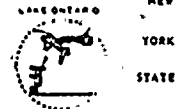




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LEON D. WHITE, JR.
VICE PRESIDENT

TELEPHONE
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December 7, 1979

Mr. Boyce H. Grier, Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region I
631 Park Avenue
King of Prussia, PA 19406

Subject: IE Bulletin No. 79-02, Revision 2
Pipe Support Base Plate Designs Using Concrete
Expansion Anchor Bolts
R. E. Ginna Nuclear Power Plant, Unit No. 1
Docket No. 50-244

Dear Mr. Grier:

Enclosed is a copy of our response to the subject IE Bulletin.

Very truly yours,

L. D. White, Jr.

Enclosure

xc: U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Division of Reactor Operations Inspection
Washington, DC 20555

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Revised Response to IE Bulletin No. 79-02
Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts
R.E. Ginna Nuclear Power Plant, Unit No. 1
Docket No. 50-244

Introduction

The Nuclear Regulatory Commission, Office of Inspection and Enforcement, issued Revision 2 to IE Bulletin No. 79-02 on November 8, 1979, to clarify the intent of the Bulletin and establish NRC positions concerning minimum factors of safety, anchor bolt preload and the expected date of completion for certain Bulletin actions. A report was required within 30 days of the Bulletin Revision issue date. The remainder of this revised response comprises Rochester Gas and Electric Corporation's (RG&E) report.

Response to Action to be Taken by Licensees and Permit Holders

1. Pipe Support Base Plate Flexibility

Item 1 of Action to be Taken by Licensees and Permit Holders addresses consideration of pipe support base plate flexibility. This subject was fully addressed in reports dated July 6, 1979, and July 26, 1979.

2. Minimum Factor of Safety

Item 2 of Action to be Taken by Licensees and Permit Holders addresses minimum factors of safety for concrete expansion anchor bolts. This subject was fully addressed in reports dated July 6, 1979, and July 26, 1979.

3. Cyclic Loads

Item 3 of Action to be Taken by Licensees and Permit Holders addresses design requirements for anchor bolts to withstand cyclic loads. This subject was fully addressed in the report dated July 26, 1979.

4. QC Documentation

Item 4 of Action to be Taken by Licensees and Permit Holders addresses verification from existing QC documentation that design requirements have been met for each anchor bolt in certain areas. The testing and replacement program for load bearing pipe support base plate designs using concrete anchor bolts was described in the reports dated July 6, 1979 and July 26, 1979. A testing program for supports using structural steel shapes has been initiated. For shell type expansion anchor bolts, the testing program uses a direct loading method to ascertain the adequacy of bolt installation. For wedge type expansion anchor bolts, the testing program uses a torque method.

5. Expansion Anchor Bolts Used in Concrete Block Walls

Item 5 of Action to be Taken by Licensees and Permit Holders addresses expansion bolts used in concrete block walls. During work performed to develop previous responses to IE Bulletin 79-02, four supports in the discharge line from the turbine driven auxiliary feedwater pump were found to have expansion anchor bolts in concrete block walls. These supports were redesigned to eliminate use of expansion anchor bolts and modifications were completed prior to issue of Revision 2 to IE Bulletin 79-02.

6. Pipe Supports with Expansion Anchor Bolts Using Structural Steel Shapes

Item 6 of Action to be Taken by Licensees and Permit Holders addresses the use of expansion anchor bolts with pipe supports having structural steel shapes rather than base plates.

- a. Attachment 1 to this report presents a revised list of systems involved and numbers of supports. Systems and portions of systems within the scope of IE Bulletin 79-02 are defined by Sections 1.a and 1.b of RG&E's July 26, 1979 report. As work progresses in accordance with this revised Bulletin, the list will be verified and the additional data required (type of anchor bolt and line size) will be generated.
- b. The subject of adequacy of anchor bolt design was fully addressed in our reports dated July 6, 1979, and July 26, 1979. Our reviews to date have not uncovered any basic design problems with anchor bolts in other structural shapes.
- c. As stated in our July 6, 1979 response, it is not possible to reanalyze supports within the scope of IE Bulletin 79-02, Revision 2, to verify anchor bolt loads prior to initiation of the testing program described in Item c below. In addition, other reviews are presently in progress for the Systematic Evaluation Program which will probably result in changes to calculated pipe support loads. Therefore, RG&E has developed a program for complete reanalysis of all Seismic Category I pipe supports on piping systems 2 inch nominal size and larger; including the concerns of this Bulletin relative to flexibility and anchor bolt loadings. The schedule for completion of this work will be consistent with the dates established for the seismic review of piping systems under the Systematic Evaluation Program.

- d. A program is currently in progress to test anchor bolts in pipe support designs (see Attachment 1 to this report) using structural steel shapes. This program includes those systems and portions of systems within the scope of IE Bulletin 79-02 as defined by Sections 1.a and 1.b of RG&E's July 26, 1979 report. The first phase of this program has been developed to permit testing and evaluation of affected accessible supports outside containment, and performance of any necessary corrective action, prior to March 1, 1980. A second phase of the program will be placed into effect during the Spring 1980 refueling outage to accomplish the same goals for affected supports inside containment and in areas that are not accessible during normal operation. This second phase will be completed prior to the end of the Spring 1980 refueling outage.

7. Scheduling

Item 7 of Action to be Taken by Licensees and Permit Holders requires a schedule for completion of Items 1, 2, and 4. These items have been fully addressed in reports dated July 6, 1979, and July 26, 1979. The program outlined therein has been completed except for 10 inaccessible supports in the chemical and volume control system. These supports will be completed during the Spring 1980 refueling outage.

8. Documentation and Reporting

Documentation and reporting requirements of Item 8 of Action to be Taken by Licensees and Permit Holders will be satisfied by RG&E. Item 5 has been completed as stated above. Work to complete Item 6 is in progress as stated above. Item 7 has been addressed in previous reports (July 6, 1979, and July 26, 1979). Items 2 and 4 have also been addressed previously as stated above.

9. Action for Holders of Construction Permits

Item 9 of Action to be Taken by Licensees and Permit Holders is not applicable to Ginna Station.

ATTACHMENT 1

REVISED⁽¹⁾ LIST OF SUPPORTS
USING STRUCTURAL STEEL SHAPES

<u>System</u>	<u>Total Number of Supports</u>	<u>Number Accessible</u>	<u>Numbers Not Accessible⁽²⁾</u>
Reactor Coolant	5	0	5
Main Steam	0	-	-
Main Feedwater	0	-	-
Standby Auxiliary Feedwater	83	83	-
Safety Injection	53	51	2
Residual Heat Removal	31	24	7
Containment Spray	7	-	7
Chemical and Volume Control	110	95	15 ⁽³⁾
Component Cooling	33	29	4
Service Water	49	29	20
Steam Generator Blowdown	0	-	-
Auxiliary Feedwater	<u>2</u>	<u>2</u>	<u>0</u>
TOTALS	373	313	60

Notes:

1. List is revised from that submitted by letter from Mr. B. A. Snow to Mr. B. H. Grier of NRC on October 3, 1979.
2. Not accessible indicates inside containment, except for CVCS.
3. Ten supports are inside containment, five are in inaccessible areas outside containment.

