UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 27, 1989

Docket No. 50-445

Mr. William J. Cahill, Jr.
Executive Vice President, Nuclear
Texas Utilities Electric Company
400 North Olive Street, L.B. 81
Dallas, Texas 75201

Dear Mr. Cahill:

SUBJECT: COMMENTS ON THE TEXAS UTILITIES ELECTRIC COMPANY RESPONSE TO GENERIC LETTER 88-17 WITH RESPECT TO EXPEDITIOUS ACTIONS FOR LOSS OF DECAY HEAT REMOVAL FOR COMANCHE STEAM ELECTRIC STATION UNIT 1 (TAC NO. 69734)

Generic Letter 88-17 (G.L. 88-17) was issued on October 17, 1988 to address the potential for loss of decay heat removal (DHR) during nonpower operation. In the generic letter, NRC requested (1) a description of your efforts to implement the eight recommended expeditious actions of the generic letter and (2) a description of the enhancements, specific plans and a schedule for implementation of the six recommended program enhancements.

The NRC staff has reviewed your response to G.L. 88-17 on expeditious actions in the letters of February 10, 1989 and June 1, 1989. Your letter of February 10, 1989 also included the response for programmed enhancements which we will review at a later date. We find that your response appears to meet the intent of the generic letter with respect to expeditious actions. However, the response is brief and sufficiently vague so that we cannot fully understand your actions taken in response to G.L. 88-17. All of your responses to the expeditious actions refer to places in your response to programmed enhancements where the similar topic is also covered. Since Comanche Peak is not yet operating, you appear to be doing both responses in parallel. You may wish to consider several of the staff's observations in order to assure yourselves that the actions are adequately addressed. The staff's observations are provided in the enclosure to this letter. There is no need to formally respond to these observations.

As you are aware, the expeditious actions you have briefly described in your response to the generic letter are an interim measure to achieve an immediate reduction in risk associated with reduced inventory operation, and these actions will be supplemented by programmed enhancements. We intend to audit both your response to the expeditious actions and your programmed enhancement program. The areas where we do not fully understand your responses, as indicated in our observations, may be covered in our audit of your expeditious actions.

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This closes out the staff review of your responses to the expeditious actions listed in the generic letter. The area of programmed enhancements will be addressed in future correspondence.

Sincerely,

CIGrimes

Christopher I. Grimes, Director
Comanche Peak Project Division
Office of Nuclear Reactor Regulation

Enclosure:
Observations on G.L. 88-17 Response

cc w/enclosure:
See next page

This closes out the staff review of your responses to the expeditious actions listed in the generic letter. The area of programmed enhancements will be addressed in future correspondence.

Sincerely,

(original signed by)

Christopher I. Grimes, Director
Comanche Peak Project Division
Office of Nuclear Reactor Regulation

Enclosure:
Observations on G.L. 88-17 Response

cc w/enclosure:
See next page

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ENCLOSURE

OBSERVATIONS ON TU ELECTRIC'S RESPONSE
ON EXPEDITIOUS ACTIONS FOR LOSS OF DECAY HEAT REMOVAL
(GENERIC LETTER 88-17)

The NRC staff reviewed TU Electric's response to Generic Letter 88-17 on expeditious actions in letters dated February 1 and June 1, 1989. The staff has seven observations on the response as follows:

1. Regarding the discussion of the Diablo Canyon event, related events, lessons learned and training, you refer to Section 2(a) in your response to Programmed Enhancement. This section is concerned with operating procedures that are being prepared. You state that these will address "refresher training and briefings for maintenance, planning, work control and test personnel (including training incorporating lessons learned from the Diablo Canyon event and other related events and special cautions and controls applicable to reduced inventory operations) prior to entry into reduced inventory." Although training is mentioned in this general description, you have not provided an outline of the specific subjects to be covered.

