Trip	12/26 - 01/03/92
92-01	Hunter	Self-Assessment/Cor Act	01/27 - 01/31/92
92-02	Ricketson	Radiation Protection Prog	01/21 - 01/24/92
92-03	Ellershaw	Feedback of Ops Exper Info	02/03 - 02/07/92
92-04	Westerman	Engineering Team Insp	02/10 - 02/14/92
92-05	Tapia	Resident	02/01 - 03/14/92
92-06	Westerman	MOV Team Insp	02/24 - 02/28/92
92-07	Powers	Allegation Followup Team	03/09 - 03/13/92 03/23 - 03/27/92 04/14/92
92-08	Tapia	Resident	03/15 - 04/25/92
92-09	Terc	Annual Emergency Exercise	04/28 - 05/01/92

92-10	Terc	EP Organization	04/06 - 04/09/92
92-11	Nicholas	Rad Waste Mana	04/13 - 04/17/92
92-12	Ricketson	Exposure Controls	05/04 - 05/08/92
92-13	Stewart	QA Audit and Implementation	05/04 - 05/08/92
92-14	Tapia	Resident	04/26 - 06/06/92 <del>04/26</del>
92-16	Wilborn	Radiochem Comfirmatory	06/01 - 06/04/92
92-17	Smith	Special Insp on TS 3.0.3 Issues (Awaiting OI Invest prior to issue)	06/01 - 06/04/92 <del>06/01</del>
92-19	Ricketson	Solid Rad Waste Program	06/08 - 06/12/92 <del>06/08</del>
92-20	Dexter	Physical Security	06/15 - 06/19/92
92-21	Tapia	Resident	06/07 - 07/04/92 <del>06/07</del>
92-24/	Tapia	Resident	07/05 - 08/01/92 <del>07/05</del>
	Terc	EP walk thru	

## PLANT OPERATIONS

### A. PREVIOUS RATINGS

<u>SALP</u>		<u>QPPRs</u>	
<u>90</u>	<u>91</u>	<u>DEC 91</u>	<u>APR 92</u>
1	2	NC	(-)

### B. HIGHLIGHTS OF LAST SALP REPORT

#### Strengths

- ° Good operator response during plant transients
- ° Improved housekeeping and material condition
- ° Proactive in the elimination of control room nuisance annunciators alarming
- ° Good operations support staff
- ° Improved plant operating procedures

#### Weaknesses

- ° AMSAC unreliability
- ° Numerous plant challenges from equipment failures and personnel errors
- ° Personnel errors resulting in TS violations
- ° Several long standing equipment problems
- ° Lack of active management involvement in reviewing/correcting events
- ° Numerous plant labeling deficiencies
- ° Excessive operator overtime during outages

### C. NRC RECOMMENDATIONS FROM THE LAST SALP

Licensee should:

- ° continue to assess performance and implement improvements in human performance and station reliability to reduce the number of unnecessary challenges to the plant.
- ° continue initiatives to improve
  - secondary plant material condition
  - procedural adequacy and compliance
  - plant labeling

### D. LICENSEE PERFORMANCE OBSERVED IN PREVIOUS QPPRs

#### Strengths

Dec 91 QPPR

- ° Plant performing well with exception of EDG's, which are being addressed
- ° Freeze protection for EDG's properly implemented
- ° Housekeeping activities improved
- ° Unit 2 refueling outage activities well managed

Apr 92 QPPR

- ° Operators responded well to plant events, although the plant response to the failed open pressurizer spray valve was not as expected
- ° Labeling program has been responsive in addressing labeling deficiencies
- ° Unit 2 refueling outage was well managed

Weaknesses

Dec 91 QPPR

- Excessive use of overtime for SRO's continues
- Plant labeling problems continue

Apr 92 QPPR

- Continuing problems noted with balance of plant equipment that caused plant challenges and reactor trips
- Operators not fully cognizant of containment integrity requirements
- Reducing reactor coolant system temperature below the minimum temperature for criticality was indicative of less than adequate training associated with plant shutdowns
- RI's observed a training instructor reading a newspaper while a crew was practicing plant startups and shutdowns on the simulator
- SRO overtime during extended outages continues to be high and exceeds the licensee's goals

E. MASTER INSPECTION PLAN CLOSE OUT

UNIT 1

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+) / Under (-)</u>
71707	RPD	595	513	-82*
71710	RPD	20	12	-8.0
93702	RPD	28	22	-6.0
	<u>TOTALS</u>	643	547	-96.0

14.9% Under  
Planned Hours

\*Further inspection effort in July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Initiative-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+) / Under (-)</u>
42700	OPS	35	38	+3
	<u>TOTALS</u>	35	38	+3

8.6% Over  
Planned Hours

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Reactive-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+) / Under (-)</u>
71707	RPD	NA	3	+3
93702	RPD	NA	56.5	+56.5
	<u>TOTALS</u>	NA	59.5	+59.5

UNIT 2

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
71707	RPD	595	505	-90.0*
71710	RPD	20	18	-2.0
93702	RPD	28	9.0	-19.0
	TOTALS	643	532.0	-111.0

17.3% Under  
Planned Hours

\*Further inspection Effort in July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Initiative-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
42700	OPS	35	34.5	-.5
60705	RPD	8	12	+4
60710	RPD	12	12	-0-
86700	RPD	20	20	-0-
	TOTALS	75	78.5	+3.5

4.7% Over  
Planned Hours

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Reactive-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
71707	RPD	NA	11	+11
93702	RPD	NA	90.5	+90.5
	TOTALS	NA	101.5	+101.5

F. RECOMMENDATIONS FOR THE INTERIM MIP

UNIT 1

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
64704	TPS	None
71707	RPD	None
71710	RPD	None
93702	RPD	30 Hours Planned

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
60705	RPD	Unit 1 refuel Sep 1992. DRP module.
60710	RPD	Unit 1 in refuel Sep 1992. DRP module.
71707	RPD	Additional hours needed.
86700	RPD	Unit 1 in refuel Sep 1992. DRP module.
93702	RPD	Regional Reactive with no hours planned.

UNIT 2

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
64704	TPS	None
71707	RPD	None
71710	RPD	None
93702	RPD	30 Hours Planned

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
60705	RPD	Unit 1 refuel Sep 1992. DRP module.
60710	RPD	Unit 1 in refuel Sep 1992. DRP module.
71707	RPD	Additional hours needed.
86700	RPD	Unit 1 in refuel Sep 1992. DRP module.
93702	RPD	Regional Reactive with no hours planned.



## RADIOLOGICAL CONTROLS

### A. PREVIOUS RATINGS

<u>SALP</u>	<u>QPPRs</u>	
<u>90 91</u>	<u>DEC 91</u>	<u>APR 92</u>
2 1	NC	NC

### B. HIGHLIGHTS OF LAST SALP REPORT

#### Strengths

- Superior programs
- Good management involvement and support
- Comprehensive QA audits
- Good communications and coordination with other departments
- Effective programs that have been significantly challenged
- Little use of contractors during routine operations
- Few contamination areas
- Good ALARA program

#### Weaknesses

None

### C. NRC RECOMMENDATIONS FROM THE LAST SALP

None

### D. LICENSEE PERFORMANCE OBSERVED IN PREVIOUS QPPRs

#### Strengths

##### Dec 91 QPPR

- Continued good licensee performance

##### Apr 92 QPPR

- Overall, a strong program has been maintained.

#### Weaknesses

##### Dec 91 QPPR

- No weaknesses

##### Apr 92 QPPR

- No significant weaknesses identified this period.

### E. MASTER INSPECTION PLAN CLOSE OUT

UNIT 1

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
83750	FIPS	52.5	32	-20.5
84750	FIPS	75.0	61	-14.0*
86750	FIPS	14	17	+3.0
	TOTALS	141.5	110	-31.5

22.3% Under  
Planned Hours

\*Additional inspection effort during July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Initiative-

None

-Regional Reactive-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
83723	TPS	NA	27.2	+27.2
	TOTALS	NA	27.2	+27.2

UNIT 2

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
83750	FIPS	52.5	32.0	-20.5
84750	FIPS	75.0	60.5	-14.5*
86750	FIPS	14	18.0	+4.0
	TOTALS	141.5	109.5	-31.0

21.9% Under  
Planned Hours

\*Additional inspection effort during July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Initiative-

None

-Regional Reactive-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
83723	TPS	NA	27.1	+27.1
	TOTALS	NA	27.1	+27.1

F. RECOMMENDATIONS FOR THE INTERIM MIP

UNIT 1

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
83750	FIPS	None
84750	FIPS	None
86750	FIPS	None

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
79501	MQPS	S/G Tube Integrity Inspection*
79502	MQPS	S/G Tube Integrity Inspection*

\*Region IV Initiative Area of Emphasis

UNIT 2

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
83750	FIPS	None
84750	FIPS	None
86750	FIPS	None

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
79501	MQPS	S/G Tube Integrity Inspection*
79502	MQPS	S/G Tube Integrity Inspection*

\*Region IV Initiative Area of Emphasis

## MAINTENANCE/SURVEILLANCE

### A. PREVIOUS RATINGS

<u>SALP</u>		<u>QPPRs</u>	
<u>90</u>	<u>91</u>	<u>DEC 91</u>	<u>APR 92</u>
1	2	NC	(-)

### B. HIGHLIGHTS OF LAST SALP REPORT

#### Strengths

- ° Strong containment integrated and local leak rate testing programs
- ° Surveillance procedures of high quality and surveillance scheduling good, with data package retrieval system a strength
- ° Well written and implemented post refueling startup testing program
- ° Comprehensive QA program for Measuring and Test Equipment
- ° Several positive maintenance assessment initiatives implemented
- ° Effective maintenance training programs

#### Weaknesses

- ° Corrective maintenance backlog reduction not meeting licensee expectations
- ° Personnel errors during surveillance resulting in plant challenges
- ° Weak procedural compliance/attention to detail
- ° Several long standing equipment problems
- ° Excessive maintenance dept personnel outage overtime rate
- ° Inconsistent implementation of OJT requirements
- ° Contractor mechanical maintenance falsification issues

### C. NRC RECOMMENDATIONS FROM THE LAST SALP

#### Licensee should:

- ° maintain good levels of maintenance and surveillance program development
- ° improve maintenance and surveillance program implementation
- ° continue to devote additional attention to assure procedural and work instruction adherence
- ° continue to improve the material condition of the plant

### D. LICENSEE PERFORMANCE OBSERVED IN PREVIOUS QPPRs

#### Strengths

##### Dec 91 QPPR

- ° Corrective and preventive maintenance programs well established
- ° Maintenance backlog being reduced
- ° Surveillance procedures addressed EDS concerns
- ° Overall personnel performance improved

##### Apr 92 QPPR

- ° Material condition of the turbine building has improved because of the service request backlog reduction efforts

- The number of main control board deficiencies has been significantly reduced

Weaknesses

Dec 91 QPPR

- Two personnel errors resulted in reactor trips
- Contractor integrity issues not pervasive
- Weaknesses noted in maintenance instructions

Apr 92 QPPR

- One reactor trip caused by a maintenance error
- Additional reactor trip caused by an I&C technician error
- Two reactor trips caused by balance of plant equipment failures
- The licensee has been unable to resolve continuing problems with main feedwater system reliability, essential chiller reliability, and recurring EDG trips from the non-emergency mode
- Maintenance backlog has increased by approximately 1000 service requests
- Allegation follow-up team identified weaknesses in the conduct of some non-safety related work activities
- There are several SPEAKOUT investigations pertaining to I&C technician integrity issues
- Morale of the maintenance department continues to be low.
- Overtime rates for some maintenance work groups during extended outages continues to be excessive and exceeds licensee goals.

E. MASTER INSPECTION PLAN CLOSE OUT

UNIT 1

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
61726	RPD	76.25	45	-31.25*
62703	RPD	114.3	107	-7.3*
<u>TOTALS</u>		190.55	152.0	-38.55
				20.2% Under Planned Hours

\*Additional inspection effort in July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Initiative-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
61725	TPS	16.0	13	-3.0
62001	MQPS	3.0	13	+7.0
62700-01	OPS	3.0	29.5	+20.5

62700-02	OPS	100.0	60	-36.0
62700-04	OPS	25.0	16.5	-8.5
62703	RPD	50.0	50	-0-
70323	TPS	9.0	6.0	-3.0
	TOTALS	217.0	188	-29.0

13.4% Under  
Planned Hours

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
2515/110	MQPS	Authorized to be carried over to next cycle MIP

-Regional Reactive-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
55050	MQPS	NA	19.0	+19.0
62700-03	TPS	NA	37.0	+37.0
62704	TPS	NA	51.0	+51.0
	TOTALS	NA	107.0	+107.0

UNIT 2

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
61726	RPD	76.25	67	-9.25*
62703	RPD	114.3	143	+28.7*
73753	MQPS	16	16	-0-
	TOTALS	206.55	226	+19.45

9.4% Over  
Planned Hours

\*Additional inspection effort in July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Initiative-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
61701	TPS	8.0	-0-	-8.0*
61725	TPS	16.0	13	-3.0
62001	MQPS	8.0	13	+5.0
62700-01	OPS	9.0	29.0	+20.0
62700-02	OPS	100.0	44	+56.0
62700-04	OPS	25.0	16.5	-8.5
62703	RPD	50.0	40	-10.0
73052	MQPS	25.0	22.0	-3.0
73755	MQPS	25.0	20.0	-5.0
	TOTALS	266.0	197.5	-68.5

25.8% Under  
Planned Hours

\*Further inspection effort in July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
2515/110	MQPS	Authorized to be carried over to next cycle MIP

-Regional Reactive-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
62700-03	TPS	NA	31.5	+31.5
62704	TPS	NA	43.5	+43.5
	TOTALS	NA	75.0	+75.0

F. RECOMMENDATIONS FOR THE INTERIM MIP

UNIT 1

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
61726	RPD	None
62703	RPD	None
73753	MQPS	None

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
49001	MQPS	Erosion/corrosion inspection*
62700	RPD	Allegation followup
62703	RPD	Additional maintenance insp hours
73755	MQPS	S/G tube integrity inspection
2515/110	MQPS	Authorized to be carried over to next cycle MIP, required TI

\*Region IV Initiative Area of Emphasis

UNIT 2

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
61726	RPD	None
62703	RPD	None

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
49001	MQPS	Erosion/corrosion inspection*
62700	RPD	Allegation followup
62703	RPD	Additional maintenance insp hours
73755	MQPS	S/G tube integrity inspection
2515/110	MQPS	Authorized to be carried over to next cycle MIP, required TI

\*Region IV Initiative Area of Emphasis

## EMERGENCY PREPAREDNESS

### A. PREVIOUS RATINGS

<u>SALP</u>		<u>QPPRs</u>	
<u>90</u>	<u>91</u>	<u>DEC 91</u>	<u>APR 92</u>
2	2	-	NC

### B. HIGHLIGHTS OF LAST SALP REPORT

#### Strengths

- ° Management oversight to correct EP violations and weaknesses
- ° Effective QA audits
- ° Good emergency response facilities
- ° Staffing strong, with enhancements implemented
- ° Effective corrective actions following identification of exercise deficiencies
- ° Event classification during actual plant events
- ° Excellent interface with state and local officials
- ° Upgrade of implementing procedures

#### Weaknesses

- ° April 1990 exercise demonstrated three weaknesses
- ° Inadequate emergency augmentation staff response time resulted in a violation
- ° Training associated with procedure change for dose projections weak

### C. NRC RECOMMENDATIONS FROM THE LAST SALP

#### Licensee should:

- ° ensure that improvements and changes to EP program are fully implemented
- ° continue to provide oversight and support to the EP program

### D. LICENSEE PERFORMANCE OBSERVED IN PREVIOUS QPPRs

#### Strengths

##### Dec 91 QPPR

- ° Good personnel accountability during EP exercises
- ° Control room and TSC staff performed well during the exercise
- ° EOF was properly activated
- ° EP program well maintained to protect the health and safety of the public

##### Apr 92 QPPR

- ° No significant strengths were noted during this period

#### Weaknesses

##### Dec 91 QPPR

- ° During the EP exercise:
  - Control room failed to detect and classify an alert condition



- TSC demonstrated a weakness in operational assessment and technical evaluation
- Some improvement needed in scenario development

Apr 92 QPPR

- o No significant weaknesses were noted during this period

E. MASTER INSPECTION PLAN CLOSE OUT

UNIT 1

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under(-)</u>
82301	FIPS	27	84.5	+57.5
82302	FIPS	6	4.0	-2.0
82701	FIPS	17.5	-0-	+17.5*
	TOTALS	50.5	88.5	+38.0
				75.2% Over Planned Hours

\*Further inspection effort in July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Initiative-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under(-)</u>
82201	FIPS	4.0	5.0	+1.0
82202	FIPS	6.0	4.0	-2.0
82205	FIPS	8.0	4.0	-4.0
82301-02	FIPS	28	13.5	-14.5*
82301-03	FIPS	27	-0-	-27.0*
82301-04	FIPS	28	-0-	-28.0*
82302	FIPS	6.0	3.0	+3.0
82701	FIPS	15	-0-	-15.0*
	TOTALS	122	29.5	-92.5
				75.8% Under Planned Hours

\*Further inspection effort in July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

Clarification: Apparent RITTs coding errors have resulted in too many regional initiative hours being coded to the core modules. This has resulted in the core being significantly over in planned hours, and the regional initiative significantly under. For Unit 1, the total planned versus actual hours are close, although not correctly coded.

UNIT 2

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
82301	FIPS	27	84.5	+57.5
82302	FIPS	6	2.0	-4.0
82701	FIPS	17.5	-0-	-17.5*
	<b>TOTALS</b>	<b>50.5</b>	<b>86.5</b>	<b>+36.0</b> <b>75.8% Over Planned Hours</b>

\*Further inspection effort in July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		<u>-Regional Initiative-</u>

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
82201	FIPS	4.0	5.0	+1.0
82202	FIPS	6.0	4.0	-2.0
82205	FIPS	8.0	4.0	-4.0
82301-02	FIPS	28	13.5	-14.5*
82301-03	FIPS	27	-0-	-27.0*
82301-04	FIPS	28	-0-	-28.0*
82302	FIPS	6.0	3.0	-3.0
82701	FIPS	15	-0-	-15.0*
	<b>TOTALS</b>	<b>122</b>	<b>29.5</b>	<b>-92.5</b> <b>75.8% Under Planned Hours</b>

\*Further inspection effort in July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

Clarification: Apparent RITTs coding errors have resulted in too many regional initiative hours being coded to the core modules. This has resulted in the core being significantly over in planned hours, and the regional initiative significantly under. For Unit 2, the total planned versus actual hours are close, although not correctly coded.

F. RECOMMENDATIONS FOR THE INTERIM MIP

UNIT 1

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
82301	FIPS	None
82302	FIPS	None
82701	FIPS	None

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

UNIT 2

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
82301	FIPS	None
82302	FIPS	None
82701	FIPS	None

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

## SECURITY

### A. PREVIOUS RATINGS

#### SALP

90 91  
1 1

#### QPPRs

DEC 91      APR 92  
NC              NC

### B. HIGHLIGHTS OF LAST SALP REPORT

#### Strengths

- ° Management support strong
- ° Regulatory Effectiveness Review results were positive
- ° Comprehensive QA audits performed by the security staff
- ° Superior response to technical issues
- ° Staffing and training viewed as superior
- ° Fitness-for-duty program well implemented and considered a strength

#### Weakness

- ° Access control/searches resulting from an employee bringing a handgun into the protected area

### C. NRC RECOMMENDATIONS FROM THE LAST SALP

None

### D. LICENSEE PERFORMANCE OBSERVED IN PREVIOUS QPPRs

#### Strengths

##### Dec 91 QPPR

- ° Regional team inspection noted generally good performance

##### Apr 92 QPPR

- ° Security facilities were well maintained
- ° Good working relations between plant employees and the security force

#### Weaknesses

##### Dec 91 QPPR

- ° Weaknesses note in the searches of personal items (bags, cases, etc.)

##### Apr 92 QPPR

- ° Two security officers were terminated for improper work activities
- ° Weaknesses were noted with security log taking practices
- ° An allegation follow-up team substantiated an allegation pertaining to escort control of plant visitors.

### E. MASTER INSPECTION PLAN CLOSE OUT

UNIT 1

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
81700	FIPS	56	87.5	+31.5
	TOTALS	56	87.5	+31.5

56.3% Over  
Planned Hours

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		<u>-Regional Initiative-</u>

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
81020	FIPS	2	.5	-1.5
81038-01	FIPS	9	6	-3.0
81038-02	FIPS	3	6.5	+3.5
81038-05	FIPS	4	4	-0-
81042-01	FIPS	6	3	-3.0
81042-02	FIPS	8	4	-4.0
81046	FIPS	6	3	-3.0
81058	FIPS	5	2	-3.0
81064	FIPS	5	2	-3.0
81066	FIPS	3	5.5	+2.5
81070-01	FIPS	5	2.0	-3.0
81070-04	FIPS	4	1.5	-3.5
81078	FIPS	4	1.0	-3.0
81084	FIPS	6	2.0	-4.0
81401	FIPS	4	0.5	-3.5
81501	FIPS	5	2.0	-3.0
81700	FIPS	15	8.5	-6.5
	TOTALS	94	46.0	-48.0

51.0% Under  
Planned Hours

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		<u>-Regional Reactive-</u>

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
81018	FIPS	NA	6.0	+6.0
81020	FIPS	NA	7.5	+7.5
81038	FIPS	NA	15.0	+15.0
81070	FIPS	NA	17.0	+17.0
81401	FIPS	NA	8.0	+8.0
81501	FIPS	NA	6.5	+6.5
	TOTALS	NA	60.0	+60.0

Clarification: Apparent RITTs coding errors have resulted in too many regional initiative hours being coded to the core modules. This has resulted in the core being significantly over in planned hours, and the regional initiative significantly under. For Unit 1, the total planned versus actual hours are close, although not correctly coded.

UNIT 2

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
81700	FIPS	56	42.5	-13.5
	TOTALS	56	42.5	-13.5

24.1% Under  
Planned Hours

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Initiative-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
81020	FIPS	2	1.0	-2.0
81038-01	FIPS	6	6	-0-
81038-02	FIPS	2	6.5	+4.5
81038-05	FIPS	4	4	-0-
81042-01	FIPS	6	2.5	-3.5
81042-02	FIPS	8	4.0	-4.0
81046	FIPS	3	3	-0-
81058	FIPS	1	1	-0-
81064	FIPS	1	1.0	-0-
81066	FIPS	3	5.5	+2.5
81070-01	FIPS	1	1.0	-0-
81070-04	FIPS	4	1.5	-2.5
81078	FIPS	4	1.5	-2.5
81084	FIPS	2	2.0	-0-
81401	FIPS	4	0.5	-3.5
81501	FIPS	2	2.0	-0-
81700	FIPS	14	8.5	-5.5
	TOTALS	67	50.5	-16.5

24.6% Under  
Planned Hours

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Reactive-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
81018	FIPS	NA	6.0	+6.0
81020	FIPS	NA	7.0	+7.0
81038	FIPS	NA	15.0	+15.0
81070	FIPS	NA	16.5	+16.5
81401	FIPS	NA	8.0	+8.0
81501	FIPS	NA	6.5	+6.5
	TOTALS	NA	59.0	+59.0

F. RECOMMENDATIONS FOR THE INTERIM MIP

UNIT 1

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
81700	FIPS	None

-Regional Initiatives-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

UNIT 2

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
81700	FIPS	None

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

## ENGINEERING/ TECHNICAL SUPPORT

### A. PREVIOUS RATINGS

<u>SALP</u>		<u>QPPRs</u>	
<u>90</u>	<u>91</u>	<u>DEC 91</u>	<u>APR 92</u>
2	2I	NC	NC

### B. HIGHLIGHTS OF LAST SALP REPORT

#### Strengths

- ° Strong management involvement in enhancing programs
- ° Organizational restructuring results in better utilization of engineering resources
- ° Safety evaluations
- ° Configuration controls were effective
- ° Several engineering and technical support initiatives were identified
- ° Good staffing

#### Weaknesses

- ° Quality of examination material for requal program
- ° Inadequate engineering involvement in troubleshooting contributes to plant transients and repetitive problems
- ° Communications with other departments delays maintenance
- ° Timely resolution of some technical issues

### C. NRC RECOMMENDATIONS FROM THE LAST SALP

Licensee should:

- ° continue to emphasize effective engineering support activities

### D. LICENSEE PERFORMANCE OBSERVED IN PREVIOUS QPPRs

#### Strengths

##### Dec 91 QPPR

- ° Effective EDG trending program
- ° ITIP responses very good
- ° Excellent support in the ECW weld crack repair

##### Apr 92 QPPR

- ° The quality of installed modifications was good
- ° Significant progress made in implementing the design basis capture program
- ° Quality of the completed design basis documents good
- ° System engineering program has been enhanced; systems engineers more involved with maintenance activities
- ° Engineering department has been involved in resolving some long-standing equipment problems
- ° All licensed operators passed the NRC administered requalification exams and some other improvements were noted with the requalification program.

#### Weaknesses



Dec 91 QPPR

- ° Weaknesses noted in the fuse control program
- ° Continuing problems with FWIVs, EDGs, and S/G PORVs

Apr 92 QPPR

- ° Several potential weaknesses identified:
  - Heavy reliance on contractors
  - Low morale in the engineering department
  - Inadequate resolutions of some requests for additional actions (RFAs)
  - Large backlog of unimplemented modifications

E. MASTER INSPECTION PLAN CLOSE OUT

Unit 1

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
37700	PSS	30	18.5	-11.5
	TOTALS	30	18.5	-11.5

38.3% Under  
Planned Hours

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		<u>-Regional Initiative-</u>

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
2515/107	PSS/TPS	450	318.5	-131.5
2515/109	PSS	60	46.0	-14.0
	TOTALS	510	364.5	-145.5

28.5% Under  
Planned Hours

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		<u>-Regional Reactive-</u>

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
41500	TPS	NA	21.0	+21.0
	TOTALS	NA	21.0	+21.0

Unit 2

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+) / Under (-)</u>
37700	PSS	30	22.5	-7.5
	TOTALS	30	22.5	-7.5

25.0% Under  
Planned Hours

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Initiative-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+) / Under (-)</u>
72701	PSS	32	-0-	-32*
2515/107	PSS/TPS	450	240.0	-210.0
2515/109	PSS	60	45.0	-15.0
	TOTALS	542	285.0	-257.0

47.4% Under  
Planned Hours

\*Further inspection effort in July

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		

-Regional Reactive-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+) / Under (-)</u>
41500	TPS	NA	20.3	+20.3
	TOTALS	NA	20.3	+20.3

F. RECOMMENDATIONS FOR THE INTERIM MIP

UNIT 1

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
37700	PSS/NRR	None

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
2515/109	PSS	Second round of GL 89-10

UNIT 2

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
37700	PSS/NRR	None

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
2515/109	PSS	Second round of GL 89-10

# SAFETY ASSESSMENT/ QUALITY VERIFICATION

## A. PREVIOUS RATINGS

<u>SALP</u>	<u>QPPRs</u>	
<u>90 91</u>	<u>DEC 91</u>	<u>APR 92</u>
1 1D	NC	(-)

## B. HIGHLIGHTS OF LAST SALP REPORT

### Strengths

- Quality of license submittals very good
- Quality of LERs generally good
- Cooper-Bessemer owner's group activities
- Staffing and training effectiveness noted as a strength
- Performance based QA audits well implemented
- Enhanced systematic problem solving process effective
- Operational improvement plan proactive to improve reliability

### Weaknesses

- Some missed corrective action implementation dates on LERs
- Identification of root cause and corrective actions for certain, complex events was weak
- Problem resolution prioritization weaknesses resulted in challenges to the plant

## C. NRC RECOMMENDATIONS FROM THE LAST SALP

### Licensee should:

- evaluate self-assessment and corrective action processes to ensure safety issues are identified, evaluated, and resolved
- continue to evaluate the effectiveness of the Operational Improvement Plan

## D. LICENSEE PERFORMANCE OBSERVED IN PREVIOUS QPPRs

### Strengths

#### Dec 91 QPPR

- Excellent assessment of EDS findings
- Aggressive pursuit of personnel errors that result in reactor trips
- AMSAC reliability pursued after violation cited
- Good performance in safety assessment and corrective action
- Management sensitized to operability/reliability concerns not addressed by TS

#### Apr 92 QPPR

- Continued efforts to consolidate the corrective action processes
- Incident investigation teams and task forces utilized to investigate events and resolve long-standing problems
- Continuing efforts in resolving EDG fuel subsystem and ECW system problems
- Dedication of line managers to the respective task forces is a positive initiative

Weaknesses

Dec 91 QPPR

- ° None noted

Apr 92 QPPR

- ° Operational Improvement Plan's implementation effectiveness appears marginal
- ° Morale is low in several of the major departments
- ° Unnecessary trips and plant challenges continue
- ° Several weaknesses noted during this quarter:
  - Weaknesses in the resolution of RFAs
  - Lack of sufficient basis for resolving an overthrusting condition that affected many safety-related MOVs
  - Lack of implementing identified corrective actions to prevent turbine building rain water intrusion
  - Lack of management awareness of containment integrity requirements

E. MASTER INSPECTION PLAN CLOSE OUT

UNIT 1

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
40500	OPS	20	17	-3.0
	TOTALS	20	17	-3.0

15.0% Under  
Planned Hours

Open Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
None		<u>-Regional Initiative-</u>

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
37702	ALL	15	12.5	-2.5
40702	MQPS	9.0	6.0	-3.0
40703	MQPS	40	41.5	+1.5
40704	MQPS	9.0	7.8	-1.2
90700	MQPS	16	18.0	+2.0
90712	RPD	20	11.0	-9.0
92700	RPD	120	133.2	+13.2
92701	ALL	45	39.0	-6.0
92702	ALL	35	41.0	+6.0
92720	OPS	16	13.0	-3.0
2515/112	RPD	20	6.0	-14.0
2515/115	RPD	4	-0-	-4.0
	TOTALS	349	329.0	-20.0

5.7% Under  
Planned Hours

Open Modules

Module No.    Sec Resp                    Comments  
None

-Regional Reactive-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
92701	OPS	NA	11.0	+11.0
92703	TPS	NA	27.0	+27.0
92720	TPS	NA	6.0	+6.0
	TOTALS	NA	44.0	+44.0

UNIT 2

-Core-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
40500	OPS	20	16	-4.0
	TOTALS	20	16	-4.0

20.0% Under  
Planned Hours

Open Modules

Module No.    Sec Resp                    Comments  
None

-Regional Initiative-

Closed Modules

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
37702	ALL	15	17.5	+2.5
40702	MQPS	9.0	6.0	-3.0
40703	MQPS	40	41.5	+1.5
40704	MQPS	9.0	7.8	-1.2
90700	MQPS	16	18.0	+2.0
90712	RPD	20	11.5	-8.5
92700	RPD	120	86.2	-33.8
92701	ALL	45	35.5	-9.5
92702	ALL	35	38.5	+3.5
92720	OPS	16	14.0	-2.0
2515/112	RPD	20	6.0	-14.0
2515/115	RPD	4	-0-	-4.0
	TOTALS	349	279.5	-69.5

19.9% Under  
Planned Hours

Open Modules

Module No.    Sec Resp                    Comments  
None

-Regional Reactive-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Plan Hrs</u>	<u>Act Hrs</u>	<u>Over (+)/ Under (-)</u>
92701	OPS	NA	11.0	+11.0
92703	TPS	NA	27.0	+27.0
	TOTALS	NA	38.0	+38.0

F. RECOMMENDATIONS FOR THE INTERIM MIP

UNIT 1

<u>Module No.</u>	<u>Sec Resp</u>	<u>-Core- Comments</u>
40500	OPS	None

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
35701	MQPS	QA Program*
38703	MQPS	Commercial Grade Procurement*
90712	RPD	None
92700	RPD	None
92701	ALL	None
92702	ALL	None
92720	OPS	None*
2515/115	RPD	Plant Record Verification

\*Region IV Initiative Area of Emphasis

UNIT 2

-Core-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
40500	OPS	None

-Regional Initiative-

<u>Module No.</u>	<u>Sec Resp</u>	<u>Comments</u>
35701	MQPS	QA Program*
38703	MQPS	Commercial Grade Procurement*
90712	RPD	None
92700	RPD	None
92701	ALL	None
92702	ALL	None
92720	OPS	None*
2515/115	RPD	Plant Record Verification

\*Region IV Initiative Area of Emphasis

## MIP RESOURCE SUMMARY

Included  
Reactive  
Hours

### UNIT 1

	<u>QPS</u>	<u>RC</u>	<u>MS</u>	<u>EP</u>	<u>SEC</u>	<u>E/TS</u>	<u>SA/QV</u>	<u>TOTALS</u>
Total Planned	678	142	408	173	150	540	369	2460 - 225 = 2235
Total Actual	645	137	447	118	194	405	390	2336
Delta	-33 4.8%	-5 3.5%	+39 9.6%	-55 32%	+44 29%	-135 25%	+21 5.7%	-124 5.0%

### UNIT 2

	<u>QPS</u>	<u>RC</u>	<u>MS</u>	<u>EP</u>	<u>SEC</u>	<u>E/TS</u>	<u>SA/QV</u>	
Total Planned	718	142	473	173	123	572	369	2570 - 225 = 2345
Total Actual	713	137	499	116	152	328	334	2279
Delta	-5 0.7%	-5 3.5%	+26 5.5%	-57 33%	+29 24%	-244 43%	-35 9.5%	-291 11%

- Need to subtract 450 from CDSFI
- Add July open inspection hours
- Subtract out reactive hours

2235  
 2345  
 4580 — Planned

2279  
 2336  
 4615  
 640  
 3975 — Actual  
 less reactive

## SUPPORTING DATA

### PLANT OPERATIONS

#### A. ENFORCEMENT AND REGULATORY ISSUES

##### 1. ESCALATED ENFORCEMENT

None

##### 2. NON-ESCALATED ENFORCEMENT

###### UNIT 1

92-08      05-22-92      IV      Failure to follow equipment clearance procedures on essential chillers results in potential personnel and equipment hazard.

###### UNIT 2

None

##### 3. LERS

###### UNIT 1

91-19      10-04-91      Unit 1 forced shutdown and NOUE due to excessive RCS leakage from CVCS valve packing.

91-20      10-14-91      TS violation due to failure to perform two rod position surveillances (Shift supervisor error).

92-01      02-28-92      TS 3.0.3 entry due to two trains of Essential Chillers being declared out-of-service.

###### UNIT 2

92-01      02-20-92      Dropped control rod due to a failed diode results in a reactor trip on negative rate.

#### B. INSPECTION REPORT SUMMARY

##### IR-91-19 Inspectors Tapia, Evans, Paulk, Singh

Areas Inspected: Onsite followup of events, monthly maintenance observation, operational safety verification, containment integrated leak rate test (CILRT) surveillance, followup of previously identified items, and in office review of licensee event reports.

Results: Additional labeling problems were identified with the EDG 12. The air start valves were missing tags.

##### IR-91-25 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, and in office review of licensee event reports.



Results: Significant improvement in Unit 2 capacity factor was noted between the first and second operating cycles. This improvement was due in part to the upgrading of the plant and reduction of personnel errors. The licensee failed to perform three rod position checks as required by TS with the rod position deviation monitor inoperable.

IR-91-28 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, engineering safety features system walkdown (Unit 1), refueling activities (Unit 2), and spent fuel pool activities (Unit 2).

Results: An ESF walkdown was performed on the Unit 1 Class 1E DC panels. No concerns were identified. The EDSFI identified the DC system as a strength.

The Unit 2 refueling outage was well managed by the licensee. Spent fuel pool activities were well controlled and TS, procedures and commitments were met.

IR-91-30 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, engineering safety features system walkdown (Unit 1), refueling activities (Unit 2).

Results: The containment spray system for Unit 2 was inspected, and it was found correctly aligned to support plant operation. The second Unit 2 refueling outage was completed on December 18, 1991. With few exceptions, all major work activities were completed.

IR-91-34 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items.

Results: Although, the licensee has been partially successful in reducing excessive operator and maintenance technician overtime rates during outages, the licensee's goals have not been fully achieved.

IR-91-35 Inspectors Tapia and Evans

Area Inspected: Special, announced inspection of onsite followup of a reactor trip and engineered safety features actuation.

Results: The response of the plant to actions taken in accordance with the off-normal procedure was not entirely as expected. It was expected that when the RCPs in the affected spray loops were secured, pressurizer spray flow and depressurization would stop. The licensee is investigating the plant hydraulic design to verify that this response was attributable to the larger core and larger RCP motors at STP.

IR-92-05 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items.

Results: Portions of the ECW and the AC electrical distribution system were

walked down to assure proper operational lineup. The results indicated correct alignment.

IR-92-08 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items, engineered safety features system walkdown (Unit 1), and licensee evaluation of changes to the environs.

Results: Three system walkdowns were performed, including the Unit 1 and Unit 2 boration flow paths and EDG 11. All components were correctly aligned to support plant operation, indicating good operations department control over these systems.

Control room operators continued to respond well to plant transients and acted in a conservative manner. However, several weaknesses were identified in the areas of operations and training. These included an NOV for an inadequate equipment clearance order, administrative deficiencies associated with the control room logbook which resulted in an NCV, an inattentive simulator operator, and a lack of sufficient anticipation by control room operators of the effect that secondary steam loads would have on RCS temperatures during low power operations.

IR-92-14 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items, engineered safety features system walkdown (Unit 2), and a management meeting.

Results: On May 19, 1992, both units entered TS 3.0.3 and a Notification of Unusual Event was declared as a result of an inadequately performed Technical Specification (TS) Surveillance Requirement (Section 2). This event will be documented in detail in NRC Inspection Report 50-498/92-17; 50-499/92-17.

In the area of plant operations, performance was mixed. Operators responded well to a failed steam pressure transmitter, and promptly initiated a TS 3.0.3 required plant shutdown because two steam generator blowdown sample valves failed to close. However, a control room operator was not sufficiently attentive during a boration evolution that he initiated and, as a result, an excess boration event occurred. This issue will be tracked by an inspection followup item. In addition, the flow rate indication associated with a unit vent radiation monitor was not updating, but this was not detected for 5 days even though the flow value was logged every shift. Similar events have occurred on at least two previous occasions.

Train A of the Unit 2 essential chilled water system was properly aligned to support plant operation.

## SUPPORTING DATA

### RADIOLOGICAL CONTROLS

#### A. ENFORCEMENT AND REGULATORY ISSUES

##### 1. ESCALATED ENFORCEMENT

None

##### 2. NON-ESCALATED ENFORCEMENT

###### UNIT 1

None

###### UNIT 2

None

##### 3. LERS

###### UNIT 1

None

###### UNIT 2

None

#### B. INSPECTION REPORT SUMMARY

##### IR-91-2; Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, and followup of previously identified items.

Results: Personnel were observed to be complying with RWP requirements. RWPs were sufficiently detailed to address the work activities. Very high radiation areas were properly controlled.

##### IR-91-25 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, and in office review of licensee event reports.

Results: Additional radiation protection personnel have been provided to assist with the Unit 2 refueling outage.

##### IR-91-28 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, engineering safety features system walkdown (Unit 1), refueling activities (Unit 2), and spent fuel pool activities (Unit 2).

Results: Radiological access and egress points were properly manned. A video monitoring system was established to observe work activities in a high radiation area.

IR-92-02 Inspector Ricketson

Areas Inspected: Routine, announced inspection of the licensee's radiological protection program including management controls, training and qualifications, and ALARA program.

Results: The HP Division was sufficiently staffed and placed no reliance on contract radiation protection technicians during routine operations. Corporate support had increased through the addition of radiological assessor. Comprehensive audits had been performed and the audit team included personnel with health physics expertise. The HP Division was responsive to audit findings. A good radiological occurrence reporting program had been established. Good radiation protection procedures had been maintained.

Qualified and experienced instructors provided excellent instruction for general employee and health physics technician training. Training opportunities for HP supervisors and professionals was evident by allowing their attendance at offsite, technical courses. Professional advancement was encouraged for health physics technicians through their registration by the National Registry of Radiation Protection Technologists.

The ALARA program had received strong support from both management and workers. Annual person-rem was low, and goals were challenging. Continued efforts being made to reduce the plant source term.

IR-92-11 Inspector Nicholas

Areas Inspected: Routine, unannounced inspection of the licensee's liquid and gaseous waste management program.

Results: Following findings:

- ° An excellent chemistry and radwaste training program had been established.
- ° An excellent liquid and gaseous RWEPP had been established.
- ° An excellent testing and maintenance program had been established for the air cleaning systems.
- ° The Chemical Operations and Analysis Division had experienced a relatively low turnover of technicians except for the chemical support group, which had experienced a high turnover of 43 percent. This high turnover appeared to cause a decline in the effectiveness of the chemical support group.
- ° A good testing and calibration program had been established for radioactive waste effluent radiation monitors.
- ° Semiannual Radiological Effluent Release Reports were submitted in a timely manner and contained all the required information in the required format.
- ° Change to the Process Control Program and the ODCM were properly documented.

IR-92-12 Inspector Ricketson

Areas Inspected: Routine, announced inspection of the licensee's radiological protection program including external exposure controls, internal exposure controls, surveys, and monitoring.

Results: Following findings:

- ° State-of-the-art external dosimetry program was in place which included an excellent QA program.
- ° RWP program provided good instruction and was implemented effectively. Worker adhered to the radiation protection procedures.
- ° Good whole body counting procedures and internal exposure control were in place; however, areas were identified where the licensee could enhance its program by the use of common industry practice and manufacturers' recommendations.
- ° Radiological controls were implemented effectively. Housekeeping was exceptional.
- ° HP supervisors performed frequent tours of the RCA to observe activities.
- ° An excellent radiation instrument repair and calibration program had been implemented.

IR-92-16 Inspector Wilborn

Areas Inspected: Routine, announced inspection of the licensee's radiochemistry program.

Results: Following findings:

- ° An effective radiochemistry program had been established.
- ° The licensee's radiological confirmatory measurements results were outstanding.
- ° The radiochemistry and HP radiological counting facilities were well maintained.

IR-92-19 Inspector Ricketson

Areas Inspected: Routine, announced inspection of the solid radioactive waste management and radioactive materials transportation programs.

Results: Within the areas inspected, no violations or deviations were identified. The following is a summary of the inspection results:

- ° The quality assurance audit of this area was adequate.
- ° Surveillances were of good quality, but the frequency had declined during the first half of 1992.
- ° The Health Physics Department performed an excellent audit of the radioactive waste management program.
- ° An interim, low level radioactive waste storage building was being readied for use, if necessary.
- ° The solid waste management program was well implemented. An industry computer code was used to classify and characterized radioactive waste and prepare waste manifests.
- ° Current copies of applicable transporation regulations and other necessary documents were maintained. Procedural guidance was good and shipping documentation was complete.
- ° The transportation program area was well implemented.
- ° No violations had been identified at burial sites involving the licensee's shipments of radioactive waste.

## SUPPORTING DATA

### MAINTENANCE AND SURVEILLANCE

#### A. ENFORCEMENT AND REGULATORY ISSUES

##### 1. ESCALATED ENFORCEMENT

None

##### 2. NON-ESCALATED ENFORCEMENT

###### UNIT 1

91-35 01-27-92 IV Failure to maintain configuration control on pressurizer spray valve results in reactor trip.

92-05 04-08-92 IV Failure to follow procedures when returning RCS flow transmitter to service results in reactor trip.

###### UNIT 2

91-25 11-12-91 IV Failure to follow procedures on post-maint. testing of 23 EDG.

91-30 01-29-92 IV Failure to follow procedures during ILRT results in the failure of the lower bearing on RCP.

91-35 01-27-92 IV Failure to maintain configuration control on pressurizer spray valve results in reactor trip.

##### 3. LERS

###### UNIT 1

91-21 10-10-91 Unit 1 Reactor trip caused by RCP trip due to electrical maintenance technician inadvertently tripping feeder breaker to Aux bus 1J during troubleshooting.

91-22 11-13-91 Unit 1 Reactor trip caused by poor judgement of licensed operator during performance of SSPS functional test 2-91-09 ESP actuation caused by a failed LED in Train A sequencer during surveillance test.

92-03 04-13-92 Reactor trip resulting from a maintenance technician improperly restoring a RCS flow transmitter.

###### UNIT 2

91-09 08-27-91 During ESP sequencer surveillance testing, the A train AFW pump inadvertently started due to a failed LED.

91-10 01-30-92 Pressurizer spray valve sticks open resulting in a reactor trip and SI

92-04 05-28-92 TS 3.0.3 entered as a result in containment isolation valves being unable to be closed.

92-05      06-05-92      Failure of RM-23A results in containment ventilation actuation.

