

# The Light company

Houston Lighting & Power South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

April 17, 1990  
ST-HL-AE-3126  
File No.: G2.06, G20.02.01  
10CFR50.90

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

South Texas Project Electric Generating Station  
Units 1 and 2  
Docket Nos. STN 50-498, STN 50-499  
Proposed Amendment to the  
Unit 2 Technical Specifications, 4.5.1.1.d and Table 4.3-2

Reference 1: Letter from G. E. Vaughn to the NRC dated March 11, 1988  
(ST-HL-AE-2534)

Reference 2: Letter from G. E. Vaughn to the NRC dated March 18, 1988  
(ST-HL-AE-2562)

The purpose of this submittal is to request proposed changes to Technical Specifications surveillance 4.5.1.1.d and Table 4.3-2 for Units 1 and 2 of the South Texas Project Electric Generating Station (STPEGS). Houston Lighting & Power (HL&P) understands that the referenced submittals are not currently under NRC review. The referenced submittals requested proposed amendments to the Unit 1 Operating License. However, since the references were submitted STPEGS Unit 2 has been licensed and combined Technical Specifications have been issued for Units 1 and 2. Therefore, it is appropriate to request the review and approval of the references for use in the combined Technical Specifications of Units 1 and 2 at STPEGS.

By Reference 1, STPEGS proposed to amend the Operating License for Unit 1 by deleting Surveillance Requirement 4.5.1.1.d. This surveillance requires verification that each Safety Injection (SI) accumulator isolation valve opens automatically when an actual or simulated Reactor Coolant System pressure signal exceeds the P-11 setpoint, and on an SI signal. HL&P is now requesting this proposed change for STPEGS Units 1 and 2. Reference 1 is included in the attached significant hazards evaluation.

By Reference 2, STPEGS proposed to amend the Operating License for Unit 1 by deleting Table 4.3-2, Note 5 and adding to Note 4 of Table 4.3-2 slave relay quarterly test exemptions for the Accumulator Discharge Isolation Valves and the 48-inch Purge Supply and Exhaust Valves. HL&P is now requesting this proposed change for STPEGS Units 1 and 2. Reference 2 is included in the attached significant hazards evaluation.

NL.88.313.02

A Subsidiary of Houston Industries Incorporated

9004270194 900417  
PDR ADOCK 05000498  
P FDC

Appl  
11

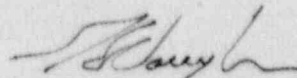
Accordingly, pursuant to 10CFR50.90, HL&P hereby proposes to amend Operating Licenses NPF-76 and NPF-80 by incorporating the proposed changes into the Technical Specifications when issued by the NRC.

HL&P has reviewed these proposed amendments pursuant to 10CFR50.92 and determined that they do not involve any significant hazards consideration. The significant hazards evaluations submitted for Unit 1 (letters dated March 11, 1988 and March 18, 1988) are applicable to Unit 2 and are provided as Attachment 1. In addition, based on the information contained in this submittal and the NRC Final Environmental Assessment for STPEGS Units 1 and 2, HL&P has concluded that, pursuant to 10CFR51, there are no significant radiological or nonradiological impacts associated with the proposed action and the proposed license amendment will not have a significant effect on the quality of the environment.

The STPEGS Nuclear Safety Review Board has reviewed and approved the proposed changes.

In accordance with 10CFR50.91(b), HL&P is providing the State of Texas with a copy of this proposed amendment.

If the NRC should have any questions concerning this matter, please contact Mr. M. A. McBurnett at (512) 972-8530 or myself at (512) 972-7921.



G. E. Vaughn  
Vice President  
Nuclear Generation

GCS/n1

Attachments: Significant Hazards Evaluation  
for Changes to Technical  
Specifications for STPEGS  
Units 1 & 2

Houston Lighting & Power Company  
South Texas Project Electric Generating Station

ST-HL-AE- 3126  
File No.: G2.06, G20.02.01  
Page 3

cc:

Regional Administrator, Region IV  
Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76011

George Dick, Project Manager  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

J. I. Tapia  
Senior Resident Inspector  
c/o U. S. Nuclear Regulatory  
Commission  
P. O. Box 910  
Bay City, TX 77414

J. R. Newman, Esquire  
Newman & Holtzinger, P.C.  
1615 L Street, N.W.  
Washington, DC 20036

D. E. Ward/R. P. Verret  
Central Power & Light Company  
P. O. Box 2121  
Corpus Christi, TX 78403

J. C. Lanier  
Director of Generation  
City of Austin Electric Utility  
721 Barton Springs Road  
Austin, TX 78704

R. J. Costello/M. T. Hardt  
City Public Service Board  
P. O. Box 1771  
San Antonio, TX 78296

Rufus S. Scott  
Associate General Counsel  
Houston Lighting & Power Company  
P. O. Box 61867  
Houston, TX 77208

INPO  
Records Center  
1100 Circle 75 Parkway  
Atlanta, GA 30339-3064

Dr. Joseph M. Hendrie  
50 Bellport Lane  
Bellport, NY 11713

D. K. Lackner  
Bureau of Radiation Control  
Texas Department of Health  
1100 West 49th Street  
Austin, TX 78704

Revised 12/15/89

L4/NRC/

In the Matter

Docket Nos. 50-498  
50-499

Wagner


 SHARON DONAHY  
 Notary Public  
 STATE OF TEXAS  
 My Comm. Exp. Apr. 6, 1991

NL.88.313.02



ATTACHMENT 1

SIGNIFICANT HAZARDS EVALUATION FOR CHANGES  
TO TECHNICAL SPECIFICATIONS FOR STPEGS UNITS 1 & 2

(RESUBMITTAL FOR UNIT 1, NEW SUBMITTAL FOR UNIT 2)

# The Light company

Houston Lighting & Power P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

March 11, 1988  
ST-HL-AE-2534  
File No.: G20.02  
10CFR50.90

Oper. Nuc. Lic (713) 228-9211	
MAM	
Action	Info
FWV	
PLW	
SMH	
CAA	
LJM	

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

South Texas Project Electric Generating Station  
Unit 1  
Docket No. STN 50-498  
Proposed Deletion of Technical Specification 4.5.1.1d.

Pursuant to 10CFR50.90, Houston Lighting & Power (HL&P) hereby proposes to amend its Operating License, NPF-71, by incorporating the attached proposed change to the Technical Specifications, NUREG-1255, for South Texas Unit 1. We would appreciate your expeditious review of the matter. This change is not considered an item for the full power Operating License Technical Specifications.

Specifically, HL&P is proposing the deletion of Surveillance Requirement 4.5.1.1d. which requires verification that each SI accumulator isolation valve opens automatically when an actual or simulated RCS pressure signal exceeds the P-11 (SI unblock) setpoint, and on an SI signal.

## Discussion

Since Technical Specification 3.5.1 and 4.5.1.1a.2 require that the isolation valves be open with power removed at all times during Modes 1, 2 and 3, with pressurizer pressure above 1000 psig, and that the valves be verified to be open at least once per 24 hours, the requirements of 4.5.1.1d. are unnecessary. When the valves are deenergized, an auto-open signal will be completely ineffective. These valves are interlocked such that:

- (1) They open automatically on receipt of an SI signal with the main control board switch in either the "AUTO" or "Close" position,
- (2) They open automatically whenever the RCS pressure is above the SI unblock pressure (P-11) and only when the main control board switch is in the "Auto" position,
- (3) They can not be closed as long as an SI signal is present.

The "maintain closed" position is required to provide an administratively controlled manual block of the automatic opening of the valve at pressure

above the SI unblock pressure (P-11). The manual block or "maintain closed" position is required when performing periodic check valve leakage tests when the reactor is at operating pressure. The valve is closed from the control board by placing it in the "maintain closed" position. Administrative controls are in place to ensure that any accumulator valves that have been closed at pressures above the SI unblock pressure are returned to the "Auto" position. Additionally, as mentioned previously, Technical Specification 4.5.1.1a.2) requires that the isolation valve be verified to be open with power removed every 24 hours.

This proposed amendment has already been approved and the surveillance requirement deleted from the Callaway and Vogtle Technical Specifications.

