January 31, 2003

Thomas L. Williamson, Director
Nuclear Safety and Regulatory Affairs
Maine Yankee Atomic Power Company
321 Old Ferry Road
Wiscasset, ME 04578

SUBJECT: FEDERAL REGISTER NOTICE PUBLISHING AN ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT FOR A REQUEST FOR EXEMPTION FROM 10 CFR 72.212 AND 72.214

Dear Mr. Williamson:

In accordance with Maine Yankee's exemption request dated November 7, 2002, as supplemented on December 19, 2002, and pursuant to 10 CFR 51.35, the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Material Safety and Safeguards, Spent Fuel Project Office, is forwarding an Environmental Assessment and Finding of No Significant Impact for noticing in the Federal Register. The requested exemption would allow Maine Yankee Atomic Power Company to increase the vacuum drying time limits for spent fuel storage canisters based on canister heat load.

The NRC will notify you in a timely manner of our decision on this exemption request. Enclosed is a copy of the Federal Register Notice.

Sincerely,

/RA/
Stephen C. O'Connor, Sr. Project Manager
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Docket Nos.: 72-30, 72-1015 and 50-309

Enclosure: Federal Register Notice

cc: Mailing List

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OFFICIAL RECORD COPY

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U.S. NUCLEAR REGULATORY COMMISSION

DOCKET 72-30

MAINE YANKEE ATOMIC POWER COMPANY

INDEPENDENT SPENT FUEL STORAGE INSTALLATION

ISSUANCE OF ENVIRONMENTAL ASSESSMENT

AND FINDING OF NO SIGNIFICANT IMPACT

FOR A PROPOSED EXEMPTION

The U.S. Nuclear Regulatory Commission (NRC or Commission) is considering issuance of an exemption to Maine Yankee Atomic Power Company (MYAPC or licensee), pursuant to 10 CFR 72.7, from specific provisions of 10 CFR 72.212(a)(2), 72.212(b)(2)(i), 72.212(b)(7), and 72.214. The licensee is planning to use the NAC-UMS Storage System to store spent nuclear fuel from the decommissioning reactor. The requested exemption would allow MYAPC to deviate from requirements of the NAC-UMS Certificate of Compliance No. 1015 (CoC or Certificate), Appendix A, Limiting Condition for Operation (LCO) Items 3.1.1.1, 3.1.1.2, 3.1.4.1, and 3.1.4.2. Specifically, the exemption would allow MYAPC to increase: (1) vacuum drying time limits based on canister heat load; (2) vacuum drying time limits after 24 hours of in-pool or forced air cooling; (3) time duration limit from completion of canister helium backfill through completion of canister transfer to the concrete cask; and (4) time duration limit from completion of in-pool or forced air cooling through completion of the canister transfer to the concrete cask.

By letter dated January 15, 2002, the designer of the NAC-UMS system, NAC International, requested an amendment to CoC No. 1015, that seeks, among several other changes, to increase the vacuum drying time limits. That request was supplemented on November 27, 2002. The information provided in the amendment request, as supplemented, is relevant to the exemption request by MYAPC and provides the safety basis for the time limits increase.

ENVIRONMENTAL ASSESSMENT (EA)

Identification of Proposed Action: By letter dated November 7, 2002, as supplemented on December 19, 2002, MYAPC requested an exemption from the requirements of 10 CFR 72.212(a)(2), 72.212(b)(2)(i), 72.212(b)(7), and 10 CFR 72.214 to deviate from the requirements in CoC No. 1015, Appendix A, LCO Items 3.1.1.1, 3.1.1.2, 3.1.4.1, and 3.1.4.2. MYAPC has informed the NRC of its plans to store spent nuclear fuel under the general licensing provisions of 10 CFR Part 72. The licensee has begun loading spent fuel into the NAC-UMS Storage System at an Independent Spent Fuel Storage Installation (ISFSI) located at the Maine Yankee Atomic Power Station in Wiscasset, Maine.

The current requirements in CoC No. 1015, Appendix A, LCO Items 3.1.1.1, 3.1.1.2, 3.1.4.1, and 3.1.4.2 establish time limits for vacuum drying operations as folllows:

(1) LCO 3.1.1.1 limits the vacuum drying time for the fuel canister based on heat load per canister to the following:

   (a) 34 hours for heat loads less than or equal to 8 kilowatts (kW).

   (b) 30 hours for heat loads greater than 8 kW and less than or equal to 11 kW.

(c) 23 hours for heat loads greater than 11 kW and less than or equal to 14 kW.

(d) 19 hours for heat loads greater than 14 kW and less than or equal to 17.6 kW.

(2) LCO 3.1.1.2 limits canister vacuum drying time after the end of 24 hours of in-pool or of forced air cooling to the following:

(a) 14 hours for heat loads less than or equal to 14 kW.

(b) 10 hours for heat loads greater than 14 kW and less than or equal to 20 kW.

(3) LCO 3.1.4.1 limits the time duration from completion of backfilling the canister with helium through completion of canister transfer to the concrete cask to 48 hours for canister heat loads greater than 14 kW and less than or equal to 17.6 kW.

(4) LCO 3.1.4.2 limits the time duration from completion of in-pool or forced air cooling through completion of canister transfer to the concrete cask to 20 hours for canister heat loads greater than 14 kW and less than or equal to 17.6 kW.

By exempting MYAPC from 10 CFR 72.212(a)(2), 72.212(b)(2)(i), 72.212(b)(7), and 10 CFR 72.214 for this request, MYAPC will be authorized to change the above mentioned time limits as follows:

(1) For LCO 3.1.1.1, the time limits per canister will be increased as follows:

(a) 103 hours for heat loads less than or equal to 8 kW.

