

December 22, 2005

Mr. Donald W. Olson
President
Columbiana Hi Tech, LLC
1802 Fairfax Road
Greensboro, N.C. 27407

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR REVIEW OF THE MODEL
NO. CHT-OP-TU PACKAGE

Dear Mr. Olson:

This refers to your application dated August 5, 2005, as supplemented October 25, 2005, requesting amendment of Certificate of Compliance No. 9288 for the Model No. CHT-OP-TU Package.

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 by February 17, 2006. Inform us at your earliest convenience, but no later than February 3, 2006, if you are not able to provide the information by that date. To assist us in re-scheduling your review, you should include a new proposed submittal date and the reason for the delay.

Please reference Docket No. 71-9288 and TAC No. L23884 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, I may be contacted at (301) 415-8500.

Sincerely,

/RA/

Shawn A. Williams, Project Engineer
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-9288
TAC No. L23884

Enclosure: Request for Additional Information

Mr. Donald W. Olson
 President
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Sincerely,
/RA/
 Shawn A. Williams, Project Engineer
 Spent Fuel Project Office
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Request for Additional Information
Columbiana Hi Tech, LLC
Docket No. 71-9288
Certificate of Compliance No. 9288
Model No. CHT-OP-TU Package

By application dated August 5, 2005, as supplemented October 25, 2005, Columbiana Hi-Tech, LLC (CHT) requested amendment of Certificate of Compliance No. 9288 for the Model No. Eco-Pak Liqui-Rad (LR) Transport Unit Package. In addition to the amendment, CHT is requesting the designation "-96" in the identification number, as specified in 10 CFR 71.19(e).

This request identifies additional information needed by the U.S. Nuclear Regulatory Commission (NRC) staff in connection with its review of the application. Each individual RAI describes information needed by the staff for it to complete its review of the application and the SAR to determine whether the applicant has demonstrated compliance with the regulatory requirements.

- 1-1 Provide a consolidated application. Ensure the consolidated application includes all the pertinent information referenced in the certificate as well as legible drawings.

The previous certificate references include eight supplements in addition to the recent August 5 and October 25, 2005, submittals. The large number of supplements and revisions to the Safety Analysis Report (SAR) leads to areas of confusion.

This information is required to satisfy the requirements of 10 CFR 71.7(a).

- 1-2 Clearly show that the package meets the current regulatory requirements that became effective on October 1, 2004 (69 FR 3698).

The applicant should address each of the 14 issues that were adopted in the new rule. For each issue, identify if the change is applicable to this package, and if so, explain how the package meets the new rule including the location in the consolidated SAR of any revision that was made to meet the new rule.

This information is required to satisfy the requirements of 10 CFR 71.7(a).

- 1-3 Confirm that the leak rate tests for pre-shipment and periodic tests are performed to meet a reference air leakage rate of 10^{-1} ref-cc/sec in accordance with the 1997 Edition ANSI 14.5.

Under the definition for reference air leakage rates, ANSI 14.5 requires that leakage rates greater than 10^{-1} ref-cc/sec shall be treated as 10^{-1} ref-cc/sec.

- 1-4 Justify the use of (any) carbon steel welding material with a minimum of 70 ksi. Refer to note 10 on Drawing No. OP-TU-SAR (Rev. 11, sheet 2 of 2) and note 3 on Drawing No. OP-TU-A3 (Rev. 11, sheet 1 of 1).

In the October 25, 2005, submittal, Attachment B, "CHT requests that any 0.15% (max) carbon steel sheet having an equivalent strength and ductility range be allowed." Note 10 on Drawing No. OP-TU-SAR, Rev. 11, sheet 2 of 2, does not give the carbon content limitations (0.15 max wt % C). Staff's concern on the note, as written, is that it permits (implies the acceptability of) materials of much greater strength (with possibly very high carbon equivalent values) so that cold cracking may be a potential problem if chemical composition is unrestricted. Staff recognizes that the material of interest is not very thick.

This information is required to satisfy the requirements of 10 CFR 71.7(a), 10 CFR 71.71, 10 CFR 71.73, and 10 CFR 71.51.

- 1-5 Clarify the torque and lubrication requirements on the outer lid closure bolts.

Note 7 on Drawing No. OP TU-V-AB1, Rev. 7, sheet 1 of 2, specifies that "prior to shipment closure bolts shall be torqued to 75 ft-lb." Note 7 on Drawing No. OP-TU-SAR, Rev. 11, sheet 2 of 2, specifies that "outer lid closure bolts shall be torqued to 55 ft-lb prior to shipment," which is a value justified in the "explanation of changes" on the basis that lubricated bolts require lower torque. Based on staff's understanding of what the applicant proposed, staff believes that lubricated bolts should be specified as a requirement on the drawings and that the lower torque value should be applicable only for lubricated bolts. Staff is unclear as to whether unlubricated bolts will still be used.

This information is required to satisfy the requirements of 10 CFR 71.7(a).

- 1-6 Referring to the applicants RAI response dated January 6, 2004, Attachment A, page 3 of 12, justify and clarify the meaning of the statement, "The A53 grade B material performs better or the same as the rolled A569 used for the test..."

This was a response to RAI question 1-6 that discussed nil-ductility temperatures. Staff doesn't understand what is meant by "better or the same as." Provide data or arguments to support the position taken.

This information is required to satisfy the requirements of 10 CFR 71.7(a), 10 CFR 71.71, 10 CFR 71.73, and 10 CFR 71.51.

- 1-7 Justify the conclusion in Section 1.2.3.1(e) and 7.2.3(b) that hydrogen generated from a payload with less than 0.068 W/m³ generates less hydrogen than required to form a flammable mixture. Why is this value different from the value used in RAI response dated January 6, 2004, Attachment A, page 5 of 12, which uses 0.011 W/m³.

This seems to contradict the statement made in RAI response dated January 6, 2004, Attachment A, page 5 of 12, that "any hydrogen gas generated by the payload in contact with the plastic pre-packaging material would result almost immediately in a flammable mixture, since the Oxide Vessels do not provide a headspace volume large enough to provide dilution of the gas."

This information is required to satisfy the requirements of 10 CFR 71.43(d).

- 1-8 Justify the durability of the O-rings specified on Drawing No. OP TU-V-AB1, Rev. 7, sheet 1 of 2. Compare service radiation expected in this service with lifetime acceptable limits for the material.

The package must be designed, constructed, and prepared for shipment to ensure no loss or dispersal of radioactive contents under the tests specified in 10 CFR 71.71, 10 CFR 71.43(f) and 71.51(a)(1). It is required to determine that the seals will not deteriorate to a point where containment is no longer maintained per 10 CFR 71.51(a)(1) and 10 CFR 71.71 (c)(1).