February 10, 1989

Docket No. 50-336

Mr. Edward J. Mroczka
Senior Vice President
Nuclear Engineering and Operations
Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Connecticut 06141-0270

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Dear Mr. Mroczka:

SUBJECT: MILLSTONE UNIT 2 - PROPOSED CHANGE TO TECHNICAL SPECIFICATIONS (TS) REGARDING THE EFFECTS OF REDUED REACTOR COOLANT SYSTEM FLOW FOR CYCLE 10 (TAC NO. 68360)

The Commission has forwarded the enclosed "Notice of Consideration of Issuance of Amendment to Facility Operating License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing" to the Office of the Federal Register for publication.

This notice relates to your February 1, 1989 application to change the Technical Specifications to reflect a revised safety analysis that includes the use of fuel designed and fabricated by Advanced Nuclear Fuels Corporation (ANF).

Sincerely,

original signed by

David H. Jaffe, Project Manager
Project Directorate I-4
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
See next page

LA:PDI-4
SNorris
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PM:PDI-4
DJaffe:cb
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PD:PDI-4
JStolz
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PDR ADOCK 05000336
P PDC

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cc:

Gerald Garfield, Esquire
Day, Berry and Howard
Counselors at Law
City Place
Hartford, Connecticut 06103-3499

W. D. Romberg, Vice President
Nuclear Operations
Northeast Utilities Service Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Kevin McCarthy, Director
Radiation Control Unit
Department of Environmental Protection
State Office Building
Hartford, Connecticut 06106

Bradford S. Chase, Under Secretary
Energy Division
Office of Policy and Management
80 Washington Street
Hartford, Connecticut 06106

S. E. Scace, Station Superintendent
Millstone Nuclear Power Station
Northeast Nuclear Energy Company
Post Office Box 128
Waterford, Connecticut 06385

J. S. Keenan, Unit Superintendent
Millstone Unit No. 2
Northeast Nuclear Energy Company
Post Office Box 128
Waterford. Connecticut 06385

R. M. Kacich, Manager
Generation Facilities Licensing
Northeast Utilities Service Company
Post Office Box 270
Hartford, Connecticut 06141-0270

D. O. Nordquist
Manager of Quality Assurance
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Regional Administrator
Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

First Selectmen
Town of Waterford
Hall of Records
200 Boston Post Road
Waterford, Connecticut 06385

W. J. Raymond, Resident Inspector
Millstone Nuclear Power Station
c/o U. S. Nuclear Regulatory Commission
Post Office Box 811
Niantic, Connecticut 06357

Charles Brinkman, Manager
Washington Nuclear Operations
C-E Power Systems
Combustion Engineering, Inc.
7910 Woodmont Avenue
Bethesda, Maryland 20814

UNITED STATES NUCLEAR REGULATORY COMMISSION

(LICENSEE)

DOCKET NO. 50-336

NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE AND PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. DPR-65, issued to Northeast Nuclear Energy Company (the licensee), for operation of the Millstone Nuclear Power Station, Unit 2, located in New London County, Connecticut.

The proposed amendment would allow operation of Millstone Unit 2 for Cycle 10. The changes to the Technical Specifications (TS) are required to reflect a revised safety analysis that includes the use of fuel designed and fabricated by Advanced Nuclear Fuels Corporation (ANF). Fuel designed and fabricated by ANF has not been previously utilized for Millstone Unit 2. The proposed changes to the TS also reflect the effects of reduced reactor coolant system flow, from 340,000 to 325,000gpm for Cycle 10.

Before issuance of the proposed license amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations.

The Commission has made a proposed determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

As part of the licensee's submittal dated February 1, 1989, the licensee/ (or NNECO) has addressed the various technical issues related to the "No Significant Hazards Consideration" criteria of 10 CFR 50.92. The licensee has stated that the proposed changes to the TS would not:

1. Involve a significant increase in the probability or consequences of an accident previously analyzed.

ANF reviewed all SRP Chapter 15 postulated accidents and transients to determine which events needed to be reanalyzed for Cycle 10, assuming the proposed minimum RCS flow [associated] compensating Technical Specification changes. As a result, ANF identified and reanalyzed the three non-LOCA events in which DNBR could be impacted by a decrease in RCS flow rate or the reduction in F_r^t. ANF also reanalyzed small break LOCA and large break LOCA scenarios. On the basis of this review and reanalysis, NNECO concludes that there is no significant increase in the probability or consequences of any of these events.

With respect to calculated consequences, the proposed changes were determined to have no significant impact on protective boundaries. Therefore, there will be no significant change in any dose consequences related to the [Standard Review Plan] SRP Chapter 15 anticipated operations occurrences and postulated accidents. However, with respect to consequences, ANF also specifically reanalyzed the impact of the events on the relevant key parameters associated with the plant response to the event.

