

**NORTHEAST UTILITIES**



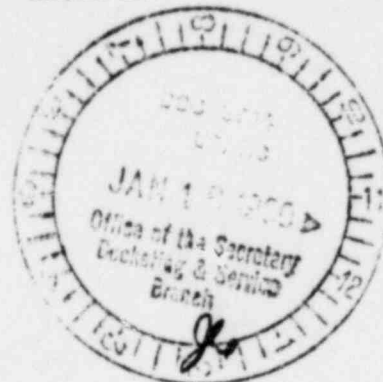
THE CONNECTICUT LIGHT AND POWER COMPANY  
THE HARTFORD ELECTRIC LIGHT COMPANY  
WESTERN MASSACHUSETTS ELECTRIC COMPANY  
HOLYOKE WATER POWER COMPANY  
NORTHEAST UTILITIES SERVICE COMPANY  
SOUTHEAST NUCLEAR ENERGY COMPANY

SC 814-5  
J. Ma

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January 5, 1980

TICKET NUMBER  
PROGRAM NAME - *Misc. Notice Reg. Guide*



Secretary of the Commission  
Attn: Docketing and Service Branch  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

- References:
- (1) Proposed Regulatory Guide 1.136, Revision 2, "Materials, Construction, and Testing of Concrete Containments".
  - (2) W. G. Council letter to Secretary of the Commission dated October 16, 1979.

Gentlemen:

Comments on Proposed Regulatory Guide 1.136, Revision 2  
"Materials, Construction, and Testing of Concrete Containment"

The proposed Regulatory Guide 1.136, Revision 2, "Materials, Construction, and Testing of Concrete Containments" was issued for comment in draft form on June 1, 1979. Northeast Utilities Service Company (NUSCO) provided comments on the draft Regulatory Guide 1.136 to the Commission in Reference (2).

The Commission has since issued, for comment, proposed Regulatory Guide 1.136, "Materials, Construction, and Testing of Concrete Containment". NUSCO hereby resubmits Reference (2) as Attachment 1 as comments on the proposed Regulatory Guide. NUSCO stresses the fact that the Regulatory Guide position requiring "inspections to assure that only embeds (including supports, ties, and braces) shown on the drawings or covered by documented field changes remain in the form after the concrete is placed" will substantially increase the amount of time needed to place concrete resulting in additional large economic impacts upon both construction and engineering groups. The resulting increased costs are not justified in our opinion.

We trust you will find these comments useful in developing a final Regulatory position.

Very truly yours,

NORTHEAST UTILITIES SERVICE COMPANY

*W. G. Council*

W. G. Council  
Vice President,  
Nuclear Engineering and Operations

Attachment

*return copy*

*IEP-11 comment*

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ATTACHMENT 1

COMMENTS ON PROPOSED REGULATORY GUIDE 1.136, REVISION 2  
"MATERIALS, CONSTRUCTION, AND TESTING OF CONCRETE CONTAINMENT"

# NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY  
THE HARTFORD CONNECTICUT LIGHT COMPANY  
WESTERN MASSACHUSETTS ELECTRIC COMPANY  
NEW ENGLAND TELEPHONE COMPANY  
CONNECTICUT GAS SERVICE COMPANY  
CONNECTICUT WATER SERVICE COMPANY

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October 16, 1979

Secretary of the Commission  
Attn: Docketing and Service Branch  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Reference: (1) Draft Regulatory Guide 1.136, Revision 2, and Value/Impact Statement, "Materials, Construction, and Testing of Concrete Containment".

Gentlemen:

Comments on Draft Regulatory Guide 1.136, Revision 2  
"Materials, Construction, and Testing of Concrete Containment"

Included in Reference (1), Draft Regulatory Guide 1.136, Revision 2, and Value/Impact Statement, was a request for comments pertaining to the Draft Regulatory Guide.

Regulatory Position C5 states that "The requirements of CC-5210 (Article from ASME III, Division 2), should be supplemented by an inspection to make sure that only the embedments (including supports, ties, and braces) shown on the drawings or covered by documented field changes remain in the form after the concrete is placed". The apparent reasoning supporting this requirement is that any embed will displace concrete thereby reducing the structural capacity of a building or reducing the radiation shielding effectiveness.

Northeast Utilities (NUSCO) disagrees with both the NRC position and reasoning based on the following:

- (1) Only structural steel embeds are used in the construction of concrete containment structures.
- (2) Any embed in concrete does not effect the structural capacity of the concrete. In the design of reinforced concrete structures, concrete is neglected when considering tension or bending stresses. Tension or bending stresses are applied only to the steel.
- (3) Compressive stresses in concrete are transferred through embeds with no disruption of stress lines.
- (4) Structural steel has a higher density than concrete providing greater radiation shielding effectiveness.

Only embeds composed of low density, degradable materials will effect the structural capacity or shielding effectiveness of concrete structures; however, embeds composed of these materials are not used. Installation of non-structural items in concrete is a common daily activity. This includes:

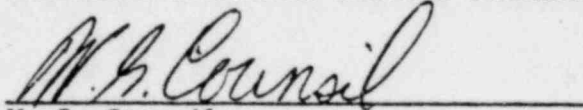
- (1) Embedded plates used during construction for temporary supports on shoring.
- (2) Form ties which are spaced as close as 12 inches c/c in some cases.
- (3) Structural framing to support top mat rebar in deep slabs.
- (4) Other miscellaneous steel installed to support permanent plant embedded plates prior to concrete placement.

Implementation of the regulatory position would require construction to "as-built" each item and send the information to appropriate engineering personnel for review and approval before concrete could be placed. This requirement would substantially increase the amount of time needed to place concrete. Additional large economic impacts upon both construction and engineering groups would result from such a superfluous requirement.

Northeast Utilities has no comments on the remaining portions of the proposed Regulatory Guide.

Very truly yours,

NORTHEAST UTILITIES SERVICE COMPANY



W. G. Council  
Vice President