

71-9261



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October 18, 1996

Dr. William D. Travers
Director, Spent Fuel Project Office, NMSS
Mail Stop 0-6F18
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Reference: NRC Docket No. 71-9261, TAC No. L22085

Subject: Submittal of the HI-STAR 100 Safety Analysis Report, Holtec Report
HI-951251, Revision 4

- References:
1. U.S. NRC Letter, Mark S. Delligatti to M. Soler, Holtec International dated March 27, 1996 (TAC No. L22019)
 2. U.S. NRC Letter, Mark S. Delligatti to G. Tjersland, Holtec International dated July 10, 1996 (TAC No. L22019)
 3. Holtec International Letter, Dr. K.P. Singh to Mr. C. Haughney, U.S. NRC, dated September 8, 1995
 4. Holtec International Letter, A. Soler to C. Haughney, USNRC, dated June 21, 1995.
 5. NRC Bulletin 96-04 dated July 5, 1996.

Dear Dr. Travers:

Holtec International herewith submits a complete Revision 4 of the HI-STAR (Holtec International Storage, Transport, and Repository) 100 Safety Analysis Report (SAR), dated September 1996, and requests approval as a transport packaging in accordance with 10CFR71. This revision has been prepared to respond to the requests for additional information (RAI) transmitted by the Reference 1 and 2 letters. The enclosed documents replace in their entirety the previous SAR revisions transmitted by References 3 and 4. Also enclosed is a proprietary response document prepared by Holtec International to provide a specific response to each of the RAIs transmitted by References 1 and 2, and to facilitate review of the SAR.

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In the past two years, as the NRC review process, and more recently, our report revision efforts have progressed, Holtec International has carried out fabrication mock-ups of the key HI-STAR components at UST&D, Inc. to confirm fabricability issues. This effort has resulted in several improvements in the design. However, the key design features of the system are essentially unchanged. We provide a complete replacement document in lieu of replacement pages to facilitate your handling of this document and its review. The design changes incorporated include the following:

- Redesign of the MPC lid and closure system to delete the central lifting insert and to increase the MPC lid thickness to provide additional shielding for lid welding operations.
- Replacement of the removable rear trunnions with pocket trunnions providing additional structural support to the intermediate shells.
- Redesign of the MPC baskets to delete the welding of the basket to the MPC baseplate.

The HI-STAR 100 Design Drawings have been revised to incorporate the above described changes and other changes, and reformatted to provide additional clarity and readability. The revised drawings also contain the improvements suggested by our fabricability evaluation program mentioned earlier.

The SAR and RAI response also incorporates additional information on the HI-STAR 100 System in response to NRC Bulletin 96-04 (Reference 5). Specifically, A-516, Grade 70, or any other carbon steel in the fabrication of the MPCs, has been deleted from our system design. All proposed materials for HI-STAR 100 MPC fabrication are Alloy X (selected from austenitic stainless steels). Alloy X eliminates concerns of material compatibility associated with the use of coated carbon steel MPCs and baskets, and the short and long-term storage and transport operating environments. The design of our MPC and its contents precludes the potential for events of the type mentioned in the bulletin.

Additionally, the application now incorporates a tabulation of the exceptions to ASME Boiler and Pressure Vessel Code requirements taken in the design analysis, fabrication, and acceptance of HI-STAR 100 Systems. Specific compensatory measures and/or justifications for the exceptions taken by Holtec are provided.



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Our president, Dr. K.P. Singh, made explicit commitments to the NRC in our April 23, 1996 meeting with respect to the institution of a multi-layered review process and a rigorous QA plan appropriate for a multi-disciplinary product development effort. All commitments made in that meeting have been faithfully and conscientiously implemented by Holtec International. Dr. Singh and other senior management personnel have continuously stressed and reinforced Holtec's utmost commitment to the preparation and presentation of the highest quality design. We believe the revision of the SAR is as error free as is humanly possible and is reflective of the assiduous and dedicated effort of our cask technology development team. In addition to the extensive and complete internal design review process, independent design and documentation reviews have been performed by qualified personnel from Commonwealth Edison Company, Duke Power Company, and Scientech, Inc. These independent reviews have confirmed our corporate commitment to quality.

Our company has continued to enrich its talent pool by recruiting experienced cask personnel into our program. I joined the senior management staff of Holtec International in June of this year to bring my many years of storage and transport cask design experience to the design and licensing of the HI-STAR 100 System. In addition, Mr. Timothy Alowooja, previously at NAC International, and Messrs. Steve Agace and John Makar, veterans of the SMUD and Calvert Cliffs dry storage efforts, have all been recruited since April of this year. We believe that the breadth and depth of our technical staff is apparent in the quality of this submittal.

The many technical innovations built into the HI-STAR 100 System, fully divulged in the proprietary version of this SAR, are at the core of our corporate mission, which is to develop a system with greater safety margins and larger capacities than attained by others. The technologies we have utilized to optimize the HI-STAR 100 are premised in solid science, albeit some are new to spent fuel transportation applications. Our efforts to innovate, we believe, will receive both your intellectual support and your critical scrutiny. We would be most pleased to present the technical nuances of our system to the staff, should such a presentation, in your opinion, facilitate the staff's review. We would also like to discuss the details of our planned demonstration and qualification tests with the Spent Fuel Project Office prior to performance. I will contact your staff to schedule this meeting.