#### Significant Hazards Considerations

The Commission has provided standards in 10CFR50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an Operating License for a facility involves a no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in the margin of safety. HL&P has reviewed the proposed change and determined that:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated because it does not constitute a change to plant systems which are part of FSAR accident analysis either in failure/accident initiation mode or accident mitigation mode.
2. The proposed amendment does not create the possibility of a new or different kind of accident than previously evaluated because it does not constitute a change to plant systems which are part of FSAR accident analysis either in failure/accident initiation mode or accident mitigation mode.
3. The proposed amendment does not involve a significant reduction in the margin of safety for the reasons provided in the discussion above. Additionally, as required by the Limiting Condition for Operation, Action b., if the isolation valve can not be opened after performing check valve leakage tests, the plant must be placed in HOT STANDBY within the next 6 hours. Also, inasmuch as the P-11 interlock is tested in accordance with Table 4.3-2, Items 1. and 9a., the testing required by 4.5.1.1d is redundant.



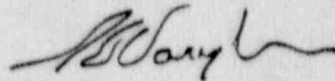
Based on the information contained in this submittal and the NRC Final Environmental Assessment for South Texas Units 1 & 2, HL&P has concluded that pursuant to 10CFR51, there are no significant radiological or non-radiological impacts associated with the proposed action and that the proposed license amendment will not have a significant effect on the quality of the human environment.

The South Texas Project Unit 1 Nuclear Safety Review Board has reviewed and approved the attached proposed revision to the Operating License.

In accordance with 10CFR50.91(b), HL&P is providing the State of Texas with a copy of this proposed amendment.

Pursuant to the requirements of 10CFR170.12(c), enclosed with this amendment request is the application fee of \$150.00.

If you should have any questions on this matter, please contact Ms. F. A. White at (512) 972-7985.



G. E. Vaughn  
Vice President  
Nuclear Plant Operations

GEV/FAW/yd

Attachments: (1) Proposed Deletion of Technical Specification 4.5.1.1d.

(2) FSAR Section 7.6.3

(3) Check No. 00110371



cc:

Regional Administrator, Region IV  
Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76011

INPO  
Records Center  
1100 Circle 75 Parkway  
Atlanta, GA 30339-3064

N. Prasad Kadambi, Project Manager  
U.S. Nuclear Regulatory Commission  
7920 Norfolk Avenue Bethesda, MD 20814

Dan R. Carpenter  
Senior Resident Inspector/Operations  
c/o U.S. Nuclear Regulatory Commission  
P. O. Box 910 Bay City, TX 77414

J.R. Newman, Esquire  
Newman & Holtzinger, P.C.  
1615 L Street, N.W.  
Washington, DC 20036

R. L. Range/R. P. Verret  
Central Power & Light Company  
P. O. Box 2121  
Corpus Christi, TX 78403

R. John Miner (2 copies)  
Chief Operating Officer  
City of Austin Electric Officer  
7221 Barton Springs Road  
Austin, TX 78704

R. J. Costello/M. T. Hardt  
City Public Service Board  
P. O. Box 1771  
San Antonio, TX 78296

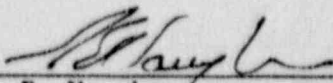
Rufus S. Scott  
Associate General Counsel  
Houston Lighting & Power Company  
P. O. Box 1700  
Houston, TX 77001

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter	)	Operating License NPF-71
	)	Docket No. 50-498
Houston Lighting & Power	)	
Company, et al.,	)	
	)	
South Texas Project	)	
Unit 1	)	

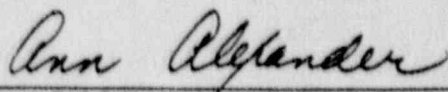
AFFIDAVIT

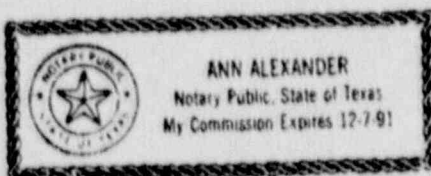
G. E. Vaughn, being duly sworn, hereby deposes and says that he is Vice President, Nuclear Plant Operations, of Houston Lighting & Power Company; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached proposed Technical Specifications amendment regarding the deletion of Surveillance Requirement 4.5.1.1d.; is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge and belief.

