

November 7, 2002

Kenneth J. Heider  
Vice President, Operations and Decommissioning  
Yankee Atomic Electric Company  
19 Midstate Drive  
Suite 200  
Auburn, MA 01501

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. Heider:

In accordance with Yankee Atomic Electric Company's (YAEC's) exemption request dated October 10, 2002, and pursuant to 10 CFR 51.35, the U.S. Nuclear Regulatory Commission, 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 YAEC to store: (1) fuel with assembly weights up to 950 pounds; (2) fuel assemblies with unique design features; (3) non-intact fuel in damaged fuel cans; and (4) specific re-caged fuel assemblies in the NAC-MPC dry spent fuel storage systems at the Yankee Nuclear Power Station.

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

Docket Nos.: 72-31, 72-1025, and 50-029

Enclosure: Federal Register Notice

cc: Service List

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\* see previous concurrence

**OFFICIAL RECORD COPY**

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U.S. NUCLEAR REGULATORY COMMISSION  
DOCKET 72-31  
YANKEE ATOMIC ELECTRIC 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 Yankee Atomic Electric Company (YAEC or licensee), pursuant to 10 CFR 72.7, from specific provisions of 10 CFR 72.212(a)(2), 72.212(b)(2)(i)(A), and 10 CFR 72.214. The licensee is planning to use the NAC-MPC storage system to store spent nuclear fuel from the decommissioning reactor. The requested exemption would allow YAEC to deviate from the approved contents specified in the NAC-MPC Certificate of Compliance No. 1025 (CoC or Certificate) to store: (1) fuel with assembly weights up to 950 pounds; (2) fuel assemblies with unique design features; (3) non-intact fuel in damaged fuel cans; and (4) specific re-caged fuel assemblies in the NAC-MPC dry spent fuel storage systems at the Yankee Nuclear Power Station.

In a letter dated May 15, 2002, the designer of the NAC-MPC system, NAC International, requested an amendment to CoC No. 1025 to incorporate the additional fuel assembly configurations as approved contents for the storage system. That request was supplemented on October 3, 2002. The information provided in the amendment request, as

supplemented, corresponds with the YAEC exemption request and provides the safety basis for storing these additional fuel assembly configurations.

#### ENVIRONMENTAL ASSESSMENT (EA)

Identification of Proposed Action: By letter dated October 10, 2002, YAEC requested an exemption from the requirements of 10 CFR 72.212(a)(2), 72.212(b)(2)(i)(A), and 10 CFR 72.214 to deviate from the approved contents specified in CoC No. 1025 for the NAC-MPC storage system. YAEC 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-MPC system at an Independent Spent Fuel Storage Installation located at the Yankee Nuclear Power Station near Rowe, Massachusetts.

By exempting YAEC from 10 CFR 72.212(a)(2), 72.212(b)(2)(i)(A), and 10 CFR 72.214, YAEC will be authorized to store additional specific fuel assembly configurations.

The proposed action before the Commission is whether to grant this exemption under 10 CFR 72.7. The NRC staff has reviewed the exemption request and determined that storage of the additional fuel assembly configurations are consistent with the safety analyses previously reviewed for the NAC-MPC 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: YAEC completed loading the first NAC-MPC at the Yankee Nuclear Power Station on June 26, 2002. The licensee is proceeding with unloading of fuel assemblies from the spent fuel pool and loading of the assemblies into additional NAC-MPC systems. The spent fuel pool uses a two tier rack system for fuel storage. The licensee

has completed removal of all of the fuel from the upper rack, which has enabled a detailed inspection of the fuel stored in the lower rack. The licensee identified some fuel assembly types and configurations that were not addressed in the NAC-MPC storage system Final Safety Analysis Report. This prompted the NAC-MPC designer to submit an amendment application to NRC for the NAC-MPC CoC to incorporate the additional fuel configurations identified in the lower pool rack.

YAEC requested this exemption to store the additional fuel assembly configurations in an effort to continue the removal of spent fuel from the spent fuel pool into the NAC-MPC storage systems using the same experienced and trained individuals involved in loading the previous NAC-MPC systems. The exemption would likely minimize personnel exposure by continuing to use the same individuals and by implementing lessons learned from the previous loading activities.

Environmental Impacts of the Proposed Action: YAEC requested the exemption to store additional fuel assembly configurations to enable transfer of all spent fuel from the spent fuel pool to the NAC-MPC dry spent fuel storage system. The staff performed a safety evaluation of the proposed exemption. NRC staff reviewed the analysis provided in the NAC-MPC amendment application addressing storage of additional specific fuel assembly configurations. The safety evaluation performed by the staff concludes that the NRC has reasonable assurance that storage of the additional fuel configurations has minimal 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 storing the additional specific fuel assemblies is no greater than the environmental impact already assessed in the initial rulemaking for the NAC-MPC storage system (65 FR 12444, dated March 9, 2000).

The proposed action will not significantly 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 significant 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 system to perform its safety function, nor significant environmental impacts, as a result of storing the additional fuel assembly configurations.

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 result in a potential dose increase to workers involved in cask loading activities.

Agencies and Persons Consulted: On November 4, 2002, Mr. Jim Muckerheide, Nuclear Engineer, Nuclear Safety of the Massachusetts Emergency Management Agency was contacted about the proposed action and had no comments.

#### 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)(A), and 10 CFR 72.214 and allowing YAEC to store additional specific fuel assembly configurations in the NAC-MPC 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 72-31. For further details with respect to this action, see the exemption request dated October 10, 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/NRC/ADAMS/index.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](mailto:pdr@nrc.gov).

Dated at Rockville, Maryland, this 7th day of November, 2002.

FOR THE NUCLEAR REGULATORY COMMISSION  
/RA/ original signed by /s/  
Stephen C. O'Connor, Sr. Project Manager  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards