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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 1, 1998

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

SUBJECT: GENERIC LETTER (GL) 97-01, "DEGRADATION OF CRDM/CEDM NOZZLE AND OTHER VESSEL CLOSURE HEAD PENETRATIONS" REGARDING THE ROCHESTER GAS AND ELECTRIC CORPORATION RESPONSES TO GL 97-01 FOR THE R. E. GINNA NUCLEAR PLANT (TAC NO. M98567)

Dear Dr. Mecredy:

On April 1, 1997, the staff issued Generic Letter (GL) 97-01, "Degradation of CRDM/CEDM Nozzle and Other Vessel Closure Head Penetrations," to the industry requesting in part that addressees provide a description of the plans to inspect the vessel head penetration nozzles (VHPs) at their respective pressurized water reactor (PWR) designed plants. With respect to the issuance of the GL, the staff required the addressees to submit an initial response within 30 days of issuance informing the staff of the intent to comply with requested information and a follow-up response within 120 days of issuance containing the technical details to the staff's information requests. In the discussion section of the GL, the staff stated that "individual licensees may wish to determine their inspection activities based on an integrated industry inspection program. . .," and indicated that it did not object to individual PWR licensees basing their inspection activities on an integrated industry inspection program.

The NRC staff has reviewed your responses to GL 97-01, dated May 1, 1997, and July 25, 1997, and has determined that you did not indicate if you were a member of any of the PWR Owners Groups or participating in any of the "Integrated Assessment Programs" developed by these Owners Groups for assessment of the vessel head penetration nozzles in the designs of their member PWR facilities. The staff requires further information to complete its review of your responses as they relate to the Westinghouse Owners Group (WOG's) integrated program for assessing vessel nozzle penetration (VHP) nozzles at the Ginna Nuclear Plant. The enclosure to this letter forwards staff's inquiries in the form of a request for additional information (RAI). The staff requests a response to the RAI within 90 days of the submittal date. It should be noted that similar staff requests have been issued to the other PWR utilities. As was the staff's position before, the staff encourages you to address these inquiries in integrated fashion with the

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particular PWR Owners Group that you are a member of and with the Nuclear Energy Institute (NEI); however, the staff also requests that you identify any deviations from the Owners Group's integrated program that may be specific to your plant. The staff appreciates the efforts expended with respect to this matter.

Sincerely,

Guy S. Vissing, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects -I/II
Office of Nuclear Reactor Regulation

Enclosure: Request for Additional Information

cc w/encl: See next page

September 1, 1998

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Original Signed by:

Guy S. Vissing, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects -I/II
Office of Nuclear Reactor Regulation

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cc:

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Request for Additional Information Regarding

the Rochester Gas and Electric Corporation (RGE) Responses

to Generic Letter (GL) 97-01 for the R. E. Ginna Nuclear Plant

I. Relationship of the RGE Letters of May 1, 1997, and July 25, 1997, to GL 97-01

On April 1, 1997, the staff issued Generic Letter (GL) 97-01, "Degradation of CRDM/CEDM Nozzle and Other Vessel Closure Head Penetrations;" to the industry requesting in part that addressees provide a description of the plans to inspect the vessel head penetration nozzles (VHPs) at their respective pressurized water reactor (PWR) designed plants. With respect to the issuance of the GL, the staff required the addressees to submit an initial response within 30 days of issuance informing the staff of the intent to comply with requested information and a follow-up response within 120 days of issuance containing the technical details to the staff's information requests. In the discussion section of the GL, the staff stated that "individual licensees may wish to determine their inspection activities based on an integrated industry inspection program. . .," and indicated that it did not object to individual PWR licensees basing their inspection activities on an integrated industry inspection program.