92-06      06-19-92      CCW pump start (ESF actuation) due to inadequate valve lineup and procedure following testing.

B.      INSPECTION REPORT SUMMARY

IR-91-05 EDSFI Team

Areas Inspected: Special, announced team inspection of the electrical distribution systems (EDS). The team evaluated the functional designs and capabilities of the EDS and those mechanical system necessary to support the EDS. The team also evaluated the engineering and technical support related to both Unit 1 and Unit 2 EDS.

Results: The EDG surveillance procedure properly protected the 4160 volt switchgear from exceeding potential short circuit currents during testing of the EDGs.

The maintenance procedures and technical manuals provided comprehensive instructions for cleaning, testing and inspection of the battery chargers. Some improvement was needed for the testing of an Elgar inverter.

The control of fuses was a weakness; however, the concern is addressed in the OIP and a formal fuse control program has been initiated.

IR-91-19 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, operational safety verification, containment integrated leak rate test (CILRT) surveillance, followup of previously identified items, and in office review of licensee event reports.

Results: A decrease in condensate flow was experienced when temporary power was lost. The work instruction was weak in that it did not provide specific guidance on how the power should be obtained. In general, the work was performed in accordance with the instructions by qualified personnel.

The containment integrated leak rate test data was reviewed and found to be acceptable.

IR-91-23 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, and followup of previously identified items.

Results: The "Tiger Team" approach to resolving longstanding WRs has been very effective in reducing the backlog in specific areas. Maintenance and surveillance observations indicated overall good performance by craft personnel. Steps were taken to improve the reliability of QDPS and AMSAC by reworking the low voltage power supplies. A loss of feedwater event near miss occurred while I&C technicians performed minor maintenance on condensate polishers controller.

IR-91-25 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, and in office review of licensee event reports.

Results: Selected maintenance and surveillance activities were observed with no concerns being identified. The licensee was responsive to previous NRC comments about 2 surveillance procedures and technicians performed well during the ACOT. The EDG 23 output breaker failed to operate upon demand during performance of surveillance (cited violation).

IR-91-26 Inspector Gilbert

Areas Inspected: Routine, announced inspection of ISI activities for Unit 2.

Results: The inspector found that the NDE specified in the ISI examination plan for Unit 2 was being effectively performed. A need was identified for additional training to correct a misinterpretation of the scanning overlap requirements of the ultrasonic examination procedure.

IR-91-28 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, engineering safety features system walkdown (Unit 1), refueling activities (Unit 2), and spent fuel pool activities (Unit 2).

Results: Two reactor trips occurred because of personnel error and were traceable back to the failure to utilize the self verification process. The first occurred when an electrician utilized a multimeter as part of his "visual inspection." He utilized the incorrect mode and placed the leads across the wrong terminal points. The second trip resulted from a licensed operator performing a surveillance incorrectly. The MWR had not received a review for vulnerability to cause a reactor trip and the surveillance test procedure was not clear.

The Unit startup after the second reactor trip was delayed because of MSIV valve packing problems. The packing had not been replaced for an extended period. In general, maintenance and surveillance activities were well performed.

IR-91-29 Inspector Bess

Areas Inspected: Routine, announced inspection of maintenance program implementation activities.

Results: The overall maintenance program and the implementation of associated activities were functioning and appeared to have been effective. Three minor concerns were identified, which included the practice of making extensive handwritten revisions to work packages, the fact that the preventive maintenance feedback program did not identify generic implications, and the inconsistent use of maintenance verification points and independent verification points in work packages.

IR-91-30 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, engineering safety features system walkdown (Unit 1), refueling activities (Unit 2).

Results: There were several problems that occurred during the performance of maintenance and testing activities because of inadequate work instructions, failure to follow procedures, or weaknesses associated with craft workmanship. An instance of failure to follow an approved procedure resulted in a NOV.



Collectively, these problems are indicative of a need for improvement in the implementation of plant maintenance and testing.

Two events required Unit 1 power to be reduced to allow for repairs. The repair of the SGFP 11 Speed control circuit and repair of a steam leak on the high pressure turbine required unit power reductions.

IR-91-31 Inspector Murphy

Areas Inspected: Routine, announced inspection of surveillance testing and calibration control program for Unit 1.

Results: The licensee has developed programs for control and evaluation of surveillance testing, calibration, and inspection required by the TS. The requirements for calibration of safety-related instrumentation not specifically controlled by TS has been included in the licensee's preventive maintenance program. The assignment of responsibility for the surveillance program to a plant surveillance coordinator with supporting responsibilities assigned to individual department coordinators is considered an strength in the effectiveness of the surveillance program. This effectiveness was demonstrated by the occurrence of two missed surveillance for Unit 1 and one missed surveillance for Unit 2 in the last year.

IR-91-33 Inspector Stewart

Areas Inspected: Routine, unannounced inspection of the Unit 2 ISI results and followup of previously identified inspection results.

Results: The Unit 2 program for control and documentation of ISI examination were well established and implemented.

IR-91-34 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items.

Results: Continuing BOP problems resulted in 2 reactor trips and several delays in startup and operation. These problems were indicative of a need for improved material condition of the plant. A Unit 2 trip resulted from an failed diode in the rod control system. A similar event occurred in October 1989 as a result of a failure of a diode with the same part number.

One violation of NRC requirements was identified. Subsequent to the trip caused by the dropped rod, a steam leak was identified on Steam Generator 2D. During the planning for repairs, the licensee determined, after questioning by the inspectors, that TS containment integrity requirements were not satisfied during a similar Unit 1 steam generator steam leak repair in October 1991.

The licensee has been unable to identify and correct the cause of recurring EDG trips when some EDGs are released from the emergency mode.

Problems with essential chiller reliability and maintenance were also noted. These and past problems are continuing to affect the reliability of the essential chillers. The practice of not performing an operability run prior to declaring an essential chiller operable was considered a weakness. The adequacy of essential chiller maintenance procedures will be tracked by an unresolved item.

IR-91-35 Inspectors Tapia and Evans

Area Inspected: Special, announced inspection of onsite followup of a reactor

trip and engineered safety features actuation.

Results: A violation of 10 CFR Part 50, Appendix B, Criterion XII, was identified involving a failure to assure conformance between the procurement documents (design drawings) and the as-built condition of the pressurizer spray valves. This nonconforming condition was directly related to the December 24, 1991, Unit 2 reactor trip and ESF actuation. A weakness in the implementation of references to vendor manuals in work instructions rather than providing specific work instructions or details.

#### IR-92-04 Inspectors Engineering Team

Areas Inspected: Routine, announced inspection consisting of evaluating the engineering and technical support activities, and the assessments and QA audits of those activities.

Results: During the walkdowns of the EDG 23 room, the inspector identified lube oil and fuel oil leaks that did not have maintenance work tags. The licensee subsequently initiated actions to repair and cleanup the identified leaks.

#### IR-92-05 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items.

Results: The material condition of the turbine building contributed to a manual reactor trip. Rain intrusion resulted from deteriorated sealant material and caused problems with the steam generator feed pump speed control circuitry. This led to a manual trip when S/G levels became uncontrollable. This trip may have been avoided had timely implementation of previously proposed modifications occurred.

Personnel error caused a second trip when an I & C technician failed to follow procedures during the restoration of a flow transmitter to service and caused a loss of RCS flow signal. This failure to follow procedures resulted in the third trip due to personnel error in the past 6 months. Both of these trips are indicative of a lack of effectiveness in the licensee's trip reduction program.

Additional problems with the main feedwater system occurred during this inspection period, when operators tripped S/G Feedwater Pump 23 because of an EHC leak. As a result of these main feedwater system problems, the licensee has formed a main feedwater system task force.

Maintenance activities observed were performed well. However, the licensee identified poor work practices that had the potential for causing a reactor trip. These practices involved not assuring that the control room was aware of ongoing troubleshooting on the main turbine-generator and causing false fire alarms as a result of inadvertently bumping into equipment.

Troubleshooting of a recurring problem with the EDGs was performed. As with the ECW problem, a manager was assigned to focus attention of resolving several longstanding issues with the EDGs.

#### IR-92-07 Special Team

Areas Inspected: Special, announced team inspection of concerns pertaining to a 10 CFR Part 2.206 petition.

Results: The effect on plant performance of an increasing service request

backlog was identified as an inspection followup item. Two of the reasons for the increasing backlog were 1) operators and system engineers were being more active in identifying deficiencies and 2) the licensee's apparently reduced effort in dispositioning service requests.

IR-92-08 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items, engineered safety features system walkdown (Unit 1), and licensee evaluation of changes to the environs.

Results: Observed surveillance and test activities were well performed.

Observed maintenance activities were well performed; however, several equipment problems, particularly those related to the main feedwater system, continue to challenge operators.

The Unit 1 maintenance outage, a proactive initiative, was well planned and controlled.

IR-92-14 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items, engineered safety features system walkdown (Unit 2), and a management meeting.

Results: Several recurring equipment problems were noted. Continuing problems with equipment reliability were noted throughout the inspection period. Although the licensee had undertaken extensive troubleshooting and other actions, neutron flux source range monitor operability is being continually challenged. An inspection followup item will track EDG unavailability which has increased, in part, because of troubleshooting associated with EDG trips that have occurred during the cooldown cycle. Spurious actuation of radiation monitors were noted, but the causes have not been identified. One weakness associated with safety-related battery maintenance was identified. Maintenance craft inattention to detail resulted in an inadvertent transfer of an ECW system travelling screen local/remote switch.

The two observed surveillance were performed well. A positive example of the self-verification process was identified when a technician checked his work and discovered a calculation error. However, an unresolved item was identified pertaining to whether a licensed operator complied with the administrative procedure that governs plant surveillance.

## SUPPORTING DATA

### EMERGENCY PREPAREDNESS

#### A. ENFORCEMENT AND REGULATORY ISSUES

##### 1. ESCALATED ENFORCEMENT

None

##### 2. NON-ESCALATED ENFORCEMENT

None

##### 3. LERS

None

#### B. INSPECTION REPORT SUMMARY

##### IR-91-20 Inspector N. Terc

Areas Inspected: Routine team inspection of the licensee's performance and capabilities during an annual exercise of the emergency plan and procedures. The inspection team observed activities in the control room, technical support center (TSC) and the emergency operations facility (EOF) and the operations support center during the exercise.

Results: The licensee demonstrated they were prepared to protect the health and safety of the public.

The control room staff performed well during the exercise. However, they failed to detect and classify the alert condition. This indicated an in-depth review was needed to ascertain the specific reasons for this failure.

The TSC was staffed and activated promptly. Various activities by the staff indicated that the TSC staff demonstrated good overall performance. However, there were several weaknesses pertaining to poor operational assessment and technical evaluation of information indicating that further improvements in this area are required.

The EOF was staffed and activated promptly. The performance of the EOF facility staff demonstrated an efficient emergency response capability.

The medical team performed well. However, they did not observe good radiological practices.

Personnel accountability during site evacuation was performed within the required time limits. Security activities in the emergency response facilities such as access and egress controls were found to be efficient. Failure of the TSC staff to include radiological precautions in public announcements made during the evacuation of the site personnel could have resulted in the cross contamination of ERFs.

The licensee showed considerable improvement from previous exercise scenarios. Their performance showed that great effort was dedicated to improve their method for creating and evaluating their exercise scenarios. However, several observations revealed that additional improvements were needed in this area. Significant improvements were made in the area of self critique since the last

exercise. The results of this year's critique indicated that the licensee made improvements concerning the identification and characterization of their own weaknesses.

IR-92-09 Inspector N. Terc

Areas Inspected: Routine team inspection of the licensee's performance and capabilities during an annual exercise of the emergency plan and procedures. The inspection team observed activities in the control room, technical support center (TSC) and the emergency operations facility (EOF) and the operations support center during the exercise.

Results: Generally, the licensee's response during the course of the exercise was adequate to protect the health and safety of the public.

- ° The control room staff performance was good; minor problems identified with simulator fidelity and real time response.
- ° Technical support staffs were effective to support the control room. Emergency coordination and direction were very good. Classification was timely and accurate. A weakness was identified in the notification process used to notify offsite authorities.
- ° The EOF staff performed well. A weakness was identified in a written procedure.
- ° One weakness identified because poor medical treatment practice and precautions were observed.
- ° OSC actions were effective.
- ° Accountability of onsite personnel was accomplished in a timely manner. One weakness was identified because during the evacuation a number of workers were directed in the direction of the plume.

IR-92-10 Inspector N. Terc

Areas Inspected: Routine, announced regional initiative inspection of emergency detection, classification, protective action decisionmaking, shift staffing and augmentation of the emergency response organization.

Results: Following findings:

- ° Good program was in place for the detection and classification of events and formulating and communicating protective action recommendations.
- ° Further information is required to establish if the EP augmentation requirements are being met and that the automatic and manual personnel notification methods are effective.

# SUPPORTING DATA

## SECURITY

### A. ENFORCEMENT AND REGULATORY ISSUES

#### 1. ESCALATED ENFORCEMENT

#### 2. NON-ESCALATED ENFORCEMENT

*Make Jul 31 > L III, No Cp - failure to identify a gun  
Occurred on 5/19*

#### UNIT 1

91-21-01	11-05-91	IV	Failure to provide an adequate procedure relative to vital area key control.
91-21-02	11-05-91	IV	Failure to functionally test alarms following restoration of power.
91-21-03	11-05-91	IV	Failure to maintain security DG in operable condition.
92-07-02	06-01-92	IV	Failure to properly escort visitors.
92-07-03	06-01-92	IV	Failure to properly transfer escort responsibilities.
92-20	07-10-92	IV	Failure to properly control safeguards material.

#### UNIT 2

91-21-01	11-05-91	IV	Failure to provide an adequate procedure relative to vital area key control.
91-21-02	11-05-91	IV	Failure to functionally test alarms following restoration of power.
91-21-03	11-05-91	IV	Failure to maintain security DG in operable condition.
92-07-02	06-01-92	IV	Failure to properly escort visitors.
92-07-03	06-01-92	IV	Failure to properly transfer escort responsibilities.
92-20	07-10-92	IV	Failure to properly control safeguards material.

#### 3. SERS

91-S03 01-24-92 Failure of Compensatory Measures

### B. INSPECTION REPORT SUMMARY

#### IR-91-21 Inspector Tobin

Areas Inspected: Special, announced inspection to evaluate the overall security program at STP.

exercise. The results of this year's critique indicated that the licensee made improvements concerning the identification and characterization of their own weaknesses.

IR-92-09 Inspector N. Terc

Areas Inspected: Routine team inspection of the licensee's performance and capabilities during an annual exercise of the emergency plan and procedures. The inspection team observed activities in the control room, technical support center (TSC) and the emergency operations facility (EOF) and the operations support center during the exercise.

Results: Generally, the licensee's response during the course of the exercise was adequate to protect the health and safety of the public.

- ° The control room staff performance was good; minor problems identified with simulator fidelity and real time response.
- ° Technical support staffs were effective to support the control room. Emergency coordination and direction were very good. Classification was timely and accurate. A weakness was identified in the notification process used to notify offsite authorities.
- ° The EOF staff performed well. A weakness was identified in a written procedure.
- ° One weakness identified because poor medical treatment practice and precautions were observed.
- ° OSC actions were effective.
- ° Accountability of onsite personnel was accomplished in a timely manner. One weakness was identified because during the evacuation a number of workers were directed in the direction of the plume.

IR-92-10 Inspector N. Terc

Areas Inspected: Routine, announced regional initiative inspection of emergency detection, classification, protective action decisionmaking, shift staffing and augmentation of the emergency response organization.

Results: Following findings:

- ° Good program was in place for the detection and classification of events and formulating and communicating protective action recommendations.
- ° Further information is required to establish if the EP augmentation requirements are being met and that the automatic and manual personnel notification methods are effective.

Results: Overall, with isolated exceptions, the licensee is meeting the commitments of its security plan and implementing an effective program to protect its facility against radiological sabotage. Strengths were noted in QA audits, weapons training, and the layout of the protected area perimeter detection system.

IR-91-32 Inspector Dexter

Areas Inspected: Routine, announced inspection of the licensee's physical security program.

Results: An apparent violation was identified involving the failure to search cups and mugs before entry into the protected area. Four inspector concerns were identified involving security force work schedules, effective testing and maintenance of security systems, the effectiveness of the perimeter intrusion detection system, the effectiveness of the assessment aids, and the quality of reviews conducted on certain records and reports.

Strengths:

- ° Management support for the physical security program was very good
- ° Excellent security facilities were maintained
- ° Dedicated I & C technicians were assigned to maintain the security system
- ° Good working conditions existed between plant workers and the security force
- ° An excellent internal investigation was initiated to review improper work practices by several members of the security force

Weaknesses:

- ° Performance problems were identified with several cameras and monitors
- ° Some maintenance and repair work was not completed in a timely manner
- ° 4 of 16 IDS zones failed intrusion field tests
- ° A large number of false and nuisance alarms occurred
- ° A security officer made an incorrect entry in a patrol log

IR-92-07 Special Team

Areas Inspected: Special, announced team inspection of concerns pertaining to a 10 CFR Part 2.206 petition.

Results: Two apparent violations were identified; the first involved the failure of escorts to maintain view and control of their visitors and the second the failure of escorts to notify security before transferring their visitors and the failure of an escort to have the assigned visitor depart the protected area ahead of the escort.

During the inspection, the licensee identified other similar examples in which the visitor escort requirements had been violated.

IR-92-20 Inspector Dexter

Areas Inspected: Routine, unannounced inspection of the licensee's physical security program including management effectiveness, protected area detection and assessment aids, testing and maintenance, records and reports, access control personnel and packages, lighting, compensatory measures, safeguards information controls, plans, and procedures.

Results: Within the areas inspected, one violation was identified. Several inspector observations were identified.

The violation involved the failure to protect properly safeguards information during transmittal to other departments and/or agencies.



The inspector's observations involved the effectiveness of assessment aids, effective and timeliness of maintenance on security systems, security lighting within the protected area, analysis of security incident reports and event logs, the difficulties encountered in retrieving security training records, and increased compensatory posting for problems associated with the assessment aids, the intrusion detection system and the security computer. The following is a summary of the inspection findings:

- ° The security force was being increased by approximately 29 new officers.
- ° The security force has purchased 125 new 9mm pistols and were beginning initial qualification training to phase in these weapons.
- ° The firing range program was well supervised, and very good range safety practices were observed.
- ° The security officers conducting system tests were very knowledgeable, and testing techniques challenged the system and equipment.

## SUPPORTING DATA

### ENGINEERING AND TECHNICAL SUPPORT

#### A. ENFORCEMENT AND REGULATORY ISSUES

##### 1. ESCALATED ENFORCEMENT

None

##### 2. NON-ESCALATED ENFORCEMENT

###### UNIT 1

None

###### UNIT 2

None

##### 3. LERS

###### UNIT 1

91-18	08-01-91	TS violation due to inoperable radioactive gaseous effluent alarm.
91-23	11-19-91	RHR motor lead cracking at epoxy interface.
91-24	11-22-91	Safety analysis deficiency concerning Pressurizer SRV loop seal delay time.
92-04	06-18-92	TS 3.0.3 due improper testing of reactor trip breaker shunt coils.

###### UNIT 2

None

#### B. INSPECTION REPORT SUMMARY

##### IR-91-05 EDSFI Team

Areas Inspected: Special, announced team inspection of the electrical distribution systems (EDS). The team evaluated the functional designs and capabilities of the EDS and those mechanical system necessary to support the EDS. The team also evaluated the engineering and technical support related to both Unit 1 and Unit 2 EDS.

Results: Boundary calculations for grid voltage were conservative. Protective relaying was appropriate to ensure a reliable source of offsite power.

The 4160 volt switchgear had sufficient margin to ensure proper operation. The 480 volt was less conservative but would load requirements

Protective devices were properly coordinated between the EDGs, 4160v, and 480v load centers and MCCs.

Formal calculations for all areas of the EDS. An example was the loading on

the EDGs which was greater than previously calculated because of greater motor loads than previously evaluated for.

The design basis documentation program has been effective in identifying areas where updated calculations are needed.

An effective trending program has been implemented for the EDGs. The fuel nozzle cracking issue has been aggressively pursued.

The licensee has initiated aggressive actions to reduce the engineering backlog. Extensive management involvement is apparent. Plant and Design Engineering Departments have been active in plant support activities. Direct engineering interface with the plant maintenance staff has been established.

Training for plant engineering has been revamped. Attendance has improved.

Licensee responses to industry technical information has been very good.

Design modifications were well supported. Direct engineering involvement in the implementation of the modification was evident. Example was EDG ECW pipe coating.

#### IR-91-19 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, operational safety verification, containment integrated leak rate test (CILRT) surveillance, followup of previously identified items, and in office review of licensee event reports.

Results: Continuing design problems exist with the toxic gas monitors. Design changes are planned.

#### IR-91-22 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, and followup of previously identified items.

Results: Continuing problems were noted with the EDGs, FWIVs, and S/G PORVs. Although extensive resources have been devoted to resolving problems with the equipment, additional resources will still be required. A potential generic problem with Westinghouse Model DS-206 electrical breakers has been identified involving the failure to open. The licensee and vendor are evaluating this condition.

#### IR-91-24 Inspector Gilbert

Areas Inspected: Routine, announced inspection of licensee's actions on previous identified inspection findings, followup inspection regarding an EDG lube oil failure, an ECW pipe crack, and the EDG fuel nozzle tip cracking.

Results: While the licensee had not yet established corrective actions regarding D/G lube oil tube failures, the actions taken or initiated appear to be satisfactory for identifying any additional tube failures in the EDG lube oil systems. The licensee has satisfactorily performed an evaluation of the fuel nozzle tip cracking problem and has established appropriate corrective actions. The actions taken by the licensee appear to be satisfactory for assuring ECW system piping integrity until a failure analysis of the Unit 2 crack can be performed and a long term corrective action program developed.

#### IR-91-27 Inspector Garrison

Areas Inspected: Non-routine announced inspection if the licensee's action in regard to the weld repair of a crack in the Unit 1 ECW system piping.

Results: An inspection of licensee's actions in regard to weld repair of a crack in Unit 1 ECW piping was performed. The licensee was found to have established appropriate technical requirements for repair of defects in aluminum - bronze ECW system piping. Observation of work activities (repair of crack) indicated a high standard of workmanship and good implementation of program requirements.

IR-91-30 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, engineering safety features system walkdown (Unit 1), refueling activities (Unit 2).

Results: A continuing negative trend in diesel generator reliability was observed. Several different EDG problems occurred during the inspection period, including fuel subsystem problems. Corrective action was taken to repair the specific problems; however, the ongoing problem with the cracking of delivery valve holders was still being evaluated and a permanent repair was still pending.

A crack in the Unit 1 essential cooling water system developed during this inspection period. The magnitude of the crack would not have prevented the system from performing its intended function. This new crack resulted from residual weld stresses on a repair to a previous crack brought on by dealuminization. This crack is bounded by an existing JCO. The licensee's long-term resolution of this problem will be evaluated during future inspections.

IR-91-34 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items.

Results: Three long-standing safety-related system and component problems are identified in the report. Two of the issues are EDG fuel system leaks and dealloying of ECW system piping and flanges. These items were identified in previous reports. The third issue pertains to licensee actions to resolve cracking of ECW expansion joints which is being caused or exacerbated by ECW water hammer events.

IR-92-04 Inspectors Engineering Team

Areas Inspected: Routine, announced inspection consisting of evaluating the engineering and technical support activities, and the assessments and QA audits of those activities.

Results: The modification packages reviewed were well written and complete. Considerable effort had been incorporated into the modifications to identify and address all issues of safety significance. Walkdowns indicated that the hardware changes were consistent with the design packages. A significant backlog of design change notices against vendor drawings was considered a weakness. Based on the two drawing reviewed there were 27 amendments outstanding. 14 of these amendments existed back to 1987 and one to 1986.

Generally, the technical engineering responses to the nonconforming conditions identified in the Requests for Action (RFA) which are issued as Conditional

Release Authorizations were well documented and reflected conscientious and conservative efforts to resolve the identified problems. Timeliness was appropriate to the relative significance of each issue. In the 15 RFA packages reviewed, three potential weaknesses were identified. These related to a nonconforming pipe support that did not receive a review by engineering (Conditional Release Authorization) to confirm operability, a Design Change Notice (DCN) that had not been issued for a change of material in a check valve installation alignment dowel, and an RFA package that did not maintain the DCN status.

The temporary modification program was found to be functioning properly. Noteworthy was the management attention that open temporary modifications received. However, there were 18 temporary modifications older than 2 years.

A number of areas continued to warrant licensee management's attention and action as appropriate. These areas include staffing levels, work priorities, training, computer capabilities, and engineering procedures.

The inspectors found design engineering to be a hard working, dedicated group and that engineering was producing a quality product. The interviews of engineering personnel indicated that the design engineering interfaces were viewed as working well with other plant organizations. The new design basis documents were viewed as reliable and complete design aids.

Overall, the system engineers appeared to be a highly skilled and motivated group. Although their workload was high, there was an attitude that they would find a way to accomplish their assigned work within the existing resources. Through the interviews, the system engineers indicated that they would like more voice in the decision process for system needs and/or the priority place on system work activities.

The plant programs division was actively involved in providing technical support for production activities. Their programs appeared well developed and implemented. Their approach to administering and managing the programs was very positive. There was a good expression of teamwork and an attitude of continual refinement and improvement of their products.

It appears that the licensee has recognized the need to make improvements in the manager and technical staff training program. The implementation of these improvements should enhance the manager and technical staff personnel. The actual benefits of this program should be realized in the future when fully implemented.

The licensee has developed a significant number of initiatives to enhance the plant and its performance including comprehensive DBD and PRA programs. The 1RB04 Outage Planning and the Strategic Plan for Plant Modernization would appear to be a strength for future modification and outage planning and control, provided that there are proper allowances for reactive and unanticipated safety issues.

#### IR-92-05 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items.

Results: Repairs of 3 leaks in the ECW system were implemented, bringing the total number of leaks repaired to 7. The licensee presented an aggressive plan to provide long-term solutions to the issue. These proposed and ongoing actions indicate a strong engineering approach which results from the assignment of a senior manager to focus on this issue.

IR-92-06 MOV Team

Areas Inspected: Special, announced inspection of the licensee's program for implementing commitments to GL 89-10.

Results: The licensee had initiated a comprehensive program for MOVs that generally met their commitments to GL 89-10.

The operability of some valves was considered unresolved, pending staff review.

Weaknesses were identified regarding the timing of program development, and the lack of a back calculation process to validate original design assumptions.

Strengths were identified regarding an excellent self-assessment of the MOV program, conservative and complete scoping of valves to be included in the program, good design basis reviews, the high percentage of MOVs being tested at or near design basis conditions, the planned use of dynamic periodic testing, and the purchase of stem load sensors to augment the diagnostic capability of the MOVATS equipment.

## SUPPORTING DATA

### SAFETY ASSESSMENT/QUALITY VERIFICATION

#### A. ENFORCEMENT AND REGULATORY ISSUES

##### 1. ESCALATED ENFORCEMENT

###### UNIT 1

91-18 EA 91-074	08-23-91	III	AMSAC not maintained reliable for either unit. Civil penalty assessed.
91-23 EA 91-055	12-12-91	III	Two ex. of maint. records of safety-related valves not maintained complete and accurate.

###### UNIT 2

91-18 EA 91-074	08-23-91	III	AMSAC not maintained reliable for either unit. Civil penalty assessed.
91-23 EA 91-055	12-12-91	III	Two ex. of maint. records of safety-related valves not maintained complete and accurate.

##### 2. NON-ESCALATED ENFORCEMENT

###### UNIT 1

91-25	11-12-91	NCV	Intermediate range monitors were calibrated using the incorrect data.
91-34	02-26-92	IV	Failure to maintain containment integrity.
92-02	02-24-92	NCV	Failure to evaluate student response concerning the course content and quality of instruction of GET.
92-06	04-10-92	IV	Failure to properly test MOV's, resulting in a number of valves left in an over-thrust condition.

###### UNIT 2

92-02	02-24-92	NCV	Failure to evaluate student response concerning the course content and quality of instruction of GET.
92-06	04-10-92	IV	Failure to properly test MOV's, resulting in a number of valves left in an over-thrust condition.

##### 3. LERS

###### UNIT 1

92-02	02-20-92		Containment integrity violated while in Mode 4.
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###### UNIT 2

92-02	02-20-92		Operations with a non-conservative OT delta T.
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92-03            13-24-92        Rainwater intrusion into the FW system results in FW transients and subsequent manual reactor trip.

B.        INSPECTION REPORT SUMMARY

IR-91-05 EDSFI Team

Areas Inspected: Special, announced team inspection of the electrical distribution systems (EDS). The team evaluated the functional designs and capabilities of the EDS and those mechanical system necessary to support the EDS. The team also evaluated the engineering and technical support related to both Unit 1 and Unit 2 EDS.

Results: The licensee's internal assessment of the EDS was performed in an excellent manner. Findings were promptly addressed and appropriate dispositions initiated.

IR-91-19 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, operational safety verification, containment integrated leak rate test (CILRT) surveillance, followup of previously identified items, and in office review of licensee event reports.

Results: The licensee failed to recognize that a 50.72 report was required for a manually initiated ESF actuation.

IR-91-23 Inspectors Tapia, Powers, and VanCleave

Areas Inspected: Special, announced inspection of the licensee's handling and disposition of select integrity concerns.

Results: The inspectors identified two apparent violations. One was related to 10 CFR 50.9 (4 examples) and one related to a willful violation of a RWP. All were previously identified by the licensee in the course of its investigations. The licensee's system for handling concerns was a very effective process that had produced several substantiated concerns and had provided licensee management with a better understanding of employee performance and the needs for improved management guidance in selected areas.

IR-91-25 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, and in office review of licensee event reports.

Results: A Unit 1 reactor trip near miss occurred when the intermediate range monitors were calibrated using the incorrect data (non-cited violation).

IR-91-28 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, engineering safety features system walkdown (Unit 1), refueling activities (Unit 2), and spent fuel pool activities (Unit 2).

Results: Plant management aggressively pursuing two personnel errors which resulted in reactor trips.

AMSAC operability concerns were aggressively pursued by plant management.



Westinghouse was well utilized to assist in resolving AMSAC issues.

IR-91-30 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, preparations for refueling activities, followup of previously identified items, engineering safety features system walkdown (Unit 1), refueling activities (Unit 2).

Results: A wiring error was found during a functional test of the AMSAC in Unit 2. The wiring error would not have prevented AMSAC from performing its intended function if a valid signal had been generated; however, it represented a difference in the design of the test circuitry between the two units which was previously not known. The licensee suspects that the error occurred when the AMSAC circuitry was installed and add to the elementary drawings.

IR-91-33 Inspector Stewart

Areas Inspected: Routine, unannounced inspection of the Unit 2 ISI results and followup of previously identified inspection results.

Results: Corrective action on previously identified findings, LERs, and open issues appeared to be appropriate and adequately documented.

IR-91-34 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items.

Results: A violation was identified involving a breach in containment integrity while Unit 1 was in Mode 4. This violation occurred as a result of a lack of knowledge of TS containment integrity requirements by a broad range of licensee personnel, and is indicative of a weakness in the licensee's safety awareness capabilities.

IR-92-01 Inspector Hunter

Area Inspected: Routine, announced inspection of the licensee's self-assessment and corrective action processes.

Results: The licensee's self-assessment and corrective action processes were functioning and effective in most all instances. The licensee actions associated with the reactor trip, which occurred on October 14, 1991, did not promptly address all of the adverse conditions which occurred during the trip transient.

The inspectors noted that the licensee classified and processed some adverse conditions as Severity Level 2 (not significant) station problem reports, when, in fact, the items appeared to be potentially significant and required additional specific and generic reviews. Additionally, the nuclear safety review board had not developed adequate criteria to ensure the committee reviewed all recognized adverse conditions which could effect nuclear safety.

IR-92-02 Inspector Ricketson

Areas Inspected: Routine, announced inspection of the licensee's radiological protection program including management controls, training and qualifications, and ALARA program.

Results: One non-cited violation was identified, involving the failure to evaluate student response concerning the course content and quality of instruction of certain general employee training.

IR-92-03 Inspector Ellershaw

Area Inspected: Routine, unannounced inspection of the licensee's program for feedback of operating experience information.

Results: The program for handling and feedback of operation experience information, with one exception, appears to be well defined and is being implemented. The inspector did not identify any instances where information considered to be important for the safe operation of STP was not provided in a timely fashion to the operating staff. A concern was identified where timeliness regarding final review and concurrence of Operating Experience Reports and Station Problem Reports is not defined in the controlling procedures. Thus, it was identified that over 450 Operating Experience Reports and Station Problem Reports have not received a final review and concurrence, but are not shown to be open. This provides the potential for not allowing the timely identification of additional actions that should be taken in response to operation experience information.

IR-92-04 Inspectors Engineering Team

Areas Inspected: Routine, announced inspection consisting of evaluating the engineering and technical support activities, and the assessments and QA audits of those activities.

Results: A non-cited violation was identified with regard to a deficiency in the corrective action program resulting from the handling of program violations that were identified during quality engineering assessments without issuing site problem reports for collective evaluation. Overall, the licensee's assessments of engineering activities which are performed by the QA organization and the design engineer quality engineering group was considered a strength.

IR-92-05 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items.

Results: As a result of longstanding problems with leaks in the ECW system, the licensee requested 2 temporary waivers of compliance in order to perform leak repairs.

IR-92-06 MOV Team

Areas Inspected: Special, announced inspection of the licensee's program for implementing commitments to GL 89-10.

Results: A violation was identified for inadequate corrective action evaluation relative to MOVs subject to over-thrust conditions.

IR-92-08 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items, engineered safety features system walkdown (Unit 1), and licensee evaluation of changes to the environs.

Results: Several initiatives were indicative of effective licensee management

involvement in operational activities. Licensee management initiated additional actions to address recurring SGFW pump problems and unnecessary reactor trips and plant transients. The licensee initiated a task force in response to main feedwater equipment problems and implemented a reactor trip prevention program.

The LERs reviewed were in compliance with 19 CFR Part 50.73 requirements

The licensee's programs for monitoring and evaluating changes in the environs was effective.

The root causes of several long-standing or recurring problems have not yet been identified.

The affect of fire water system spray actuation on EDG 11 operability will be tracked as an inspection followup item.

IR-92-11 Inspector Nicholas

Areas Inspected: Routine, unannounced inspection of the licensee's liquid and gaseous waste management program.

Results: An excellent QA audit program had been implemented.

IR-92-12 Inspector Ricketson

Areas Inspected: Routine, announced inspection of the licensee's radiological protection program including external exposure controls, internal exposure controls, surveys, and monitoring.

Results: Comprehensive QA audits were performed

IR-92-13 Inspector Stewart

Areas Inspected: Routine, unannounced inspection of the licensee's QA program.

Results: In general, the licensee's QA program relating to audits appeared to be well structured with organizational responsibilities and functions clearly defined. The inspector observed that audits were scheduled and performed by independent and qualified personnel including technical specialists. The scope of audits was found to be comprehensive and audit findings reflected supportive and meaningful findings. Written responses (when required) appeared to be timely.

IR-92-14 Inspectors Tapia and Evans

Areas Inspected: Onsite followup of events, monthly maintenance observation, bimonthly surveillance observation, operational safety verification, followup of previously identified items, engineered safety features system walkdown (Unit 2), and a management meeting.

Results: The overall quality of licensee event reports was good.

A weakness in the justification for continued operation (JCO) process resulted in a TS required surveillance log sheet not being properly revised.

(FOR OFFICIAL USE ONLY)  
 QUARTERLY PLANT PERFORMANCE REVIEW (QPPR) - FEBRUARY 1991  
 South Texas Project, Unit 1, DN 50-498; Unit 2, DN 50-499  
 Present SALP Period

Functional Area	Prev SALP	Last SALP	3/90	Midcycle 12/90	2/91	5/91
A. Plant Ops	88	90	10	2	2	
BOP equipment problems continue to affect plant operations. OIP has not had sufficient time to demonstrate improvement. Housekeeping good in most areas.						
B. Rad Controls	2	2I	2I	1	1	
Continues to show improvement. No events or findings not to indicate the utility is not a top performer.						
C. Maint/Surv	2	1	2	2	2	
Personnel errors continuing, but the rate appears to have declined. Good programs evident. Procedure upgrade program ongoing. OIP critical to improving this area.						
D. Emer Prep	2	2	2	2	2I	
Marked improvement from personnel changes increased staffing, extensive use of contractors, additional management involvement and facility improvements.						
E. Security	2	1	1	1	1	
Continued good performance - RER results good.						
F. Eng/Tec Support	2	2	2I	2	2	
Continued good performance. ASME requirements missed on 2 MWRS. Effective 50.59 program. Implemented formal system engineer training program.						
G. Safety Assess Quality Verif	1	1	10	2	2	
Continued good programs. OIP effectiveness not yet realized. Good NSRB involvement in LERS. Proactive in pursuing events. SD6 injector pump failure root cause not as timely as it should have been.						
D=Declining I=Improving NR=Not Reviewed NA=Not Applicable						

MIP Changes:

Add/Delete	IP	Org.	Hrs.	Title	IPE	Justification
_____				Evaluate effectiveness of OIP.		
_____				Evaluate need to followup to Bechtel maintenance work.		
_____				Add 100 hours to 40500.		

(FOR OFFICIAL USE ONLY)  
 QUARTERLY PLANT PERFORMANCE REVIEW (QPPR) - FEBRUARY 1991  
 South Texas Project, Unit 1, DN 50-498; Unit 2, DN 50-499  
 Present SALP (Cycle 8) 2/1/90 - 5/31/91

Functional Area	Prev SALP	Last SALP	3/90	Midcycle 12/90	2/91	5/91
A. Plant Ops	88	90	10	2	2	

BOP equipment problems continue to affect plant operations. Operation improvement plan (OIP) has not had sufficient time to demonstrate improvement. Housekeeping good in most areas.

B. Rad Controls	2	2I	2I	1	1	
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Continues to show improvement.

C. Maint/Surv	2	1	2	2	2	
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Personnel errors continuing, but the rate appears to have declined. Good programs evident. Procedure upgrade program ongoing. OIP critical to improving this area.

D. Emer Prep	2	2	2	2	2I	
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Marked improvement as a result of personnel changes, increased staffing, extensive use of contractors, additional management involvement and facility improvements.

E. Security	2	1	1	1	1	
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Continued superior performance - RER results superior.

F. Eng/Tec Support	2	2	2I	2	2	
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Continued good performance. ASME requirements missed on 2 MWRS. Effective 50.59 program. Implemented formal system engineer training program.

G. Safety Assess Quality Verif	1	1	10	2	2	
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Continued good programs. OIP effectiveness not yet realized. Good NSRB involvement in WERS. Proactive in pursuing events. SDG injector pump failure root cause not as timely as it should have been.

D=Declining I=Improving NR=Not Reviewed NA=Not Applicable

MIP Changes:

Add/Delete	IP	Org.	Hrs.	Title	IPE	Justification
<u>1</u>	40500	4205	140 hrs.	Safety Assessment	00	QPPR recommendation for extra 100 hours to evaluate effectiveness of OIP.

ENCLOSURE 1

SYNOPSIS

MANHOURS EXPENDED IN EACH  
SALP FUNCTIONAL AREA

<u>SALP AREA</u>	<u>RATING</u>	<u>MANHOURS</u>		
		<u>PLANNED</u>	<u>EXPENDED</u>	
PLANT OPERATIONS	1	2130	2784	(130%)
RADIOLOGICAL CONTROLS	21	378	270	(71%)
MAINTENANCE/SURVEILLANCE	1	1159	1234	(107%)
EMERGENCY PREPAREDNESS	2	174	232	(133%)
SECURITY	1	172	81	(47%)
ENGINEERING/TECH SUPP	2	194	167	(86%)
SAFETY ASSESS/QUALITY VERIFICATION	1	<u>948</u>	<u>978</u>	<u>(103%)</u>
		Total 5155	5746	(111%)

REGIONAL INITIATIVES  
NOT COMPLETED

<u>NUMBER</u>	<u>Description</u>	<u>RESPONSIBILITY</u>	<u>REASON</u>
70323	CILRT test results	DRS (TPS)	CILRT test report was not completed prior to the end of this SALP period, and therefore this module could not be completed.
85102	Material Control and Accounting	DRSS (NMSIS)	Insufficient manpower to complete by end of SALP period.

PLANT OPERATIONS

A PREVIOUS SALP RATINGS

<u>SALPs</u>		<u>QPPRs</u>			
<u>88</u>	<u>90</u>	<u>08-90</u>	<u>12-90</u>	<u>02-91</u>	<u>05-91</u>
2	1	10	2	2	NA

B INSPECTION PROGRAM STATUS

\*\*\*\*\*CORE INSPECTION PROGRAM\*\*\*\*\*

Unit	Module	Responsibility	Planned	Actual
3	64704	TPS	26	24
3	71707	RI	1200	1526
3	71710	RI	120	220
3	93702	RI	300	507

\*\*\*\*\*Regional Initiative\*\*\*\*\*

3	42700	OPS	16	10
3	60705	RI	20	38
3	60710	RI	54	98
3	71500	OPS	300	199
3	86700	RI	72	59
3	71714	RI	16	16
2	71715	RI	6	6

\*\*\*\*\*Reactive\*\*\*\*\*

3	93702		0	51
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RADIOLOGICAL CONTROLS

A PREVIOUS SALP RATINGS

<u>SALPs</u>		<u>QPPRs</u>			
<u>88</u>	<u>89</u>	<u>08-90</u>	<u>12-90</u>	<u>02-91</u>	<u>05-91</u>
2	21	21	1	1	NA

B INSPECTION PROGRAM STATUS

\*\*\*\*\* CORE MODULE\*\*\*\*\*

Unit	Module	Responsibility	Planned	Actual
B	84750	RPEPS	106	95
B	83750	RPEPS	106	98
B	86750	RPEPS	28	10

\*\*\*\*\*Regional Initiative\*\*\*\*\*

B	80821	RPEPS	6	7
B	80721	RPEPS	6	10
B	83522	RPEPS	4	4
B	83523	RPEPS	4	4
B	83722	RPEPS	4	3
B	83723	RPEPS	4	3
B	83728	RPEPS	12	4
B	83729	RPEPS	36	30
B	84725	RPEPS	66	2



MAINTENANCE / SURVEILLANCE

A PREVIOUS SALP RATINGS

<u>SALPs</u>		<u>QPPRs</u>			
<u>88</u>	<u>89</u>	<u>08-90</u>	<u>12-90</u>	<u>02-91</u>	<u>03-91</u>
2	1	2	2	2	NA

B INSPECTION PROGRAM STATUS

\*\*\*\*\*CORE MODULE\*\*\*\*\*

Unit	Module	Responsibility	Planned	Actual
3	61726	RI	300	296
3	62703	RI	450	465
3	73753	MQPS	64	124

\*\*\*\*\*Regional Initiative\*\*\*\*\*

1	55050	MQPS	20	18
1	55100	MQPS	10	5
3	61700	TPS	16	69
2	61701	TPS	16	30
2	61702	TPS	9	9
2	61705	TPS	9	10.5
2	61706	TPS	9	7
2	61707	TPS	9	9
2	61708	TPS	9	9
2	61710	TPS	9	9
3	61715	TPS	160	91
3	61720	TPS	60	61
3	62700	PERFORMED DURING MTI NOT CREDITED TO THIS SALP CYCLE		
3	62702	"		
3	62704	"		
3	62705	"		
2	72700	TPS	9	22

EMERGENCY PREPAREDNESS

A. PREVIOUS SALP RATINGS

<u>SALPs</u>		<u>QPPRs</u>			
<u>88</u>	<u>89</u>	<u>08-90</u>	<u>12-90</u>	<u>02-91</u>	<u>05-91</u>
2	2	2	2	21	NA

B. INSPECTION PROGRAM STATUS

\*\*\*\*\*CORE MODULE STATUS\*\*\*\*\*

Unit	Module	Responsibility	Planned	Actual
3	82301	RPEPS	54	136
3	82302	RPEPS	12	12
3	82701	RPEPS	36	40

\*\*\*\*\*Regional Initiative\*\*\*\*\*

3	82202	RPEPS	20	6
3	82205	RPEPS	18	29
3	82206	RPEPS	34	9

SECURITY

A PREVIOUS RATINGS

<u>SALPs</u>		<u>QPPRs</u>			
<u>88</u>	<u>89</u>	<u>08-90</u>	<u>12-90</u>	<u>02-91</u>	<u>05-91</u>
2	1	1	1	1	NA

B INSPECTION PROGRAM STATUS

\*\*\*\*\*CORE MODULE\*\*\*\*\*

<u>Unit</u>	<u>Module</u>	<u>Responsibility</u>	<u>Planned</u>	<u>Actual</u>
3	81700	NMSIS	132	62

\*\*\*\*\* Regional Initiative\*\*\*\*\*

3	81038	NMSIS	21	7
3	81810	NMSIS	12	12

\*\*\*\*\*Reactive\*\*\*\*\*

3	81072	Insp. in process	0	—
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ENGINEERING / TECHNICAL SUPPORT

A PREVIOUS RATINGS

<u>SALPs</u>		<u>QPPRs</u>			
<u>88</u>	<u>89</u>	<u>08-90</u>	<u>12-90</u>	<u>02-91</u>	<u>05-91</u>
2	2	21	2	2	NA

B INSPECTION PROGRAM STATUS

\*\*\*\*\*CORE MODULE\*\*\*\*\*

<u>Unit</u>	<u>Module</u>	<u>Responsibility</u>	<u>Planned</u>	<u>Actual</u>
3	37700	PSS	60	26

\*\*\*\*\*Regional Initiative\*\*\*\*\*

3	37701	PSS	40	20
3	37828	PSS/TPS	14	12
1	71711	RI	80	109

S A F E T Y   A S S E S S M E N T / Q U A L I T Y  
 V E R I F I C A T I O N

A PREVIOUS RATINGS

<u>SALPs</u>		<u>QPPRs</u>		<u>02-91</u>	<u>05-91</u>
<u>88</u>	<u>89</u>	<u>08-90</u>	<u>12-90</u>		
1	1	10	2	2	

B INSPECTION PROGRAM STATUS

\*\*\*\*\*CORE MODULE\*\*\*\*\*

<u>Unit</u>	<u>Module</u>	<u>Responsibility</u>	<u>Planned</u>	<u>Actual</u>
B	40500	OPS	140	240
<u>Regional Initiative</u>				
B	35502	RPS	48	55
B	90712	RPS	140	41
B	92700	AL	280	288
B	92702	ALL	100	48
B	35750	PSS	20	30
B	37702	PSS	40	4
B	92701	ALL	120	228
B	92720	OPS	60	44
<u>Meetings</u>				
B	94600	0		
B	30702	0		

TEMPORARY INSTRUCTIONS

	<u>II</u>	<u>Responsibility</u>	<u>Status</u>	<u>Report</u>
2500/19	SAQV	C	89-47	
2500/27	SAQV	NA	NA	
2515/65	SAQV	C	90-36	
2515/76	SAQV	C	89-34	
2515/91	MS	C	91-13	
2515/97	OTHR-0	C	90-01	
2515/98	MS	C	89-06	
2515/100	SAQV	C	89-06	
2515/101	SAQV	C	89-14	
2515/102	SEC	C	90-13	
2515/103	SAQV	C	90-17, 09-36, 91-07	
2515/104	SEC	C	89-47, 90-04	
2515/105	SAQV	NA	NA	
2515/106	SEC	C	91-10	
2515/107	ETS	O	91-05 SCHEDULED	

2515 91



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION IV

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

OCT - 2 1992

Docket Nos. 50-498  
50-499  
License Nos. NPF-76  
NPF-80

Houston Lighting & Power Company  
ATTN: Donald P. Hall, Group  
Vice President, Nuclear  
P.O. Box 1700  
Houston, Texas 77251

Gentlemen:

SUBJECT: INITIAL SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT

This forwards the initial SALP report (50-498/92-99; 50-499/92-99) for the South Texas Project (STP), Units 1 and 2. The SALP Board met on September 16, 1992, to evaluate STP's performance for the period June 2, 1991, through August 1, 1992. The performance analyses and resulting evaluations are documented in the enclosed initial SALP report.

