



UNITED STATES
NUCLEAR REGULATORY COMMISSION
 WASHINGTON, D.C. 20555-0001

December 16, 1999

MEMORANDUM TO: Joseph R. Gray, Associate General Counsel
 for Licensing and Regulation
 Office of the General Counsel

David L. Meyer, Chief
 Rules and Directive Branch
 Office of Administration

FROM: Donald A. Cool, Director
 Division of Industrial and
 Medical Nuclear Safety, NMSS

SUBJECT: CORRECTION TO COMMENTS ON THE FINAL RULE, "LIST OF
 APPROVED SPENT FUEL STORAGE CASKS: (HI-STAR 100)
 ADDITION"

Your concurrence is requested on the attached memorandum to the EDO transmitting to the Office of the Federal Register a revision of the administrative record of the final rule "List of Approved Spent Fuel Storage Casks: (HI-STAR 100) Addition" (64 FR 48259). These are corrections to inconsistencies between the responses to the public comments and the corresponding language contained in the NRC staff's Safety Evaluation Report (SER) or the Certificate of Compliance (CoC), and clarifications to public comment answers.

The following is a summary of this request:

1. Title: Correction to Comments on the Final Rule "List of Approved Spent Fuel Storage Casks: (HI-STAR 100) Addition"

CONTACTS: Stan Turel, NMSS/IMNS
 (301) 415-6234

Phil Brochman, NMSS/SFPO
 (301) 415-8592

2. Background: On January 11, 1999 (64 FR 1542), the NRC published a proposed rule to add the Holtec HI-STAR 100 cask system to the listing in 10 CFR 72.214. The comment period ended on March 29, 1999. Nine comment letters were received on the proposed rule.

The NRC issued a final rule amending 10 CFR 72.214 on September 3, 1999, which approved the Holtec HI-STAR 100 spent fuel storage cask design (see 64 FR 48259). Subsequently, Holtec notified the NRC by letters dated September 28 and September 29, 1999, that several of the responses to public comments contained in the final rule required additional clarification. Holtec identified typographical errors and inconsistencies between the responses and corresponding language contained in the NRC staff's SER and the CoC. The NRC staff has reviewed Holtec's letters and is correcting the responses to public comments contained in the final rule.

3. Task Leader: Stan Turel, NMSS/IMNS 415-6234
4. Working Group: P. Brochman, NMSS/SFPO 415-8592
 N. Jensen, OGC 415-1637
5. Steering Group: None
6. Requested Action: Office concurrence.
7. Requested Completion Date: Concurrence is requested two weeks from the date of this memorandum. To meet the deadline, a meeting will be scheduled during the week of December 20, 1999, if needed, to discuss and resolve any remaining issues/concerns that are delaying concurrence. Please plan on having an official who can concur for your office available for this meeting. If no issues are identified and all concurrences received, this meeting will be canceled.
8. Enhanced Public Participation: No
9. Compatibility for Agreement States: No.

December 16, 1999

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- 10. Resources and Coordination: A copy of this concurrence package has been forwarded to the IG for information. Time spent reviewing this package should be recorded under RITS # 221AHA, TAC # L21213.

Attachment: EDO memo w/attachments

cc w/att:

- H. T. Bell, OIG
- H. Miller, RI/ORA
- L. Reyes, RII/ORA
- J. E. Dyer, RIII/ORA
- E. W. Merschoff, RIV/ORA
- W. Kane, NMSS
- M. Virgilio, NMSS
- W. Beecher, OPA
- J. Murphy, CRGR

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MEMO TO EDO



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

MEMORANDUM TO: William D. Travers
Executive Director for Operations

FROM: William F. Kane, Director
Office of Nuclear Material Safety
and Safeguards

SUBJECT: CORRECTION TO COMMENTS ON THE FINAL RULE "LIST OF
APPROVED SPENT FUEL STORAGE CASKS: (HI-STAR 100)
ADDITION"

Attached for your signature is a correction to the Statement of Considerations on the final rule "List of Approved Spent Fuel Storage Casks: (HI-STAR 100) Addition" (64 FR 48259). The supplement corrects several public comment responses that were inconsistent with the corresponding language contained in the NRC staff's Safety Evaluation Report (SER) or the Certificate of Compliance (CoC), or that needed additional clarification. This supplement ensures a complete and accurate administration record. There are no changes to the final rule language.

