

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1) **South Texas, Unit 1** DOCKET NUMBER (2) **05000498** PAGE (3) **1 OF 4**

TITLE (4) **Erratic Containment Extended Range Pressure Channel Output**

EVENT DATE (5)			LER NUMBER (6)		REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
04	20	91	014	02	01	15	92		05000
									05000

OPERATING MODE (9) **1** THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5 (Check one or more of the following) (11)

20.402(b)	<input type="checkbox"/>	20.405(a)	<input type="checkbox"/>	50.73(a)(2)(iv)	<input type="checkbox"/>	73.71(b)	<input type="checkbox"/>
20.405(a)(1)(i)	<input type="checkbox"/>	50.36(a)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	<input type="checkbox"/>	73.71(c)	<input type="checkbox"/>
20.405(a)(1)(ii)	<input type="checkbox"/>	50.36(a)(2)	<input checked="" type="checkbox"/>	50.73(a)(2)(vi)	<input type="checkbox"/>	OTHER (Specify in Abstract below and in Text, NRC Form 366A)	<input type="checkbox"/>
20.405(a)(1)(iii)	<input type="checkbox"/>	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)	<input type="checkbox"/>		
20.405(a)(1)(iv)	<input type="checkbox"/>	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(viii)(B)	<input type="checkbox"/>		
20.4.8(a)(1)(v)	<input type="checkbox"/>	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(ix)	<input type="checkbox"/>		

LICENSEE CONTACT FOR THIS LER (12)

NAME **Charles Ayala - Supervising Licensing Engineer** TELEPHONE NUMBER **512972-8628**

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
B	I	PPDT	I 204	Yes					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

On April 20, 1991, Unit 1 was in mode 1 at 100% power. At 0406 hours, while conducting a containment supplemental purge to lower the containment pressure in response to a Containment High Pressure alarm, containment extended range pressure channel 9759 was found to read 5 psig while channel 9760 read 0 psig. Channel 9759 was declared inoperable at 0407 hours. Review of historical computer records indicated that the channel had been inoperable in excess of the seven-day allowed outage time. After initial recalibration, subsequent channel check surveillance revealed an additional erratic output signal by the transmitter. The transmitter control card was replaced and the transmitter was calibrated. Channel checks were performed weekly for one month to confirm the channel was repaired. Although no generic failure mechanism has been established, the failure rates are consistent with industry experience. These transmitters are being monitored under the facility trending program.

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LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20586 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, D.C. 20503.

FACILITY NAME (1) South Texas, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 9 8 9 1	LER NUMBER (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		9 1	- 0 1 4	- 0 1 0	2	OF 0 4

TEXT (If more space is required, use additional NRC Form 366A's) (17)

DESCRIPTION OF EVENT:

On April 20, 1991, Unit 1 was in mode 1 at 100% power. At 0402 hours, the Containment High Pressure annunciator was received in the Control Room. At 0406 hours, containment supplemental purge was commenced to lower the containment pressure. Periodic purging to control containment pressure is part of normal operation at South Texas. Containment pressure may increase due to warming of containment air during plant heatup or due to normal flow of instrument air into containment. While monitoring the containment pressure indications, an operator noticed that containment extended range pressure channel 9759 read 5 psig and channel 9760 read 0 psig. The channel check acceptance value for the difference between the two channels is 4 psig. Consequently, at 0407 hours, extended range pressure monitor 9759 was declared inoperable based on channel check acceptance criteria.

Pressure transmitter 9759 was calibrated on April 21, 1991, and returned to service. It was declared operable at 2250 hours on April 21. The loop was monitored for three days with no abnormal indications. The monthly channel check surveillance was performed on April 29, 1991, and channel 9759 again read about 5 psig. The channel was declared inoperable at 0819 hours. The control card was replaced and the instrument was recalibrated.

Extended-range containment pressure instrumentation is required to be operable by Technical Specification 3.3.3.6 for use in post-accident monitoring. If one less than the two available channels is operable, the inoperable channel must be returned to service within seven days or the plant must be shut down within the next 12 hours. The channels are channel-checked monthly and calibrated every refueling outage. Review of historical plant computer records revealed that channel 9759 had been erratic since March 22, 1991 and exceeded the channel check acceptance criteria on March 23, 1991. However, when the monthly channel check was performed on March 24, 1991, the instrument had drifted back to specification limits and passed the channel check.

Since the erratic channel had existed for more than the seven days allowed, the NRC was notified at 0108 hours on April 21, 1991.

The control card was examined and was found to have a cracked thermistor; however the erratic behavior of the pressure transmitter cannot be positively attributed to this thermistor.

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TEXT (If more space is required, use additional NRC Form 305A's) (17)

CAUSE OF EVENT:

This channel failed due to a bad control card. The specific failure mechanism for the control card is unknown, but may be due to a cracked thermistor. Further investigation has not identified any generic concerns with the Barton 752 transmitter.

ANALYSIS OF EVENT:

Monitoring of containment pressure is important during an accident to ensure containment integrity. The consequences of this instrument malfunction are an increased risk of inappropriate actions in an accident condition due to erroneous indication. However, instrument redundancy was provided by channel 9760. This event did not result in any adverse safety or radiological concerns, nor did it threaten the safety of the public at any time. Reportability of this event was discussed with the Senior Resident Inspector and Mr. J. Crooks of the NRC. Since firm evidence in computer historical data was available regarding the length of time the channel was out-of-service, Question 2.3 of NUREG-1022, Supplement 1, was found to apply. Accordingly, this event represents operation in a condition prohibited by Technical Specifications, which is reportable pursuant to 10CFR50.73(a)(2)(i)(B).

CORRECTIVE ACTIONS:

The following corrective actions are being taken as a result of this event:

1. After the first discovery of the inoperable channel, the channel was calibrated and returned to service on April 21, 1991.
2. After the second discovery of the inoperable channel, the channel was removed from service, the control card was replaced, and the channel was returned to service on May 3, 1991.
3. Weekly channel checks were performed until May 31, 1991, to verify that the channel had been repaired by the card replacement.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (if more space is required, use additional NRC Form 386A's) (17)

CORRECTIVE ACTIONS: (Cont'd)

.. Using NPRDS data, HL&P has evaluated the failure rate of safety-related Barton Model 752 transmitters in pressure-related applications at STPEGS where repair or replacement was required. No generic concern has been identified. The failures at STPEGS have been attributed to normal aging or to unknown causes. No evidence of improper maintenance or operation is indicated as a cause for failure. These transmitters are being monitored under the facility trending program to identify failure trends should they develop.

No generic mechanism for failures of the STPEGS Barton 752 transmitters has been identified. Review of the NPRDS database up to December 19, 1991, indicates that the failure rate is consistent with that experienced by the rest of the industry as reported to NPRDS.

- Procedures have been clarified to ensure that plant operators check the extended range containment pressure readings when Containment High Pressure is annunciated in the Control Room. This action was taken to minimize the potential for exceeding the allowed outage time of the extended range containment pressure channel.

ADDITIONAL INFORMATION:

The affected transmitter is a Barton Model 752. No corrective maintenance has previously been required on the Barton Model 752 for containment pressure channel 9759. Necessary information has been submitted to NPRDS.

NPRDS includes fourteen previously reported failures of safety-related Barton 752 transmitters in pressure-related applications at STPEGS which required repair or replacement since December 1988 (ten from Unit 1, and four from Unit 2).

There have been no previous LERs due to transmitter failure.

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