

The Light company

Houston Lighting & Power

South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

May 15, 1991

ST-HL-AE-3772

File No.: G02

10CFR50.71

U. S. Nuclear Regulatory Commission
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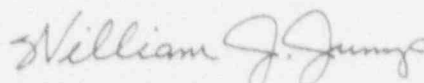
South Texas Project Electric Generating Station
Units 1 & 2

Docket Nos. STN 50-498 & 50-499

Monthly Operating Reports for April, 1991

Pursuant to 10CFR50.71(a) and South Texas Project Electric Generating Station (STPEGS) Technical Specification 6.9.1.5, attached are the Monthly Operating Reports for April, 1991.

If you should have any questions on this matter, please contact Mr. C. A. Ayala at (512) 972-8628.



William J. Jump
Manager
Nuclear Licensing

MKJ/kmd

Attachments: 1) STPEGS Unit 1 Monthly Operating Report - April, 1991
2) STPEGS Unit 2 Monthly Operating Report - April, 1991

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Houston Lighting & Power Company
South Texas Project Electric Generating Station

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Revised 01/29/91

L4/NRC/

SOUTH TEXAS PROJECT
ELECTRIC GENERATING STATION
UNIT 1
MONTHLY OPERATING REPORT
APRIL 1991
HOUSTON LIGHTING AND POWER CO.
NRC DOCKET NO. 50-498
LICENSE NO. NPF-76

Reviewed By:	<u>AL P. G. L.</u>	<u>5/7/91</u>
	Supervisor	Date
Reviewed By:	<u>D. J. Den</u>	<u>5/9/91</u>
	Plant Engineering Manager	Date
Approved By:	<u>W. J. Smith</u>	<u>5/13/91</u>
	Plant Manager	Date

Monthly Summary

Following a refueling outage, STPEGS Unit 1 was returned to service for normal operation on 4/4/91 at 2249. On 4/9/91 at 0546 the plant was taken to Mode 3 as per technical specification requirements due to the failure of the "D" train Feedwater Isolation Valve to stroke during surveillance testing. The solenoids were disassembled revealing the presence of gel which prevented the valve from stroking. Root cause inspection identified the depletion of the desiccant filter on top of the valve reservoir as being the cause of the gel formation. The filters were replaced and the unit returned to service on 4/11/91 at 2117.

The unit tripped on 4/12/91 at 0415 following the failure of the Rod Drive Motor Generator sets. Investigation determined the cause to be the failure of a timer relay in one of the motor generator sets which caused instability in the voltage regulator operation of the other generator set. The relay was replaced and the unit returned to service on 4/13/91 at 2303.

The unit operated for the remainder of the reporting period with no shutdowns or significant power reductions.

OPERATING DATA REPORT

DOCKET NO. 50-498
UNIT 1
DATE May. 7, 1991
COMPLETED BY A.P. Kent
TELEPHONE 512/972-7786

OPERATING STATUS

1. REPORTING PERIOD: 04/01-04/30 GROSS HOURS IN REPORTING PERIOD: 719
2. CURRENTLY AUTHORIZED POWER LEVEL (MWt): 3800
- MAX.DEPEND.CAPACITY (MWe-Net): 1250.6
- DESIGN ELECTRICAL RATING (MWe-Net): 1250.6
3. POWER LEVEL TO WHICH RESTRICTED (IF ANY)(MWe-Net): None
4. REASONS FOR RESTRICTION (IF ANY): N/A

