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

ROCHESTER GAS AND ELECTRIC CORPORATION

DOCKET NO. 50-244

R. E. GINNA NUCLEAR POWER PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 40
License No. DPR-18

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:

   A. The application for amendment filed by the Rochester Gas and Electric Corporation (the licensee) dated May 9, 1989, as supplemented on February 20, 1990, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-18 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 40, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective 30 days after NRC approval.

FOR THE NUCLEAR REGULATORY COMMISSION

Victor Nerses

Victor Nerses, Acting Director
Project Directorate I-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 24, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 40

FACILITY OPERATING LICENSE NO. DPR-18

DOCKET NO. 50-244

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Remove	Insert
3.4-1	3.4-1
3.4-2	3.4-2
3.4-3	3.4-3
---	3.4-4
4.8-1	4.8-1
4.8-2	4.8-2
4.8-3	4.8-3

3.4 TURBINE CYCLE

Applicability

Applies to the operating status of turbine cycle.

Objective

To define conditions of the turbine cycle steam-relieving capacity, and to define the Auxiliary Feedwater System and supporting Service Water System operation as necessary to ensure the capability to remove core decay heat. The Standby Auxiliary Feedwater System provides additional assurance of capability to remove core decay heat should the Auxiliary Feedwater System be unavailable.

3.4.1 MAIN STEAM SAFETY VALVES

Specification

Except during testing of the main steam safety valves, with the RCS temperature at or above 350°F, a minimum turbine cycle code approved steam relieving capability of eight (8) main steam safety valves shall be available.

Action

With one or more main steam code safety valves inoperable, restore the inoperable valve(s) to operable status within 4 hours or be in hot shutdown within the next 6 hours and at an RCS temperature less than 350°F within the following 6 hours.

3.4.2 AUXILIARY FEEDWATER

3.4.2.1 MOTOR-DRIVEN AUXILIARY FEEDWATER SYSTEM

Specification

With the RCS temperature at or above 350°F, both motor-driven auxiliary feedwater pumps must be operable, each with an operable flow path from the condensate storage tanks to its respective steam generator.

Action

a. With one motor-driven auxiliary feedwater pump inoperable and at least one turbine-driven auxiliary feedwater pump flowpath operable, restore the pump to operable status within 7 days or be in at least hot shutdown within the next 6 hours and at an RCS temperature less than 350°F within the following 6 hours.

b. With both motor-driven auxiliary feedwater pumps inoperable, and at least one turbine-driven auxiliary feedwater pump flowpath operable (see 3.4.2.2), or with a motor-driven and turbine-driven pump (or both flow paths) inoperable, restore a pump to operable status within 24 hours or be in at least hot shutdown within the next 6 hours and at an RCS temperature less than 350°F within the following 6 hours.

c. With all auxiliary feedwater pumps inoperable (motor-driven, turbine-driven, and standby), immediately initiate corrective action to restore any of these pumps to operable status as soon as possible.

3.4.2.2 TURBINE-DRIVEN AUXILIARY FEEDWATER SYSTEM

Specification

With the RCS temperature at or above 350°F, the turbine-driven auxiliary feedwater pump associated flow paths from the condensate storage tanks to the steam generators, and flow paths of steam from each steam generator to the pump turbine, must be operable. The turbine-driven auxiliary feedwater pump must be shown to be operable prior to exceeding 5% power.

Action

a. With the turbine-driven auxiliary feedwater pump and/or both associated flow paths inoperable, restore the pump (and at least one flow path) to operable status within 72 hours or be in at least hot shutdown within the next 6 hours and at an RCS temperature less than 350°F within the next 6 hours.

b. With one associated flow path of the turbine-driven auxiliary feedwater pump inoperable, restore to operable status within 7 days or be in at least hot shutdown within the next 6 hours and at an RCS temperature less than 350°F within the next 6 hours.

3.4.2.3 STANDBY AUXILIARY FEEDWATER SYSTEM

Specification

With the RCS temperature at or above 350°F, two standby auxiliary feedwater pumps each with an associated flow path from the service water system to its respective steam generator, shall be operable.

Action

a. With one standby auxiliary feedwater pump inoperable restore the pump to operable status within 14 days or be in hot shutdown within the next 6 hours and at an RCS temperature less than 350°F within the following 6 hours.

b. With both standby auxiliary feedwater pumps inoperable restore at least one standby auxiliary feedwater pump to operable status within 7 days or be in at least hot shutdown within 6 hours and at an RCS temperature less than 350°F in the following 6 hours.

3.4.3 SOURCES OF AUXILIARY FEEDWATER

Specification

a. With the RCS temperature at or above 350°F, the following sources of auxiliary feedwater shall be operable:

1) One or more condensate storage tanks with a minimum of 22,500 gallons of water, and

2) Service water as the primary supply to the standby auxiliary feedwater pumps.

Action

a. With the condensate storage tanks inoperable, within 4 hours either:

1) restore the condensate storage tanks to operable status, or be in at least hot shutdown within the following 6 hours and at an RCS temperature less than 350°F within the following 6 hours, OR

2) demonstrate the operability of the service water system as a water supply to the motor-driven and turbine-driven auxiliary feedwater pumps and restore the condensate storage tanks to operable status within 7 days, or be in at least hot shutdown within the following 6 hours and at an RCS temperature less than 350°F within the following 6 hours.

b. With the service water system to one or both standby auxiliary feedwater pump(s) inoperable, declare the standby auxiliary feedwater pump(s) inoperable and comply with Specification 3.4.2.3.

Basis

A reactor shutdown from power requires removal of core decay heat. Immediate decay heat removal requirements are normally satisfied by the steam bypass to the condenser. Therefore, core decay heat can be continuously dissipated via the steam bypass to the condenser as feedwater in the steam generator is converted to steam by heat absorption. Normally, the capability to return feedwater flow to the steam generators is provided by operation of the turbine cycle feedwater system.

In the event of a reactor and turbine trip, together with a loss of offsite power, immediate decay heat removal is effected via the main steam safety valves. The eight main steam safety valves have a total combined rated capability of 6,580,000 lbs/hr. This capability exceeds the total full power steam flow of 6,577,279 lbs/hr.

Following reactor/turbine trip, the motor-driven auxiliary feedwater system is automatically initiated on low-low level in one steam generator, a Safety Injection signal, or a trip of both main feedwater pumps. The turbine-driven auxiliary feedwater pump is initiated on low-low steam generator level in both steam generators, or a loss of power to electrical buses 11A and 11B. The motor-driven auxiliary feedwater system has two 100% capacity pumps, each normally serving one steam generator.

Their sources of water include the normally-aligned but non-safety-related and non Seismic Category I condensate storage tanks, and the safety-related service water system. The turbine-driven auxiliary feedwater system consists of one 200% capacity pump, two steam supply flow paths (one from each steam generator), a normal source of water from the non-safety-related condensate storage tanks, and a backup source of water from the safety-related service water system.[1]

The Ginna Station accident analyses[2] assume 200 gpm is delivered to an operable steam generator, in order to remove the required decay heat. The combination of motor-driven and turbine-driven auxiliary feedwater pumps assures operability of the system to meet these requirements, even assuming a single failure.

In the event of a high energy line break outside containment,[3] the operability of the motor-driven and turbine-driven auxiliary feedwater systems cannot be ensured, since the systems are not qualified for the ensuing harsh environment. The standby auxiliary feedwater system, which consists of two redundant pumps, a discharge flow path to each steam generator and suction from both loops of the safety-related service water system, performs this function. Operator action from the control room is required to effect operation of the SAFW system. The worst-case analysis, a feedwater line break,[5] has been performed, and the consequences were found to be acceptable.

The minimum amount of water in the condensate storage tanks is the amount needed to remove decay heat for 2 hours after reactor trip from full power.[4] An unlimited source for auxiliary feedwater is available using the safety-related service water system.

References:

(1) UFSAR Section 10.5

(2) UFSAR Sections 15.2, 15.3, 15.6

(3) "Effects of High Energy Pipe Breaks Outside the Containment Building" submitted by letter dated November 1, 1973 from K.W. Amish, Rochester Gas and Electric Corporation to A. Giambusso, Deputy Director for Reactor Projects.

