UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 42 TO FACILITY OPERATING LICENSE NO. DPR-18

ROCHESTER GAS AND ELECTRIC CORPORATION

R. E. GINNA NUCLEAR POWER PLANT

DOCKET NO. 50-244

1.0 INTRODUCTION

By letter dated February 15, 1991, the Rochester Gas and Electric Corporation (RG&E) (the licensee) requested an amendment to Facility Operating License No. DPR-18 to change the Technical Specification for the Ginna Nuclear Power Plant as set forth in Appendix A to that license. The proposed amendment would revise the Technical Specification 3.3.1.1g to reflect a plant modification that is being prepared to enable the operation, from the control room, of Motor Operated Valve MOV-856 which is the refueling water storage tank (RWST) delivery valve. This modification involves the installation of a key-operated-switch in the control room that will remove and lock open the 125 VDC control power to the valve actuator. The same method was approved for MOV-896A and B, the RWST outlet valves in the NRC SER to Amendment 7 of the R. E. Ginna Provisional Operating License, dated May 14, 1975.

2.0 EVALUATION

MOV-856 must be in the open position during the injection phase of a loss of coolant accident (LOCA) when the reactor coolant system (RCS) temperature is at or above 350°F. This is to ensure that water can be immediately delivered from the RWST to the reactor vessel upon initiation of a Safety Injection (SI) signal. However, MOV-856 must be closed for two other conditions: (1) for the recirculation phase of a LOCA, and (2) when the reactor is shutdown with the Residual Heat Removal (RHR) System in operation.

The current Technical Specification of R. E. Ginna requires the removal of AC power from the valve motor when the RCS temperature is at or above 350°F to prevent inadvertent or spurious closure. This is ensured by locking open the breaker which provides 480 VAC power to the valve motor, but the disadvantage of this method is that the close function of MOV-856 cannot be performed completely from the control room. An entry must first be made into the controlled auxiliary building to unlock and close the breaker to restore the AC power to the valve.

In the event of a LOCA, the Post LOCA Emergency Procedures require that, when the RWST level reaches 28%, RHR pumps are stopped and valves realigned so that the suction source of water for the RHR pumps is switched from the RWST (by closing MOV-856) to containment sump "B". This switchover procedure is initiated to isolate the RWST from any potentially high radioactive source of water in containment sump "B" released from the RCS following a LOCA.

The Post LOCA Emergency Procedures also require the RHR pump to be started following valve realignment but not before RWST level has further decreased to 15% to ensure adequate RHR pump NPSH. In the limiting case of a large break LOCA, an estimated time for the RWST level to decrease from 28% to 15% could be on the order of 10 minutes. Consequently, time is limited for personnel to restore power to the valve with the present valve control configuration as mentioned above.

The new proposed configuration would install a key-operated-switch in the control room to remove and lock open the 125 VDC control power to the valve actuator. By requiring the actuation of the key-operated-switch in conjunction with the existing AC power control switch, the proposed modification will maintain the existing assurance of proper valve alignment. In addition, the elimination of entry into the auxiliary building during a LOCA will reduce the risk of radiological hazards to personnel.

In the NRC SER to Amendment 7 of the R. E. Ginna Provisional Operating License, dated May 14, 1975, the staff stated that locking out of A.C. power to motor operated valves was an acceptable procedure to design against a single failure that could cause an undesirable component action and result in a loss of capability to perform an intended safety function. Branch Technical Position ELESC 18, in Appendix 7A of the Standard Review Plan is to be applied to each of the "active," manually controlled electrically operated valves that are required to operate during various safety system operational sequences.

In addition, the capability of the proposed configuration to withstand the effects of a seismic or fire event is not decreased, because the key switch installation will be qualified to meet the standards set forth by IEEE Std. 383-1974, Vertical Flame Test Requirements. Additional circuitry will not be installed in any plant areas which do not already contain MOV-856 power and control circuitry. Therefore, 10CFR50 Appendix R analyses will remain unchanged.

Based on the staff's review, we find that the licensee's proposed modification will improve the safe operation of the plant especially when time is critical for the switchover of valve position during a large break LOCA. We also find that this same modification method for MOV-896A and B was reviewed for its operational safety and approved in the NRC SER to Amendment 7 of the R. E. Ginna Provisional Operating License dated May 14, 1975. Therefore, we conclude that the licensee's proposed modification for MOV-856 is acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has

determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (56 FR 20045). Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: A. Chu

Date: June 3, 1991

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

June 3, 1991

Docket No. 50-244

Dr. Robert C. Mecredy
Vice President, Nuclear Production
Rochester Gas & Electric Corporation
89 East Avenue
Rochester, New York 14649

Dear Dr. Mecredy:

SUBJECT: ISSUANCE OF AMENDMENT NO. 42 TO FACILITY OPERATING LICENSE NO. DPR-18 - R.E. GINNA NUCLEAR POWER PLANT (TAC NO. 79829)

The Commission has issued the enclosed Amendment No. 42 to Facility Operating License No. DPR-18 for the R. E. Ginna Nuclear Power Plant. This amendment is in response to your application dated February 15, 1991.

This amendment revises the requirements of the Technical Specifications to modify the method of locking valve 856 open from removal of A.C. power to removal of D.C. control power in order to enable valve manipulation from the control room while maintaining the locked OPEN requirement.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Allen R. Johnson

Allen R. Johnson, Project Manager
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 42 to License No. DPR-18
2. Safety Evaluation

cc w/enclosures:
See next page