	THIS MONTH	YR TO DATE	CUMULATIVE
5. NUMBER OF HOURS REACTOR WAS CRITICAL.....	<u>631.9</u>	<u>640.5</u>	<u>14421.6</u>
6. REACTOR RESERVE SHUTDOWN HOURS.....	<u>0</u>	<u>0</u>	<u>0</u>
7. HOURS GENERATOR ON LINE.....	<u>526.9</u>	<u>526.9</u>	<u>13668.3</u>
8. UNIT RESERVE SHUTDOWN HOURS.....	<u>0</u>	<u>0</u>	<u>0</u>
9. GROSS THERMAL ENERGY GENERATED (MWt).....	<u>1648852</u>	<u>1648852</u>	<u>49327060</u>
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)...	<u>544880</u>	<u>544880</u>	<u>16642370</u>
11. NET ELECTRICAL ENERGY GENERATED (MWH)....	<u>506735</u>	<u>470842</u>	<u>15595325</u>
12. REACTOR SERVICE FACTOR.....	<u>87.9%</u>	<u>22.2%</u>	<u>61.4%</u>
13. REACTOR AVAILABILITY FACTOR.....	<u>87.9%</u>	<u>22.2%</u>	<u>61.4%</u>
14. UNIT SERVICE FACTOR.....	<u>73.3%</u>	<u>18.3%</u>	<u>58.2%</u>
15. UNIT AVAILABILITY FACTOR.....	<u>73.3%</u>	<u>18.3%</u>	<u>58.2%</u>
16. UNIT CAPACITY FACTOR (Using MDC).....	<u>56.4%</u>	<u>13.1%</u>	<u>53.1%</u>
17. UNIT CAPACITY FACTOR (Using Design MWe)...	<u>56.4%</u>	<u>13.1%</u>	<u>53.1%</u>
18. UNIT FORCED OUTAGE RATE.....	<u>16.8%</u>	<u>45.6%</u>	<u>17.3%</u>
19. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE, AND DURATION OF EACH):	<u>N/A</u>		
20. IF SHUT DOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP:	<u>N/A</u>		

AVERAGE DAILY UNIT POWER LEVEL

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DOCKET NO. 50-498
UNIT 1
DATE May. 6, 1991
COMPLETED BY A. P. Kent
TELEPHONE 512/972-7786

MONTH APRIL

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	0
2	0
3	0
4	6
5	241
6	301
7	605
8	918
9	66
10	0
11	0
12	17
13	0
14	504
15	937
16	942

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	945
18	992
19	1206
20	1243
21	1247
22	1247
23	1248
24	1253
25	1250
26	1250
27	1252
28	1250
29	1250
30	1252
31	N/A

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-498
 UNIT 1
 DATE May. 6, 1991
 COMPLETED BY A.P. Kent
 TELEPHONE 512/972-7786

REPORT MONTH APRIL

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component Code ⁵	Cause & Corrective Action to Prevent Recurrence
91-01	910115	S	83.5	C	4	N/A	N/A	N/A	Refueling and scheduled maintenance outage.
91-02	910404	S	2.4	B	9	N/A	N/A	N/A	Turbine overspeed trip test.
91-03	910409	F	63.5	D	1	1-91-011	SJ	ISV	The "D" train FWIV failed to stroke during its first weekly surveillance following IRE03. The valve eventually stroked but the reason for the failure was unknown. The valve was placed on a daily stroke frequency and again failed to stroke. Technical specifications required the plant to be taken to Mode 3. Inspection revealed the presence of gel which prevented the "D" train valve from stroking. Chemistry samples had been taken on the FWIV hydraulic fluid on 3/19/91 and sent offsite for analysis. Analysis identified a high water content but analytical results were not

¹F: Forced
 S: Scheduled

²Reason:
 A-Equipment Failure (Explain)
 B-Maintenance or Test
 C-Refueling
 D-Regulatory Restriction
 E-Operator Training & License Exam
 F-Administrative
 G-Operational Error (Explain)
 H-Other (Explain)

³Method:
 1-Manual
 2-Manual Scram
 3-Automatic Scram
 4-Cont. of Existing
 Outage
 5-Reduction
 9-Other

⁴IEEE 805-1983

⁵IEEE 903A-1983

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UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-498
 UNIT 1
 DATE May 6, 1991
 COMPLETED BY A.P. Kent
 TELEPHONE 512/972-7786

