A Subsidiary of RGS Energy Group, Inc.

ROCHESTER GAS AND ELECTRIC CORPORATION • 89 EAST AVENUE, ROCHESTER, N.Y. 14649-0001 • 716 546-2700 www.rge.com

ROBERT C. MECREDY
Vice President
Nuclear Operations

December 27, 2000

U.S. Nuclear Regulatory Commission
Document Control Desk
Attn: Guy S. Vissing
Project Directorate I
Washington, D.C. 20555

Subject: Revised Response to NRC IE Bulletin 78-08, Radiation Levels From Fuel Element Transfer Tubes, June 12, 1978
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Reference(s):
1. NRC IE Bulletin 78-08, Radiation Levels From Fuel Element Transfer Tubes, June 12, 1978
2. Letter from L.D. White, Jr. (RG&E) to Boyce H. Grier (NRC), dated August 11, 1978, Subject: IE Bulletin No. 78-08, Radiation Levels from Fuel Element Transfer Tubes
3. NRC Inspection Report 78-25, December 15, 1978

Dear Mr. Vissing:

Reference 1 requested that actions be taken to review the shielding design of plant areas adjacent to the fuel transfer tube, and to identify potential high radiation areas, both continuous and transient, and to assure that positive control of access exists for these areas. The response for R.E.Ginna Nuclear Power Plant (Reference 2) stated that no transient high radiation area was identified, no portion of the fuel transfer tube is accessible in an unshielded condition, and that no actual or potential for radiation streaming from shielded spaces was identified. NRC reviewed the RG&E response, and, as documented in Section 3.b of NRC Inspection Report 78-25 (Reference 3), NRC reaffirmed that R.E Ginna Nuclear Power Plant had performed the actions requested in Bulletin 78-08.

IE11

1000239

This revised response includes new information obtained during the 1999 and 2000 refueling outages. During the 1999 and 2000 refueling outages, shielding blocks were removed to facilitate inspection of the fuel transfer tube Containment penetration. After this inspection and reinstallation of the shielding blocks, the Radiation Protection (RP) group coordinated with refueling personnel to perform surveys while fuel assemblies were in transit through the fuel transfer tube. Adequate shielding in the vicinity of the shielding blocks was verified.

However, these surveys identified that transient high radiation areas were created in three separate locations during fuel movement. These areas are the result of radiation streaming at gaps between adjacent concrete structures, are very small, and are in usually inaccessible or unoccupied spaces. Actions were taken to post the areas and control personnel access during the times of potential fuel movement in accordance with 10 CFR 20 and Ginna Station Technical Specifications.

Based on the additional surveys conducted during the past two outages, RG&E submits this letter to replace statements made in RG&E's original response dated August 11, 1978 (Reference 2). The bulletin requirements are listed, followed by the original response and the revised response.

NRC BULLETIN 78-08 Action To Be Taken By Licensees:

1. Perform a thorough review of shielding design of plant areas adjacent to the fuel transfer tube to identify potential high radiation areas, both continuous and transient, as defined in 10 CFR 20.202(b).

**1978 RESPONSE:**

Prior to plant startup in 1969 a review of the shielding of areas adjacent to the fuel transfer tube was conducted. At that time the access to the transfer tunnel penetration in the containment wall was filled with shielding block several layers deep. With this in place, the shielding review identified no potential high radiation areas either continuous or transient, as defined in 10 CFR 20.202 (b). Surveys to verify the adequacy of this shielding were made during subsequent refuelings and indicated only small, momentary increases in dose rate when a spent fuel assembly was moving through the tube. In response to the Trojan incident, in the interest of protection of the health and safety of the employees at Ginna Station, and prior to issuance of the subject bulletin, a re-verification survey was conducted during fuel transfers on April 11-14, 1978. The results indicated that a major portion of the body would not receive in any one hour a dose in excess of 100 millirem in any plant area adjacent to the fuel transfer tube. Therefore, no transient high radiation area was identified. In response to the bulletin, on July 10, 1978 the shielding design of plant areas adjacent to the fuel transfer tube was reviewed, and no problems were identified.