Background: The NRC issued a final rule amending 10 CFR 72.214 on September 3, 1999, which approved the Holtec HI-STAR 100 spent fuel storage cask design (see 64 FR 48259). Subsequently, Holtec notified the NRC by letters dated September 28 and September 29, 1999, that several of the responses to public comments contained in the final rule required additional clarification. The NRC staff has reviewed Holtec's letters and agrees that some of the responses were not complete, therefore, the staff is revising the responses to several of the public comments contained in the final rule.

Resources: No additional resources will be needed to implement this notice.

Coordination: The Office of Administration concurs with these corrections. The Office of the General Counsel has no legal objection.

Attachment:
Federal Register notice

CONTACTS: Stan Turel, NMSS/IMNS
(301) 415-6234

Phil Brochman, NMSS/SFPO
(301) 415-8592

MEMORANDUM TO: William D. Travers
Executive Director for Operations

FROM: William F. Kane, Director
Office of Nuclear Material Safety
and Safeguards

SUBJECT: CORRECTION TO COMMENTS ON THE FINAL RULE "LIST OF APPROVED SPENT FUEL STORAGE CASKS: (HI-STAR 100) ADDITION"

Attached for your signature is a correction to the Statement of Considerations on the final rule "List of Approved Spent Fuel Storage Casks: (HI-STAR 100) Addition" (64 FR 48259). The supplement corrects several public comment responses that were inconsistent with the corresponding language contained in the NRC staff's Safety Evaluation Report (SER) or the Certificate of Compliance (CoC), or that needed additional clarification. This supplement ensures a complete and accurate administration record. There are no changes to the final rule language.

Background: The NRC issued a final rule amending 10 CFR 72.214 on September 3, 1999, which approved the Holtec HI-STAR 100 spent fuel storage cask design (see 64 FR 48259). Subsequently, Holtec notified the NRC by letters dated September 28 and September 29, 1999, that several of the responses to public comments contained in the final rule required additional clarification. The NRC staff has reviewed Holtec's letters and agrees that some of the responses were not complete, therefore, the staff is revising the responses to several of the public comments contained in the final rule.

Resources: No additional resources will be needed to implement this notice.

Coordination: The Office of Administration concurs with these corrections. The Office of the General Counsel has no legal objection.

Attachment:
Federal Register notice

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Federal Register Notice

NUCLEAR REGULATORY COMMISSION

10 CFR Part 72

RIN (3150-AG17)

**Correction to Comments on the Final Rule "List of Approved
Spent Fuel Storage Casks: (HI-STAR 100) Addition"**

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule; correction

SUMMARY: The Nuclear Regulatory Commission (NRC) is supplementing the administrative record of the final rule "List of Approved Spent Fuel Storage Casks: (HI-STAR 100) Addition" (64 FR 48259; September 3, 1999) to ensure a complete and accurate administrative record. This notice (1) corrects several comment responses that were inconsistent with the corresponding language contained in the NRC staff's Safety Evaluation Report (SER) or the Certificate of Compliance (CoC), or that needed additional clarification; (2) corrects two pages in the CoC due to typographical errors; and (3) corrects the CoC expiration date listed in the rule text.