REPORT MONTH APRIL

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component ⁵ Code	Cause & Corrective Action to Prevent Recurrence
91-04	910412	F	42.7	A	3	1-91-012	AA	RLY	<p>transmitted to the site prior to the valve failure. A root cause inspection identified that the desiccant filter on top of the reservoir was depleted. The solenoid pilot valves on the "D" train FWIV were changed out, the hydraulic system flushed and the desiccant filter replaced. The inspection of desiccant filters on all other FWIV's indicated various degrees of depletion; new filters were installed.</p> <p>Corrective actions to prevent recurrence include improving analysis, maintenance and testing methods.</p> <p>The unit tripped from 40% reactor power on negative rate following the loss of both Rod Drive Motor Generator (RDMG) sets. The 2R timer had a defective output switch. Intermittent pick-up and drop-out of the 2R relay caused instability in the</p>

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 C-Refueling
 D-Regulatory Restriction
 E-Operator Training & License Exam
 F-Administrative
 G-Operational Error (Explain)
 H-Other (Explain)

³Method:
 1-Manual
 2-Manual Scram
 3-Automatic Scram
 4-Cont. of Existing
 Outage
 5-Reduction
 9-Other

⁴IEEE 805-1983

⁵IEEE 803A-1983

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UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-498
 UNIT 1
 DATE May 6, 1991
 COMPLETED BY A.P. Kent
 TELEPHONE 512/972-7786

REPORT MONTH APRIL

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component ⁵ Code	Cause & Corrective Action to Prevent Recurrence
									voltage regulator operation for RDMG #12. The instability resulted in transients that caused a reverse current trip of RDMG #11. As the timer switch continued to degrade the field current and output voltage was lost on RDMG #12. The loss of both power sources to the Reactor Trip Switch-gear resulted in a reactor trip. The 2R relay timer and control relay were replaced and a feedback form was submitted for a more detailed check of these timer switches during outage PMs.

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 B-Maintenance or Test
 C-Refueling
 D-Regulatory Restriction
 E-Operator Training & License Exam
 F-Administrative
 G-Operational Error (Explain)
 H-Other (Explain)

³Method:
 1-Manual
 2-Manual Scram
 3-Automatic Scram
 4-Cont. of Existing
 Outage
 5-Reduction
 9-Other

⁴IEEE 805-1983

⁵IEEE 803A-1983

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PORVs and Safety Valves Summary

There were no PORV or Safety Valves challenged during the reporting period.

SOUTH TEXAS PROJECT
ELECTRIC GENERATING STATION
UNIT 2
MONTHLY OPERATING REPORT
APRIL 1991
HOUSTON LIGHTING AND POWER CO.
NRC DOCKET NO. 50-499
LICENSE NO. NPF-80

Reviewed By:

AL P. G. L.
Supervisor

5/7/91
Date

Reviewed By:

[Signature]
Plant Engineering Manager

5/9/91
Date

Approved By:

[Signature]
Plant Manager

5/13/91
Date

Monthly Summary

STPEGS Unit 2 was returned to service for normal operation on 4/2/91 at 0716 following a trip that occurred on 3/30/91. The unit operated for the remainder of the reporting period with no shutdowns or significant power reductions.

OPERATING DATA REPORT

DOCKET NO. 50-499
UNIT 2
DATE May 7, 1991
COMPLETED BY A. P. Kent
TELEPHONE 512/972-7786

OPERATING STATUS

1. REPORTING PERIOD: 04/01-04/30 GROSS HOURS IN REPORTING PERIOD: 719
2. CURRENTLY AUTHORIZED POWER LEVEL (MWt): 3800
MAX. DEPEND. CAPACITY (MWe-Net): 1250.6
DESIGN ELECTRICAL RATING (MWe-Net): 1250.6
3. POWER LEVEL TO WHICH RESTRICTED (IF ANY) (MWe-Net): None
4. REASONS FOR RESTRICTION (IF ANY): N/A

