Nuclear Operating Company
South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

October 29, 1998
NOC-AE-000319
File No.: G021.02.01,
G03.16
10CFR50
STI: 30725261

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Response to Staff Questions on Proposed Amendment to Technical Specifications 3.7.1.6,
Atmospheric Steam Relief Valves

Reference: Letter from T. H. Cloninger, South Texas Project, to the Nuclear Regulatory Commission dated August 18, 1997 (ST-HL-AE-5689)

In response to staff questions on the referenced letter regarding the Amendment to Technical Specifications 3.7.1.6 on Atmospheric Steam Relief Valves, the STP Nuclear Operating Company hereby submits the requested information. Attached are the questions with answers as posed by the NRC staff.

This letter contains no new commitments to the NRC. Should you have any questions in regard to this response, please contact Mr. T. M. Stroschein at (512) 972-7734 or me at (512) 972-7902.

T. J. Jordan,
Manager,
Systems Engineering

KAW

Attachment

e:\wp\nl\nrc-ap\TSC-98\0319.doc

030013

Ellis W. Merschoff
Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

Thomas W. Alexion
Project Manager, Mail Code 13H3
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Cornelius F. O'Keefe
Sr. Resident Inspector
c/o U. S. Nuclear Regulatory Commission
P. O. Box 910
Bay City, TX 77404-0910

J. R. Newman, Esquire
Morgan, Lewis & Bockius
1800 M. Street, N.W.
Washington, DC 20036-5869

M. T. Hardt/W. C. Gunst
City Public Service
P. O. Box 1771
San Antonio, TX 78296

A. Ramirez/C. M. Canady
City of Austin
Electric Utility Department
721 Barton Springs Road
Austin, TX 78704

Jon C. Wood
Matthews & Branscomb
One Alamo Center
106 S. St. Mary's Street, Suite 700
San Antonio, TX 78205-3692

Institute of Nuclear Power
Operations - Records Center
700 Galleria Parkway
Atlanta, GA 30339-5957

Richard A. Ratliff
Bureau of Radiation Control
Texas Department of Health
1100 West 49th Street
Austin, TX 78756-3189

D. G. Tees/R. L. Balcom
Houston Lighting & Power Co.
P. O. Box 1700
Houston, TX 77251

Central Power and Light Company
ATTN: G. E. Vaughn/C. A. Johnson
P. O. Box 289, Mail Code: N5012
Wadsworth, TX 77483

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

ATTACHMENT

Question) **Explain how the atmospheric steam relief valves operate to ensure sufficient cycling capability.**

Answer) The atmospheric steam relief valves are hydraulically actuated. Each valve has a small, completely self-contained hydraulic plant located immediately above the valve. The hydraulic plant consists of a positive displacement pump, an accumulator, a reservoir (for hydraulic fluid), a manifold, a servo-valve, a servo-amplifier, solenoid valves, check valves, flow control valves, relief valves, pressure switches, a level switch, tubing and various fittings and electrical connections. This plant is connected directly to the valve's hydraulic operating cylinder.

The hydraulic pump operates as necessary to charge hydraulic fluid into the accumulator from the reservoir. By doing so, the pump forces hydraulic fluid into the accumulator and compresses the nitrogen charge that is present on the opposite side of the internal moveable piston. This stored energy in the compressed nitrogen in the accumulator provides the motive force to move the accumulator piston, thus forcing hydraulic fluid out of the accumulator and into the operating cylinder of the valve, causing the valve to stroke. The amount of nitrogen within the accumulator and the amount of hydraulic fluid that circulates in the hydraulic plant are finite and these fluids do not interface with any other plant system or any other valve. The components of the hydraulic plant are arranged so that the valve may be stroked in the open or closed direction from the control room.

The hydraulic pump is powered by 480 VAC class 1E power. The control circuitry is powered by 125 VDC class 1E power. The valve may be operated on a continuous basis provided that the power supplies and the valve and valve actuator components do not fail. If power is lost, the valve is capable of stroking by using stored energy in the accumulator.