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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 47 TO FACILITY OPERATING LICENSE NO. DPR-18

ROCHESTER GAS AND ELECTRIC CORPORATION

R. E. GINNA NUCLEAR POWER PLANT

DOCKET NO. 50-244

INTRODUCTION

By letter dated June 29, 1990, as supplemented on June 20, 1991, the Rochester Gas and Electric Corporation (RG&E) requested an amendment to Facility Operating License No. DPR-18 for the R. E. Ginna Nuclear Power Plant. By letter, dated June 20, 1991, the licensee submitted supplemental, clarifying information to the application. This information did not change the scope of the amendment request or the proposed determination of no significant hazards consideration. The proposed amendment would modify and incorporate additional Specifications, Action Statements (A/S), Surveillance Requirements (S/R), and Basis Sections of the Ginna Technical Specifications (T/S), depending on how plant operability will be affected by the addition of the second offsite power source. Since the addition of the second offsite source will increase the availability of electric power sources for the operation of plant auxiliaries, RG&E has chosen to upgrade and reformat its entire electrical T/S as considered applicable for Ginna.

EVALUATION

The NRC staff has reviewed the Ginna T/S proposed changes. The staff evaluation for each proposed T/S change is as follows:

1. Items Involving Only Editorial Changes (Non Technical)

The licensee proposes the following editorial changes and corrections due to reformatting of the T/S. The staff has reviewed the proposed changes and corrections and find them to be acceptable because they do not involve any technical changes nor impact on plant operating requirements. These changes and corrections are:

a. Change terminology throughout the T/S from "normal" power source to "preferred" power source and from "Emergency Power System Periodic Tests" to "Preferred and Emergency Power Systems Periodic Tests."

b. Correct a typographical error "6" hours in time to "30" hours to cold shutdown requirement on page 3.0.2 of Basis section.

c. Correct the referenced Specification on page 3.0.3 of Basis section from "3.7.1.d" to "3.7.2.1.a" and correct the referenced S/R on page 4.6-2 from "4.6.1.a" to "4.6.1.b."

2. Specifications 3.7.1 and 3.7.2

The current Auxiliary Electrical Systems Specification 3.7.1 has been reformatted into two Specifications 3.7.1 and 3.7.2, to expand the plant operation of electrical auxiliaries into the following groups of reactor operating modes according to reactor coolant system (RCS) temperature:

T/S	RCS Temperature
3.7.1.1	Fuel in reactor vessel (i.e., below cold shutdown/refueling)
3.7.2.1.a	Above cold shutdown
3.7.2.1.b	Above 350°F (i.e., hot shutdown and operating)

The licensee proposes dividing the electrical T/S into three groups of reactor operating modes according to the RCS temperature as more suitable for a two loop Westinghouse plant like Ginna, as opposed to the four loop Westinghouse plant which considers only two modes (Operating and Shutdown).

With the addition of the second offsite power source, the licensee proposes to modify the availability of the electrical power sources for the operation of plant auxiliaries for each of three groups of reactor operating modes as follows:

a. With fuel in the reactor vessel, Specifications 3.7.1.1 requires one offsite power source and one onsite power distribution train.

b. With the reactor above cold shutdown, Specification 3.7.2.1.a requires one offsite power source and two onsite power distribution trains.

c. For the RCS above 350°F, Specification 3.7.2.1.b requires two offsite power sources and two onsite power distribution trains.

The staff has reviewed the licensee's reformatting of Specifications 3.7.1 and 3.7.2 which divides into three groups of reactor operating modes. Considering the current T/S which only addresses one group of reactor operating modes for plant operation (i.e., covers only the reactor above criticality), the staff finds that the proposed T/S changes provide conditions of operation for additional electrical auxiliary equipment necessary for engineered safeguards at other identified modes of operation. The staff finds that the proposed electrical TS divisions represent a significant improvement and is more consistent with the Standard Technical Specifications (STS) format. The staff concludes that the proposed Specifications 3.7.1 and 3.7.2 are acceptable.

3. A/S 3.7.1.2

With fuel in the reactor vessel and with less than the minimum required power sources operable under Specification 3.7.1.1, the licensee proposes to add the following A/S 3.7.1.2 to (1) immediately suspend all operations involving positive reactivity changes, core alternatives, movement of irradiated fuel; and (2) initiate corrective action to restore the required power sources to operable status. We find that the proposed A/S 3.7.1.2 is typical of statements used for the plant shutdown mode A/S in the STS when the minimum required electrical buses are not available as in Specification 3.7.1.1. On this basis, the staff concludes that the proposed A/S 3.7.1.2 is acceptable.

