



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 54 TO PROVISIONAL 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 September 28, 1982, Rochester Gas & Electric Corporation (the licensee) requested an amendment to the Appendix A Technical Specifications appended to its License No. DPR-18, which authorizes operation of the R. E. Ginna Nuclear Power Plant. The amendment would approve a change which would revise the containment isolation valve Table 3.6-1 to reflect a check valve being replaced with an air operated diaphragm valve.

2.0 DISCUSSION

Penetration No. 305 of the Ginna containment building houses the inlet and outlet lines for radiation monitors R-11, R-12 and R-10A as well as the post accident air sample line. The 1" return line from the radiation monitors (designated "outlet" on Table 3.6-1) previously had a check valve inside containment which served as a containment isolation valve. As required by Appendix J of 10 CFR 50, periodic leak tests are required to verify the leak tight integrity of this valve.

Leak testing performed on this check valve reveals a history of poor performance. The licensee has stated that this valve has repeatedly failed leak testing criteria thus questioning the overall leak tight integrity of the entire containment structure. By letter dated September 28, 1982, the licensee has proposed replacing this check valve with an air operated diaphragm valve. The diaphragm valve would serve as a containment isolation valve and would provide a more reliable leak tight isolation boundary.

3.0 EVALUATION

The criteria for establishing containment penetration boundaries for lines that are open to the containment atmosphere are found in General Design Criteria 56 to 10 CFR 50, Appendix A. GDC 56 states that this line should be equipped with two isolation valves - one located inside containment and one located outside containment. The GDC, however, does allow for deviations from the above if the isolation provisions are found acceptable "on some other defined basis."

The licensee has proposed placing the new air operated valve (AOV) outside containment. This configuration would place both containment isolation valves AOV 1599 and AOV 1598 outside containment. The new valve would be located between the containment and the existing outside isolation valve.

The licensee's basis for this isolation valve configuration is:

- (1) As a plant design basis, the piping between the containment and the containment isolation valves is at least equal to containment design pressure (Final Safety Analysis Report [FSAR], Section 5.2.1). Isolation valves are similarly rated.
- (2) Piping runs between the containment penetrations and the containment isolation valves have been kept as short as possible and are seismic Category I. The piping between the containment and the new valve is approximately three feet.
- (3) All piping penetrations are solidly anchored to the containment wall. External guides, stops, increased pipe thickness, or other means are provided, where required, to limit motion and moments to prevent rupture by making the penetration the strongest part of the system. In addition, all penetrations and anchorages are designed for forces and moments that might result from postulated pipe ruptures (FSAR, Section 5.1).
- (4) All piping penetrations, except the main steamlines and the feedwater lines, are located in areas that are protected from tornado missiles.
- (5) The NRC PRA study reported in NUREG-0821, Ginna SEP Integrated Plant Safety Assessment, found that the risk resulting from two valves outside containment is about the same as the risk resulting from one valve inside and one valve outside containment.

The new valve to be installed will close on the same isolation signals as other valves in this radiation monitor system. Resetting of the containment isolation signal will not cause the valve to automatically reopen. The new valve will operate and reopen in conjunction with existing valve 1597, another valve in the same system and in a line within the same penetration, which allows passage of air from the containment to the radiation monitor. Electrical independence and single failure protection will be maintained.

4.0 SUMMARY

Due to chronic problems with a one-inch containment isolation check valve, the licensee has proposed replacing it with a more reliable air operated diaphragm valve. The new valve will require a modification to the containment isolation provisions and the technical specifications.

As a result of the modification, both automatic valves for isolation of this line will be outside containment. This type of arrangement has previously been evaluated to be acceptable in the Ginna SEP Integrated Plant Safety Assessment, NUREG-0821. The piping design pressure between the containment and the isolation valves is at least equal to the containment design pressure. The isolation valves are designed to function against containment pressure. The modified piping run between the containment and the new valve is as short as possible, approximately 3 feet, and is Seismic Category I. The piping supports for the new valve and piping between it and the containment wall are designed to subsection NF of the ASME Code.

Based on our review of the licensee's proposal, we conclude that an acceptable defined basis has been established to permit both the proposed plant modification and the technical specification change. Therefore, we find the proposal acceptable.

5.0 ENVIRONMENTAL CONSIDERATION

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §1.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

6.0 CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, the amendment does not involve a significant hazards consideration; (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 ACKNOWLEDGEMENT

D. Pickett contributed to this evaluation.

Date: October 7, 1982