FOR FURTHER INFORMATION CONTACT: Stan Turel, telephone (301) 415-6234, e-mail spt@nrc.gov of the Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Discussion: The NRC issued a final rule amending 10 CFR 72.214 on September 3, 1999, which approved the Holtec HI-STAR 100 spent fuel storage cask design (see 64 FR 48259). Subsequently, Holtec notified the NRC by letters dated September 28 and September 29, 1999, that several of the responses to public comments contained in the final rule required additional clarification. The NRC staff has reviewed Holtec's letters and agrees that some of the responses were not complete. Therefore, the staff is revising the responses to several public comments contained in the final rule. The changes are made to ensure a complete and accurate administrative record. Holtec also notified the NRC, in these letters, that the final CoC contained two typographical errors. Corrected CoC pages have been issued to Holtec and placed in the NRC Public Document Room. Additionally, the NRC staff identified that the CoC expiration date in §72.214 of the final rule was incorrect (see 64 FR 48274). The Office of Federal Register subsequently published a correction notice in the Federal Register (64 FR 50872; September 20, 1999); however, the CoC expiration date in that notice was also in error. Therefore, this notice corrects the CoC expiration date in the rule text of §72.214 to read as "October 4, 2019."

I. Correction of Response to Comments

Revised responses to Comment Nos. 23, 27, 30, 36, 54, and 70 are as follows:

Comment No. 23: One commenter asked how the pre-passivation or anodization of aluminum surfaces is checked? The commenter believes this activity should be checked and asked if there is criteria for this inspection.

Revised Response: A separate check or inspection of the pre-passivation of aluminum surfaces is not necessary. Aluminum is used in the MPC-24, MPC-68, and MPC-68F baskets

for the Boral neutron absorbers and aluminum heat conduction elements that enhance heat transfer from the fuel basket to the MPC shell. When exposed to air or water, aluminum immediately forms a very thin, compact, and adherent film of aluminum oxide, which becomes thicker with increasing temperatures in the presence of water.¹ Holtec's fabrication procedures specify that both the Boral neutron absorbers and the heat conduction elements are immersed in water for a minimum of 72 hours before these components are installed in the MPC. During this fabrication step, the absence of any gas bubbles emanating from the water after 72 hours indicates that all exposed aluminum surfaces have been covered with aluminum oxide (i.e., the aluminum surfaces have been passivated). These fabrication activities are accomplished under Holtec's approved Quality Assurance program. Therefore, a physical inspection of these aluminum components is not necessary to ensure that the surfaces have been properly passivated.

Comment No. 27: One commenter asked whether the design has been evaluated for a seismic event during loading and unloading.

Revised Response: The HI-STAR cask is designed to withstand seismic motions while in storage on the ISFSI pad without tipping over or sliding. The seismic accelerations used in the generic design basis for the HI-STAR 100 system are documented in the HI-STAR 100 CoC and TSAR. There are no cask seismic supports or restraints required during loading or unloading operations by the generic cask operating procedures in the TSAR. Seismic considerations are among the design bases that individual users must evaluate if using the HI-STAR 100 pursuant to the general licensing requirements of 10 CFR Part 72. Each utility choosing to use the general license must perform an evaluation pursuant to 10 CFR 72.212 to

¹ *Corrosion Resistance of Aluminum and Aluminum Alloys*, Metals Handbook, Desk Edition, American Society for Metals, 1985

determine whether its site-specific seismic accelerations at the locations where loading and unloading operations take place are bounded by the generic values in the CoC and TSAR. Based on this evaluation, users must determine whether any seismic support for the cask is required.

Comment No. 30: One commenter questioned the drain-down time and asked how frequently the water is checked. The commenter requested information on what happens if the MPC can't be vacuum dried successfully, and when the fuel needs to be put back in the pool.

Revised Response: The Hi-STAR 100 cask design does not require any limitations on drain-down time (i.e., how long it takes to drain water from the MPC during the vacuum drying process). Holtec's thermal analysis of the spent fuel's peak cladding temperature during the vacuum-drying process demonstrated that, regardless of the length of time necessary to complete the drain down and vacuum drying, the peak cladding temperature would remain less than the 570 °C (1058 °F) "short-term condition" temperature limit. Therefore, a drain-down time limit is not necessary and is not specified in the Technical Specifications (TS). Because there is no limitation on drain-down time, there is also no requirement on how frequently the water draining from the cask should be checked. Furthermore, because a drain-down time limit is not contained in the TS, a corresponding time limit for corrective actions is also not required (e.g., a requirement to unload a cask that cannot be successfully vacuum dried within a specified period of time). Limits on drain-down time and any corrective actions to be taken in response to exceeding these drain-down time limits may be voluntarily provided by the cask user as an operational aid in a site-specific vacuum-drying procedure. Separately, the NRC notes that the TS prohibit entry into the transport operation mode if LCO 2.1.1 is not met; and LCO 2.1.1 contains a vacuum drying pressure surveillance requirement.

