



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

NOV 29 1978

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Docket Nos. 50-369
and 50-370

Mr. William O. Parker, Jr.
Vice President, Steam Production
Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Parker:

SUBJECT: SAFETY OF BOLTED CONNECTIONS IN LINEAR COMPONENT SUPPORTS
(McGuire Nuclear Station, Units 1 and 2)

We have become aware of the potential for the design of some piping system support base plates not properly taking into account support plate flexibility when determining the maximum load that would be applied to the support bolts under seismic loading. This could result in underestimation of the load and subsequent use of support bolts with inadequate load carrying capability. It is requested that you provide us with information as described in the Enclosure regarding the McGuire design.

Your prompt response to this matter will be appreciated, and will permit us to complete our review of your application.

Sincerely,

Robert L. Baer
Robert L. Baer, Chief
Light Water Reactors
Branch No. 2
Division of Project Management

Enclosure:
Request for Additional
Information

ccs w/enclosure:
See page 2

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cc: Mr. W. L. Porter
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Mr. William O. Parker, Jr.

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cc: Robert M. Lazo, Esq., Chairman
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. Emmeth A. Luebke
Atomic Safety and Licensing Board
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Dr. Cadet H. Hand, Jr., Director
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P. O. Box 247
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ENCLOSURE

MCGUIRE NUCLEAR STATION, UNITS 1 & 2

110. MECHANICAL ENGINEERING BRANCH

Appendix XVII-2461.1 of the ASME Code Section III requires that bolt loads in bolted connections for linear component supports include prying effects due to the flexibility of the connection.*

1. Provide confirmation that the loads in bolted connections for linear component supports were determined by considering the deformation of the connection and tension-shear interaction for the bolts.

For connections of supports which are anchored to a concrete structures provide in addition:

- a. The type of anchor bolt.
- b. The factors of safety (and their bases) against pullout under static, repeated and transient loading.

This information should include representative diagrams of the connections, material properties, and interaction diagrams, the analytical techniques and models used, and the maximum

*Similar requirements for structural joints are also stated in the AISC Manual of Steel Construction, 1970 Edition for plants in which support design predates Subsection NF of Section III of the ASME Code.

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stresses in the bolts and the connections under both static, repeated, and transient type loading.

2. If any connection was assumed to be rigid, provide complete analytical or experimental justification for this assumption.