

DUKE POWER COMPANY

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HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

December 31, 1984

TELEPHONE
(704) 373-4531

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: Catawba Nuclear Station
Docket Nos. 50-413 and 50-414

Dear Mr. Denton:

Catawba FSAR Table 1.9-1, Item II.F.2 provides a description of the incore thermocouple system. As noted in this section the present incore thermocouple system is being upgraded. The following information describes the back up display which will be included in the upgrade. This information is provided as a supplement to the description currently in FSAR Table 1.9-1.

SYSTEM LAYOUT (Refer to Figure 1)

The incore thermocouple back up display system utilizes the Class IE Westinghouse microprocessor RVLIS system for data gathering, signal conditioning, and transmission of thermocouple information. Each train receives 20 core exit thermocouples as inputs. Each train then outputs its thermocouple information to its safety grade back up display and also, through isolation devices to the plant computer which serves as the primary display. The back up displays are alphanumeric/graphic plasma flat panel displays located on the main control boards in the Control Room.

Either train by itself meets the requirements of providing readings of 4 thermocouples per core quadrant. All of this equipment, including isolators, is a part of the Westinghouse microprocessor based RVLIS system which has been described in previous submittals.

BACK UP DISPLAY

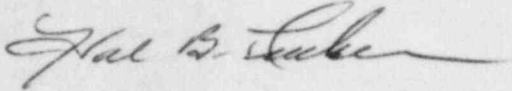
The thermocouple information is presented by display "pages" on the alphanumeric/graphic flat panel displays. Pushbuttons are provided to select the display pages. Information available through the back up displays includes individual thermocouple temperatures, average of the 5 highest temperatures, the 5 highest thermocouple readings and their core location, and a spatially oriented core map with temperature shown at each thermocouple location. In addition, a time-history graphic of the average of the 5 highest thermocouple temperatures can be displayed. The range of the thermocouple displays encompasses 200°F to 2300°F.

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Very truly yours,



Hal B. Tucker

ROS:slb

Attachment

cc: Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

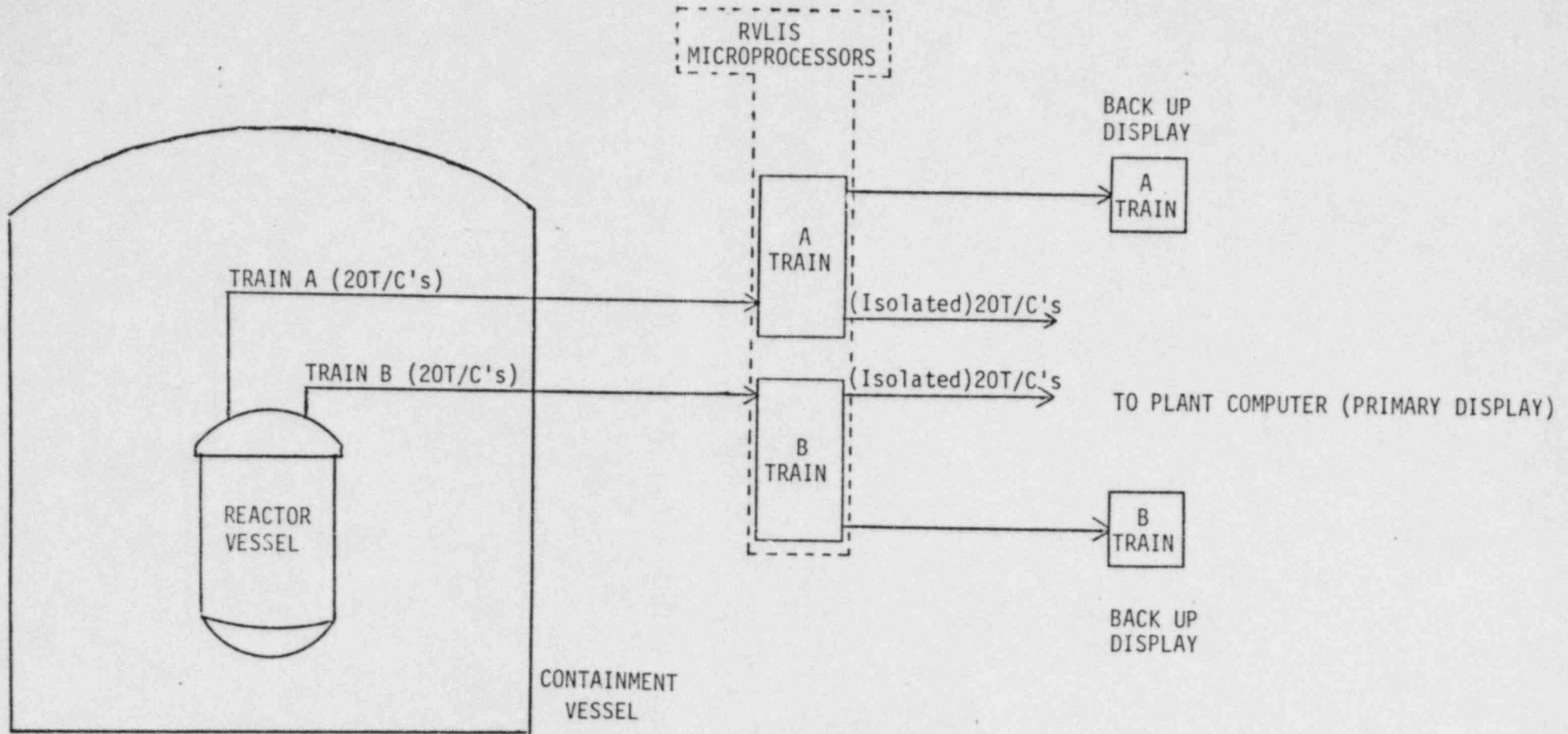
NRC Resident Inspector
Catawba Nuclear Station

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FIGURE 1



INCORE THERMOCOUPLE
BACK UP DISPLAY
SYSTEM CONFIGURATION