The analysis showed that there are some instances in which there is a small increase in the limiting value of the relevant plant parameter. In all cases, however, the values of the parameters remain within acceptable acceptance criteria and there are no impacts on protective boundaries. NNECO therefore concludes that the proposed amendment does not involve a significant increase in the consequences of any event previously analyzed.

More specifically, the relevant non-LOCA event criteria that could be impacted by a decrease in RCS flow rate are RCS pressurization, fuel centerline melt, and DNBR. However, ANF determined that, of these, only DNBR consequences could be significantly impacted by decrease in RCS flow rate and/or reduction in F_T. The three limiting DNB events considered are the loss of flow, the locked rotor, and the rod ejection events.

The loss of flow event is the limiting DNB event and a determination of margin to the DNB limit for this event demonstrates sufficient margin for the other events. For this event, the reduced flow analysis demonstrated a decrease in deterministic MDNBR from 0.98 to 0.93. However, a statistical evaluation showed that this analysis remains within applicable acceptance criteria and the small change does not represent a significant increase in consequences of the event.

The locked rotor event was reanalyzed because the original analysis showed no fuel failures, based on the DNB margin available in the original loss of flow analysis. Deterministic MDNBR was calculated to change from 0.96 to 0.91. As for the previous event, this MDNBR change does not represent a significant increase in consequences. Nevertheless, the previous locked rotor analysis for Millstone Unit No. 2 showed that there would be no DNB in the core. The corresponding reduced flow analysis performed by ANF to support this amendment application does not show the potential for some DNB occurring. However, the locked rotor event is a limiting fault and the DNB limits are not applicable. The predicted fuel failures are instead bounded by the consequences of the rod ejection accident. This bounding of consequences of a locked rotor event by the consequences of the rod injection accident is acceptable because the rod ejection consequences meet the more restrictive infrequent event criteria.

With respect to control rod ejection, this event is the limiting event with regard to predicted fuel failures. As a result of the proposed changes to Technical Specifications, the predicted number of cladding failures for the rod ejection accident increased from 11.5% to 11.7%. This small increase is not considered to involve a significant increase in consequences of the previously analyzed event.

The LOCA analyses for reduced flow conditions show a reduction in both of the key plant parameters: calculated peak clad temperatures and calculated amount of clad oxidation. This results because the effects of the reduced flow are more than compensated for by the reduction in LHR limits. Therefore, the proposed amendment does not result in an increase in consequences of any LOCA event previously analyzed.

The peak postaccident containment temperature is also potentially increased by this change. However, the values remain below the 289°F containment design temperature. The 0.7°F increase is not considered significant relative to the 287.9°F peak temperature previously calculated.

With respect to the probability of occurrence of an accident previously analyzed, there will be no change in the probability of any design basis accident. There are no hardware modifications associated with the proposed Technical Specification changes and there is no significant impact on the performance of any safety system. As a result, there is no change to the probability of any of the initiating events for design basis accidents. There are also no changes or new failure modes associated with the changes that will increase the probability of an accident or transient to the point where it should be considered to be within the design basis. In this respect, therefore, NNECO concludes that no significant hazards consideration is involved.

2. Create the possibility of a new or different kind of accident from any previously analyzed.

As a result of the proposed Technical Specification changes, there will be no changes to plant hardware or response. The plant will respond for all events in a manner similar to that assumed for the previous analyses. The only changes identified in the reanalysis of the SRP Chapter 15 events relate to the impact of certain transients on parameters related to boundary performance. There are no changes to the basic trends the transients follow.

There are no failure modes associated with the proposed amendment that could represent a new unanalyzed accident. Therefore, NNECO concludes that the proposed amendment does not create any new or different kind of accident from those previously analyzed.

3. Involve a significant reduction in any margin of safety.

As discussed under the first criterion above, ANF specifically reviewed all SRP Chapter 15 postulated accidents and anticipated operational occurrences to determine any potential impact as a result of the proposed amendment. ANF specifically reanalyzed the three non-LOCA events in which DNBR could be impacted by a decrease in RCS flow rate or a reduction in F_r^I. ANF also reanalyzed small break and large break LOCA scenarios for impact on calculated peak clad temperature and on the calculated amount of clad oxidation. On the basis of this review and reanalysis, NNECO concludes that the proposed amendment does not involve a significant reduction in any margin of safety.

As discussed above, the proposed Technical Specification changes do involve some nonsignificant changes in plant parameters related to boundary performance. However, in all cases, the limiting value of the parameter remains within applicable acceptance criteria and therefore the changes will have no impact on the ability of the boundary to perform its function. Moreover, in all cases where margin to the acceptance criterion is reduced, the reduction is not significant.

