The Light company
Houston Lighting & Power

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May 31, 1988
ST-HL-AE-2677
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10CFR50.54(f)

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

South Texas Project Electric Generating Station
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
Response to Generic Letter 88-05,
"Boric Acid Corrosion of Carbon Steel Reactor
Pressure Boundary Components in PWR Plants"

Pursuant to 10CFR50.54(f), Houston Lighting & Power Company (HL&P) provides the following response to Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants." The issue concerns the potential for corrosion of carbon steel components by leaking reactor coolant containing dissolved boric acid.

HL&P has prepared the attached report to address applicability of this concern to the South Texas Project Electric Generating Station (STPEGS). To summarize, HL&P has identified those areas which may be susceptible to boric acid corrosion. Procedures will be put in place to respond to leaks of reactor coolant and to instances of boric acid corrosion of reactor coolant pressure boundary components. All identified actions will be completed by August 1, 1988.

Note that during a recent outage a walkdown was performed to determine if any leaks of reactor coolant had occurred. One leak was found and corrective action was taken.

If you should have any questions on this matter, please contact Mr. M. A. McBurnett at (512) 972-8530.

G. E. Vaughn
Vice President
Nuclear Plant Operations

JHG/PLW/pw

Attachment: Response to Generic Letter 88-05

cc:

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter	)	
	)	
Houston Lighting & Power Company, et al.,	)	Docket Nos. 50-498
	)	50-499
	)	
South Texas Project Units 1 and 2	)	
	)	

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 response to NRC Generic Letter 88-05; 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

Subscribed and sworn to before me, a Notary Public in and for Matagorda County, Texas this 31st day of MAY, 1988.

LOIS J MILLS
Notary Public State of Texas
My Commission Expires 7 27 91

Notary Public in and for the
State of Texas

NL.88.139.02

South Texas Project Electric Generating Station
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
Response to Generic Letter 88-05,
"Boric Acid Corrosion of Carbon Steel Reactor
Pressure Boundary Components in PWR Plants"

Each item of Generic Letter 88-05 is addressed separately below.

1) The program should include a determination of the principal locations where leaks that are smaller than the allowable technical specification limit can cause degradation of the primary pressure boundary by boric acid corrosion. Particular consideration should be given to identifying those locations where conditions exist that could cause high concentrations of boric acid on pressure boundary surfaces.

Response

The reactor coolant pressure boundary has been reviewed to determine those areas where leaks that are smaller than the allowable technical specification limit could cause degradation of the primary pressure boundary by boric acid corrosion. The review included areas in which carbon steel components of the reactor pressure boundary would be exposed to boric acid in the event of a borated water leak.

2) The program should include procedures for locating small coolant leaks (i.e., leakage rates at less than technical specification limits). It is important to establish the potential path of the leaking coolant and the reactor pressure boundary components it is likely to contact. This information is important in determining the interaction between the leaking coolant and reactor coolant pressure boundary materials.

Response

A walkdown inspection will be performed prior to evidence of leakage being cleaned up. The inspection will address the areas in which carbon steel components of the reactor pressure boundary could be exposed to boric acid in the event of a reactor coolant leak. Procedural guidelines will be available when conducting examinations that will address locating small coolant leaks and determining the potential path.

A VT-2 visual examination of the reactor coolant pressure boundary is performed following each refueling outage and at other times as required by the ASME Boiler and Pressure Vessel Code.

3) The program should include methods for conducting examinations and performing engineering evaluations to establish the impact on the reactor coolant pressure boundary when leakage is located. This should include procedures to promptly gather the necessary information for an engineering evaluation before the removal of evidence of leakage, such as boric acid crystal buildup.

Response

Procedural guidelines will be available for conducting examinations and performing evaluations of the impact of leakage on the reactor coolant pressure boundary. The procedure for area decontamination will be revised to ensure that an examination/evaluation is conducted on borated water leaks in the containment, inside the bio-shield, by an examiner/evaluator prior to cleanup of a leak or evidence of a leak.

4) The program should include corrective actions to prevent recurrences of this type of corrosion. This should include any modification to be introduced in the present design or operating procedures of the plant that (a) reduce the probability of primary coolant leaks at the locations where they may cause corrosion damage and (b) entail the use of suitable corrosion resistant materials or the application of protective coatings/claddings.

Response

If leakage of reactor coolant is observed which has resulted, or might result, in boric acid corrosion of carbon steel components, corrective action will be taken. Plant procedures are available which describe implementation of such corrective measures.

5) Maintain, in auditable form, records of the program and results obtained from implementation of the program and make such records available to NRC inspectors upon request.

Response

Auditable records will be generated for leaks identified as corroding or having potential to corrode Class 1 reactor coolant pressure boundary components. A data sheet will be available to evaluate and document the leak. The data sheet will be stored for the life of the plant. Corrective actions taken will be documented on appropriate repair records. The data sheet will require that the corrective action document be referenced on the data sheet.