

NRC PDR  
LPDR  
NSIC  
PRC System  
LB#3 Reading  
JLee  
VNurses  
WRussell  
NSaba  
NGrace  
EJordan  
Attorney, OELD  
ACRS (16)

JAN 22 1985

Docket Nos.: 50-498  
and 50-499

Mr. J. H. Goldberg  
Vice President - Nuclear Engineering  
and Construction  
Houston Lighting and Power Company  
Post Office Box 1700  
Houston, Texas 77001

Dear Mr. Goldberg:

Subject: Request for Additional Information Regarding Detailed Control Room  
Design Review - South Texas Project, Units 1 and 2

The NRC staff and its consultants from Lawrence Livermore National Laboratory are reviewing the Summary Report for the Detailed Control Room Design Review submitted April 12, 1984 and consisting of 15 separate reports. The review is being based upon requirements in Supplement 1 to NUREG-0737 and guidance in NUREG-0700 and Appendix A to SRP Section 18.1 of NUREG-0800. We find that clarification of certain exceptions and the submittal of additional information, identified in the enclosure, is needed to complete our review. Further, for your review is our consultant's Technical Evaluation Report.

Your reply to the enclosure within three weeks of receiving this letter or as stated in the individual requests, is requested. Should you have questions regarding the enclosure, contact our Project Manager, Victor Nerses, (301) 492-7238.

Sincerely,

**ORIGINAL SIGNED BY**

George W. Knighton, Chief  
Licensing Branch No. 3  
Division of Licensing

Enclosure:  
As stated

cc w/enclosure:  
See next page

\*SEE PREVIOUS PAGE FOR CONCURRENCES  
RETPED 12/27/84 (kab)  
RETPED AGAIN 1/12/85 (pob)  
RETPED AGAIN 1/17/85 (pob)

*Concurrence by  
telex on 1/19/85.  
Zimian acting  
for Russell*

DL:LB#3            DL:LB#3  
\*DHood/yt        \*VNurses  
12/04/84        12/05/84

DHFS/DDIR  
WRussell  
1/ /85

DL:LB#3  
GWKnighton  
12/05/84    1/18/85

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Enclosure

620.0 HUMAN FACTORS ENGINEERING BRANCH

620.2 Provide the following information and clarification regarding your Summary Report for the Detailed Control Room Design Review (DCRDR) submitted April 12, 1984:

- a. Your systems function and task analysis (SFTA) was performed through document reviews, briefings, and walk-throughs on the mock-up and updated using the revised mock-up as reported in the SFTA Validation Report. Because the SFTA was not based on upgraded emergency operating procedures (EOPs) required by Supplement 1 to NUREG-0737, and because EOPs are not typically available at early stages of design and construction, but should be available prior to licensing, please confirm, after EOPs are finalized, that information and control functions needs have been adequately identified and are satisfied by available instrumentation and controls.
- b. Verify that an objective comparison of independently determined display and control requirements, as determined by function and task analyses has been made with the control room inventory to identify missing controls and displays as required in Supplement 1 to NUREG-0737, and summarize the results of this comparison.
- c. Substantiate that an objective, independent determination of the operator information and control needs for each operator task has been made before instrument and control specifications are developed.

- d. Describe the specific process for using the generic guidelines and background documentation to identify the characteristics of needed instrumentation and controls. For the information of this type that is not available from the Emergency Response Guidelines and background documentation, describe the process used to generate this information to derive required instrumentation and control characteristics.
- e. Verify an auditable record is maintained regarding how the needed characteristics of required instruments and controls were determined for each instrument and control used to implement the emergency operating procedures.
- f. Discuss the present status of the design of the sit-down control stations.
- g. Provide a summary discussion and conclusions regarding the supplementary assessment to accommodate smaller (i.e. 5th-20th percentile) female operators and to use extended functional reach criteria for lower percentile subjects.
- h. Discuss the resolution of the three category "A" human engineering deficiencies regarding:
  - (1) The green Rototellite indicator lights which cannot be distinguished when illuminated;
  - (2) The bypass and inoperable status light legends which are unreadable due to narrow stroke width and inadequate character separation and line spacing; and



- (3) The legend messages containing more than three lines of text.
- i. Discuss the results of the resolution of all unresolved human engineering deficiencies in categories "B", "C", "D" and "E".
  - j. Provide justification and rationale for using random checks rather than 100 percent checks of items which cannot be completed until the control room and/or simulator is operational.
  - k. Your present schedule is stated in general terms for completion of all planned DCRDR work. Provide a more specific schedule for implementation of corrective actions for human engineering deficiencies.