

The Light company

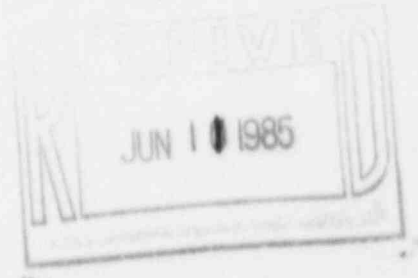
Houston Lighting & Power P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

June 7, 1985
ST-HL-AE-1267
File No.: G12.238

Mr. Robert D. Martin
Regional Administrator, Region IV
Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Dear Mr. Martin:

South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
First Interim Report Concerning
Unanalyzed Seismic Interaction



On May 8, 1985, pursuant to 10CF50.55(e), Houston Lighting & Power Company (HL&P) notified your office of a potentially reportable item concerning unanalyzed seismic interactions. Attached is the first interim report concerning this item. This next report will be submitted by September 20, 1985.

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

Very truly yours,

J. H. Goldberg
Group Vice President, Nuclear

CAA/as

Attachment: First Interim Report Concerning
Unanalyzed Seismic Interactions

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Washington, DC 20555

South Texas Project
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Docket Nos. STN 50-498, STN 50-499
First Interim Report Concerning
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I. Summary

Separation distances to prevent contact during a seismic event between commodities are not specified. Examples of unanalyzed contact were found in the field as a result of INPO audit walkthroughs. Upon review of the concern it has been established that the significance of the potential contacts is restricted to piping and pipe supports due to the more rigorous nature of the seismic analyses performed for safety-related piping.

Corrective actions and recurrence control measures include definition and implementation of separation criteria for commodities. The criteria will be implemented as guidelines during future installation of commodities and their supports. Additionally, walkdowns will be included and will be described in the next interim report.

II. Description of Deficiency

During a recent inspection of STP, the Institute of Nuclear Power Operations (INPO) noted that separation distances between commodities (structures, systems, and components) to prevent contact during a seismic event are not specified in the following documents:

- 5V179VS1003 - Installation of Safety and Non-Safety Ductwork
- 5A010PS002 - Installation of Piping
- 5A969EQ1009 - Electrical General Design Criteria

The following conditions were noted during the INPO walkthrough of the Fuel Handling Building (FHB):

1. Cable tray in contact with floor opening;
2. HVAC duct in contact with a cable tray support;
3. Pipe support in contact with HVAC duct;
4. Numerous contacts between conduits, and between conduits and other conduit supports.

The seismic design of HVAC duct and its supports, cable tray and its supports, and conduit and its supports does not involve explicit dynamic analysis and seismic response spectra. Rather, the seismic response is determined by equivalent static methods based on generic dynamic analyses and peak values from the enveloped seismic spectra. Therefore, the presence of additional contact points would not invalidate the seismic response nor the enveloped response spectra as used in the design. The masses involved are light and elastically restrained by their respective supports so that if contact were to occur between two commodities, a free-travel impact would not occur and damage or increased loading would be negligible and inconsequential with respect to the ability of these commodities to perform their safety-related functions.

Only the contacts against piping and pipe supports are of concern from the standpoint of seismic analysis. Each safety-related piping system with associated supports is explicitly analyzed for seismic response, and accordingly, additional points of contact could alter the system frequencies and response used in design.

III. Corrective Action

The seismic displacement response and contact sensitivity of the various commodities has been evaluated in order to establish the acceptance criteria for separation and contact on a commodity specific basis. The criteria will be incorporated into applicable design disclosure documents by July 1, 1985. The criteria will be applied as guidelines during future installation of commodities and their supports to the extent permitted by the stage of construction. Walkdowns will be conducted to identify, evaluate and correct, as necessary, any seismic separation violations with safety significance. The scope of these walkdowns will be described in the next interim report.

IV. Recurrence Control

Recurrence control measures have been incorporated into the corrective actions above.

V. Safety Analysis

Rather than analyze every potential contact point, it has been concluded that any contact points could alter the seismic analysis basis for safety-related piping, and could introduce unanalyzed effects in the final design.