	THIS MONTH	YR TO DATE	CUMULATIVE
5. NUMBER OF HOURS REACTOR WAS CRITICAL.....	<u>719.0</u>	<u>2784.5</u>	<u>11765.8</u>
6. REACTOR RESERVE SHUTDOWN HOURS.....	<u>0</u>	<u>0</u>	<u>0</u>
7. HOURS GENERATOR ON LINE.....	<u>687.7</u>	<u>2690.6</u>	<u>11036.2</u>
8. UNIT RESERVE SHUTDOWN HOURS.....	<u>0</u>	<u>0</u>	<u>0</u>
9. GROSS THERMAL ENERGY GENERATED (MWt).....	<u>2578032</u>	<u>9984814</u>	<u>39690082</u>
10. GROSS ELECTRICAL ENERGY GENERATED (MWH)...	<u>873470</u>	<u>3390780</u>	<u>13413250</u>
11. NET ELECTRICAL ENERGY GENERATED (MWH)...	<u>835220</u>	<u>3239149</u>	<u>12687917</u>
12. REACTOR SERVICE FACTOR.....	<u>100.0%</u>	<u>96.7%</u>	<u>72.0%</u>
13. REACTOR AVAILABILITY FACTOR.....	<u>100.0%</u>	<u>96.7%</u>	<u>72.0%</u>
14. UNIT SERVICE FACTOR.....	<u>95.7%</u>	<u>93.5%</u>	<u>67.5%</u>
15. UNIT AVAILABILITY FACTOR.....	<u>95.7%</u>	<u>93.5%</u>	<u>67.5%</u>
16. UNIT CAPACITY FACTOR (Using MDC).....	<u>92.9%</u>	<u>90.0%</u>	<u>62.1%</u>
17. UNIT CAPACITY FACTOR (Using Design MWe)...	<u>92.9%</u>	<u>90.0%</u>	<u>62.1%</u>
18. UNIT FORCED OUTAGE RATE.....	<u>4.3%</u>	<u>6.5%</u>	<u>17.9%</u>
19. SHUTDOWNS SCHEDULED OVER NEXT 6 MONTHS (TYPE, DATE AND DURATION OF EACH): Refueling and scheduled maintenance outage to begin September 28, 1991.			
20. IF SHUT DOWN AT END OF REPORT PERIOD, ESTIMATED DATE OF STARTUP: <u>N/A</u>			

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-499

UNIT 2

DATE May. 7, 1991

COMPLETED BY A.P. Kent

TELEPHONE 512/972-7786

MONTH APRIL

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	0
2	196
3	1067
4	1243
5	1246
6	1237
7	1252
8	1254
9	1246
10	1242
11	1239
12	1242
13	1239
14	1249
15	1248
16	1249

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	1248
18	1246
19	1246
20	1245
21	1246
22	1247
23	1246
24	1246
25	1250
26	1244
27	1248
28	1248
29	1247
30	1243
31	N/A

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-499
 UNIT 2
 DATE May. 7, 1991
 COMPLETED BY A.P. Kent
 TELEPHONE 512/972-7786

REPORT MONTH APRIL

No.	Date	Type ¹	Duration (Hours)	Reason ²	Method of Shutting Down Reactor ³	Licensee Event Report #	System Code ⁴	Component ⁵ Code	Cause & Corrective Action to Prevent Recurrence
91-05	910330	F	31.3	A	4	2-91-004	EL	RLY-86	<p>Reactor/Turbine trip due to Main Generator Lockout. The lockout occurred at the same time Unit 1 closed switchyard breaker Y510. The actuation of the Main Generator Isophase Bus relay and subsequent Main Generator Lockout was caused by a difference in the saturation rates of the Current Transformers associated with the Isophase Bus Relay.</p> <p>The evaluation of the test data collected for the Main Generator Isophase Bus relay and the associated Current Transformers is expected to be completed by July 31, 1991. Temporary modifications have been implemented to remove the trip capability of the Isophase Bus relays. An evaluation will be completed by September, 1991 to determine methods to minimize current transients during switchyard circuit breaker switching operations.</p>

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 G-Operational Error (Explain)
 H-Other (Explain)

³Method:
 1-Manual
 2-Manual Scram
 3-Automatic Scram
 4-Cont. of Existing
 Outage
 5-Reduction
 9-Other

⁴IEEE 805-1983

⁵IEEE 803A-1983

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ATTACHMENT 2

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PORVs and Safety Valves Summary

There were no PORV or Safety Valves challenged during the reporting period.