  
\_\_\_\_\_  
G. E. Vaughn  
Vice President  
Nuclear Plant Operations

STATE OF TEXAS     )  
                          )  
                          )

Subscribed and sworn to before me, a Notary Public in and for the State of Texas this *11th* day of *March* 1988.

  
\_\_\_\_\_  
Notary Public



### 3/4.5 EMERGENCY CORE COOLING SYSTEMS

#### 3/4.5.1 ACCUMULATORS

#### LIMITING CONDITION FOR OPERATION

3.5.1 Each Safety Injection System accumulator shall be OPERABLE with:

- a. The isolation valve open and power removed,
- b. A contained borated water volume of between 8800 and 9100 gallons,
- c. A boron concentration of between 2400 and 2600 ppm, and
- d. A nitrogen cover-pressure of between 590 and 670 psig.

APPLICABILITY: MODES 1, 2, and 3\*.

#### ACTION:

- a. With one accumulator inoperable, except as a result of a closed isolation valve or the boron concentration outside the required limits, restore the inoperable accumulator to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.
- b. With one accumulator inoperable due to the isolation valve being closed, either open the isolation valve within 1 hour or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.
- c. With the boron concentration of one accumulator outside the required limit, restore the boron concentration to within the required limits within 72 hours or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.

#### SURVEILLANCE REQUIREMENTS

4.5.1.1 Each accumulator shall be demonstrated OPERABLE:

- a. At least once per 24 hours by:
  - 1) Verifying, by the absence of alarms, the contained borated water volume and nitrogen cover-pressure in the tanks, and
  - 2) Verifying that each accumulator isolation valve is open.
- b. At least once per 31 days and within 6 hours after each solution volume increase of greater than or equal to 1% of tank volume by verifying the boron concentration of the accumulator solution; and

\*Pressurizer pressure above 1000 psig.

## EMERGENCY CORE COOLING SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

- c. At least once per 31 days when the RCS pressure is above 1000 psig by verifying that power to the isolation valve operator is removed.
- d. At least once per 18 months by verifying that each accumulator isolation valve opens automatically under each of the following conditions:
  - 1) When an actual or a simulated RCS pressure signal exceeds the P-11 (Pressurizer Pressure Block of Safety Injection) Setpoint, and
  - 2) Upon receipt of a Safety Injection test signal.

4.5.1.2 Each accumulator water level and pressure channel shall be demonstrated OPERABLE:

- a. At least once per 31 days by the performance of an ANALOG CHANNEL OPERATIONAL TEST, and
- b. At least once per 18 months by the performance of a CHANNEL CALIBRATION.



3. The interlocks for the accumulator motor-operated valves meet the appropriate qualification standards (IEEE 323 and 382), as discussed in Section 3.11.

The design of the interconnection of these signals to the accumulator isolation valve meets the following criteria established in previous NRC positions (Branch Technical Position ICSB 4) on this matter:

1. Automatic opening of the accumulator valves when (1) the primary coolant system pressure exceeds a preselected value specified in the Technical Specifications or (2) an SI signal has been initiated. Both signals are provided to the valves.
2. Utilization of an SI signal to automatically remove (override) any bypass features that are provided to allow an isolation valve to be closed for short periods of time when the RCS is at pressure. As a result of the confirmatory SI signal, isolation of an accumulator with the reactor at pressure is acceptable.

The control circuit for these valves is shown on Figure 7.6-3. The valves and control circuits are further discussed in Sections 6.3.2 and 6.3.5.

The Safety Injection System (SIS) accumulator discharge isolation valves are motor-operated, normally open valves can be are controlled from the main control board.

These valves are interlocked such that:

1. They open automatically on receipt of an SI signal with the main control board switch in either the "AUTO" or "CLOSE" position.
2. They open automatically whenever the RCS pressure is above the SI unblock pressure (P-11) only when the main control board switch is in the "AUTO" position.
3. They cannot be closed as long as an SI signal is present.