4. A/S 3.7.2.2

When conditions of Specification 3.7.2.1 are not met, the licensee has proposed the following A/S provisions:

a) A/S 3.7.7.2.a allows operation above 350°F to be continued with one offsite power source inoperable, provided all remaining conditions of Specification 3.7.2.1 are met. Since the existing A/S 3.7.2.a allows that the power operation can continue if both diesel generators are available (i.e., no offsite power source available), the licensee feels that the proposed A/S 3.7.2.2.a is more restrictive than the current A/S. Based on the addition of a second offsite power source, the staff concurs with the licensee that the proposed A/S 3.7.2.2.a is more conservative and represents an improvement over the current T/S. On this basis, the staff concludes that the proposed A/S 3.7.2.2.a is acceptable.

b) A/S 3.7.7.2.b allows operation above cold shutdown to continue with one diesel generator inoperable provided one or both independent offsite sources are operable. However, the operability of the remaining diesel generator must be demonstrated by performing the S/Rs 4.6.1.b.4 (starting) and 4.6.1.b.6 (verify breaker alignment) within 1 hour and at least once per 24 hours thereafter. In addition, the inoperable diesel generator must be restored to operable status within 7 days; otherwise be in hot shutdown within the next 6 hours and in cold shutdown within the following 30 hours. The staff reviewed the proposed A/S 3.7.2.2.b and compared it with the existing A/S 3.7.2.b which allows power operation to continue for 7 days with only one offsite power source available along with the remaining (i.e., operable) diesel generator running continuously. The staff finds that the proposed

A/S is similar to the current A/S with an exception of demonstration of the remaining diesel operability by running it continuously. The staff advised the licensee that running the diesel continuously while the other diesel is inoperable is not a good practice because the plant could be susceptible to a station blackout event under these conditions. Subsequently, the licensee deleted this provision. We also find that the proposed S/Rs 4.6.1.b.4 and 4.6.1.b.6 are consistent with the A/S in the STS while one diesel generator is found to be inoperable. Based on the fact that the proposed A/S change is not significantly different from the current A/S, the staff concludes that the proposed A/S 3.7.2.2.b is acceptable.

c. A/S 3.7.2.2.c allows power operation to be continued with one of the four safety-related 480V buses inoperable. The inoperable bus has to be operable within one hour or the plant has to be in hot shutdown within the next 6 hours and in cold shutdown within the following 30 hours. The staff reviewed the STS for similar provisions which state that the inoperable bus has to be operable within 8 hours or the plant has to be in hot shutdown within the next 6 hours and in cold shutdown within the following 30 hours. We find that the proposed A/S 3.7.2.2.c is more restrictive (i.e., one hour vs. 8 hours) than the STS. Therefore, the staff concludes the proposed A/S 3.7.2.c is acceptable.

d. A/S 3.7.2.2.d allows power operation to continue with two operable diesel generators when both offsite sources are found to be inoperable. The licensee proposes to add an A/S which will require that one offsite power source be restored within 72 hours, or be in at least hot shutdown condition within the next 6 hours and the RCS temperature less than or equal to 350°F within the following 6 hours. The licensee contends that the proposed A/S 3.7.2.2.d is conservative since it adds a 72 hour A/S. The staff reviewed the proposed A/S 3.7.2.2.d with the current A/S 3.7.2.a which allows the power operation to continue indefinitely with two operable diesel generators (i.e., no offsite power). The staff finds that the proposed A/S is more restrictive than the current T/S. On this basis, the staff concludes that the proposed A/S 3.7.2.2.d is acceptable.

e. A/S 3.7.2.2.e has been modified from current A/S 3.7.2.c to reflect reformatting which divides into three groups of reactor operating modes. In the proposed A/S 3.7.2.2.e word changes from "Power operation" to "Operation above cold shutdown" and from "as long as" to "provided" were necessary to accommodate these modes. The staff reviewed the proposed A/S and find the proposed A/S to be consistent with STS format. Therefore, the staff concludes that the proposed A/S 3.7.2.2.e is acceptable.

5. Basis for Specifications 3.7.1 and 3.7.2

With the changes made in the Specifications and A/S, the licensee has revised all the paragraphs in the Basis for Specifications 3.7.1 and 3.7.2 to reflect these changes. The Basis section is further expanded by adding the following paragraphs:

a. The electrical systems equipment is arranged to satisfy the single failure criteria. Redundant safeguard equipment are divided between the 480 V buses and the remaining offsite source is capable of supplying both trains of safeguards loads in the event that one offsite power is not available.

b. Ginna explicitly meets the requirements of General Design Criteria (GDC) 17 and it has identified each of the three offsite power configurations to supply the safety related equipment required for the safe shutdown of the plant and the mitigation and control of accident conditions.

c. With fuel in the reactor vessel, a minimum of one offsite source, one onsite source of ac power and one dc power train are required.

d. Specified the amount of fuel (5,000 gallons) for each diesel that must be maintained, instead of 10,000 gallons for two diesels.

e. Correct the number of safeguard buses shown on the Basis section from 6 buses to 4 buses.

The staff reviewed the proposed Basis for Specifications 3.7.1 and 3.7.2 and find the statements in the Basis section to be consistent with what is stated throughout the A/S and Specifications. Therefore, the staff concludes the proposed Basis for 3.7.1 and 3.7.2 are acceptable.

