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TEXAS UTILITIES GENERATING COMPANY

SKYWAY TOWER • 400 NORTH OLIVE STREET, L.B. 81 • DALLAS, TEXAS 75201

July 9, 1984

BILLY P. CLEMENTS
VICE PRESIDENT, NUCLEAR OPERATIONS

Mr. R. L. Bangart, Director
Region IV Comanche Peak Task Force
Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011

Subject: Construction of CPSES Condensers
Dockets: 50-445 & 50-446

Dear Mr. Bangart:

This refers to your letter of June 19, 1984, concerning alleged improper construction practices involving the Comanche Peak Steam Electric Station main condensers.

The main condensers and circulating water system are not required to shut down the reactor and, as such, are not safety-related. This equipment is not listed in Appendix 17A of the FSAR (list of Quality Assurance items). Therefore, a 10CFR50 Appendix B Quality Assurance Program was not invoked during construction activities. However, in accordance with the same sound engineering and construction practices followed by TUGCo during other generating constructions activities, TUGCo engineering personnel, TUGCo Operations maintenance personnel, welding engineering personnel and vendor personnel monitored the activities involved in the construction of the condensers; e.g., welding engineering monitored the field welding on the condenser shells; TUGCo Operations maintenance monitored the connection of the condensers to the low pressure section of the turbine; TUGCo engineering and Operations maintenance monitored the tube installation and tube rolling process; and the vendor monitored all of the erection activities.

The condenser design provides for pressurization, with condensate, of the tube sheets to preclude any lake water leakage into the steam side from the waterbox side. This design was effected using the integral groove. The groove was machined perpendicular to the longitudinal axis of the tube hole in the tube sheet and at the center of the thickness of the tube sheet. The diameter of the groove was such to allow for overlap between adjacent grooves, thus providing a flow path for the condensate. During initial filling operations, leakage from the waterbox was observed going into the tube sheet pressurization annulus. The tubes were re-rolled and leak tested. No leakage was observed going from the waterbox into the annulus. Upon pressurization of the annulus with condensate, leakage rates of 0.5 gal./hr. and 0.4 gal./hr. were observed going from annulus to the steam side of condensers A and B respectively.

The main condensers have been tested in accordance with Acceptance Test 27-1, which specified a vacuum on the steam side and lake water on the tube side. The condensers passed this Acceptance Test. During Hot Functional Testing of the steam supply, operating conditions in the condenser were achieved. During this time, tube sheet pressurization was in service. The steam side chemistry was monitored and no evidence of leakage was noted.

In order to preclude unsatisfactory water chemistry on the secondary side of the steam generator, two measures have been taken. 1) The tube sheet pressurization system, as described above, will preclude lake water from leaking into the steam side of the condenser by injecting condensate into the annulus around each tube in both tube sheets. Since the condensate in the annulus area is at a higher pressure than the lake water, any leak will be from the tube sheet pressurization system to the lake side. 2) A condensate polishing system is employed to provide a continuous contaminant removal process, thus maintaining satisfactory steam generator secondary side water chemistry. The polishing system treats 100% of the condensate and is located between the condensate pump and the feedwater pump on the downstream side of the condenser. There is a condenser sampling system which allows early detection of lake water in the condensate side of the condenser. Additionally, the condensate system has salinity and conductivity cells to detect leakage into the condensate system. Alarms from these detectors warn the operators of any leakage.

We appreciate your bringing this matter to our attention.

Yours truly,

Billy R Clements

BRC;ah

cc: Messrs. T. A. Ippolito
B. J. Youngblood