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

October 29, 1985
ST-HL-AE-1387
File No.: G9.17

Mr. George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Responses to DSER/FSAR Items Regarding Chapter 7A, Item III.D.1.1

Dear Mr. Knighton:

The attachments enclosed provide STP's response to Draft Safety Evaluation Report (DSER) or Final Safety Analysis Report (FSAR) items.

The item numbers listed below correspond to those assigned on STP's internal list of items for completion which includes open and confirmatory DSER items, STP FSAR open items and open NRC questions. This list was given to your Mr. N. Prasad Kadambi on October 8, 1985 by our Mr. M. E. Powell.

The attachments include mark-ups of FSAR pages which will be incorporated in a future FSAR amendment unless otherwise noted below.

The items which are attached to this letter are:

Attachment	Item No.*	Subject
1	F 7.0-53	Chapter 7A, Item III.D.1.1

* Legend
D - DSER Open Item
C - DSER Confirmatory Item
F - FSAR Open Item
Q - FSAR Question Response Item

L1/DSER/i

B001
1/1

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

Very truly yours,

M. R. Wisenburg
Manager, Nuclear Licensing

CAA/bl

Attachments: See above

L1/DSER/i

cc:

Hugh L. Thompson, Jr., Director
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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

N. Prasad Kadambi, Project Manager
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, MD 20814

Claude E. Johnson
Senior Resident Inspector/STP
c/o U.S. Nuclear Regulatory
Commission
P O. Box 910
Bay City, TX 77414

M.D. Schwarz, Jr., Esquire
Baker & Botts
One Shell Plaza
Houston, TX 77002

J.R. Newman, Esquire
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Washington, DC 20036

Director, Office of Inspection
and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

E.R. Brooks/R.L. Range
Central Power & Light Company
P.O. Box 2121
Corpus Christi, TX 78403

H.L. Peterson/G. Pokorny
City of Austin
P.O. Box 1088
Austin, TX 78767

J.B. Poston/A. vonRosenberg
City Public Service Board
P.O. Box 1771
San Antonio, TX 78296

Brian E. Berwick, Esquire
Assistant Attorney General for
the State of Texas
P.O. Box 12548, Capitol Station
Austin, TX 78711

Lanny A. Sinkin
3022 Porter Street, N.W. #304
Washington, DC 20008

Oreste R. Pirfo, Esquire
Hearing Attorney
Office of the Executive Legal Director
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Charles Bechhoefer, Esquire
Chairman, Atomic Safety &
Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dr. James C. Lamb, III
313 Woodhaven Road
Chapel Hill, NC 27514

Judge Frederick J. Shon
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. Ray Goldstein, Esquire
1001 Vaughn Building
807 Brazos
Austin, TX 78701

Citizens for Equitable Utilities, Inc.
c/o Ms. Peggy Buchorn
Route 1, Box 1684
Brazoria, TX 77422

Docketing & Service Section
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555
(3 Copies)

Advisory Committee on Reactor Safeguards
U.S. Nuclear Regulatory Commission
1717 H Street
Washington, DC 20555

Revised 9/25/85

III.D.1.1 Integrity of Systems Outside ~~of~~ Containment ~~(III.D.1.1)~~ ← ALL CAPS.
LIKELY TO CONTAIN RADIOATIVE MATERIAL FOR PRESSURIZED-WATER REACTORS AND BOILING-WATER REACTORS

Position (NUREG-0737)

Applicants shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as-low-as-practical ~~guide.~~ levels. This program shall include the following:

(1) Immediate leak reduction

(a) Implement all practical leak reduction measures for all systems that could carry radioactive fluid outside of containment.

(b) Measure actual leakage rates with system in operation and report them to the NRC.

(2) Continuing Leak Reduction - Establish and implement a program of preventive maintenance to reduce leakage to as-low-as-practical levels. This program shall include periodic integrated leak tests at intervals not to exceed each refueling cycle.

ATTACHMENT 1
ST-HL-AE-1387
PAGE 1 OF 4

Clarification

Applicants shall provide a summary description, together with initial leak-test results, of their program to reduce leakage from systems outside the containment that would or could contain coolant or other highly radioactive fluids or gases during or following a serious transient or accident.