In accordance with NRC policy, I have reviewed the SALP Board's assessment and concur with their ratings. Good performance in the areas of Plant Operations and Emergency Preparedness resulted in a Category 2 rating for these areas of performance. Good performance in the Engineering/Technical Support functional area resulted in a Category 2 rating; however, the improving trend that was identified during the previous assessment period was not sustained. Continued superior performance was noted in the area of Radiological Controls, which was rated as Category 1. Performance in the areas of Security and Safety Assessment Quality Verification was rated as Category 2, having declined from a Category 1 rating for the previous assessment period. A good level of performance was also noted in the area of Maintenance/Surveillance; however, weaknesses existed which resulted in performance being rated as Category 2 Declining.

Overall, licensee performance was good and improvements were noted in certain programs. This assessment, however, represents the second consecutive assessment period in which performance has declined in certain areas or the effectiveness of improvement initiatives was mixed. In order to prevent a further decline in performance, additional management attention is required. I encourage you to consider the following actions: (1) improve the material condition of the plant by resolving long-standing equipment problems, providing sufficient maintenance support to systems and equipment that are not governed by the Technical Specifications and improving the level of housekeeping in plant areas outside of the radiological controlled areas; (2) provide effective guidance and support to plant operators so that they may consistently carry out their licensed duties; (3) improve work control and

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C/7

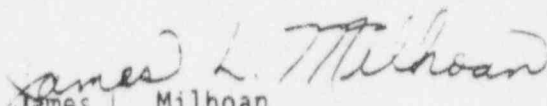
coordination to increase equipment availability; (4) reduce unnecessary engineered safety features actuations, and continue efforts to further reduce personnel errors that are resulting in a number of other unnecessary plant challenges; (5) increase the level of management involvement in the day-to-day operations of the facility and increase management and supervisory presence in the facility in order to more effectively resolve hardware and process problems; and (6) assess the overall effectiveness of various improvement initiatives and modify planned actions, as appropriate, to achieve the desired results.

At the conclusion of the assessment, an NRC inspection of the circumstances related to the failure by members of your staff to promptly notify control room operators of a condition that required actions to shut down both units was ongoing. Although some of these issues are addressed in this report, a final NRC assessment of these issues will be completed during the current assessment period.

On the basis of the SALP Board's assessment, the length of the SALP period will be approximately 15 months. Accordingly, the next SALP period will be from August 2, 1992, to October 30, 1993.

A management meeting has been scheduled with you and your staff at 1 p.m. on October 13, 1992, at the Bay City Convention Center in Bay City, Texas, to review the results of the SALP Board. Within 20 days of this management meeting, you may provide written comments on, and amplification of, as appropriate, the initial SALP report. Your written comments, a summary of our meeting, and the results of my consideration of your comments will be issued as an appendix to the enclosed initial SALP report and will constitute the final SALP report.

Sincerely,

  
James L. Milhoan  
Regional Administrator

Enclosure:  
Initial SALP Report  
50-498/92-99  
50-499/92-99

cc w/enclosure:  
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Houston Lighting & Power Company

-4-

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OCT - 2 1992

bcc to DMB (IE40)

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JITapia	MASatorius	ATHowell	GDick	SBlack
10/2/92	10/2/92	10/2/92	10/2/92	10/2/92

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JLCatman	SJCollins	ABBeach	JMMontgomery	JLMilhoan
10/2/92	10/2/92	10/2/92	10/2/92	10/2/92

**INITIAL SALP REPORT**

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

**SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE**

**INSPECTION REPORT NUMBER**

50-498/92-99

50-499/92-99

**Houston Lighting & Power Company**

**South Texas Project**

**Electric Generating Station, Units 1 and 2**

**June 2, 1991, through August 1, 1992**

~~9210090012~~ 27pp.

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## I. INTRODUCTION

The Systematic Assessment of Licensee Performance (SALP) program is an integrated NRC staff effort to collect available observations and data on a periodic basis and to evaluate licensee performance based upon this information. The program is supplemental to normal regulatory processes used to ensure compliance with NRC rules and regulations. It is intended to be sufficiently diagnostic to provide a rational basis for allocating NRC resources and to provide meaningful feedback to licensee's management regarding the NRC's assessment of their facility's performance in each functional area.

An NRC SALP Board, composed of the staff members listed below, met on September 16, 1992, to review the observations and data on performance and to assess licensee performance in accordance with NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance."

This report is the NRC's assessment of the licensee's safety performance at South Texas Project for the period June 2, 1991, through August 1, 1992.

The SALP Board for South Texas Project was composed of:

### Chairman

A. Bill Beach, Director, Division of Reactor Projects (DRP), Region IV

### Members

S. J. Collins, Director, Division of Reactor Safety (DRS), Region IV  
L. J. Callan, Director, Division of Radiation Safety and Safeguards (DRSS),  
Region IV  
S. C. Black, Director, Project Directorate IV-2 (PDIV-2), Office of Nuclear  
Reactor Regulation (NRR)  
A. T. Howell, Chief, Project Section D, DRP, Region IV  
G. F. Dick, Project Manager, PDIV-2, NRR  
J. I. Tapia, Senior Resident Inspector, Project Section D, DRP, Region IV

The following personnel also participated in or observed the SALP Board meeting:

B. Murray, Chief, Facility Inspection Programs Section, DRSS, Region IV  
T. F. Westerman, Chief, Plant Systems Section, DRS, Region IV  
T. F. Stetka, Chief, Operational Programs Section, DRS, Region IV  
J. L. Pellet, Chief, Operator Licensing Section, DRS, Region IV  
M. A. Satorius, Project Engineer, Project Section D, DRP Region IV  
R. J. Evans, Resident Inspector, Project Section D, DRP, Region IV  
P. M. Ray, Operations Engineer, Performance and Quality Evaluation  
Branch (LPEB), NRR  
V. L. Ordaz, Reactor Engineer Intern, LPEB, NRR  
G. L. Guerra, Radiation Specialist Intern, DRP, Region IV

## II. SUMMARY OF RESULTS

### Overview

Overall, licensee performance was good; however, a decline in performance was noted in some areas. Performance in the Plant Operations functional area was considered good. Although the number of operator errors and equipment failures that resulted in reactor trips was reduced, the operators continue to be challenged by plant transients resulting from long-standing equipment problems and human errors. In one instance, licensed operators were unable to perform their licensed duties because of inappropriate actions by management. A declining trend was identified in the Maintenance/Surveillance functional area. As noted in the previous assessment period, programs in these areas remained strong; however, numerous implementation weaknesses resulted in unnecessary reactor trips and engineered safety features (ESF) actuations and reduced availability of safety-related and balance-of-plant equipment. The material condition and housekeeping of the plant was also in need of further improvement. The need for greater management involvement in and support of routine operations and maintenance activities was evident.

Performance in the Radiological Controls functional area remained superior. Good performance in the Emergency Preparedness area was noted; however, a lack of maintenance of Technical Support Center (TSC) support systems had the potential to reduce the level of protection for emergency workers. Performance in the area of Security was considered good, having declined from a previous superior level. The lack of maintenance support for security systems and equipment and reduced management attention contributed to the declining performance.

Performance in Engineering/Technical Support was good, but the improving trend identified during the previous assessment period was not sustained. A number of positive initiatives were indicative of effective management involvement. Self-assessment and quality verification activities in this area were a noteworthy strength, and improvements were noted in the licensed operator requalification program. However, the bases for sizing calculations of some safety-related motor-operated valves was questioned by NRC and remained unresolved at the end of the assessment period.

Performance in the area of Safety Assessment/Quality Verification was considered good, having declined from a previous superior level. Corrective action processes and implementation were generally good, but the results of various licensee improvement initiatives were mixed.

During this assessment period, it was evident that licensee management had not placed sufficient emphasis on maintaining plant equipment that is not governed by the Technical Specifications (TS). This common performance trend, that was first identified late in the previous assessment period, had a detrimental effect on performance in several functional areas. As a result, performance was affected in the areas of Plant Operations, Maintenance/Surveillance, Emergency Preparedness, and Security. Additional contributors to the

reduction in the level of material condition was the poor level of housekeeping in areas outside of the radiological controlled areas, and the inability to resolve several long-standing equipment problems. The need for a significantly higher level of management attention to improve the overall material condition of the station was evident.

The licensee's performance category rating for each functional area assessed is provided in the table below, along with the ratings from the previous SALP assessment period:

<u>Functional Area</u>	<u>Rating Last Period</u> <u>02/01/90 to 06/01/91</u>	<u>Rating This Period</u> <u>06/02/91 to 08/01/92</u>	<u>Trend</u>
Plant Operations	2	2	
Radiological Controls	1	1	
Maintenance/Surveillance	2	2	**D
Emergency Preparedness	2	2	
Security	1	2	
Engineering/Technical Support	*2I	2	
Safety Assessment/ Quality Verification	**1D	2	

\*I: Improving Trend - Licensee performance was determined to be improving during this assessment period. Continuation of the trend may result in a change in the performance rating.

\*\*D: Declining Trend - Licensee performance was determined to be declining during this assessment period and the licensee had not taken meaningful steps to address this pattern. Continuation of the trend may result in a change in the performance rating.

### III. CRITERIA

The evaluation criteria, category definitions, and SALP process methodology that were used, as applicable, to assess each functional area are described in detail in NRC Manual Chapter 0516, dated September 28, 1990. This chapter is available in the Public Document Room files. Therefore, these criteria are not repeated in this report but will be presented in detail at the public meeting to be held with licensee management on October 13, 1992, at 1 p.m.

### IV. PERFORMANCE ANALYSIS

#### A. Plant Operations

##### 1. Analysis

This functional area consists primarily of the control and execution of activities directly related to operating the plant.



NRC inspection efforts consisted of the core inspection program by the resident inspectors and regional initiative inspections of plant procedures and of Unit 2 refueling activities. Two special inspections were performed that involved a Unit 2 reactor trip and safety injection actuation signal following a reactor coolant spray valve failure and the entry into TS 3.0.3 following the discovery of a surveillance requirement that had never been implemented for Units 1 and 2.

The previous SALP report (NRC Inspection Report 50-498/91-99; 50-499/91-99) noted strong performance by operators during plant transients, good operations support, and that the plant operating procedures, housekeeping, and material condition of the plant had improved. The previous SALP report recommended that the licensee continue to: improve the secondary side material condition of the facility, procedure adequacy and compliance, plant labelling, human performance and station reliability; and reduce the number of plant challenges.

During this assessment period, enforcement history and reportable events in this area revealed the continuation of the similar types of problems that were noted during the previous assessment period, but fewer in number. These included instances of TS noncompliance; and reactor trips and plant shutdowns caused by equipment problems and human errors. The lack of reliability of the anticipated transient without scram mitigation system actuation circuitry (AMSAC) was identified as an apparent violation at the end of the previous assessment period, and a Notice of Violation and Civil Penalty were subsequently issued.

Management involvement in plant operations was generally good during this assessment period, with some exceptions noted. The Unit 2 refueling outage and the Unit 1 maintenance outage were both well managed and controlled. A reactor trip reduction policy, as well as a reactivity management concept were implemented. Additionally, management support of plant operating procedure and labelling program upgrades was a strength. However, weaknesses were identified by NRC in ensuring that the proper plant conditions were established prior to repairing a steam generator inspection cover leak, maintaining the control room logbook, and implementing clearance orders. In one instance, licensee management, in May 1992, failed to inform licensed operators in a timely manner of a condition that required action to shut down both units.

Throughout the assessment period, the licensee continued to experience plant challenges from equipment problems. One reactor trip occurred because of a failed diode in the rod control circuitry, a second trip occurred when a reactor coolant system pressurizer spray valve failed open following maintenance, and a manual reactor trip was initiated by operators because of a loss of steam generator feedwater flow. A forced unit shutdown occurred when a valve packing leak exceeded the TS leakage limits. Plant power reductions, both voluntary and forced, were performed on several occasions to allow for repairs of secondary side equipment.

During the previous assessment period, a decline in operator performance was noted based on the number of personnel errors which resulted in challenges to plant equipment and TS violations during routine operations. Although the overall number of events decreased since the last assessment period, events caused by human error still occurred. A reactor trip occurred because of operator inattention during the performance of a surveillance test. An operator, performing a plant shutdown, allowed the reactor coolant system temperature to drop below the minimum temperature for criticality. This event was also attributed to an excessive cooldown rate caused by secondary side steam leakage and secondary side design problems. In addition, a licensed operator was not sufficiently attentive during a boration evolution that he initiated and, as a result, an excess boration event occurred.

As in the previous assessment period, operating crew performance remained good in response to most plant events and transients, and licensed operator actions were consistently conservative in nature. For example, the operators were required to respond to a number of long-standing steam generator feedwater system problems that either caused a plant transient or required a power reduction to effect repair.

Plant operating procedures, including the emergency operating procedures, system operating procedures, and alarm response procedures, were upgraded during the assessment period. The procedures were upgraded as part of a long-term procedure enhancement program. Overall, the plant operating procedures were evaluated to be good even though isolated incidents have been identified that suggest the operating procedure upgrades are incomplete. For example, all four auxiliary feedwater flow control valves were found out of position following a reactor trip because of a less than adequate reactor trip response procedure. Generally, adherence to procedures by operators has been good.

During this assessment period, several licensee senior and middle management changes were made. The position of vice president, nuclear support, was eliminated and the position of deputy plant manager was established. A new plant manager was assigned. The overall effectiveness of the changes have not been fully assessed because they occurred toward the end of the assessment period.

Operating crew staffing to support routine operations was evaluated as good. Operations support staffing and assistance was determined to be superior. The support staff has continuously provided good technical support in such areas as dispositioning station problem reports and upgrading procedures. Other staffing issues, however, continue to challenge licensee management, such as nonlicensed operator overtime rates during extended outages.

Operations personnel maintained a professional work environment in the control room. Communications between the control room operators and craft personnel during the performance of maintenance and surveillance activities were good. The ability to control and direct complex evolutions was evident during reduced inventory operations and power changes.

In summary, performance in this functional area was good. Plant transients resulting from equipment failures and human errors continued; however, operators continued to perform well during these events.

2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area.

3. Recommendations

a. NRC Actions

Inspection effort in this area should be consistent with the core inspection program, with regional initiatives in the areas of plant operating procedures and operations administrative control systems.

b. Licensee Actions

The licensee should continue efforts to provide enhanced guidance and support to the operators in order to operate the station as intended, and reduce the number of unnecessary challenges to plant safety systems.

B. Radiological Controls

1. Analysis

This functional area consists primarily of activities related to radiation protection, radioactive waste management, radiological effluent control and monitoring, radiochemistry confirmatory measurements, radiological environmental monitoring, and transportation of radioactive materials.

This area was inspected by both the resident inspectors and Region-based inspectors. The previous SALP report identified no major weaknesses in this area. No violations or deviations were identified during the current assessment period.

Management support for all areas of the radiological controls program continued to be excellent. Supervisory radiation protection personnel were afforded opportunities to attend offsite training and professional meetings in order to maintain their level of technical expertise and knowledge of industry practices. Also, corporate oversight and support for the radiation protection program were increased through the staffing of a radiological assessor position in the corporate staff to assess the effectiveness of the various elements of the program.

Audits performed during this assessment period were comprehensive and identified areas where program improvements were possible. Audit teams

included technical experts and members with radiological controls experience. Responses to audit findings were timely, and the corrective actions were technically sound.

The program of reporting radiological occurrences and radiological controls deficiencies functioned effectively to identify, correct, and track such occurrences. Quarterly summaries were prepared for the plant manager's review.

Radiological controls procedures had been revised. The revisions provided improved guidance, and the organization of the new procedures was also enhanced.

The implementation of the as low as reasonably achievable (ALARA) program was effective. The ALARA committee was composed of members of both management and craft personnel. Management support was demonstrated by the effective staffing for ALARA. The licensee had an active ALARA suggestion program, indicating excellent worker participation. Superior ALARA performance resulted in low person-rem exposures, even though the goals established by the licensee were challenging. The ALARA group initiated a program to identify hot spots within support systems and continued the source term reduction program initiated during the previous assessment period.

Radiation protection was sufficiently staffed and contract radiation protection technicians were not used during routine operations. The annual turnover rate of technicians was less than 10 percent except for the chemical support group. Contract radiation protection technicians were provided to assist the licensee's staff during the Unit 2 refueling outage.

Qualified and experienced instructors provided excellent instruction for all areas of radiological controls. The licensee promoted the professional development of radiation protection technicians by providing training and sponsoring testing for registration by the National Registry of Radiation Protection Technologists. Several members of the radiation protection program were certified by or were seeking certification by the Health Physics Society. Many were continuing their education and seeking initial or advanced degrees.

The implementation of the radiological protection program was excellent. An effective radiation work permit program was maintained. Comprehensive instructions were provided to the workers, and worker adherence to radiation work permit instructions and operating procedures was good. Oversight of work activities in the radiological controlled area was excellent. The number of personnel contamination events was low. The total contaminated area in both units was low. The level of housekeeping in the radiological controlled area, especially toward the end of the assessment period, was superior.

External radiation exposure controls were implemented effectively. The dosimetry and associated quality assurance programs were state-of-the-art. An electronic dosimetry system supplemented the thermoluminescent dosimeters worn

by radiation workers and were used instead of the pocket ion chambers. Video monitoring was used to plan work activities in high radiation areas on a case-by-case basis.

An excellent liquid and gaseous radioactive waste effluent program was implemented. All aspects of the program were performed in accordance with Radiological Effluent Technical Specifications and the Offsite Dose Calculation Manual. Procedures provided good guidance. No unplanned releases occurred during the assessment period.

NRC confirmatory measurement reviews noted that an effective radiochemistry measurements program was in use. The radiochemistry and health physics radiological counting facilities were well maintained.

The transportation program was well implemented. Procedural guidance was good, and shipments were properly documented. Detailed procedures for classification and characterization of radioactive waste were implemented through the use of a computer program.

In summary, the radiological controls program maintained a superior level of performance during this assessment period.

## 2. Performance Rating

The licensee is considered to be in Performance Category 1 in this functional area.

## 3. Recommendations

None

## C. Maintenance/Surveillance

### 1. Analysis

This functional area consists of activities associated with the preventive and corrective maintenance of plant structures, systems, and components. This area also includes the conduct of surveillance testing, integrated leak rate testing, welding activities, and inservice testing and inspection activities.

This area was routinely inspected by the resident inspectors and periodically by Region-based inspectors. Regional initiative inspections were performed in the areas of maintenance program implementation, surveillance testing and calibration control, boric acid corrosion, containment integrated leak rate testing and results, and inservice inspection of selected Unit 2 activities. One special followup team inspection was performed that addressed the training of maintenance employees, maintenance work controls, and the maintenance service request backlog.

The previous SALP report indicated that the licensee had: strong containment integrated and local leak rate testing programs; a high quality surveillance program and procedures; a well written and implemented post refueling startup testing program; a comprehensive measuring and test equipment quality assurance program; and effective training programs. The licensee also had effectively implemented a number of assessment initiatives. Weaknesses were identified in a number of areas involving personnel errors during the performance of maintenance, procedural compliance, employee overtime rates, long-standing equipment problems, and potential falsification of records. NRC recommended that the licensee maintain the good level of program development and improve implementation, devote additional attention to assure adherence to procedures, and improve the material condition of the plant.

During this assessment period, the enforcement history was indicative of acceptable performance. A Notice of Violation and Civil Penalty were issued during this assessment period because of maintenance record falsification by contractor personnel that occurred during the previous assessment period. A number of nonescalated violations were cited that involved the failure to follow a surveillance procedure which resulted in a reactor trip, inadequate pressurizer spray valve configuration control, which also resulted in a reactor trip, a failure to follow an integrated leak rate test procedure, which resulted in the loss of lubrication to a reactor coolant pump bearing, and inadequate postmaintenance testing of an emergency diesel generator (EDG).

The licensee's preventive and corrective maintenance programs were considered good. Several strengths were identified. The licensee had a good maintenance work control process that provided for the identification of equipment problems, evaluation of equipment operability, work activity prioritization, conduct of maintenance activities, and proper closure of work packages. The specific training given to maintenance personnel on work processes was good, and the workers were suitably tested to demonstrate their knowledge. Minor maintenance program weaknesses were identified that involved an absence of a requirement to document as-found conditions and subsequent corrective actions in the completed work package for use in the equipment history files and a failure of the preventive maintenance program to identify generic issues. The licensee's trending program also appeared to be ineffective in identifying components that had a high risk of failure. A potentially significant weakness was identified involving a lack of policy for the signing and dating of work performance on permanent plant records. This weakness resulted in confusion on the part of some workers and supervisors as to what their responsibilities were for documenting work performance. The licensee subsequently issued procedures that clearly defined expectations in this area.

Overall, the performance of maintenance was adequate. Several implementation problems were identified. Inadequate work instructions, instances of failure to follow procedures, and weaknesses associated with craft workmanship resulted in number of problems during the assessment period. Human error resulted in one reactor trip when an electrician landed wires incorrectly. The use of a vendor manual instead of detailed work instructions caused a pressurizer spray valve to fail open which resulted in a reactor trip and

safety injection actuation signal. Several poor work practices that had the potential for reactor trips were identified, including the performance of troubleshooting activities without informing the control room operators. A steam leak developed in a valve as a result of not incorporating a vendor recommendation into the maintenance work instructions pertaining to valve repacking, which delayed the restart of a unit following a reactor trip. Overtorquing of electrical breaker arc chutes occurred because out-of-date vendor torquing requirements were being used. Collectively, these problems were indicative of a need for improvement in the implementation of system and equipment maintenance and in the use of vendor supplied information.

Some of the licensee's internal procedures for work on nonsafety-related equipment were not being satisfied by maintenance workers. In particular, there were instances in which the configuration control change log was not used for lifting leads. There were also instances of technicians implementing work requests without signing the work orders.

The use of maintenance verification points and independent verification points was inconsistent. While these requirements were contained in specified procedures, it was evident that they were not being applied in a consistent manner by personnel because of a lack of understanding of these requirements or inattention to detail.

Several weaknesses in planning and scheduling of maintenance were identified. These weaknesses resulted in unnecessary safety-related equipment outages and unnecessary challenges to safety-related equipment. For example, there were two instances in which the same ESF components were actuated for different surveillances within days of each surveillance test. In another instance, a steam generator power operated relief valve was taken out of service even though the intended work could not be performed.

Early in the assessment period, licensee management focused their efforts to reduce the number of open maintenance work requests in the areas of control room instruments, chemical process monitors, and control functions. This approach involved dedicated work teams and resulted in a significant decrease in the number of deficiencies in these areas. An inspection of the maintenance backlog (open service requests) was performed late in the assessment period. The inspectors found that open service requests were being properly prioritized; however, the size of the maintenance backlog has steadily increased during the second half of the assessment period.

The material condition of the plant requires continued management focus. The number of secondary side steam leaks has been reduced but still remains relatively high. Effective action has been taken to resolve some long-standing equipment problems such as the steam generator power operated relief valves and main feedwater isolation valves. Long-standing equipment problems relative to the EDGs and the steam generator feedwater system continue to impact plant operations. For example, there have been several trips of the EDGs when being placed in the cooldown mode or released from the emergency mode of operation. Other safety-related components, such as the source range

monitors and essential chillers developed problems that were not resolved in a timely manner. The licensee has committed a considerable amount of time and effort to resolve these long-standing problems; however, these efforts only have been partially successful.

Increased management attention in the area of housekeeping is also warranted. While the level of housekeeping in the radiological controlled areas was superior, it was often poor in other areas of the facility.

Overtime rates for some maintenance work groups continued to be excessive during extended outages and exceeded the licensee's goals.

The licensee recently completed improvements in the remodeling of the maintenance operations facility and moved all the maintenance staff, maintenance support staff, work control center, and maintenance management into one location.

The surveillance and testing programs were effective. Surveillance tests were being scheduled and performed as required by TS. The missed surveillance rate was extremely low. Overall, surveillance procedures were determined to be of high quality. The requirements for calibration of safety-related instrumentation not specifically controlled by the TS were included in the licensee's preventive maintenance program. The licensee assigned the responsibility for surveillances to a plant surveillance coordinator with supporting responsibilities given to individual department coordinators. This appeared to improve the effectiveness of the surveillance program.

The implementation of surveillances and tests was good, with some weaknesses noted. The performance of one deficient procedure resulted in the unintentional start of a component cooling water pump. A deficient manual reactor trip surveillance procedure was identified during the periodic procedure review process. This resulted in temporary power reductions in both units because of a resultant TS 3.0.3 entry. Events associated with human error continued to occur during the performance of surveillance tests. Licensed operator inattention to detail during the performance of a surveillance test resulted in a reactor trip. Another reactor trip occurred because an instrumentation and controls technician failed to follow a procedure. In another instance, an auxiliary feedwater pump was inadvertently started and a containment ventilation isolation occurred during the performance of surveillance tests.

An evaluation of containment integrated leak rate test results was performed and the results indicated that all requirements were satisfied. In-service inspection (ISI) activities, which included the nondestructive examinations specified in the ISI examination plan, were being effectively performed. The nondestructive examination personnel performing the examinations were properly certified as being qualified for the particular method in use. The control and documentation of ISI examinations were well established and implemented.



Late in the assessment period, the licensee implemented major changes in the work process program to improve station performance and to streamline the administrative workload associated with work scheduling and design changes. In addition, the licensee planned to initiate a number of maintenance self-assessments. The effectiveness of the changes and the results of these self-assessments could not be assessed by NRC by the end of the assessment period.

In summary, performance in this functional area was good. While the programs remained strong, weaknesses were noted in the implementation of maintenance. This is indicative of the need for increased management attention to, and support of maintenance. Further improvement in the areas of material condition and housekeeping is warranted.

## 2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area, with a declining trend noted.

## 3. Recommendations

### a. NRC Actions

Inspection effort in this area should be consistent with the core inspection program, with regional initiatives to assess the overall effectiveness of the maintenance enhancements that the licensee has implemented to improve maintenance activities.

### b. Licensee Actions

The licensee should assess the effectiveness of various maintenance initiatives and make appropriate changes on the basis of the results of these assessments. The licensee should also take those actions necessary to improve the overall level of material condition and housekeeping of the facility.

## D. Emergency Preparedness

### 1. Analysis

This functional area includes activities related to the establishment and implementation of the emergency plan and implementing procedures, onsite and offsite plan development and coordination, support and training of emergency response organizations, licensee performance during exercise and actual events that test the emergency plans, and interactions with onsite and offsite emergency response organizations during planned exercises and actual events.

Evaluation of this functional area was based on the results of four inspections conducted by Region-based inspectors and observations made by the resident inspectors. The four regional inspections included the evaluation of both of the annual emergency exercises conducted during this SALP period.

The previous SALP report noted that the licensee took vigorous initiatives to perform a comprehensive review of their emergency preparedness program and implemented extensive and effective corrective actions. The SALP report further recommended that the licensee ensure that improvements and changes to the emergency preparedness program are fully implemented.

There were three events which resulted in the licensee making a Notification of Unusual Event. All of these events were the result of entering a TS which required a plant shutdown. In one instance, the licensee was not prompt in following the emergency plan and implementing procedures because licensee management did not inform the control room operators in a timely manner.

There was evidence of licensee management involvement in assuring a good emergency response and the effectiveness of related training. This was evident from the two emergency preparedness exercises. The exercise scenarios were challenging and provided a good test for exercise objectives. Realism was enhanced by the use of the plant specific simulator. The demonstrated emergency decision-making process during the exercises was strong. The licensee also conducted effective interactions with both state and local response organizations during the exercises.

Five weaknesses were identified during the August 1991 exercise. The technical issues involved the failure of the control room staff to detect and classify promptly the Alert condition, instances of poor operational assessment and technical evaluation in the TSC, poor radiological practices by the medical team, and failure to include radiological precautions in public announcements made during the site evacuation of site personnel. These problems were corrected prior to the April 1992 exercise; however, four additional weaknesses were identified during the April 1992 exercise. The technical issues involved inadequacies in the notification process used to notify offsite authorities; a deficient procedure that required decision makers to obtain concurrence from state authorities prior to issuing protective action recommendations, thereby creating the potential of delaying protective action; poor medical treatment practices; and weaknesses in the plant evacuation process. One additional weakness was identified during the operational status inspection walkthroughs conducted with control room staffs. This weakness pertained to several discrepancies in classification of emergencies, notifications, and protective action recommendations.

The licensee's emergency plan was maintained in a good state of operational readiness during this assessment period. The licensee had promptly and correctly implemented changes to the emergency plan and implementing procedures. However, some deficient changes to procedures were identified. The licensee's emergency response facilities were well equipped; however, several problems were noted with the TSC support systems. Inadequate preventive maintenance of both TSC chillers resulted in an event that caused erroneous computer parameters and a temporary power reduction. On several occasions, the TSC diesel generator would not start on demand. Collectively, these problems had the potential to reduce the level of protection for emergency workers.

The licensee's audits of this area were considered good. The training program for emergency response personnel had produced good results as demonstrated by walkthroughs with operating crews. These walkthroughs measured the retention of emergency preparedness information by operators. The licensee's emergency response organization is presently staffed by well trained and qualified individuals and could be promptly activated to respond to emergencies.

In general, the licensee responded well by taking appropriate corrective measures for issues identified internally as well as for those problems identified by NRC. This was indicative of good management involvement and support.

One area in which corrective measures were less than fully effective pertained to the licensee's callout methods. The licensee had changed between manual and automatic callout methods several times, and it was not clear from the licensee's records that either method of augmentation was effective in supplementing the staff within the required time. The quality and scope of the corrective measures implemented by the licensee, as shown by exercise weakness and the lack of prompt validation of callout methods, indicated that corrective measures for technical issues were not always timely. At the time of this assessment, corrective measures still have not been effectively implemented for the licensee's callout methods.

The licensee maintained an excellent working relationship with state and local offsite response agencies. The licensee kept those agencies informed of the status of emergency planning and of changes in the emergency plan.

In summary, the licensee's implementation of the emergency preparedness program demonstrated their readiness to protect the health and safety of the public. A pattern of performance and self-corrective measures sufficient to maintain good operational readiness for responding to emergencies was demonstrated during exercises and most events. The licensee's corrective measures for weaknesses identified during the inspections were generally satisfactory.

## 2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area.

## 3. Recommendations

None

## E. Security

### 1. Analysis

This functional area includes activities that ensure security of the plant, including all aspects of access control, security background checks, and protection of safeguards information.

Evaluation of this functional area was based on the results of two routine Region-based inspections, two team inspections, and observations by the resident inspectors.

The previous SALP report noted strong management support for the security program and superior programs in the areas of staffing, training, and enforcement history. The previous SALP report did not include any specific recommendations.

During this assessment period, a declining trend was noted in the security area. Violations identified late in the previous assessment period involving search inadequacies resulted in escalated enforcement during this period. Several other violations were identified during this assessment period involving personnel escort controls, search procedures, the protection of safeguards information, testing of intrusion detection systems, and the failure of a security system to function properly. Timely and long-term corrective actions in response to the violations were not always effective to correct the root cause of the problem. A meeting was held with the licensee in the Region IV office on February 21, 1992, to discuss several security program issues, some pertaining to several of the enforcement issues discussed above.

Comprehensive, performance based, quality assurance (QA) audits had been performed which identified various program deficiencies and improvement items. However, the responses to the most recent audit findings had not been completed to permit a proper evaluation of the effectiveness of the identified corrective actions.

Management involvement and attention to the security program appeared to have diminished during this assessment period. Management was not consistently effective in assuring that security problems requiring maintenance support received timely and long-term corrective actions. Security maintenance service requests usually received a low priority designation resulting in slow response from the maintenance department. The slow response for maintenance support had resulted in the deterioration of several security systems and heavy reliance on compensatory posting of security officers. The lack of spare parts also caused unnecessary delays in routine repairs of security systems.

A noticeable decline was identified regarding security systems performance early in the assessment period when the two security staff positions designated for testing security systems were eliminated. These two positions were later reinstated during the assessment period and a marked improvement was noted with the operability of the security systems.

Several significant staffing changes occurred within the licensee's and their contractor's security organizations during the assessment period. The licensee's security manager was replaced in January 1992. The contractor security project manager was also replaced. Four licensee security supervisor positions were eliminated. Security staffing was maintained at an appropriate

level, but a large personnel turnover rate (about 16 percent) occurred in the contract security force during the assessment period. Twenty-nine new security officers were hired near the end of the assessment period and were attending initial security training. Security supervisors were tasked with handling considerable routine administrative work which frequently interfered with them being in the field performing normal supervisory duties. Because these staffing changes occurred during the second half of the assessment period, the impact of these changes on the overall effectiveness of the security program has not been fully evaluated by NRC. Other staffing issues pertained to disciplinary action taken against contractor security officers. For example, two security officers were denied site access for falsifying patrol logs.

Security training continues to be a program strength. The program includes an excellent staff along with well qualified instructors. The program has strong supervision and excellent facilities, and training requirements were completed on schedule.

The licensee submitted three physical security plan change packages pursuant to 10 CFR 50.54(p) that involved several changes to their physical security plan. Most of the changes were made pursuant to 10 CFR 50.54(p); however, each package contained some changes that decreased the plan commitments and should have been submitted pursuant to 10 CFR 50.90. The inclusion of changes not allowed under 10 CFR 50.54(p) indicated a lack of thoroughness in the licensee's review process.

In summary, a general decline was observed in the performance level of the security program. The lack of maintenance support for the security program and reduced management attention contributed to the declining performance. Significant staffing changes occurred. The training program continues to be a strength. Comprehensive, performance based audits were performed, but the effectiveness of the corrective actions could not be evaluated by the end of the assessment period.

## 2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area.

## 3. Recommendations

### a. NRC Actions

Inspection effort in this area should be consistent with the core inspection program, with regional initiatives in the areas of management effectiveness, staffing, and security system maintenance.

b. Licensee Actions

The licensee should improve maintenance support of security systems. The licensee should provide more thorough reviews of security plan changes.

F. Engineering/Technical Support

1. Analysis

This functional area consists of technical and engineering support for all plant activities. It includes all licensee activities associated with the design of plant modifications; engineering and technical support for operations, outages, maintenance, testing, surveillance, and procurement activities; training; vendor interface activities; and configuration management.

This functional area was inspected on an ongoing basis by the resident inspectors and periodically by the Region-based inspectors. The inspection effort also included team inspections to assess the design of the electrical distribution system, to assess the program and procedures developed in response to Generic Letter (GL) 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance," and to evaluate the engineering and technical support activities and the self-assessments of those activities.

The previous SALP report noted strong management involvement in enhancing programs; better utilization of engineering resources as a result of reorganization; effective configuration controls; and good staffing. The previous SALP noted weaknesses in the quality of examination material for the requalification program; the engineering support for troubleshooting, which contributed to plant transients and repetitive problems; the timeliness of resolution for some technical issues; and communication with other departments which caused maintenance delays. The SALP report recommended that the licensee continue to emphasize effective engineering support activities, particularly with regard to the quality, depth, and timeliness of evaluations performed in support of operational and maintenance activities.

During this assessment period, enforcement history in this area revealed no significant areas of concern. However, an unresolved item pertaining to the sizing calculations for some safety-related motor-operated valves (MOVs) remained open pending further inspection followup.

During this assessment period, an electrical distribution system functional inspection (EDSFI) was conducted by a team of NRC and consultant personnel. In addition to evaluating the adequacy of pertinent design features, the inspection included an evaluation of the capabilities and performance of the engineering and technical support organizations. The team determined that there was effective engineering support provided for the electrical distribution and supporting systems. The team noted that the licensee had implemented a critical self-assessment of various aspects of the facility that related to the electrical distribution and support systems. The licensee

gained insights into the systems during the implementation of the self-assessment, which allowed prompt and thorough presentation of documentation during the EDSFI.

The QA organization provided significant oversight of engineering activities. The QA organization performed audits, surveillances, assessments, in-process reviews, and safety system functional assessments. In addition, within the Design Engineering Department, there is a quality engineering group that performs assessments.

The EDSFI determined that the licensee implemented prompt corrective actions for most of the problems identified during the self-assessment. However, the EDSFI identified three programmatic weaknesses: a lack of fuse control, an incomplete inverter testing program, and incomplete documentation for some mechanical support systems.

Engineering-related corrective actions for system and equipment problems were generally good. For example, design problems existed with the toxic gas monitors in the early part of the assessment period, which resulted in an inadvertent ESF actuation in both units. Design changes have been identified and, when they are installed, improved toxic gas reliability should result. In some instances, however, the implementation of modifications has been untimely. For example, a planned modification to prevent rainwater intrusion into the turbine building had not been implemented. Subsequently, a manual reactor trip had to be initiated because of rainwater intrusion into the steam generator feedwater pump speed control cabinet. Although the licensee implemented an effective trending program for the EDGs and aggressively pursued the fuel nozzle cracking issue, there continues to be a high rate of EDG unavailability.

Modification packages were found to be well written and complete. Considerable effort was noted in the identification of issues of safety significance. However, a significant backlog of design change notices against vendor drawings was considered a weakness. Although the temporary modification program was functioning properly, there were a number of temporary modifications that were more than 2 years old. This was indicative of a lack of effectiveness in making these temporary modifications permanent or in removing these temporary modifications.

The method of revising procedures resulting from plant modifications was a program weakness. The design change packages did not provide a summary of the modification to expedite the identification of the affected procedures. In this regard, the potential existed that all procedures requiring a revision as the result of a modification may not be revised.

The licensee's program for MOVs was conservative and complete with respect to identifying valves to be in the program. The design basis reviews and self-assessment of the program were considered strengths. Other strengths of the valve program included good design basis reviews; testing of a high percentage of valves at, or near, design basis conditions; and periodic dynamic testing.

Weaknesses in the program included the lack of providing feedback of information into the valve sizing calculations to validate original design assumptions and the lack of application of diagnostic system inaccuracies in the sizing calculations. As a result, as of the end of this assessment period, the adequacy of these MOV sizing calculations remained unresolved pending further NRC inspection effort.

The Engineering Department (Design Engineering, System Engineering, and Plant Programs) was staffed with highly skilled and motivated personnel. A good expression of teamwork was observed. Licensee management has recognized the need to make improvements in the manager and technical staff training program.

Several initiatives were indicative of licensee management involvement. These initiatives included comprehensive design basis documentation and probabilistic risk assessment programs; a reactor trip prevention program; the formation of a shutdown risk assessment group; and a task force in response to steam generator feedwater equipment problems. These initiatives have had mixed results. For example, the licensee's efforts to resolve several steam generator feedwater system component problems has been only partially effective.

During this assessment period, the NRC operator license examiners administered initial examinations in September 1991 and requalification examinations in February 1992 and performed a program evaluation in March 1992. All 28 operators evaluated during the requalification examinations and all 12 of the initial applicants passed all portions of their respective examinations. The requalification program evaluation was judged to be satisfactory. Crew communications, primarily observed during the dynamic simulator section of the operating examination, was an area of significant improvement. Emergency operating procedures usage, technical accuracy, and contingency coverage was also noted as an area of significant improvement. In addition, it was noted that timeliness in correction of previously identified procedural weaknesses was improved.

Two isolated areas of performance were noted to have declined in both the initial and requalification examinations. Generically, performance during the plant walkthrough section of the examinations, although satisfactory, was notably weaker than during previous examinations. Isolated failures, in several different areas, indicated some weakness in the walkthrough or in-plant training program. A specific area noted as being unsatisfactory was reactor operator knowledge of Radiation Monitor 11 operations. In a related inspection finding, the flow rate indication for a unit vent radiation monitor was not updating and went unnoticed for 5 days, even though the flow value was logged every shift. Another specific area noted as being unsatisfactory was reactor operator interpretation of posted radiological survey maps.

A pilot service water system operational performance inspection was conducted on the essential cooling water (ECW) system. The inspection focused on the ECW mechanical design, operational control, maintenance, and surveillance and evaluated aspects of the QA and corrective action programs related to the ECW



system. The inspection team concluded that the ECW system, as designed, operated, and maintained would be capable of performing its safety functions in accordance with the licensing basis for the plants.

Overall performance in this functional area was good. Effective engineering support was provided to the electrical distribution and supporting systems and there was prompt initiation of corrective action to most of the problems identified by the licensee's self-assessment. Corrective actions for engineering problems were generally good. However, the sizing calculations for some MOVs were questioned and remained unresolved pending further NRC inspection effort. The modification process was generally satisfactory. However, there was a significant backlog in vendor document changes, some temporary modifications were over 2 years old, and the process for revising procedures resulting from modifications was considered a program weakness. The Engineering Department was staffed with highly skilled and motivated personnel. Several initiatives were indicative of licensee management involvement. The South Texas Project QA organization provided significant oversight of the engineering activities. Improvements in the licensed operator requalification program were noted.

## 2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area.

## 3. Recommendations

None

## G. Safety Assessment/Quality Verification

### 1. Analysis

This functional area includes all licensee actions associated with the implementation of safety policies, exemption and relief requests, responses to generic letters and bulletins, the resolution of safety issues, safety committee and self-assessment activities, analysis of industry operational experience, and the effectiveness of the licensee's quality verification functions.

