UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Rochester Gas and Electric Corporation	)	Docket No. 50-244
(R. E. Ginna Nuclear Power Plant,	)	
Unit No. 1)	)	

APPLICATION FOR AMENDMENT TO OPERATING LICENSE

Pursuant to Section 50.90 of the regulations of the U.S. Nuclear Regulatory Commission (the "Commission"), Rochester Gas and Electric Corporation ("RG&E"), holder of Provisional Operating License No. DPR-18, hereby requests that the Technical Specification 3.7 set forth in Appendix A to that license be amended to modify the requirements for operability of the d.c. electrical systems.

The proposed technical specification change is set forth in Attachment A to this Application. A safety evaluation is set forth in Attachment B. This evaluation also demonstrates that the proposed change does not involve a significant change in the types or a significant increase in the amounts of effluents or any change in the authorized power level of the facility. Justification for classification of the amendment pursuant to 10 CFR Section 170.22 is included as Attachment C. A check for the appropriate fee accompanies this Application.

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WHEREFORE, Applicant respectfully requests that Appendix A to Provisional Operating License No. DPR-18 be amended in the form attached hereto as Attachment A.

Rochester Gas and Electric Corporation

By L.D. White, Jr.
L.D. White, Jr.
Vice President,
Electric and Steam Production

Subscribed and sworn to before me
on this 10th day of October, 1978.

Sharon G. Cavaleri
SHARON G. CAVALERI
NOTARY PUBLIC, State of N. Y., Monroe County
My Commission Expires March 30, 1979

Attachment A

Replace Technical Specification pages 3.7-1 through 3.7-4 with the revised pages 3.7-1 through 3.7-4.

3.7 AUXILIARY ELECTRICAL SYSTEMS

Applicability

Applies to the availability of electrical power for the operation of plant auxiliaries.

Objective

To define those conditions of electrical power availability necessary (1) to provide for safe reactor operation, and (2) to provide for the continuing availability of engineered safeguards.

Specification

3.7.1 The reactor shall not be maintained critical without:

a. The 34.5 KV-4160 Volt station service transformer in service.

b. 480-volt buses 14, 16, 17 and 18 energized.

c. 4160-volt buses 12A and 12B energized.

d. Two diesel generators operable with onsite supply of 10,000 gallons of fuel available.

e. Both batteries and both d.c. systems operable, and at least one 150 amp battery charger or two 75 amp battery chargers in service for each battery.

3.7.2 During reactor operation the requirement of 3.7.1 may be modified as follows:

a. Power operation may continue with the station service transformer out of service provided (a) the failure shall be reported to NRC within 24 hours with an outline of the plans for prompt restoration of offsite power and the additional precautions to be taken while the transformer is out of service and (b) both diesel generators are operable. Under conditions of fulfillment of (b) and non-fulfillment of (a), continued power operation shall not extend beyond 24 hours. Non-fulfillment of (b) shall be deemed sufficient cause for immediate reactor shutdown.

b. Power operation may continue if one diesel generator is out of service provided (a) the remaining diesel generator is run continuously, and (b) the station service transformer is in service and (c) such operation is not in excess of 7 day (total for both diesels) during any month.

c. Power operation may continue if the battery charger(s) for one d.c. system are inoperable, as long as the inoperable battery chargers are restored to operable status within two hours. If not restored, the reactor shall be placed in the hot shutdown condition within the next six hours and in the cold shutdown condition within the following 30 hours.

Basis:

The electrical system equipment is arranged so that no single contingency can inactivate enough safeguards equipment to jeopardize the plant safety. The 480-volt equipment is arranged

on 6 buses. The 4160-volt equipment also is supplied from 4 buses.

Two separate outside sources supply station service power to the plant.

The plant auxiliary is arranged electrically so that multiple items receive their power from the two different sources. The charging pumps are supplied from the 480-volt buses No. 14 and 16. The four containment fans are divided between 480-volt buses No. 14 and 16. The two residual heat pumps are on separate 480-volt buses. Valves are supplied from motor control centers.

One outside source of power is required to give sufficient power to run normal operating equipment. One transmission line can supply all the plant auxiliary power. The 115-34.5 kv station service transformer can supply all the auxiliary loads.

The bus arrangements specified for operation ensure that power is available to an adequate number of safeguards auxiliaries. With additional switching, more equipment could be out of service without infringing on safety.