(4) L.D. White, Jr. letter to Mr. D.L. Ziemann, USNRC dated March 28, 1980.

(5) SEP Topic XV-6, Feedwater System Pipe Breaks, NRC SER dated 9/4/81

4.8 AUXILIARY FEEDWATER SYSTEMS

Applicability

Applies to periodic testing requirements of the turbine-driven, motor-driven auxiliary feedwater pumps, and of the standby auxiliary feedwater pumps.

Objective

To verify the operability of the auxiliary feedwater system and the standby auxiliary feedwater system and their ability to respond properly when required.

Specification

4.8.1 Except when below 350°F each motor-driven auxiliary feedwater pump, unless it is declared inoperable without testing, will be started at intervals not to exceed one month and a flowrate of 200 gpm established.

4.8.2 Except when below 350°F the steam turbine-driven auxiliary feedwater pump, unless it is declared inoperable without testing, will be started at intervals not to exceed one month and a flowrate of 400 gpm established. If one discharge flow path is inoperable in accordance with Specification 3.4.2.2, a flow of 200 gpm must be established. Once the inoperable discharge flow path is returned to operable status, a flow of 400 gpm must be established within 72 hours thereafter.

4.8.3 Except when below 350°F the auxiliary feedwater pumps suction, discharge, and crossover motor operated valves shall be exercised at intervals not to exceed one month.

4.8.4 Except when below 350°F each standby auxiliary feedwater pump, unless it is declared inoperable without testing, will be started at intervals not to exceed one month and a flowrate of 200 gpm established.

4.8.5 Except when below 350°F the suction, discharge, and cross-over motor operated valves for the standby auxiliary feedwater pumps shall be exercised at intervals not to exceed one month.

4.8.6 These tests shall be considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated properly. These tests shall be performed prior to exceeding 5% power during startup if the time since the last test exceeds one month.

4.8.7 At least once per 18 months, control of the standby auxiliary feed system pumps and valves from the control room will be demonstrated.

Amendment No.40

4.8.8 At least once per 18 months during shutdown:

a. Verify that each automatic valve in the flow path for each auxiliary feedwater pump actuates to its correct position upon receipt of each auxiliary feedwater actuation test signal.

b. Verify that each auxiliary feedwater pump starts as designed automatically upon receipt of each auxiliary feedwater actuation test signal.

4.8.9 Each instrumentation channel shall be demonstrated operable by the performance of the Channel Check, Channel Calibration, and Channel Functional Test operations for the modes and at the frequencies shown in Table 4.1-1.

4.8.10 The response time of each pump and valve required for the operation of each "train" of auxiliary feedwater shall be demonstrated to be within the limit of 10 minutes at least once per 18 months.

Basis

The monthly testing of the auxiliary feedwater pumps by supplying feedwater to the steam generators will verify their ability to meet minimum required flowrates. The capacity of any one of the three auxiliary feedwater pumps is sufficient to meet decay heat removal requirements.(1) Proper functioning of the steam turbine admission valve and the feedwater pumps start will demonstrate the integrity of the steam driven pump.(2)

Monthly testing of the standby auxiliary feedwater pumps by supplying water from a condensate supply tank to the steam generators will verify their ability to meet minimum required flowrates.

The standby auxiliary feedwater pumps would be used only if all three auxiliary feedwater pumps were unavailable.(3) One of the two standby pumps would be sufficient to meet decay heat removal requirements. Proper functioning of the suction valves from the service water system, the discharge valves, and the crossover valves will demonstrate their operability. The operability of the standby auxiliary feedwater pump flow paths between the pumps and the steam generators is demonstrated using water from the test tank. Testing of the auxiliary feedwater pumps using their primary source of water supply will verify the operability of the auxiliary feedwater flow path.

Verification of correct operation will be made both from instrumentation within the main control room and by direct visual observation of the pumps.

References:

(1) FSAR - Section 10.5

(2) FSAR - Sections 15.2, 15.3, 15.6

(3) "Effects of High Energy Pipe Breaks Outside the Containment Building" submitted by letter dated November 1, 1973 from K.W. Amish, Rochester Gas and Electric Corporation to A. Giambusso, Deputy Director for Reactor Projects, U.S. Atomic Energy Commission.