September 27, 2002

Dr. Robert C. Mecredy
Vice President, Nuclear Operations
Rochester Gas and Electric Corporation
89 East Avenue
Rochester, NY 14649

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING R. E. GINNA NUCLEAR POWER PLANT (GINNA) LICENSE AMENDMENT REQUEST TO REVISE THE SAFETY LIMITS AND INSTRUMENTATION SETPOINTS (TAC NO. MB4789)

Dear Dr. Mecredy:

By letter dated April 9, 2002, Rochester Gas & Electric Corporation (RG&E) submitted a request to the Nuclear Regulatory Commission (NRC) to revise the Ginna Improved Technical Specifications (ITS): (a) to relocate the core safety limits to the core operating limits report, (b) to change related surveillance requirements to be consistent with Ginna testing practices, and (c) to revise several instrumentation setpoints contained in Section 3.3 of the ITS to provide a clear reference point with respect to operability.

The NRC staff reviewed the information provided above and have determined that additional information is required in order for the staff to complete its review. Enclosed is the NRC staff's request for additional information (RAI). This request was discussed with your staff on August 29, 2002, and it was agreed that your response would be provided 60 days from the date of this letter.

Sincerely,

/RA/

Robert Clark, Project Manager, Section 1
Project Directorate 1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-244

Enclosure: RAI

cc w/encl: See next page

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R.E. Ginna Nuclear Power Plant

cc:

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REQUEST FOR ADDITIONAL INFORMATION

R. E. GINNA NUCLEAR POWER PLANT (GINNA)

AMENDMENT TO REVISE IMPROVED TECHNICAL SPECIFICATION

SAFETY LIMITS AND INSTRUMENTATION SETPOINTS

By letter dated April 9, 2002, Rochester Gas & Electric Corporation (RG&E) submitted a request to the Nuclear Regulatory Commission (NRC) to revise the Ginna Improved Technical Specifications (ITS) to;

- relocate the core operating safety limits (SLs) to the core operating limits report (COLR) consistent with NRC-approved traveler, TSTF-339, Revision 2,
- change surveillance requirements in Section 3.3 of the ITS to be consistent with Ginna testing practices, and
- revise several instrumentation setpoints contained in Section 3.3 of the ITS to provide a clear reference point with respect to operability.

Responses to the following requests for additional information (RAIs) with regards to the Core Operating Safety Limits and Ginna Setpoint Methodology will allow the staff to complete its review in a timely manner.

Core Operating Safety Limits

1. In ITS Section B 2.1.1, Reactor Core SLs, (page B 2.1.1-2) the text in the second paragraph beginning with, “The curves of Figure B 2.1.1-1.... Nucleate Boiling (DNB) Limits” is designated to be removed. However, it seems that the last sentence in this text, i.e., “Normal steady... Boiling (DNB) Limits” should remain, because limiting condition for operation 3.4.1 remains.

2. In ITS Section 2.1.1, SAFETY LIMITS, (page B 2.1.1-3), the proposed text in the first paragraph reads “The Figure provided in the COLR shows an example of...DNBR correlation” is referring to Figure B 2.1.1-1. Within the same paragraph, the proposed changes to the second sentence reads, “Each of the curves of Figure COLR-5 has three distinct slopes.” It appears that both changes are referring to Figure B 2.1.1-1, therefore, to make the first and second sentence consistent, the first sentence should read, “Figure COLR-5 shows an example of...DNBR correlation.”

3. In Table 3.3.1-1, (pages 3.3.1-15, and 16), Note 1 and Note 2, a tolerance of 2.5% and 2.0% of ΔT span is specified for the OTΔT and OPΔT nominal trip setpoint, respectively. Please provide the bases for the tolerance given in Note 1 and 2.

