

ENVIRONMENTAL ASSESSMENT AND FINDING OF  
NO SIGNIFICANT IMPACT  
ON  
PROPOSED AMENDMENT TO 10 CFR PART 72  
"LIST OF APPROVED SPENT FUEL STORAGE CASKS: STANDARDIZED  
NUHOMS<sup>®</sup>-24P and NUHOMS<sup>®</sup>-52B REVISION"

Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
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## I. THE PROPOSED ACTION

The proposed action is to amend 10 CFR Part 72 to revise the Transnuclear West (TN West), Inc., Standardized NUHOMS<sup>®</sup>-24P and NUHOMS<sup>®</sup>-52B cask system (NUHOMS<sup>®</sup> storage system) listing within the 10 CFR Part 72 "List of approved spent fuel storage casks" to include Amendment No. 2 to Certificate of Compliance (CoC), No. 1004. Amendment No. 2 updates the Technical Specifications' fuel qualification tables to reflect additional fuel parameters and allows storage of burnable poison rod assemblies (BPRAs) in model 24P of the NUHOMS<sup>®</sup> storage system, along with the spent fuel. Also, Amendment No. 2 revises and renumbers several of the conditions in the CoC to reflect the NRC's new standard format for CoCs. However, no technical changes to the CoC's conditions are made by this amendment. The cask system can be relied on to provide safe confinement of spent fuel at any reactor site when used in accordance with the CoC. In order to use an NRC-approved cask, the reactor licensee must ensure that the reactor site parameters and potential site-boundary doses are within the scope of the cask safety analysis report (SAR) and reactor license.

## II. THE NEED FOR THE PROPOSED ACTION

This is needed to revise a cask system listing within the "List of approved spent fuel storage casks" in 10 CFR 72.214. The certificate holder (Transnuclear West, Inc.) submitted an

application to the NRC on February 16, 1996, supplemented on November 15, 1996, October 9, 1998, and February 10, 1999 to amend CoC No. 1004 to include a new fuel specification and, on July 26, 1999, to amend CoC No. 1004 to permit a Part 72 licensee to store BPRAs. The particular changes are incorporated into Section 1.2.1 of the Technical Specifications for CoC No. 1004. The changes will incorporate new fuel qualification tables for both pressurized water reactor (PWR) and boiling water reactor (BWR) fuel. The tables present the minimum required cooling time for fuel as a function of the initial fuel enrichment and fuel burnup. The use of the tables provides a simplified approach for users of the NUHOMS® storage system to select fuel for storage without calculating specific fuel assembly decay heat and radiation source terms. The NRC staff agrees that the proposed amendment provides a more simplified, accurate, and straightforward method for qualifying fuel to be stored in the NUHOMS® storage system and has documented its review and evaluation in a Safety Evaluation Report (SER).

On July 26, 1999, the certificate holder (TN-West) submitted an application to the NRC to amend CoC No. 1004 to permit a Part 72 licensee to store BPRAs with Babcock & Wilcox (B&W) 15 x 15 spent fuel assemblies in the NUHOMS® storage system, model 24P. A BPRA is a reactor core component that is inserted inside a fuel assembly. BPRAs provide a means of controlling reactor power distribution and do not contain fissile material. No other changes to the TN-West system design were requested in this application. The NRC staff performed a detailed safety evaluation of the proposed CoC amendment request and found that the addition of the BPRAs to the B&W 15 x 15 fuel does not reduce the TN-West safety margin. In addition, the NRC staff has determined that the storage of BPRAs in the TN-West does not pose any increased risk to public health and safety. The NRC staff has documented its review and evaluation in a SER.

The amended TN-West cask system, when used in accordance with the conditions specified in the CoC, the Technical Specifications, and NRC regulations, will meet the

requirements of Part 72; thus, adequate protection of public health and safety will continue to be ensured.

### III. ENVIRONMENTAL IMPACTS OF PROPOSED ACTION

The potential environmental impact of using the NUHOMS® storage system was initially presented in the Environmental Assessment for the final rule to add the NUHOMS® storage system to the list of approved spent fuel storage casks in 10 CFR 72.214 (59 FR 65898). Furthermore, each general licensee must assess the environmental impacts of the specific Independent Spent Fuel Storage Installation (ISFSI) in accordance with the requirements of 10 CFR 72.212(b)(2)(iii). This section requires the general licensee to perform written evaluations to demonstrate compliance with the environmental requirements of 10 CFR 72.104, “Criteria for radioactive materials in effluents and direct radiation from an ISFSI or MRS [Monitored Retrievable Storage Installation].”

The NUHOMS® storage system is designed to mitigate the effects of design basis accidents that could occur during storage. Design basis accidents account for human-induced events and the most severe natural phenomena reported for the site and surrounding area. Postulated accidents analyzed for an ISFSI include tornado winds and tornado generated missiles, design basis earthquakes, design basis flood, accidental cask drop, lighting effects, fire, explosions, and other incidents.

Considering the specific design requirements for each accident condition, the design of the cask would prevent loss of containment, shielding, and criticality control. Without the loss of containment, shielding, or criticality control, the risk to the public health and safety is not compromised.

TN West calculated doses to the public from the NUHOMS® storage system that would

result from the release of radionuclides in postulated design basis events — with the incorporation of the proposed changes in the fuel qualification tables and in the storage of BPRAs. TN West concluded that any changes to the public dose calculations were bounded by the analyses contained in original application of the NUHOMS® storage system. The NRC's acceptance of the NUHOMS® storage system and the associated EA were documented in the Federal Register on December 22, 1994 (59 FR 65898). The NRC staff verified TN West's calculations and agrees that any changes to the public dose calculations because of changes to the fuel qualification tables and storage of BPRAs are bounded by the original analyses. The occupational exposure is not significantly increased and offsite dose rates remain well within the 10 CFR Part 20 limits. Therefore, the proposed action now under consideration would not change the potential environmental effects assessed in the initial rulemaking.

Therefore, the NRC staff has determined that there is no reduction in the safety margin or significant environmental impacts as a result of the amendment.

#### IV. ALTERNATIVES TO THE PROPOSED ACTION

The no action alternative would be to deny the requested amendment. Because the NRC has determined that there are no significant environmental impacts associated with this action, any alternative with equal or greater environmental impacts need not be evaluated.

The alternative to Amendment 2 is to withhold approval of these changes. This would result in the users of the NUHOMS® storage system having to use a less efficient method for selecting fuel for storage, with no difference in environmental impact. This alternative would also result in the users of the NUHOMS® storage system having to disassemble and store the BPRAs

as low-level waste in separate containers. This would lead to a greater environmental impact due to greater occupational exposure and the need to handle the BPRAs separately as low-level waste.

## V. ALTERNATIVE USE OF RESOURCES

There were no irreversible commitments of resources determined in this assessment.

## VI. AGENCIES AND PERSONS CONTACTED

No agencies or persons outside the NRC were contacted in connection with the preparation of this environmental assessment.

## VII. 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 on the foregoing environmental assessment, the NRC concludes that this rule entitled, "List of Approved Spent Fuel Storage Casks: Standardized NUHOMS<sup>®</sup>-24P and NUHOMS<sup>®</sup>-52B Revision" will not have a significant incremental effect on the quality of the human environment. Therefore, the NRC has determined that an environmental impact statement is not necessary for this rule.

Certain documents related to this rule, including comments received by the NRC, may be examined at the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC. These same documents may also be viewed and downloaded electronically via the interactive rulemaking website (<http://ruleforum.llnl.gov>).