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HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

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November 17, 1981

Docket No. 50-336
B10330

Director of Nuclear Reactor Regulation
Attn: Mr. Robert A. Clark, Chief
Operating Reactors Branch #3
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

References: (1) W. G. Counsil letter to R. A. Clark, dated September 30, 1980.
(2) R. A. Clark letter to W. G. Counsil, dated October 6, 1980.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 2
Cycle 4 Operation

Northeast Nuclear Energy Company (NNECO) is currently operating Millstone Unit No. 2 in its fourth fuel cycle. The effective full power life of the Cycle 4 core will terminate on or about November 27, 1981. At that time, it is NNECO's intention to operate the Plant in a coastdown mode of operation for approximately eight (8) days with the first day of the Cycle 5 refueling outage being December 6, 1981.

During the coastdown operation, reactor core inlet temperatures will be lowered by opening the turbine control valves which will effectively remove additional heat from the primary coolant system via the steam generators. The lower core inlet temperature will result in a reactivity addition due to the negative moderator temperature coefficient which is predicted to exist at the end of full power core life, effectively extending the length of Cycle 4. The reduction in primary coolant temperature will be coupled with a reduction in the secondary steam temperature and pressure resulting in a lower electrical output.

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NNECO's evaluation of the matter has revealed that Figure 3.2-1 of the Millstone Unit No. 2 Technical Specifications could be interpreted in such a way as to restrict this type of operation of the Plant. Technical Specification Figure 3.2-1 defines the maximum allowable linear heat rate (kw/ft) during normal operation as well as during special tests requiring a reduction in primary coolant temperature.

Since plant coastdown operation is judged to be neither normal operation nor a special test, current Technical Specification Figure 3.2-1 may not afford appropriate restrictions during the period of time following the end of full power core life. The 14.2 kw/ft limit curve in Technical Specification Figure 3.2-1 reflects an extremely restrictive allowable linear heat generation rate during the performance of special tests (moderator temperature coefficient and turbine efficiency tests) of short duration. This limit was based upon a conservative evaluation of ECCS/LOCA analyses at reduced core inlet temperatures performed for a similar design Combustion Engineering Nuclear Steam Supply System (CE NSSS).

Based upon this previous effort and NNECO's recognition of the potential impact of reduced core inlet temperature on PWR LOCA analysis results, a substantial analytical evaluation of the coastdown has been initiated. This effort, which includes a Millstone Unit No. 2 specific limiting large break LOCA analysis using an approved model as well as a CEA ejection analysis, will be completed before the Cycle 4 coastdown commences. Based upon the results of these evaluations, NNECO will administratively maintain linear heat generation rates more restrictive than the current normal limits of Technical Specification Figure 3.2-1. Other operating parameters will be limited, if required, in accordance with those determined acceptable by these analyses for the duration of the coastdown.

The coastdown evaluation will be retained on file and will be available for Staff review as required.

Currently, the coastdown period is scheduled for November 27, 1981, through December 5, 1981.

No docketed Staff response to this letter is required. This submittal is being docketed to formalize our interpretation of the Technical Specifications and the basis for the planned Cycle 4 coastdown.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

W. G. Counsil

W. G. Counsil
Senior Vice President

J P Cagnetta

By: J. P. Cagnetta
Vice President Nuclear and
Environmental Engineering

cc: Tom Shedlowsky