The main control board switches for these valves are three position switches which provide a "spring return to Auto" from the open position and a "maintain position" for the closed position.

The "maintain closed" position is required to provide an administratively controlled manual block of the automatic opening of the valve at pressure above the SI unblock pressure (P-11). The manual block or "maintain closed" position is required when performing periodic check valve leakage tests when the reactor is at pressure and at hot standby. The valve is closed from the control board by placing it in the "maintain closed" position. ~~As part of the check valve leakage test when reactor pressure is above SI unblock pressure, the automatic open-on-pressure interlock is tested at the main control board by use of the valve indication lights.~~ Administrative control is required to ensure that any accumulator valve that has been closed at pressures above the SI unblock pressure is returned to the "AUTO" position. ~~Verification that the valve automatically returns to its normal full-open position is also required.~~

# The Light company

Houston Lighting & Power

P.O. Box 1700 Houston, Texas

March 18, 1988  
ST-HL-AE-2562  
File No.: G20.02.0  
10CFR50.90

Oper Nuc Lic 77001 (713) 228-9211	
Action	Info
FAW	
PLW	
SMH	
CAA	
LJM	

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

South Texas Project Electric Generating Station  
Unit 1

Docket No. STN 50-498

## Proposed Technical Specifications Slave Relay Test Exemptions

Pursuant to 10CFR50.90, Houston Lighting and Power (HL&P) hereby proposes to amend its Operating License, NPF-71, by incorporating the attached proposed change to the Technical Specifications, NUREG-1255, for South Texas Unit 1. We would appreciate your expeditious review of this matter. This change is not considered an item necessary to be reviewed for approval prior to the Full Power Commissioner's Briefing.

Specifically, HL&P is proposing to delete Table 4.3-2, Note 5 and add to Note 4 of Table 4.3-2 slave relay quarterly test exemptions for the Accumulator Discharge Isolation Valves and the 48-inch Purge Supply and Exhaust Valves.

### Discussion

The slave relays employed in the STP Solid State Protection System (SSPS) are used in other recently licensed Westinghouse plants. The performance history for these relays, based upon information available, has been excellent. Additionally, the slave relays proposed for these lengthened test intervals are identical in design to the other slave relays in the SSPS. Because a relatively small percentage of the total number of relays fall into the lengthened testing interval category, there is a high probability that a failure due to a generic design defect of application will be discovered during the quarterly tests of the other slave relays.

Technical Specification 3.5.1 requires that for Modes 1, 2 and 3, with Pressurizer Pressure above 1000 psig, the Accumulator Discharge Isolation Valves be opened with power removed. Due to the circuitry of the slave relay associated with the Accumulator Discharge, slave relay testing through the final actuation device cannot be accomplished unless the valves are closed. It should be noted that ASME Section XI Accumulator Discharge Check Valve Flow and Leak tests relief requests were previously granted so that HL&P is now

L2/NRC01/b

880220269 Sm

A Subsidiary of Houston Industries Incorporated

only required to partially stroke these valves during Cold Shutdown, with disassembly every refueling. As such, it will now not be necessary to shut the isolation valves in order to test the check valves. Therefore, the only reason HL&P would have to close the isolation valve would be to perform the slave relay test itself.

Technical Specification 3.6.1.7 requires that for Modes 1 through 4 the 48-inch Containment Shutdown Purge Supply and Exhaust Isolation Valves be closed and sealed closed. Again, due to the circuitry of the slave relay associated with the 48-inch Purge Supply and Exhaust Valves, it would be necessary to open these valves in order to perform the slave relay test through the actuation device. Also, ASME Section XI flow and leak tests relief was granted so that these valves are now tested during refueling. Performing the slave relay test is not desirable from both an operational or transient standpoint. In addition, since the purge valves must be declared inoperable during performance of the test, STP would be forced into a 1-hour and 4-hour Technical Specification ACTION statement unnecessarily.