Comment No. 36: One commenter asked whether shims are used and stated that shims or gaps were not acceptable.

Revised Response: The design and fabrication intent is that no shims be used in the closure weld of HI-STAR 100 casks. However, when the as-manufactured fit-up gap exceeds 1/16th inch between the lid and the shell, shims may be used, as shown on Design Drawing No. 1396, Sheet 1, for the MPC 24.

Comment No. 54: One commenter asked how lifting height should be verified and stated that the height should be recorded.

Revised Response: The maximum lifting height maintains the operating conditions of the Spent Fuel Storage Cask (SFSC) within the design and analysis basis. It is the general licensee's responsibility to limit the SFSC lifting height to allowable values. The lift height requirements are specified in TS LCO 2.1.3 for the vertical and horizontal orientations. Surveillance requirements require verification that SFSC lifting requirements are met after the SFSC is either suspended or secured in the transporter and prior to moving the SFSC within the ISFSI.

Comment No. 70: One commenter stated that the frequency of SR 2.1.3.1 should be revised because, as written, the frequency would apply only when a cask is being moved to or from the ISFSI and would not apply at other times, such as when moving casks within the ISFSI. However, the drop analysis applies any time the cask is suspended. The frequency should be revised similar to "Prior to movement of an SFSC."

Revised Response: The NRC agrees with the comment. The frequency of SR 2.1.3.1 has been revised.

II. Corrections to CoC No. 72-1008

The NRC is correcting CoC No. 72-1008 to address two typographical errors that occurred during final printing. First, on page 10 in Appendix B, item 2.c is corrected to refer to Table 1.1-3 instead of Table 2.1-3. Second, the definition of the term FUEL DEBRIS in Appendix A (p. 1.1-1) is corrected to match the definition of the same term contained in Appendix B (page 1).

The NRC considers these CoC changes to be administrative corrections, which remove confusion and do not change the substance of the CoC. No other changes to CoC No. 72-1008 are being made. Revised CoC pages have been sent to Holtec and placed in the NRC Public Document Room.

III. Correction of Rule Text

In the final rule published in the Federal Register on September 3, 1999, (see 64 FR 48274) first column, under §72.214, the expiration date for CoC No. 1008 was listed as “(20 years after the final rule effective date).” This was incorrect. Instead of text, the CoC expiration date should have been listed as a date certain. The final rule was effective on October 4, 1999; therefore, the CoC expiration date should have been listed as October 4, 2019. To address this problem the Office of Federal Register published a correction notice on September 20, 1999, (64 FR 50872) second column, under §72.214, which specified a date certain of September 20, 2019. However, this date was also in error. This notice corrects the expiration date for CoC No. 1008 to read as “October 4, 2019.”

**PART 72 -- LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE
OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE**

1. In § 72.214, Certificate of Compliance No. 1008 is corrected to read as follows:

§ 72.214 List of approved spent fuel storage casks.

★ ★ ★ ★ ★

Certificate Number: 1008

SAR Submitted by: Holtec International

SAR Title: HI-STAR 100 Cask System Topical Safety Analysis Report

Docket Number: 72-1008

Certification Expiration Date: October 4, 2019

Model Number: HI-STAR 100

★ ★ ★ ★ ★

Dated at Rockville, Maryland, this _____ day of _____, 1999.

For the Nuclear Regulatory Commission.

William D. Travers,
Executive Director for Operations.

Certification Expiration Date: October 4, 2019

Model Number: HI-STAR 100

★ ★ ★ ★ ★

Dated at Rockville, Maryland, this _____ day of _____, 1999.

For the Nuclear Regulatory Commission.

William D. Travers,
Executive Director for Operations.

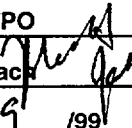
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