

The Light company

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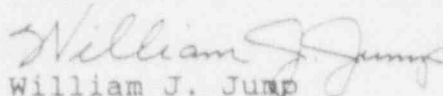
May 11, 1992
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Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Followup to NRC Meeting of March 13, 1992,
Regarding Diesel Generators and
Essential Cooling Water System

On March 13, 1992, Houston Lighting & Power Company (HL&P) met with NRC representatives at the NRC Arlington offices to present information regarding diesel generator reliability and the status of the Essential Cooling Water (ECW) system at the South Texas Project (STP). The attachments to this letter provide responses to questions posed by the NRC at the meeting.

If you have any questions regarding this submittal, please contact either Mr. P. L. Walker at (512) 972-8392 or me at (512) 972-7205.


William J. Jump
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PLW/lf

Attachments

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Houston Lighting & Power Company
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Revised 10/11/91

L4/NRC/

Responses to Questions from
March 13, 1992, Meeting
SOUTH TEXAS PROJECT

- 1) Are there any expansion bellows in the ECW system outside the diesel engine room?

RESPONSE

The following expansion bellows are installed in each train of ECW.

Inlet to EDG Intercooler	6"
Outlet from EDG Intercooler	6"
Inlet to EDG Lube Oil Cooler	4"
Outlet from EDG Lube Oil Cooler	4"
Inlet to EDG Jacket Water Cooler	6"
Outlet from EDG Jacket Water Cooler	6"
ECW Pump Outlet	24"

All of the above are inside the diesel engine room except the ECW pump outlet which is located in the ECW pump house.

The only expansion bellows that have had any problems with leakage are those on the EDG intercoolers.

- 2) What is the consequence of the Pre-Position Board failure in the emergency mode?

RESPONSE

The vendor has concluded that, even in a worst-case failure mode of the Pre-Position Board (PPB), the diesel generators would still be available to perform their safety-related functions. The effects of this worst-case failure in the emergency mode of operation is a reduction in output voltage regulation accuracy from $\pm 0.5\%$ of design specification to $+5.5\%/-1.0\%$.

For steady-state voltage regulation, the PPB failure would have no impact on the design basis. This is justified by the calculation taking into account the worst-case voltage regulation from off-site power sources, which comes to $\pm 10\%$ due to numerous transformer impedances.

For transient voltage regulation, the PPB failure was determined to have no impact on the design. The voltage regulator, which acts to shunt "excess" excitation power, becomes inactive if generator terminal voltage drops greater than 1% of the pre-set voltage (nominal 4160 VAC). Thus, the PPB being part of the voltage regulator would have no effect on control at low voltage. Review of the voltage regulator schematic shows that a worst-case failure of the PPB (both relay contacts open) will result in an increase in generator voltage. This increase will be limited to +5.5% of nominal voltage, reaching 4368 VAC at maximum. This resultant voltage would not impact ESF loads, which have a design rating of 110% (4576 VAC) rated voltage. Additionally, there are no over-voltage protective trips on the ESF loads, or on the SDG, preventing a conceivable trip of either on an over-voltage condition. Failure of the PPB also would not represent a potential for ESF bus overload.

- 3) There was a report of water/condensate leaking onto the top and into a diesel generator control panel inside an engine room. What is the situation, consequence, and remedy?

RESPONSE

Each generator control panel has been inspected for evidence of water intrusion. Water marks down the room HVAC inlet plenums and slight rust inside the panels and on the panel roof is evidence of water intrusion in the past. However, no moisture or collection of condensate was observed during several visual inspections. Each diesel panel was inspected, both during rainstorms and fair weather, and during diesel operation and standby modes. No evidence of condensate or moisture accumulation was detected.

- 4) Were all of the fuel injector pump hollow stud failures in A193 Gr. B7 material?

RESPONSE

Of the seven failures to date, four studs were made from A193 Gr. B7 and three were from AISI 1045 steel.

- 5) Have all the loads been evaluated for the spool piece that will replace the expansion bellows and with a vacuum breaker installed in the system?

RESPONSE

All applicable loading conditions for the design basis have been considered for the modification of the ECW system. The fluid transient load case is not part of the original design basis, but has also been addressed. When the modifications are complete, calculated pipe stresses, hanger stresses, and nozzle reactions will meet the design bases and applicable code requirements.

JUN 19 1992

bcc to DMB - IE45

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RIV File

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