#### Significant Hazards Considerations

The Commission has provided standards in 10CFR50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an Operating License for a facility involves a no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve significant reduction in the margin of safety. HL&P has reviewed the proposed change and determined that:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated because it does not constitute a change to plant systems which are part of FSAR accident analysis either in failure/accident initiation mode or accident mitigation mode.
2. The proposed amendment does not create the possibility of a new or different kind of accident than previously evaluated because it does not constitute a change to plant systems which are part of FSAR accident analysis either in failure/accident initiation mode or accident mitigation mode.
3. The proposed amendment does not involve a significant reduction in the margin of safety as defined in bases for the subject Technical Specifications for the reasons provided in the discussion above. Additionally, this proposed change will allow STP to remain in compliance with the Limiting Condition for Operation for both Technical Specifications 3.5.1 and 3.6.1.7 without perturbing the plant and placing it in a less desirable operating configuration.



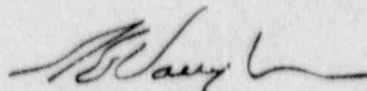
Based on the information contained in this submittal and the NRC Final Environmental Assessment for South Texas Units 1 and 2, HL&P has concluded that pursuant to 10CFR51, there are no significant radiological or non-radiological impacts associated with the proposed action and that the proposed license amendment will not have a significant effect on the quality of the human environment.

The South Texas Project Unit 1 Nuclear Safety Review Board has reviewed and approved the attached proposed revision to the Operating License.

In accordance with 10CFR50.91(b), HL&P is providing the State of Texas with a copy of this proposed amendment.

Pursuant to the requirements of 10CFR170.12(c), enclosed with this amendment request is the application fee of \$150.00.

If you should have any questions on this matter, please contact Ms F. A. White at (512) 972-7985.



G. E. Vaughn  
Vice President  
Nuclear Plant Operations

GEV/FAW/djc

Attachments: Proposed changes to Table 4.3-2, Notes 4 and 5

Check No. 00110569



Houston Lighting & Power Company

ST-HL-AE-2562  
File No.: G20.02.01  
Page 4

cc:

Regional Administrator, Region IV  
Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76011

INPO  
Records Center  
1100 Circle 75 Parkway  
Atlanta, GA 30339-3064

N. Prasad Kadambi, Project Manager  
U.S. Nuclear Regulatory Commission  
7920 Norfolk Avenue  
Bethesda, MD 20814

Dr. Joseph Hendrie  
50 Bellport Lane  
Bellport, NY 11713

Dan R. Carpenter  
Senior Resident Inspector/Operations  
c/o U.S. Nuclear Regulatory  
Commission  
P. O. Box 910  
Bay City, TX 77414

J. R. Newman, Esquire  
Newman & Holtzinger, P.C.  
1615 L Street, N.W.  
Washington, DC 20036

R. L. Range/R. P. Verret  
Central Power & Light Company  
P. O. Box 2121  
Corpus Christi, TX 78403

R. John Miner (2 copies)  
Chief Operating Officer  
City of Austin Electric Utility  
721 Barton Springs Road  
Austin, TX 78704

R. J. Costello/M. T. Hardt  
City Public Service Board  
P. O. Box 1771  
San Antonio, TX 78296

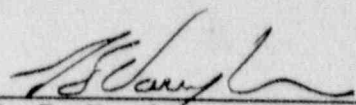
Rufus S. Scott  
Associate General Counsel  
Houston Lighting & Power Company  
P. O. Box 1700  
Houston, TX 77001

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter	)	Operating License NPF-71
	)	Docket No. 50-498
Houston Lighting & Power	)	
Company, et al.,	)	
	)	
South Texas Project	)	
Unit 1	)	

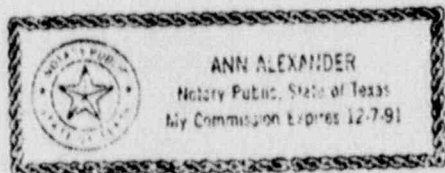
AFFIDAVIT

G. E. Vaughn, being dully sworn, hereby deposes and says that he is Vice President, Nuclear Plant Operations, of Houston Lighting & Power Company; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached proposed Technical Specifications amendment regarding Quarterly Slave Relay Test Exemptions; is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge and belief.