(b) 52 hours for heat loads greater than 8 kW and less than or equal to 11 kW.

(c) 40 hours for heat loads greater than 11 kW and less than or equal to 14 kW.

(d) 33 hours for heat loads greater than 14 kW and less than or equal to 17.6 kW.

(2) For LCO 3.1.1.2, the time limits per canister will be increased as follows:

(a) 78 hours for heat loads less than or equal to 8 kW.

(b) 27 hours for heat loads greater than 8 kW and less than or equal to 11 kW.

(c) 16 hours for heat loads greater than 11 kW and less than or equal to 14 kW.

(d) 9 hours for heat loads greater than 14 kW and less than or equal to 17.6 kW.

(3) For LCO 3.1.4.1, the time limit for canister heat loads less than or equal to 17.6 kW, will be increased to 600 hours.

(4) For LCO 3.1.4.2, the time limit for canister heat loads less than or equal to 17.6 kW, will be increased to 600 hours.

The proposed action before the Commission is whether to grant this exemption under the provisions of 10 CFR 72.7. The NRC staff has reviewed the exemption request and determined that the increased LCO time limits for vacuum drying operations are consistent with the safety analyses previously reviewed for the NAC-UMS system, and would have no impact on the design basis and would not be inimical to public health and safety.

Need for the Proposed Action: At the time of the exemption request, MYAPC had loaded approximately seven casks. During these cask loadings, MYAPC discovered that the existing NAC-UMS Technical Specification (TS) limits for vacuum drying and subsequent cool down required the licensee to repeatedly enter into the required actions of the TS. Since successful vacuum drying could not be accomplished within the TS limits, MYAPC was required to take the LCO remedial actions. Specifically, the licensee was required to perform in-pool or forced-air cooling of the canister for a 24 hour period if the canister could not be vacuum dried within the prescribed times. The TS further limits subsequent drying times after this cool-down period.

Consequently, the licensee found it difficult to achieve sufficient vacuum drying on the second drying attempt, thus requiring another cool-down period. The repeated entries into vacuum drying and cool-down periods added to the processing time and to the occupational exposures. The licensee estimated that processing times for each canister was increased by a minimum of 60 hours.

The licensee calculated that the reduction in radiological exposure to the operators, fuel handlers, and security personnel involved in handling, preparing and transferring the canisters would be approximately 5 rem during the remainder of the spent fuel loading campaign. This reduction is a significant percentage of the overall station dose for the entire decommissioning project. The expected savings of 5 rem represents nearly 8% of the 2002 total station dose and will likely represent an even greater percentage of the 2003 station dose.

Environmental Impacts of the Proposed Action: The licensee requested the exemption to increase current vacuum drying time limits specified in CoC No. 1015. The NRC staff performed a safety evaluation of the proposed exemption. Staff reviewed the analysis provided in the NAC-UMS amendment application addressing spent fuel cladding integrity and thermal performance of canisters for increased vacuum drying times. The safety evaluation performed by the staff concludes that the NRC has reasonable assurance that increasing the vacuum drying time limits has no impact on off-site doses, results in a dose savings to workers, and meets the requirements of 10 CFR 72.104, 10 CFR 72.106 and 10 CFR 20.1301, and is therefore acceptable.

Therefore, the environmental impact of increasing vacuum drying time limits is no greater than the environmental impact already assessed in the initial rulemaking for the NAC-UMS storage system (65 FR 62581, dated October 19, 2000).

The proposed action will not increase the probability or consequences of the analyzed accidents, no changes are being made to the types of effluents that may be released offsite, and there is no increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action. Therefore,

the staff has determined that there is no reduction in the ability of the NAC-UMS system to perform its safety function, nor significant environmental impacts, as a result of increasing vacuum drying time limits.

Alternative to the Proposed Action: Since there is no significant environment impact associated with the proposed action, alternatives with equal or greater environmental impact are not evaluated. The alternative to the proposed action would be to deny approval of the exemption. Denial of the exemption request will have the same environmental impact, but would likely result in a dose increase to workers involved in cask loading activities.

Agencies and Persons Consulted: This exemption request was discussed with Ms. Paula Craighead, State Nuclear Safety Advisor for the State of Maine, on January 28. 2003. Ms. Craighead sent an e-mail to NRC on January 31, 2003, identifying the State's concerns with the exemption request. The safety concerns raised by Ms. Craighead were addressed by NRC staff in the evaluation of the exemption request and did not provide a basis to deny the exemption request.

FINDING OF NO SIGNIFICANT IMPACT

The environmental impacts of the proposed action have been reviewed in accordance with the requirements set forth in 10 CFR Part 51. Based upon the foregoing EA, the Commission finds that the proposed action of granting the exemption from 10 CFR 72.212(a)(2), 72.212(b)(2)(i), 72.212 (b)(7), and 10 CFR 72.214 and allowing MYAPC to increase the vacuum drying time limits for loading spent fuel in the NAC-UMS storage system will not significantly impact the quality of the human environment. Accordingly, the Commission

has determined that an environmental impact statement for the proposed exemption is not warranted.

The request for exemption was docketed under 10 CFR Part 72, Docket 72-30. For further details with respect to this action, see the exemption request dated November 7, 2002. The NRC maintains an Agencywide Documents Access and Management System (ADAMS), which provides text and image files of NRC's public documents. These documents may be accessed through the NRC's Public Electronic Reading Room on the Internet at http://www.nrc.gov/reading-rm/adams.html. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room Reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland, this 31 day of January, 2003.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Stephen C. O'Connor, Sr. Project Manager
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards