[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 72

RIN 3150-AI89

[NRC-2011-0002]

List of Approved Spent Fuel Storage Casks:
NUHOMS® HD System Revision 1

AGENCY: Nuclear Regulatory Commission.

ACTION: Direct final rule.

SUMMARY: The Nuclear Regulatory Commission (NRC or the Commission) is amending its spent fuel storage regulations by revising the Transnuclear, Inc. (TN) NUHOMS® HD System listing within the "List of Approved Spent Fuel Storage Casks" to include Amendment No. 1 to Certificate of Compliance (CoC) Number 1030. Amendment No. 1 will revise the definitions for Damaged Fuel Assembly and Transfer Operations; add definitions for Fuel Class and Reconstituted Fuel Assembly; add Combustion Engineering 16x16 class fuel assemblies as authorized contents; reduce the minimum off-normal ambient temperature from -20°F to -21°F; expand the authorized contents of the NUHOMS® HD System to include pressurized water reactor fuel assemblies with control components; reduce the minimum initial enrichment of fuel assemblies from 1.5 weight percent uranium-235 to 0.2 weight percent uranium-235; clarify the requirements of reconstituted fuel assemblies; add requirements to qualify metal matrix composite neutron absorbers with integral aluminum cladding; clarify the requirements for neutron absorber tests; delete use of nitrogen for draining the water from the dry shielded

canister (DSC), and allow only helium as a cover gas during DSC cavity water removal operations; and make corresponding changes to the technical specifications (TS).

DATES: The final rule is effective (**insert date 75 days after publication in the *Federal Register***), unless significant adverse comments are received by **(insert date 30 days after publication in the *Federal Register***). A significant adverse comment is a comment where the commenter explains why the rule would be inappropriate, including challenges to the rule's underlying premise or approach, or would be ineffective or unacceptable without a change. If the rule is withdrawn, timely notice will be published in the *Federal Register*.

ADDRESSES: You can access publicly available documents related to this document using the following methods:

Federal e-Rulemaking Portal: Go to http://www.regulations.gov and search for documents filed under Docket ID [NRC-2011-0002]. Address questions about NRC dockets to Carol Gallagher 301-492-3668; e-mail Carol.Gallagher@nrc.gov.

NRC's Public Document Room (PDR): The public may examine and have copied for a fee publicly available documents at the NRC's PDR, Room O-1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland.

NRC's Agencywide Documents Access and Management System (ADAMS): Publicly available documents created or received at the NRC are available electronically at the NRC's Electronic Reading Room at http://www.nrc.gov/reading-rm/adams.html. From this page, the public can gain entry into ADAMS, which provides text and image files of NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC's PDR Reference staff at 1-800-397-4209,

301-415-4737, or by e-mail to pdr.resource@nrc.gov. An electronic copy of the proposed CoC, Technical Specifications (TS), and preliminary safety evaluation report (SER) can be found under ADAMS Package Accession Number ML102500570. The ADAMS Accession Number for the Transnuclear, Inc application, dated November 1, 2007, is ML073110525.

CoC No. 1030, the TS, the preliminary SER, and the environmental assessment are available for inspection at the NRC's PDR, Room O-1F21, One White Flint North, 11555 Rockville Pike, Rockville, MD. Single copies of these documents may be obtained from Gregory Trussell, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone 301- 415-6445, e-mail Gregory.Trussell@nrc.gov.

FOR FURTHER INFORMATION CONTACT: Gregory Trussell, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone 301- 415-6445, e-mail Gregory.Trussell@nrc.gov.

SUPPLEMENTARY INFORMATION:

Background

Section 218(a) of the Nuclear Waste Policy Act (NWPA) of 1982, as amended, requires that "the Secretary [of the Department of Energy] shall establish a demonstration program, in cooperation with the private sector, for the dry storage of spent nuclear fuel at civilian nuclear power reactor sites, with the objective of establishing one or more technologies that the [Nuclear Regulatory] Commission may, by rule, approve for use at the sites of civilian nuclear

power reactors without, to the maximum extent practicable, the need for additional site-specific approvals by the Commission." Section 133 of the NWPA states, in part, that "the Commission shall, by rule, establish procedures for the licensing of any technology approved by the Commission under Section 218(a) for use at the site of any civilian nuclear power reactor."

