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 MECREDDY, R.C. Rochester Gas & Electric Corp.
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 JOHNSON, A.R. Project Directorate I-3

SUBJECT: Responds to GL 87-02, Suppl 1, "SQUG Resolution of USI A-46"
 & Suppl 4 to GL 88-20 re seismic events. Seismic evaluation
 rept, summarizing results of A-46 program, will be submitted
 by 950522.

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 TITLE: Seismic Qualification of Equipment in Operating Plants - A-46

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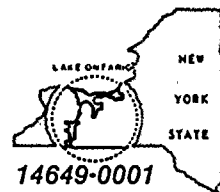
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ROBERT C. MECREDY
Vice President
Ginna Nuclear Production

September 21, 1992

TELEPHONE
AREA CODE 716 546-2700

U.S. Nuclear Regulatory Commission
Document Control Desk
Attn: Allen R. Johnson
Project Directorate I-3
Washington, D.C. 20555

Subject: Response to Generic Letter 87-02, Supplement 1 (SQUG Resolution of USI A-46) and Generic Letter 88-20, Supplement 4 (Seismic Events)
R. E. Ginna Nuclear Power Plant
Docket No. 50-244

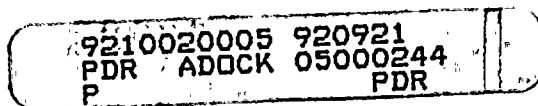
Reference: (a) Letter from R.C. Mecredy, RG&E, to A.R. Johnson, NRC, Subject: Individual Plant Examination of External Events (IPEEE) 180-Day Response to Generic Letter 88-20, Supplement 4, dated December 26, 1991.

(b) Letter from A.R. Johnson, NRC, to R.C. Mecredy, RG&E, Subject: Review of Response to Generic Letter No. 88-20, Supplement No. 4 - Individual Plant Examinations for External Events - R.E. Ginna Nuclear Power Plant (TAC No. M83624), dated June 30, 1992.

Dear Mr. Johnson:

On February 19, 1987, the Nuclear Regulatory Commission (NRC) issued Generic Letter 87-02, "Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, Unresolved Safety Issue (USI) A-46." This Generic Letter encouraged utilities to participate in a generic program to resolve the seismic verification issues associated with USI A-46. As a result, the Seismic Qualification Utility Group (SQUG) developed the "Generic Implementation Procedure (GIP) for Seismic Verification of Nuclear Plant Equipment." On May 22, 1992, the NRC Staff issued Generic Letter 87-02, Supplement 1, which constituted the NRC Staff's review of the GIP and which included Supplemental Safety Evaluation Report Number 2 (SSER-2) on the GIP, Revision 2, as corrected on February 14, 1992. The letter to SQUG enclosing SSER-2 requested that SQUG member utilities provide to the NRC, within 120 days, a schedule for implementing the GIP. By letter dated August 21, 1992, to James G. Partlow, NRR-NRC, SQUG clarified that the 120 days would expire on September 21, 1992. This letter responds to the Staff's request.

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In addition, this letter addresses the NRC's review of RG&E's response to Generic Letter 88-20, Supplement 4 (Individual Plant Examinations for External Events or IPEEE) with respect to seismic events (References a and b). The NRC's questions and comments related to the remaining IPEEE issues will be provided by RG&E under separate cover.

Generic Letter 87-02, Supplement 1

As a member of SQUG, Rochester Gas and Electric (RG&E) commits to use the SQUG methodology as documented in the GIP, where "GIP" refers to GIP Revision 2, corrected February 14, 1992, to resolve USI A-46 at R. E. Ginna Nuclear Power Station. Specifically, RG&E commits to the SQUG commitments set forth in the GIP in their entirety, including the clarifications, interpretations, and exceptions identified in SSER-2 as clarified by the August 21, 1992 SQUG letter responding to SSER-2. For the remaining non-commitment sections of the GIP (i.e., GIP implementation guidance), RG&E expects to, in general, follow the suggested methods for implementing the applicable commitments. RG&E will notify the NRC as soon as practicable, but no later than the final USI A-46 summary report, of any significant or programmatic deviations from the guidance portions of the GIP. Justifications for such deviations, as well as for other, minor deviations, will be retained on site for NRC review.

