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MIDDLE SOUTH UTILITIES SYSTEM

October 31, 1983

W3P83-3438
Q-3-A29.20

Director of Nuclear Reactor Regulation
Attention: Mr. G.W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Waterford SES Unit 3
Docket No. 50-382
Inadequate Core Cooling Instrumentation

Dear Sir:

Section II.F.2 of Supplement 5 to the Waterford 3 SER notes two items (#'s 3 and 6 of the staff evaluation) which must be resolved prior to an operating license being issued. The purpose of this letter is to provide the information to address these two open items.

The attached response demonstrates that the Waterford 3 ICC display scheme meets or exceeds the applicable requirements of NUREG-0737 II.F.2 Attachment 1 and Regulatory Guide 1.97. This attachment will be included in the next FSAR Amendment.

Item (4) of the II.F.2 'Documentation Required' asks for a comparison of the ICCI submittal to the requirements of II.F.2. This response has been provided in Tables 8-1 through 8-3 of the Waterford 3 ICCI submittal (W3P83-1542, dated May 23, 1983) and most recently as FSAR Tables 1.9A-2 through 1.9A-4 (Amendment 32). These tables apply to the ICCI system as a whole and, where applicable, to each subsystem (ie., SMM, CETs, HJTC, and QSPDS).

We are confident that the attached information is adequate to close-out your concerns in this area, and therefore request that these items be addressed in the next supplement to the Waterford 3 SER. Should you have

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any questions or comments regarding this matter, please contact myself or Bob Foley at (504) 363-8937.

Yours very truly,

K W Cook

K.W. Cook
Nuclear Support & Licensing Manager

KWC/RMF/ch
Attachments

cc: E.L. Blake, W.M. Stevenson, J. Wilson, G.L. Constable, T. Huang

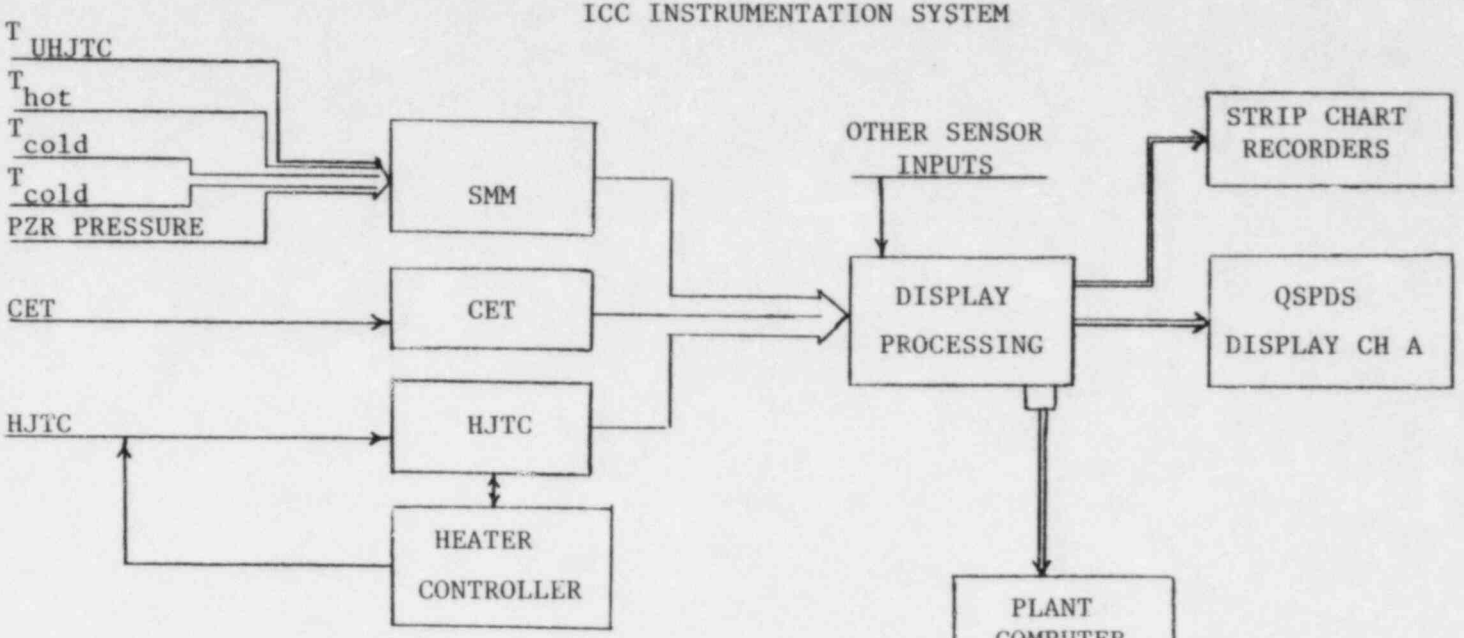
SIGNAL PROCESSING AND DISPLAY

In configuring the Control Room, it has been LP&L's design philosophy to allow as much as possible operator use of the same equipment in off-normal and emergency situations as under normal operating conditions. For this reason, primary and backup ICC display in the Waterford 3 control room has been provided for by the Qualified Safety Parameter Display System (QSPDS). The QSPDS performs safety grade signal processing and display of the ICC parameters, and is located on the main control panel for reactor protection in order to facilitate operator use. With the incorporation of access to the line printer through the plant computer, the QSPDS meets or exceeds the requirements of NUREG-0737 II.F.2 Attachment 1 and Regulatory Guide 1.97 for primary and backup operator displays. The QSPDS accepts sensor inputs, processes the signals, and transmits the output to its own alphanumeric display and to the plant computer. All non-Class 1E inputs and the interface with the plant computer are isolated from the Class 1E QSPDS equipment. The QSPDS is capable of providing to the operator important information on the performance of many critical safety functions. However, the discussion here is centered on the processing and display of the information related to ICC and the criteria given in NUREG-0737.

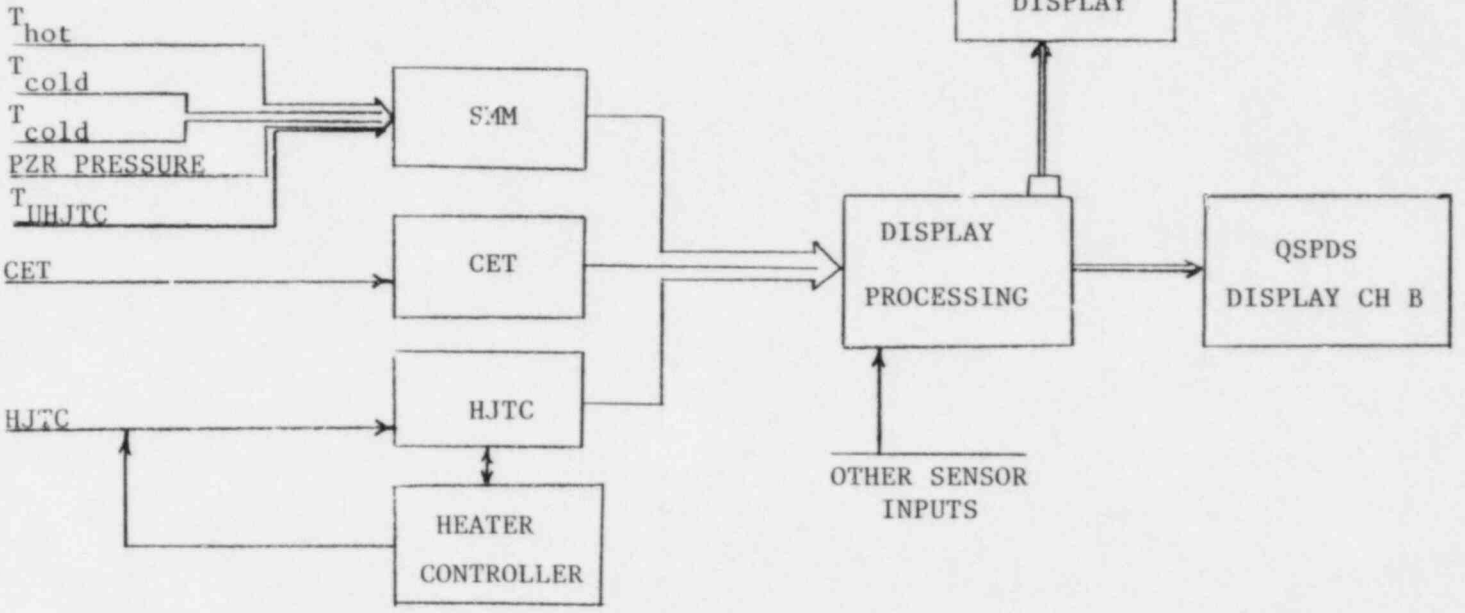
A spatially oriented CET temperature map is available on demand from each train of the QSPDS (primary and backup) providing a uniform representative picture of core exit temperature obtained by utilizing 28 CETs (7 per quadrant) dedicated only to that train. A strip chart recorder is provided to allow trending of representative CET temperature for the primary display (QSPDS train A).

Direct readout and hard copy capability is provided for all thermocouple temperatures (direct readout for the 28 CETs associated with each train of the QSPDS can be obtained from the display associated with that train; hard copy capability via the line printer as discussed above). Selective readings of core exit temperature, continuous on demand, is available from both the primary and backup displays.

ICC INSTRUMENTATION SYSTEM



QSPDS SIGNAL PROCESSING A



QSPDS SIGNAL PROCESSING B