

October 19, 2005

Mrs. Mary G. Korsnick  
Vice President R.E. Ginna Nuclear Power Plant  
R.E. Ginna Nuclear Power Plant, LLC  
1503 Lake Road  
Ontario, NY 14519

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING AUTOMATIC  
ACTUATION OF MAIN FEEDWATER ISOLATION VALVES, R.E. GINNA  
NUCLEAR POWER PLANT (TAC NO. MC6857)

Dear Mrs. Korsnick:

By letter dated April 29, 2005, as supplemented on July 1, 2005, R.E. Ginna Nuclear Power Plant, LCC (Ginna LLC) submitted an application to the Nuclear Regulatory Commission (NRC) requesting that Technical Specification 3.7.3, "Main Feedwater Regulating Valves, Associated Bypass Valves, and Main Feedwater Pump Discharge Valves," be revised to allow use of the main feedwater isolation valves, in lieu of the main feedwater pump discharge valves, for isolation in the event of a steam line break.

The NRC staff has reviewed the information supporting the proposed amendment and has determined that additional information is required in order for the staff to complete its review. The staff's questions are contained in the enclosed request for additional information (RAI). This RAI was discussed with the Ginna LLC staff on October 3, 2005, and it was agreed that a response would be provided within 45 days from the date of this letter.

Sincerely,

*/RA/*

Patrick D. Milano, Sr. Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-244

Enclosure: RAI

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION  
REGARDING MAIN FEEDWATER ISOLATION VALVES  
R.E. GINNA NUCLEAR POWER PLANT  
DOCKET NO. 50-244

By letter dated April 29, 2005, as supplemented on July 1, 2005 (Agencywide Documents Access and Management System Accession Nos. ML051260236 and ML051920360, respectively), R.E. Ginna Nuclear Power Plant, LLC (the licensee) submitted an application to amend the technical specifications (TSs) for the R.E. Ginna Nuclear Power Plant (Ginna). Specifically, the licensee proposed changes that would allow the use of the main feedwater isolation valves (MFIVs), in lieu of the main feedwater pump discharge valves, to provide isolation to the steam generators in the event of a steam line break. To complete its review, the Nuclear Regulatory Commission (NRC) staff requests the following information:

1. In its discussion responding to question 1 of Section 5.1, "No Significant Hazards Consideration," the licensee states that "[t]he proposed changes cannot affect the probability of an accident occurring since they reflect a change in plant design consistent with current design which is not an accident initiator." The NRC staff understands that the proposed modification adds automatic air-operated actuators to the manual block valves that isolate main feedwater. These actuators would be designed to fail closed, shutting the valves. Therefore, failure of this added equipment could cause a loss of feedwater event.

Explain how the proposed change would not increase the probability of a loss of feedwater event.

2. Discuss the qualification of the structural capability of the MFIVs to perform their new safety function.
3. Discuss the calculation of the thrust necessary to operate the MFIVs under the pressure and flow conditions for their new safety function.
4. Discuss the qualification of the actuators to be installed on the MFIVs to perform the new safety function.
5. Discuss the monitoring and surveillance of the performance of the MFIVs as part of the Inservice Testing Program at Ginna.
6. Describe the control room alarms that are being provided to alert the operators that the air pressure in the MFIV accumulators is low? At the low air pressure value, will the MFIV still be able to perform its safety function (close-open-close)? Discuss the reason for not including a TS surveillance requirement for the accumulator air pressure.

Enclosure

7. With regards to Items (e) and (f) in Section 2.0, "Proposed Changes," in the April 29 application, what are the safety and operational implications of closing an MFIV in compliance with proposed TS 3.7.3, Required Actions A.1 and A.2?
8. The proposed change to TS 3.7.3, Required Action A.1 requires that the MFIVs be closed or isolated if one or more MFIVs is inoperable. Describe how the isolation would be accomplished and the effect on plant operation?
9. Will the function of the auxiliary feedwater (AFW) system be affected by the proposed change to main feedwater line isolation? If so, describe how it is affected.
10. Discuss how the proposed change will affect the containment isolation of the feedwater lines. What valves in the feedwater lines are containment isolation valves?
11. As discussed in Section 4.2 of Enclosure 1 to the July 1, 2005, letter, provide the steam generator nominal level at the power levels at which the steam line break accident is analyzed (i.e., 0%, 30%, 70%, 100%) to verify that the 52% nominal narrow range span for steam generator level is conservative.
12. What is the peak containment temperature for the limiting main steam line break accident? What is the effect of the proposed changes on environmental qualification of equipment within the containment?
13. Describe how feedwater flow is assumed to vary with main feedwater regulating valve or MFIV closure.
14. TS Figure B 3.7.3-1 shows bypass valves associated with the MFIVs. Explain why there is no CONDITION associated with the ACTIONS for TS 3.7.3 for the MFIV bypass valves similar to CONDITION C for inoperable MFRV bypass valves.
15. Verify that the MFRV modeling up to the reactor trip following a postulated main steam line break accident is as described in the Ginna Updated Final Safety Analysis Report (see page 49/334 of Revision 18).
16. For the mass and energy release portion of the main steam line break in the containment analysis:
  - (a) Describe how reactor coolant system metal heat capacity is modeled in the main steam line break accident calculation.
  - (b) Is manual operation assumed for the rod control system?
17. Describe how the analyses of the feedwater line break accident and other non-loss-of-coolant accidents are affected by the proposed change? The Bases for TS 3.7.3 of the Improved Standard TSs (see page B 3.7.3-2 in NUREG 1431, Revision 3) states that the design basis for the MFIV is also influenced by the large main feedwater line break accident. Explain this in terms of the Ginna design basis.

18. The Bases for TS 3.7.3 of the Improved Standard TSs (see pages B 3.7.3-3 and B 3.7.3-4 in NUREG-1431, Revision 3) states that the 7-day verification that the MFIVs and MFRVs are closed or isolated is acceptable based on valve status indication in the control room and other administrative controls. Describe the indications of valve status that will be available in the Ginna control room? What administrative controls are relevant to verification of valve status?