***REVISED 2000 RESPONSE:***

Prior to plant startup in 1969 a review of the shielding of areas adjacent to the fuel transfer tube was conducted. At that time the access to the transfer tunnel penetration in the containment wall was filled with shielding block several layers deep. With this in place, the shielding review identified no potential high radiation areas either continuous or transient, as defined in 10 CFR 20.202(b). Surveys to verify the adequacy of this shielding were made during subsequent refuelings and indicated only small, momentary increases in dose rate when a spent fuel assembly was moving through the tube. In response to the Trojan incident, in the interest of protection of the health and safety of the employees at Ginna Station, and prior to issuance of the subject bulletin, a re-verification survey was conducted during fuel transfers on April 11-14, 1978. The results indicated that a major portion of the body would not receive in any one hour a dose in excess of 100 millirem in any plant area adjacent to the fuel transfer tube. Therefore, no transient high radiation area was identified. In response to the bulletin, on July 10, 1978 the shielding design of plant areas adjacent to the fuel transfer tube was reviewed, and no problems were identified.

Detailed surveys conducted in 1999 and 2000 disclosed that there were three very small areas where radiation streaming at gaps between adjacent concrete structures resulted in potential high radiation areas (as currently defined by Ginna Station Technical Specification 5.7.1) during transient conditions of movement of irradiated fuel through the tube. No "continuous" areas were identified.

2. Assure that positive control of access exists or is included in the facility design for entryways into potential high radiation areas where a portion of a fuel transfer tube is accessible in an unshielded condition.

**1978 RESPONSE:**

No portion of the fuel transfer tube is accessible in an unshielded condition.

***REVISED 2000 RESPONSE:***

Positive control of access was established during the 2000 refueling outage (during times when fuel transfer can take place) for entryways into the areas where a portion of the fuel transfer tube is accessible in an unshielded condition (radiation streaming at gaps between adjacent concrete structures) was identified. These positive controls will continue to be established prior to and during future movement of irradiated fuel in the fuel transfer tube.

3. Assure that points of access to potential high radiation areas associated with accessible unshielded portions of a fuel transfer tube are conspicuously posted in accordance with 10 CFR 20.203(c).

**1978 RESPONSE:**

There is no posting requirement for the RG&E Ginna Plant as no portion of a fuel transfer tube is accessible in an unshielded condition and no potential high radiation areas have been identified.

***REVISED 2000 RESPONSE:***

During the 2000 refueling outage, points of access to potential high radiation areas associated with accessible unshielded portions of the fuel transfer tube were conspicuously posted in accordance with 10 CFR 20.1902(b). These areas will continue to be conspicuously posted in accordance with 10 CFR 20.1902(b), prior to and during future movement of irradiated fuel in the fuel transfer tube.

4. If the action from Paragraph 1 above identifies the potential for radiation streaming from shielded spaces, plan and conduct special radiation surveys during the next refueling to identify and control such areas. It is not necessary to survey in areas where the transfer tube is exposed, but if it is found desirable, extreme care should be exercised to control and limit personnel exposure. Care should also be taken in planning surveys and fuel movements such that survey requirements do not override any technical limitations on fuel movement.

**1978 RESPONSE:**

As described in item 1, no actual or potential for radiation streaming from shielded spaces was identified; therefore, no special radiation survey need be made during the next refueling.

***REVISED 2000 RESPONSE:***

Special radiation surveys were planned and conducted during the 1999 and 2000 refueling outages to identify and control these areas.

5. Confirm by written reply to the NRC Regional Office within 60 days that the actions for Items1-4 above have been or are being taken. A record, detailing findings, actions taken, and actions to be taken, should be retained for review by NRC during subsequent radiological safety inspection.

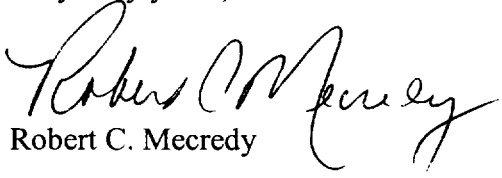
**1978 RESPONSE:**

(Stated in the 1978 responses listed above)

***REVISED 2000 RESPONSE:***

This written reply confirms that Items 1-4 above have been or are being taken. Records, detailed findings, actions taken, and actions to be taken are retained for NRC review. Refer to appropriate corrective action documents, the commitment and action tracking system, and ALARA and survey records maintained at Ginna Station.

Very truly yours,



Robert C. Mecredy

xc: Mr. Guy S. Vissing (Mail Stop 8C2)
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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

U.S. NRC Ginna Senior Resident Inspector