This area was routinely inspected by the resident inspectors and periodically by Region-based inspectors. Regional initiative inspections included the review of the quality verification functions, design change and modifications program, audit program, offsite support staff, feedback of operational experience, and the corrective action program. A special inspection of the licensee's investigation of several employee integrity issues was also conducted.

The previous SALP report noted strengths in licensee submittals, staffing and training effectiveness, performance based QA audits, and the problem solving

process. The Operational Improvement Plan (OIP) was noted to be a proactive initiative. Weak areas identified included missed licensee event report corrective action implementation dates, inadequate root cause and corrective action development for complex issues, and occasional plant challenges resulting from less than adequate prioritization of problem resolutions. The SALP report recommended the licensee evaluate the self-assessment and corrective action processes to ensure that safety issues are identified, evaluated, and resolved.

During this assessment period, there were 15 license amendments issued for each unit. Other significant technical items reviewed by NRC were the licensee's submittal of its compliance with 10 CFR 50.63 (station blackout rule) and the licensee's request for exemption from 10 CFR 50.62 (the anticipated transient without scram rule). In addition, the staff completed its review of the internal events and fire protection portions of the licensee's Probabilistic Safety Assessment. Generally, the submittals were complete and demonstrated an understanding of both the technical and regulatory issues. Responses to staff requests for clarifying or additional information were typically timely and complete. The licensee's responses to NRC Bulletins and Generic Letters continued to be technically complete and timely.

During the assessment period, five temporary waivers of compliance were requested and two were granted, with three waivers subsequently not needed. The technical bases for the requests for waivers were generally good, with one exception. This exception pertained to a breakdown in the process for requesting a temporary waiver of compliance for a TS surveillance deficiency that was identified in May 1992.

Overall, management response to operational events was acceptable, with some exceptions noted. Actions were taken by management in response to plant events, including the development of reactor trip prevention and reactivity management programs. The effectiveness of these initiatives has been mixed. The number of unnecessary reactor trips has been reduced, but safety systems continue to be challenged by unnecessary reactor trips. During one event, licensee management did not conservatively implement license requirements because of a belief that a temporary waiver of compliance could be obtained from NRC prior to taking the action to initiate a shutdown of both units. Contributing causes of this event included the hesitancy of station personnel to initiate a station problem report and a lack of specific guidance for operability determinations. This event was still being reviewed at the end of the assessment period.

The licensee implemented the OIP in the fall of 1990 to improve plant availability and reliability and to improve the work environment for its employees. The OIP implementation results were mixed. Plant availability and reliability have improved, in part, because of the OIP. The number of automatic reactor trips and forced outage rates have been reduced. On the other hand, several unresolved, long-standing equipment problems associated with the EDGs, the steam generator feedwater system, and the essential

chillers continue to challenge operations and maintenance personnel, as discussed in the Maintenance/Surveillance functional area of this assessment. Some human factor issues, such as maintenance department shift schedules and high rates of nonlicensed operator and maintenance craft overtime during extended outages remain to be fully resolved.

During the assessment period, reporting performance was mixed. Most LERs were of good quality. However, an ESF actuation caused by a failed diode was reported only after prompting by NRC. An additional inspection identified other examples of untimely reporting of events to the NRC Operations Center.

Licensee safety evaluations associated with modifications to the facility were of high quality, complete, well documented, and addressed the modification from a safety perspective. The licensee had a good 10 CFR 50.59 safety evaluation process. The procedures and controls for implementation of 10 CFR 21 requirements were found to be well defined and satisfactorily implemented.

The licensee's self-assessment and corrective action programs were evaluated as good. The licensee implemented a new corrective action program in response to observations that there was a varying degree of quality of corrective action responses among different groups. The new corrective action group reports directly to the plant manager, providing for the overall control of the program. These enhancements were still being implemented at the end of the assessment period and have not been fully evaluated by NRC.

The implementation effectiveness of these programs was generally good. For example, the licensee developed an aggressive, long-term plan to provide a resolution to ECW leaks. However, several weaknesses were observed, including the identification of an inadequate request for action resolution and the incomplete development of review criteria by the offsite review committee. In addition, some adverse conditions which could affect nuclear safety were improperly classified and processed as Severity Level 2 (not significant) instead of Severity Level 1 (significant) problem reports. As a result of this improper classification, the adverse conditions did not receive the additional reviews to assess the specific corrective actions and generic implications or a review by the Nuclear Safety Review Board. Further, a particular station problem report for a reactor trip that occurred on October 14, 1991, did not address all the noted adverse conditions encountered during the reactor trip.

The licensee's program for handling employee concerns (SPEAKOUT) was evaluated by NRC during this assessment period and was found to be generally effective. Most licensee employees and contractors who were interviewed appeared confident about discussing concerns with SPEAKOUT investigators. However, a review of a number of licensee investigation reports revealed that some of the investigations were limited in scope.

In the latter part of the assessment period, the NRC noted instances in which the licensee experienced difficulties in internal and external communications.

In regard to the former, an example involving senior management not being informed by the responsible line managers was identified by the special followup inspection team. As a result, timely corrective actions were not taken until senior management learned of a violation of escort control requirements. Another example was found in which the licensee did not disseminate concerns identified in a 10 CFR 2.206 petition to the responsible managers, thereby not providing the opportunity for input to the licensee's assessment and consideration of short-term corrective action for the issues presented in the petition. An example of external communication difficulties involved the licensee's handling of a request for a temporary waiver of compliance following the identification of a reactor trip system surveillance deficiency.

The program for handling and feedback of industry operational experience information appeared to be well defined and was being effectively implemented. However, although the specified actions regarding a number of items were completed and the items were considered to be closed, it was identified that over 450 operation event reports and station problem reports had not received a final review and concurrence by cognizant management in a timely fashion. This provided the potential for not identifying additional actions in a timely manner.

The licensee's QA program relating to audits appeared to be well structured, with organizational responsibilities and functions clearly defined. Audits were scheduled and performed by independent and qualified personnel, including technical specialists. The scope of audits was found to be comprehensive and audit findings reflected supportive and meaningful findings. Written responses to findings appeared to be timely.

The licensee's overall performance in this functional area was good; however, it declined from its previous superior level. Corrective action processes and implementation were generally good. Overall, management oversight of safety assessment and quality verification processes was acceptable. The quality of submittals to NRC were usually complete. Most LERs were of good quality, but not all NRC required reports were made within the required time period. The licensee's QA audit program was effectively implemented. Some examples of internal and external communication difficulties were noted. The results of various licensee improvement initiatives were mixed.

## 2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area.

## 3. Recommendations

### a. NRC Actions

Inspection effort in this area should be consistent with the core inspection program, with regional initiatives in the area of corrective action program changes.

b. Licensee Actions

None

V. SUPPORTING DATA AND SUMMARIES

A. Major Licensee Activities

1. Major Outages

The second refueling outage was completed for Unit 2 on December 16, 1991. Significant work completed included modifications to the reactor water makeup pump, reactor coolant pump seal inspections, steam generator tube inspection and shot peening, steam generator sludge lancing, ISI of safety systems, turbine generator disassembly and inspection, and inspection and cleaning of steam generator feedwater pumps and feedwater heaters.

A midcycle outage was completed for Unit 1 on April 15, 1992. This outage was conducted to repair the handhold covers on the secondary side of Steam Generators 1A and 1B and other emergent maintenance activities.

2. License Amendments

Fifteen operating license amendments were issued for each unit.

3. Significant Modifications

The licensee installed 181 modifications during the assessment period, with no major modifications installed in Unit 1. The following major modifications were installed in Unit 2:

- o Elimination of the containment spray additive tanks;
- o Deletion of the residual heat removal suction valve auto closure interlock;
- o Modification of the reactor coolant system vent path piping;
- o Replacement of the EDG intercooler expansion joints with pipe spools; and
- o Turbine generator modifications consisting of a fiber optic vibration monitoring system, an upgraded stator cooling water and hydrogen system, replacement of the single tower hydrogen dryer with a dual tower dryer, and modifications to the throttle and governor valves.

B. Direct Inspection and Review Activities

NRC inspection activity during the assessment period consisted of 44 inspections, including several team inspections and special inspections. Approximately 5000 direct inspection hours were expended, which did not include contractor hours.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION IV

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

NOV 18 1992

Docket Nos. 50-498  
50-499  
License Nos. NPF-76  
NPF-80

Houston Lighting & Power Company  
ATTN: Donald P. Hall, Group  
Vice President, Nuclear  
P.O. Box 1700  
Houston, Texas 77251

Gentlemen:

SUBJECT: FINAL SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT

This forwards the final SALP report for South Texas Project (STP), Unit 1 and 2, for the period of June 2, 1991, through August 1, 1992. This final SALP report includes:

1. A revision summary sheet.
2. The initial SALP report.
3. A meeting summary and a list of attendees at our October 13, 1992, meeting at STP to discuss the initial SALP report.
4. Your October 27, 1992, response to the initial SALP report.

The first comment to the initial SALP report as described in your October 27, 1992, response was not incorporated as a revision. Although the Nuclear Security Department was reorganized in May 1992, NRC was not able to determine by the end of the assessment period whether this reorganization contributed to the noted improvements in the testing and operability of the security system.

The third comment to the initial SALP report as described in your October 27, 1992, response also was not incorporated as a revision. Although we note that the quality engineering group within Design Engineering has been eliminated since NRC review, its existence during the assessment period provided the basis and justification for its inclusion in the initial SALP report.

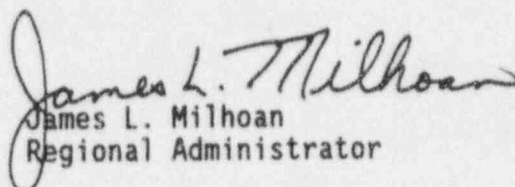
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C/S IVC  
JEHO

The next SALP period for South Texas Project is scheduled to last 15 months from August 2, 1992, through October 30, 1993.

Sincerely,

  
James L. Milhoan  
Regional Administrator

Enclosures:

1. Revision sheet
2. Initial SALP report with revisions
3. Meeting summary and list of attendees
4. HL&P response to the initial SALP report

cc w/enclosures:

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 Commissioner Rogers (MS: 16-G-15)  
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level, but a contract security attention has been maintained. Security training, supervision and on schedule.

The personnel turnover rate (about 16 percent) occurred in the force during the assessment period. Twenty-nine new personnel were hired near the end of the assessment period and were given security training. Security supervisors were tasked with routine administrative work which frequently interfered with field performing normal supervisory duties. Because of changes on the overall effectiveness of the program fully evaluated by NRC. Other staffing issues were taken against contractor security officers. Personnel were denied site access for falsifying

Security training excellent supervision and on schedule.

program strength. The program includes an excellent instructor. The program has strong training requirements were completed

The licensee submitted to 10 CFR 50.54(p) that plan. Most of the changes each package contained should have been submitted not allowed under 10 CFR 50.54. licensee's review process.

plan change packages pursuant to their physical security 10 CFR 50.54(p); however, the plan commitments and thoroughness in the

In summary, a general decline was security program. The lack of maintenance and reduced management attention contributed to significant staffing changes occurred. Significant staffing changes occurred. Comprehensive, performance based effectiveness of the corrective actions during the assessment period.

performance level of the security program continues to be a concern, but the end of

2. Performance Rating

The licensee is considered to be in Performance area.

3. Recommendations

a. NRC Actions

Inspection effort in this area should be consistent with the program, with regional initiatives in the areas of management effectiveness, staffing, and security system maintenance.

SEE REVISION SHEET (ENCLOSURE 1)

REGIONAL ADMINISTRATOR

level, but a large personnel turnover rate (about 16 percent) occurred in the contract security force during the assessment period. Twenty-nine new unarmed security officers were hired early in the assessment period to provide additional security force coverage while the Maintenance Operations Facility was removed from the Protected Area for renovation. At the end of the assessment period, these security officers had been retained and were attending initial security training in order to upgrade their status to armed security officers. Security supervisors were tasked with handling considerable routine administrative work which frequently interfered with them being in the field performing normal supervisory duties. Because these staffing changes occurred during the second half of the assessment period, the impact of these changes on the overall effectiveness of the security program has not been fully evaluated by NRC. Other staffing issues pertained to disciplinary action taken against contractor security officers. For example, two security officers were denied site access for falsifying patrol logs.

Security training continues to be a program strength. The program includes an excellent staff along with well qualified instructors. The program has strong supervision and excellent facilities, and training requirements were completed on schedule.

The licensee submitted three physical security plan change packages pursuant to 10 CFR 50.54(p) that involved several changes to their physical security plan. Most of the changes were made pursuant to 10 CFR 50.54(p); however, each package contained some changes that decreased the plan commitments and should have been submitted pursuant to 10 CFR 50.90. The inclusion of changes not allowed under 10 CFR 50.54(p) indicated a lack of thoroughness in the licensee's review process.

In summary, a general decline was observed in the performance level of the security program. The lack of maintenance support for the security program and reduced management attention contributed to the declining performance. Significant staffing changes occurred. The training program continues to be a strength. Comprehensive, performance based audits were performed, but the effectiveness of the corrective actions could not be evaluated by the end of the assessment period.

## 2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area.

## 3. Recommendations

### a. NRC Actions

Inspection effort in this area should be consistent with the core inspection program, with regional initiatives in the areas of management effectiveness, staffing, and security system maintenance.

REVISION SHEET

STP 1992 INITIAL SALP REPORT

Page 16, paragraph 1, Lines 2 through 4;

Presently Reads: Twenty-nine new security officers were hired near the end of the assessment period and were attending initial security training.

Should Read: Twenty-nine new unarmed security officers were hired early in the assessment period to provide additional security force coverage while the Maintenance Operations Facility was removed from the Protected Area for renovation. At the end of the assessment period, these security officers had been retained and were attending initial security training in order to upgrade their status to armed security officers.

Basis: The revision more accurately describes the circumstances in which the new security officers were hired.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION IV

511 RYAN PLAZA DRIVE SUITE 400  
ARLINGTON TEXAS 76011-8064

OCT - 2 1992

Docket Nos. 50-498  
50-499  
License Nos. NPF-76  
NPF-80

Houston Lighting & Power Company  
ATTN: Donald P. Hall, Group  
Vice President, Nuclear  
P.O. Box 1700  
Houston, Texas 77251

Gentlemen:

SUBJECT: INITIAL SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT

This forwards the initial SALP report (50-498/92-99; 50-499/92-99) for the South Texas Project (STP), Units 1 and 2. The SALP Board met on September 16, 1992, to evaluate STP's performance for the period June 2, 1991, through August 1, 1992. The performance analyses and resulting evaluations are documented in the enclosed initial SALP report.

In accordance with NRC policy, I have reviewed the SALP Board's assessment and concur with their ratings. Good performance in the areas of Plant Operations and Emergency Preparedness resulted in a Category 2 rating for these areas of performance. Good performance in the Engineering/Technical Support functional area resulted in a Category 2 rating; however, the improving trend that was identified during the previous assessment period was not sustained. Continued superior performance was noted in the area of Radiological Controls, which was rated as Category 1. Performance in the areas of Security and Safety Assessment/Quality Verification was rated as Category 2, having declined from a Category 1 rating for the previous assessment period. A good level of performance was also noted in the area of Maintenance/Surveillance; however, weaknesses existed which resulted in performance being rated as Category 2 Declining.

Overall, licensee performance was good and improvements were noted in certain programs. This assessment, however, represents the second consecutive assessment period in which performance has declined in certain areas or the effectiveness of improvement initiatives was mixed. In order to prevent a further decline in performance, additional management attention is required. I encourage you to consider the following actions: (1) improve the material condition of the plant by resolving long-standing equipment problems, providing sufficient maintenance support to systems and equipment that are not governed by the Technical Specifications and improving the level of housekeeping in plant areas outside of the radiological controlled areas; (2) provide effective guidance and support to plant operators so that they may consistently carry out their licensed duties; (3) improve work control and

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ordination to increase equipment availability; (4) reduce unnecessary engineered safety features actuations, and continue efforts to further reduce personnel errors that are resulting in a number of other unnecessary plant challenges; (5) increase the level of management involvement in the day-to-day operations of the facility and increase management and supervisory presence in the facility in order to more effectively resolve hardware and process problems; and (6) assess the overall effectiveness of various improvement initiatives and modify planned actions, as appropriate, to achieve the desired results.

At the conclusion of the assessment, an NRC inspection of the circumstances related to the failure by members of your staff to promptly notify control room operators of a condition that required actions to shut down both units was ongoing. Although some of these issues are addressed in this report, a final NRC assessment of these issues will be completed during the current assessment period.

On the basis of the SALP Board's assessment, the length of the SALP period will be approximately 15 months. Accordingly, the next SALP period will be from August 2, 1992, to October 30, 1993.

A management meeting has been scheduled with you and your staff at 1 p.m. on October 13, 1992, at the Bay City Convention Center in Bay City, Texas, to review the results of the SALP Board. Within 20 days of this management meeting, you may provide written comments on, and amplification of, as appropriate, the initial SALP report. Your written comments, a summary of our meeting, and the results of my consideration of your comments will be issued as an appendix to the enclosed initial SALP report and will constitute the final SALP report.

Sincerely,

  
James L. Milhoan  
Regional Administrator

Enclosure:  
Initial SALP Report  
50-498/92-99  
50-499/92-99

cc w/enclosure:  
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-4-

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Texas Public Utility Commission  
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Austin, Texas 78757-1024

**INITIAL SALP REPORT**

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

**SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE**

**INSPECTION REPORT NUMBER**

**50-498/92-99**

**50-499/92-99**

**Houston Lighting & Power Company**

**South Texas Project**

**Electric Generating Station, Units 1 and 2**

**June 2, 1991, through August 1, 1992**

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## I. INTRODUCTION

The Systematic Assessment of Licensee Performance (SALP) program is an integrated NRC staff effort to collect available observations and data on a periodic basis and to evaluate licensee performance based upon this information. The program is supplemental to normal regulatory processes used to ensure compliance with NRC rules and regulations. It is intended to be sufficiently diagnostic to provide a rational basis for allocating NRC resources and to provide meaningful feedback to licensee's management regarding the NRC's assessment of their facility's performance in each functional area.

An NRC SALP Board, composed of the staff members listed below, met on September 16, 1992, to review the observations and data on performance and to assess licensee performance in accordance with NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance."

This report is the NRC's assessment of the licensee's safety performance at South Texas Project for the period June 2, 1991, through August 1, 1992.

The SALP Board for South Texas Project was composed of:

### Chairman

A. Bill Beach, Director, Division of Reactor Projects (DRP), Region IV

### Members

S. J. Collins, Director, Division of Reactor Safety (DRS), Region IV  
L. J. Callan, Director, Division of Radiation Safety and Safeguards (DRSS),  
Region IV  
S. C. Black, Director, Project Directorate IV-2 (PDIV-2), Office of Nuclear  
Reactor Regulation (NRR)  
A. T. Howell, Chief, Project Section D, DRP, Region IV  
G. F. Dick, Project Manager, PDIV-2, NRR  
J. I. Tapia, Senior Resident Inspector, Project Section D, DRP, Region IV

The following personnel also participated in or observed the SALP Board meeting:

B. Murray, Chief, Facility Inspection Programs Section, DRSS, Region IV  
T. F. Westerman, Chief, Plant Systems Section, DRS, Region IV  
T. F. Stetka, Chief, Operational Programs Section, DRS, Region IV  
J. L. Pellet, Chief, Operator Licensing Section, DRS, Region IV  
M. A. Satorius, Project Engineer, Project Section D, DRP, Region IV  
R. J. Evans, Resident Inspector, Project Section D, DRP, Region IV  
P. M. Ray, Operations Engineer, Performance and Quality Evaluation  
Branch (LPEB), NRR  
V. L. Ordaz, Reactor Engineer Intern, LPEB, NRR  
G. L. Guerra, Radiation Specialist Intern, DRP, Region IV

## II. SUMMARY OF RESULTS

### Overview

Overall, licensee performance was good; however, a decline in performance was noted in some areas. Performance in the Plant Operations functional area was considered good. Although the number of operator errors and equipment failures that resulted in reactor trips was reduced, the operators continue to be challenged by plant transients resulting from long-standing equipment problems and human errors. In one instance, licensed operators were unable to perform their licensed duties because of inappropriate actions by management. A declining trend was identified in the Maintenance/Surveillance functional area. As noted in the previous assessment period, programs in these areas remained strong; however, numerous implementation weaknesses resulted in unnecessary reactor trips and engineered safety features (ESF) actuations and reduced availability of safety-related and balance-of-plant equipment. The material condition and housekeeping of the plant was also in need of further improvement. The need for greater management involvement in and support of routine operations and maintenance activities was evident.

Performance in the Radiological Controls functional area remained superior. Good performance in the Emergency Preparedness area was noted; however, a lack of maintenance of Technical Support Center (TSC) support systems had the potential to reduce the level of protection for emergency workers. Performance in the area of Security was considered good, having declined from a previous superior level. The lack of maintenance support for security systems and equipment and reduced management attention contributed to the declining performance.

Performance in Engineering/Technical Support was good, but the improving trend identified during the previous assessment period was not sustained. A number of positive initiatives were indicative of effective management involvement. Self-assessment and quality verification activities in this area were a noteworthy strength, and improvements were noted in the licensed operator requalification program. However, the bases for sizing calculations of some safety-related motor-operated valves was questioned by NRC and remained unresolved at the end of the assessment period.

Performance in the area of Safety Assessment/Quality Verification was considered good, having declined from a previous superior level. Corrective action processes and implementation were generally good, but the results of various licensee improvement initiatives were mixed.

During this assessment period, it was evident that licensee management had not placed sufficient emphasis on maintaining plant equipment that is not governed by the Technical Specifications (TS). This common performance trend, that was first identified late in the previous assessment period, had a detrimental effect on performance in several functional areas. As a result, performance was affected in the areas of Plant Operations, Maintenance/Surveillance, Emergency Preparedness, and Security. Additional contributors to the

reduction in the level of material condition was the poor level of housekeeping in areas outside of the radiological controlled areas, and the inability to resolve several long-standing equipment problems. The need for a significantly higher level of management attention to improve the overall material condition of the station was evident.

The licensee's performance category rating for each functional area assessed is provided in the table below, along with the ratings from the previous SALP assessment period:

<u>Functional Area</u>	<u>Rating Last Period</u> <u>02/01/90 to 06/01/91</u>	<u>Rating This Period</u> <u>06/02/91 to 08/01/92</u>	<u>Trend</u>
Plant Operations	2	2	
Radiological Controls	1	1	
Maintenance/Surveillance	2	2	**D
Emergency Preparedness	2	2	
Security	1	2	
Engineering/Technical Support	*2I	2	
Safety Assessment/ Quality Verification	**1D	2	

\*I: Improving Trend - Licensee performance was determined to be improving during this assessment period. Continuation of the trend may result in a change in the performance rating.

\*\*D: Declining Trend - Licensee performance was determined to be declining during this assessment period and the licensee had not taken meaningful steps to address this pattern. Continuation of the trend may result in a change in the performance rating.

### III. CRITERIA

The evaluation criteria, category definitions, and SALP process methodology that were used, as applicable, to assess each functional area are described in detail in NRC Manual Chapter 0516, dated September 28, 1990. This chapter is available in the Public Document Room files. Therefore, these criteria are not repeated in this report but will be presented in detail at the public meeting to be held with licensee management on October 13, 1992, at 1 p.m.

### IV. PERFORMANCE ANALYSIS

#### A. Plant Operations

##### 1. Analysis

This functional area consists primarily of the control and execution of activities directly related to operating the plant.

NRC inspection efforts consisted of the core inspection program by the resident inspectors and regional initiative inspections of plant procedures and of Unit 2 refueling activities. Two special inspections were performed that involved a Unit 2 reactor trip and safety injection actuation signal following a reactor coolant spray valve failure and the entry into TS 3.0.3 following the discovery of a surveillance requirement that had never been implemented for Units 1 and 2.

The previous SALP report (NRC Inspection Report 50-498/91-99; 50-499/91-99) noted strong performance by operators during plant transients, good operations support, and that the plant operating procedures, housekeeping, and material condition of the plant had improved. The previous SALP report recommended that the licensee continue to: improve the secondary side material condition of the facility, procedure adequacy and compliance, plant labelling, human performance and station reliability; and reduce the number of plant challenges.

During this assessment period, enforcement history and reportable events in this area revealed the continuation of the similar types of problems that were noted during the previous assessment period, but fewer in number. These included instances of TS noncompliance; and reactor trips and plant shutdowns caused by equipment problems and human errors. The lack of reliability of the anticipated transient without scram mitigation system actuation circuitry (AMSAC) was identified as an apparent violation at the end of the previous assessment period, and a Notice of Violation and Civil Penalty were subsequently issued.

Management involvement in plant operations was generally good during this assessment period, with some exceptions noted. The Unit 2 refueling outage and the Unit 1 maintenance outage were both well managed and controlled. A reactor trip reduction policy, as well as a reactivity management concept were implemented. Additionally, management support of plant operating procedure and labelling program upgrades was a strength. However, weaknesses were identified by NRC in ensuring that the proper plant conditions were established prior to repairing a steam generator inspection cover leak, maintaining the control room logbook, and implementing clearance orders. In one instance, licensee management, in May 1992, failed to inform licensed operators in a timely manner of a condition that required action to shut down both units.

Throughout the assessment period, the licensee continued to experience plant challenges from equipment problems. One reactor trip occurred because of a failed diode in the rod control circuitry, a second trip occurred when a reactor coolant system pressurizer spray valve failed open following maintenance, and a manual reactor trip was initiated by operators because of a loss of steam generator feedwater flow. A forced unit shutdown occurred when a valve packing leak exceeded the TS leakage limits. Plant power reductions, both voluntary and forced, were performed on several occasions to allow for repairs of secondary side equipment.



During the previous assessment period, a decline in operator performance was noted based on the number of personnel errors which resulted in challenges to plant equipment and TS violations during routine operations. Although the overall number of events decreased since the last assessment period, events caused by human error still occurred. A reactor trip occurred because of operator inattention during the performance of a surveillance test. An operator, performing a plant shutdown, allowed the reactor coolant system temperature to drop below the minimum temperature for criticality. This event was also attributed to an excessive cooldown rate caused by secondary side steam leakage and secondary side design problems. In addition, a licensed operator was not sufficiently attentive during a boration evolution that he initiated and, as a result, an excess boration event occurred.

As in the previous assessment period, operating crew performance remained good in response to most plant events and transients, and licensed operator actions were consistently conservative in nature. For example, the operators were required to respond to a number of long-standing steam generator feedwater system problems that either caused a plant transient or required a power reduction to effect repair.

Plant operating procedures, including the emergency operating procedures, system operating procedures, and alarm response procedures, were upgraded during the assessment period. The procedures were upgraded as part of a long-term procedure enhancement program. Overall, the plant operating procedures were evaluated to be good even though isolated incidents have been identified that suggest the operating procedure upgrades are incomplete. For example, all four auxiliary feedwater flow control valves were found out of position following a reactor trip because of a less than adequate reactor trip response procedure. Generally, adherence to procedures by operators has been good.

During this assessment period, several licensee senior and middle management changes were made. The position of vice president, nuclear support, was eliminated and the position of deputy plant manager was established. A new plant manager was assigned. The overall effectiveness of the changes have not been fully assessed because they occurred toward the end of the assessment period.

Operating crew staffing to support routine operations was evaluated as good. Operations support staffing and assistance was determined to be superior. The support staff has continuously provided good technical support in such areas as dispositioning station problem reports and upgrading procedures. Other staffing issues, however, continue to challenge licensee management, such as nonlicensed operator overtime rates during extended outages.

Operations personnel maintained a professional work environment in the control room. Communications between the control room operators and craft personnel during the performance of maintenance and surveillance activities were good. The ability to control and direct complex evolutions was evident during reduced inventory operations and power changes.

In summary, performance in this functional area was good. Plant transients resulting from equipment failures and human errors continued; however, operators continued to perform well during these events.

2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area.

3. Recommendations

a. NRC Actions

Inspection effort in this area should be consistent with the core inspection program, with regional initiatives in the areas of plant operating procedures and operations administrative control systems.

b. Licensee Actions

The licensee should continue efforts to provide enhanced guidance and support to the operators in order to operate the station as intended, and reduce the number of unnecessary challenges to plant safety systems.

B. Radiological Controls

1. Analysis

This functional area consists primarily of activities related to radiation protection, radioactive waste management, radiological effluent control and monitoring, radiochemistry confirmatory measurements, radiological environmental monitoring, and transportation of radioactive materials.

This area was inspected by both the resident inspectors and Region-based inspectors. The previous SALP report identified no major weaknesses in this area. No violations or deviations were identified during the current assessment period.

Management support for all areas of the radiological controls program continued to be excellent. Supervisory radiation protection personnel were afforded opportunities to attend offsite training and professional meetings in order to maintain their level of technical expertise and knowledge of industry practices. Also, corporate oversight and support for the radiation protection program were increased through the staffing of a radiological assessor position in the corporate staff to assess the effectiveness of the various elements of the program.

Audits performed during this assessment period were comprehensive and identified areas where program improvements were possible. Audit teams

included technical experts and members with radiological controls experience. Responses to audit findings were timely, and the corrective actions were technically sound.

The program of reporting radiological occurrences and radiological controls deficiencies functioned effectively to identify, correct, and trend such occurrences. Quarterly summaries were prepared for the plant manager's review.

Radiological controls procedures had been revised. The revisions provided improved guidance, and the organization of the new procedures was also enhanced.

The implementation of the as low as reasonably achievable (ALARA) program was effective. The ALARA committee was composed of members of both management and craft personnel. Management support was demonstrated by the effective staffing for ALARA. The licensee had an active ALARA suggestion program, indicating excellent worker participation. Superior ALARA performance resulted in low person-rem exposures, even though the goals established by the licensee were challenging. The ALARA group initiated a program to identify hot spots within support systems and continued the source term reduction program initiated during the previous assessment period.

Radiation protection was sufficiently staffed and contract radiation protection technicians were not used during routine operations. The annual turnover rate of technicians was less than 10 percent except for the chemical support group. Contract radiation protection technicians were provided to assist the licensee's staff during the Unit 2 refueling outage.

Qualified and experienced instructors provided excellent instruction for all areas of radiological controls. The licensee promoted the professional development of radiation protection technicians by providing training and sponsoring testing for registration by the National Registry of Radiation Protection Technologists. Several members of the radiation protection program were certified by or were seeking certification by the Health Physics Society. Many were continuing their education and seeking initial or advanced degrees.

The implementation of the radiological protection program was excellent. An effective radiation work permit program was maintained. Comprehensive instructions were provided to the workers, and worker adherence to radiation work permit instructions and operating procedures was good. Oversight of work activities in the radiological controlled area was excellent. The number of personnel contamination events was low. The total contaminated area in both units was low. The level of housekeeping in the radiological controlled area, especially toward the end of the assessment period, was superior.

External radiation exposure controls were implemented effectively. The dosimetry and associated quality assurance programs were state-of-the-art. An electronic dosimetry system supplemented the thermoluminescent dosimeters worn

by radiation workers and were used instead of the pocket ion chambers. Video monitoring was used to plan work activities in high radiation areas on a case-by-case basis.

An excellent liquid and gaseous radioactive waste effluent program was implemented. All aspects of the program were performed in accordance with Radiological Effluent Technical Specifications and the Offsite Dose Calculation Manual. Procedures provided good guidance. No unplanned releases occurred during the assessment period.

NRC confirmatory measurement reviews noted that an effective radiochemistry measurements program was in use. The radiochemistry and health physics radiological counting facilities were well maintained.

The transportation program was well implemented. Procedural guidance was good, and shipments were properly documented. Detailed procedures for classification and characterization of radioactive waste were implemented through the use of a computer program.

In summary, the radiological controls program maintained a superior level of performance during this assessment period.

## 2. Performance Rating

The licensee is considered to be in Performance Category 1 in this functional area.

## 3. Recommendations

None

## C. Maintenance/Surveillance

### 1. Analysis

This functional area consists of activities associated with the preventive and corrective maintenance of plant structures, systems, and components. This area also includes the conduct of surveillance testing, integrated leak rate testing, welding activities, and inservice testing and inspection activities.

This area was routinely inspected by the resident inspectors and periodically by Region-based inspectors. Regional initiative inspections were performed in the areas of maintenance program implementation, surveillance testing and calibration control, boric acid corrosion, containment integrated leak rate testing and results, and inservice inspection of selected Unit 2 activities. One special followup team inspection was performed that addressed the training of maintenance employees, maintenance work controls, and the maintenance service request backlog.

The previous SALP report indicated that the licensee had: strong containment integrated and local leak rate testing programs; a high quality surveillance program and procedures; a well written and implemented post refueling startup testing program; a comprehensive measuring and test equipment quality assurance program; and effective training programs. The licensee also had effectively implemented a number of assessment initiatives. Weaknesses were identified in a number of areas involving personnel errors during the performance of maintenance, procedural compliance, employee overtime rates, long-standing equipment problems, and potential falsification of records. NRC recommended that the licensee maintain the good level of program development and improve implementation, devote additional attention to assure adherence to procedures, and improve the material condition of the plant.

During this assessment period, the enforcement history was indicative of acceptable performance. A Notice of Violation and Civil Penalty were issued during this assessment period because of maintenance record falsification by contractor personnel that occurred during the previous assessment period. A number of nonescalated violations were cited that involved the failure to follow a surveillance procedure which resulted in a reactor trip, inadequate pressurizer spray valve configuration control, which also resulted in a reactor trip, a failure to follow an integrated leak rate test procedure, which resulted in the loss of lubrication to a reactor coolant pump bearing, and inadequate postmaintenance testing of an emergency diesel generator (EDG).

The licensee's preventive and corrective maintenance programs were considered good. Several strengths were identified. The licensee had a good maintenance work control process that provided for the identification of equipment problems, evaluation of equipment operability, work activity prioritization, conduct of maintenance activities, and proper closure of work packages. The specific training given to maintenance personnel on work processes was good, and the workers were suitably tested to demonstrate their knowledge. Minor maintenance program weaknesses were identified that involved an absence of a requirement to document as-found conditions and subsequent corrective actions in the completed work package for use in the equipment history files and a failure of the preventive maintenance program to identify generic issues. The licensee's trending program also appeared to be ineffective in identifying components that had a high risk of failure. A potentially significant weakness was identified involving a lack of policy for the signing and dating of work performance on permanent plant records. This weakness resulted in confusion on the part of some workers and supervisors as to what their responsibilities were for documenting work performance. The licensee subsequently issued procedures that clearly defined expectations in this area.

Overall, the performance of maintenance was adequate. Several implementation problems were identified. Inadequate work instructions, instances of failure to follow procedures, and weaknesses associated with craft workmanship resulted in number of problems during the assessment period. Human error resulted in one reactor trip when an electrician landed wires incorrectly. The use of a vendor manual instead of detailed work instructions caused a pressurizer spray valve to fail open which resulted in a reactor trip and

safety injection actuation signal. Several poor work practices that had the potential for reactor trips were identified, including the performance of troubleshooting activities without informing the control room operators. A steam leak developed in a valve as a result of not incorporating a vendor recommendation into the maintenance work instructions pertaining to valve repacking, which delayed the restart of a unit following a reactor trip. Overtorquing of electrical breaker arc chutes occurred because out-of-date vendor torquing requirements were being used. Collectively, these problems were indicative of a need for improvement in the implementation of system and equipment maintenance and in the use of vendor supplied information.

Some of the licensee's internal procedures for work on nonsafety-related equipment were not being satisfied by maintenance workers. In particular, there were instances in which the configuration control change log was not used for lifting leads. There were also instances of technicians implementing work requests without signing the work orders.

The use of maintenance verification points and independent verification points was inconsistent. While these requirements were contained in specified procedures, it was evident that they were not being applied in a consistent manner by personnel because of a lack of understanding of these requirements or inattention to detail.

Several weaknesses in planning and scheduling of maintenance were identified. These weaknesses resulted in unnecessary safety-related equipment outages and unnecessary challenges to safety-related equipment. For example, there were two instances in which the same ESF components were actuated for different surveillances within days of each surveillance test. In another instance, a steam generator power operated relief valve was taken out of service even though the intended work could not be performed.

Early in the assessment period, licensee management focused their efforts to reduce the number of open maintenance work requests in the areas of control room instruments, chemical process monitors, and control functions. This approach involved dedicated work teams and resulted in a significant decrease in the number of deficiencies in these areas. An inspection of the maintenance backlog (open service requests) was performed late in the assessment period. The inspectors found that open service requests were being properly prioritized; however, the size of the maintenance backlog has steadily increased during the second half of the assessment period.

The material condition of the plant requires continued management focus. The number of secondary side steam leaks has been reduced but still remains relatively high. Effective action has been taken to resolve some long-standing equipment problems such as the steam generator power operated relief valves and main feedwater isolation valves. Long-standing equipment problems relative to the EDGs and the steam generator feedwater system continue to impact plant operations. For example, there have been several trips of the EDGs when being placed in the cooldown mode or released from the emergency mode of operation. Other safety-related components, such as the source range

monitors and essential chillers developed problems that were not resolved in a timely manner. The licensee has committed a considerable amount of time and effort to resolve these long-standing problems; however, these efforts only have been partially successful.

Increased management attention in the area of housekeeping is also warranted. While the level of housekeeping in the radiological controlled areas was superior, it was often poor in other areas of the facility.

Overtime rates for some maintenance work groups continued to be excessive during extended outages and exceeded the licensee's goals.

The licensee recently completed improvements in the remodelling of the maintenance operations facility and moved all the maintenance staff, maintenance support staff, work control center, and maintenance management into one location.

The surveillance and testing programs were effective. Surveillance tests were being scheduled and performed as required by TS. The missed surveillance rate was extremely low. Overall, surveillance procedures were determined to be of high quality. The requirements for calibration of safety-related instrumentation not specifically controlled by the TS were included in the licensee's preventive maintenance program. The licensee assigned the responsibility for surveillances to a plant surveillance coordinator with supporting responsibilities given to individual department coordinators. This appeared to improve the effectiveness of the surveillance program.

The implementation of surveillances and tests was good, with some weaknesses noted. The performance of one deficient procedure resulted in the unintentional start of a component cooling water pump. A deficient manual reactor trip surveillance procedure was identified during the periodic procedure review process. This resulted in temporary power reductions in both units because of a resultant TS 3.0.3 entry. Events associated with human error continued to occur during the performance of surveillance tests. Licensed operator inattention to detail during the performance of a surveillance test resulted in a reactor trip. Another reactor trip occurred because an instrumentation and controls technician failed to follow a procedure. In another instance, an auxiliary feedwater pump was inadvertently started and a containment ventilation isolation occurred during the performance of surveillance tests.

An evaluation of containment integrated leak rate test results was performed and the results indicated that all requirements were satisfied. In-service inspection (ISI) activities, which included the nondestructive examinations specified in the ISI examination plan, were being effectively performed. The nondestructive examination personnel performing the examinations were properly certified as being qualified for the particular method in use. The control and documentation of ISI examinations were well established and implemented.

Late in the assessment period, the licensee implemented major changes in the work process program to improve station performance and to streamline the administrative workload associated with work scheduling and design changes. In addition, the licensee planned to initiate a number of maintenance self-assessments. The effectiveness of the changes and the results of these self-assessments could not be assessed by NRC by the end of the assessment period.

In summary, performance in this functional area was good. While the programs remained strong, weaknesses were noted in the implementation of maintenance. This is indicative of the need for increased management attention to, and support of maintenance. Further improvement in the areas of material condition and housekeeping is warranted.

## 2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area, with a declining trend noted.

## 3. Recommendations

### a. NRC Actions

Inspection effort in this area should be consistent with the core inspection program, with regional initiatives to assess the overall effectiveness of the maintenance enhancements that the licensee has implemented to improve maintenance activities.

### b. Licensee Actions

The licensee should assess the effectiveness of various maintenance initiatives and make appropriate changes on the basis of the results of these assessments. The licensee should also take those actions necessary to improve the overall level of material condition and housekeeping of the facility.

## D. Emergency Preparedness

### 1. Analysis

This functional area includes activities related to the establishment and implementation of the emergency plan and implementing procedures, onsite and offsite plan development and coordination, support and training of emergency response organizations, licensee performance during exercise and actual events that test the emergency plans, and interactions with onsite and offsite emergency response organizations during planned exercises and actual events.

Evaluation of this functional area was based on the results of four inspections conducted by Region-based inspectors and observations made by the resident inspectors. The four regional inspections included the evaluation of both of the annual emergency exercises conducted during this SALP period.



The previous SALP report noted that the licensee took vigorous initiatives to perform a comprehensive review of their emergency preparedness program and implemented extensive and effective corrective actions. The SALP report further recommended that the licensee ensure that improvements and changes to the emergency preparedness program are fully implemented.

There were three events which resulted in the licensee making a Notification of Unusual Event. All of these events were the result of entering a TS which required a plant shutdown. In one instance, the licensee was not prompt in following the emergency plan and implementing procedures because licensee management did not inform the control room operators in a timely manner.

There was evidence of licensee management involvement in assuring a good emergency response and the effectiveness of related training. This was evident from the two emergency preparedness exercises. The exercise scenarios were challenging and provided a good test for exercise objectives. Realism was enhanced by the use of the plant specific simulator. The demonstrated emergency decision-making process during the exercises was strong. The licensee also conducted effective interactions with both state and local response organizations during the exercises.

Five weaknesses were identified during the August 1991 exercise. The technical issues involved the failure of the control room staff to detect and classify promptly the Alert condition, instances of poor operational assessment and technical evaluation in the TSC, poor radiological practices by the medical team, and failure to include radiological precautions in public announcements made during the site evacuation of site personnel. These problems were corrected prior to the April 1992 exercise; however, four additional weaknesses were identified during the April 1992 exercise. The technical issues involved inadequacies in the notification process used to notify offsite authorities; a deficient procedure that required decision makers to obtain concurrence from state authorities prior to issuing protective action recommendations, thereby creating the potential of delaying protective action; poor medical treatment practices; and weaknesses in the plant evacuation process. One additional weakness was identified during the operational status inspection walkthroughs conducted with control room staffs. This weakness pertained to several discrepancies in classification of emergencies, notifications, and protective action recommendations.

The licensee's emergency plan was maintained in a good state of operational readiness during this assessment period. The licensee had promptly and correctly implemented changes to the emergency plan and implementing procedures. However, some deficient changes to procedures were identified. The licensee's emergency response facilities were well equipped; however, several problems were noted with the TSC support systems. Inadequate preventive maintenance of both TSC chillers resulted in an event that caused erroneous computer parameters and a temporary power reduction. On several occasions, the TSC diesel generator would not start on demand. Collectively, these problems had the potential to reduce the level of protection for emergency workers.

The licensee's audits of this area were considered good. The training program for emergency response personnel had produced good results as demonstrated by walkthroughs with operating crews. These walkthroughs measured the retention of emergency preparedness information by operators. The licensee's emergency response organization is presently staffed by well trained and qualified individuals and could be promptly activated to respond to emergencies.

In general, the licensee responded well by taking appropriate corrective measures for issues identified internally as well as for those problems identified by NRC. This was indicative of good management involvement and support.

One area in which corrective measures were less than fully effective pertained to the licensee's callout methods. The licensee had changed between manual and automatic callout methods several times, and it was not clear from the licensee's records that either method of augmentation was effective in supplementing the staff within the required time. The quality and scope of the corrective measures implemented by the licensee, as shown by exercise weakness and the lack of prompt validation of callout methods, indicated that corrective measures for technical issues were not always timely. At the time of this assessment, corrective measures still have not been effectively implemented for the licensee's callout methods.

The licensee maintained an excellent working relationship with state and local offsite response agencies. The licensee kept those agencies informed of the status of emergency planning and of changes in the emergency plan.

In summary, the licensee's implementation of the emergency preparedness program demonstrated their readiness to protect the health and safety of the public. A pattern of performance and self-corrective measures sufficient to maintain good operational readiness for responding to emergencies was demonstrated during exercises and most events. The licensee's corrective measures for weaknesses identified during the inspections were generally satisfactory.

## 2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area.

## 3. Recommendations

None

## E. Security

### 1. Analysis

This functional area includes activities that ensure security of the plant, including all aspects of access control, security background checks, and protection of safeguards information.

Evaluation of this functional area was based on the results of two routine Region-based inspections, two team inspections, and observations by the resident inspectors.

The previous SALP report noted strong management support for the security program and superior programs in the areas of staffing, training, and enforcement history. The previous SALP report did not include any specific recommendations.

During this assessment period, a declining trend was noted in the security area. Violations identified late in the previous assessment period involving search inadequacies resulted in escalated enforcement during this period. Several other violations were identified during this assessment period involving personnel escort controls, search procedures, the protection of safeguards information, testing of intrusion detection systems, and the failure of a security system to function properly. Timely and long-term corrective actions in response to the violations were not always effective to correct the root cause of the problem. A meeting was held with the licensee in the Region IV office on February 21, 1992, to discuss several security program issues, some pertaining to several of the enforcement issues discussed above.

Comprehensive, performance based, quality assurance (QA) audits had been performed which identified various program deficiencies and improvement items. However, the responses to the most recent audit findings had not been completed to permit a proper evaluation of the effectiveness of the identified corrective actions.

Management involvement and attention to the security program appeared to have diminished during this assessment period. Management was not consistently effective in assuring that security problems requiring maintenance support received timely and long-term corrective actions. Security maintenance service requests usually received a low priority designation resulting in slow response from the maintenance department. The slow response for maintenance support had resulted in the deterioration of several security systems and heavy reliance on compensatory posting of security officers. The lack of spare parts also caused unnecessary delays in routine repairs of security systems.

A noticeable decline was identified regarding security systems performance early in the assessment period when the two security staff positions designated for testing security systems were eliminated. These two positions were later reinstated during the assessment period and a marked improvement was noted with the operability of the security systems.

Several significant staffing changes occurred within the licensee's and their contractor's security organizations during the assessment period. The licensee's security manager was replaced in January 1992. The contractor security project manager was also replaced. Four licensee security supervisor positions were eliminated. Security staffing was maintained at an appropriate

level, but a large personnel turnover rate (about 16 percent) occurred in the contract security force during the assessment period. Twenty-nine new security officers were hired near the end of the assessment period and were attending initial security training. Security supervisors were tasked with handling considerable routine administrative work which frequently interfered with them being in the field performing normal supervisory duties. Because these staffing changes occurred during the second half of the assessment period, the impact of these changes on the overall effectiveness of the security program has not been fully evaluated by NRC. Other staffing issues pertained to disciplinary action taken against contractor security officers. For example, two security officers were denied site access for falsifying patrol logs.

Security training continues to be a program strength. The program includes an excellent staff along with well qualified instructors. The program has strong supervision and excellent facilities, and training requirements were completed on schedule.

The licensee submitted three physical security plan change packages pursuant to 10 CFR 50.54(p) that involved several changes to their physical security plan. Most of the changes were made pursuant to 10 CFR 50.54(p); however, each package contained some changes that decreased the plan commitments and should have been submitted pursuant to 10 CFR 50.90. The inclusion of changes not allowed under 10 CFR 50.54(p) indicated a lack of thoroughness in the licensee's review process.

In summary, a general decline was observed in the performance level of the security program. The lack of maintenance support for the security program and reduced management attention contributed to the declining performance. Significant staffing changes occurred. The training program continues to be a strength. Comprehensive, performance based audits were performed, but the effectiveness of the corrective actions could not be evaluated by the end of the assessment period.

## 2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area.

## 3. Recommendations

### a. NRC Actions

Inspection effort in this area should be consistent with the core inspection program, with regional initiatives in the areas of management effectiveness, staffing, and security system maintenance.

b. Licensee Actions

The licensee should improve maintenance support of security systems. The licensee should provide more thorough reviews of security plan changes.

F. Engineering/Technical Support

1. Analysis

This functional area consists of technical and engineering support for all plant activities. It includes all licensee activities associated with the design of plant modifications; engineering and technical support for operations, outages, maintenance, testing, surveillance, and procurement activities; training; vendor interface activities; and configuration management.

This functional area was inspected on an ongoing basis by the resident inspectors and periodically by the Region-based inspectors. The inspection effort also included team inspections to assess the design of the electrical distribution system, to assess the program and procedures developed in response to Generic Letter (GL) 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance," and to evaluate the engineering and technical support activities and the self-assessments of those activities.

The previous SALP report noted strong management involvement in enhancing programs; better utilization of engineering resources as a result of reorganization; effective configuration controls; and good staffing. The previous SALP noted weaknesses in the quality of examination material for the requalification program; the engineering support for troubleshooting, which contributed to plant transients and repetitive problems; the timeliness of resolution for some technical issues; and communication with other departments which caused maintenance delays. The SALP report recommended that the licensee continue to emphasize effective engineering support activities, particularly with regard to the quality, depth, and timeliness of evaluations performed in support of operational and maintenance activities.

During this assessment period, enforcement history in this area revealed no significant areas of concern. However, an unresolved item pertaining to the sizing calculations for some safety-related motor-operated valves (MOVs) remained open pending further inspection followup.

During this assessment period, an electrical distribution system functional inspection (EDSFI) was conducted by a team of NRC and consultant personnel. In addition to evaluating the adequacy of pertinent design features, the inspection included an evaluation of the capabilities and performance of the engineering and technical support organizations. The team determined that there was effective engineering support provided for the electrical distribution and supporting systems. The team noted that the licensee had implemented a critical self-assessment of various aspects of the facility that related to the electrical distribution and support systems. The licensee

gained insights into the systems during the implementation of the self-assessment, which allowed prompt and thorough presentation of documentation during the EDSFI.

The QA organization provided significant oversight of engineering activities. The QA organization performed audits, surveillances, assessments, in-process reviews, and safety system functional assessments. In addition, within the Design Engineering Department, there is a quality engineering group that performs assessments.

The EDSFI determined that the licensee implemented prompt corrective actions for most of the problems identified during the self-assessment. However, the EDSFI identified three programmatic weaknesses: a lack of fuse control, an incomplete inverter testing program, and incomplete documentation for some mechanical support systems.

Engineering-related corrective actions for system and equipment problems were generally good. For example, design problems existed with the toxic gas monitors in the early part of the assessment period, which resulted in an inadvertent ESF actuation in both units. Design changes have been identified and, when they are installed, improved toxic gas reliability should result. In some instances, however, the implementation of modifications has been untimely. For example, a planned modification to prevent rainwater intrusion into the turbine building had not been implemented. Subsequently, a manual reactor trip had to be initiated because of rainwater intrusion into the steam generator feedwater pump speed control cabinet. Although the licensee implemented an effective trending program for the EDGs and aggressively pursued the fuel nozzle cracking issue, there continues to be a high rate of EDG unavailability.

Modification packages were found to be well written and complete. Considerable effort was noted in the identification of issues of safety significance. However, a significant backlog of design change notices against vendor drawings was considered a weakness. Although the temporary modification program was functioning properly, there were a number of temporary modifications that were more than 2 years old. This was indicative of a lack of effectiveness in making these temporary modifications permanent or in removing these temporary modifications.

The method of revising procedures resulting from plant modifications was a program weakness. The design change packages did not provide a summary of the modification to expedite the identification of the affected procedures. In this regard, the potential existed that all procedures requiring a revision as the result of a modification may not be revised.

The licensee's program for MOVs was conservative and complete with respect to identifying valves to be in the program. The design basis reviews and self-assessment of the program were considered strengths. Other strengths of the valve program included good design basis reviews; testing of a high percentage of valves at, or near, design basis conditions; and periodic dynamic testing.

Weaknesses in the program included the lack of providing feedback of information into the valve sizing calculations to validate original design assumptions and the lack of application of diagnostic system inaccuracies in the sizing calculations. As a result, as of the end of this assessment period, the adequacy of these MOV sizing calculations remained unresolved pending further NRC inspection effort.

The Engineering Department (Design Engineering, System Engineering, and Plant Programs) was staffed with highly skilled and motivated personnel. A good expression of teamwork was observed. Licensee management has recognized the need to make improvements in the manager and technical staff training program.

Several initiatives were indicative of licensee management involvement. These initiatives included comprehensive design basis documentation and probabilistic risk assessment programs; a reactor trip prevention program; the formation of a shutdown risk assessment group; and a task force in response to steam generator feedwater equipment problems. These initiatives have had mixed results. For example, the licensee's efforts to resolve several steam generator feedwater system component problems has been only partially effective.

During this assessment period, the NRC operator license examiners administered initial examinations in September 1991 and requalification examinations in February 1992 and performed a program evaluation in March 1992. All 28 operators evaluated during the requalification examinations and all 12 of the initial applicants passed all portions of their respective examinations. The requalification program evaluation was judged to be satisfactory. Crew communications, primarily observed during the dynamic simulator section of the operating examination, was an area of significant improvement. Emergency operating procedures usage, technical accuracy, and contingency coverage was also noted as an area of significant improvement. In addition, it was noted that timeliness in correction of previously identified procedural weaknesses was improved.

Two isolated areas of performance were noted to have declined in both the initial and requalification examinations. Generically, performance during the plant walkthrough section of the examinations, although satisfactory, was notably weaker than during previous examinations. Isolated failures, in several different areas, indicated some weakness in the walkthrough or in-plant training program. A specific area noted as being unsatisfactory was reactor operator knowledge of Radiation Monitor 11 operations. In a related inspection finding, the flow rate indication for a unit vent radiation monitor was not updating and went unnoticed for 5 days, even though the flow value was logged every shift. Another specific area noted as being unsatisfactory was reactor operator interpretation of posted radiological survey maps.

A pilot service water system operational performance inspection was conducted on the essential cooling water (ECW) system. The inspection focused on the ECW mechanical design, operational control, maintenance, and surveillance and evaluated aspects of the QA and corrective action programs related to the ECW

system. The inspection team concluded that the ECW system, as designed, operated, and maintained would be capable of performing its safety functions in accordance with the licensing basis for the plants.

Overall performance in this functional area was good. Effective engineering support was provided to the electrical distribution and supporting systems and there was prompt initiation of corrective action to most of the problems identified by the licensee's self-assessment. Corrective actions for engineering problems were generally good. However, the sizing calculations for some MOVs were questioned and remained unresolved pending further NRC inspection effort. The modification process was generally satisfactory. However, there was a significant backlog in vendor document changes, some temporary modifications were over 2 years old, and the process for revising procedures resulting from modifications was considered a program weakness. The Engineering Department was staffed with highly skilled and motivated personnel. Several initiatives were indicative of licensee management involvement. The South Texas Project QA organization provided significant oversight of the engineering activities. Improvements in the licensed operator requalification program were noted.

## 2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area.

## 3. Recommendations

None

## G. Safety Assessment/Quality Verification

### 1. Analysis

This functional area includes all licensee actions associated with the implementation of safety policies, exemption and relief requests, responses to generic letters and bulletins, the resolution of safety issues, safety committee and self-assessment activities, analysis of industry operational experience, and the effectiveness of the licensee's quality verification functions.

This area was routinely inspected by the resident inspectors and periodically by Region-based inspectors. Regional initiative inspections included the review of the quality verification functions, design change and modifications program, audit program, offsite support staff, feedback of operational experience, and the corrective action program. A special inspection of the licensee's investigation of several employee integrity issues was also conducted.

The previous SALP report noted strengths in licensee submittals, staffing and training effectiveness, performance based QA audits, and the problem solving



process. The Operational Improvement Plan (OIP) was noted to be a proactive initiative. Weak areas identified included missed licensee event report corrective action implementation dates, inadequate root cause and corrective action development for complex issues, and occasional plant challenges resulting from less than adequate prioritization of problem resolutions. The SALP report recommended the licensee evaluate the self-assessment and corrective action processes to ensure that safety issues are identified, evaluated, and resolved.

During this assessment period, there were 15 license amendments issued for each unit. Other significant technical items reviewed by NRC were the licensee's submittal of its compliance with 10 CFR 50.63 (station blackout rule) and the licensee's request for exemption from 10 CFR 50.62 (the anticipated transient without scram rule). In addition, the staff completed its review of the internal events and fire protection portions of the licensee's Probabilistic Safety Assessment. Generally, the submittals were complete and demonstrated an understanding of both the technical and regulatory issues. Responses to staff requests for clarifying or additional information were typically timely and complete. The licensee's responses to NRC Bulletins and Generic Letters continued to be technically complete and timely.

During the assessment period, five temporary waivers of compliance were requested and two were granted, with three waivers subsequently not needed. The technical bases for the requests for waivers were generally good, with one exception. This exception pertained to a breakdown in the process for requesting a temporary waiver of compliance for a TS surveillance deficiency that was identified in May 1992.

Overall, management response to operational events was acceptable, with some exceptions noted. Actions were taken by management in response to plant events, including the development of reactor trip prevention and reactivity management programs. The effectiveness of these initiatives has been mixed. The number of unnecessary reactor trips has been reduced, but safety systems continue to be challenged by unnecessary reactor trips. During one event, licensee management did not conservatively implement license requirements because of a belief that a temporary waiver of compliance could be obtained from NRC prior to taking the action to initiate a shutdown of both units. Contributing causes of this event included the hesitancy of station personnel to initiate a station problem report and a lack of specific guidance for operability determinations. This event was still being reviewed at the end of the assessment period.

The licensee implemented the OIP in the fall of 1990 to improve plant availability and reliability and to improve the work environment for its employees. The OIP implementation results were mixed. Plant availability and reliability have improved, in part, because of the OIP. The number of automatic reactor trips and forced outage rates have been reduced. On the other hand, several unresolved, long-standing equipment problems associated with the EDGs, the steam generator feedwater system, and the essential

chillers continue to challenge operations and maintenance personnel, as discussed in the Maintenance/Surveillance functional area of this assessment. Some human factor issues, such as maintenance department shift schedules and high rates of nonlicensed operator and maintenance craft overtime during extended outages remain to be fully resolved.

During the assessment period, reporting performance was mixed. Most LERs were of good quality. However, an ESF actuation caused by a failed diode was reported only after prompting by NRC. An additional inspection identified other examples of untimely reporting of events to the NRC Operations Center.

Licensee safety evaluations associated with modifications to the facility were of high quality, complete, well documented, and addressed the modification from a safety perspective. The licensee had a good 10 CFR 50.59 safety evaluation process. The procedures and controls for implementation of 10 CFR 21 requirements were found to be well defined and satisfactorily implemented.

The licensee's self-assessment and corrective action programs were evaluated as good. The licensee implemented a new corrective action program in response to observations that there was a varying degree of quality of corrective action responses among different groups. The new corrective action group reports directly to the plant manager, providing for the overall control of the program. These enhancements were still being implemented at the end of the assessment period and have not been fully evaluated by NRC.

The implementation effectiveness of these programs was generally good. For example, the licensee developed an aggressive, long-term plan to provide a resolution to ECW leaks. However, several weaknesses were observed, including the identification of an inadequate request for action resolution and the incomplete development of review criteria by the offsite review committee. In addition, some adverse conditions which could affect nuclear safety were improperly classified and processed as Severity Level 2 (not significant) instead of Severity Level 1 (significant) problem reports. As a result of this improper classification, the adverse conditions did not receive the additional reviews to assess the specific corrective actions and generic implications or a review by the Nuclear Safety Review Board. Further, a particular station problem report for a reactor trip that occurred on October 14, 1991, did not address all the noted adverse conditions encountered during the reactor trip.

The licensee's program for handling employee concerns (SPEAKOUT) was evaluated by NRC during this assessment period and was found to be generally effective. Most licensee employees and contractors who were interviewed appeared confident about discussing concerns with SPEAKOUT investigators. However, a review of a number of licensee investigation reports revealed that some of the investigations were limited in scope.

In the latter part of the assessment period, the NRC noted instances in which the licensee experienced difficulties in internal and external communications.

In regard to the former, an example involving senior management not being informed by the responsible line managers was identified by the special followup inspection team. As a result, timely corrective actions were not taken until senior management learned of a violation of escort control requirements. Another example was found in which the licensee did not disseminate concerns identified in a 10 CFR 2.206 petition to the responsible managers, thereby not providing the opportunity for input to the licensee's assessment and consideration of short-term corrective action for the issues presented in the petition. An example of external communication difficulties involved the licensee's handling of a request for a temporary waiver of compliance following the identification of a reactor trip system surveillance deficiency.

The program for handling and feedback of industry operational experience information appeared to be well defined and was being effectively implemented. However, although the specified actions regarding a number of items were completed and the items were considered to be closed, it was identified that over 450 operation event reports and station problem reports had not received a final review and concurrence by cognizant management in a timely fashion. This provided the potential for not identifying additional actions in a timely manner.

The licensee's QA program relating to audits appeared to be well structured, with organizational responsibilities and functions clearly defined. Audits were scheduled and performed by independent and qualified personnel, including technical specialists. The scope of audits was found to be comprehensive and audit findings reflected supportive and meaningful findings. Written responses to findings appeared to be timely.

The licensee's overall performance in this functional area was good; however, it declined from its previous superior level. Corrective action processes and implementation were generally good. Overall, management oversight of safety assessment and quality verification processes was acceptable. The quality of submittals to NRC were usually complete. Most LERs were of good quality, but not all NRC required reports were made within the required time period. The licensee's QA audit program was effectively implemented. Some examples of internal and external communication difficulties were noted. The results of various licensee improvement initiatives were mixed.

## 2. Performance Rating

The licensee is considered to be in Performance Category 2 in this functional area.

## 3. Recommendations

### a. NRC Actions

Inspection effort in this area should be consistent with the core inspection program, with regional initiatives in the area of corrective action program changes.

b. Licensee Actions

None

V. SUPPORTING DATA AND SUMMARIES

A. Major Licensee Activities

1. Major Outages

The second refueling outage was completed for Unit 2 on December 16, 1991. Significant work completed included modifications to the reactor water makeup pump, reactor coolant pump seal inspections, steam generator tube inspection and shot peening, steam generator sludge lancing, ISI of safety systems, turbine generator disassembly and inspection, and inspection and cleaning of steam generator feedwater pumps and feedwater heaters.

A midcycle outage was completed for Unit 1 on April 15, 1992. This outage was conducted to repair the handhold covers on the secondary side of Steam Generators 1A and 1B and other emergent maintenance activities.

2. License Amendments

Fifteen operating license amendments were issued for each unit.

3. Significant Modifications

The licensee installed 181 modifications during the assessment period, with no major modifications installed in Unit 1. The following major modifications were installed in Unit 2:

- o Elimination of the containment spray additive tanks;
- o Deletion of the residual heat removal suction valve auto closure interlock;
- o Modification of the reactor coolant system vent path piping;
- o Replacement of the EDG intercooler expansion joints with pipe spools; and
- o Turbine generator modifications consisting of a fiber optic vibration monitoring system, an upgraded stator cooling water and hydrogen system, replacement of the single tower hydrogen dryer with a dual tower dryer, and modifications to the throttle and governor valves.

B. Direct Inspection and Review Activities

NRC inspection activity during the assessment period consisted of 44 inspections, including several team inspections and special inspections. Approximately 5000 direct inspection hours were expended, which did not include contractor hours.

SALP MEETING ATTENDEES

<u>Name</u>	<u>Affiliation</u>
D. Hall	HL&P
W. Kinsey	HL&P
S. Rosen	HL&P
W. Jump	HL&P
J. Sharpe	HL&P
G. Parkey	HL&P
T. Underwood	HL&P
T. Jordan	HL&P
R. Balcom	HL&P
L. Barton	HL&P
M. Berg	HL&P
H. Bergendahl	HL&P
D. Bohner	HL&P
L. Casella	HL&P
K. Christian	HL&P
P. Creveling	HL&P
J. Gruber	HL&P
J. Hinson	HL&P
R. Holloway	HL&P
J. Johnson	HL&P
G. Jones	HL&P
D. Leazar	HL&P
M. Ludwig	HL&P
F. Mallen	HL&P
R. Mayberry	HL&P
H. Murray	HL&P
M. Pacy	HL&P
G. Painter	HL&P
W. Redd	HL&P
J. Robbins	HL&P
J. Odom	HL&P
G. Rolston	HL&P
J. Soward	HL&P
E. Stansel	HL&P
R. Waldrip	HL&P
D. Wohleber	HL&P
M. Hardt	CPSB - San Antonio
R. Mulden	State of Texas
M. Ferrante	ANI
B. McLaughlin	CPC
W. Baer	Newman & Holtzinger
A. Gutterman	Newman & Holtzinger
B. Watson	Mayor, Palacios
C. Martinez	Mayor, Bay City
P. Golde	City of Austin
J. Milhoan	NRC

(CONTINUED)

<u>Name</u>	<u>Affiliation</u>
S. Black	NRC
G. Dick	NRC
A. Howell	NRC
S. Collins	NRC
B. Beach	NRC
J. Gilliland	NRC
B. Hayes	NRC

UNITED STATES  
NUCLEAR REGULATORY  
COMMISSION



SYSTEMATIC ASSESSMENT  
OF  
LICENSEE PERFORMANCE  
(SALP)



# AGENDA

**INTRODUCTIONS**

**NRC**

**HL&P**

**OPENING REMARKS**

**JAMES L. MILHOAN**

**SALP PRESENTATION**

**A. BILL BEACH**

**CLOSING REMARKS**

**JAMES L. MILHOAN**

**COMMENTS/QUESTIONS**

**HL&P**

**BREAK**

**COMMENTS/QUESTIONS**

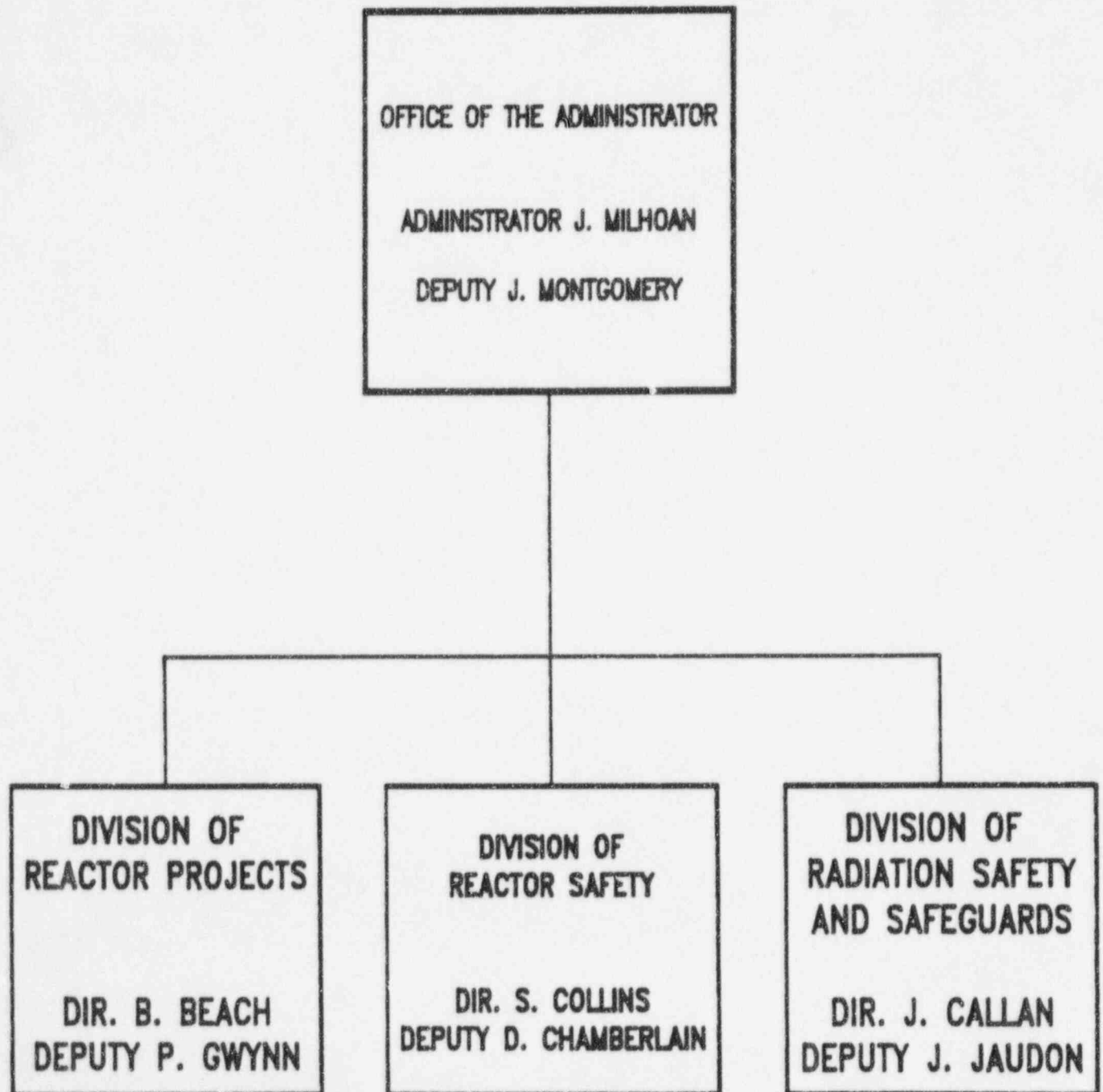
**PUBLIC/MEDIA**

**HOUSTON LIGHTING & POWER  
SOUTH TEXAS PROJECT  
UNITS 1 AND 2**

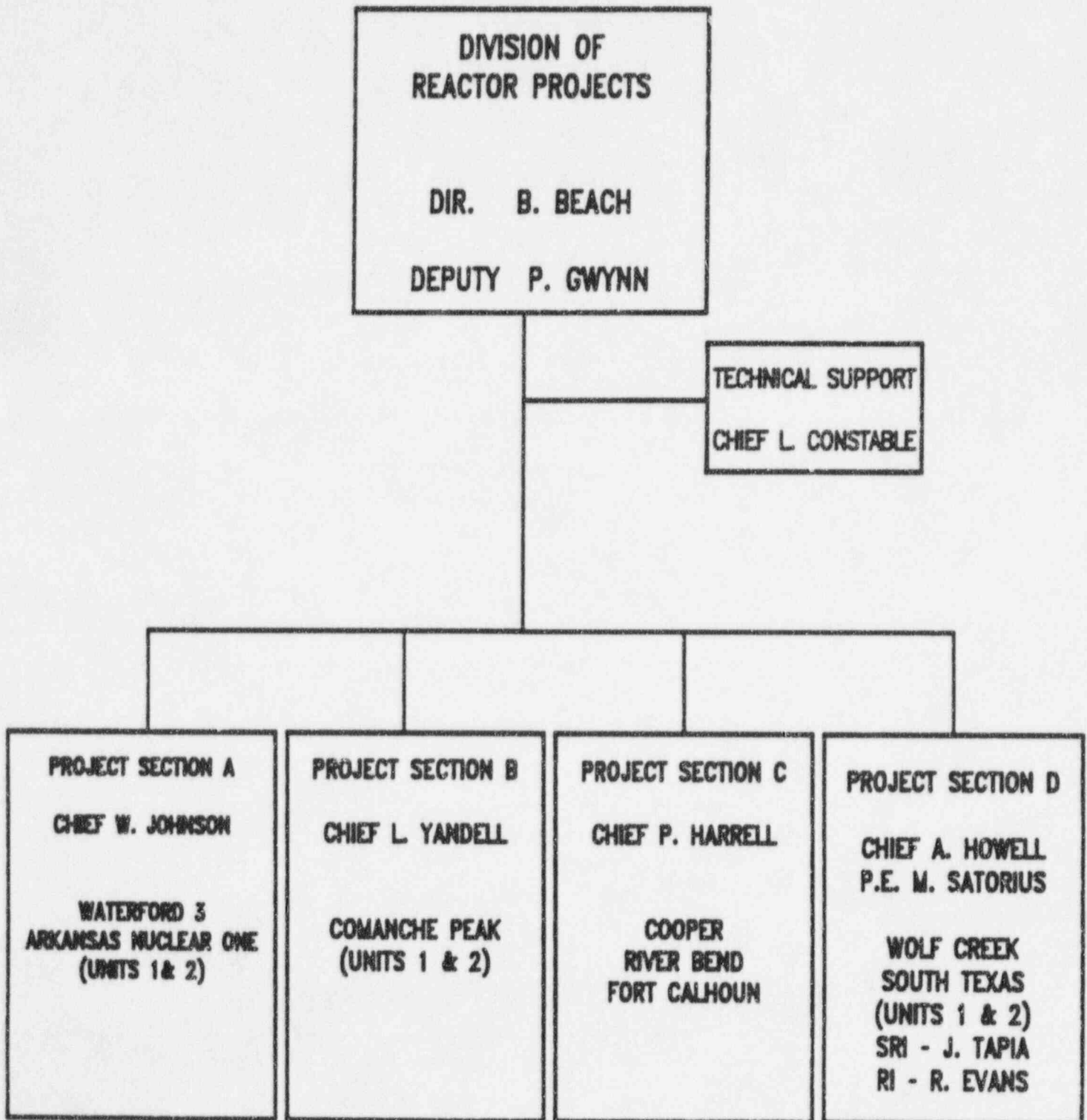
SALP CYCLE 9  
JUNE 2, 1991  
THROUGH  
AUGUST 1, 1992

**BAY CITY, TEXAS  
OCTOBER 13, 1992**

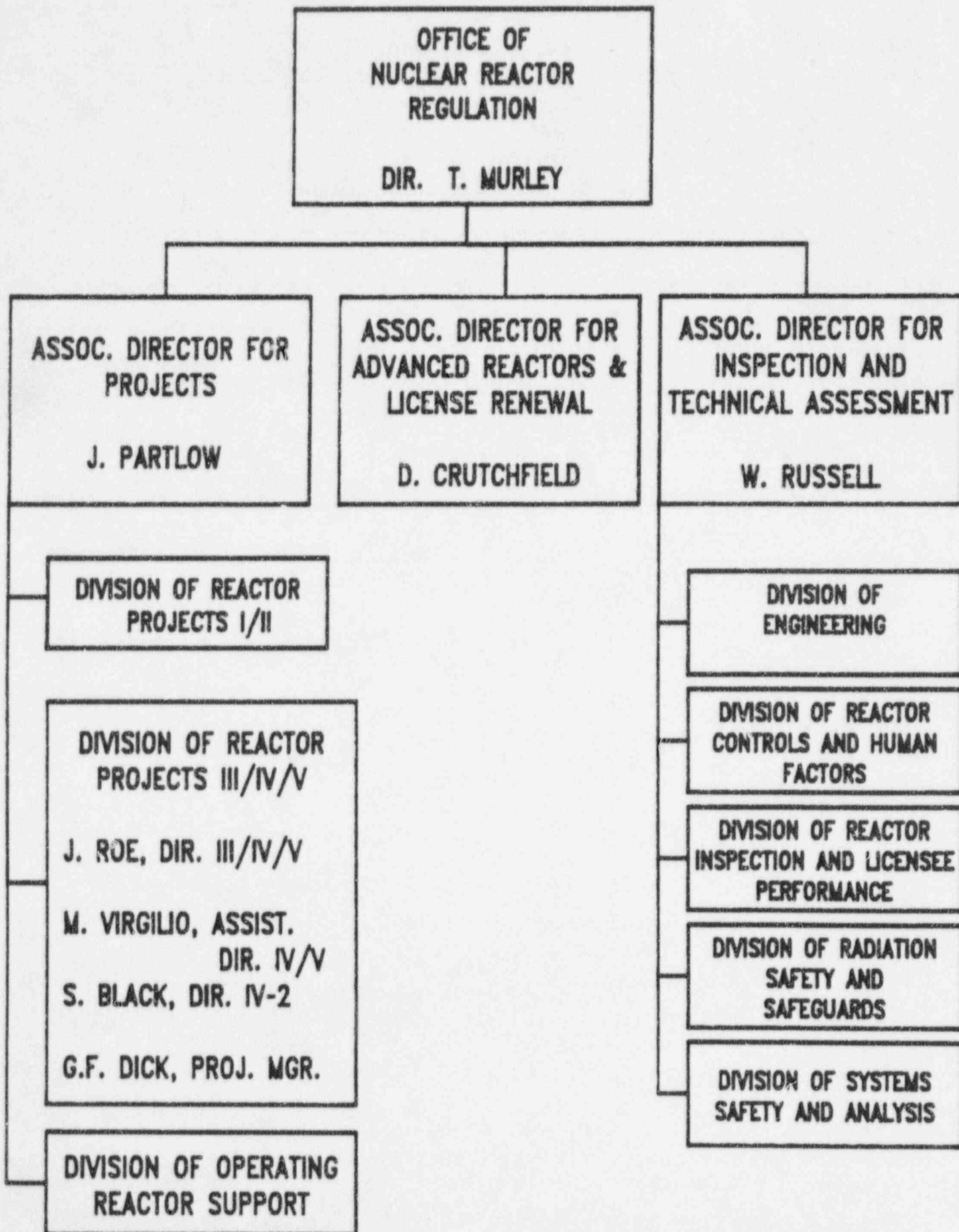
# REGION IV ORGANIZATION



# DIVISION OF REACTOR PROJECTS ORGANIZATION



# NRR ORGANIZATION



## SALP PROGRAM OBJECTIVES

1. IDENTIFY TRENDS IN LICENSEE PERFORMANCE
2. PROVIDE A BASIS FOR ALLOCATION OF NRC RESOURCES
3. IMPROVE NRC REGULATORY PROGRAM

# **PERFORMANCE ANALYSIS AREAS**

**PLANT OPERATIONS**

**RADIOLOGICAL CONTROLS**

**MAINTENANCE/SURVEILLANCE**

**EMERGENCY PREPAREDNESS**

**SECURITY**

**ENGINEERING/TECHNICAL SUPPORT**

**SAFETY ASSESSMENT/QUALITY VERIFICATION**

**EVALUATION  
CRITERIA**

Assurance of Quality

Approach to the Resolution of  
Technical Issues from a Safety  
Standpoint

Enforcement History

Operational and Construction  
Events

Staffing

Effectiveness of Training  
and Qualifications

Category Rating

Plant Operations

Radiological Controls

Maintenance/Surveillance

Emergency Preparedness

Security

Engineering/Technical Support

Safety Assessment/Quality Verification



# PERFORMANCE RATING

## CATEGORY 1

LICENSEE MANAGEMENT ATTENTION TO AND INVOLVEMENT IN NUCLEAR SAFETY OR SAFEGUARDS ACTIVITIES RESULTED IN A SUPERIOR LEVEL OF PERFORMANCE. NRC WILL CONSIDER REDUCED LEVELS OF INSPECTION EFFORT.

# PERFORMANCE RATING

## CATEGORY 2

LICENSEE MANAGEMENT ATTENTION TO AND INVOLVEMENT IN NUCLEAR SAFETY OR SAFEGUARDS ACTIVITIES RESULTED IN A GOOD LEVEL OF PERFORMANCE. NRC WILL CONSIDER MAINTAINING NORMAL LEVELS OF INSPECTION EFFORT.

# PERFORMANCE RATING

## CATEGORY 3

LICENSEE MANAGEMENT ATTENTION TO AND INVOLVEMENT IN NUCLEAR SAFETY OR SAFEGUARDS ACTIVITIES RESULTED IN AN ACCEPTABLE LEVEL OF PERFORMANCE. HOWEVER, BECAUSE OF THE NRC'S CONCERN THAT A DECREASE IN PERFORMANCE MAY APPROACH OR REACH AN UNACCEPTABLE LEVEL, NRC WILL CONSIDER INCREASED LEVELS OF INSPECTION EFFORT.

## **PERFORMANCE TREND**

**AN APPRAISAL OF A PERFORMANCE TREND IN A FUNCTIONAL AREA IS USED AS A PREDICTIVE INDICATOR. A PERFORMANCE TREND SHOULD ONLY BE USED IF BOTH A DEFINITE TREND IS DISCERNIBLE, EITHER IMPROVING OR DECLINING, AND CONTINUATION OF THE TREND MAY RESULT IN A CHANGE IN PERFORMANCE RATING.**

## STP OVERALL PERFORMANCE SUMMARY

<b>FUNCTIONAL AREA</b>	<b>RATING LAST PERIOD 02/01/90--06/01/91</b>	<b>RATING THIS PERIOD 06/02/91--08/01/92</b>
<b>PLANT OPERATIONS</b>	<b>2</b>	<b>2</b>
<b>RADIOLOGICAL CONTROLS</b>	<b>1</b>	<b>1</b>
<b>MAINTENANCE/ SURVEILLANCE</b>	<b>2</b>	<b>2 DECLINING</b>
<b>EMERGENCY PREPAREDNESS</b>	<b>2</b>	<b>2</b>
<b>SECURITY</b>	<b>1</b>	<b>2</b>
<b>ENGINEERING/ TECHNICAL SUPPORT</b>	<b>2 IMPROVING</b>	<b>2</b>
<b>SAFETY ASSESSMENT/ QUALITY VERIFICATION</b>	<b>1 DECLINING</b>	<b>2</b>

# PLANT OPERATIONS

## CATEGORY 2

- + OPERATOR RESPONSE DURING EVENTS
- + OPERATIONS SUPPORT STAFF
- + OPERATOR DECORUM & PROFESSIONALISM
- + PLANT OPERATING PROCEDURE AND LABELING PROGRAM ENHANCEMENTS
- + OVERSIGHT OF OUTAGE ACTIVITIES
  - ° MANAGEMENT PERSONNEL CHANGES
  - ° NONLICENSED OPERATOR OVERTIME DURING OUTAGES
- PLANT CHALLENGES FROM EQUIPMENT FAILURES AND PERSONNEL ERRORS
- IMPLEMENTATION OF OPERATIONS ADMINISTRATIVE CONTROL SYSTEMS
- MANAGEMENT INVOLVEMENT IN MAY 1992 EVENT
- EXCESSIVE PLANT COOLDOWNS FOLLOWING PLANT SHUTDOWNS & REACTOR TRIPS

# **RADIATION PROTECTION**

## **CATEGORY 1**

- + MANAGEMENT INVOLVEMENT & SUPPORT**
- + COMPREHENSIVE QUALITY ASSURANCE AUDITS**
- + IMPROVED PROCEDURAL GUIDANCE**
- + CORRECTIVE ACTIONS**
- + SUPERIOR PROGRAMS & IMPLEMENTATION**
- + STAFFING**
- + TRAINING**
- + EXTERNAL RADIATION EXPOSURE CONTROL**
- + RADIOCHEMISTRY & HEALTH PHYSICS FACILITIES**

# MAINTENANCE/SURVEILLANCE

## CATEGORY 2 (DECLINING)

- + PREVENTIVE & CORRECTIVE MAINTENANCE PROGRAMS
- + SURVEILLANCE AND TESTING PROGRAMS
- + REDUCTION IN CONTROL ROOM & CHEMICAL PROCESS MONITOR DEFICIENCIES
- + RESOLUTION OF STEAM GENERATOR PORV AND MFIV PROBLEMS
- + INSERVICE INSPECTION ACTIVITIES
- + CONTAINMENT INTEGRATED LEAK RATE TESTING
- + MAINTENANCE FACILITIES
- o RECENT CHANGES IN WORK PROCESS PROGRAM
- o SERVICE REQUEST BACKLOG
- MAINTENANCE IMPLEMENTATION
- CONTRACTOR MECHANICAL MAINTENANCE RECORD FALSIFICATION
- PERSONNEL ERRORS DURING SURVEILLANCES
- HOUSEKEEPING IN NONRADIOLOGICAL CONTROLLED AREAS
- RECURRING EQUIPMENT PROBLEMS
- MAINTENANCE AND INDEPENDENT VERIFICATION POINTS
- PROCEDURAL COMPLIANCE
- LACK OF POLICY FOR SIGNING & DATING PLANT MAINTENANCE RECORDS
- PLANNING AND SCHEDULING
- MAINTENANCE PERSONNEL OUTAGE OVERTIME RATES



# **EMERGENCY PREPAREDNESS**

## **CATEGORY 2**

- + MANAGEMENT INVOLVEMENT**
- + INTERFACE WITH STATE AND LOCAL OFFICIALS**
- + CORRECTIVE ACTIONS**
- + QUALITY ASSURANCE AUDITS**
- + STAFFING**
- + TRAINING**
- + EXERCISE SCENARIOS**
- o EMERGENCY PLAN & IMPLEMENTING PROCEDURES**
- TSC SUPPORT SYSTEM RELIABILITY & MATERIAL CONDITION**
- AUGUST 1991 & APRIL 1992 EXERCISE WEAKNESSES**
- EMERGENCY AUGMENTATION CALLOUT METHOD VERIFICATION**

# SECURITY

## CATEGORY 2

- + COMPREHENSIVE QUALITY ASSURANCE AUDITS
- + TRAINING
- o MANAGEMENT & ORGANIZATION CHANGES
- SECURITY SYSTEMS PERFORMANCE
- SEARCH INADEQUACIES
- MAINTENANCE SUPPORT OF SECURITY PROGRAM
- CORRECTIVE ACTION TIMELINESS AND EFFECTIVENESS
- PHYSICAL SECURITY PLAN CHANGES
- PERSONNEL ESCORT CONTROLS

# **ENGINEERING AND TECHNICAL SUPPORT**

## **CATEGORY 2**

- + ENGINEERING SUPPORT OF EDS & ECW SYSTEM**
- + QUALITY ASSURANCE & SELF-ASSESSMENT OF ENGINEERING ACTIVITIES**
- + IMPROVEMENTS IN LICENSED OPERATOR TRAINING PROGRAMS**
- + MODIFICATION PACKAGES**
- + MOV PROGRAM**
- + STAFFING**
- o ENGINEERING INITIATIVES**
- AGE OF TEMPORARY MODIFICATIONS**
- EDG UNAVAILABILITY**
- MODIFICATION IMPLEMENTATION TIMELINESS**
- DESIGN CHANGE NOTICE BACKLOG**
- MOV SIZING CALCULATIONS**
- ISOLATED PROBLEMS IN THE AREAS OF INITIAL & REQUALIFICATION TRAINING**

**SAFETY ASSESSMENT/  
QUALITY VERIFICATION**

**CATEGORY 2**

- + **QUALITY OF LICENSING SUBMITTALS & REPORTS**
- + **SELF-ASSESSMENT & CORRECTIVE ACTION PROGRAMS**
- + **QUALITY ASSURANCE AUDITS**
- + **SAFFTY EVALUATIONS**
- + **INDUSTRY OPERATING EXPERIENCE PROGRAM**
- o **INTERNAL & EXTERNAL COMMUNICATIONS**
- o **CORRECTIVE ACTION IMPLEMENTATION**
- o **OPERATIONAL IMPROVEMENT PLAN**
- o **EMPLOYEE CONCERN PROGRAM**
- **REPORTING TIMELINESS**
- **TIMELINESS OF SPR & INDUSTRY EXPERIENCE CLOSEOUT REVIEWS**
- **IMPLEMENTATION OF TEMPORARY WAIVER OF COMPLIANCE REQUESTS**
- **HESITANCY OF STATION PERSONNEL TO INITIATE SPR's**

<b>EVALUATION CRITERIA</b>							<b>Category Rating</b>
	<b>Assurance of Quality</b>	<b>Approach to the Resolution of Technical Issues from a Safety Standpoint</b>	<b>Enforcement History</b>	<b>Operational and Construction Events</b>	<b>Staffing</b>	<b>Effectiveness of Training and Qualifications</b>	
<b>Plant Operations</b>							2
<b>Radiological Controls</b>	+	+	+	+	+	+	1
<b>Maintenance/Surveillance</b>				-			2D
<b>Emergency Preparedness</b>				+	+		2
<b>Security</b>	-	-			-		2
<b>Engineering/Technical Support</b>	+		+		+	+	2
<b>Safety Assessment/Quality Verifications</b>		-					2

THIS SALP CYCLE

EVALUATION CRITERIA	Assurance of Quality	Approach to the Resolution of Technical Issues from a Safety Standpoint	Enforcement History	Operational and Construction Events	Staffing	Effectiveness of Training and Qualifications	Category Rating
Plant Operations				-			2
Radiological Controls	+	+	+	+		+	1
Maintenance/Surveillance			+	-			2
Emergency Preparedness	+			+			2
Security	+	+	+	+	+	+	1
Engineering/Technical Support			+				2
Safety Assessment/Quality Verification	+					+	1D

PREVIOUS SALP CYCLE

**NEXT SALP PERIOD**

**SCHEDULED**

**AUGUST 2, 1992**

**THROUGH**

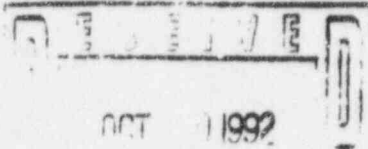
**OCTOBER 30, 1993**

**15 MONTHS**

# The Light company

Houston Lighting &amp; Power

South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483



October 27, 1992  
ST-HL-AE-4245  
File No.: G25  
10CFR50

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Attention: Mr. James L. Milhoan  
Regional Administrator  
NRC, Region IV

South Texas Project  
Units 1 and 2  
Docket Nos. STN 50-498, STN 50-499  
Response to Initial Systematic Assessment  
of Licensee Performance (SALP) Report

Reference: Letter from James L. Milhoan to D. P. Hall dated  
October 2, 1992 (ST-AE-HL-93197)

Dear Mr. Milhoan:

Houston Lighting & Power Company (HL&P) has reviewed the initial SALP Report for the South Texas Project (STP) and determined that it describes station performance; however, two clarifying items appear appropriate. Although these items concerning the Nuclear Security and Design Engineering organizations adjust data in the letter, none of the clarifications are expected to affect the NRC conclusions.