(1) Systems that should be leak tested are as follows (any other plant system which has similar functions or post accident characteristics, even though not specified herein, should be included):

Residual heat removal (RHR)

Containment spray recirculation

High-pressure injection recirculation

Containment and primary coolant sampling

Reactor core isolation cooling

Makeup and letdown (PWRs only)

Waste gas (includes headers and cover gas system outside of the containment in addition to decay or storage system)

Include a list of systems containing radioactive materials which are excluded from program and provide justification for exclusion.

(2) Testing of gaseous systems should include helium leak detection or equivalent testing methods.

(3) Should consider program to reduce leakage potential release paths due to design and operator deficiencies as discussed in our letter to all operating nuclear power plants regarding North Anna and related incidents, dated October 17, 1979.

ATTACHMENT 1
ST-HL-AE-1387
PAGE 2 OF 4

STP Response:

ATTACHMENT 1
ST-HL-AE-1387
PAGE 3 OF 4

Immediate Leak Reduction and Leakage Testing:

The following systems have been identified as systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident:

1. High Head Safety Injection System (recirculation portion only).
2. Low Head Safety Injection System (recirculation portion only).
3. Containment Spray System (recirculation portion only).
4. Containment Hydrogen Monitoring System.
5. Post Accident Sampling System
6. Primary Sampling System (portion common with PAS System)

A leakage reduction plan is being implemented for these systems. This program begins with incorporation into the design those features that reduce radioactive releases to as low as reasonably achievable levels (ALARA), see FSAR Sections 12.3.1 and 12.3.2.

Leakage testing will be incorporated into this program. The program will be based on the requirements of the ASME Boiler and Pressure Vessel Code, Section XI and 10 CFR 50, Appendix J as applicable. The safety injection and containment spray systems are subject to the inservice inspection requirements of the ASME B&PV Code Section XI, including pressure tests. Operating pressure leakage tests will be performed on appropriate portions of the systems identified above at intervals not exceeding refueling outages.

A description of the program to meet III.D.1.1 will be provided 4 months prior to fuel load.

Continuing Leak Reduction:

The systems included in this program will receive periodic inspection (primarily by system walkdown) for leakage. This inspection will be conducted during the leak testing and at other intervals as determined by maintenance policy. Maintenance will be performed on those components identified as requiring work to limit actual leakage.

Excluded Systems:

The following systems are excluded from this program :

1. Liquid Waste Processing System. (This system is not required to function post accident and is isolated on phase A Containment isolation.)

2. Gaseous Waste Processing System. (The system is not required to function post-accident and is isolated on phase A Containment isolation.)

3. Chemical and Volume Control System (CVCS), letdown portion. (The letdown portion of the CVCS is not required to function post accident. The plant can be brought to a safe condition without the letdown system. The letdown system is isolated on phase A Containment isolation.)

4. CVCS, reactor coolant pump seal leak off portion. (The seal leak off portion of the CVCS is not required to function post-accident. The seal leak-off is isolated on a containment isolation signal. The system remains isolated post-accident. If seal leak off is required post-accident, pressure in the seal leak off header will increase and the header relief valve will lift providing a flow path to the pressurizer relief tank.)

5. CVCS, charging portion. (The charging portion of the CVCS is not required to function post-accident and is isolated on a containment isolation signal.)

6. CVCS, seal injection portion. (The letdown portion of the CVCS is isolated on a containment isolation signal, therefore the seal injection portion of the CVCS will not contain highly radioactive fluids under post accident conditions.)

Surveillance of the leak tightness of the systems which routinely contain radioactive fluids or gasses and are excluded from the program, as listed above, is assured by routine surveillance of the auxiliary building and the airborne radiation monitors in this building. Leaktightness of these systems is determined by the objectives of keeping occupational and routine releases ALARA as described in Section 12.3. The sampling system components are provided with packless valves to minimize discharge caused by leakage.

The portions of the reactor coolant charging, letdown and pump seal leakoff systems, in use during normal operations, are monitored with the rest of the Reactor Coolant System for leakage during steady state conditions by the Reactor Coolant System water inventory balance(see FSAR Section 5.2.5). Portions of these systems are ASME Class 2 and 3 and are subject to the requirements of the ASME Boiler and Pressure Vessel Code, Section XI.

North Anna and Related Incidents:

The STP design has been reviewed with respect to the North Anna and related incidents. The STP design is sufficiently different from the North Anna design to preclude a similar occurrence. The volume control tank relief is routed to the recycle holdup tank. Venting off the holdup tank is routed to the gaseous waste processing system.