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June 18, 1997
B16526

Mr. Leonard J. Callan
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Office of the Executive Director for Operations
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Millstone Nuclear Power Station, Unit No. 3
Comments on the Proposed Supplement to NRC Bulletin 96-01
(Control Rod Insertion Problems)

This letter forwards Northeast Utilities' comments and concerns regarding the proposed Supplement to Nuclear Regulatory Commission (NRC) Bulletin 96-01.

Northeast Utilities is the licensee for the Millstone Point Unit 3 plant which is a four loop Pressurized Water Reactor designed by Westinghouse. As such, Northeast Utilities endorses the concerns and positions presented on this topic by Westinghouse and the Westinghouse Owners Group (WOG). Specifically, discussion is provided in Attachment 1 regarding certain items contained in the WOG letter as they relate to Millstone Unit 3. With regard to the proposed Supplement, we request that consideration or clarification in the areas noted in Attachment 2 be provided by the Staff within the Supplement of NRC Bulletin 96-01 at its issuance.

Should you have any questions regarding this matter, please contact Mr. David A. Smith at (860) 437-5840.

Very truly yours,
NORTHEAST NUCLEAR ENERGY COMPANY


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cc: H. J. Miller, Region I Administrator
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Attachment 1

Millstone Nuclear Power Station Unit No. 3

Discussion Of Items Contained in the WOG Response
to the
Proposed Supplement to NRC Bulletin 96-01
(Control Rod Insertion Problems)
As Related To Millstone Unit 3

June 1997

Enclosure 1

Discussion Of Items Contained in the WOG Response
to the
Proposed Supplement to NRC Bulletin 96-01
(Control Rod Insertion Problems)
As Related To Millstone Unit 3

1. Safety Assessment:

Northeast Utilities recognizes that complete and prompt insertion of control rods is important to nuclear safety to control the fission process and assure adequate shutdown margin. As such, design features have been implemented at Millstone Unit 3 during recent outages to enhance reliability of this important system such as Ag-In-Cd control rods, ZIRLO fuel assembly skeletons, ZIRLO fuel rod cladding and IFM grids which give added assurance of effective operation of the control rods to perform their intended function. The proposed Bulletin as written does not adequately recognize the benefits of these features in prevention of incomplete control rod insertion.

2. Industry Data and Testing:

The observed occurrences of incomplete rod insertion in the industry have been limited to a small number of fuel assemblies. The data taken to date indicates that fuel assemblies fabricated with ZIRLO and IFM grids have not been subject to this phenomenon. Additionally, the Bulletin hypothesizes the occurrence of bowing in the upper grid span regions of fuel assemblies with IFM grids. It should be pointed out that there has been no observed evidence that guide tube bowing occurs in the upper grid spans of the IFM fuel assemblies. Therefore, Northeast Utilities feels that the testing imposed by the proposed Bulletin on ZIRLO/IFM fuel are beyond what is necessary to assure adequate shutdown margin in light of this experience.

The non-IFM rodged fuel assembly which exceeds the proposed burnup limit of 35,000 MWD/MTU was fabricated with standard Zircaloy-4 guide tubes. Industry experience has not shown the occurrence of incomplete rod insertion in fuel assemblies of this type. The occurrences of incomplete rod insertion have been in fuel assemblies which were of the XL (14 foot) design and/or were fabricated of low tin Zircaloy-4.

3. **Predictive Methodology / Mechanical Model:**

Westinghouse has performed considerable effort in 1996 and 1997 in accumulating data and developing a mechanical model to better understand the parameters/areas which influence incomplete rod insertion. Northeast Utilities views this mechanical model as a predictive methodology which, when coupled with the existing data base, is appropriate to use in determining susceptibility limits for various fuel types. The susceptibility limits proposed in the WOG response are based on rigorous analysis and evaluation. As such, we feel that the WOG limits are more appropriate to apply than the limits proposed in the Supplement while still not impacting nuclear safety.

4. **Economic Impact and Operational Considerations:**

The increased number of controlled reactor shutdowns and startups for Millstone Unit 3 during Cycle 6 to perform control rod testing imposed by the Bulletin will have a significant impact. The proposed testing, without due consideration of the specific fuel design features, will increase the potential for inadvertent plant transients, place added stresses on fuel and mechanical equipment and interrupt power generation without demonstrated safety benefit. In light of the very limited number of occurrences of incomplete rod insertion, the lack of consideration for plant specific features, and the economic and operational impact created by the proposed testing, Northeast Utilities recommends that the content of the proposed Supplement to Bulletin 96-01 should be revised to reflect the recommendations of the WOG.

Attachment 2

Millstone Nuclear Power Station Unit No. 3

Detailed Comments
on the
Proposed Supplement to NRC Bulletin 96-01
(Control Rod Insertion Problems)

Enclosure 2

Detailed Comments
on the
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(Control Rod Insertion Problems)

Assuming that the testing requirements and criteria remain unchanged, Northeast Utilities requests that Supplement be modified and/or clarified to remove potential ambiguity. Clarifications in the areas noted below will assist us in determining and scheduling plant activities.

1. Our interpretation of the proposed Bulletin is that the specified burnup levels/criteria for testing apply to the individual fuel assembly burnups and not the core average burnup. Please clarify.
2. The Bulletin has proposed criteria value of "approximately 2,500 MWD/MTU" as an acceptable testing interval. Northeast Utilities believes this criteria requires additional clarification with respect to the allowable variance.
3. Our interpretation of the Bulletin is that rod drop tests performed in the last 2500 MWD/MTU are sufficient to establish continued operability of a rodged fuel assembly. This would allow enveloping assemblies rather than requiring that each fuel assembly be tested as it passes the burnup level. Please clarify.
4. Our interpretation of the Bulletin is that testing (i.e., rod drop time tests) is required to be performed only for control rods in fuel assemblies which have met the prescribed the burnup levels. Please confirm.
5. It is our belief that a safety analysis assuming multiple stuck rods, or one stuck rod plus suspect control rods not fully inserted, is acceptable to allow cycle operation without testing at the stated intervals. This judgement is based on the small number of observed occurrences of incomplete rod insertion, the excess shutdown margin available at Millstone Unit 3 and the design features implemented at Millstone Unit 3 during recent outages.