Enclosure

Ginna Setpoint Methodology

1. When was your in-house setpoint methodology reviewed and by whom?

2. How have the changes proposed in this license amendment request affected the lead/lag calculations?

3. What is the analytical limit for each of the functions listed in Table 3.3.1-1 and Table 3.3.2-1?

4. What is the calculated trip setpoint for each of the functions listed in Table 3.3.1-1 and Table 3.3.2-1?

5. What is the ± tolerance band for each of the functions listed in Table 3.3.1-1 and Table 3.3.2-1?

6. What is the nominal setpoint for each of the functions listed in Table 3.3.1-1 and Table 3.3.2-1?

7. Is the calibration tolerance greater than or equal to the device reference accuracy for each of the functions listed in Table 3.3.1-1 and Table 3.3.2-1?

8. Section 6.1 of the American National Standards Institute/Instrument Society of America (ANSI/ISA-S67.04-Part I) requires that a record of the as-found and as-left data be kept for the instances where setpoints are found to be outside the tolerance band. Where have you specified the logging of as-found and as-left data for setpoints needing to be re-adjusted? How is this data being used at Ginna?

9. Per RG&E Engineering Procedure EP-3-S-0505, Rev. 1, “Instrument Setpoint/Loop Accuracy Calculation Methodology,” you indicate that ANSI/ISA-RP67.04-Part II, Figure 6, Method 3 is used to determine the allowable value. The use of Method 3 requires, under certain circumstances, that a check calculation be performed. The check calculation should provide assurance that the purpose of the allowable value is satisfied by providing a large enough margin to account for those uncertainties not measured during the channel operability test as described below.

   Check Calculation Methodology

   In the sample calculation for the safety injection setpoint, (see DA EE-92-041-21), the required margin between the analytical limit (AL) and the allowable value (AV) is conservatively estimated to be equal to:

$$\text{AVALM1} = \sqrt{\text{TLU}^2 - \text{COT}^2} = \text{0.85 psi or 1.42\% of scale}$$

where:	AVALM1	=	required margin
	TLU	=	total loop uncertainty
	COT	=	channel operability uncertainty

The available margin (AVALM2) using Method 3 is

$$AVALM2 = TLU - COT \quad = \quad 0.29 \text{ psi or } 0.48\% \text{ of scale}$$

Because AVALM1 > AVALM2, the available margin using Method 3 is insufficient to account for those uncertainties not measured during the COT which include, in part:

Sce_2	Deadweight Tester	± 0.5% Full Scale
Sa	Sensor Accuracy	± 0.65% Full Scale
Sd	Sensor Drift	± 0.5% Full Scale
St	Sensor Tolerance	± 1.0% Full Scale

(Note that each of the above uncertainties is greater than the available margin of 0.48%)

To ensure sufficient margin between the analytical limit (AL) and the allowable value (AV), the allowable value and the trip setpoint (TS) should be adjusted as described in ANS/ISA-RP67.04-Part II (See Appendix L, Example Calculation - Pressure Trip, Section 12.0, “Check Calculation”).

<u>Allowable Value Methodology</u>

Per RG&E procedure EP-3-S-0505, the allowable value is calculated using the following arithmetic approach:

$$AV = AL - TLU + COT$$

According to ANS/ISA-RP67.04 - Part II, if the arithmetic approach is used to determine the allowable value versus the square root sum of squares (SRSS) approach, then the check calculation as outlined above should be performed. The only exception to this requirement is if your allowable value was calculated using the SRSS approach, i.e.,

$$AV = AL - \sqrt{TLU^2 - COT^2}$$

which is the setpoint methodology defined by Figure 6, Method 2. These two expressions for the allowable value (AV) are not equivalent and care must be taken whenever terms are removed from the radical sign.

Given the information discussed above, please provide justification as to why the check calculation for the safety injection setpoint using Method 3 was not performed in accordance with ANS/ISA-RP67.04-Part II.

10. Did the setpoint calculations use ANSI/ISA-RP67.04-Part II, Figure 6, Method 3 for each of the functions listed in Table 3.3.1-1 and Table 3.3.2-1?

11. Please confirm that your setpoint calculation methodology meets the 95/95 confidence level requirement.