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October 19, 1984

Director of Nuclear Regulation
Attention: Mr. Walter A. Paulson, Acting Chief
Operating Reactors Branch No. 5
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Addendum to RG&E Submittal dated July 13, 1984
"Masonry Wall Design," I.E. Bulletin 80-11
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Paulson:

Enclosed is an addendum to question 15 of Rochester Gas and Electric Corporation's July 13, 1984 submittal regarding the construction and re-evaluation criteria for the masonry walls at R. E. Ginna Nuclear Power Station. This addendum specifically addresses the use of the existing vertical reinforcement to carry stress during an earthquake.

Very truly yours,

Roger W. Kober

Roger W. Kober

Enclosure

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Addendum to July 13, 1984 Submittal on Masonry Wall Design

Reinforcement Position

In the original 80-11 evaluation of masonry wall design at Ginna, all the walls were analyzed as unreinforced walls. Of the 27 walls not qualified during this evaluation, (reference - question 15 of July 13, 1984 submittal) 12 contain vertical reinforcing and horizontal durawall joint reinforcement.

The code of record for the plant was the New York State Building Code 1961, which for masonry did not impose the arbitrary minimum reinforcement requirements of ACI 531-79. Seven of the walls are reinforced with (1) #3 bar on 32" center to center which is a reinforcing ratio of 0.00045. The remaining five are reinforced with (2) #3 bars on 16" centers which is a reinforcement ratio of 0.0018. They also have joint reinforcement of either DUR-O-WAL standard truss type on 8" centers or DUR-O-WAL "extra heavy" truss type on 16" centers. None of these walls are subject to pipe rupture or jet impingement loads, nor are they used to support piping systems.

For any further analysis and for modification designs to qualify these walls, RG&E will take credit for the vertical reinforcing steel to resist tensile stresses. However, no credit will be taken for the tensile strength of the horizontal joint reinforcement. As mentioned in our original submittal, an independent verification program confirmed the presence of vertical reinforcement in masonry walls as shown on plant design drawings.

The analysis uses linear, working stress principles. The uncracked moment of inertia is based on the unreinforced net section. The cracked moment of inertia is calculated by equating the moment of the transformed tensile steel area about the centroidal axis of the cross-section to the moment of the masonry compresive area. Section stiffness is calculated using Branson's Equation.