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CRUTCHFIELD,D. Operating Reactors Branch 5

SUBJECT: Forwards util comments on SEP Topic V-11.B, "RHR Interlock Requirements (Electrical Review Only)," transmitted in NRC 801212 ltr.

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January 8, 1981

Director of Nuclear Reactor Regulation
Attention: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: SEP Topic V-11.B, RHR Interlock Requirements
R. E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Crutchfield:

Attached is the Rochester Gas and Electric response to the NRC's assessment, which was transmitted by letter dated December 12, 1980, of SEP Topic V-11.B, "RHR Interlock Requirements (Electrical Review Only)".

We have now received three separate but nearly identical assessments of the separation between the reactor coolant system (RCS) and the residual heat removal (RHR) system, the previous two being the SEP Safe Shutdown Evaluation (transmitted to RG&E on November 14, 1980) and SEP Topic V-11.A (transmittal to RG&E on August 20, 1980). For simplicity, we will respond to each of these assessments, rather than referencing previous response transmittals. However, it would be helpful if the general subject of RCS-RHR interface could be addressed by only one topic assessment.

Very truly yours,

John E. Maier

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Attachment

SEP Topic V-11.B, RHR Interlock Requirements

1. The assessment states that BTP RSB 5-1 contains the current licensing criteria for these interlocks. However, Regulatory Guide 1.139 would seem to supersede this guidance. Draft 2 of proposed Revision 1, dated February 25, 1980, has specifically deleted the requirement for diverse interlocks for the RHR isolation valves.

   Although the outboard isolation valves (701,720) do not have interlocks, the valves are keylocked closed with power removed. The key is under the administrative control of the shift supervisor. It would not be possible to inadvertently open these valves; a series of deliberate actions would be required. When taken together with the pressure interlocks provided for the inboard valves (700, 721), it is considered that sufficient protection is provided in the Ginna arrangement to prevent overpressurization of the RHR system.

2. Conclusion (2) notes that the RHR system does not satisfy regulatory criteria because the MOV's do not have an interlock feature to close them when RCS pressure increases above the RHR design pressure. This deviation from current criterion has already been addressed in the NRC's Safe Shutdown Evaluation, transmitted to RG&E on November 14, 1980. In section 4.2 of that evaluation, it is stated that "...The deviation regarding lack of automatic closure for the RHR isolation valves is acceptable based on the administrative controls which the licensee provides for operation of these valves, coupled with the RHR system high pressure alarm at 550 psig and the RCS interlock pressure alarm at 410 psig. These alarms provide adequate assurance that the operator action required by procedure will be taken to shut the isolation valves when RCS pressure is increasing towards the RHR design pressure."

3. Although the LPSI isolation valves (MOV 852 A and B) open on an SI signal before the RCS pressure drops below RHR design pressure, the check valves in these lines would ensure that the RHR system would not become overpressurized. In response to questions regarding the "Event V" check valve configurations, RG&E had committed, by letter dated March 14, 1980, to develop a periodic check valve pressure integrity test program, to be used during startups prior to exceeding the RHR system design pressure. This procedure has been developed, and is included in the Ginna Startup Procedure. Based on the implementation of this testing program, it is considered that sufficient assurance exists that these check valves will be closed, and perform their isolation function, until RCS pressure decreases below the RHR system pressure.

A significant disadvantage of an interlock on RCS pressure for MOVs 852A and B is that valve opening could be significantly delayed in the event of a small break loss of coolant accident due to the gradual depressurization of the primary system. Because MOVs 852A and B are located in the containment basement with the valve operators being approximately 45 inches and 43 inches, respectively, above the basement floor, it is possible that, with an interlock system in place, the valves would be flooded and potentially inoperable prior to receiving an opening signal. With the present logic for opening the valve, such failures due to flooding are not possible. While the valves could be relocated to a position above the flooded level, we have conceptually estimated the cost of such a modification to be well in excess of $1,000,000. Because of the implementation of the check valve testing program, to ensure closure, we do not feel that the MOVs need to be relocated, or that pressure interlocks need to be installed.