2. Regarding containment closure you state that "during reduced inventory conditions the containment is maintained closed or capable of being closed within 2 hours." As noted in Enclosure 2 to G.L. 88-17, Section 2.2.2, containment closure may be required within 30 minutes for nuclear steam supply systems supplied by Westinghouse if openings totaling greater than 1 square inch exist in the cold legs, reactor coolant pumps (connecting into the cold leg water space) and crossover pipes of the reactor coolant system (RCS). This 30-minute time requirement may be increased to 2 hours if a vent path from the upper reactor vessel is provided which is sufficiently large (with a suitable safety factor) that core uncovery cannot occur due to pressurization resulting from boiling in the core. You have stated that a large hot leg vent is to be provided prior to installing steam generator nozzle dams. This will require calculations to verify the effectiveness of the opening (see item 7 below).

3. In some plants the quick closure of the equipment hatch is achieved by the installation of a reduced number of bolts. If you plan to use less than the full complement of bolts for sealing the equipment hatch, you should first verify that you can make a proper seal of the periphery mating surfaces to meet the closure criteria.

4. Your letter of June 1, 1989 provided the results of your study for selecting the RCS level indication system. You state that the selected level indication system consists of two independent differential pressure transmitters; one narrow range (30-inch span) and one wide range (150-inch span). The 30-inch span of the narrow range indicator envelops the 29-inch inside diameter of the RCS hot legs and yields higher accuracy and readability due to its smaller span. The 150-inch span of the wide range indicator extends from below the bottom of the RCS hot legs to above the reactor vessel flange. This permits tracking of RCS level from the reactor vessel flange elevation through reduced inventory operation (three feet below the reactor vessel flange) into mid-loop operation, where the narrow range indicator will be on scale.

Your response indicates that the high pressure sensing line for each differential pressure transmitter is tied into a separate flux thimble guide tube with a tee connection. A standpipe is installed in each sensing line, with a minimum height well above the maximum transmitter range. The water level in the standpipes provides the high pressure input to each transmitter. Both the high pressure standpipes and the low pressure sides are vented to containment atmosphere as is the RCS. This configuration provides physical independence between the two indicators.

Each level transmitter provides level indication on the residual heat removal (RHR) portion of the control board. Low level alarms are provided in the control room to alert the operator of the potential for excessive RHR pump air entrainment. You have not indicated the accuracy of the readings. When two or more level instruments are in place, care should be taken to resolve any discrepancy between the measurement systems.

5. For the expeditious action regarding provision of at least two available or operable means of adding inventory to the RCS that are in addition to pumps that are a part of the normal decay heat removal (DHR) systems, you have stated that you will maintain sufficient existing equipment in the operable or available status so as to mitigate loss of DHR or loss of inventory should they occur. You have stated that at least one pump will be a high pressure injection pump and that the second means will be one of the other available pumps. You have not described the injection paths. As alluded to in Enclosure 2 to G.L. 88-17, Section 2.2.2, if openings totaling greater than 1 square inch exist in the cold legs, reactor coolant pumps and crossover piping of the RCS, the core can uncover quickly when pressurized under loss of RHR conditions. If this situation should arise, it is generally more effective to inject makeup water into the hot leg rather than the cold leg.

6. Regarding the appropriate use of nozzle dams, you have stated that hot leg vents will be required prior to installing steam generator nozzle dams. As noted in item 7 below, calculations are needed to assure that the vents are the proper size. Also, as noted in Enclosure 2 to G.L. 88-17, Section 2.7, hot leg nozzle dams should be removed before removing cold leg nozzle dams or hot leg nozzle dams should be removed before, or as quickly as is practical, following closure of the open vent path from the upper reactor vessel.

7. You have stated the use of vent openings on the hot side of the RCS to relieve RCS pressurization. Calculations need to be performed to verify the effectiveness of RCS openings, however, because even for relatively large hot side openings in the RCS, pressurization to several psi can still result. For example, with removal of a pressurizer manway, large steam flows in combination with flow restrictions in the surge line and lower pressurizer hardware may still lead to pressurization.

There is no need for TU Electric to formally respond to these observations. However, the areas where the staff does not fully understand TU Electric's responses, as indicated above, may be audited by the staff.