Since Ginna is identified as a Category 2 (SEP) plant in Generic Letter 87-02, Supplement 1, RG&E will use the options provided in the GIP for defining seismic demand (i.e., appropriate median-centered and conservative, design in-structure response spectra, depending on the building, the location of equipment in the building, and equipment characteristics).

Given the magnitude of the effort required to achieve resolution of USI A-46, final implementation must be carefully integrated with outage schedules and the seismic IPEEE program (as discussed below). Considering the workload set forth by the criteria of the GIP, a Seismic Evaluation Report summarizing the results of the A-46 program for the R. E. Ginna Nuclear Power Station will be submitted to the NRC by May 22, 1995. RG&E is currently evaluating proposed bids for supporting the A-46 program at Ginna and expects to begin work in the near future. However, the completion schedule may be affected by coordination with the seismic IPEEE response.

RG&E also intends to change the licensing basis methodology used for verifying the seismic adequacy of new and replacement, as well as existing, electrical and mechanical equipment prior to receipt of a final plant-specific SER resolving USI A-46. This change will be conducted under 10CFR50.59 and will be consistent with the guidance in Section 2.3.3 of Part I of the GIP, Revision 2, and with the clarifications, interpretations, and exceptions identified in SSER-2 as clarified by the August 21, 1992 SQUG letter responding to SSER-2. Any necessary changes to the UFSAR will be provided in accordance with 10CFR50.71(e).

1. The first part of the report is a general introduction to the subject of the study. It discusses the importance of the study and the objectives of the research. It also provides a brief overview of the methodology used in the study.

2. The second part of the report is a detailed description of the study area. It provides information about the location of the study area, the population of the area, and the characteristics of the area.

3. The third part of the report is a description of the data collection process. It discusses the methods used to collect data, the sources of data, and the reliability of the data.

4. The fourth part of the report is a description of the data analysis process. It discusses the methods used to analyze the data, the results of the analysis, and the conclusions drawn from the analysis.

5. The fifth part of the report is a conclusion and recommendations. It summarizes the findings of the study and provides recommendations for future research. It also discusses the limitations of the study and the implications of the findings.

Generic Letter 88-20, Supplement 4 (Seismic)

The NRC's review of RG&E's response to Generic Letter 88-20, Supplement 4 (Reference b) stated that it was unacceptable to rely strictly on efforts related to the Systematic Evaluation Program (SEP) for responding to the IPEEE. Since the seismic portion of the IPEEE is closely related to the resolution of A-46, RG&E would like to address the NRC's concerns at this time.

First, RG&E would like to re-emphasize the significant effort and expenditures which it incurred as a result of the SEP in the area of seismic design. Safety-related piping systems were reanalyzed and modified to Regulatory Guide 1.60/1.61 criteria, electrical equipment anchorage was improved, and structures were evaluated to NUREG-0800 load combinations. As noted in Reference a, RG&E estimates that it has expended almost \$50 million as a result of reviewing and upgrading Ginna Station to this upgraded criteria. In addition, RG&E would like to also note that the NRC determined during the SEP that a 0.17g anchorage criteria was acceptable for a safe shutdown earthquake; however, RG&E continues to use the more conservative original licensing basis of 0.2g for safety-related equipment. As such, RG&E already ensures additional seismic margin over a NRC accepted anchorage criteria.

Second, RG&E plans to include essentially all safety-related equipment within the A-46 program since it is anticipated that the licensing basis methodology used for Ginna will be changed as discussed above. Consequently, systems expected to be needed for the seismic IPEEE such as containment isolation and containment spray will already be included within the A-46 program and seismically verified to 0.2g. This also includes necessary relays.

Based on this, RG&E proposes to add components such as structures and piping to the SQUG walkdowns using the guidelines presented in EPRI NP-6041-SL, Revision 1, such that the A-46 program will include all components that are required for the seismic IPEEE review. RG&E notes that NUREG-1407 states that the walkdowns are "one of the most important ingredients to a seismic IPEEE". Since this "expanded" A-46 program will verify the seismic adequacy to 0.2g of all equipment expected to be identified within the IPEEE program, RG&E proposes to identify a single safe shutdown train that can be used following a 0.3g seismic event (IPEEE focused scope earthquake). This is considered appropriate since the 0.3g seismic event is beyond the current design basis for Ginna, and therefore, single failure criteria should not apply. This approach is consistent with the resolution of Station Blackout (10CFR50.63) and Anticipated Transients Without Scram (10CFR50.62). In addition, since the safe shutdown path is expected to consist mainly of safety-related components, the Ginna Technical Specifications would prevent extended outage times for the identified equipment. In the event that a single safe shutdown train cannot be identified, a cost/benefit evaluation will be performed in accordance with 10CFR50.109 for any potential changes.

1. The first part of the document is a list of names and addresses of the members of the committee. The names are listed in alphabetical order, and the addresses are given in full. The list is as follows:

Name	Address
Mr. A. B. C.	123 Main St., New York, N. Y.
Mr. D. E. F.	456 Broadway, New York, N. Y.
Mr. G. H. I.	789 Third Ave., New York, N. Y.
Mr. J. K. L.	1010 Fifth Ave., New York, N. Y.
Mr. M. N. O.	1111 Sixth Ave., New York, N. Y.
Mr. P. Q. R.	1212 Seventh Ave., New York, N. Y.
Mr. S. T. U.	1313 Eighth Ave., New York, N. Y.
Mr. V. W. X.	1414 Ninth Ave., New York, N. Y.
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Mr. K. L. M.	1919 Fourteenth Ave., New York, N. Y.
Mr. N. O. P.	2020 Fifteenth Ave., New York, N. Y.
Mr. Q. R. S.	2121 Sixteenth Ave., New York, N. Y.
Mr. T. U. V.	2222 Seventeenth Ave., New York, N. Y.
Mr. W. X. Y.	2323 Eighteenth Ave., New York, N. Y.
Mr. Z. A. B.	2424 Nineteenth Ave., New York, N. Y.
Mr. C. D. E.	2525 Twentieth Ave., New York, N. Y.
Mr. F. G. H.	2626 Twenty-first Ave., New York, N. Y.
Mr. I. J. K.	2727 Twenty-second Ave., New York, N. Y.
Mr. L. M. N.	2828 Twenty-third Ave., New York, N. Y.
Mr. O. P. Q.	2929 Twenty-fourth Ave., New York, N. Y.
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Mr. O. P. Q.	8181 Seventy-sixth Ave., New York, N. Y.
Mr. R. S. T.	8282 Seventy-seventh Ave., New York, N. Y.
Mr. U. V. W.	8383 Seventy-eighth Ave., New York, N. Y.
Mr. X. Y. Z.	8484 Seventy-ninth Ave., New York, N. Y.
Mr. A. B. C.	8585 Eightieth Ave., New York, N. Y.
Mr. D. E. F.	8686 Eighty-first Ave., New York, N. Y.
Mr. G. H. I.	8787 Eighty-second Ave., New York, N. Y.
Mr. J. K. L.	8888 Eighty-third Ave., New York, N. Y.
Mr. M. N. O.	8989 Eighty-fourth Ave., New York, N. Y.
Mr. P. Q. R.	9090 Eighty-fifth Ave., New York, N. Y.
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Mr. N. O. P.	9898 Ninety-third Ave., New York, N. Y.
Mr. Q. R. S.	9999 Ninety-fourth Ave., New York, N. Y.
Mr. T. U. V.	10000 Ninety-fifth Ave., New York, N. Y.

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Finally, RG&E will address the issue of seismically induced fires and floods within the models developed for the IPE. RG&E believes that the proposed approach meets the intent of the severe accident policy statement for seismic issues. This "expanded" scope A-46 program would be performed concurrent with the required program, and as such, would also be completed by May 22, 1995. Since this approach is extensively dependent upon the Ginna A-46 program, RG&E desires to obtain prompt NRC response to this approach in order to prevent undesirable delays in beginning the A-46 program later this year as is currently scheduled.

RG&E would like to note that even though IPEEE does look beyond the design basis for Ginna, we will nevertheless attempt to conform to the program as described above. If as a result of future circumstances it is determined that a shift in resources is warranted, both the scope and schedule for any IPEEE commitments may be modified. We will keep the NRC informed of any such decisions.

Very truly yours,


Robert C. Mecredy

Subscribed and sworn to before me
on this 21st day of September, 1992


Notary Public

MARIE C. VILLENEUVE
Notary Public, State of New York
Monroe County
Commission Expires October 31, 1992

MDF/DWZ/457

xc: Mr. Allen R. Johnson (Mail Stop 14D1)
Project Directorate I-3
Washington, D.C. 20555

U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Ginna Senior Resident Inspector



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