HL&P recognizes the need to vigorously address issues raised in the report, and is concerned about the decline in performance. The NRC noted in the public meeting of October 13, 1992, that HL&P has good programs in areas such as maintenance, self-assessment, corrective action, and quality assurance. We are committed to improving the implementation of programs such as these in order to enhance overall station performance in any review forum.

HL&P is reviewing the issues presented in the SALP Report and will provide you with a description of corrective action by November 25, 1992. This will build on the basic soundness of the current STP programs and aggressively address the quality of their execution and achievement of results.

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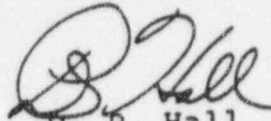
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Houston Lighting & Power Company  
South Texas Project Electric Generating Station

ST-HL-AE-4245  
File No.: G25  
Page 2

HL&P appreciates the insights provided by the NRC over the SALP period. We are confident that we can maintain the area of superior performance and improve in those areas found to be good or acceptable.



D. P. Hall  
Group Vice President,  
Nuclear

AWH/ag

Attachment: Comments on SALP Report

Houston Lighting & Power Company  
South Texas Project Electric Generating Station

ST-HL-AE-4245  
File No.: G25  
Page 3

cc:

Regional Administrator, Region IV  
Nuclear Regulatory Commission  
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U.S. Nuclear Regulatory Commission  
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K. J. Fiedler/M. T. Hardt  
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Bureau of Radiation Control  
Texas Department of Health  
1100 West 49th Street  
Austin, TX 78756-3189

Revised 10/11/91

L4/NRC/

Comments on SALP Report

1. On page 15, the report states that, "A noticeable decline was identified regarding security systems performance early in the assessment period when the two security staff positions designated for testing security systems were eliminated. These two positions were later reinstated during the assessment period and a marked improvement was noted with the operability of the Security Systems."

Comment: The two security staff positions designated for testing security systems were reinstated in February of 1992. The marked improvement in the operability of the Security Systems noted in the report began several months later, following other actions including the Nuclear Security Department reorganization in May of 1992. Since the May reorganization, the need for compensatory posting for Security System problems has been reduced.

2. On page 16, the report states that, "Twenty-nine new security officers were hired near the end of the assessment period and were attending initial security training."

Comment: The security organization did not hire twenty-nine new security officers near the end of the assessment period as indicated in the report. The training referred to in the report was a class of twenty-nine unarmed security officers who were attending armed security officer training. These individuals had been hired early in the period to provide coverage while the Maintenance Operations Facility was removed from the Protected Area for renovation. The officers were retained and upgraded to armed officers following completion of the renovation.

3. The quality engineering group within Design Engineering mentioned on page 18 of the SALP report has been eliminated since the NRC review. The assessments of Design Engineering performed formerly by this group are incorporated within other STP organizations, primarily in Quality Assurance and the Independent Safety Engineering Group.

ATTACHMENT A - PERFORMANCE SUMMARIES IN PREVIOUS OPPER'S  
PLANT OPERATIONS

Jan 1993 OPPER

IR 92-26 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance and surveillance observations, preparation for refueling (Unit 1), followup of a previously identified violation, followup of three inspection followup items, management meeting, and Temporary Instruction 2515/109.

Strengths:

None

Weaknesses:

Performance in the areas of plant operations and operational support was generally good; however, operator inattention contributed, in part, to a condition that resulted in the terminal voltage of a safety-related battery being less than the Technical Specification (TS) minimum required voltage.

IR 92-29 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, engineered safety feature system walkdown (Unit 2), maintenance observations, refueling activities (Unit 1), management meeting, reliable decay heat removal during outages (Temporary Instruction 2515/113), followup on previously identified violations, inspection followup items, and licensee event reports.

Strengths:

A walkdown of the Unit 2 auxiliary feedwater system was performed and all components were identified as being properly positioned to support system operation.

Weaknesses:

A Notification of an Unusual Event was declared when three Unit 1 emergency diesel generators were out of service simultaneously. The declaration of the Notification of Unusual Event was late because of a shift supervisor failed to follow an Emergency Plan implementing procedure.

The licensee experienced five engineered safety features actuations during the inspection period. Two events were caused by equipment failure, two by procedure deficiencies, and one by human error. Although the events were not significant in nature, the number of events indicated a negative performance trend in the area of plant operations. Two of these events constituted violations of NRC requirements.

Low terminal voltage of a safety-related battery went unnoticed by plant operators for approximately 7 hours. A similar event occurred 4 days earlier.

Mar 1993 OPPER

IR 92-52 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, operational safety verification, engineered safety feature system walkdown (Unit 1), maintenance and surveillance observations, complex surveillance (Unit 1), refueling activities (Unit 1), followup on previously identified violations, and licensee event report followup.

Strengths:

A walkdown of the Unit 1 Class 1E 125 volt direct current power system was performed. All components were correctly aligned and a good level of housekeeping was noted in the Electrical Auxiliary Building.

Weaknesses:

The falsification of records (log sheets) by two chemical operators resulted in their dismissal.  
An acid spill occurred because of weaknesses in the equipment clearance order procedure.  
Failure to monitor plant drainage points resulted in an air handling unit failure and halon actuation because a plugged drain did not allow condensation to be diverted away from the air handling unit, causing an electrical short.  
The implementation of the reactor trip prevention program may have precluded Unit 2 from tripping when the startup feedwater pump tripped off line with a steam generator feedwater pump out of service for maintenance.

IR 92-35 OSTI

Areas Inspected: Non-routine, unannounced inspection of sustained control room observations, observation of maintenance and surveillance activities, technical support for operations, review of equipment hardware and corrective actions implemented to resolve deficiencies, and plant area tours.

Strengths:

The team noted several notable strengths in the area of plant operations. Control room decorum and operator professionalism was good. Excellent operator communications were noted. Shift turnover activities were well conducted.  
Operator response to alarms and control board indications was very good.  
The operators maintained excellent control of equipment status. Equipment clearance orders were well documented and appropriately implemented. The operators logs accurately reflected plant evolutions and equipment status. Inoperable safety-related equipment was accurately documented in the operability tracking logs.  
The team concluded that operations was generally well supported by other plant organizations.  
The team noted that housekeeping has improved; however, some decline was noted during the 2 weeks the team was onsite.

Weaknesses:

The team identified an issue of minor safety significance for a fire door which did not satisfy the National Fire Prevention Association

requirements and transient combustibles being in a diesel generator room without the required combustible fire load permit. The licensee promptly addressed these conditions.

It was noted that procedures for which the biennial review had been completed still had outstanding field change notices posted against them. Because the procedure review process for the biennial review was not as extensive as that required for procedure reviews, the team was concerned that the less formal procedure review process, along with the policy not to incorporate all field change notices at the time of the biennial review, may not ensure that high-quality procedures were always provided.

IR 92-36 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance and surveillance observations, preparation for refueling (Unit 1), and followup on a previously identified inspection followup item, three deficiencies, and six observations.

Strengths:

None

Weaknesses:

An EDG was unintentionally tripped during a maintenance run because of inadequate venting of the lubricating oil piping.

IR 93-01 McKernon

Areas Inspected: Special announced inspection of the licensed operator requalification program, which included a review of administrative controls for licensed operator training, and observation of operators during the conduct of facility licensee annual licensed operator requalification examinations. The team also observed the performance of the examination evaluators in the simulator and during in-plant walkthroughs. The inspectors used the guidance provided in Temporary Instruction 2515/117, Revision 0, issued December 8, 1992.

Strengths:

Operators' performance during the operating examinations was good.

Weaknesses:

There appeared to be a prior lack of operations commitment to training needs identification.

July 1993 QPPR

IR 93-04 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance observations, preparation for refueling (Unit 2), followup on a previously identified open item, and licensee event report followup.

Strengths:

None

Weaknesses:

- The failure to maintain the minimum shift crew composition during Mode 4 operation was a violation of TS requirements. The cause of the event was human error.
- A reactivity management issue was identified when plant operators accidentally diluted the reactor coolant system while they were attempting to add boron to the reactor coolant system. The cause of the event, in part, was inadequate understanding of boron thermal regeneration system operation during shutdown conditions.

IR 93-05 Satorius

Areas Inspected: A special inspection was conducted to determine the events surrounding the failure of the turbine driven auxiliary feedwater pumps (TDAFWPs) to start on demand in both Units 1 and 2. The inspection also reviewed a previously identified unresolved item involving the failure to satisfy Technical Specification (TS) requirements relative to Unit 1 emergency diesel generator (EDG) availability and mode change restrictions.

Strengths:

None

Weaknesses:

A violation involved a failure to follow procedures in accordance with the requirements of TS 6.8.1.a. Unauthorized valve positioning of Unit 2's Main Steam Valve (MS) 517 resulted in an overspeed trip on demand of the Unit 2 TDAFWP.

IR 93-07 AIT

Areas Inspected: In accordance with NRC Inspection Manual Chapter 0325, an AIT was dispatched to South Texas Project Electric Generating Station (STPEGS) on February 5, 1993, to review the circumstances surrounding the repetitive overspeed tripping of the Unit 1 turbine driven auxiliary feedwater pump (TDAFWP), and the failure of the Unit 2 TDAFWP to start on demand.

Strengths:

None

Weaknesses:

The team noted that the control room logs typically did not identify mode changes, plant heatup or cooldown conditions, and were inconsistent in their logging of test procedure initiation or completion.

IR 93-08 Runyan

Areas Inspected: Nonroutine, announced, special inspection of technical issues associated with the failure of motor-operated valve SI-31A, Unit 2, and the licensee's identification of five Unit 1 residual heat removal system motor-operated valves that were experiencing excessive torque.

Strengths:

None

Weaknesses:

During the sequence of events following the valve failure, SI-31A may have been torqued in excess of its actuator rating by application of excessive force to the manual handwheel. At the time of the inspection, the licensee had not addressed this potential problem.

IR 93-09 Singh

Areas Inspected: Routine, announced inspection of the licensee's fire protection/prevention program.

Strengths:

The inspection verified that the licensee has maintained an effective fire protection/prevention program.

Weaknesses:

None

IR 93-11 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, operational safety verification, maintenance and surveillance observations, refueling activities (Unit 2), followup on previously identified violations and open items, and licensee event report followup.

Strengths:

None

Weaknesses:

- A violation of Technical Specifications occurred in Unit 2 when the plant operators failed to place two ventilation trains in the mode required by an action statement within the required time interval. The event was caused by a combination of operator oversight and reliance on an uncontrolled computer generated printout of the operability tracking log.
- A failure to follow procedures resulted in the loss of a nonclass electrical buss, which led to an unplanned reactor coolant system cooldown.
- Multiple violations of Technical Specifications occurred in Unit 1 when the plant operators failed to maintain an operable boron injection flow path and centrifugal charging pump during control rod testing. The causes of the event were inadequate operability tracking log review and postmaintenance testing. This event indicated that additional management oversight of the operability tracking log process is warranted.

IR 93-12 Tapia

Areas Inspected: Nonroutine, announced, special inspection of technical issues associated with undersized 120 volt vital ac fuses.

Strengths:

Reactor operators responded well to a loss of Residual Heat Removal during Mode 5 operation.



Weaknesses:

None

ENFORCEMENT SINCE BEGINNING OF SALP PERIOD

Unit 1

92-029	11-25-92	IV	Failure to Follow an Approved Procedure.
92-029	11-25-92	IV	Failure to Follow an Approved Procedure.
93-011	05-21-93	IV	TS violation due to boron injection flow path being operable during control rod testing.

Unit 2

92-029	11-25-92	IV	Failure to Follow an Approved Procedure.
92-029	11-25-92	IV	Failure to Follow an Approved Procedure.
93-004	04-16-93	IV	Both SRO's Absent From the Control Room
93-011	05-21-93	IV	TS violation due to control room ventilation being in the incorrect lineup.

LERs SINCE BEGINNING OF SALP PERIOD

Unit 1

92-012	09-03-92		Entry into TS 3.0.3 due to both channels of DRPI becoming inoperable.
92-015	10-03-92		Unplanned ESG actuation for a Component Cooling Water Pump due to operator inattention.
92-020	12-09-92		Toxic Gas Monitor Found in the Non-Tripped Condition
93-013	04-08-93		TS violation due to performing positive reactivity changes in Mode 5 without a CCP available.
93-014	04-23-93		TS violation due to control room envelope HVAC not operated in the correct mode.

Unit 2

92-010	12-27-92		Manual Reactor Trip Due to FWRV's Failing Shut
93-003	02-03-93		TS 3.0.3 entry due to the DRPI system being inoperable.
93-004	02-03-93		Reactor trip due to low steam generator level.
93-005	02-14-93		Control room unmanned by SRO.
93-007	03-10-93		TS violation due to the control room envelope HVAC not being in required mode of operation.

ATTACHMENT B - PERFORMANCE SUMMARIES IN PREVIOUS QPPR's  
RADIOLOGICAL CONTROLS

Jan 1993 QPPR

IR 92-31 Ricketson

Areas Inspected: Routine, announced inspection of radiation protection program activities related to the 1992 Unit 1 refueling outage (1RE04), including program changes, planning and preparation, external exposure controls, internal exposure controls, controls of radioactive materials and contamination, and the program for maintaining occupational exposures as low as reasonably achievable (ALARA).

Strengths:

- The licensee properly prepared for the refueling outage.
- Qualified contract radiation protection technicians supplemented the permanent staff.
- Excellent external controls were implemented.
- Very effective internal exposure controls were implemented.
- Superior performance was achieved concerning the control of radioactive material and contamination.
- The licensee set a challenging person-rem goal for the outage. Because the outage was extended, the actual person-rem might exceed the goal; however, total exposure should be relatively low.

Weaknesses:

None

Mar 1993 QPPR

IR 92-35 OSTI

Areas Inspected: Non-routine, unannounced inspection of sustained control room observations, observation of maintenance and surveillance activities, technical support for operations, review of equipment hardware and corrective actions implemented to resolve deficiencies, and plant area tours.

Strengths:

None

Weaknesses:

Two events of potential radiological safety significance were observed. An individual left and reentered the radiologically restricted area on several occasions, without frisking, while transferring storage drums at the 60-foot elevation of the maintenance auxiliary building. The team found that the radiological restricted area boundary had not been identified to the worker. A second individual violated a radiological posting by entering the control room while a radiation detector surveillance was in progress. The team noted that the radiological posting did not provide a conspicuous barrier to the restricted area.

IR 92-36 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance and surveillance observations, preparation for refueling (Unit 1), and followup on a previously identified inspection followup item, three deficiencies, and six observations.

Strengths:

None

Weaknesses:

Numerous problems with the plant's toxic gas monitors were experienced because of equipment malfunctions. Two examples of the failure to adhere to TS requirements were identified. One of the TS violations involved the failure to maintain an out of service channel in the tripped condition. The second violation involved the failure to perform a channel check. The licensee's efforts to improve the reliability and availability of the toxic gas monitor systems have not been successful.

IR 93-01 McKernon

Areas Inspected: Special announced inspection of the licensed operator requalification program, which included a review of administrative controls for licensed operator training, and observation of operators during the conduct of facility licensee annual licensed operator requalification examinations. The team also observed the performance of the examination evaluators in the simulator and during in-plant walkthroughs. The inspectors used the guidance provided in Temporary Instruction 2515/117, Revision 0, issued December 8, 1992.

Strengths:

None

Weaknesses:

During the inspection a licensee health physicist entered the radiological control area without the required dosimetry.

Jul 1993 QPPR

IR 93-18 Ricketson

Areas Inspected: Routine, announced inspection of radiation protection program activities related to the forced outage of Unit 1 and the Unit 2 Refueling Outage 2RE03, including program changes, planning and preparation, external exposure controls, internal exposure controls, controls of radioactive materials and contamination, and the program for maintaining occupational exposures as low as reasonably achievable (ALARA).

Strengths:

The licensee made minor changes to its organization in an effort to increase the effectiveness of the ALARA group. State-of-the-art equipment was added to reduce radiation exposures, increase the efficiency of the radiation work permit generating process, and increase the amount of information depicted by radiation surveys.

The licensee sufficiently supplemented the permanent radiation

protection staff and stocked supplies and equipment to prepare properly for the refueling outage.

Contract radiation protection technicians were rigorously screened and met qualification requirements. Additional, specialized training was given to selected radiation workers to reduce exposures and contamination events.

Excellent external radiation exposure controls were maintained. Radiation work permits provided appropriate guidance. The content of pre-job briefings and job coverage by radiation protection personnel were excellent. Considerable effort was taken to familiarize radiation workers with good health physics practices.

All the elements of a superior internal exposure control program were implemented, and the program has been very effective. The licensee proceduralized a maintenance program it had lacked for self-contained breathing apparatuses.

Excellent performance was achieved by controls of radioactive materials and contamination. A low number of personnel contaminations had occurred. Radiological housekeeping within the radiological controlled area was good.

Total radiation exposures for the last refueling outage and for 1992 exceeded the licensee's goals; however, this was the result of the outage duration being extended. It appeared that the same may be true for Refueling Outage 2RE03, but the licensee's total exposures will likely be below the national average for pressurized water reactors. Management's commitment to maintaining radiation exposures ALARA was strong.

Weaknesses:

None

ENFORCEMENT SINCE BEGINNING OF SALP PERIOD

Unit 1

92-035	03-03-93	IV	Two Examples of Weak Radiological Controls
93-011	05-21-93	NCV	Failure to Post an NRC Notice of Violation.

Unit 2

92-035	03-03-93	IV	Two Examples of Weak Radiological Controls
93-011	05-21-93	NCV	Failure to Post an NRC Notice of Violation.

LERs SINCE BEGINNING OF SALP PERIOD

None

ATTACHMENT C - PERFORMANCE SUMMARIES IN PREVIOUS QPPR'S  
MAINTENANCE AND SURVEILLANCE

Jan 1993 QPPR

IR 92-26 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance and surveillance observations, preparation for refueling (Unit 1), followup of a previously identified violation, followup of three inspection followup items, management meeting, and Temporary Instruction 2515/109.

Strengths:

None

Weaknesses:

- The level of housekeeping in selected areas of the facility outside the radiological controlled areas was poor. Several equipment problems, some of which are recurring, were indicative of the need for increased management attention to improve the material condition of the facility.
- A violation was identified for an inadequate postmaintenance test of an essential chiller circuit breaker. This violation occurred because the corrective actions associated with a similar violation were not properly implemented.
- The repair of a steam generator power operated relief valve actuator was untimely.
- A violation occurred because an instrumentation and controls technician failed to sign four work instruction steps indicating the performance of work even though a second technician had signed the corresponding signature blocks for verification of the work performed.
- A minor weakness in a work package associated with an essential cooling water system preventive maintenance activity was identified.
- The inspectors identified examples of temporary procedure changes that were not being incorporated into procedure revisions in a timely manner.
- Unnecessary starts of a standby diesel generator occurred because of a procedure problem and human error.
- A new negative trend was developing in the area of surveillance and test procedure adequacy. Three examples of inadequate or weak surveillance procedures were identified during this inspection period, and two of these resulted in violations.

IR 92-27 McKernon

Areas Inspected: Routine, unannounced inspection of the STP maintenance program and its implementation.

Strengths:

Maintenance documents and records reviewed were in accordance with the licensee's procedures. The maintenance program appeared to be functioning adequately and as intended.

Weaknesses:

None

IR 92-28 McMiell

Areas Inspected: Routine, announced observation of work and work activities pertaining to inservice inspection of Unit 1. No inspections were performed of the Unit 2 facility.

Strengths:

The inservice inspection program was found to be very well defined and effectively implemented.

Weaknesses:

None

IR 92-29 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, engineered safety feature system walkdown (Unit 2), maintenance observations, refueling activities (Unit 1), management meeting, reliable decay heat removal during outages (Temporary Instruction 2515/113), followup on previously identified violations, inspection followup items, and licensee event reports.

Strengths:

None

Weaknesses:

The licensee's discovery of inadequate surveillance procedures required both units to enter Technical Specifications 3.0.3 and 4.0.3. The inadequate surveillance procedures constituted a violation of Technical Specification 4.3.2.1.2.1.a. However, a violation was not cited because the criteria in Section VII.B.2 of the Enforcement Policy were satisfied.

Electricians failed to initiate a Unit 2 surveillance test on the correct reactor coolant pump underfrequency device.

During the 5-year inspection of Emergency Diesel Generator 12, numerous problems were encountered. A check valve seat separated from the swing arm and resulted in a valid emergency diesel generator failure. A lack of periodic testing of this check valve will be tracked by an unresolved item. An unexplained lockout relay actuation resulted in a second valid failure. Additionally, the emergency diesel generator was inadvertently started in the emergency mode.

Corrective actions were taken to improve the availability and the reliability of the Unit 1 source range monitors. The licensee believes that the long-standing problems associated with induced electrical noises in the circuitry have been resolved.

IR 92-33 Gilbert

Areas Inspected: Routine, announced inspection of erosion/corrosion monitoring activities.

Strengths:

- The licensee has developed a good erosion/corrosion program.
- The administrative procedures clearly defined responsibilities for the erosion/corrosion program.
- Personnel effectively implemented the erosion/corrosion program.
- Results to date indicate that no significant erosion/corrosion degradation has occurred in carbon steel piping systems.

Weaknesses:

None

Mar 1993 QPPR

IR 92-32 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, operational safety verification, engineered safety feature system walkdown (Unit 1), maintenance and surveillance observations, complex surveillance (Unit 1), refueling activities (Unit 1), followup on previously identified violations, and licensee event report followup.

Strengths:

- Three surveillance tests were witnessed and good self-verification and supervisory oversight were observed. Two complex surveillances were effectively performed.

Weaknesses:

- The draining of oil from a reactor coolant pump motor, because of a false level indication, resulted in bearing damage. One of the causes of the event was a lack of knowledge of a standing order.
- Personnel errors occurred which resulted in work being performed on the wrong component, train, and unit. A similar example was documented during a previous, recent, NRC inspection.
- The discovery of an inadequate surveillance procedure resulted in a Technical Specification (TS) 3.0.3 entry. The criteria for enforcement discretion were satisfied. However, this was the third example in recent months in which a deficient surveillance procedure resulted in one or both units being placed in TS 3.0.3.
- The balance of plant (BOP) diesel generators (DGs) recently experienced a high number of start failures, which had an adverse impact on the reliability of the DGs.
- The liner of Cylinder 6R of Emergency Diesel Generator 13 was replaced because of indications of tin transfer. The unintentional automatic start of an emergency diesel generator was caused by human error and a deficient procedure. Weaknesses in the development and maintenance of design drawings were identified when the inspectors noted an inaccurate logic drawing.

IR 92-35 OSTI

Areas Inspected: Non-routine, unannounced inspection of sustained control room observations, observation of maintenance and surveillance activities, technical support for operations, review of equipment hardware and corrective actions implemented to resolve deficiencies, and plant area tours.

Strengths:

Work activities were clearly controlled through the control room. The team noted all observed work activities had received the required work start authority. Activities which required entry into limiting conditions for operation were appropriately considered and the required actions taken.

The operations staff input into maintenance scheduling was noted to be very good. In general, the team found that work activities were conducted in accordance with procedure requirements.

Weaknesses:

The team noted that a lack of qualified instrumentation and control technicians provided a significant challenge for performing Unit 2 work activities while the completing the Unit 1 refueling outage.

An instance was identified involving poor work planning which resulted in maintenance personnel having to reinstall the Unit 2 turbine auxiliary feedwater pump governor valve stem.

Three of the examples of repetitive corrective maintenance included a repetitive corrective maintenance activity on the Unit 2 turbine-driven auxiliary feedwater pump; an electrical load sequence problem with an essential chiller; and design modifications which had not been implemented on the essential chillers.

The licensee's implementation of their lubrication control program was poor. Vendor recommendations for system flush recommendations were not incorporated into work instructions. Several engineering request for action documents were not promptly responded to.

IR 92-36 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance and surveillance observations, preparation for refueling (Unit 1), and followup on a previously identified inspection followup item, three deficiencies, and six observations.

Strengths:

None

Weaknesses:

Unit 2 was manually tripped when a secondary valve failed shut. Several additional secondary events occurred after the shutdown. Additionally, four power maneuvers were made because of secondary equipment problems. Higher levels of management oversight continue to be needed in this area because of the continuing negative trend in the reliability and availability of secondary components.

Both units were required to shut down because of the discovery of incorrectly calibrated components. The event was caused by deficient surveillance procedures. The failure to develop and maintain safety related surveillance procedures was a noncited violation of Technical



Specification (TS) requirements. Following the Units 1 and 2 TS 3.0.3 required shutdowns, teams of instrumentation and controls technicians were assembled to recalibrate suspect amplifiers. A surveillance test on a supplemental containment purge system valve was not performed within the required time period specified in the TS. This was the first example of a failure to satisfy TS requirements and was a violation of the facility operating license. During a plant cooldown to repair a leaking seal weld on a control rod drive mechanism housing, a steam generator power-operated relief valve failed to operate because of a defective pressure switch. Emergency Diesel Generator (EDG) 11 experienced a valid failure to start during a monthly operability test as a result of excessive exhaust temperature on a cylinder. The excessive temperature resulted from the binding of a fuel lever arm which had never been lubricated. This failure to lubricate resulted from a less than adequate preventive maintenance (PM) procedure which did not require lubrication of the fuel lever arm. In response to a previous commitment to review surveillance procedures to determine their technical adequacy, a number of deficient procedures were identified. This was the fourth instance that deficient procedures were identified during this review. The deficient procedures were considered to be noncited violations of NRC requirements. The high number of procedures being identified were a concern to the inspectors. The scope of the surveillance procedure review task force should be expanded because of the high number of deficient procedures that were identified. The failure to maintain at least three channels of overtemperature differential temperature (OTDT) operable was the second example of a failure to satisfy TS requirements. The cause of the event was a deficient procedure. The failure to perform a daily channel calibration on a nuclear instrument (NI) was the third example of a failure to satisfy TS requirements. A contributor to the event was the failure of a licensed operator to record a key entry in the control room logbook. Problems continue to exist with one source range neutron flux monitor in Unit 1. This monitor has been intermittently inoperable since the Spring of 1992. A crack was found and repaired in the Unit 1 ECW system piping. Although dealloying and crack problems continue to exist with the piping of the system, the licensee's response to the problems continues to be prompt and aggressive. During the performance of a solid state protection system logic functional test, problems were encountered with a test pushbutton. This pushbutton has not worked properly since April 1992. This pushbutton was scheduled to be replaced during the upcoming refueling outage.

#### IR 93-03 Tapia

Areas Inspected: A special inspection was conducted to determine the circumstances surrounding the drift of nuclear instrumentation setpoints and the failure of Unit 1 Emergency Diesel Generator (EDG) 13 to start. The inspection also reviewed previously identified problems with personnel errors.

#### Strengths:

None

#### Weaknesses:

An unresolved item was identified involving EDG availability and mode change instructions.

Jul 1993 QPPR

IR 93-04 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance observations, preparation for refueling (Unit 2), followup on a previously identified open item, and licensee event report followup.

Strengths:

None

Weaknesses:

- Unit 2 experienced two automatic trips during the inspection period. The first trip was caused by an electrohydraulic control (EHC) fluid tubing failure. The tubing failure was determined to be an isolated incident and was caused by a defective valve feedback device.
- The second trip was caused by a startup feedwater pump trip while at reduced power operation. This trip could have been prevented, however, past problems with the pump were not corrected in a timely manner. The failure to correct the pump problems in a timely manner was identified as a corrective action program weakness. A second weakness, involving maintenance implementation practices, was also identified.
- Both units were required to shut down because of continuing problems with the auxiliary feedwater system turbine driven pumps.
- The failure to place a reactor coolant system delta-temperature/average temperature ( $\Delta T/T_{avg}$ ) loop instrument in the tripped condition was a violation of Technical Specification requirements. This violation was caused by inadequate procedure development and review.
- The use of the incorrect measuring and test equipment on a level transmitter resulted in an engineered safety features (ESF) actuation signal. The preventive maintenance work instructions did not specifically state the correct type of test equipment to use for the application. The failure to have maintenance work instructions appropriate to the circumstances was considered to be a violation of Technical Specification 6.8.1 requirements.
- A violation of TS was identified involving the failure to perform containment pressure channel checks while in Mode 4 operation. This was the second violation caused by a deficient surveillance procedure.
- Numerous events occurred involving secondary plant components which had a negative effect on primary plant components. Few improvements have been noted in this area of plant operations despite additional management oversight. One positive action taken by the licensee included the development of a steam generator power operated relief valve action plan.
- The licensee's essential chiller reliability and availability rates continue to be a concern.
- Extensive testing of the auxiliary feedwater turbines-driven pump was performed to verify pump operability and availability. During the testing process, one maintenance implementation weakness was identified

that resulted in unnecessary test delays. Two Temporary Waivers of Compliance were needed to complete the required testing during Mode 3 operation.

IR 93-05 Satorius

Areas Inspected: A special inspection was conducted to determine the events surrounding the failure of the turbine driven auxiliary feedwater pumps (TDAFWPs) to start on demand in both Units 1 and 2. The inspection also reviewed a previously identified unresolved item involving the failure to satisfy Technical Specification (TS) requirements relative to Unit 1 emergency diesel generator (EDG) availability and mode change restrictions.

Strengths:

None

Weaknesses:

- One violation involved a failure to follow procedures in accordance with the requirements of TS 6.8.1.a. The failure to follow procedures and test EDG 13 following painting the machine resulted in its inoperability from December 29, 1992, to January 22, 1993.
- One violation involved a failure to satisfy the requirements of TS 3.8.1.1.b for having three separate and independent standby diesel generators operable in Modes 1-4.
- A violation involved a failure to satisfy the requirements of TS 3.8.1.1, Action f, for restoring at least two operable EDGs within the TS required outage time while in Modes 1-4.
- A violation involved a failure to follow procedures in accordance with the requirements of TS 6.8.1.a. Unauthorized maintenance was conducted by unqualified personnel on the Unit 2 TDAFWP.
- A violation involved a failure to provide a test program in accordance with the requirements of 10 CFR 50, Appendix B, Criterion XI. Neither unit's TDAFWP had been consistently tested under suitable environmental conditions to identify deficient conditions that affected operability.
- A violation involved a failure to satisfy the requirements of TS 3.7.1.2.b by failing to maintain the Unit 1 TDAFWP operable while in Modes 1-3.
- A violation involved a failure to provide adequate procedures in accordance with the requirements of TS 6.8.1.a. The failure to have adequate procedures for the adjustment of the Unit 1 governor valve contributed to the Unit 1 TDAFWP overspeed trips.

IR 93-07 AIT

Areas Inspected: In accordance with NRC Inspection Manual Chapter 0325, an AIT was dispatched to South Texas Project Electric Generating Station (STPEGS) on February 5, 1993, to review the circumstances surrounding the repetitive overspeed tripping of the Unit 1 turbine driven auxiliary feedwater pump (TDAFWP), and the failure of the Unit 2 TDAFWP to start on demand.

Strengths:

None

Weaknesses:

For the Unit 1 TDAFWP 14, no definitive root cause was identified. However, the AIT considered the misadjustment of the governor valve linkage to be the most probable cause of the overspeed trips. This misadjustment, which occurred during the previous plant outage, reduced the governor's ability to control turbine speed.

For the Unit 2 TDAFWP 24 overspeed trip, the root cause was determined to be a condensate build up upstream of MOV-514 caused by an incorrect valve lineup combined with an inoperable or degraded steam trap in the drain line for the steam admission line. This caused a slug of water to enter the turbine and result in a turbine overspeed.

Contributing causes for these trips that affected both TDAFWPs included:

- The use of MOV-514 as the steam admission valve in lieu of MOV-143. This usage created a problem with the opening time coordination between MOV-514 and the governor valve. It also created additional demands on the steam admission line drain system which could have resulted in a condensate buildup in this line.
- Excessive seat leakage past MOV-514 which had the potential of reducing the governor control margin.

The AIT concluded that the licensee's Preventative Maintenance program was being accomplished for the TDAFWPs. The AIT also concluded that the licensee had performed the proper corrective maintenance on both unit's TDAFWPs, when the need for maintenance was identified. However, it appeared that the corrective maintenance program was only correcting specific problems. The AIT also noted that maintenance was not performing root cause analyses to assure that equipment reliability problems were being pursued when identified. As a result, it was evident that recurring problems were not being addressed. It was also evident that these problems are not being pursued because they are not being entered into the corrective action system (as evidenced by the lack of issuance of SPRs).

The AIT determined that the turbine speed control systems did not operate as intended. The licensee has committed that they will reset the linkage using the appropriate vendors to assure that they are properly set and will verify that the linkage is adjusted correctly during subsequent turbine testing. In addition, future adjustments to the turbine speed control system will be accomplished with the assistance of appropriate vendors until necessary plant procedures are verified as adequate and personnel are properly trained to make such adjustments.

The AIT determined that the leakage for MOV-514 was considerably above the manufacturer's acceptance criteria. It was noted that the valves have been repaired so that they are within the proper acceptance criteria and that the licensee committed that plant operation will not be conducted with degraded valves. The AIT considered that this seat leakage reduced the margin during the pump startup such that the potential for the overspeed was increased.

The AIT noted that the refueling outage (18-month) test had been performed three times on Unit 1 and one time on Unit 2. The AIT also noted, however, that there was a wide variance in the testing conditions which could have masked turbine performance degradation. The AIT determined that only one of these five tests was performed under actual

normal standby conditions. The licensee has committed to revise procedures to insure that all future testing is commenced with the TDAFWPs in their normal standby condition.

The team noticed examples of poor documentation of work activities. Examples were an absence of reasons for changes to procedures and surveillance data sheets that indicated anomalies with no explanation for these anomalies.

IR 93-08 Runyan

Areas Inspected: Nonroutine, announced, special inspection of technical issues associated with the failure of motor-operated valve SI-31A, Unit 2, and the licensee's identification of five Unit 1 residual heat removal system motor-operated valves that were experiencing excessive torque.

Strengths:

None

Weaknesses:

The licensee identified that Unit 2 had operated from April 1989 to October 1990 with valve SI-31A inoperable due to a burned out motor. During that time period, the licensee would have been unable to initiate hot leg recirculation on the "A" train of low head safety injection. This condition was in violation of Technical Specification 3.5.2. This item was identified as an apparent violation.

IR 93-09 Singh

Areas Inspected: Routine, announced inspection of the licensee's fire protection/prevention program.

Strengths:

None

Weaknesses:

The licensee failed to implement procedures for control of combustible and flammable materials, which resulted in a violation.

IR 93-10 Johnson

Areas Inspected (Unit 2): Routine, announced inspection of the inservice inspection program and implementing work activities.

Strengths:

- The inservice inspection program was well defined.
- Inservice inspection procedures contained sufficient details and instructions to enable the satisfactory performance of the examinations.
- The inservice inspection program was being effectively implemented.

Weaknesses:

None

IR 93-11 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, operational safety verification, maintenance and surveillance observations, refueling activities (Unit 2), followup on previously identified violations and open items, and licensee event report followup.

Strengths:

None

Weaknesses:

- A surveillance program implementation weakness was identified when a section of a surveillance procedure was incorrectly performed because of human error and several subsequent reviews failed to detect the error.
- A continuation of a negative trend in personnel performance was noted. Three examples of work performed erroneously or on the wrong component resulted from a failure to adequately perform self-verification.
- Numerous problems were experienced during maintenance on an emergency diesel generator. The failure to correctly assemble a strainer was an example of a maintenance implementation weakness. The failure of fuel injection pump mounting bolts was suspected to be the result of improper torque. The use of an independent firm to evaluate the bolt failures was a proactive initiative on the part of the licensee. A second example of a weakness in the control and use of vendor supplied information was identified when a torque setting was not included in maintenance work instructions.
- Two turbine-driven auxiliary feedwater pump surveillance tests were witnessed. Both surveillance tests were unsatisfactorily completed the first time they were performed. One maintenance implementation weakness was identified when a recorder was found to be incorrectly connected.

IR 93-13 Paulk

Areas Inspected: Reactive, unannounced inspection of motor-operated valve maintenance activities.

Strengths:

None

Weaknesses:

- The licensee's motor-operated valve (MOV) maintenance activities tend to address the symptoms and not the cause. This has resulted in repeat maintenance being performed.
- The licensee had not issued MOV maintenance procedures in a timely manner. This was in part the basis for voiding Station Problem Report (SPR) 920045.
- Based on the sample of maintenance instructions reviewed by the inspection, no degradation of the MOVs was caused by inadequate maintenance instructions. The maintenance instructions were being utilized pending development of maintenance procedures.

IR 93-14 Barnes

Areas Inspected: Nonroutine, announced special inspection of technical issues associated with identified steam generator primary side manway cover and secondary side hand hole cover leakage.

Strengths:

Measures were established to effectively provide for ongoing surveillance and corrective maintenance of identified reactor coolant system leakage. Similar programmatic controls were not apparent with respect to identification and evaluation of recurring leakage conditions.

Weaknesses:

None

ENFORCEMENT HISTORY SINCE BEGINNING OF SALP PERIOD

Unit 1

92-026	10-16-92	IV	Failure to adequately document work completion.
92-029	11-25-92	NCV	Inadequate surveillance procedures required both units to enter Technical Specifications 3.0.3 and 4.0.3. The inadequate surveillance procedures constituted a violation of Technical Specification 4.3.2.1.2.1.a.
92-035	03-03-92	IV	TS Violation - Failure to Adequately Test Loading Sequencer.
92-035	03-03-92	IV	Two Examples of Poor Work Controls That Results in Fire Protection Violations.
92-036	03-05-92	IV	Failure to Provide Adequate Preventive Maintenance Procedure.
92-036	03-05-92	IV	Five Examples of a Failure to conduct TS Required Surveillances.
93-004	04-16-93	IV	Two examples of a failure to adhere to TS because of inadequate procedures.
93-009	03-31-93	IV	Failure to follow procedures in that combustibles were inadequately stored overnight.
93-011	05-21-93	IV	TS violation due to failing to follow procedures for restoration of an electrical inverter.

Unit 2

92-026	10-16-92	IV	Failure to perform an adequate post-maintenance test.
92-029	11-25-92	NCV	Inadequate surveillance procedures required both units to enter Technical Specifications 3.0.3 and 4.0.3. The inadequate surveillance procedures constituted a violation of Technical Specification 4.3.2.1.2.1.a.

92-035	03-03-92	IV	TS Violation - Failure to Adequately Test Loading Sequencer.
92-035	03-03-92	IV	Two Examples of Poor Work Controls That Results in Fire Protection Violations.
92-036	03-05-92	IV	Failure to Provide Adequate Preventive Maintenance Procedure.
92-036	03-05-92	IV	Five Examples of a Failure to conduct TS Required Surveillances.
93-004	04-16-93	IV	Failure to maintain adequate maintenance work instructions.
93-009	03-31-93	IV	Failure to follow procedures in that combustibles were inadequately stored overnight.

LERs SINCE BEGINNING OF SALP PERIOD

Unit 1

92-010	08-08-92		Inadvertent ESF actuation due to a Component Cooling Water Pump Start.
92-011	08-24-92		Reactor Coolant Pump Undervoltage and Underfrequency trip not tested completely per TS.
92-021	12-15-92		Main Steam Isolation Response Time Testing Not Being Correctly Tested.
93-005	01-20-93		Failure of EDG #13 to Start Due to Inadequate Oversight During Painting.
93-008	02-06-93		TS violation due to a failure to perform RCB pressure surveillance.
93-010	02-24-93		Unplanned ESF actuation-halon system.
93-011	03-17-93		TS violation due to a failure to perform damper position verification during surveillance.
93-012	04-05-93		TS violation due to a incorrect settings of several molded case circuit breakers.
93-015	04-23-93		TS violation due to a non-conservative determination of equipment service time. circuit breakers.
93-016	05-03-93		TS violation due to a circuitry for the steam generator PORVs and RCS subcooling monitor being inoperable.

Unit 2

92-007	09-12-92		Unplanned ESF Actuation of an Isolation Valve for the MSIV above seat drain.
92-008	09-15-92		Control Room Ventilation Actuation to Recirculation Mode Due to a Failure of a Toxic Gas Analyzer.



92-009	12-17-92	Missed TS Required Surveillance on the Toxic Gas Monitoring System.
93-001	01-23-93	Reactor Trip Due to a Failed Main Turbine Electro-Hydraulic Control Line.
93-002	01-28-93	Unplanned ESF Actuation Due to Poor Maintenance Practices.
93-006	02-17-93	TS violation due to a LHSI cold leg injection MOV being inoperable for greater than 72 hours.
93-009	04-26-93	TS violation due to the use of inappropriate reference value data for a RHR pump IST.
93-010	05-26-93	Failure of ECW traveling screen coupling.

ATTACHMENT D - PERFORMANCE SUMMARIES IN PREVIOUS OPPER'S  
EMERGENCY PREPAREDNESS

Jan 1993 OPPER

No Inspection Effort

Mar 1993 OPPER

No Inspection Effort

Jul 1993 OPPER

IR 93-17 Spitzberg

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.

Strengths:

- Strong command and control were observed in the control room in response to plant transients and the early scenario events. Emergency classifications and notifications were made in an accurate and timely manner by the control room staff.
- The area of radiological assessment was noted to be a strength in the Technical Support Center.
- The actions taken by the Operational Support Center to support in-plant teams and to protect radiation workers were found to be effective.
- The post accident sampling team was effective in simulating the safe acquisition of coolant and containment atmosphere samples.
- The Emergency Operations Facility was activated in an efficient and timely manner and performed well during the exercise. The performance of the radiological/dose assessment group was noted to be a strength.

Weaknesses:

- An exercise weakness was identified for failure to recognize plant conditions corresponding to a General Emergency.
- Licensee performance in providing technical assessment, diagnosis, and mitigative activities was identified as an exercise weakness.
- Insufficient administrative staffing in the Technical Support Center and the failure to obtain additional staffing or to reassign the missing staff's responsibilities were identified as an exercise weakness.
- An exercise weakness was identified for unnecessary delays noted in providing proper treatment for the victim of a medical emergency and in removing the victim from the site by ambulance.
- A repeat exercise weakness was identified for several problems associated with the issuance of complete and accurate notification messages (Section 6.1).

The licensee self-critique process failed to identify or properly characterize several areas in need of corrective action and was, therefore, identified as an exercise weakness.

Two potential areas for emergency response procedure improvement were discussed with licensee representatives.

ENFORCEMENT HISTORY SINCE BEGINNING OF SALP PERIOD

None

LERs SINCE BEGINNING OF SALP PERIOD

None

ATTACHMENT E - PERFORMANCE SUMMARIES IN PREVIOUS QPPR'S  
SECURITY

Jan 1993 QPPR

IR 92-26 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance and surveillance observations, preparation for refueling (Unit 1), followup of a previously identified violation, followup of three inspection followup items, management meeting, and Temporary Instruction 2515/109.

Strengths:

None

Weaknesses:

The licensee identified a willful violation involving falsification of NRC required security records. This violation is not being cited because the criteria in Section VII.B.2 of the Enforcement Policy were satisfied.

Mar 1993 QPPR

IR 92-35 OSTI

Areas Inspected: Non-routine, unannounced inspection of sustained control room observations, observation of maintenance and surveillance activities, technical support for operations, review of equipment hardware and corrective actions implemented to resolve deficiencies, and plant area tours.

Strengths:

None

Weaknesses:

A concern was noted by the team that operations personnel may be unnecessarily delayed in responding to an actual plant event if the immediate need for the operator's response is not promptly conveyed to security personnel.

IR 93-02 Dexter

Areas Inspected: Routine, unannounced inspection of the licensee's physical security program. The areas inspected included assessment aids, compensatory measures, and communications.

Strengths:

- Some improvement was noted in the overall picture quality of assessment aids. An unresolved item was identified regarding a degraded assessment aid (Closed-circuit Television System camera).
- Effective action had been taken to identify prepositioned compensatory post locations.
- Communications equipment was readily available and communications checks were being conducted in accordance with established procedures.

Weaknesses:

None

Jul 1993 QPPR

IR 93-11 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, operational safety verification, maintenance and surveillance observations, refueling activities (Unit 2), followup on previously identified violations and open items, and licensee event report followup.

Strengths:

None

Weaknesses:

- Ongoing problems in the security area are causing excessive use of overtime and are negatively impacting employee morale.

IR 93-16 Dexter

Areas Inspected: Routine, announced inspection of management effectiveness, records and reports, security system power supply, security locks and keys, testing and maintenance, assessment aids, compensatory measures, protective area barrier, and security plans and procedures.