6. Surveillance Requirement (S/R) 4.6.1.a

Under the current S/R, the diesel generators are not required to be tested monthly unless the reactor exceeds 5% power level and the time since the last test exceeds 31 days. Thus, the current T/S has no requirement to test diesels during cold shutdown or refueling. With new Specification 3.7.1.1 (below cold shutdown or refueling) which requires one emergency diesel generator to be maintained operable, the staff advises the licensee to include a test provision for the operable diesel. The licensee proposed to add by inserting S/R 4.6.1.a (subsequently adjusting all the rest S/R designation numbers accordingly), which states that: at least one diesel generator will be demonstrated operable during cold shutdown or refueling at least once per 31 days by verifying the diesel generator starts from normal standby conditions and attains rated voltage and frequency. The staff reviewed the licensee's proposed S/R 4.6.1.a and finds that the proposed surveillance testing represents an improvement over the current T/S since it was never tested before during a cold shutdown/refueling outage. On this basis, the staff concludes that the proposed S/R 4.6.1.a is acceptable.

7. Surveillance Requirement (S/R) 4.6.1.b

The licensee proposes S/R 4.6.1.b.2 to change the amount of diesel fuel supply from a "minimum oil storage of 10,000 gallons is at the station" to "a minimum oil storage of 5,000 gallons for each generator is onsite." Since the proposed S/R does not change the total amount of diesel fuel supply in the storage, the staff finds that the proposed S/R 4.6.1.b.2 is more realistic and is acceptable.

8. Surveillance Requirement (S/R) 4.6.1.b.4

For monthly diesel generator test, the current T/S stipulates only that "Verifying the diesel starts from normal standby conditions." The licensee proposes to add a new phrase at the end of the above statement which reads "and attains rated voltage and frequency." The staff concurs with the licensee on the addition of this phrase as it conforms with the provisions of the STS. Therefore, the staff finds the proposed S/R 4.6.1.b.4 to be acceptable.

9. Surveillance Requirement (S/R) 4.6.1.c

The proposed S/R 4.6.1.c is to revise the monthly diesel generator test to be performed from "prior to exceeding 5% power" to "prior to exceeding cold shutdown". Since the reformatting of the T/S divides into three groups of reactor operating modes at Ginna and is based on the RCS temperature, the staff finds that the above phrase is no longer applicable. On this basis, the staff concludes that the revision to S/R 4.6.1.c is acceptable.

10. Surveillance Requirement (S/R) 4.6.1.e.3.c

The licensee proposes to delete the phrase "loss of voltage on the emergency bus and/or" from the current S/R which states: "verifying that all diesel generator trips, except engine overspeed, low lube oil pressure, and overcrank, are automatically bypassed upon loss of voltage on the emergency bus and/or safety injection actuation signal." The licensee reviewed their loss of offsite power and safety injection actuation circuits and found that all diesel generator trips are automatically bypassed upon a safety injection actuation signal but not on loss of voltage signal. On this basis, the licensee proposes to delete the phrase "loss of voltage on the emergency bus and/or" from the S/R 4.6.1.e.3.c. The staff finds the proposed deletion acceptable.

11. Surveillance Requirement (S/R) 4.6.1.e.4

Upon successful completion of 18 months surveillance test of the emergency diesel generator, the licensee proposes to add S/R 4.6.1.e.4 to get a relief from their monthly diesel generator test requirements. The staff reviewed the diesel generator testing provisions required for both 18 months and monthly tests. The staff finds that the 18 month test is more extensive and comprehensive than that of the monthly test. On this basis, the staff concludes that the 18 month test can be substituted for the monthly test. Therefore, the staff concludes that the proposed S/R 4.6.1.e.4 is acceptable.

12. Surveillance Requirement (S/R) 4.6.3

The current S/R does not require to test operability of the offsite power sources. With addition of the second offsite circuit, the licensee proposes S/R 4.6.3 to be added to require that each offsite power source be demonstrated operable at least once per 7 days (S/R 4.6.3.a) and at least once per 18 months by transferring unit power supply from the normal circuit to the alternate circuit (S/R 4.6.3.b). The staff reviewed the proposed S/R 4.6.3 and finds it to be similar to the offsite power test provisions in the STS. Therefore, the staff concludes that the proposed S/R 4.6.3 is acceptable.

13. Basis for Surveillance Requirement (S/R) 4.6.3

With the addition of a second offsite power source, the licensee has revised the Basis section to clarify the following items for demonstration of the availability of the offsite power:

a. Offsite power source operability required correct breaker alignment and indicated power availability. These requirements are met by monitoring nominal voltage indications on the high-voltage side of transformer and on the 4160 V buses.

b. Offsite power source independence requires separate 4160 V circuits supplying power to the 4160 V buses. Interlocks prevent concurrent closure and surveillance is specified to ensure separation is maintained.

c. To assure independence between redundant Class 1E 480 V buses, tie breakers are required to be open when the reactor operating mode is above 200 degrees F.

The staff reviewed the proposed Basis section for S/R 4.6.3 regarding preferred (offsite) power supplies and finds the revised statements to be consistent with what is stated in the S/R 4.6.3. The staff concludes the proposed Basis for S/R 4.6.3 is acceptable.

STATE CONSULTATION

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

ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to 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 issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (55 FR 42099). Accordingly, the 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 the amendment.

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, and (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.

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Dated: November 19, 1991