Wisconsin Electric POWER COMPANY
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March 29, 1985

Mr. H. R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. NUCLEAR REGULATORY COMMISSION
Washington, D. C. 20555

Attention: Mr. J. R. Miller, Chief
Operating Reactors, Branch 3

Gentlemen:

DOCKET NOS. 50-266 AND 50-301
REQUEST FOR ADDITIONAL INFORMATION
GENERIC LETTER 82-28
INADEQUATE CORE COOLING INSTRUMENTATION SYSTEM
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

Your letter dated January 29, 1985 requested that Wisconsin Electric submit additional information concerning our March 21, 1983 response to Generic Letter 82-28, "Inadequate Core Cooling Instrumentation System". As indicated in our March 5, 1985 letter, enclosed is our response to each item in Enclosure 1 to your January 29 letter. Item 1 of our response also responds to Items 1, 2, and 3 of the letter report referenced in your Enclosure 2.

Should you have any questions, please call us.

Very truly yours,

C. W. Fay

Vice President-Nuclear Power

C. W. Fay

Enclosure

Copy to NRC Resident Inspector

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RESPONSE TO ENCLOSURE 1 TO JANUARY 29, 1985 REQUEST FOR ADDITIONAL INFORMATION GENERIC LETTER 82-28, "INADEQUATE CORE COOLING INSTRUMENTATION SYSTEM" POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

1. Describe the operational status of the final ICCI system, including an updated schedule for system operation, and identify any as-built deviations of the system from your previous design descriptions.

RESPONSE

Reactor Vessel Water Level Indication System (RVWLIS)

As of March 29, 1985, the water level indication systems are installed, calibrated, and functioning in both Unit 1 and Unit 2. The RVWLIS has not been declared "operational" but is providing indication for operator familiarization. Testing of the system was performed during filling and startup of Unit 2 in fall 1984. The test results were satisfactory and indicated that the system performed within design tolerances. These test data are available for NRC review. Additional testing is scheduled during the shutdown of Unit 1 in April 1985. These test results will also be available for NRC review.

Additional Foxboro SPEC 200 modules were purchased and installed to process the signals from selected incore thermocouples and the thermocouples mounted on the vertical sections of the reference and variable leg tubing. These modules perform the functions that would have been performed by the computer. The RVWLIS is now functioning without need for any computer inputs. The system description contained in your letter of January 29, 1985 can be corrected by deleting the last two sentences of the first paragraph, that is, delete "The outputs...computer multiplexer" and "The computer multiplexer... Foxboro racks".

As an interim configuration, the wide-range and narrow-range vessel water level output signals have been hard-wired to the computer trend recorders in the control room. When the new computer is installed these connections will be removed.

Core Exit Thermocouples

Replacement of the thermocouple wiring and connectors inside containment has been completed for Unit 2 and is expected to be completed in Unit 1 during its spring 1985 outage. The reference junction boxes for both units have been moved from the containments to the computer room where the core exit temperatures continue to be monitored using the existing Westinghouse P250 plant computer.

As an interim configuration, the average of four selected core exit thermocouples, one from each quadrant, have been hard-wired from the Foxboro SPEC 200 racks to the computer trend recorders in the control room. When the new computer is installed these connections will be removed.

Subcooling Margin Monitor

As of March 29, 1985, the subcooling margin monitors are installed, calibrated, and functioning in both Unit 1 and Unit 2. Functional test procedures have been completed and are available for NRC review. The same Foxboro SPEC 200 modules that are used to monitor selected core exit thermocouples for the RVWLIS are used to provide the core exit thermocouple reference temperature to the subcooling monitor. Thus, the subcooling monitor is also independent of any computer inputs. Indicators in the control room are functioning and the temporary connections to the backup computer and auxiliary rack displays have either been removed or will be removed soon.

The system description in your January 29 letter can be updated by changing the words in the last sentence in paragraph two from "will be" to "are" so that it reads, "Subcooling display meters are located...in the control room." Also, delete the entire third paragraph, "Currently...late 1984."

As an interim configuration, the subcooling monitor output signals have been hard-wired to the computer trend recorders in the control room. When the new computer is installed these connections will be removed.

2. Describe the upgraded CET system with respect to reference junction boxes status. Are they environmentally qualified?

RESPONSE

The existing reference junction boxes have been moved from the containment to the computer room, a mild environment, and are not required to be environmentally qualified. When the new computer system is installed these junction boxes will be replaced with Computer Products, Inc., universal temperature reference junction boxes. These junction boxes will also be located in a mild environment and are not required to be environmentally qualified.

3. Describe the upgraded CET system with respect to backup display capability. NUREG-0737, II.F.2, Attachment 1, Item (3), requires that a backup display should be provided with the capability for selective reading of a minimum of 16 operable thermocouples, four from each core quadrant. The range should extend from 200°F to 2300°F.

RESPONSE

The replacement plant computer system currently under design will have four multiplexer cabinets. The four multiplexers will each have inputs from both Units 1 and 2. Two of the multiplexers will each have half of each unit's 39 core exit thermocouples. The range of the thermocouples is 32°F to 2290°F.

Each of these two multiplexers will drive a seismically-qualified plasma display in the control room. The operator can, through each of these two plasma displays, read half of each unit's core exit thermocouples which are distributed in all four quadrants.

4. Describe the function generator which is used to derive the saturation temperature from the pressure signal. Is this equipment fully qualified? Is this equipment capable for trending data?

RESPONSE

The function generator is a Foxboro SPEC 200 module, N-2AP+SGC. The saturation curve is approximated by eight straight line segments over the range of zero to ten volts which corresponds to a pressure input of zero to 3000 psig and a temperature output of 212°F to 696°F. This equipment is qualified. The saturation temperature, which is the output of the function generator, is an internal loop signal and is not capable of being trended. The output of the subcooling monitor is presently connected to a computer trend recorder in the control room and is trended. It is expected that this configuration will remain until delivery of our new plant computer system. After installation of the computer system this signal will be connected to the computer and can be trended as desired.

5. Describe the separation criteria for fiber optic cables between displays and the multiplexer. Describe the interface between Units 1 and 2 ICC instruments and the procedures to operate these ICC instruments for both units.

RESPONSE

Each of the two multiplexers that measure core exit thermocouples will drive its own plasma display. The communication cables from the multiplexers to the plasma displays will follow separate independent paths. The cable routing is currently in the design phase.

At each plasma display, the operator will be able to select Unit 1 or Unit 2 and then display half (19 or 20) of the core exit thermocouples for that unit. Half the thermocouples for both units terminate in a temperature reference box in one multiplexer, the other half in a second multiplexer.