  
\_\_\_\_\_  
G. E. Vaughn  
Vice President  
Nuclear Plant Operations

STATE OF TEXAS        )

Subscribed and sworn to before me, a Notary Public in and for  
State of Texas this 18 day of March 1988.



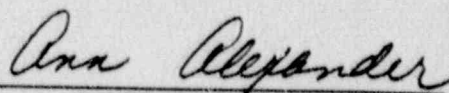
  
\_\_\_\_\_  
Notary Public in and for the  
State of Texas

TABLE 4.3-2

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	DIGITAL OR ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. Safety Injection (Reactor Trip, Feedwater Isolation, Control Room Emergency Ventilation, Start Standby Diesel Generators, Reactor Containment Fan Coolers, and Essential Cooling Water)								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
b. Automatic Actuation Logic	N.A.	N.A.	N.A.	N.A.	M(1)	N.A.	N.A.	1, 2, 3, 4
c. Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.	M(5)	Q(4, 5)	1, 2, 3, 4
d. Containment Pressure-High-1	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4
e. Pressurizer Pressure-Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
f. Compensated Steam Line Pressure-Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
g. Compensated T <sub>COLD</sub> -Low-Low (interlocked with P-15)	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3

SOUTH TEXAS - UNIT 1

3/4 3-42

8803300279 Jm po



TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	DIGITAL OR ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
2. Containment Spray								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
b. Automatic Actuation Logic	N.A.	N.A.	N.A.	N.A.	M(1)	N.A.	N.A.	1, 2, 3, 4
c. Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.	<sup>5</sup> M(6)	Q	1, 2, 3, 4 ⇐
d. Containment Pressure-High-3	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
3. Containment Isolation								
a. Phase "A" Isolation								
1) Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
2) Automatic Actuation Logic	N.A.	N.A.	N.A.	N.A.	M(1)	N.A.	N.A.	1, 2, 3, 4
3) Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.	<sup>5</sup> M(6)	Q(4)	1, 2, 3, 4 ⇐
4) Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
b. Containment Ventilation Isolation								
1) Automatic Actuation Logic	N.A.	N.A.	N.A.	N.A.	M(1)	N.A.	N.A.	1, 2, 3, 4
2) Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.	<sup>5</sup> M(6)	Q(4)	1, 2, 3, 4 ⇐



TABLE 4.3-2 (Continued)  
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	DIGITAL OR ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
3. Containment Isolation (Continued)								
3) Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
4) RCB Purge Radioactivity-High	S	R	M	N.A.	N.A.	N.A.	N.A.	1,2,3,4,5*,6*
5) Containment Spray - Manual Initiation	See Item 2. above for Containment Spray manual initiation Surveillance Requirements.							
6) Phase "A" Isolation- Manual Initiation	See Item 3.a. above for Phase "A" Isolation manual initiation Surveillance Requirements.							
c. Phase "B" Isolation								
1) Automatic Actuation Logic	N.A.	N.A.	N.A.	N.A.	M(1)	N.A.	N.A.	1,2,3,4
2) Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.	<sup>5</sup> M(6)	Q	1,2,3,4
3) Containment Pressure--High-3	S	R	M	N.A.	N.A.	N.A.	N.A.	1,2,3
4) Containment Spray- Manual Initiation	See Item 2. above for Containment Spray manual initiation Surveillance Requirements.							
4. Steam Line Isolation								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	<sup>5</sup> M(6)	Q	1, 2, 3
c. Steam Line Pressure- Negative Rate-High	S	R	M	N.A.	N.A.	N.A.	N.A.	3
d. Containment Pressure - High-2	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3