The enclosed Revision 4 SAR and RAI response documents contain certain information which is commercially sensitive to Holtec International and is treated by us with strict confidentiality. This information is of the type described in 10CFR2.790(b)(4). The enclosed affidavit sets forth the bases for which the information is requested to be withheld by the NRC from public disclosure, consistent with these considerations and pursuant to the



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provisions of 10CFR2.790(b)(1). The proprietary material in the document is delineated by a proprietary designation on specific pages or by shaded text. It is therefore requested that these portions of the HI-STAR 100 SAR so identified as proprietary be withheld from public disclosure in accordance with regulatory review requirements. To facilitate the availability of the HI-STAR 100 SAR for public review and information, Holtec International will submit nonproprietary copies of the Revision 4 SAR and responses to the RAIs for placement in the Public Document Room within thirty (30) days.

As you are aware, the HI-STAR 100 System is being used by the Commonwealth Edison Company as the dry dual-purpose storage and transport system for decommissioning of the spent fuel pool at Dresden Unit No. 1. The pool defueling activities are scheduled for completion in 1998. Holtec International therefore requests an expeditious review of this application. If we can be of any assistance or if you have any questions, please contact us.

Sincerely yours,

Gary T. Tjersland
Director of Licensing and Product Development
GTT:nlm

- Enclosures:
1. HI-STAR Safety Analysis Report (HI-951251), Revision 4, September 1996, ten (10) proprietary copies.
 2. Holtec International Responses to USNRC Requests for information (RAI) Regarding the Safety Analysis Report for the HI-STAR 100 Packaging (TAC No. L22085), September 1996, ten (10) proprietary copies.
 3. Original Affidavit pursuant to 10CFR2.790.

AFFIDAVIT PURSUANT TO 10CFR2.790

I, Gary T. Tjersland, being duly sworn, depose and state as follows:

- (1) I am Director of Licensing and Product Development, Holtec International and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.
- (2) The information sought to be withheld is contained in the documents entitled Safety Analysis Report for the HI-STAR 100 Cask System, Holtec Report Number HI-951251 and Holtec International Responses to USNRC Requests for the Additional Information (RAI) Regarding the Safety Analysis Report for the HI-STAR 100 Packaging (TAC No. L22085). The proprietary material in these documents is delineated by proprietary designation on specific pages or by shaded text identified as being proprietary.
- (3) In making this application for withholding of proprietary information of which it is the owner, Holtec International relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC Sec. 552(b)(4) and the Trade Secrets Act, 18 USC Sec. 1905, and NRC regulations 10CFR Part 9.17(a)(4), 2.790(a)(4), and 2.790(b)(1) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information", and some portions also qualify under the narrower definition of "trade secret", within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).
- (4) Some examples of categories of information which fit into the definition of proprietary information are:
 - a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by Holtec's competitors without license from Holtec International constitutes a competitive economic advantage over other companies;

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- b. Information which, if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product.
- c. Information which reveals cost or price information, production, capacities, budget levels, or commercial strategies of Holtec International, its customers, or its suppliers;
- d. Information which reveals aspects of past, present, or future Holtec International customer-funded development plans and programs of potential commercial value to Holtec International;
- e. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs 4.a, 4.b, 4.d, and 4.e, above.

- (5) The information sought to be withheld is being submitted to the NRC in confidence. The information (including that compiled from many sources) is of a sort customarily held in confidence by Holtec International, and is in fact so held. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by Holtec International. No public disclosure has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to the NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in paragraphs (6) and (7) following.
- (6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Access to such documents within Holtec International is limited on a "need to know" basis.

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- (7) The procedure for approval of external release of such a document typically requires review by the staff manager, project manager, principal scientist or other equivalent authority, by the manager of the cognizant marketing function (or his designee), and by the Legal Operation, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside Holtec International are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.
- (8) The information classified as proprietary was developed and compiled by Holtec International at a significant cost to Holtec International. This information is classified as proprietary because it contains detailed historical data and analytical results not available elsewhere. This information would provide other parties, including competitors, with information from Holtec International's technical database and the results of evaluations performed using codes developed by Holtec International. Release of this information would improve a competitor's position without the competitor having to expend similar resources for the development of the database. A substantial effort has been expended by Holtec International to develop this information.
- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to Holtec International's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of Holtec International's comprehensive spent fuel storage technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology, and includes development of the expertise to determine and apply the appropriate evaluation process.

The research, development, engineering, and analytical costs comprise a substantial investment of time and money by Holtec International.

The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

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Holtec International's competitive advantage will be lost if its competitors are able to use the results of the Holtec International experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

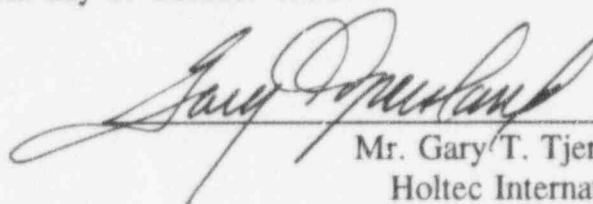
The value of this information to Holtec International would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive Holtec International of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing these very valuable analytical tools.

STATE OF NEW JERSEY)
) ss:
COUNTY OF BURLINGTON)

Mr. Gary T. Tjersland, being duly sworn, deposes and says:

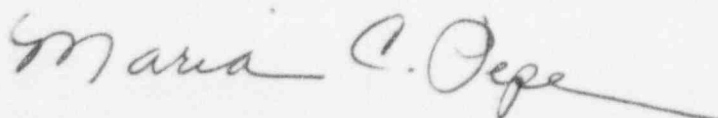
That he has read the foregoing affidavit and the matters stated therein are true and correct to the best of his knowledge, information, and belief.

Executed at Marlton, New Jersey, this 18th day of October 1996.



Mr. Gary T. Tjersland
Holtec International

Subscribed and sworn before me this 18th day of October, 1996.



MARIA C. DEPE
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 25, 2000