DUKE POWER COMPANY
P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

April 28, 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Re: McGuire Nuclear Station
Docket Nos. 50-369, 50-370

Dear Mr. Denton:

Attached is additional information on the monitoring and testing program for the McGuire Unit 1 and Unit 2 steam generators related to the preheater modification. This information supplements that provided in my letter of February 3, 1983.

Installation of the modification on Unit 2 is currently scheduled to begin in mid-June. This date is still tentative since it is dependent on scheduling of the Westinghouse installation team which has not been finalized.

Please advise if there are any questions concerning this matter.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

GAC/php
Attachment

cc: Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Mr. W. T. Orders
NRC Senior Resident Inspector
McGuire Nuclear Station

B021

Attachment 1

McGuire Nuclear Station
Supplemental Information on Steam Generators
Related to D2/D3 Modification

Duke Power Company submitted its proposed monitoring and inspection program regarding the D2/D3 modification in a letter dated February 3, 1983. This letter also addressed the method by which the Design Review Panel recommendations would be implemented for McGuire, Unit 1.

The NRC Staff has reviewed the proposed Duke programs and, in general, concurs with these programs. However, the Staff has requested several additional clarifications and commitments to resolve this matter. Listed below are each of the items discussed in the February 3, 1983 submittal and any necessary clarifications and/or commitments. Also included is a statement about the applicability of each item to Unit 2.

Inlet Pressure Monitoring

The intent of this monitoring is to monitor all pressure variations which could affect the fatigue usage factors of the bolts and welds. This is to be accomplished by using a pressure t nsducer installed in the feedline elbows as shown in Attachment 2. Note that the sensor is in a slightly different location than that shown in the February 3, 1983 submittal. Measurements will be made over the design operating flow range, i.e., from 17% power, where main feed flow is initiated, up to 100% power. Power escalation will be made in 3% increments. Measurements will be made during the period that power is increasing as well as at each 3% increment.

Acceptance criteria for this test will be established to verify that the plant measurements fall within the bounding values used by Westinghouse in the analysis of the manifold.

This test will also be performed on Unit 2.

Feedwater System Changes

The modification to the feedwater system as shown in Figure 2 of the February 3, 1983 submittal showed a 2" bypass line around the check valve in the main feedwater system adjacent to the steam generator. This drawing was in error since the bypass is a 1" line. Attachment 3 is a corrected copy of this figure. The modification to the feedwater system to permit backflushing of the feedline will also be installed on Unit 2.

Tube Vibration Monitoring

Four tubes in the 'A' steam generator on Unit 1 are instrumented with accelerometers. Data will be recorded on magnetic tape and will be analyzed in the same manner as previous data (See W. O. Parker, Jr.'s letter to H. R. Denton, dated April 28, 1982). A summary of the results of this testing will be submitted

to the NRC for information.

Long term potential of the manifold to reduce tube wear will be verified from ECT measurements taken at the first refueling outage and ECT measurements from subsequent outages. No acceptance criteria related to tube vibration have been established; however, as a general criterion, overall tube response should be within that of an unmodified steam generator at 50% power.

This program is applicable to Unit 1 only.

Eddy Current Testing

The ECT program described in the February 3, 1983 submittal will be followed with a few additional clarifications. The table below summarizes the ECT program for the preheater region.

	Post-Installation	First[1] Examination	Second Examination	Subsequent Examinations
Row 49	X	X	X	X
Row 48	X	X	X	-
Row 47	X	X	-	-
Row 46	X	X	-	-
Row 45	X	X	-	-
Peripheral Tubes	X	X	-	-
Tubes w/indications from previous testing[2]	-	-	X	X

[1] First S/G ISI required by Technical Specifications

[2] Applicable only if tubes are located in other than row 49 or row 48 (second examination) or row 49 (subsequent examinations).

The above program is supplemental to that required by Technical Specifications and will be applied to both Units 1 and 2 steam generators.

The minimum number of steam generators which are examined during each inspection period will be determined by Technical Specification requirements.

Visual Inspection

Duke Power Company will conduct the visual inspection of the modification using remote inspection techniques in accordance with ASME Boiler and Pressure Vessel Code, Section XI, IWA-2211, Visual Examination, VT-1. This examination will be conducted on all steam generators following installation of the modification.

In subsequent outages during which the Technical Specification required ECT is performed, visual examination of one steam generator modification will be performed using the same criteria, Section XI, IWA-2211. This would mean that each steam generator modification would be visually examined at least every four years. Visual inspection at this frequency balances the positive

benefits with the negative aspects of the inspection. Positive benefits would be early detection of an incipient problem, e.g., weld cracking, corrosion, erosion, etc. Negative aspects are the radiation exposure to workers and inspectors, chemistry related problems caused by a drained steam generator and significant time required for the inspection, including both pre-inspection and post-inspection maintenance activities.

Given the long term nature of the various mechanisms that the visual inspection is expected to detect, the proposed inspection is adequate. This visual inspection will be followed on both Units 1 and 2.