The changes in limiting values of relevant parameters calculated in the reanalysis of SRP Chapter 15 events, assuming lowered RCS flow rate, are discussed in detail above. The three cases in which there will be a small reduction in margin are the three non-LOCA events involving DNBR. These may be summarized as follows:

- o The loss of flow event in the limiting DNB event. For this event the reduced flow analysis demonstrated a decrease in deterministic MDNBR from 0.98 to 0.93. This change of only 0.05 is not considered to represent a significant reduction in the margin of safety.

- o For the locked rotor event, DNB margin was also reduced by 0.05, as calculated deterministic MDNBR changed from 0.96 to 0.91. This change also is not considered to represent a significant reduction in the margin of safety. Fuel failures in this scenario are bounded by fuel failures for the rod ejection event.

- o For the rod ejection event, the number of rods potentially experiencing cladding failures was increased from 11.5% to 11.7%. This is not considered to represent a significant reduction in the margin of safety.

For the LOCA scenarios reanalyzed, margins with respect to limits for peak clad temperature and clad oxidation actually increased.

The reduction in RCS flow will result in an increase in the hot leg temperatures by up to 2.5°F, with a new maximum temperature of 608.5°F. However, this remains well below the RCS design temperature of 650°F. In summary, the proposed amendment does not involve any significant reduction in a margin of safety and, therefore, does not involve a significant hazards consideration.

In summary, the proposed amendment does not involve any significant reduction in a margin of safety and, therefore, does not involve a significant hazard consideration.

The NRC staff has reviewed and concurs in the licensees "No Significant Hazard Consideration" findings; therefore, based on the above considerations, the Commission has made a proposed determination that the amendment request involves no significant hazards considerations.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of

publication of this notice will be considered in making any final determination. The Commission will not normally make a final determination unless it receives a request for a hearing.

Written comments may be submitted by mail to the Regulatory Publications Branch, Division of Freedom of Information and Publications Services, Office of Administration and Resources Management, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and should cite the publication date and page number of this FEDERAL REGISTER notice. Written comments may also be delivered to Room P-216, Phillips Building, 7920 Norfolk Avenue, Bethesda, Maryland from 7:30 a.m. to 4:15 p.m. Copies of written comments received may be examined at the NRC Public Document Room, the Gelman Building, 2120 L Street, N.W., Washington, D.C. The filing of requests for hearing and petitions for leave to intervene are discussed below.

By March 17,1989, the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written petition for leave to intervene. Request for a hearing and petitions for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel, will rule on the request and/or petition and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR §2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) the nature of the petitioner's right under the Act to be made party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspects(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene which must include a list of the contentions which are sought to be litigated in the matter, and the bases for each contention set forth with reasonable specificity. Contentions shall be limited to matters within the scope of the amendments under consideration. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participated as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

If a hearing is requested, the Commission will make a final determination on the issue of no significant hazards considerations. The final determination will serve to decide when the hearing is held.

If the final determination is that the request for amendment involves no significant hazards considerations, the Commission may issue the amendment and make it effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment.

If a final determination is that the amendment involves significant hazards consideration, any hearing held would take place before the issuance of any amendment.

Normally, the Commission will not issue the amendment until the expiration of the 30-day notice period. However, should circumstances change during the notice period such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the 30-day notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

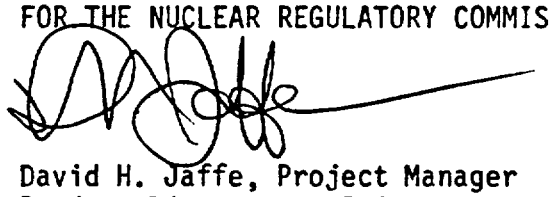
A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch, or may be delivered to the Commission's Public Document Room, the Gelman Building, 2120 L Street, N.W. Washington, D.C., by the above date. Where petitions are filed during the last ten (10) days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free telephone call to Western Union at (800) 325-6000 (in Missouri (800) 342-6700). The Western Union operator should be given Datagram Identification Number 3737 and the following message addressed to John F. Stolz: petitioner's name and telephone number; date petition was mailed; plant name; and publication date and page number of this FEDERAL REGISTER notice. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and Gerald Garfield, Esquire, Day, Berry and Howard, One Constitution Plaza, Hartford, Connecticut 06103.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the Atomic Safety and Licensing Board designated to rule on the petition and/or request, that the petitioner has made a substantial showing of good cause for the granting of a late petition and/or request. That determination will be based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see the application for amendment dated February 1, 1989, which is available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, N.W., Washington, D.C. 20555, and at the Local Public Document Room.

Dated at Rockville, Maryland, this 10th day of February, 1989.

FOR THE NUCLEAR REGULATORY COMMISSION



David H. Jaffe, Project Manager
Project Directorate I-4
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation