

NUCLEAR REGULATORY COMMISSION

10 CFR Part 72

RIN 3150-AI88

[NRC-2010-0183]

List of Approved Spent Fuel Storage Casks: NAC-MPC System, Revision 6

AGENCY: Nuclear Regulatory Commission.

ACTION: Direct final rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is amending its spent fuel storage regulations by revising the NAC International Inc. (NAC) NAC-MPC System listing within the “List of Approved Spent Fuel Storage Casks” to include Amendment No. 6 to Certificate of Compliance (CoC) Number 1025. Amendment No. 6 to the NAC-MPC System CoC will include the following changes to the configuration of the NAC-MPC storage system as noted in Appendix B of the Technical Specifications (TS): (1) incorporation of a single closure lid with a welded closure ring for redundant closure into the Transportable Storage Canister (TSC) design; (2) modification of the TSC and basket design to accommodate up to 68 La Crosse Boiling Water Reactor (LACBWR) spent fuel assemblies (36 undamaged Exxon fuel assemblies and up to 32 damaged fuel cans (in a preferential loading pattern)) that may contain undamaged Exxon fuel assemblies and damaged Exxon and Allis Chalmers fuel assemblies and/or fuel debris; (3) the addition of zirconium alloy shroud compaction debris to be stored with undamaged and damaged fuel assemblies; (4) minor design modifications to the Vertical Concrete Cask (VCC) incorporating design features from the MAGNASTOR system for

improved operability of the system while adhering to as low as is reasonably achievable (ALARA) principles; (5) an increase in the concrete pad compression strength from 4000 psi to 6000 psi; (6) added justification for the 6-ft soil depth as being conservative; and (7) other changes to incorporate minor editorial corrections in CoC No. 1025 and Appendices A and B of the TS. Also, the Definitions in TS 1.1 will be revised to include modifications and newly defined terms; the Limiting Conditions for Operation and associated Surveillance Requirements in TS 3.1 and 3.2 will be revised; and editorial changes will be made to TS 5.2 and 5.4.

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-2010-0183. Address questions about NRC dockets to Carol Gallagher at 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 1-899-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. An electronic copy of the proposed CoC, TS, and preliminary safety evaluation report (SER) can be found under ADAMS Package Number ML100890517. The ADAMS Accession Number for the NAC application, dated January 16, 2009, is ML090270151.

CoC No. 1025, the TS, the preliminary SER, and the environmental assessment are available for inspection at the NRC PDR, Room O-1F21, One White Flint North, 11555 Rockville Pike, Rockville, MD. Single copies of these documents may be obtained from Jayne M. McCausland, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-6219, e-mail Jayne.McCausland@nrc.gov.

FOR FURTHER INFORMATION CONTACT: Jayne M. McCausland, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-6219, e-mail Jayne.McCausland@nrc.gov.

SUPPLEMENTARY INFORMATION:

Background

Section 218(a) of the Nuclear Waste Policy Act of 1982, as amended (NWPAA), requires that “[t]he Secretary [of the Department of Energy (DOE)] 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 NWPAA states, in part, that “[t]he 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 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 March 9, 2000 (65 FR 12444), that approved the NAC-MPC cask design and added it to the list of NRC-approved cask designs in 10 CFR 72.214 as CoC No. 1025.

Discussion

On January 16, 2009, and as supplemented on February 11, April 1, April 30, September 22, 2009, and January 8, 2010, the certificate holder (NAC) submitted an application

to the NRC that requested an amendment to CoC No. 1025. NAC requested modifications to the cask design that included the following changes to the configuration of the NAC-MPC storage system as noted in Appendix B of the TS: (1) incorporation of a single closure lid with a welded closure ring for redundant closure into the TSC design; (2) modification of the TSC and basket design to accommodate up to 68 LACBWR spent fuel assemblies (36 undamaged Exxon fuel assemblies and up to 32 damaged fuel cans (in a preferential loading pattern)) that may contain undamaged Exxon fuel assemblies and damaged Exxon and Allis Chalmers fuel assemblies and/or fuel debris; (3) the addition of zirconium alloy shroud compaction debris to be stored with undamaged and damaged fuel assemblies; (4) minor design modifications to the VCC incorporating design features from the MAGNASTOR system for improved operability of the system while adhering to ALARA principles; (5) an increase in the concrete pad compression strength from 4000 psi to 6000 psi; (6) added justification for the 6-ft soil depth as being conservative; and (7) other changes to incorporate minor editorial corrections in CoC No. 1025 and Appendices A and B of the TS. Also, the Definitions in TS 1.1 will be revised to include modifications and newly defined terms; the Limiting Conditions for Operation and associated Surveillance Requirements in TS 3.1 and 3.2 will be revised; and editorial changes will be made to TS 5.2 and 5.4.

As documented in the final 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 and the environment will be adequately protected.

This direct final rule revises the NAC-MPC System listing in 10 CFR 72.214 by adding Amendment No. 6 to CoC No. 1025. The amendment consists of the changes described above, as set forth in the revised CoC and TS. The particular TS which are changed are identified in the SER.

The amended NAC-MPC 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 NAC-MPC System casks that meet the criteria of Amendment No. 6 to CoC No. 1025 under 10 CFR 72.212.

Discussion of Amendments by Section

§ 72.214 List of approved spent fuel storage casks.

Certificate No. 1025 is revised by adding the effective date of Amendment Number 6.