Loose Parts Monitoring System

See February 3, 1983 submittal. This item is applicable to both Units 1 and 2.

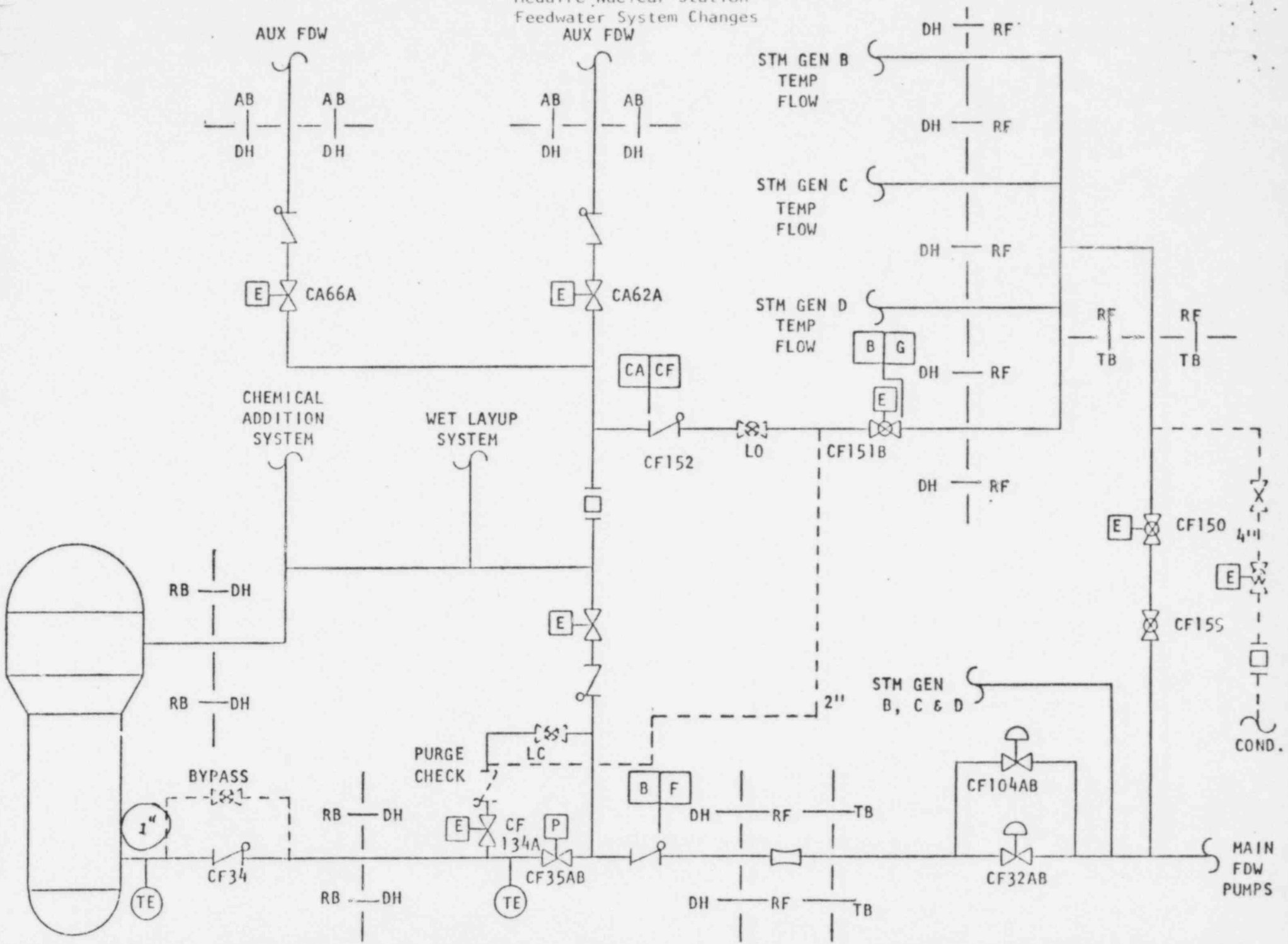
ALARA Considerations

For the Unit 1 modification a summary report detailing the dose received for various tasks and a comparison of estimated and actual doses will be submitted by June 15, 1983.

Dose estimates for the Unit 2 modification will be made. Experience gained from the work on Unit 1 will be factored into this estimate. Periodic comparisons of the cumulative person-rem dose with the dose estimates will be made during the installation of the modification. If the actual person-rem dose exceeds the dose estimate by more than 10%, a revised dose estimate will be made. The NRC will be notified of any such change and the reason for the change within 15 days. A summary report similar to the Unit 1 report discussed above will be submitted for Unit 2 60 days after completion of the modification.

ATTACHMENT 2

McGuire Nuclear Station
Feedwater System Changes



ATTACHMENT 3

Figure 1

Piezoelectric Transducer Location (Typical)