

March 1, 2001

Mr. Raymond P. Necci
Vice President-Nuclear Oversight
and Regulatory Affairs
c/o David A. Smith, Manager
Regulatory Affairs
Northeast Nuclear Energy Company
P. O. Box 128
Waterford, Connecticut 06385

SUBJECT: MILLSTONE NUCLEAR POWER STATION, UNIT 1 - REVIEW AND
PRELIMINARY APPROVAL OF IRRADIATED FUEL MANAGEMENT PLAN
AND SITE-SPECIFIC DECOMMISSIONING COST ESTIMATE FOR
MILLSTONE NUCLEAR POWER STATION, UNIT 1 (TAC NO. MA9658)

Dear Mr. Necci:

By letter dated July 17, 2000, you provided the irradiated fuel management plan and site-specific decommissioning cost estimate for the Millstone Nuclear Power Station, Unit 1 (MP1). The staff has conducted a preliminary financial review of your submittal. The NRC staff finds that Northeast Utilities, the owner of MP1 has complied with 10 CFR 50.54(bb) which requires that an irradiated fuel management plan be submitted within two years following the permanent cessation of operations, and has complied with 10 CFR 50.82(a)(8)(iii), which requires that a site-specific decommissioning cost estimate also be submitted within two years following the permanent cessation of operations. The details of our review are enclosed. Final Commission review of the irradiated fuel management plan will be undertaken as part of any proceeding for continued licensing under 10 CFR Part 50 or 10 CFR Part 72.

Sincerely,

/RA/

John B. Hickman, Project Manager
Project Directorate IV-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-245

Enclosure: As stated

cc w/encls: See next page

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PRELIMINARY REVIEW

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

IRRADIATED FUEL MANAGEMENT PLAN AND

SITE-SPECIFIC DECOMMISSIONING COST ESTIMATE

MILLSTONE NUCLEAR POWER STATION, UNIT 1, DOCKET NO. 50-245

1.0 INTRODUCTION

Pursuant to 10 CFR 50.54(bb), and 10 CFR 50.82(a)(8)(iii), Mr. F. C. Rothen, Vice-President, Nuclear Work Services for Northeast Nuclear Energy Company (NEC), provided financial information in a July 17, 2000, submittal, informing the Nuclear Regulatory Commission (NRC) about NEC's plan for decommissioning Millstone Nuclear Power Station, Unit 1 (MP1). NEC is the non-owner operator of MP1. MP1 is 81% owned by Connecticut Light and Power Company (CL&P) and 19% owned by Western Massachusetts Electric Company (WMECO). Both CL&P and WMECO are owned by Northeast Utilities.

Section 50.54(bb) of 10 CFR states "For nuclear power reactors licensed by the NRC, the licensee shall, within two years following permanent cessation of operation of the reactor . . . submit written notification to the Commission for its review and preliminary approval of the program by which the licensee intends to manage and provide funding for the management of all irradiated fuel at the reactor following permanent cessation of the reactor."

Section 50.82(a)(8)(iii) of 10 CFR states "Within two years following permanent cessation of operations, if not already submitted, the licensee shall submit a site-specific decommissioning cost estimate."

2.0 IRRADIATED FUEL MANAGEMENT PLAN

In accordance with 10 CFR 50.82(a)(1)(i), Northeast Utilities certified (Reference 1 of the July 17, 2000, submittal) that, as of July 17, 1998, operations ceased at MP1 and all fuel had been removed from the reactor vessel and placed in the spent fuel pool.

Northeast Utilities has selected a modified SAFSTOR approach for the decommissioning of MP1. In this approach, decontamination and dismantlement activities may be undertaken early in the decommissioning. The construction and use of an Independent Spent Fuel Storage Installation (ISFSI) for long term storage is being considered for planning purposes. However, the applicant has stated that the decision to construct and use an ISFSI has not been finalized. The spent fuel is currently stored in the spent fuel pool.