Strengths:

- Security events were being properly recorded and reported to the NRC.
- Security lock and key procedures were consistent with commitments in the Physical Security Plan. Control and accountability were properly documented.
- The protected area barrier and isolation zones were effectively maintained to protect the plant and allow proper assessment of isolation zones.
- Implementing procedures are adequate and appropriate to meet general performance requirements in accordance with the Physical Security Plan.
- The licensee's test of the security emergency power supply demonstrated that the batteries and the security diesel performed as designed.
- All access control equipment tested, performed as required. Security equipment was generally repaired in a timely manner.

Weaknesses:

- A vulnerability was discovered in the security system by instrumentation and controls technicians. It did not appear that the root cause of the problem was pursued in a timely manner by security management. This also affected the timely implementation of compensatory measures. The licensee's process for problem identification and implementation of corrective action or compensatory action will be reviewed further during a future inspection.
- Compensatory measures were adequate when implemented; however, the licensee was slow at times to implement compensatory measures. It

appears that compensatory postings also contributed to excessive overtime for some members of the security force. This area will be reviewed further during a future inspection.

The licensee continued to experience assessment aids problems. However, instrumentation and controls technicians were routinely repairing problems as they were reported. An independent engineering firm evaluation recommended that the entire assessment aids system be replaced. The licensee was evaluating the recommendation and possible approaches.

ENFORCEMENT HISTORY SINCE BEGINNING OF SALP PERIOD

Unit 1

92-026	10-16-92	NCV	Licensee identified violation involving falsification of NRC required security records.
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Unit 2

92-026	10-16-92	NCV	Licensee identified violation involving falsification of NRC required security records.
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SERs SINCE BEGINNING OF SALP PERIOD

None

ATTACHMENT F - PERFORMANCE SUMMARIES IN PREVIOUS QPPR'S  
ENGINEERING/TECNICAL SUPPORT

Jan 1993 QPPR

IR 92-26 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance and surveillance observations, preparation for refueling (Unit 1), followup of a previously identified violation, followup of three inspection followup items, management meeting, and Temporary Instruction 2515/109.

Strengths:

- The Unit 1 fourth refueling outage appeared to be well planned, but the schedule appeared to be aggressive because of the extensive motor-operated valve testing that will be conducted. Several positive initiatives pertaining to the outage were identified.
- The licensee had developed a comprehensive action plan to correct problems in the MOV program.

Weaknesses:

- A condition that resulted in the terminal voltage of a safety-related battery being less than the Technical Specification minimum required voltage was partially contributed to an inadequate procedure.
- An inadequate Class 1E direct current distribution system operating procedure was identified as a violation.

IR 92-28 McNiell

Areas Inspected: Routine, announced observation of work and work activities pertaining to inservice inspection of Unit 1. No inspections were performed of the Unit 2 facility.

Strengths:

None

Weaknesses:

- The licensee substituted a volumetric examination for the ASME Code required surface examination of the threaded inside diameter of the reactor vessel closure head nuts, without filing a relief request as required by 10 CFR Part 50.55a(g)(5). This was identified as a noncited violation.

IR 92-29 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, engineered safety feature system walkdown (Unit 2), maintenance observations, refueling activities (Unit 1), management meeting, reliable decay heat removal during outages (Temporary Instruction 2515/113), followup on previously identified violations, inspection followup items, and licensee event reports.

Strengths:

None

Weaknesses:

Delays in the Unit 1 outage of approximately 2 weeks were caused by polar crane and refueling machine problems, Emergency Diesel Generator 12 repairs, and motor-operated valve testing.

IR 92-30 Runyan

Areas Inspected: Reactive, announced inspection of safety-related motor-operated valve testing and surveillance, and followup.

Strengths

The licensee's MOV program showed improvement with strong management support.

The licensee had reduced the number of Unit 1 MOVs in an overthrust condition and had acceptable justification for those remaining overthrust except for three MOVs with SB-00 actuators.

The licensee committed to document an engineering justification for three MOVs with SB-00 actuators that were subject to stem thrusts in excess of 16,000 pounds. Both Westinghouse and Kalsi Engineering, Inc., have recently completed testing SB-00 type actuators and the preliminary review indicates comparable overthrust capability to SMB devices.

The licensee had sufficient calculations and test results to permit justifying valve operability without relying on Westinghouse stall thrust values.

Two observations were noted in the licensee's procedure for analyzing diagnostic test data for final acceptance. The licensee's acknowledged the observations and plan to revise their final acceptance criteria.

Weaknesses

A deficiency was identified regarding the timeliness of analyzing diagnostic test data, but was satisfactorily addressed by the licensee during the inspection.

A review of diagnostic test data revealed that assumptions made for stem friction may not have been conservative in all cases.

Mar 1993 QPPR

IR 92-32 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, operational safety verification, engineered safety feature system walkdown (Unit 1), maintenance and surveillance observations, complex surveillance (Unit 1), refueling activities (Unit 1), followup on previously identified violations, and licensee event report followup.

Strengths:

None

Weaknesses:

The Unit 1 fourth refueling outage was several weeks behind schedule because of refueling equipment problems and unanticipated emergency diesel generator rework.



IR 93-01 McKernon

Areas Inspected: Special announced inspection of the licensed operator requalification program, which included a review of administrative controls for licensed operator training, and observation of operators during the conduct of facility licensee annual licensed operator requalification examinations. The team also observed the performance of the examination evaluators in the simulator and during in-plant walkthroughs. The inspectors used the guidance provided in Temporary Instruction 2515/117, Revision 0, issued December 8, 1992.

Strengths:

- Evaluators' performance during the operating examinations was good.
- The training department appeared effective in implementing the licensed operator requalification training program.
- Simulator fidelity appeared acceptable with one minor inconsistency observed regarding the safety injection accumulators modeling.

Weaknesses:

- The training department did not have an approved biennial licensed operator training plan.

Jul 1993 OPPR

IR 93-04 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance observations, preparation for refueling (Unit 2), followup on a previously identified open item, and licensee event report followup.

Strengths:

- The Unit 2 refueling outage scope appears to be well planned by the licensee, however, the work scope is aggressive because of the number of motor operated valves (MOV's) scheduled to be tested. Shutdown risk assessment and outage management staffing continue to be licensee strengths (Section 5.0).

Weaknesses:

- Unit 2 entered Technical Specifications (TS) 3.0.3 when power to the digital rod position indication was lost for 16 minutes. Contributing factors to the event included discovery of a design application error involving two pumps being connected to the same electrical panel.

IR 93-08 Runyan

Areas Inspected: Nonroutine, announced, special inspection of technical issues associated with the failure of motor-operated valve SI-31A, Unit 2, and the licensee's identification of five Unit 1 residual heat removal system motor-operated valves that were experiencing excessive torque.

Strengths:

None

Weaknesses:

- The inspection frequency of actuator springpacks may not be sufficient to anticipate conditions leading to hydraulic lock.
- The licensee identified that five Unit 1 residual heat removal suction isolation valves had been torqued to levels exceeding 110 percent of the nominal actuator rating for approximately 50 cycles.
- The apparent unacceptable operability determination of the overtorque condition was similar to a previous violation issued for unacceptable determinations of operability for valves that were subject to excessive thrust.

IR 93-09 Singh

Areas Inspected: Routine, announced inspection of the licensee's fire protection/prevention program.

Strengths:

- The licensee's detailed and comprehensive administrative procedures and quality assurance audits were considered strengths.

Weaknesses:

None

IR 93-10 Johnson

Areas Inspected (Unit 2): Routine, announced inspection of the inservice inspection program and implementing work activities.

Strengths:

- Nondestructive examination personnel were well qualified.

Weaknesses:

None

IR 93-11 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, operational safety verification, maintenance and surveillance observations, refueling activities (Unit 2), followup on previously identified violations and open items, and licensee event report followup.

Strengths:

None

Weaknesses:

- The failure to post an NRC Notice of Violation within 2 working days was a violation of 10 CFR Section 19.11 requirements. The violation was not cited because it was identified by the licensee and prompt corrective actions were taken.
- Inoperable electrical breakers resulted from the erroneous use of the incorrect setpoint values by maintenance planners. This error led to exceeding several Technical Specification limiting condition for

operation requirements and remains unresolved pending further review.

- An inadequate temporary modification, resulting from a weak engineering review, caused a loss of automatic reactor coolant system volume control.
- Selected toxic gas monitor modifications were inspected. The toxic gas monitors, which have a history of being unreliable, are expected to experience improved reliability and availability rates because of the modifications.
- The failure to incorporate vendor supplied technical information into the plant cooldown procedures resulted in stuck control rods and was another example of weakness in the use and distribution of vendor documents.
- The Unit 2 third refueling outage scope significantly increased during the inspection period. Manpower shortages, because of the Unit 1 maintenance outage, also had a negative effect on the outage schedule.

#### IR 93-12 Tapia

Areas Inspected: Nonroutine, announced, special inspection of technical issues associated with undersized 120 volt vital ac fuses.

#### Strengths:

- The licensee's investigation to define the scope of undersized fuses was extensive and did not disclose other operability or safety concerns.
- The licensee's responses to notifications from the industry and from the NRC concerning related issues has been adequate.

#### Weaknesses:

- The licensee did not adequately incorporate all design loads in the design of the circuit between the Solid State Protection System (SSPS) Actuation Cabinets and their associated power supplies. This item was identified as an apparent violation of 10 CFR Part 50, Appendix B, Criterion III.
- Since plant startup the licensee operated both units in violation of Technical Specification (TS) 3.3.2 requirements for having the actuation relays for safety injection, containment isolation, main steam line isolation, turbine trip, main feedwater isolation, and auxiliary feedwater operable. This item was identified as an apparent violation.

#### IR 93-14 Barnes

Areas Inspected: Nonroutine, announced special inspection of technical issues associated with identified steam generator primary side manway cover and secondary side hand hole cover leakage.

#### Strengths:

- The boric acid corrosion prevention program procedure appropriately addressed the criteria articulated in Generic Letter 88-05, with the exception of absence of guidance on engineering evaluation methods to be used in determining the impact of identified leakage on the reactor coolant system boundary.

Weaknesses:

A violation was identified in regard to the failure to issue Form (-2)s from Station Procedure OPGP03-ZE-0033 in regard to description of observed evidence of leakage and verification of issue of corrective maintenance documents.

Some inconsistencies were noted between the results from different personnel performing boric acid corrosion prevention walkdown inspections.

Training of Plant Engineering staff for performing boric acid corrosion prevention walkdown inspections was solely on-the-job training.

Installation criteria recommended by Design Engineering for steam generator secondary side hand hole covers were not incorporated by Maintenance into the installation procedure.

ENFORCEMENT HISTORY SINCE BEGINNING OF SALP PERIOD

Unit 1

92-026	10-16-92	IV	Failure to have procedures appropriate to the circumstances.
92-028	10-27-92	NCV	The licensee substituted a volumetric examination for the ASME Code required surface examination of the threaded inside diameter of the reactor vessel closure head nuts, without filing a relief request as required by 10 CFR Part 50.55a(g) (5).
92-032	01-19-93	NCV	Failure to Completely Test Feedwater Isolation Logic Slave Relays
92-036	03-05-93	NCV	Inadequate TS Surveillance Procedures
93-001	02-11-93	NCV	Failure to Follow Procedures When Entering the RCA
92-036	03-05-93	IV	Failure to Include Valves in IST Program
92-036	03-05-93	IV	Failure to Request Relief from ASME Code Requirements
93-001	02-11-93	IV	Failure to Follow Procedures
93-014	04-13-93	IV	Two examples of a failure to follow procedures regarding the documentation of boric acid leaks.

Unit 2

92-026	10-16-92	IV	Failure to have procedures appropriate to the circumstances.
92-028	10-27-92	NCV	The licensee substituted a volumetric examination for the ASME Code required surface examination of the threaded inside diameter of the reactor vessel closure head nuts, without filing a relief request as required by 10 CFR Part 50.55a(g) (5).

92-032	01-19-93	NCV	Failure to Completely Test Feedwater Isolation Logic Slave Relays
92-036	03-05-93	NCV	Inadequate TS Surveillance Procedures
93-001	02-11-93	NCV	Failure to Follow Procedures When Entering the RCA
92-036	03-05-93	IV	Failure to Include Valves in IST Program
92-036	03-05-93	IV	Failure to Request Relief from ASME Code Requirements
93-001	02-11-93	IV	Failure to Follow Procedures
93-012	04-14-93	NCV	Failure to include all loads in determining the size of SSPS fuses.
93-014	04-13-93	IV	Two examples of a failure to follow procedures regarding the documentation of boric acid leaks.

LERs SINCE BEGINNING OF SALP PERIOD

Unit 1

92-013	09-15-92		Containment Spray Channels not being completely verified as required per TS.
92-014	09-28-92		Containment Ventilation Isolation Occurred Prior to Expected Actuation During Surveillance Testing.
92-016	09-28-92		Unplanned ESF Actuation of a Component Cooling Water Pump Due to an Inadequate Procedure.
92-018	10-21-92		Pressurizer Safety Valve Setpoints Outside Required Tolerance.
92-019	12-02-92		Calculation Errors in the Setpoint Curves for the Cold Overpressure Mitigation System.
93-001	01-05-93		TS 3.0.3 Entry Due to Two RCS Delta-T Channels Being Inoperable
93-002	01-09-93		TS 3.0.3 Entry Due to Two Power Range NIs Being Inoperable
93-003	01-12-93		TS 3.0.3 Required Shutdown Due to Inoperable Steam Line Pressure Channels
93-004	01-12-93		TS Violation Due to the Failure to Perform a Surveillance Required by ASME Section XI
93-006	01-21-93		TS Violation Due to RCS Delta Temperature/Average Temperature Loop Found Out-of Tolerance
93-009	02-17-93		Plant in an unanalyzed condition due to undersized fuses in the SSPS.
93-017	05-27-93		Extension of FWIBV positioner and solenoid equipment beyond qualification life.

Unit 2

93-008

05-05-93

TS violation due to the failure to maintain  
environmental qualification of a RHR MOV.

ATTACHMENT G - PERFORMANCE SUMMARIES IN PREVIOUS QPPR'S  
SAFETY ASSESSMENT/QUALITY VERIFICATION

Jan 1993 QPPR

IR 92-26 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance and surveillance observations, preparation for refueling (Unit 1), followup of a previously identified violation, followup of three inspection followup items, management meeting, and Temporary Instruction 2515/109.

Strengths:

A management meeting between NRC and the licensee was conducted at South Texas Project in order to review the schedule and scope of the planned Unit 1 fourth refueling outage.

Weaknesses:

Three inadvertent engineered safety features actuations occurred during this inspection period. Two of these resulted in violations because of untimely reporting to NRC and an inadequate surveillance procedure. The licensee initiated the Unplanned ESF Actuations Task Force to prevent future unplanned ESF actuations.

IR 92-27 McKernon

Areas Inspected: Routine, unannounced inspection of the STP maintenance program and its implementation.

Strengths:

The staff appeared aggressive in pursuing problems, finding solutions, and making improvements to the program.

Weaknesses:

None

IR 92-29 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, engineered safety feature system walkdown (Unit 2), maintenance observations, refueling activities (Unit 1), management meeting, reliable decay heat removal during outages (Temporary Instruction 2515/113), followup on previously identified violations, inspection followup items, and licensee event reports.

Strengths:

The licensee has a systematic and effective method for ensuring that reliable sources of residual heat removal are maintained during outages.

Weaknesses:

None

May 1993 OPPER

IR 92-32 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, operational safety verification, engineered safety feature system walkdown (Unit 1), maintenance and surveillance observations, complex surveillance (Unit 1), refueling activities (Unit 1), followup on previously identified violations, and licensee event report followup.

Strengths:

None

Weaknesses

Four Unit 1 residual heat removal pump trips, occurring in an 11-day period, were caused, in part, by procedure weaknesses and operator inattention. A station problem report (SPR) was not initiated until the fourth occurrence. Similar instances of failure to initiate an SPR for conditions adverse to quality were identified by NRC during the conduct of an Operational Safety Team Inspection, which was ongoing at the end of this inspection period. These instances of failure to initiate an SPR will constitute an additional example of a violation for failure to follow the SPR procedure which will be documented in the OSTI inspection report.

The startup feedwater pump tripped because of a long-standing problem with rainwater intrusion into plant equipment.

IR 92-35 OSTI

Areas Inspected: Non-routine, unannounced inspection of sustained control room observations, observation of maintenance and surveillance activities, technical support for operations, review of equipment hardware and corrective actions implemented to resolve deficiencies, and plant area tours.

Strengths:

None

Weaknesses:

The team found that the licensee's program for the identification and resolution of hardware and program implementation deficiencies was well defined. It was noted that the station problem report (SPR) process provided the means for prompt identification of concerns to the shift supervisor and plant management. However, the team was concerned that the process was not consistently well implemented.

The team noted that the licensee had not been effective in identifying potential causes for erratic motor operated inservice test results. An additional burden has been placed on the plant operators because of the required increased testing frequency. The guidance for accessing equipment operability based on inservice test results was not conservative in that the time permitted to evaluate the test results often exceeded the Technical Specification limiting condition for operation time requirements.

The team noted that maintenance personnel had not received specific training on the revised corrective action process. The method used to disseminate information to maintenance personnel was not effective in assuring they were cognizant of the recent changes to the corrective action process. In addition, many plant workers indicated that they had never initiated an SPR. It was determined that management emphasized



that plant workers should report deficiencies, which could result in SPRs, to their supervisors and that it was not their expectation for the plant worker to initiate an SPR. This expectation was found to contradict the specific requirements for initiating an SPR. The team was concerned that an informal undocumented review process may occur which could result in potentially generic or programmatic concerns not being identified to the shift supervisor or management. The team identified instances where SPRs were not initiated in accordance with the corrective action program. The team also identified several concerns with the resolution of known and sometimes repetitive problems.

The team identified five examples where safety-related equipment or program implementation deficiencies were not properly identified or inadequate corrective actions were taken. Three of the examples included a repetitive corrective maintenance activity on the Unit 2 turbine-driven auxiliary feedwater pump; an electrical load sequence problem with an essential chiller; and design modifications which had not been implemented on the essential chillers.

An unresolved item was identified concerning the adequacy of corrective actions for a number of motor-operated valves (MOVs) that require an increased inservice test frequency per the American Society of Mechanical Engineers code.

An additional concern was identified for an SPR which was voided for MOV corrective maintenance procedures and other programmatic concerns relating to MOV maintenance.

The team identified two observations where corrective actions were implemented to correct the immediate deficiency; however, the reason for the deficiencies occurring had not been determined. The deficiencies involved a residual heat removal MOV breaker that was upgraded per a temporary modification without determining the root cause for the breaker tripping and a reactor trip breaker bypass breaker chafed wire.

#### IR 92-36 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance and surveillance observations, preparation for refueling (Unit 1), and followup on a previously identified inspection followup item, three deficiencies, and six observations.

#### Strengths:

None

#### Weaknesses:

During the performance of a surveillance test on a component cooling water (CCW) system valve, a broken terminal lug was identified. Licensee personnel failed to issue a station problem report (SPR) to investigate the cause of the event. After prompting by the inspector, licensee personnel issued an SPR to assess the root cause of the failure. This was an additional example of problems in the generation of SPRs and may be further addressed in NRC Operational Safety Team Inspection Report 50-498/92-35; 50-499/92-35.

#### IR 93-01 McKernon

Areas Inspected: Special announced inspection of the licensed operator requalification program, which included a review of administrative controls for licensed operator training, and observation of operators during the conduct of facility licensee annual licensed operator requalification examinations. The team also observed the performance of the examination

evaluators in the simulator and during in-plant walkthroughs. The inspectors used the guidance provided in Temporary Instruction 2515/117, Revision 0, issued December 8, 1992.

Strengths:

None

Weaknesses:

- The lack of a formal approved training plan or formal sample plan, over at least a 6 month period, is indicative of a lack of effective self-analysis and prompt corrective actions.
- The lack of a formal revision system for the training plan is indicative of a weak tracking system.

IR 93-03 Tapia

Areas Inspected: A special inspection was conducted to determine the circumstances surrounding the drift of nuclear instrumentation setpoints and the failure of Unit 1 Emergency Diesel Generator (EDG) 13 to start. The inspection also reviewed previously identified problems with personnel errors.

Strengths:

None

Weaknesses:

- One apparent violation was identified that involved eight examples of a failure to follow procedural requirements for performing self-verification. These examples, of which seven were previously identified and documented as unresolved items in NRC inspections, represent instances in which work was performed on the wrong component, wrong train, and, in one case, on the wrong unit.
- The verification process associated with setpoints and the lack of procedural requirements for assuring independent verification of the nuclear instrumentation system are considered a weakness and a contributing cause of the apparent violation identified.

Jul 1993 OPPR

IR 93-04 Tapia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, onsite followup of events, operational safety verification, maintenance observations, preparation for refueling (Unit 2), followup on a previously identified open item, and licensee event report followup.

Strengths:

None

Weaknesses:

- Unit 2 entered Technical Specifications (TS) 3.0.3 when power to the digital rod position indication was lost for 16 minutes. Contributing factors to the event included the failure of the licensee to work a service request on a defective sample pump in a timely manner.

IR 93-05 Satorius

Areas Inspected: A special inspection was conducted to determine the events surrounding the failure of the turbine driven auxiliary feedwater pumps (TDAFWPs) to start on demand in both Units 1 and 2. The inspection also reviewed a previously identified unresolved item involving the failure to satisfy Technical Specification (TS) requirements relative to Unit 1 emergency diesel generator (EDG) availability and mode change restrictions.

Strengths:

None

Weaknesses:

The actions taken by plant management to resolve problems on Unit 1 Valves MS 148 and MS 218, following the identification of their deficient condition (hard to operate); and to correct the excessive leakage on Unit 1's Motor-Operated Valve (MOV) 514 was not considered to be proactive.

IR 93-07 AIT

Areas Inspected: In accordance with NRC Inspection Manual Chapter 0325, an AIT was dispatched to South Texas Project Electric Generating Station (STPEGS) on February 5, 1993, to review the circumstances surrounding the repetitive overspeed tripping of the Unit 1 turbine driven auxiliary feedwater pump (TDAFWP), and the failure of the Unit 2 TDAFWP to start on demand.

Strengths:

None

Weaknesses:

The AIT ascertained that there were two TDAFWP trips that were attributed to an overspeed condition prior to the December 27, 1992, through February 3, 1993 events. One of these trips occurred on TDAFWP 14 on June 11, 1990, and was attributed to a low governor oil pressure that results when a turbine restart is attempted prior to allowing the oil pressure to bleed off from the governor. The other trip occurred on TDAFWP 24 on September 16, 1991, and was attributed to a mechanical overspeed trip. Effective followup was not conducted to determine the reason for this overspeed trip during the response time test conducted prior to the first refueling outage. Followup to correct the problem with the sticking overspeed trip plunger was slow and considered to be less than adequate.

IR 93-08 Runyan

Areas Inspected: Nonroutine, announced, special inspection of technical issues associated with the failure of motor-operated valve SI-31A, Unit 2, and the licensee's identification of five Unit 1 residual heat removal system motor-operated valves that were experiencing excessive torque.

Strengths:

None

Weaknesses:

The licensee did not undertake corrective actions following a 1989 failure of valve SI-31A, Unit 2, to prevent recurrence of the event. The same valve failed under similar circumstances in February 1993. This item was identified as an apparent violation of 10 CFR 50, Appendix B, Criterion XVI.

The apparent failure to provide a proper operability determination for the five residual heat removal valves was identified as an apparent violation of 10 CFR 50, Appendix B, Criterion XVI. This judgment was based on the fact that there are no vendor or industry rating programs providing for the acceptance of motor-operated valves in an overtorqued condition.

IR 93-11 Tspia, Evans

Areas Inspected: Routine, unannounced inspection of plant status, operational safety verification, maintenance and surveillance observations, refueling activities (Unit 2), followup on previously identified violations and open items, and licensee event report followup.

Strengths:

None

Weaknesses:

- A lack of timeliness in resolving a long-standing problem with a centrifugal charging pump breaker was another indication of the programmatic failure to take prompt and effective corrective actions and to determine the cause of identified hardware problems.

IR 93-12 Tapia

Areas Inspected: Nonroutine, announced, special inspection of technical issues associated with undersized 120 volt vital ac fuses.

Strengths:

None

Weaknesses:

There has been one other similar fuse failure for which a root cause was never defined.

IR 93-13 Paulk

Areas Inspected: Reactive, unannounced inspection of motor-operated valve maintenance activities.

Strengths:

The licensee responded properly after being notified of a condition adverse to quality related to the use of load washers in the testing of motor-operated valves by initiating SPR 930885.

Weaknesses:

None

IR 93-14 Barnes

Areas Inspected: Nonroutine, announced special inspection of technical issues associated with identified steam generator primary side manway cover and secondary side hand hole cover leakage.

Strengths:

None

Weaknesses:

- System engineer assessments of needed corrective actions were based, in part, on the erroneous understanding that steam generator primary side manways would be opened during each refueling outage.
- A violation was identified in regard to the failure to promptly correct identified evidence of leakage at the Steam Generator 1B hot leg primary side manway, and to identify and formally evaluate primary side manway stud elongation values which exceeded the acceptance range of Department Procedure OPMP04-RC-0004.

IR 93-21 Tapia

Areas Inspected: A special inspection was conducted to determine the circumstances surrounding the inappropriate dispositioning of a service request that had identified deficiencies in the seismic qualifications of the qualified display processing system. The inspection also reviewed a previously identified unresolved item involving incorrect breaker setpoints for Class 1E 480 VAC magnetic adjustable molded case circuit breakers.

Strengths:

None

Weaknesses:

- A violation was identified that concerned a potential operability issue was not recognized and promptly resolve and, as a result, the appropriate Technical Specification (TS) Limiting Condition for Operations were not entered. Personnel error also contributed to this TS violation when a request for a conditional release was incorrectly processed.

ENFORCEMENT HISTORY SINCE BEGINNING OF SALP PERIOD

Unit 1

92-026	10-16-92	IV	Failure to satisfy reporting requirements.
92-035	03-03-93	IV	Four Examples of a Failure to Assure Adequate Corrective Actions Are Completed
93-008	03-17-93	IV	Failure to take adequate corrective action regarding over-torquing of RHR valves.
93-014	04-13-93	IV	Two examples of a failure to take adequate corrective action regarding steam generator manway cover installation.
93-021	06-30-93	IV	Failure to take adequate corrective action regarding QDPS seismic qualification.

Unit 2

92-026	10-16-92	IV	Failure to satisfy reporting requirements.
92-035	03-03-93	IV	Four Examples of a Failure to Assure Adequate Corrective Actions Are Completed
93-008	03-17-93	IV	Failure to take adequate corrective action regarding over-torquing of RHR valves.

LERs SINCE BEGINNING OF SALP PERIOD

Unit 1

93-007	02-04-93		TS required shutdown due to the inoperability of the turbine-driven auxiliary feedwater pump.
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Unit 2

None

## ENFORCEMENT AND REGULATORY ISSUES

### A. ESCALATED ENFORCEMENT

#### APRIL 1993

CIVIL PENALTY - The action was based on a number of violations of established procedures which resulted in the failure to inform NRC licensed operators in the control room of potentially significant conditions that could have affected the operation of the plant. Because the failures to follow established procedures involved plant management personnel, these violations were classified as a Severity Level III problem. A civil penalty was issued to emphasize the need for managers, when necessary, to promptly and properly interface with the NRC-licensed personnel in the control room and the importance of plant management personnel following or properly modifying established procedures. Mitigation of the civil penalty was appropriate for the licensee's corrective actions, but it was offset by the escalation for NRC identification and the licensee's prior opportunity to identify one of the violations. (\$75,000)

#### APRIL 1993

CIVIL PENALTY - The action was based on numerous examples of failures to adhere to procedural requirements regarding self-verification that primarily involved the failure to verify the correct unit, correct train, or correct device before conducting testing or maintenance activities. Although none of the errors resulted in adverse safety consequences, collectively they represented a significant regulatory concern and were classified as a Severity Level III problem. A civil penalty was issued to emphasize the importance of attention to detail and the need for the licensee to be aggressive in implementing corrective actions of a lasting nature. The civil penalty was partially mitigated based on the licensee's corrective actions. (\$25,000)

#### APRIL 1993

CIVIL PENALTY - The action was based on the licensee's failure to take corrective actions for a failed motor on a motor operated valve in the Unit 2 Low Head Safety Injection System. The violations involved in this action were classified as a Severity Level III problem because (1) a safety-related valve went unrepaired for 18 months despite multiple opportunities to recognize the significance of the problem, and (2) operations personnel did not recognize the technical specification implications of operating the reactor with the valve inoperable. A civil penalty was issued to emphasize the importance of ensuring that identified problems that have the potential to affect the operability of safety systems are resolved in a timely manner and are resolved commensurate with their relevance to ensuring compliance with plant Technical Specifications. Mitigation of the civil penalty was appropriate for the licensee's aggressive identification of the root causes of the self-identifying event, but was offset by the escalation for the duration of the inoperable valve and the licensee's inadequate corrective actions. (\$75,000)

#### May 1993

CIVIL PENALTY - The followup inspection after the AIT inspection identified eight apparent violations; including one where the inappropriate voiding of a post maintenance test on a Unit 1 EDG resulted in its inoperability for 24 days and a second concerning an inadequate TDAFWP surveillance test program that resulted in the Unit 1 TDAFWP being inoperable for 33 days. In addition, the inspection identified a period of 61 hours during which a second Unit 1 EDG was inoperable. During this 61-hour period, all three of these safety-related components were determined to be inoperable concurrently. An

enforcement conference was conducted April 22, 1993, and a civil penalty was assessed. (\$325,000)

MAY 1993

A special inspection (February 13 to March 17, 1993) addressed the operability of the SSPS. This inspection identified a condition that had existed since initial startup where under a steam line break accident scenario, the SSPS might not have been capable of initiating an ESF signal necessary to mitigate the consequence of the accident. An enforcement conference was conducted May 6, 1993, with one severity Level IV violation being cited.

SUMMARY OF NON-ESCALATED ENFORCEMENT SINCE START OF SALP

Unit 1

Functional Area	Level IV	Level V	NCV's	Dev
Plant Operations	3	0	0	0
Rad Controls	1	0	1	0
Maint & Surv	8	0	1	0
Emerg Preparedness	0	0	0	0
Security	0	0	1	0
Eng & Tech Support	5	0	4	0
SA/Qual Verification	5	0	0	0
Total	22	0	7	0

Unit 2

Functional Area	Level IV	Level V	NCV's	Dev
Plant Operations	4	0	0	0
Rad Controls	1	0	1	0
Maint & Surv	7	0	1	0
Emerg Preparedness	0	0	0	0
Security	0	0	1	0
Eng & Tech Support	5	0	5	0
SA/Qual Verification	3	0	0	0
Total	20	0	8	0



# SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

## EXECUTIVE SUMMARY

SALP CYCLE 010

(AUGUST 2, 1992, THRU SEPTEMBER 11, 1993)

FINAL

JANUARY 27, 1993

### I. OVERVIEW

Overall, performance has not changed appreciably since the beginning of the current SALP cycle, except in the area of maintenance/surveillance and safety assessment/quality verification. Declining performance trends have been observed in both of these areas. Numerous examples of maintenance craft personnel errors and continuing balance-of-plant, and safety-related equipment problems caused by a lack of preventive maintenance and ineffective post-maintenance testing and corrective maintenance have been identified during the last three months. The Operational Safety Team Inspection (OSTI) identified that many plant workers do not routinely use the station problem reporting process and corrective actions for some safety-related equipment problems have been ineffective or untimely.

### II. PERFORMANCE INDICATORS

Quarter 92-03

Analysis: Review of the performance indicators did not reveal that any MIP changes were required.

### III. SUMMARY OF SIGNIFICANT REGULATORY ISSUES

A summary of significant regulatory issues include the following:

- An enforcement conference is planned for several recent maintenance related personnel errors and equipment failures.
- During the quarter, there were five severity level IV violations cited in both units: two in OPs and one each in M/S, E/TS, and SA/QV.
- STP was identified as a full discussion plant and is being discussed at the January 1993, Senior Managers' Meeting.
- An operational safety team inspection (OSTI) was conducted in December 1992. Although the report is in draft, the team identified weaknesses with problem identification and the resolution of equipment problems.
- A management meeting was conducted in January 13, 1992, to discuss various STP initiatives taken to improve station performance. At this meeting the licensee acknowledged that there are problems requiring resolution in the areas of maintenance and problem identification/resolution. The licensee also addressed corrective

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actions relative to the maintenance training program which has been placed in a probationary status.

#### IV. PLANT OPERATIONS

##### PREVIOUS RATINGS

SALP 91: 2 92: 2 QPPR 01-93: (NC)

**STRENGTHS:** A walkdown of the Unit 2 auxiliary feedwater system was performed and all components were identified as being properly positioned to support system operation. The OSTI findings indicate that operators are generally motivated and perform their duties in a professional manner.

**WEAKNESSES:** A declaration of a Notification of Unusual Event was late because a shift supervisor failed to follow an Emergency Plan implementing procedure. Five ESF actuations occurred during the assessment period, one resulting from human error, indicating a weak performance trend in the area of plant operations. Low terminal voltage of a safety-related battery went unnoticed by plant operators for approximately 7 hours. Repeat failures of the toxic gas monitors have been undetected by the control room operators for periods of several days, resulting in TS violations.

**PERFORMANCE ASSESSMENT WITH RECOMMENDATIONS:** Performance in this functional area was mixed. (NC) Trend.

##### RECOMMENDED MIP REVISIONS:

###### Units 1 and 2

93802 - RI - Operational Safety Team Inspection - 0 to 250 hours per unit  
Reason: Document the completion of the OSTI

2515/117 - SI - Licensed Operator Requalification Program - 0 to 96 hours  
Reason: Document the completion of this TI

###### Unit 1

86700 - RI - Spent Fuel Pool - 0 to 20 hours  
Reason: Residents were not able to complete but were able to complete the other refueling modules

#### V. RADIOLOGICAL CONTROLS

##### PREVIOUS RATINGS

SALP 91: 1 92: 1 QPPR 01-93: (NC)

**STRENGTHS:** Excellent internal and external exposure controls were observed. Staffing of both units was adequate and superior performance was achieved concerning the control of radioactive material and contamination.

**WEAKNESSES:** None noted during this QPPR period.

**PERFORMANCE ASSESSMENT WITH RECOMMENDATIONS:** Only one inspection was conducted during this assessment period. (NC) Trend.

**RECOMMENDED MIP REVISIONS:**

Unit 2

83729 - RI - Radiation Protection During Outages - 0 to 20 hours  
Reason: Region IV area of interest

**VI. MAINTENANCE AND SURVEILLANCE**

**PREVIOUS RATINGS**

SALP 91: 2 92: 2D QPPR 01-93: (-)

**STRENGTHS:** The inservice inspection program was found to be well defined and effectively implemented. The licensee had developed a good erosion/corrosion program.

**WEAKNESSES:** Housekeeping in selected areas of the station continues to be poor, although some improvement has been noted. A violation was cited concerning an inadequate post-maintenance test conducted on an essential chiller breaker. Weaknesses were identified concerning availability and reliability of source range nuclear instruments, documentation of maintenance performed, timeliness of steam generator power-operated relief valve repair, and inadvertent emergency diesel generator (EDG) starts. A number of weaknesses were identified in the area of surveillance and test procedure adequacy and utilization of temporary changes. In addition, numerous problems were identified during the 5-year inspection of the 11 EDG, including a valid failure to start due to a lack of lubrication of the injector pump. EDG 13 failed to start on demand because of binding of the fuel injector metering rods due to paint. Two unresolved items have been identified relating to several examples of maintenance craft personnel errors. During the OSTI, it was noted that maintenance craft do not routinely use the station problem reporting process. A lack of preventive maintenance of non-Technical Specification governed equipment (e.g., security systems) is still evident. The maintenance backlog has not been significantly reduced.

**PERFORMANCE ASSESSMENT WITH RECOMMENDATIONS:** The licensee continues to experience problems in this functional area. Numerous maintenance related personnel errors and degraded/failed equipment caused by a lack of preventive maintenance are indicative of a declining trend in this area. (-) Trend.

**RECOMMENDED MIP REVISIONS:**

Units 1 and 2

62703 - RR - Maintenance Observations - 0 to 15 hours per unit

62700 - RR - Maintenance Program - 0 to 15 hours per unit

Reason: Ongoing special inspection for the I&C technician personnel error and EDG 13 inoperability

71500 - RI - Balance of Plant Inspection - 0 to 50 hours - Note: hours for this inspection taken from 62700-03

Reason: Region IV area of interest

Unit 1

61701 - RI - Complex Surveillance - 0 to 20 hours

Reason: This initiative was scheduled for the previous SALP cycle on Unit 2 and was not completed. A regional initiative team inspection in this functional area is already planned

**VII. EMERGENCY PREPAREDNESS**

**PREVIOUS RATINGS**

SALP 91: 2 92: 2 QPPR 01-93: (NC)

No inspections have been completed in this functional area for this QPPR period.

**PERFORMANCE ASSESSMENT WITH RECOMMENDATIONS:** (NC) Trend.

**RECOMMENDED MIP REVISIONS:**

None

**VIII. SECURITY**

**PREVIOUS RATINGS**

SALP 91: 1 92: 2 QPPR 01-93: (NC)

**STRENGTHS:** None noted during this assessment period.

**WEAKNESSES:** None noted during this assessment period.

**PERFORMANCE ASSESSMENT WITH RECOMMENDATIONS:** (NC) Trend.

**RECOMMENDED MIP REVISIONS:**

Units 1 and 2

81018 - RI - Security Plan and Implementing Procedures - 2 to 10 hours

81064 - RI - Compensatory Measures - 2 to 6 hours

81066 - RI - Assessment Aids - 2 to 6 hours

Reason: These changes are to support allegation followup.

**IX. ENGINEERING/TECHNICAL SUPPORT**

**PREVIOUS RATINGS**

SALP 91: 2I      91: 2      QPPR 01-93: (NC)

**STRENGTHS:** The Unit 1 fourth refueling outage appeared to be well planned. The licensee had developed a comprehensive action plan to correct problems in the MOV program.

**WEAKNESSES:** A poorly designed modification of the Unit 1 toxic gas monitoring system resulted in two Technical Specification violations. This was indicative of a lack of support to the operators. The system engineer program does not appear to be fully effective. Delays in the Unit 1 outage of approximately 2 weeks were caused by polar crane and refueling machine problems, EDG 12 repairs, and motor-operated valve (MOV) testing. During a review of the licensee's MOV program, diagnostic test data revealed that assumptions made for stem friction may not have been conservative in all cases.

**PERFORMANCE ASSESSMENT WITH RECOMMENDATIONS:** Performance was mixed. (NC) Trend.

**RECOMMENDED MIP REVISIONS:**

None

**X. SAFETY ASSESSMENT/QUALITY VERIFICATION**

**PREVIOUS RATINGS**

SALP 90: 1D    91: 2      QPPR 01-93: (-)

**STRENGTHS:** The licensee has initiated an employee survey in order to identify organizational performance issues. The licensee's trip prevention program has been effective in reducing the number of automatic reactor trips. As a result of corrective actions for the May 19, 1992 TS 3.0.3 event, the licensee has identified and corrected several deficient surveillance procedures. The

licensee has a systematic and effective method for ensuring that reliable sources of residual heat removal are maintained during outages.

**WEAKNESSES:** Two inadvertent ESF actuations resulted in violations because of untimely reporting to NRC. A third inadvertent ESF actuations occurred due to an inadequate surveillance procedure. The licensee initiated the Unplanned ESF Actuations Task Force to prevent future unplanned ESF actuations. The OSTI identified that many licensee workers are hesitant to initiate station problem reports for known problems and that corrective actions to resolve some long-standing safety-related equipment problems have been inadequate or untimely.

**PERFORMANCE ASSESSMENT WITH RECOMMENDATIONS:** The licensee's performance appears to have declined. (-) Trend.

**RECOMMENDED MIP REVISIONS:**

Units 1 and 2

37001 - RI - 10 CFR 50.59 Review - 0 to 35 hours each unit  
Reason: Region IV area of interest

2515/115 - SI - Verification of Plant Records - 4 to 0 hours  
Reason: This TI was completed last SALP cycle. A self-assessment/corrective actions regional initiative team inspection is already planned.

**XI. OFFICE OF NUCLEAR REACTOR REGULATION (NRR) ACTIVITIES**

The NRR input related to STP for the January 1993 QPPR consists of observations in the functional areas of E/TS and SA/QV:

E/TS

The licensee's review of the design for the toxic gas monitor modification was less than adequate in that it did not identify that a tripped channel could become "untripped" without operator action.

SA/QV

The general quality of submittals has been good, although on some occasions additional information was required and provided by the licensee. There was one instance where a request for additional information was untimely and delayed the completion of an amendment.

XII. ENCLOSURES

1. MIPS 2 Report
2. IFS 1 Report
3. Performance Indicators

**SUMMARY OF MIP CHANGES  
STP-UNIT 1 QPPR MEETING  
JANUARY 27, 1993**

MODULE	TITLE	AREA	ADD/ CHANGE	FM	TO	DELTA
2515/117	REQUAL PROG EVAL	OPS	A	0	96	+96
86700	SPENT FUEL POOL	OPS	C	20	0	-20
93802	OSTI	OPS	A	0	250	+250
61701	COMPLEX SURV	MS	A	0	20	+20
71500	BOP	MS	A	0	50	+50
62700-03	MAINT PRACTICES	MS	C	75	25	-50
62700-04	MAINT PRACTICES	MS	A	0	15	+15
62703-14	MAINT OBSERVATION	MS	A	0	15	+15
81018	SEC PLAN & PROCEDURES	SEC	C	2	6	+4
81064	COMPENSATORY MEASURES	SEC	C	2	6	+4
81066	ASSESSMENT AIDS	SEC	C	2	6	+4
2515/115	PLANT RECORDS	SA/QV	C	4	0	-4
37001	50.59 REVIEWS	SA/QV	A	0	35	+35
TOTAL CHANGE						+419



**SUMMARY OF MIP CHANGES  
STP-UNIT 2 QPPR MEETING  
JANUARY 27, 1993**

MODULE	TITLE	AREA	ADD/ CHANGE	FM	TO	DELTA
2515/117	REQUAL PROG EVAL	OPS	A	0	96	+96
93802	OSTI	OPS	A	0	250	+250
83729	RAD PROT - OUTAGES	RC	A	0	20	+20
71500	BOP	MS	A	0	50	+50
62700-03	MAINT PRACTICES	MS	C	75	25	-50
62700-04	MAINT PRACTICES	MS	A	0	15	+15
62703-14	MAINT OBSERVATION	MS	A	0	15	+15
81018	SEC PLAN & PROCEDURES	SEC	C	2	6	+4
81064	COMPENSATORY MEASURES	SEC	C	2	6	+4
81066	ASSESSMENT AIDS	SEC	C	2	6	+4
2515/115	PLANT RECORDS	SA/QV	C	4	0	-4
37001	50.59 REVIEWS	SA/QV	A	0	35	+35
TOTAL CHANGE						+439

NARRATIVE SUMMARY OUTLINE FOR  
PLANTS DISCUSSED AT THE LAST SMM  
SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION (STPEGS)

## I. HISTORY

STPEGS was first discussed at the January 1993 SMM. The licensee had exhibited poor and declining performance for two systematic assessment of licensee performance (SALP). In addition, repetitive hardware problems had resulted in numerous plant trips, transients, engineering safety features (ESF) actuations, and forced outages. As discussed in the Narrative Summary for the January 1993 SMM, the identified performance problems were grouped into three broad areas, including material condition and housekeeping, human performance, and organizational performance.

## II. CHANGES SINCE LAST SMM

Performance at STPEGS has continued to decline since the last SMM. The actions taken by the licensee to improve the implementation of the corrective action program, in addition to other licensee programs, has not been effective. The licensee's attempts at establishing several interdepartmental task forces to address longstanding weaknesses in material deficiencies and personnel performance has not been fully successful. Equipment concerns continue, in particular the reliability of the emergency diesel generators (EDGs), turbine-driven auxiliary feedwater pumps (TDAFWPs), safety-related motor-operated valves (MOVs), and the solid-state protection system (SSPS). Three reactor trips occurred in Unit 2 since the last SMM, resulting from balance-of-plant equipment deficiencies.

STPEGS has made several management changes since the last SMM. The Maintenance Manager resigned and was replaced by the former Deputy Plant Manager, whose position was filled by the former Planning and Assessment Manager. The new Maintenance Manager is not judged to be a strong administrator; and considering the licensee's inability to reduce the large maintenance backlog and the poor reliability of a number of safety-related components, his management skills will be challenged. A new Group Vice President-Nuclear was named and elected to the parent company's board of directors effective April 5, 1993. The new Group Vice President-Nuclear was previously employed by Entergy Operations, Inc., onsite Vice President at Grand Gulf. The retiring Group Vice President-Nuclear has been retained in a consultant role until December 1993.

A number of special inspections have been conducted at STPEGS since the last SMM. An Operational Safety Team Inspection was conducted in November 30 to December 11, 1992. The team identified weaknesses in the manner that the security and radiological controls departments support operations, in the implementation of the corrective action program by all levels of STPEGS supervision and craft workers, and in the licensee's inservice testing program.

A special inspection was conducted January 12-29, 1993, that identified eight examples of a failure to perform adequate self-verification by plant operators and maintenance workers. These eight examples represented a continuation of a negative trend in personnel performance that resulted in work being performed on the wrong component, wrong train, and wrong unit.

An Augmented Inspection Team (AIT) was sent to STPEGS February 4-24, 1993, to conduct an inspection of the issues surrounding the repeated overspeed trips of both unit's TDAFWPs. A Confirmatory Action Letter was issued as a result of these overspeed events and required that prior to either unit's restart, STPEGS management would brief the staff on the actions taken to correct the overspeed trip conditions. This brief has yet to occur; as a result both

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units remain shut down. Unit 1 continues to resolve a number of issues prior to restart. These issues include several EDG problems, MOV operability concerns, rod control operability problems, and steam generator manway leakage; in addition to the required TDAFWP testing that must be completed prior to restart. Unit 2 completed the TDAFWP testing in late February and began a regularly scheduled 78-day outage early on February 28, 1993.

The followup inspection to the AIT inspection identified eight apparent violations; including one where the inappropriate avoidance of a post maintenance test on a Unit 1 EDG resulted in its inoperability for 24 days and a second concerning an inadequate TDAFWP surveillance test program that resulted in the Unit 1 TDAFWP being inoperable for 33 days. In addition, the inspection identified a period of 61-hours where a second Unit 1 EDG was inoperable. All three of these safety-related components were determined to be inoperable concurrently.

A special inspection was conducted February 17-19 and 23-26, 1993, concerning numerous MOV deficiencies. One apparent violation of the Technical Specifications (TS) was identified, in that one train of the Unit 1 low head safety-injection system was determined to be inoperable for approximately 18-months. Two other significant weaknesses were identified concerning the licensee's failure to take appropriate corrective action to address identified deficient conditions associated with MOVs. These weaknesses indicate that the trend of station personnel being reluctant to utilize the corrective action system to document known problems is continuing.

Another special inspection was completed February 13 to March 17, 1993, concerning the operability of the SSPS. This inspection identified a condition that had existed since initial startup where under a steam line break accident scenario, the SSPS might not have been capable of initiating an ESF signal necessary to mitigate the consequence of the accident.

The Office for Analysis and Evaluation of Operational Data began a diagnostic evaluation team (DET) inspection on March 29, 1993. This inspection will complete the onsite period on April 30, 1993. As a result of the interviews conducted by the DET, a significant number of allegations have been received and forwarded to Region IV for resolution. The allegations, in addition to other preliminary DET findings do not appear to have a central theme; however, they are indicative of a work force with low morale and a management style at STPEGS that is less than receptive to addressing worker's concerns of plant material conditions and adequate procedural guidance.

As a result of the quantity of issues and their potential for safety significance, Region IV established an STPEGS Oversight Panel composed of managers in Region IV and NRR. This Panel meets weekly, and has decided, in consultation with NRR management, to invoke Manual Chapter 0350, "Staff Guidance for Restart Approval."

During the last SALP assessment period, which ended on August 1, 1992, there were several plant events, near misses, and transients that were caused by equipment failures and problems. Although the frequency of these events had decreased from the first half of that assessment period, recent events (since the last SMM) are indicative of a return to the previous negative trend of performance. The last SALP recognized that the licensee had made significant efforts to improve station reliability and the material condition of the plant; however, recent events indicate that the reliability of a number of safety-related components has decreased.

### III. FUTURE ACTIVITY

An enforcement conference is scheduled for April 22, 1993, to discuss the apparent violations identified in the AIT followup inspection that was conducted in March 1993. This activity involves four major issues: the inoperability of Unit 1's EDG No. 13 for 24 days, the inoperability of Unit

1's EDG No. 12 for 61 hours, the inoperability of Unit 1's TDAFWP for 33 days, and the overall effect on plant safety that resulted when all three of these safety-related components were inoperable concurrently.

As a result of the CAL issued to the licensee following the repeated overspeed trips of both unit's TDAFWPs on 3-4 February 1993, a public meeting to discuss the licensee's actions to resolve the overspeed conditions is scheduled for May 3, 1993. In addition to these issues, the STPEGS Oversight Panel has developed a number of further topics for resolution prior to either unit's restart.

An enforcement conference is scheduled for May 6, 1993, to discuss the circumstance surrounding the apparent violations identified in a special inspection conducted in March 1993, concerning the operability of the SSPS during certain accident conditions.

Unit 2 entered its third refueling outage on February 28, 1993. The outage is planned for 78 days. Activities planned for completion during the outage included:

- 18 month reactor coolant pump motor inspections,
- sludge lancing of all steam generators,
- main turbine low pressure gland repair,
- 98 MOV operation tests,
- Low Pressure Turbine No. 21 rotor replacement,
- Emergency Diesel Generator No. 21 5-year maintenance,
- Emergency Diesel Generators No. 22 and 23 18 month inspection,
- implementation of 53 major modifications and,
- replacement of the main feedwater control system with solid-state equipment.

Due to Unit 1 being in a forced outage because of the TDAFWP problems, little outage work has been accomplished on Unit 2, and the restart date has slipped significantly. No firm restart date has been announced by the licensee.

DATA SUMMARY  
OUTLINE

## I. OPERATIONAL PERFORMANCE

A. Scram SummaryUnit 1

None

Unit 2

- 12/27/92 A manual reactor trip from 100 percent power was inserted by operators when a steam generator feedwater regulating valve failed closed and could not be reopened from the control room. The root cause was determined to be a failed component in the feedwater regulating control system.
- 1/23/93 An automatic reactor trip from 100 percent power occurred following a turbine trip when a main turbine and steam generator feedwater pump turbine electrohydraulic control (EHC) system pipe, which was common to both turbines, failed. The root cause was determined to be a deficient component in the feedwater pump control circuitry that resulted in excessive vibration and subsequent fatigue failure of the EHC piping.
- 2/3/93 An automatic reactor trip from 100 percent power occurred following the loss of a steam generator feedwater pump and the failure of the startup feedwater pump to automatically start and maintain feedwater flow to the steam generators. The root cause of the loss of the steam generator feedwater pump was determined to be a high bearing temperature. The root cause of the loss of the startup feedwater pump was determined to be water intrusion into the pump's lubricating oil system, a condition that had previously caused the pump to trip.

B. Significant Operator Errors

On January 9, 1993, an instrumentation and controls (I & C) technician failed to practice adequate self and independent verification when setting the reactor protection over-power trip setpoints, which resulted in a non-conservative reactor trip setpoint being inserted into the SSPS. This action, in addition to seven other previous examples of improper self-verification were the subject of a special inspection that was conducted January 12-29, 1993, and a subsequent enforcement conference.

On January 25, 1993, a licensed senior reactor operator failed to follow procedures when he performed an unauthorized adjustment of the Unit 2 TDAFWP trip and throttle valve linkage.

On February 14, 1993, both licensed senior reactor operators were absent from the Unit 2 control room for a period of approximately 45 seconds. This error, which was determined to be due to operator error, resulted in a violation of the TS required staffing requirements.

On March 18, 1993, a nonlicensed operator performed an inadequate self-verification that resulted in de-energizing the plant computer. The event was attributable to a fatigue induced mental lapse as a result of eight consecutive midnight shifts, several of which were of a twelve hour duration.

On March 21, 1993, a nonlicensed operator performed an inadequate self-verification that resulted in positioning an incorrect valve associated with an essential cooling water (ECW) heat exchanger. The control room received an alarm for ECW pump discharge pressure low and informed the operator that he had positioned the wrong train's valve. The licensee determined that the individual did not utilize the self-verification process following a distraction. Contributing causes included a communications deficiencies, inadequate staffing for the implementation of this particular surveillance procedure, and the fact to event occurred during the mid shift.

On April 1, 1993, I & C technicians failed to perform an adequate self-verification that resulted in erroneously positioning an incorrect SSPS bistable switch to test. No safety systems were actuated. The licensee determined that the repetitive nature of the surveillance contributed to this event.

### C. Procedures

A number of procedure weaknesses have been identified since the last SMM. These include:

- deficient maintenance procedure that have resulted in inadequate lubrication of EDG fuel injection pump racks and incorrect utilization of measuring and test equipment,
- weak radiological procedures concerning the exiting of the radiological restricted area at remote exit points and posting radiation areas during source calibration of general area radiation detectors,
- inadequate TDAFWP surveillance testing procedures that resulted in masking TDAFWP inoperability,
- examples of poor procedural development and review that resulted in an incorrect graph being inserted into approximately 20 I & C calibration procedures,
- procedures for setting the Unit 1 TDAFWP governor valve being of insufficient scope to preclude incorrect adjustment that contributed to the overspeed trips of the Unit 1 TDAFWP, and
- an example of weak implementation of the licensee's temporary modification procedure that resulted in a portion of the main control board being de-energized.

Several examples of licensee personnel failing to follow procedures have been identified. These include:

- three examples of fire protection weaknesses due to personnel not following procedures,
- unauthorized maintenance activities being conducted on safety-related equipment without a procedure and by unqualified personnel,
- valve line-ups being altered that result in overspeed trips of the Unit 2 TDAFWP, and
- a system engineer voiding a post maintenance test following the painting of EDG 13 which resulted in masking the EDG's inoperability,

## II. CONTROL ROOM STAFFING

(HOLB)

### A. Number of Licensed Operators

<u>SRO</u>	<u>RO</u>	<u>TOTAL</u>
Licensed		
Operators		

### B. Number and Length of Shifts

C. Role of STA

At STPEGS, one STA is shared between the two units, and are not assigned to or trained with a specific shift. STA's do not hold an senior operator's license; STAs provide technical support to the shift supervisor in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the plant. The STA's primary duty is to act as an accident prevention and mitigation advisor to the shift supervisor, and has no responsibility to operate plant equipment or authority to direct reactor operations.

D. Requalification Program Evaluation

{HOLB}

III. PLANT-SPECIFIC AND UNIQUE DESIGN INFORMATION

A. Plant-Specific Information

Owners: Houston Lighting and Power Company  
City of San Antonio  
Central Power & Light Company  
City of Austin

Reactor Supplier/Type: Westinghouse/4-loop PWR

Capacity, MWT: 3800 MWT

Architect/Engineer: Bechtel

Constructor: Ebasco

Commercial Operation: Unit 1: August 25, 1988  
Unit 2: June 19, 1989

B. Unique Design Information

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

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

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

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

IV. SIGNIFICANT MPAS OR PLANT-UNIQUE ISSUES

MPA X808: Bulletin 88-08 : Licensee has removed temperature sensors from lines identified as possibly susceptible to thermal stratification. Licensee arguments are based on Westinghouse analyses which conclude that fatigue failures are not a concern for the line. EMEB has questioned the licensee's justification and is in the process of hiring a contractor to complete a detailed review.

MPA B111: GL 88-20 (IPE): Status of review, initial findings

MPA B114/115: GL 90-06: Last remaining issue was licensee's proposal to

maintain ability to test PORVs in Mode 5. Licensee has agreed to drop the Mode 5 provision and licensing actions are expected to be closed in the near future.

MPA X201: Bulletin 92-01 (Thermolag) Plant is in --- Category

MPA : Station Blackout- Actions are closed with changes made...

More to Follow From NRR Projects

#### V. STATUS OF THE PHYSICAL PLANT

##### A. Problems Attributed to Aging

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

##### B. Other Hardware Issues

Several longstanding problems associated with the ECW system (dealloying), the EDGs, the main feedwater system, essential chillers, and MOVs have not been fully resolved.

The maintenance backlog has remained high, with greater than 5000 open items on the backlog. The licensee has been unsuccessful in reducing this backlog, which has reached a size that its management is challenging STPEGS.

#### VI. PRA

{SPSB}

##### A. PRA Insights

##### B. PRA Dominant Sequences

##### C. Core Damage Precursor Events

#### VII. ENFORCEMENT HISTORY

{OE}



**SOUTH TEXAS PROJECT**  
**EXECUTIVE SUMMARY**  
**SALP CYCLE 010**  
**(AUGUST 2, 1992 THRU SEPTEMBER 11, 1993)**  
**FINAL**  
**MARCH 24, 1993**

**I. OVERVIEW**

Both units have remained shutdown since February 3, 1993, as a result of turbine-driven auxiliary feedwater pump operability concerns and other issues. Unit 2 entered its third refueling outage on February 27, 1993. Declining performance trends have been observed in the areas of plant operations, radiological controls, maintenance/surveillance, engineering/technical support, and safety assessment/quality verification. Numerous examples of little or inadequate corrective actions taken for known Technical Specification governed equipment problems, poor maintenance practices, and ineffective postmaintenance testing and corrective maintenance have been identified during the OSTI, several special inspections initiated to resolve issues, and the AIT inspection.

**II. PERFORMANCE INDICATORS**

Quarter 92-04

Analysis: Review of the performance indicators did not reveal that any MIP changes were required.

**III. SUMMARY OF SIGNIFICANT REGULATORY ISSUES**

A summary of significant regulatory issues include the following:

- A DET will be performing an inspection during March and April 1993. As a result of this initiative, a number of regional initiative inspections have been cancelled during this QPPR.
- Two enforcement conferences were conducted on March 8, 1993, concerning the TS 3.0.3 issue on May 17, 1992, and eight examples of a failure of the licensee's self-verification program. The resolution of both of these issues is pending the concurrence of the Office of Enforcement.
- An enforcement conference is scheduled for March 25, 1993, to address the operability of a number of MOVs in the residual heat removal system and the low head safety-injection system, and the repeated failure of the licensee's corrective action program to identify and correct problems.
- A special inspection was completed on March 17, 1993, concerning the operability of the solid-state protection system (SSPS). Although in

draft, a number of violations were identified, with one being considered for escalated enforcement.

- A special inspection was completed on March 12, 1993, concerning the regulatory issues identified during the AIT. Although in draft, ten apparent violations were identified, with two being considered for escalated enforcement.
- A special inspection was completed on March 19, 1993, concerning the steam generator manway leakage. A number of apparent violations were identified. The report is presently in draft.
- During the quarter, there were nine severity level IV violations cited in both units: one each in OPs, RC and SA/QV, five in M/S, and three in E/TS.
- The routine resident inspection, which is in draft, has identified two additional severity level IV violations in OPs and M/S.
- STP was discussed at the January 1995, Senior Managers' Meeting.

#### IV. PLANT OPERATIONS

##### PREVIOUS RATINGS

SALP 91: 2            92: 2            QPPR 01-93: (NC) 03-24: (NC)

**STRENGTHS:** The OSTI findings indicate that operators are generally motivated and perform their duties in a professional manner. Operators' performance during the operator license examinations was good.

**WEAKNESSES:** Both Unit 2 senior reactor operator watchstanders were absent from the control room for a period of approximately 45 seconds. An EDG was unintentionally tripped during a maintenance run because of inadequate venting of the lubricating oil piping. There appeared to be a lack of operations commitment to training needs identification. A personnel error due to inadequate self-verification by a nonlicensed operator was responsible for inadvertently deenergizing the Proteus Computer. Operators throttled the wrong train's ECW valve while conducting a test that resulted in a low flow on the operating ECW train.

**PERFORMANCE ASSESSMENT:** Performance in this functional area was mixed.

##### RECOMMENDED MIP REVISIONS:

###### Units 1 and 2

42700 - RI - 35 to 0 Hours

71500 - RI - 50 to 0 Hours

Reason: These modules being performed by DET

Unit 2

60705 - RI (FIRS) - 64 to 0 Hours

60710 - RI (FIRS) - 64 to 0 Hours

86700 - RI (FIRS) - 32 to 0 Hours

Reason: These modules being performed by DET

**V. RADIOLOGICAL CONTROLS**

**PREVIOUS RATINGS**

SALP 91: 1      92: 1      QPPR 01-93: (-) 03-24: (-)

**STRENGTHS:** None noted during this QPPR period.

**WEAKNESSES:** An individual left and reentered the radiologically restricted area on several occasions, without frisking, while transferring storage drums. An individual violated a radiological posting by entering the control room while a radiation detector surveillance was in progress. Numerous problems with the plant's toxic gas monitors were experienced because of equipment malfunctions. Two examples of the failure to adhere to TS requirements were identified. A licensee HP was observed entering the radiological control area without the required dosimetry.

**PERFORMANCE ASSESSMENT:** Licensee performance has degraded during this quarter.

**RECOMMENDED MIP REVISIONS:** None

**VI. MAINTENANCE/SURVEILLANCE**

**PREVIOUS RATINGS**

SALP 91: 2      92: 2D      QPPR 01-93: (-) 03-24: (-)

**STRENGTHS:** Three surveillance tests were witnessed and good self-verification and supervisory oversight were observed based on a review of three resident inspector reports. Two complex surveillances were effectively performed. In general, the OSTI found that work activities were conducted in accordance with procedure requirements.

**WEAKNESSES:** The Unit 1 fourth refueling outage was completed several weeks behind schedule because of refueling equipment problems and unanticipated emergency diesel generator rework. Personnel errors occurred that resulted in eight examples of work being performed on the wrong component, train, and unit. Numerous examples of repetitive corrective maintenance included an activity on the Unit 2 turbine-driven auxiliary feedwater pump. Implementation of the boric acid prevention program was poor, resulting in the failure of identified RCS leakage being appropriately dispositioned. The OSTI identified poor implementation of the licensee's lubrication control program.

The licensee's MOVATs testing group incorrectly installed a jumper in a safety-related MOV, which resulted in accuator motor failure.

A significant number of escalated enforcement issues are pending, involving inadequate corrective maintenance conducted on MOVs, EDGs, and TDAFWPs in both units

**PERFORMANCE ASSESSMENT:** The licensee continues to experience problems in this functional area. Numerous maintenance-related personnel errors caused by a lack of self-verification and degraded/failed equipment, caused by a lack of preventive and corrective maintenance, are indicative of a declining trend in this area.

**RECOMMENDED MIP REVISIONS:**

Units 1 and 2

61700 - RI - 30 to 0 Hours

61725 - RI - 18 to 0 Hours

62700-03 - RI - 25 to 0 Hours

62703-13 - RI - 25 to 0 Hours

62704 - RI - 25 to 0 Hours

62705 - RI - 25 to 0 Hours

Reason: Modules to be performed by DET

62700-05 - RI - 0 to 50 Hours

Reason: Special inspection for EDG/AFW operability

**VII. EMERGENCY PREPAREDNESS**

**PREVIOUS RATINGS**

SALP 91: 2      92: 2      QPPR 01-93: (NC) 03-24: (NA)

**STRENGTHS:** No inspections have been completed in this functional area for this QPPR period.

**WEAKNESSES:** NA

**PERFORMANCE ASSESSMENT:** NA

**RECOMMENDED MIP REVISIONS:** None

**VIII. SECURITY**

**PREVIOUS RATINGS**

SALP 91: 1      92: 2      QPPR 01-93: (NC) 03-24: (NC)

**STRENGTHS:** Some improvement was noted in the picture quality of assessment aids. Effective action had been taken to identify prepositioned compensatory post locations. The OSRE determined that STP was a good performer in this functional area.

**WEAKNESSES:** The OSTI noted that security personnel were not always responsive to operators.

**PERFORMANCE ASSESSMENT:** No changes in performance level were noted

**RECOMMENDED MIP REVISIONS:** None

## IX. ENGINEERING/TECHNICAL SUPPORT

### PREVIOUS RATINGS

SALP 91: 2I      92: 2      QPPR 01-93: (NC) 03-24: (NC)

**STRENGTHS:** Evaluators' performance during the operator license examinations was good. The training department appeared effective in implementing the licensed operator requalification training program; however, the training department did not have an approved biennial licensed operator training plan.

**WEAKNESSES:** Engineering support was poor in the resolution of an electrical load sequence problem with an essential chiller and toxic gas monitors. Both units were required to shut down because of the discovery of incorrectly calibrated components (steam line rate and negative rate pressure time constants) caused by deficient surveillance procedures. A Criterion V violation was cited because the licensee's Technical Advisory Council failed to review and approve the current biennial training plan. Poor engineering evaluations of steam generator manway stud elongation resulted in the licensee apparently over-tensioning steam generator manway studs. Engineering support in resolving MOV issues with respect to thermal binding, hydraulic lock of springpacks, valve disk wedging, and excess thrust and torque conditions was considered weak.

**PERFORMANCE ASSESSMENT:** Performance was mixed.

**RECOMMENDED MIP REVISIONS:**

Units 1 and 2

37001 - RI - 35 to 0 Hours

Reason: Module to be performed by DET

## X. SAFETY ASSESSMENT/QUALITY VERIFICATION

### PREVIOUS RATINGS

SALP 90: 1D      91: 2      QPPR 01-93: (-) 03-24: (-)

**STRENGTHS:** None noted during this QPPR period.

**WEAKNESSES:** Four Unit 1 residual heat removal pump trips, occurring in an 11-day period, were caused, in part, by procedure weaknesses and operator inattention. A station problem report (SPR) was not initiated until the fourth occurrence. The OSTI identified five examples where safety-related equipment or program implementation deficiencies were not properly identified or inadequate corrective actions were taken. The inadequacy of corrective actions for a number of MOVs was the subject of a special inspection that has resulted in escalated enforcement. Inadequate corrective action was determined to be a contributing cause to the Unit 1's TDAFWP being in an inoperability condition for approximately six weeks. One apparent violation was identified that involved eight examples of a failure to follow procedural requirements for performing self-verification; a second apparent violation was identified concerning the failure to initiate an SPR concerning the May 17, 1992, TS 3.0.3 issue. These actions were the subject of an enforcement conference. Poor follow up of identified problems concerning the over-tensioning of steam generator manway studs was identified in a special inspection completed March 19, 1993.

**PERFORMANCE ASSESSMENT:** The licensee's performance appears to have declined.

**RECOMMENDED MIP REVISIONS:**

Units 1 and 2

40500-02 - RI - 37.5 to 0 Hours

92720 - RI - 37.5 to 0 Hours

Reason: Modules to be performed by DET

92701-01 - RI - 30 to 60 Hours

Reason: Additional hours required to followup on the large number of issues at STP

**XI. OFFICE OF NUCLEAR REACTOR REGULATION (NRR) ACTIVITIES**

The NRR input related to STP for the January 1993 QPPR consists of observations in the functional areas of E/TS and SA/QV:

E/TS

The licensee's review of the design for the toxic gas monitor modification was less than adequate in that it did not identify that a tripped channel could become "untripped" without operator action.

SA/QV

The general quality of submittals has been good, although on some occasions additional information was required and provided by the licensee. There was one instance where a request for additional information was untimely and delayed the completion of an amendment.

**XII. ATTACHMENTS**

1. MIPS 2 Report
2. IFS 1 Report

**SUMMARY OF MIP CHANGES  
STP-UNIT 1 QPPR MEETING  
MARCH 24, 1993**

MODULE	TITLE	AREA	ADD/ CHANGE	FM	TO	DELTA
42700	PLANT PROCEDURES	OPS	C	35	0	-35
71500	BOP	OPS	C	50	0	-50
61700	SURV PROCEDURES	MS	C	30	0	-30
61725	ST AND CAL CONTROL PROGRAM	MS	C	18	0	-18
52700-03	MAINT PRACTICES	MS	C	25	0	-25
62703-13	MAINT OBSERVATION	MS	C	25	0	-25
62704	INSTRUMENT MAINTENANCE	MS	C	25	0	-25
62705	ELECTRICAL MAINTENANCE	MS	C	25	0	-25
62700-05	MAINT PRACTICES	MS	A	0	50	+50
37001	50.59 SAFETY EVALUATIONS	ETS	C	35	0	-35
40500-02	SAFETY ASSESSMENT	SA/QV	C	37.5	0	-37.5
92720	CORRECTIVE ACTION PROGRAM	SA/QV	C	37.5	0	-37.5
92701-01	OPEN ITEM FOLLOWUP	SA/QV	C	30	60	+30
<b>NET CHANGE</b>						<b>-263</b>



**SUMMARY OF MIP CHANGES  
STP-UNIT 2 QPPR MEETING  
MARCH 24, 1993**

MODULE	TITLE	AREA	ADD/ CHANGE	FM	TO	DELTA
42700	PLANT PROCEDURES	OPS	C	35	0	-35
71500	BOP	OPS	C	50	0	-50
60705	PREPARATION FOR REFUELING - FIRS	OPS	C	64	0	-64
60710	REFUELING ACTIVITIES - FIRS	OPS	C	64	0	-64
86700	SPENT FUEL POOL - FIRS	OPS	C	32	0	-32
61700	SURV PROCEDURES	MS	C	30	0	-30
61725	ST AND CAL CONTROL PROGRAM	MS	C	18	0	-18
62700-03	MAINT PRACTICES	MS	C	25	0	-25
62703-13	MAINT OBSERVATION	MS	C	25	0	-25
62704	INSTRUMENT MAINTENANCE	MS	C	25	0	-25
62705	ELECTRICAL MAINTENANCE	MS	C	25	0	-25
62700-05	MAINT PRACTICES	MS	A	0	50	+50
37001	50.59 SAFETY EVALUATIONS	ETS	C	35	0	-35
40500-02	SAFETY ASSESSMENT	SA/QV	C	37.5	0	-37.5
92720	CORRECTIVE ACTION PROGRAM	SA/QV	C	37.5	0	-37.5
92701-01	OPEN ITEM FOLLOWUP	SA/QV	C	30	60	+30
<b>NET CHANGE</b>						<b>-423</b>

**SOUTH TEXAS PROJECT**  
**EXECUTIVE SUMMARY**  
**SALP CYCLE 010**  
**(AUGUST 2, 1992 THRU SEPTEMBER 11, 1993)**  
**FINAL**  
**JULY 14, 1993**

**I. OVERVIEW**

Both units have remained shutdown the entire quarter, as a result of turbine-driven auxiliary feedwater pump operability concerns and other issues. Declining performance trends have continued in the areas of plant operations, maintenance/surveillance, emergency preparedness, engineering/technical support, and safety assessment/quality verification. Numerous operator performance inadequacies have been identified in routine and special inspections; the licensee's corrective action program still has not been effective in recognizing, documenting, and correcting problems; and the maintenance and engineering backlogs have increased, with no visible indications that licensee management is able to reduce these backlogs. The DET identified performance deficiencies in the areas of operations, maintenance and testing, and engineering support as well as weaknesses in management that contributed to these deficiencies.

**II. PERFORMANCE INDICATORS**

Quarter 92-04

Analysis: Review of the performance indicators did not reveal that any MIP changes were required.

**III. SUMMARY OF SIGNIFICANT REGULATORY ISSUES**

A summary of significant regulatory issues include the following:

- Severity Level III w/ a civil penalty of \$75,000 issued concerning the failure of licensee management to inform licensed operators of potentially significant conditions that could have affected the operation of the plant.
- Severity Level III w/ a civil penalty of \$25,000 issued concerning eight examples of failures to adhere to procedural requirements regarding self-verification that primarily involved the failure to verify the correct unit, correct train, or correct device before conducting testing or maintenance activities.
- Severity Level III w/ a civil penalty of \$75,000 issued concerning the failure to take corrective actions for a failed motor on a motor operated valve in the Unit 2 Low Head Safety Injection System.
- Severity Level III w/ a civil penalty of \$325,000 issued concerning a followup inspection to the AIT which identified eight apparent

C/B

violations; including one where the inappropriate voiding of a post maintenance test on a Unit 1 EDG resulted in its inoperability for 24 days and a second concerning an inadequate TDAFWP surveillance test program that resulted in the Unit 1 TDAFWP being inoperable for 33 days.

- A special inspection identified a condition that had existed since initial startup where under a steam line break accident scenario, the SSPS might not have been capable of initiating an ESF signal necessary to mitigate the consequence of the accident. An enforcement conference was conducted May 6, 1993. The SSPS was determined to be operable and one severity Level IV violation involving design control was not cited.
- Two special inspections are pending, each is being considered for escalated enforcement. The first inspection concerns several environmental qualification, adequacy of design, and corrective action issues with both unit's feedwater isolation bypass valves. The second inspection concerns licensed and non-licensed operator performance issues that resulted in spent fuel pool cooling being lost for approximately 17 hours.
- STP was placed on the list of plants that are considered poor performers, based on the June 1993, Senior Managers' Meeting.

#### IV. PLANT OPERATIONS

##### PREVIOUS RATINGS

SALP 91: 2 92: 2 QPPR 01-93: (NC) 02-93: (NC) 03-93: (-)  
07-14: (-)

**PERFORMANCE ASSESSMENT:** Weaknesses in operator performance has been noted in numerous instances. Maintaining minimum shift crew composition during Mode 4 operation was identified as a violation of TS requirements. A reactivity management issue was identified when plant operators accidentally diluted the reactor coolant system while they were attempting to add boron to the reactor coolant system. The cause of these events were human error. A failure to follow procedures resulted in the loss of a nonclass electrical buss, which led to an unplanned reactor coolant system cooldown. Multiple violations of TS occurred when the plant operators failed to maintain an operable boron injection flow path and centrifugal charging pump during control rod testing. A violation of TS occurred when the plant operators failed to place two ventilation trains in the mode required by an action statement within the required time interval. The causes of these events were inadequate operability tracking log review and postmaintenance testing.

A special inspection report, presently in draft, identified two examples of operator inadequacies in not conducting adequate shift turnovers and not performing thorough tours of the fuel handling building.

#### V. RADIOLOGICAL CONTROLS

## PREVIOUS RATINGS

SALP 91: 1 92: 1 QPPR 01-93: (-) 02-93: (-) 03-93: (NC)  
07-14: (NC)

**PERFORMANCE ASSESSMENT:** Excellent external radiation exposure controls were maintained. The content of pre-job briefings and job coverage by radiation protection personnel were excellent and excellent performance in the control of radioactive materials and contamination with a low number of personnel contaminations occurring. Total radiation exposures for the last refueling outage and for 1992 exceeded the licensee's goals; however, this was the result of the outage duration being extended. All the elements of a superior internal exposure control program were implemented. Radiological housekeeping within the radiological controlled area was good. Management's commitment to maintaining radiation exposures ALARA was strong.

## VI. MAINTENANCE/SURVEILLANCE

### PREVIOUS RATINGS

SALP 91: 2 92: 2D QPPR 01-93: (-) 02-93: (-) 03-93: (-)  
07-14: (-)

**PERFORMANCE ASSESSMENT:** Significant escalated and non-escalated enforcement actions have been taken by the Region as a result of continued poor licensee performance. In addition, the DET identified significant weaknesses in the area of maintenance.

## VII. EMERGENCY PREPAREDNESS

### PREVIOUS RATINGS

SALP 91: 2 92: 2 QPPR 01-93: (NC) 02-93: (NC) 03-93: (-)  
07-14: (-)

**PERFORMANCE ASSESSMENT:** Six exercise weaknesses were identified during the annual exercise that was conducted in this quarter; several of the weaknesses were similar to weaknesses identified in the previous year's exercise which indicates a lack of focus by the licensee to correct previously identified problems. In addition, a marginally acceptable exercise scenario was originally submitted by the licensee early in the quarter and prior to the exercise. This scenario required revision by the licensee prior to meeting the standards required to permit adequate NRC assessment of licensee emergency preparedness performance.

## VIII. SECURITY

### PREVIOUS RATINGS

SALP 91: 1 92: 2 QPPR 01-93: (NC) 02-93: (NC) 03-93: (-)  
07-14: (-)

**PERFORMANCE ASSESSMENT:** A significant number of allegations and licensee sponsored Speakout concerns are indicative of an excessive use of overtime due to excessive compensatory postings which has negatively impacted employee morale. A vulnerability was discovered in the security system by instrumentation and controls technicians; it did not appear that the root cause of the problem was pursued in a timely manner by security management. This also affected the timely implementation of compensatory measures and the licensee was slow at times to implement compensatory measures. The licensee continued to experience assessment and problems.

## **IX. ENGINEERING/TECHNICAL SUPPORT**

### **PREVIOUS RATINGS**

SALP 91: 2I 92: 2 QPPR 01-93: (NC) 02-93: (NC) 03-93: (-)  
07-14: (-)

**PERFORMANCE ASSESSMENT:** Several weaknesses, many significant, have been identified during this quarter. The licensee's vendor information program was weak; emergency diesel generators lack adequate vendor support and several control rods remain stuck in Unit 1 as a result of inadequate utilization of vendor information. Several engineering weaknesses were identified in a special inspection concerning the operability of MOVs. The licensee identified that five Unit 1 residual heat removal suction isolation valves had been torqued to levels exceeding 110 percent of the nominal actuator rating for approximately 50 cycles; the unacceptable operability determination of the overtorque condition was similar to a previous violation issued for unacceptable determinations of operability for valves that were subject to excessive thrust. An apparent inadequate engineering evaluation of the incorrect overcurrent setpoint in several molded case circuit breakers that rendered containment isolation valves inoperable remains unresolved pending further NRC review. Weakness were identified in the licensee's boric acid corrosion prevention program. In addition, the DET identified significant weaknesses in the quality of engineering support and the size of the engineering backlog.

## **X. SAFETY ASSESSMENT/QUALITY VERIFICATION**

### **PREVIOUS RATINGS**

SALP 90: 1D 91: 2 QPPR 01-93: (-) 02-93: (-) 03-93: (-)  
07-14: (-)

**PERFORMANCE ASSESSMENT:** Significant escalated and non-escalated enforcement actions have been taken by the Region as a result of continued poor licensee performance. In addition, the DET identified significant weaknesses in the licensee's corrective action program.

## **XI. OFFICE OF NUCLEAR REACTOR REGULATION (NRR) ACTIVITIES**

No input from NRR during this period.

**SUMMARY OF MIP CHANGES  
STP-UNIT 1 QPPR MEETING  
JULY 14, 1993**

MODULE	TITLE	AREA	ADD/ CHANGE	FM	TO	DELTA
71707	MONTHLY RESIDENT - ADD AN ADDITIONAL 6 OCCURRENCES	OPS	A	0	354 <sup>1</sup>	+354
64704	FIRE PROTECTION/PREVENTION PROGRAM	OPS	A&C	0	R <sup>2</sup>	NA
71500	BALANCE OF PLANT	OPS	A&C	0	R <sup>2</sup>	NA
71710	ESF SYSTEM WALKDOWN	OPS	A&C	0	R <sup>2</sup>	NA
71715	SUSTAINED CONTROL ROOM & PLANT OBSERVATION	OPS	A&C	0	R <sup>2</sup>	NA
93702-03	PROMPT ONSITE RESPONSE TO EVENTS	OPS	A&C	0	R <sup>2</sup>	NA
61700	SURV PROCEDURES & RECORDS	MS	A&C	0	R <sup>2</sup>	NA
61701-03	COMPLEX SURV	MS	A&C	0	R <sup>4</sup>	NA
61726-18	SURV OBSERVATION	MS	A&C	0	R <sup>2</sup>	NA
62703-20	MAINT OBSERVATION	MS	A&C	0	R <sup>2</sup>	NA
62704	INSTRUMENTATION MAINT	MS	A&C	0	R <sup>4</sup>	NA
62705	ELECTRICAL MAINT	MS	A&C	0	R <sup>4</sup>	NA
73756	IST OF PUMPS & VALVES	MS	A&C	0	R <sup>2</sup>	NA
61726	SURV OBSERVATION - ADD AN ADDITIONAL 6 OCCURRENCES	MS	A	0	45 <sup>1</sup>	+45
62703	MAINT OBSERVATION - ADD AN ADDITIONAL 6 OCCURRENCES	MS	A	0	67 ½ <sup>1</sup>	+67 ½
62700-02	MAINT PRACTICES	MS	C	M	R <sup>2</sup>	-41
62700-03	MAINT PRACTICES	MS	C	M	R <sup>2</sup>	+½
62700-04	MAINT PRACTICES	MS	C	M	R <sup>2</sup>	-3
82205	STAFFING & AUGMENTATION	EP	C	N	R <sup>3</sup>	00
81042-01	TESTING AND MAINT	SEC	C	M	R <sup>3</sup>	+½
81042-02	TESTING AND MAINT	SEC	C	M	R <sup>3</sup>	-2 ½
37700	DESIGN CHANGE AND MODS	ETS	C	N	R <sup>2</sup>	-30
37700	DESIGN, DESIGN CHANGES, & MODS	ETS	A	0	18 <sup>5</sup>	+18

37701	FACILITY MODIFICATIONS	ETS	A&C	0	R <sup>2</sup>	NA
37828	INSTALLATION AND TESTING OF MODS	ETS	A&C	0	R <sup>2</sup>	NA
72701	MODIFICATION TESTING	ETS	A&C	0	R <sup>2</sup>	NA
93801	SAFETY SYSTEM FUNCTIONAL INSPECTION	ETS	A&C	0	R <sup>4</sup>	NA
35702	INSPECTION OF QUALITY VERIFICATION FUNCTION	SA/QV	A&C	0	R <sup>2</sup>	NA
38701	PROCUREMENT PROGRAM	SA/QV	A&C	0	R <sup>4</sup>	NA
38702	RECEIPT STORAGE & HANDLING PROGRAM	SA/QV	A&C	0	R <sup>4</sup>	NA
39702	DOCUMENT CONTROL PROGRAM	SA/QV	A&C	0	R <sup>4</sup>	NA
40500	SAFETY ASSESSMENT	SA/QV	C	N	R <sup>2</sup>	-20
40704	IMPLEMENTATION & AUDIT PROGRAM	SA/QV	A&C	0	R <sup>2</sup>	NA
54834	HOUSEKEEPING CONTROL	SA/QV	A&C	0	R <sup>2</sup>	NA
90700	FEEDBACK OF OPERATIONAL EXPERIENCE	SA/QV	A&C	0	R <sup>2</sup>	NA
92720	CORRECTIVE ACTION	SA/QV	A&C	0	R <sup>2</sup>	NA
92700	ONSITE LER REVIEW	SA/QV	C	75	100 <sup>1</sup>	+25
92701	OPEN ITEM FOLLOWUP	SA/QV	C	60	100 <sup>1</sup>	+40
92702	CORRECTIVE ACTION - VIOLATIONS AND DEVIATIONS	SA/QV	C	30	50 <sup>1</sup>	+20
93804	RISK-BASED OPERATIONAL SAFETY & PERFORMANCE INSPECTION	SA/QV	A&C	0	R <sup>3</sup>	NA
<b>NET CHANGE</b>						<b>+474</b>

<sup>1</sup>Justification: SALP end date has been deferred due to the DET

<sup>2</sup>DET has completed 100% of this module; annotate on MIP by R (Reference)

<sup>3</sup>DET has completed 25% of this module; annotate on MIP by R (Reference)

<sup>4</sup>DET has completed 50% of this module; annotate on MIP by R (Reference)

<sup>5</sup>Review Toxic Gas Monitor Modifications

**SUMMARY OF MIP CHANGES  
STP-UNIT 2 QPPR MEETING  
JULY 14, 1993**

MODULE	TITLE	AREA	ADD/ CHANGE	FM	TO	DELTA
71707	MONTHLY RESIDENT - ADD AN ADDITIONAL 6 OCCURRENCES	OPS	A	0	354 <sup>1</sup>	+354
60710	REFUELING ACTIVITIES	OPS	C	22	42 <sup>5</sup>	+20
64704	FIRE PROTECTION/PREVENTION PROGRAM	OPS	A&C	0	R <sup>2</sup>	NA
71500	BALANCE OF PLANT	OPS	A&C	0	R <sup>2</sup>	NA
71710	ESF SYSTEM WALKDOWN	OPS	A&C	0	R <sup>2</sup>	NA
71715	SUSTAINED CONTROL ROOM & PLANT OBSERVATION	OPS	A&C	0	R <sup>2</sup>	NA
93702-02	PROMPT ONSITE RESPONSE TO EVENTS	OPS	A&C	0	R <sup>2</sup>	NA
61700	SURV PROCEDURES & RECORDS	MS	A&C	0	R <sup>2</sup>	NA
61701-01	COMPLEX SURV	MS	A&C	0	R <sup>4</sup>	NA
61726-18	SURV OBSERVATION	MS	A&C	0	R <sup>2</sup>	NA
62703-20	MAINT OBSERVATION	MS	A&C	0	R <sup>2</sup>	NA
62704	INSTRUMENTATION MAINT	MS	A&C	0	R <sup>4</sup>	NA
62705	ELECTRICAL MAINT	MS	A&C	0	R <sup>4</sup>	NA
73753-02	ISI	MS	C	16	0	-16
73756	IST OF PUMPS & VALVES	MS	C	0	R <sup>4</sup>	NA
61726	SURV OBSERVATION - ADD AN ADDITIONAL 6 OCCURRENCES	MS	A	0	45 <sup>1</sup>	+45
62703	MAINT OBSERVATION - ADD AN ADDITIONAL 6 OCCURRENCES	MS	A	0	67 1/2 <sup>1</sup>	+67 1/2
62700-02	MAINT PRACTICES	MS	C	M	R <sup>2</sup>	-41 1/2
62700-03	MAINT PRACTICES	MS	C	M	R <sup>2</sup>	00
62700-04	MAINT PRACTICES	MS	C	M	R <sup>2</sup>	00
82205	STAFFING & AUGMENTATION	EP	C	N	R <sup>3</sup>	00
81042-01	TESTING AND MAINT	SEC	C	M	R <sup>3</sup>	+ 1/2
81042-02	TESTING AND MAINT	SEC	C	M	R <sup>3</sup>	-2 1/2



37700	DESIGN CHANGE AND MODS	ETS	C	N	R <sup>2</sup>	-30
37700-02	DESIGN, DESIGN CHANGES, & MODS	ETS	A	0	17 <sup>6</sup>	+17
37701	FACILITY MODIFICATIONS	ETS	A&C	0	R <sup>2</sup>	NA
37828	INSTALLATION AND TESTING OF MODS	ETS	A&C	0	R <sup>2</sup>	NA
72701	MODIFICATION TESTING	ETS	A&C	0	R <sup>2</sup>	NA
93801	SAFETY SYSTEM FUNCTIONAL INSPECTION	ETS	A&C	0	R <sup>4</sup>	NA
35702	INSPECTION OF QUALITY VERIFICATION FUNCTION	SA/QV	A&C	0	R <sup>2</sup>	NA
38701	PROCUREMENT PROGRAM	SA/QV	A&C	0	R <sup>4</sup>	NA
38702	RECEIPT STORAGE & HANDLING PROGRAM	SA/QV	A&C	0	R <sup>4</sup>	NA
39702	DOCUMENT CONTROL PROGRAM	SA/QV	A&C	0	R <sup>4</sup>	NA
40500	SAFETY ASSESSMENT	SA/QV	C	N	R <sup>2</sup>	-20
40704	IMPLEMENTATION & AUDIT PROGRAM	SA/QV	A&C	0	R <sup>2</sup>	NA
54834	HOUSEKEEPING CONTROL	SA/QV	A&C	0	R <sup>2</sup>	NA
90700	FEEDBACK OF OPERATIONAL EXPERIENCE	SA/QV	A&C	0	R <sup>2</sup>	NA
92720	CORRECTIVE ACTION	SA/QV	A&C	0	R <sup>2</sup>	NA
92700	ONSITE LER REVIEW	SA/QV	C	75	175 <sup>1</sup>	+100
92701	OPEN ITEM FOLLOWUP	SA/QV	C	60	100 <sup>1</sup>	+40
92702	CORRECTIVE ACTION - VIOLATIONS AND DEVIATIONS	SA/QV	C	30	45 <sup>1</sup>	+15
93804	RISK-BASED OPERATIONAL SAFETY & PERFORMANCE INSPECTION	SA/QV	A&C	0	R <sup>3</sup>	NA
<b>NET CHANGE</b>						<b>+549</b>

<sup>1</sup>Justification: SALP end date has been deferred due to the DET

<sup>2</sup>DET has completed 100% of this module; annotate on MIP by R (Reference)

<sup>3</sup>DET has completed 25% of this module; annotate on MIP by R (Reference)

<sup>4</sup>DET has completed 50% of this module; annotate on MIP by R (Reference)

<sup>5</sup>Extended refueling outage in unit 2

<sup>6</sup>Review Toxic Gas Monitor Modifications