ATTACHMENT A

Revise the Technical Specification pages as follows:

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.

<u>References</u>:

(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.

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.

The purpose of this Amendment is to incorporate additional Specifications and Action Statements regarding required operability of the Ginna Station motor-driven, turbine-driven and standby auxiliary feedwater pumps. Also, the format of the Specifications and Action Statements have been modified for clarity. The detailed changes are listed in Table 1.

Following a reactor/turbine trip, the motor-driven auxiliary feedwater pumps are automatically started on a low-low steam generator level signal, a Safety Injection signal, or a trip signal from both main feedwater pumps. The turbine-driven pump is automatically initiated by a low-low SG level in both generators, as well as a loss of electrical power to buses 11A and 11B. In addition, the standby auxiliary feedwater pumps can deliver flow to the steam generators in order to remove the required decay heat. Because of the number and diverse means of removing decay heat via the auxiliary feedwater pumps, the proposed Specifications, although modeled on the Westinghouse Standard Technical Specifications, provide some additional "Action Statement" times to effect repairs in the event a component or system is declared inoperable. These proposed Technical Specifications are also based on the NRC's evaluation of RG&E's May 9, 1989 Application for an Amendment to Sections 3.4 and 4.8, which was provided by letter dated November 7, 1989. Major proposed differences from the NRC's evaluation are as follows:

1. RG&E's Standard Nomenclature for Ginna Station does not include the term "main" auxiliary feedwater. Thus, this proposed Amendment uses the terms motor-driven, turbine-driven, and standby auxiliary feedwater pumps.

2. In Specification 3.4.2.1.b, with two motor-driven AFW pumps inoperable, it has been proposed that, if the turbine-driven auxiliary feedwater pump is operable, 24 hours be allowed to effect repairs to a pump, rather than requiring immediate shutdown action. With the turbine-driven and standby pumps operable, all decay heat removal requirements would still be met, even assuming a single failure.

3. In Specifications 4.8.1 and 4.8.2, the NRC proposal to perform surveillance testing on a staggered basis would be difficult to perform. At Ginna Station, auxiliary feedwater testing is performed by flowing into the feedwater system. This requires a power reduction (3% for the turbine-driven pump, and 1% for the motor-driven and standby pumps). Performing testing on a staggered basis would require additional power reductions, and more frequent secondary water chemistry perturbations, which RG&E wishes to avoid. Thus, testing is proposed to be maintained every 31 days.

In accordance with 10CFR50.91, these changes to Technical Specifications have been evaluated to determine if the operation of the facility in accordance with the proposed Amendment would:

1. involve a significant increase in the probability or consequences of an accident previously evaluated; or

2. create the possibility of a new or different kind of accident previously evaluated; or

3. involve a significant reduction in a margin of safety.

As explained in the above discussions, the proposed Amendment incorporates additional Specifications and Action Statements. These proposed changes do not increase the probability or consequences of a previously-evaluated accident, or create a new or different kind of accident. Furthermore, there is no significant reduction in the margin of safety for any particular Technical Specifications, and the addition of Action Statements, such as 3.4.2.1.a, has increased the margins of safety. The detailed changes are described in Table 1.

Therefore, Rochester Gas and Electric submits that the issues associated with this Amendment request are outside the criteria of 10CFR50.91 and a no significant hazards finding is warranted.

TABLE 1

CHANGE	EFFECT
1. Reformat Specifications into Section 3.4.1 (main steam safety valves); 3.4.2 (auxiliary feedwater, including subsections 3.4.2.1 motor-driven auxiliary feedwater system, 3.4.2.2 turbine-driven auxiliary feedwater system and 3.4.2.3 standby auxiliary feedwater system); and 3.4.3 (sources of auxiliary feedwater) with appropriate Specification and Action Statements listed within each Section.	Format clarifications.
2. Specification 3.4.1 incorporates previous Specifications 3.4.1.a and 3.4.2.a, with minor wording changes. Format change only.	No change in meaning.
3. Section 3.4.2.1 includes previous paragraphs 3.4.1.b, 3.4.2.b, and 3.4.2.c. Backup supply from service water now incorporated into 3.4.3. Definition of flow path clarified.	Increased restriction on actions to be taken in the event a motor-driven auxiliary feedwater pump is inoperable. Consistent with NRC 11/7/89 Model Specifications II.A.3.a and II.B.3.b. With two motor-driven auxiliary feedwater pumps or a motor-driven and turbine-driven auxiliary feedwater pump inoperable, an increase relative to Model Specifications II.A.3.b to allow 24 hours for repair work prior to initiating shutdown action is considered reasonable, since the remaining pumps, including the redundant standby auxiliary feedwater pumps could perform the required safety functions.
4. Section 3.4.2.2 is comparable to previous Specification 3.4.1.c. Reference to service water as backup supply has been moved to Section 3.4.3.	Action statements have been added to require shutdown actions in the event turbine-driven auxiliary feedwater components are declared inoperable. These are consistent with model Specification II.A.2.b and II.A.3.b.

5. Specification 3.4.2.3. is comparable to previous Specification 3.4.1.e. Reference to service water has been moved to Section 3.4.3.

   This is comparable to previous Section 3.4.1.e and 3.4.2.d. Timing of shutdown actions is consistent with NRC Model Specifications II.B.2 and II.B.3.

6. Section 3.4.3 Sources of Auxiliary Feedwater. This is a new section breaking out the sources of AFW from previous Specifications 3.4.1.b, 3.4.1.c, 3.4.1.d, and 3.4.1.e.

   Consistent with NRC Model Specifications II.C.2 and II.C.3.

7. In Specification 4.8, the phrase "during cold or refueling shutdowns" has been changed to "when below 350°F".

   Consistent with Specification 3.4, which requires the Auxiliary Feedwater System to be operable at or above 350°F.

8. Specification 4.8.2 has been modified to allow for a flow test requirement of 200 gpm if one turbine-driven auxiliary feedwater flow path is inoperable (with a 400 gpm flowrate to be established within 72 hours when second flow path becomes operable.

   Added consistency. Also consistent with NRC Model Specification IV, NRC comments under 4.8.10.