

# The Light company

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July 15, 1985  
ST-HL-AE-1297  
File No.: G4.2

Mr. George W. Knighton, Chief  
Licensing Branch No. 3  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

South Texas Project  
Units 1 & 2  
Docket Nos. STN 50-498, STN 50-499  
Closeout of ICSB Meeting Item  
Regarding Testing of P-4 Interlock

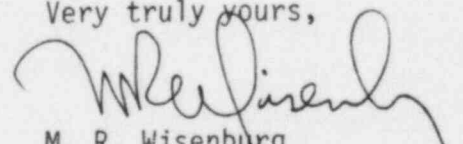
Dear Mr. Knighton:

During the week of March 26 through March 29, 1985, Houston Lighting & Power Company (HL&P) representatives met with members of the NRC Instrumentation and Control Systems Branch (ICSB) staff in the Houston office and at the jobsite to discuss issues and questions regarding the South Texas Project (STP) instrumentation and controls design features and program implementation.

As a result of the meeting several action items were identified for future resolution. This correspondence forwards our response to action item 24 - "Testing of the P-4 Interlock" - which was identified in letter ST-HL-AE-1239, dated May 13, 1985 from M. R. Wisenburg to G. W. Knighton.

If you should have any questions on this matter, please contact Mr. M. E. Powell at (713) 993-1328.

Very truly yours,

  
M. R. Wisenburg  
Manager, Nuclear Licensing

CAA/as  
Attachments:

- I. Response to P-4 Interlock Testing Item
- II. Verification of P-4 During Shutdown/Startup
- III. Verification of P-4 During Periodic Testing

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South Texas Project  
Units 1 & 2  
Response to P-4 Interlock  
Testing Item

Item:

New plants should have permanently installed testing provisions for the engineered safety feature P-4 interlock.

Response:

The P-4 interlock monitors the status of the reactor trip and bypass breakers and permits manual block of safety injection (SI) actuation following a reactor trip, among other functions. A postulated failure of the contacts which generate P-4 could prevent manual block of SI following a trip, or could prevent automatic reset of the SI block when the trip breakers are reclosed.

The STP design is different than that of earlier Westinghouse plants, in that the P-4 contacts for each train's trip and bypass breakers are wired individually to the solid state protection system. The status of the trip and bypass breakers is multiplexed to the control board demultiplexer and bistable status monitoring lights are provided for each breaker. These "status lights" function as permanently installed testing devices.

Operation of the P-4 contacts will be verified utilizing these status lights, as described in Attachments II and III. Verification of P-4 contact status will be administratively required following any condition requiring opening of the reactor trip breakers and following reclosure of the trip breakers during reactor startup prior to rod withdrawal. Operability of the P-4 contacts will also be checked as part of the Technical Specification (Table 4.3-2) surveillance testing program.

South Texas Project  
Units 1 & 2  
Verification of P-4 During  
Shutdown/Startup

The following steps verify proper operation of the reactor trip breaker P-4 contacts during startup and shutdown. If verification of any step is not obtained, corrective actions will be initiated as per Technical Specification requirements.

1. Prior to shutdown, verify that status lights provide the following indications:

<u>Breaker</u>	<u>Status</u>
RT-R	Closed (status light off)
RT-S	Closed (status light off)
BY-R	Open (status light on)
BY-S	Open (status light on)

2. Following opening of the trip breakers for any reason, verify that status lights provide the following indications:

<u>Breaker</u>	<u>Status</u>
RT-R	Open (status light on)
RT-S	Open (status light on)
BY-R	Open (status light on)
BY-S	Open (status light on)

3. Prior to closing the trip breakers during startup verify that the indications from Step 2 above still exist.
4. Following closure of the trip breakers, and prior to rod withdrawal during startup, verify that the indications from Step 1 above exist.

South Texas Project  
Units 1 & 2  
Verification of P-4 During  
Periodic Testing

The following steps verify proper operation of each reactor trip and bypass breaker P-4 contact during periodic on-line testing. If verification of any step is not obtained, corrective actions will be initiated.

1. Prior to the start of reactor trip breaker testing, verify that status lights provide the following indications:

<u>Breaker</u>	<u>Status</u>
RT-R	Closed (status light off)
RT-S	Closed (status light off)
BY-R	Open (status light on)
BY-S	Open (status light on)

2. Verify that the indications from Step 1 remain when bypass breaker, BY-R(S), is inserted into the connected position in the breaker cell.

3. After bypass breaker BY-R(S) is closed, verify that the status light indicates:

BY-R(S)	Closed (status light off)
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4. After trip breaker RT-R(S) is test tripped, verify that the status light indicates:

RT-R(S)	Open (status light on)
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5. When the trip breaker is reclosed, verify that the status light indicates:

RT-R(S)	Closed (status light off)
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6. After bypass breaker BY-R(S) is tripped, verify that the status light indicates:

BY-R(S)	Open (status light on)
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7. When the bypass breaker BY-R(S) is withdrawn to the disconnected position, verify that the status light still indicates:

BY-R(S)	Open (status light on)
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8. Repeat Steps 2 through 7 for bypass breaker BY-S and trip breaker RT-S.