

SEP 9 1985

Docket Nos.: 50-498
and 50-499

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

Dear Mr. Goldberg:

Subject: South Texas Project, Units 1 and 2 - Request for Additional
Information Regarding TMI Item II.E.4.2(6)

Pursuant to your submittal of April 30, 1985 on containment purge and vent
valve operability, the NRC staff's technical assistance contractor has
determined that additional information is required on TMI Item II.E.4.2(6).
The enclosure provides the list of questions. Please inform us as to your
schedule for providing the responses.

Please contact the Project Manager at (301) 492-7272 if you have any questions.

Sincerely,

ORIGINAL SIGNED BY

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

Enclosure:
As stated

cc: See next page

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~~Docket File 50-498/499~~

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NSIC

PRC System

LB#3 Reading

JLee

NPK
DL:LB#3

NPKadambi/yt

9/9/85

DL:LB#3
GW Knighton
9/9/85

NPKadambi

JPartlow

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Attorney, OELD

8509170355 850909
PDR ADDCK 05000498
A PDR

South Texas

Mr. J. H. Goldberg
Group Vice President, Nuclear
Houston Lighting and Power Company
P. O. Box 1700
Houston, Texas 77001

Mr. J. T. Westermeir
Manager, South Texas Project
Houston Lighting and Power Company
P. O. Box 1700
Houston, Texas 77001

Mr. E. R. Brooks
Mr. R. L. Range
Central Power and Light Company
P. O. Box 2121
Corpus Christi, Texas 78403

Mr. H. L. Peterson
Mr. G. Pokorny
City of Austin
P. O. Box 1088
Austin, Texas 78767

Mr. J. B. Poston
Mr. A. Von Rosenberg
City Public Service Board
P. O. Box 1771
San Antonio, Texas 78296

Jack R. Newman, Esq.
Newman & Holtzinger, P.C.
1615 L Street, NW
Washington, DC 20036

Melbert Schwartz, Jr., Esq.
Baker & Botts
One Shell Plaza
Houston, Texas 77002

Mrs. Peggy Buchorn
Executive Director
Citizens for Equitable Utilities, Inc.
Route 1, Box 1684
Brazoria, Texas 77422

William S. Jordan, III, Esq.
Harmon, Weiss & Jordan
2001 S Street, N.W.
Suite 430
Washington, D. C. 20009

Brian Berwick, Esq.
Assistant Attorney General
Environmental Protection Division
P. O. Box 12548
Capitol Station
Austin, Texas 78711

Mr. Claude E. Johnson, Resident
Inspector/South Texas Project
c/o U. S. NRC
P. O. Box 910
Bay City, Texas 77414

Mr. Jonathan Davis
Assistant City Attorney
City of Austin
P. O. Box 1088
Austin, Texas 78767

Ms. Pat Coy
Citizens Concerned About Nuclear
Power
5106 Casa Oro
San Antonio, Texas 78233

Mr. Mark R. Wisenberg
Manager, Nuclear Licensing
Houston Lighting and Power Company
P. O. Box 1700
Houston, Texas 77001

Mr. Charles Halligan
Mr. Burton L. Lex
Bechtel Corporation
P. O. Box 2166
Houston, Texas 77001

Regional Administrator - Region IV
U. S. Nuclear Regulatory Commission
611 Ryan Plaza Drive
Suite 1000
Arlington, Texas 76011

Mr. Lanny Sinkin
Citizens Concerned About Nuclear Power
3022 Porter St. N. W. #304
Washington, D. C. 20008

Mr. S. Head
HL&P Representative
Suite 1309
7910 Woodmont Avenue
Bethesda, Maryland 20814

Request for Additional Information
South Texas - Docket No. 50-498
Purge and Vent Valve Operability
TMI II.E.4.2(6)

1. Clarify the piping layout for valves 18-HA-1003-WA2 and 18-HA-1004-WA2, showing piping elements within 20 pipe diameters upstream or downstream of the purge valves, purge valve supports, and valve disc profile.
2. FSAR section 9.4.5.2.7 (Amendment 32) and Acceptance Review Question 022.5 do not clearly describe operation of the supplementary purge valves.
 - (a) Describe the flow path through the supplementary purge and supply lines. Describe the worst case configuration for which the valves are qualified to operate.
 - (b) Clarify that the submittal demonstrates closure of the valves from the fully open position (90°).
3. Clarification of Attachment C.
 - (a) The discussion of hydrodynamic torques in Attachment C does not address the flow effects of elbows or tees on the valve closing torque. Discuss or describe operability of the valves under these conditions and the basis for any conclusions.
 - (b) The hydrodynamic torque calculated in Attachment C considered only incompressible flow. The applicant should justify that the supplementary purge valves will see only incompressible flow during the accident scenario or provide a basis for applying torque values for incompressible flow to compressible flow.

4. Provide the torque values versus valve opening angle for the limitorque actuators in tabular or graph form and compare these with the torque values with the maximum torque required to operate the valves.
5. The Rockwell letter dated October 4, 1983 states that the Wyle Test Report 45116-2 did not consider 5 OBE and 1 SSE events. (Attachment E, Appendix IV, Item 5 of Rockwell letter to Bechtel). Provide justification that this seismic requirement has been satisfied.
6. Identify the breakaway torque as well as the torque coefficients (K_u and K_d) mentioned in Attachment C. Describe the use of these parameters in the calculation of total shaft torque required to operate the butterfly valves.
7. FSAR Figures 6.2.4-1 (Amendment 39), 7.3-16 (Amendment 43), and 9.4.5-3 (Amendment 41) indicate that ESF Trains "B" and "A" will be used for valves HA-003 and -006, respectively. However, FSAR Table 7.3-9 (Amendment 43) indicates that ESF Train "C" will be used for both valves. Address this apparent discrepancy.
8. Acceptance Review Question 022.5 indicates that DEHLG, DECLG, and DEPLG were found to be the limiting accidents for LOCA pipe breaks. Indicate the margin between the maximum stress and the allowable stress for design conditions used to qualify the valves and the worst case values calculated for this accident scenario.
9. Appendix C indicates an extrapolation method was used to calculate the flow dynamic torque for the 18" valve.
 - (a) Describe how Figure 3 in Appendix B and the equation appearing in Figure 3 were used to calculate T_D for the 14" valve.

- (b) Describe how the flow dynamic torque value of 15,000 in-lb was calculated and used in the static deflection tests of the 18" valve [Attachment D, Appendix D, DR-65407-32, page 9 and PS-3-2.10, Item 4(3), page 4].