To implement this mandate, the NRC approved dry storage of spent nuclear fuel in NRC-approved casks under a general license by publishing a final rule in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 72, which added a new Subpart K within 10 CFR Part 72, entitled "General License for Storage of Spent Fuel at Power Reactor Sites" (55 FR 29181; July 18, 1990). This rule also established a new Subpart L within 10 CFR Part 72, entitled "Approval of Spent Fuel Storage Casks," which contains procedures and criteria for obtaining NRC approval of spent fuel storage cask designs. The NRC subsequently issued a final rule on December 11, 2006 (71 FR 71463), that approved the NUHOMS® HD System cask design and added it to the list of NRC-approved cask designs in 10 CFR 72.214 as CoC No. 1030.

Discussion

On November 1, 2007, and as supplemented on December 15, 2008, February 19, April 30, May 26, June 10, September 17, 2009, June 17 (proprietary information not publicly available), July 9, July 26, and August 24, 2010, TN, the holder of CoC No. 1030, submitted an application to the NRC that requested an amendment to CoC No. 1030**.** Specifically, TN requested changes to revise definitions for Damaged Fuel Assembly and Transfer Operations; add definitions for Fuel Class and Reconstituted Fuel Assembly; add Combustion Engineering 16x16 class fuel assemblies as authorized contents; reduce the minimum off-normal ambient temperature from -20°F to -21°F; expand the authorized contents of the NUHOMS® HD System

to include pressurized water reactor fuel assemblies with control components; reduce the minimum initial enrichment of fuel assemblies from 1.5 weight percent uranium-235 to 0.2 weight percent uranium-235; clarify the requirements of reconstituted fuel assemblies; add requirements to qualify metal matrix composite neutron absorbers with integral aluminum cladding; clarify the requirements for neutron absorber tests; and delete use of nitrogen for draining the water from the DSC, and allow only helium as a cover gas during DSC cavity water removal operations; and make corresponding changes to TS 1.1, 2.1, 2.2.3, 3.1, 3.2, 4.3.1, 4.6.3(5), 5.2.5, 5.3.2, and 5.6. Tables 1 and 5 will be deleted and replaced with TS 2.1, and Tables 2, 3, 4, and 7 will be revised to incorporate TS changes.

As documented in the SER, the NRC staff performed a detailed safety evaluation of the proposed CoC amendment request and found that an acceptable safety margin is maintained. In addition, the NRC staff has determined that there continues to be reasonable assurance that public health and safety will be adequately protected.

This direct final rule revises the NUHOMS® HD System listing in 10 CFR 72.214 by adding Amendment No. 1 to CoC No. 1030. The amendment consists of the changes described above, as set forth in the revised CoC and TS. The revised TS are identified in the SER.

The amended NUHOMS® HD System cask design, when used under the conditions specified in the CoC, the TS, and NRC regulations, will meet the requirements of Part 72; thus, adequate protection of public health and safety will continue to be ensured. When this direct final rule becomes effective, persons who hold a general license under 10 CFR 72.210 may load spent nuclear fuel into NUHOMS® HD System casks that meet the criteria of Amendment No. 1 to CoC No. 1030 under 10 CFR 72.212.

Discussion of Amendments by Section

§ 72.214 List of approved spent fuel storage casks.

Certificate No. 1030 is revised by adding the effective date of Amendment Number 1.

Procedural Background

On May 6 and 7, 2010, respectively, a direct final rule (75 FR 24786) and companion proposed rule (75 FR 25120) were published in the *Federal Register* to revise the cask system listing for the TN NUHOMS® HD System by adding Amendment No. 1 to the list of approved spent fuel storage casks in 10 CFR 72.214. After the rules were published, the applicant identified that a certain TS for Boral characterization (TS 4.3.1, "Neutron Absorber Tests") was not written precisely and in a manner that could be readily and demonstrably implemented. On July 16, 2010, the NRC withdrew the direct final rule (75 FR 41369) and the companion proposed rule (75 FR 41404). The applicant submitted revised language for TS 4.3.1 (and Final Safety Analysis Report (FSAR) sections incorporated into the TS by reference) on July 26 and August 24, 2010, which NRC staff reviewed and found to be acceptable. This direct final rule includes the original Amendment No. 1 changes and the revised TS 4.3.1 and FSAR sections incorporated into the TS by reference.