Procedural Background

This rule is limited to the changes contained in Amendment 6 to CoC No. 1025 and does not include other aspects of the NAC-MPC 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 and the environment 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 filing comments, 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 NAC-MPC System cask design listed in § 72.214 (List of NRC-approved spent fuel storage cask designs). 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 (AEA), or the provisions of Title 10 of the Code of Federal Regulations. 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 NAC-MPC 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. Amendment No. 6 to the NAC-MPC System CoC will include the following changes to the configuration of the NAC-MPC storage system as noted in Appendix B of the TS: (1) incorporation of a single closure lid with a welded closure ring for redundant closure into the TSC design; (2) modification of the TSC and basket design to accommodate up to 68 LACBWR spent fuel assemblies (36 undamaged Exxon fuel assemblies and up to 32 damaged fuel cans (in a preferential loading pattern)) that may contain undamaged Exxon fuel assemblies and damaged Exxon and Allis Chalmers fuel assemblies and/or fuel debris; (3) the addition of zirconium alloy shroud compaction debris to be stored with

undamaged and damaged fuel assemblies; (4) minor design modifications to the VCC incorporating design features from the MAGNASTOR system for improved operability of the system while adhering to ALARA principles; (5) an increase in the concrete pad compression strength from 4000 psi to 6000 psi; (6) added justification for the 6-ft soil depth as being conservative; and (7) other changes to incorporate minor editorial corrections in CoC No. 1025 and Appendices A and B of the TS. Also, the Definitions in TS 1.1 will be revised to include modifications and newly defined terms; the Limiting Conditions for Operation and associated Surveillance Requirements in TS 3.1 and 3.2 will be revised; and editorial changes will be made to TS 5.2 and 5.4.

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, MD. Single copies of the environmental assessment and finding of no significant impact are available from Jayne M. McCausland, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-6219, e-mail Jayne.McCausland@nrc.gov.

Paperwork Reduction Act Statement

This direct final rule does not contain a new or amended information collection requirement 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, 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 March 9, 2000 (65 FR 12444), the NRC issued an amendment to Part 72 that approved the NAC-MPC System cask design by adding it to the list of NRC-approved cask designs in 10 CFR 72.214. On January 16, 2009, and as supplemented on February 11, April 1, April 30, September 22, 2009, and January 8, 2010, the certificate holder (NAC) submitted an application to the NRC that requested an amendment to CoC No. 1025. Specifically, the amendment will include the following changes to the configuration of the NAC-MPC storage system as noted in Appendix B of the TS:

(1) incorporation of a single closure lid with a welded closure ring for redundant closure into the TSC design; (2) modification of the TSC and basket design to accommodate up to 68 LACBWR spent fuel assemblies (36 undamaged Exxon fuel assemblies and up to 32 damaged fuel cans (in a preferential loading pattern)) that may contain undamaged Exxon fuel assemblies and damaged Exxon and Allis Chalmers fuel assemblies and/or fuel debris; (3) the addition of

zirconium alloy shroud compaction debris to be stored with undamaged and damaged fuel assemblies; (4) minor design modifications to the VCC incorporating design features from the MAGNASTOR system for improved operability of the system while adhering to ALARA principles; (5) an increase in the concrete pad compression strength from 4000 psi to 6000 psi; (6) added justification for the 6-ft soil depth as being conservative; and (7) other changes to incorporate minor editorial corrections in CoC No. 1025 and Appendices A and B of the TS. Also, the Definitions in TS 1.1 will be revised to include modifications and newly defined terms; the Limiting Conditions for Operation and associated Surveillance Requirements in TS 3.1 and 3.2 will be revised; and editorial changes will be made to TS 5.2 and 5.4.

The alternative to this action is to withhold approval of Amendment No. 6 and to require any Part 72 general licensee, seeking to load spent nuclear fuel into NAC-MPC System casks under the changes described in Amendment No. 6, 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 NAC. 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 I. 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, Office of Management and Budget.

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 nuclear fuel, Whistle blowing.

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 1025 is revised to read as follows:

§ 72.214 List of approved spent fuel storage casks.

* * * * *

Certificate Number: 1025.

Initial Certificate Effective Date: April 10, 2000.

Amendment Number 1 Effective Date: November 13, 2001.

Amendment Number 2 Effective Date: May 29, 2002.

Amendment Number 3 Effective Date: October 1, 2003.

Amendment Number 4 Effective Date: October 27, 2004.

Amendment Number 5 Effective Date: July 24, 2007.

Amendment Number 6 Effective Date: **(insert date 75 days after publication in the Federal Register).**

SAR Submitted by: NAC International, Inc.

SAR Title: Final Safety Analysis Report for the NAC Multi-Purpose Canister System (NAC-MPC System).

Docket Number: 72-1025.

Certificate Expiration Date: April 10, 2020.

Model Number: NAC-MPC.

* * * * *

Dated at Rockville, Maryland, this 6th day of July, 2010.

For the Nuclear Regulatory Commission.

/RA/

R. W. Borchardt,
Executive Director for Operations.

Docket Number: 72-1025.

Certificate Expiration Date: April 10, 2020.

Model Number: NAC-MPC.

* * * * *

Dated at Rockville, Maryland, this 6th day of July, 2010.

For the Nuclear Regulatory Commission.

/RA/

R. W. Borchardt,
Executive Director for Operations.

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