Two diesel generators have sufficient capacity to start and run at design load all the engineered safeguards equipment. The safeguards operated from one diesel generator can adequately cool the core for any loss-of-coolant incident, and they also

maintain the containment pressure within the design value. The minimum diesel fuel oil inventory at all times is maintained to assure the operation of both diesels carrying design load of all the engineered safeguards equipment for at least 40 hours.[1] Commercial oil supplies and trucking facilities exist to assure deliveries within 8 hours.

At least one 150 amp battery charger or two 75 amp battery chargers shall be in service for each battery so that the batteries will always be at full charge. This ensures that adequate dc power will be available.

The plant can be safely shutdown without the use of offsite power since all vital loads (safety systems, instruments etc.) can be supplied from the emergency diesel generators.

The two diesel generators, each capable of supplying safeguards loads, and the station auxiliary transformer provide three separate sources of power supply system meets the single failure criteria required of safety systems.[2]

<u>Refernces</u>:

(1) FSAR - Section 8.2.1

(2) FSAR - Appendix 8A

Attachment B

Technical Specification 3.7.1 e presently requires that only one battery charger (which has a 150 amp capacity) needs to be operable while the reactor is critical.

The total normal d.c. load is presently about 170 amps. Two additional battery chargers, each with a 75 amp charging capacity, have been installed. With all battery chargers operational and in their normal configuration, there is a total battery charger capacity of 225 amps per battery. In the event either of the 150 amp battery chargers becomes inoperable, manual transfer of one 75 amp battery charger will result in a battery charger capacity to each battery of 150 amps.

This configuration and capacity is consistent with the guidance provided in Regulatory Guides 1.6 and 1.32. Regulatory Guide 1.6, Rev. 0, position D.3, states that "each d.c. load group should be energized by a battery and battery charger. The battery-charger combination should have no automatic connection to any other redundant d.c. load group." This guidance is satisfied by having only manual connection between d.c. load groups. Regulatory Guide 1.32, Rev. 2, Section C.1.b, states that"... the capacity of the battery charger supply should be based on the largest combined demands of the various steady states loads and the charging capacity to restore the battery from the design minimum charge state to the fully charged state, irrespective of the status of the plant during which these demands occur."

The normal continuous load on each d.c. system is approximately 85 amps. The shutdown loads that are required in the event of a loss of offsite power are listed in FSAR Table 8.2-2. The only steady state (8 hour) load listed, other than the inverter, which operate both during normal operation and for safe plant shutdown, is the Turbine-Driven Auxiliary Feedwater Pump DC Oil Pump. This pump represents an additional potential 22 amp load on Battery 1B. The largest possible combined load could thus occur during a plant shutdown following loss of offsite power, when all normal load continued operating, and the turbine-driven auxiliary feedwater pump was also engaged. This combined load of 85 amps plus 22 amps, for a total of 107 amps, is much lower than the capacity of the 150 amp battery chargers. It is therefore apparent that the battery charger sizing criteria of Regulatory Guide 1.3.2, and IEEE 308-1974, Section 5.3.4 are easily met.

If the battery charger for one d.c. system were found to be inoperable, it would be possible in most cases to effect repairs and restore the system to operability within a relatively short time. This configuration would not negate the ability of the d.c. system to perform its function, but it would reduce the redundancy provided in the reactor design, and thereby limit the ability to tolerate additional equipment failures. (Although it should be noted that the batteries by themselves could carry all shutdown loads for 8 hours). The redundant d.c. system would be thoroughly checked to ensure its operability. If it developed that the

inoperable d.c. system could not be made operable within two hours, the reactor would be placed in the hot shutdown condition, to provide for reduction of decay heat from the fuel. If after another six hours the malfunction were not corrected, the reactor would be placed in a cold shutdown condition within 30 hours, using normal shutdown and cooldown procedures. These time periods are consistent with the guidance provided in Regulatory Guide 1.93, Rev. 0, "Availability of Electric Power Sources", Regulatory Position 5.

Attachment C.

The proposed Amendment to the Provisional Operating License has been evaluated and determined to fall within the definition of Class III of 10 CFR Section 170.22 thereby requiring a fee of $4,000. The proposed amendment simply clarifies a single safety issue, battery charger capacity. The issue has been clearly identified by NRC regulatory guides.