TABLE 4.3-2 (Continued)  
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	DIGITAL OR ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
4. Steam Line Isolation								
e. Compensated Steam Line Pressure-Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
f. Compensated T <sub>COLD</sub> - Low-Low (interlocked with P-15)	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
5. Turbine Trip and Feedwater Isolation								
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(8)	Q(4)	1, 2, 3
b. Steam Gener. *or Water Level-High-High (P-14)	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
c. Compensated T <sub>COLD</sub> -Low (interlocked with P-15)	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
d. Feedwater Flow-High (interlocked with P-15) Coincident with either of the following in 2 of 4 loops: Reactor Coolant Flow-Low or T <sub>avg</sub> -Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
e. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
f. T <sub>avg</sub> -Low Coincident with Reactor Trip (P-4) (Feedwater Isolation Only)	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>CHANNEL FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>DIGITAL OR ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
6. Auxiliary Feedwater								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic	N.A.	N.A.	N.A.	N.A.	M(1)	N.A.	N.A.	1, 2, 3
c. Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.	M(5)	Q	1, 2, 3 ←
d. Steam Generator Water Level--Low-Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
e. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
f. Loss of Power	See Item 8. below for all Loss of Power Surveillance Requirements.							
7. Automatic Switchover to Containment Sump								
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(5)	M(5)	Q	1, 2, 3, 4 ←
b. RWST Level--Low-Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4
Coincident With: Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
8. Loss of Power								
a. 4.16 kV ESF Bus Undervoltage (Loss of Voltage)	N.A.	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3, 4



TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	DIGITAL OR ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
8. Loss of Power (Continued)								
b. 4.16 kV ESF Bus Undervoltage (Tolerable Degraded Voltage Coincident with SI)	N.A.	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3, 4
c. 4.16 kV ESF Bus Undervoltage (Sustained Degraded Voltage)	N.A.	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3, 4
9. Engineered Safety Features Actuation System Interlocks								
a. Pressurizer Pressure, P-11	N.A.	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
b. Low-Low $T_{avg}$ , P-12	N.A.	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
c. Reactor Trip, P-4	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
d. Power Range Neutron Flux Input to Excessive Cooldown Protection, P-15	N.A.	R(2)	M(3)	N.A.	N.A.	N.A.	N.A.	1, 2, 3
10. Control Room Ventilation								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	All



TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>CHANNEL FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>DIGITAL ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
10. Control Room Ventilation (Continued)								
b. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
c. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	<sup>3</sup> M(6)	N.A.	N.A.	All ←
d. Control Room Intake Air Radioactivity-High	S	R	M	N.A.	N.A.	N.A.	N.A.	All
e. Loss of Power	See Items 8. above for all Loss of Power Surveillance Requirements.							
11. FHB HVAC								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4, or with irradiated fuel in the spent fuel pool
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	<sup>5</sup> M(6)	N.A.	N.A.	1, 2, 3, 4, ← or with irradiated fuel in the spent fuel pool

TABLE 4.3-2 (Continued)  
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>CHANNEL FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>DIGITAL OR ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODE<sup>3</sup> FOR WHICH SURVEILLANCE IS REQUIRED</u>
11. FHB HVAC (Continued)								
c. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
d. Spent Fuel Pool Exhaust Radio- activity-High	S	R	M	N.A.	N.A.	N.A.	N.A.	With irradiated fuel in spent fuel pool.

TABLE NOTATION

- (1) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (2) Neutron detectors may be excluded from CHANNEL CALIBRATION.
- (3) With Rated Thermal Power greater than or equal to the P-15 interlock setpoint, the ANALOG CHANNEL OPERATIONAL TEST shall consist of verifying that the P-15 interlock is in the required state by observing the permissive annunciator window.
- (4) Except relays K807, K814, K829 (Train B only), K831, K845, K852 and K854 (Trains B and C only) which shall be tested at least once per 18 months during refueling and during each COLD SHUTDOWN exceeding 24 hours unless they have been tested within the previous 92 days.
 

*K815, K833 (48-inch valves only)  
(Accumulator Discharge Isolation valves only)*
- (5) Except relay K815 which shall be tested at indicated interval only when reactor coolant pressure is above 700 psig.
- (6) Each actuation train shall be tested at least every 92 days on a STAGGERED TEST BASIS. Testing of each actuation train shall include master relay testing of both logic trains. If an ESFAS instrumentation channel is inoperable due to failure of the Actuation Logic Test and/or Master Relay Test, increase the surveillance frequency such that each train is tested at least every 62 days on a STAGGERED TEST BASIS unless the failure can be determined by performance of an engineering evaluation to be a single random failure.

\*During CORE ALTERATIONS or movement of irradiated fuel within containment.