MP1 is presently transitioning to a spent fuel pool island where the spent fuel pool and cooling systems will be separated from the other plant systems. This will allow additional decommissioning activities to be performed without affecting the spent fuel. This configuration also provides flexibility in the schedule for construction of an ISFSI. The licensee's plan for funding interim spent fuel storage is discussed in Section 3.0.

3.0 SITE-SPECIFIC DECOMMISSIONING COST ESTIMATE

Attachment 2 of the July 17, 2000, submittal provides the site-specific cost estimate prepared by TLG Services, Inc. (TLG), commissioned by Northeast Utilities. The early shutdown decommissioning cost was estimated at \$700.6 million in 1999 dollars. This estimate includes costs to store spent fuel and to restore the site to green-field condition, as well as contingency requirements consistent with industry practice.

The methodology used to develop the decommissioning cost estimates for Northeast Utilities follows the basic approach originally presented in the cost estimating guidelines developed by the Atomic Industrial Forum (now the Nuclear Energy Institute). This reference describes a unit cost factor method for estimating decommissioning activity costs. The unit cost factors used in the TLG study reflect site-specific costs, as well as the latest available information about worker productivity in decommissioning. The information obtained from the Shippingport Station Decommissioning Project, completed in 1989, as well as from TLG's involvement in the decommissioning planning and engineering for the Shoreham, Yankee Rowe, Trojan, Rancho Seco, Pathfinder, and Cintichem reactor facilities is reflected within this estimate.

NEC states that the modified SAFSTOR decommissioning alternative provides for the decommissioning of Unit 1, with consideration for minimizing the impact on the safe operations of Unit 2. Since Unit 1 is adjacent to Unit 2, demolition activities at Unit 1 could adversely affect Unit 2 operations; the demolition of Unit 1 will be delayed and coordinated with Unit 2's decommissioning schedule. This results in a "dormancy" period of approximately 15 years during which the Unit 1 building structures are secured.

Selective early removal and disposal of highly-activated components (such as the reactor vessel internals) at the Barnwell disposal facility will remove a large radioactive material source, and secure early availability of a disposal location. Selective early removal of large components designed for off-site recycling (such as the Turbine/Generator, Main Condenser, and Feedwater Heaters) will take advantage of the currently competitive market for radioactive materials recycling. Both of these early removal activities can be completed without impact on Unit 1 spent fuel storage operations or Unit 2 plant operations. After Unit 1 is placed in a dormant condition, final systems removal activities and building demolition can be coordinated with Unit 2's decommissioning schedule.

As of June 2000, MP1 has \$303 million in its decommissioning trust. Within the meaning of 10 CFR 50.75(e)(1)(ii)(A), both CL&P and WMECO will recover, directly or indirectly, the estimated total cost of decommissioning through rates established by "cost of service" or similar rate making regulation. The applicant states in their letter to the NRC, "Decommissioning Funding Status Report," dated March 30, 2000, that "in developing the funding requirements, the funding model takes into account the fact that decommissioning funds come from a combination of contributions to the fund and earnings realized on the investment of those contributions. The combination of funds from those two sources must equal the cost of the

decommissioning activities expected.” Exhibit 1A of that letter, indicates that CL&P and WMECO will continue to contribute to the decommissioning fund for MP1 through 2024. The staff finds that the information provided in Exhibit 1A conforms with the requirement of 10 CFR 50.80(c).

The staff also concludes that this is an acceptable plan within the context of 10 CFR 50.82(a)(8)(iii).

4.0 CONCLUSION

The NRC staff finds that Northeast Utilities, the owner of MP1, has complied with 10 CFR 50.54(bb), which requires that an irradiated fuel management plan be submitted within two years following the permanent cessation of operations, and has complied with 10 CFR 50.82(a)(8)(iii), which requires that a site-specific decommissioning cost estimate also be submitted within two years following the permanent cessation of operations. Final Commission review of the irradiated fuel management plan will be undertaken as part of any proceeding for continued licensing under 10 CFR Part 50 or 10 CFR Part 72.

Principal contributor: M. A. Dusaniwskyj

Dated: March 1, 2001

Millstone Nuclear Power Station
Unit 1

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