The staff has determined that RGE submitted its 30 day and 120 day responses to GL 97-01 on May 1, 1997, and July 25, 1997, respectively. In the letter of July 25, 1997, RGE indicated that RGE has been an "active participant" in the industry's efforts to address primary stress corrosion cracking (PWSCC) in vessel head penetration (VHP) nozzles fabricated from Inconel 600 (Alloy 600). In this letter, RGE implied that it believed that the conclusions stated in Westinghouse Electric Corporation (WEC)Topical Report No. WCAP-13565, Revision 1, and the staff's safety evaluation of November 19, 1993, were still valid, and that therefore, RGE did not believe the issue to be an immediate safety concern. However, in the letter of July 25, 1997, RGE also indicated that it had developed an options matrix for the VHP nozzles in the Ginna design. RGE stated that this options matrix was based on engineering work of the Dominion Engineering Corporation. Based on this work, RGE indicated that it was currently soliciting bids to perform examination of the Ginna vessel head during the 1999 refueling outage for the plant. However, RGE also indicated that the decision to inspect the VHP nozzles at the Ginna Nuclear Station would be dependent on its review of the bids, as well as its review of ongoing industry experience with respect to this issue. In the letter of July 25, 1997, RGE also indicated that inspections were performed of the VHP nozzles at similar plants whose VHP nozzles were fabricated from identical material heats as were the VHP nozzles in the Ginna reactor design, and that with respect to these inspections, which did not reveal any flaw indications, the inspection results provide "the best representation for what would be expected at Ginna Station," and "support the conclusion that the issue does not present an immediate safety issue.

The staff has reviewed the RGE responses of May 1, 1997, and July 25, 1997, and has determined that additional information is needed to close out its efforts with respect to the responses to GL 97-01 for the Ginna plant. The staff's requests are provided in the items listed on the following page:

Enclosure

1. Indicate whether RGE is participating in the latest industry integrated program developed for the assessment of VHP nozzles in domestic PWR designed reactors. If so, please provide the following information with respect to the industry's integrated program for assessing PWSCC in domestic PWR VHP nozzles:

   a. Identify all PWR Owners Groups that RGE is a member of.

   b. Indicate whether RGE is participating in the latest integrated programs developed by these Owners Groups for assessing PWSCC in PWR VHP nozzles, and if so, whether or not any of the following topical reports are applicable to the assessment of VHP nozzles in the Ginna reactor design:

      - Topical Report BAW-2031, developed for member utilities and plants in the Babcock & Wilcox Owners Group (B&WOG)
      - Topical Report CE NPSD-1085, developed for member utilities and plants in the Combustion Engineering Owners Group (CEOG)
      - Topical Report WCAP-14901, Revision 0, and/or WCAP-14902, Revision 0, developed for member utilities and plants in the Westinghouse Owners Group (WOG)

   c. If any of the topical reports listed in Item 1.b. above are applicable to the assessment of VHP nozzles in the Ginna reactor design, provide a description of the probabilistic susceptibility model being endorsed to assess the VHP nozzles in the Ginna reactor design. Include the following information with respect to the description of the susceptibility model:

      (1) Provide the model's relative susceptibility ranking for the VHP nozzles in the Ginna reactor design to the rankings compiled by other utilities applying the model to the assessment of the VHP nozzles in their plant designs. In addition, if one of the Westinghouse Topical Reports is applicable to the assessment of the VHP nozzles in the Ginna reactor design, compare the susceptibility ranking of VHP nozzles in the Ginna reactor design to that of WOG member plants applying the other model to the assessment of the VHP nozzles at their plants. Include the basis for establishing the ranking of you plant relative to the others. Justify why the crack initiation and growth susceptibility model used for your VHP nozzles is considered to yield as reasonable a ranking as would application of the other probabilistic failure model being used be WOG member utilities. Provide a composite susceptibility ranking of all WOG member plants and any conclusions which may be drawn from such a ranking with respect to the assessment of PWSCC in the Ginna VHP nozzles relative to those in other WOG member designs.

      (2) Describe how the probabilistic susceptibility model used for the assessment of the VHP nozzles in the Ginna design was bench-marked, and provide a list and discussion of the standards the model was bench-marked against.

(3) Provide additional information regarding how the probabilistic susceptibility model being used for the assessment of the VHP nozzles in the Ginna design will be refined to allow the input of plant-specific inspection data into the model's analysis methodology.

(4) Describe how the variability in product forms, material specifications, and heat treatments used to fabricate each VHP nozzle in the Ginna reactor design is addressed in the probabilistic susceptibility model being used for the assessment of these nozzles.

2. Indicate whether any final conclusion has been made to commence with the volumetric examinations of the VHP nozzles at the Ginna Nuclear Station in 1999. If the decision has been made not to commence with the examinations of the VHP nozzles in the Ginna design, justify why RGE considers it to be safe to operate the Ginna plant without performing volumetric examinations of the Ginna VHP nozzles.

3. Identify all other plants where volumetric examinations were performed on the VHP nozzles in the reactor design. Include a more in-depth summary of the inspection results at the other plants which RGE considers to be applicable to the evaluation of VHP nozzles at Ginna, and identify the heats of materials for the Ginna VHP nozzles which are considered to be bounded by the examination results at these plants.