May 18, 2005

Mr. Stefan Anton, Licensing Manager
Holtec International
Holtec Center
555 Lincoln Drive West
Marlton, NJ 08053

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE MODEL NO. HI-STAR 100 TRANSPORTATION PACKAGE

Dear Mr. Anton:

By application dated December 30, 2004, Holtec International (Holtec) submitted an amendment request to the U.S. Nuclear Regulatory Commission for Certificate of Compliance No. 71-9261, Revision 3. In my letter to you dated February 15, 2005, I acknowledged receipt of your amendment request and provided a proposed schedule.

In connection with the staff's review, we need the information identified in the enclosure to this letter. We request that you provide this information within 30 days of receiving this letter. Inform us at your earliest convenience if you are not able to provide the information within that time.

Please reference Docket No. 71-9261 and TAC No. L23796 in future correspondence related to this request. The staff is available to meet to discuss your proposed responses. If you have any questions regarding this matter, you may contact me at 301-415-2947.

Sincerely,

/RA/

Meraj Rahimi, Senior Project Manager
Licensing Section
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Docket No.: 71-9261
TAC No.: L23796

Enclosure: Request for Additional Information

Mr. Stefan Anton, Licensing Manager
Holtec International
Holtec Center
555 Lincoln Drive West
Marlton, NJ 08053

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Enclosure: Request for Additional Information

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HI-STAR 100 TRANSPORT SYSTEM
DOCKET NO. 71-9261
TAC NO. L23796
REQUEST FOR ADDITIONAL INFORMATION

By application dated December 30, 2004, Holtec International (Holtec) requested approval of an amendment to Certificate of Compliance No. 71-9261, Revision 3, for the HI-STAR 100 Transportation Cask System. The enclosed request for additional information (RAI) identifies additional information needed by the U.S. Nuclear Regulatory Commission (NRC) staff in connection with its review of the application for the amendment. The requested information is listed by chapter number, title, and section number in the applicant's safety analysis report. NUREG 1617, "Standard Review Plan for Transportation Packages for Spent Nuclear Fuel," was used by the staff in its review of the application.

Each individual RAI describes information needed by the staff to complete its review of the application and/or the SAR and to determine whether that applicant has demonstrated compliance with the regulatory requirements.

Unless otherwise indicated, the following RAIs are needed to determine compliance with 10 CFR 71.33.

Chapter 1 - Introduction

1-1 Identify clearly all the changes on the drawings.

The application indicates that the revision numbers for Drawings 3928, 3923, 3913, and C1765 have changes due to editorial changes. The changes on the drawings need to be identified in order for the staff to confirm if they are editorial in nature.

1-2 Show stress calculations to demonstrate that the reduced weld size still maintains the associated stresses below the allowables.

The groove weld in the drawing No. 3923, Sheet 2 between the port cover plates and the MPC lid has been reduced from 3/16 inch to 1/8 inch.

1-3 Correct errors on Drawing 3923, Sheet 4 and 6.

Staff reviewed Drawing 3923, Sheets 4 and 6 and found Detail E located at the top right corner for MPC24, -24E, 32, and 68 has a dimensional error in thickness for the top layer of the MPC lid. The drawing indicates that the thickness is one and three eighth inches (1-3/8 in.). However, staff believes the thickness should be three-eighth of an inch (3/8 in.) instead. This needs to be corrected. In addition, the three drawings on Sheet 6 are not consistent. Dimensions on the lid drawing should be labeled (e.g., 1.5 in and 8.5 in for a total of 10 in.), and the inconsistency between the lid and detail drawings corrected. Also, there are no weld details showing how the 1-1/2 in. shield lid is attached. These weld details need to be provided.

Chapter 2 - Structural

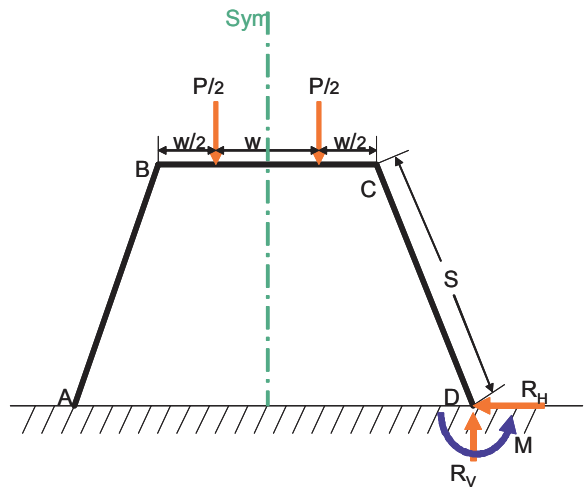
2-1 Correct the numbers for gamma radiation level and neutron fluence.

On Page 2.4.3 of the SAR, it appears that 10^{18} and 10^{19} should be the numbers for gamma radiation level and neutron fluence, respectively, instead of 1018 and 1019.

2-2 Correct the expression and the calculated value for the maximum bending moment for the fuel basket Angle Support.

In Page 2-AD-11 of the "STRUCTURAL CALCULATION PACKAGE FOR MPC," Report No.: HI-2012787, the following expression for the moment at point C is derived based on an assumption of hinged connection at point D.

$$M_C = \frac{9}{16}\frac{PW^2}{3W+S}$$



Using P = 6151 lb and W= 0.531 in., and S = 4.05 in., the resulting value for M_c is 173 lb-in/in.

However, the staff believes the reaction moment at D was overlooked in the report (i.e., D is assumed hinged, rather than clamped). Based on the assumption of clamped joint at point D, the expression for the moment at point C would be:

$$M_C = \frac{3}{4}\frac{PW^2}{4W+S}$$

which results in 210 lb-in./in. Therefore, the value calculated by Holtec appears to under predict the moment at point C by 21%.

Chapter 7 - Operating Procedures

7-1 Justify exceeding the allowable lift load limit for the overpack trunnions.

In Table 7.1.2 on Page 7.1-30 of the SAR, the weights for MPC-32, which is not approved for transport, and MPC-68/68F during "Loaded HI-STAR Removal from Spent Fuel Pool" are 256,913 lbs and 253, 580 lbs, respectively. These weights exceed the 250,000 lb limit, as cautioned on the top of Page 7.1-30, which has been used in the overpack trunnion analysis in Page 2.5-4.