This rule is limited to the changes contained in Amendment No. 1 to CoC No. 1030 and does not include other aspects of the NUHOMS® HD System. The NRC is using the “direct final rule procedure” to issue this amendment because it represents a limited and routine change to an existing CoC that is expected to be noncontroversial. Adequate protection of

public health and safety continues to be ensured. The amendment to the rule will become effective on **(insert 75 days after publication in the *Federal Register*)**. However, if the NRC receives significant adverse comments on this direct final rule by (**insert 30 days after publication in the *Federal Register***), then the NRC will publish a document that withdraws this action and will subsequently address the comments received in a final rule as a response to the companion proposed rule published elsewhere in this issue of the *Federal Register*. Absent significant modifications to the proposed revisions requiring republication, the NRC will not initiate a second comment period on this action.

A significant adverse comment is a comment where the commenter explains why the rule would be inappropriate, including challenges to the rule's underlying premise or approach, or would be ineffective or unacceptable without a change. A comment is adverse and significant if:

(1) The comment opposes the rule and provides a reason sufficient to require a substantive response in a notice-and-comment process. For example, a substantive response is required when:

(a) The comment causes the NRC staff to reevaluate (or reconsider) its position or conduct additional analysis;

(b) The comment raises an issue serious enough to warrant a substantive response to clarify or complete the record; or

(c) The comment raises a relevant issue that was not previously addressed or considered by the NRC staff.

(2) The comment proposes a change or an addition to the rule, and it is apparent that the rule would be ineffective or unacceptable without incorporation of the change or addition.

(3) The comment causes the NRC staff to make a change (other than editorial) to the rule, CoC, or TS.

For detailed instructions on filling comments, please see the companion proposed rule published elsewhere in this issue of the *Federal Register*.

Voluntary Consensus Standards

The National Technology Transfer and Advancement Act of 1995 (Pub. L. 104-113) requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of such a standard is inconsistent with applicable law or otherwise impractical. In this direct final rule, the NRC will revise the NUHOMS® HD System cask design listed in § 72.214 (List of approved spent fuel storage casks). This action does not constitute the establishment of a standard that contains generally applicable requirements.

Agreement State Compatibility

Under the "Policy Statement on Adequacy and Compatibility of Agreement State Programs" approved by the Commission on June 30, 1997, and published in the *Federal Register* on September 3, 1997 (62 FR 46517), this rule is classified as Compatibility Category "NRC." Compatibility is not required for Category "NRC" regulations. The NRC program elements in this category are those that relate directly to areas of regulation reserved to the NRC by the Atomic Energy Act of 1954, as amended, or the provisions of 10 CFR. Although an Agreement State may not adopt program elements reserved to NRC, it may wish to inform its

licensees of certain requirements via a mechanism that is consistent with the particular State's administrative procedure laws but does not confer regulatory authority on the State.

Plain Language

The Presidential Memorandum, "Plain Language in Government Writing," published June 10, 1998 (63 FR 31883), directed that the Government's documents be in clear and accessible language. The NRC requests comments on this direct final rule specifically with respect to the clarity and effectiveness of the language used. Comments should be sent to the address listed under the heading **ADDRESSES**, above.

Finding of No Significant Environmental Impact: Availability

Under the National Environmental Policy Act of 1969, as amended, and the NRC regulations in Subpart A of 10 CFR Part 51, the NRC has determined that this rule, if adopted, would not be a major Federal action significantly affecting the quality of the human environment and, therefore, an environmental impact statement is not required. The NRC has prepared an environmental assessment and, on the basis of this environmental assessment, has made a finding of no significant impact. This rule will amend the CoC for the NUHOMS® HD System cask design within the list of approved spent fuel storage casks that power reactor licensees can use to store spent fuel at reactor sites under a general license. The amendment will revise the definitions for Damaged Fuel Assembly and Transfer Operations; add definitions for Fuel Class and Reconstituted Fuel Assembly; add Combustion Engineering 16x16 class fuel assemblies as authorized contents; reduce the minimum off-normal ambient temperature from

-20°F to -21°F; expand the authorized contents of the NUHOMS® HD System to include pressurized water reactor fuel assemblies with control components; reduce the minimum initial enrichment of fuel assemblies from 1.5 weight percent uranium-235 to 0.2 weight percent uranium-235; clarify the requirements of reconstituted fuel assemblies; add requirements to qualify metal matrix composite neutron absorbers with integral aluminum cladding; clarify the requirements for neutron absorber tests; delete use of nitrogen for draining the water from the DSC, and allow only helium as a cover gas during DSC cavity water removal operation; and make corresponding changes to the TS that are revised to include TS 1.1, 2.1, 2.2.3, 3.1, 3.2, 4.3.1, 4.6.3(5), 5.2.5, 5.3.2, and 5.6. Tables 1 and 5 are deleted and replaced with TS 2.1, and Tables 2, 3, 4, and 7 are revised to incorporate TS changes.

The environmental assessment and finding of no significant impact on which this determination is based are available for inspection at the NRC Public Document Room, Room O-1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. Single copies of the environmental assessment and finding of no significant impact are available from Gregory Trussell, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone: 301- 415-6445, e-mail: Gregory.Trussell@nrc.gov.

Paperwork Reduction Act Statement

This rule does not contain any information collection requirements and, therefore, is not subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing requirements were approved by the Office of Management and Budget (OMB), Approval Number 3150-0132.

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

Regulatory Analysis

On July 18, 1990 (55 FR 29181), the NRC issued an amendment to 10 CFR Part 72 to provide for the storage of spent nuclear fuel under a general license in cask designs approved by the NRC. Any nuclear power reactor licensee can use NRC-approved cask designs to store spent nuclear fuel if it notifies the NRC in advance, the spent fuel is stored under the conditions specified in the cask's CoC, and the conditions of the general license are met. A list of NRC-approved cask designs is contained in 10 CFR 72.214. On December 11, 2006 (71 FR 71463), the NRC issued an amendment to Part 72 that approved the NUHOMS® HD System cask design by adding it to the list of NRC-approved cask designs in 10 CFR 72.214. On November 1, 2007, as supplemented on December 15, 2008, February 19, April 30, May 26, June 10, September 17, 2009, June 17 (proprietary information not publicly available), July 9, July 26, and August 24, 2010, the certificate holder (TN) submitted an application to the NRC to amend CoC No. 1030 to revise the definitions for Damaged Fuel Assembly and Transfer Operations; add definitions for Fuel Class and Reconstituted Fuel Assembly; add Combustion Engineering 16x16 class fuel assemblies as authorized contents; reduce the minimum off-normal ambient temperature from -20°F to -21°F; expand the authorized contents of the NUHOMS® HD System to include pressurized water reactor fuel assemblies with control

components; reduce the minimum initial enrichment of fuel assemblies from 1.5 weight percent uranium-235 to 0.2 weight percent uranium-235; clarify the requirements of reconstituted fuel assemblies; add requirements to qualify metal matrix composite neutron absorbers with integral aluminum cladding; clarify the requirements for neutron absorber tests; delete use of nitrogen for draining the water from the DSC, and allow only helium as a cover gas during DSC cavity water removal operations; and make corresponding changes to TS 1.1, 2.1, 2.2.3, 3.1, 3.2, 4.3.1, 4.6.3(5), 5.2.5, 5.3.2, and 5.6. Tables 1 and 5 are deleted and replaced with TS 2.1, and Tables 2, 3, 4, and 7 are revised to incorporate TS changes.

The alternative to this action is to withhold approval of Amendment No. 1 and to require any Part 72 general licensee, seeking to load spent nuclear fuel into NUHOMS® HD System casks under the changes described in Amendment No. 1, to request an exemption from the requirements of 10 CFR 72.212 and 72.214. Under this alternative, each interested Part 72 licensee would have to prepare, and the NRC would have to review, a separate exemption request, thereby increasing the administrative burden upon the NRC and the costs to each licensee.

Approval of the direct final rule is consistent with previous NRC actions. Further, as documented in the SER and the environmental assessment, the direct final rule will have no adverse effect on public health and safety. This direct final rule has no significant identifiable impact or benefit on other Government agencies. Based on this regulatory analysis, the NRC concludes that the requirements of the direct final rule are commensurate with the NRC's responsibilities for public health and safety and the common defense and security. No other available alternative is believed to be as satisfactory, and thus, this action is recommended.

Regulatory Flexibility Certification

Under the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the NRC certifies that this rule will not, if issued, have a significant economic impact on a substantial number of small entities. This direct final rule affects only nuclear power plant licensees and TN. These entities do not fall within the scope of the definition of "small entities" set forth in the Regulatory Flexibility Act or the size standards established by the NRC (10 CFR 2.810).

