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DUKE POWER

February 24, 1993

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: McGuire Nuclear Station
Docket Nos. 50-369 and 50-370
Generic Letter 88-17, Loss of Decay Heat Removal

Gentlemen:

On October 17, 1988, the NRC issued Generic Letter 88-17 which requested each licensee to respond to eight recommended expeditious actions. These actions will aid in correcting deficiencies in procedures, hardware and training relating to prevention of loss of decay heat removal capability. Our letters of January 3, 1989 and March 10, 1989 contained our response to the Expeditious Actions recommended by the Generic Letter.

This letter contains a change in our commitment to Expeditious Action 3 and the justification for the change. This change is being made to take advantage of the Reactor Coolant System Ultrasonic Level detection system that has been installed since the original commitment and to provide for operational flexibility.

We plan to implement this new commitment during the upcoming Unit 1 refueling outage scheduled to start March 12, 1993.

If there are any questions regarding this matter, please contact Larry Kunka at (704) 875-4032.

Very truly yours,

T. C. McMeekin 080151

Attachment

A001
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xc: Mr. S. D. Ebneter
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
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Mr. P. K. Van Doorn
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Mr. T. A. Reed, Project Manager
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bxc: (w/ attachment)
R. O. Sharpe
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L. J. Kunka
D. J. Bumgardner
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MC 801.01

(3) Provide at least two independent, continuous temperature indications that are representative of the core exit conditions whenever the RCS is in a mid-loop condition and the reactor vessel head is located on top of the reactor vessel. Temperature indications should be periodically checked and recorded by an operator or automatically and continuously monitored and alarmed. Temperature monitoring should be performed either:

(a) by an operator in the control room (CR), or

(b) from a location outside of the containment building with provision for providing immediate temperature values to an operator in the CR if significant changes occur. Observations should be recorded at an interval no greater than 15 minutes during normal conditions.

Current Response: (as of 3/10/89)

At least two core exit thermocouple indications will be maintained available anytime the RCS is in mid-loop operations and the reactor head is in place with irradiated fuel in the reactor vessel. Core exit temperature indication is provided at two locations in the Control Room. The Operator Aid Computer (OAC) displays a core map of core exit thermocouple temperatures and individual thermocouple temperatures. The Incore Instrument Panel indicates individual thermocouple temperatures on a LED display when an individual thermocouple toggle switch is pressed. The OAC indication will be set to automatically and continuously monitor core exit temperature with alarm capacity. The Incore Instrument Panel will provide a backup means to check core exit temperatures.

There will be time periods just prior to head removal and just after head replacement when core exit thermocouple indication will not be available. This is because Westinghouse designed reactors have core exit thermocouples that are routed through the reactor vessel head. The thermocouples must be disconnected during head removal and replacement. These time periods when temperature is not available will be minimized. During these time periods actual reactor vessel level indication will be provided by using the lower range RVLIS channels. The value of these level indications will be monitored and recorded.

Changes will be made to ensure special attention is given to disconnecting and reconnecting the core exit thermocouples that will be used to monitor core exit temperatures during reactor

vessel head removal and replacement. Also procedure changes will be made to ensure the availability of these indications and to provide appropriate limits on core exit temperature and reactor vessel level.

Amended Response: (1/26/93)

At least two core exit thermocouple indications will be maintained available anytime the RCS is in mid-loop operations and the reactor head is in place with irradiated fuel in the reactor vessel. Core exit temperature indication is provided at two locations in the Control Room. The Operator Aid Computer (OAC) displays a core map of core exit thermocouple temperatures and individual thermocouple temperatures. The Incore Instrument Panel indicates individual thermocouple temperatures on an analog display when an individual thermocouple toggle switch is pressed. The OAC indication will be set to automatically and continuously monitor core exit temperature with alarm capacity. The Incore Instrument Panel will provide a backup means to check core exit temperatures.

There will be time periods just prior to head removal and just after head replacement when core exit thermocouple indication will not be available. This is because Westinghouse designed reactors have core exit thermocouples that are routed through the reactor vessel head. The thermocouples must be disconnected during head removal and replacement. During these time periods two additional (in excess of Expeditious Action #4 requirements) RCS level indicators will be provided. The requirement for these level indicators will be satisfied by any combination of either High Range Reactor Vessel Level Instrumentation System (RVLIS), Low Range RVLIS or Reactor Coolant ultrasonic level instrumentation system. They will also be continuously monitored by the Operator Aid Computer (OAC) with procedural requirements to set up appropriate OAC alarmed limits. In addition, the loss of RHR Abnormal Procedure will require that RCS makeup be initiated prior to indicated level dropping below 10 inches above hot leg centerline or predicted (from time to boiling curves) core exit temperature rising to within 10 minutes of boiling. This action will ensure that RCS level is always well within the indicated range of the ultrasonic level instrumentation.

Reason for Amended Response Request

The purpose of this amended response is two fold. There is an error in the original response regarding the capability to read core exit thermocouple at an Incore panel using an *LED readout*. At MNS, the Incore panel readout is via a toggle switch selection which activates an analog indicator.

Also, the original response specified that the Lower Range Reactor Vessel Level indication system be used to provide level indication during the time frame that the reactor vessel head is

in place and the RCS is at mid-loop with no core exit thermocouple indication. To take advantage of the ultrasonic level detection instrumentation that has been installed at McGuire since the original response and to provide operational flexibility the commitment is being changed to any combination of two channels of the High Range RVLIS, Low Range RVLIS or the ultrasonic level instrumentation. The ability to use any two of the six separate channels of level indication should help ensure that two channels are available whenever the head is in place with no thermocouples available. For these reasons, we submit this request for your consideration.