

DUKE POWER COMPANY

POWER BUILDING

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VICE PRESIDENT
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November 1, 1979

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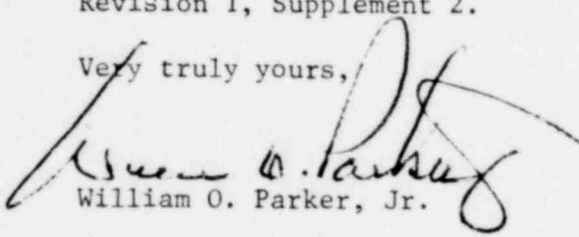
Mr. J. P. O'Reilly, Director
U S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, GA 30303

Re: McGuire Nuclear Station
IE Bulletin 79-14, Revision 1, Supplement 2
RII:JPO
50-369 and 50-370

Dear Mr. O'Reilly:

Attached is Duke Power Company's response to IE Bulletin 79-14,
Revision 1, Supplement 2.

Very truly yours,


William O. Parker, Jr.

THH/sch
Attachment

cc: Director, Office of Inspection & Enforcement
Director, Division of Operating Reactors

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McGuire Nuclear Station
Response to IE Bulletin 79-14, Revision 1, Supplement 2

PART I

Described herein is the program for McGuire Nuclear Station which Duke Power Company has developed to provide assurance that design documents which provide input to seismic analyses for safety-related systems reflect the as-built condition of these systems. This response describes those elements which are important in verifying the conformance between design documents and the as-built condition as well as details of the inspection program utilized to assure conformance.

The following inspection elements are important:

1. Pipe run geometry.
2. Pipe support and restraint design, including pipe support type, location, function, and clearance for seismic pipe supports.
3. Pipe support attachment to embedment.
4. Pipe attachments.
5. Valve and valve operator identification, location, orientation, center of gravity, and weight.
6. Orifice flanges and other line flanges.

These inspection elements are covered under an on-going, integral part of the construction program for McGuire Unit 1. Detailed description of this program is provided in PART II. Much of this program is applied during the normal course of McGuire 1 erection, and portions of our inspection program have occurred more than 12 months prior to issue of IE Bulletin 79-14. Completion of this inspection program will not occur until near the end of Unit 1 construction which is more than 120 days after the date of this bulletin. Nonconformances are resolved in the normal course of construction and of completing the inspection program.

Our review of the inspection methods and practices described in PART II confirms that all elements of our inspection program completed previously remain valid. We are continuing, therefore, with the program underway and described herein to complete inspection of safety-related systems and simultaneously satisfy the requirements of IE Bulletin 79-14.

A final review of drawings for equipment, pipe layout, and pipe support location is performed for safety-related systems to assure that engineering and design incorporate the current drawing information. Nonconformances between design documents and the as-built configuration are considered in this review, and piping system seismic analyses are revised where appropriate.

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Erection of McGuire Unit 2 systems has not progressed to the point that significant comparisons between design documents and as-built configuration are possible. At the appropriate time this comparison will be achieved by a program almost identical to that for Unit 1. While early Unit 2 inspections are commencing, completion of this program will be later in the Unit 2 construction period.

The described inspection program provides assurance that design documents reflect the as-built conditions. The normal methods of work control provide assurance that engineering groups performing seismic analyses review design documents which define the as-built configuration to evaluate effect on seismic input assumptions. At the completion of construction and the inspection program, we will have achieved agreement between design documents (and, consequently, seismic analyses) and the as-built condition.

PART II

Duke Power Company has reviewed inspection methods and practices which have been used and are in continuing use in the construction of McGuire Units 1 and 2. These inspections are satisfactory, both in present and past use, and provide a high degree of assurance that any deviations from design documents will be identified. All identified deviations are either corrected or an evaluation is performed by the appropriate engineering group to provide the basis for accepting the deviation and revising the design document. Details of the inspection program are summarized below.

1. Pipe run geometry and configuration inspections are performed in accordance with QA Procedure M-8. This inspection includes verifying the general configuration and that there are no abnormal dips, bends, or distortions. Pipe run geometry was determined through visual estimation of dimensions with an accuracy of ± 6 inches. The piping location is determined by checking elevation changes, verifying that pipe passes through proper openings, checking branch connection locations, and visually verifying arrangement. The pipe support review described in paragraph 2 below provides additional verification of proper piping configuration.
2. In June 1979, Duke initiated a program to review each of approximately 14,000 pipe supports of Unit 1 safety-related piping. This review covers all aspects of design including: pipe support type, location, critical dimensions (including clearances), member sizes, pipe attachments, welding, base plate, and concrete expansion anchors. Pipe support location and dimensions are determined by actual measurement. Clearances between piping and support and between integral piping and supports are measured. Clearances between piping and penetrations are visually estimated. Thermal insulation is removed to facilitate inspection of all pipe support details. Nonconformances are evaluated and justified by appropriate engineering review and/or analyses as required.

Loose concrete expansion anchor bolts in pipe supports have been corrected as part of the program described herein. Duke will perform additional testing and inspection of self-drilling, shell-type expansion anchors for pipe supports in accordance with our response to IE Bulletin 79-02.

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A small number of pipe supports cannot be inspected under the program described in paragraph 2 above because of inaccessibility. In each such case, the pipe support drawing is marked as inaccessible. Failure to review these pipe supports is acceptable in view of the relatively small number of inaccessible areas; the relatively low probability of a problem with an inaccessible pipe support or part of a pipe support; and earlier pipe support inspection during erection.

The result of this review is a copy of the pipe support drawings, marked as necessary to document the as-built condition. The as-built pipe support location data are provided to the appropriate engineering groups for evaluation of any physical changes on the piping seismic analyses.

A similar review will be performed for pipe supports on Unit 2 safety-related piping as part of the pipe support erection process.

3. The attachment of pipe supports to embedments is verified during the pipe support review described in paragraph 2 above.
4. Any welded pipe attachments are inspected for proper material and size in accordance with QA Procedures M-4 and Duke Class A, B, and C piping (ASME III, Class 1, 2, and 3) and M-49 for Duke Class F piping. In addition, nozzle reinforcements are inspected for size, thickness, and length through QA Procedure M-8.
5. Valves are inspected to verify through valve identification tags that the correct valve is installed, that it has the correct type of operator, and that it is located properly in relation to the piping layout through QA Procedure M-8. The weights and centers of gravity for valves and valve operators are available from equipment drawings. Valve and valve operator are related to the appropriate drawings through the valve identification tags.
6. Orifice flanges and in-line flow nozzles are inspected for correct configuration and location within the piping system through QA Procedure M-8.

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