Backfit Analysis

The NRC has determined that the backfit rule (10 CFR 72.62) does not apply to this direct final rule because this amendment does not involve any provisions that would impose backfits as defined in 10 CFR Chapter 1. Therefore, a backfit analysis is not required.

Congressional Review Act

Under the Congressional Review Act of 1996, the NRC has determined that this action is not a major rule and has verified this determination with the Office of Information and Regulatory Affairs, OMB.

List of Subjects in 10 CFR Part 72

Administrative practice and procedure, Hazardous Waste, Nuclear materials, Occupational safety and health, Radiation protection, Reporting and recordkeeping requirements, Security measures, Spent fuel, Whistleblowing.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; the Nuclear Waste Policy Act of 1982, as amended; and 5 U.S.C. 552 and 553; the NRC is adopting the following amendments to 10 CFR Part 72.

PART 72--LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL, HIGH-LEVEL RADIOACTIVE WASTE, AND REACTOR-RELATED GREATER THAN CLASS C WASTE

1. The authority citation for Part 72 continues to read as follows:

Authority: Secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 187, 189, 68 Stat. 929, 930, 932, 933, 934, 935, 948, 953, 954, 955, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201, 2232, 2233, 2234, 2236, 2237, 2238, 2282); sec. 274, Pub. L. 86-373, 73 Stat. 688, as amended (42 U.S.C. 2021); sec. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846); Pub. L. 95-601, sec. 10, 92 Stat. 2951 as amended by Pub. L. 102-486, sec. 7902, 106 Stat. 3123 (42 U.S.C. 5851); sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332); secs. 131, 132, 133, 135, 137, 141, Pub. L. 97-425, 96 Stat. 2229, 2230, 2232, 2241, sec. 148, Pub. L. 100-203, 101 Stat. 1330-235 (42 U.S.C. 10151, 10152, 10153, 10155, 10157, 10161, 10168); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note); sec. 651(e), Pub. L. 109-58, 119 Stat. 806-10 (42 U.S.C. 2014, 2021, 2021b, 2111).

Section 72.44(g) also issued under secs. 142(b) and 148(c), (d), Pub. L. 100-203, 101 Stat. 1330-232, 1330-236 (42 U.S.C. 10162(b), 10168(c),(d)). Section 72.46 also issued under sec. 189, 68 Stat. 955 (42 U.S.C. 2239); sec. 134, Pub. L. 97-425, 96 Stat. 2230 (42 U.S.C. 10154). Section 72.96(d) also issued under sec. 145(g), Pub. L. 100-203, 101 Stat. 1330-235 (42 U.S.C. 10165(g)). Subpart J also issued under secs. 2(2), 2(15), 2(19), 117(a), 141(h), Pub. L. 97-425, 96 Stat. 2202, 2203, 2204, 2222, 2244 (42 U.S.C. 10101, 10137(a), 10161(h)). Subparts K and L are also issued under sec. 133, 98 Stat. 2230 (42 U.S.C. 10153) and sec. 218(a), 96 Stat. 2252 (42 U.S.C. 10198).

2. In § 72.214, Certificate of Compliance 1030 is revised to read as follows:

§ 72.214 List of approved spent fuel storage casks.

* * * * *

Certificate Number: 1030.

Initial Certificate Effective Date: January 10, 2007.

Amendment Number 1 Effective Date: (**insert date 75 days after publication in the *Federal Register***).

SAR Submitted by: Transnuclear, Inc.

SAR Title: Final Safety Analysis Report for the NUHOMS® HD Horizontal Modular Storage System for Irradiated Nuclear Fuel.

Docket Number: 72-1030.

Certificate Expiration Date: January 10, 2027.

Model Number: NUHOMS® HD-32PTH.

* * * * *

Dated at Rockville, Maryland, this 13th day of December, 2010.

For the Nuclear Regulatory Commission

/RA/

R. W. Borchardt
Executive Director for Operations

Certificate Expiration Date: January 10, 2027.

Model Number: NUHOMS® HD-32PTH.

* * * * *

Dated at Rockville, Maryland, this 13th day of December, 2010.

For the Nuclear Regulatory Commission

/RA/

R. W. Borchardt
Executive Director for Operations

ADAMS: Package ML103280079 EDATS: FSME-2010-0327

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