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December 15, 1997

Mr. Mark S. Delligatti
Senior Project Manager
Spent Fuel Licensing Section, SFPO, NMSS
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Reference: HI-STAR Safety Analysis Report, Holtec Report HI-951251
NRC Docket No. 71-9261

HI-STAR Topical Safety Analysis Report, Holtec Report HI-941184
NRC Docket No. 72-1008

HI-STORM 100 Topical Safety Analysis Report, Holtec Report HI-951312
NRC Docket No. 72-1014

Subject: Use of ANSYS in HI-STAR and HI-STORM License Applications

Dear Mr. Delligatti:

The object of this letter is to allay potential staff concerns, vis-a-vis Holtec's submittals, in light of the several error notices recently issued by ANSYS. ANSYS, as you are well aware, is a general purpose finite element code which has been used in numerous dry storage applications by our company as well as others. However, while we have used ANSYS extensively in our HI-STAR™ and HI-STORM™ thermal and structural analyses, we have carefully excluded its use in the class of problems where it failed to muster our corporate QA validation process. A most significant example in cask analysis is the use of ANSYS's FLOTRAN module in ventilated cask (HI-STORM's genre) application, which ANSYS last week announced to be defective. We had disqualified FLOTRAN for use in HI-STORM™ over a year ago because of the deficiencies discerned by our thermal specialists during initial QA assessment efforts. The ANSYS error notice on this subject received by us last week is attached herewith for your reference.

Another area of potential deficiency in ANSYS's heat transfer data management and algorithm pertains to problems with significant radiative heat transfer components such as SNF-to-cell wall heat transfer. We have informed ANSYS of the limitation discovered by us and hope that they will disseminate it to the user community (please see attached internal memo from Holtec's E. Rosenbaum to V. Gupta and attachment thereof).

In closing, we assure you that our practice of rigorous QA validation of computer codes in safety-related projects precludes the incursion of the computer code weaknesses in our work product. Over the years, our corporate engineering department has uncovered several deficiencies in "established" computer codes,

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Change: NRC PDR



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some of which have led to the issuance of Information Notices. We continue to exercise extreme vigilance in computer code applications through a comprehensive internal validation effort. The Commission's review of the latest revision of the HI-STAR TSAR and SARs, transmitted last week, may proceed without any concern as to the veracity of the computer code applications in our documents.

Sincerely,

Bernard Gilligan
Project Manager
BG:nlm

APPROVALS:

Gary T. Tjersland
Director of Licensing

cc: Mr. Vik Gupta, Holtec International

K.P. Singh
President and CEO

Enclosures: Attachment A: ANSYS® Class 3 Error Report No. 97-41 (one page)
Attachment B: Interoffice Memorandum dated October 24, 1997, from E. Rosenbaum, Holtec International, to V. Gupta, Holtec International (9 pages) [Proprietary]
Attachment C: Affidavit Pursuant to 10CFR2.790

Distribution (Letter and attachments)

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Document I.D.: 5014147

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 listed in Attachment B to the letter from Mr. Bernard Gilligan to Mr. Mark S. Delligatti, dated December 15, 1997 (Holtec Letter Document I.D. 5014147).
- (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;
 - 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.

AFFIDAVIT PURSUANT TO 10CFR2.790

- 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.
- (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

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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.

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.

AFFIDAVIT PURSUANT TO 10CFR2.790

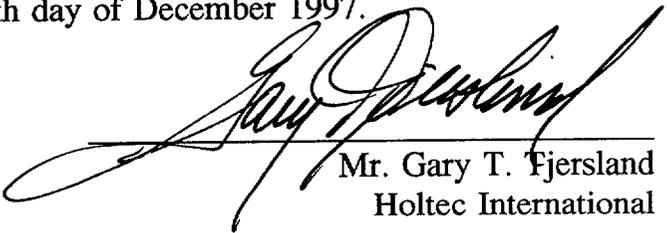
The value of this information to Holtec International would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, 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)

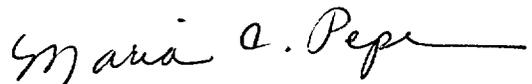
Mr. Gary T. Tjersland, being duly sworn, deposes and says:

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 15th day of December 1997.


Mr. Gary T. Tjersland
Holtec International

Subscribed and sworn before me this 15th day of December, 1997.



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

ERROR NO: 97-41

KEYWORDS: THERMAL FLUID

DESCRIPTION OF ERROR:

Flotran analyses of thermal-fluid problems at high Peclet numbers may contain energy imbalances and incorrect temperatures. Problems without flow are unaffected.

The exact range of the Peclet numbers affected is problem dependent. The user can determine whether the problem exists by examining information in the jobname.pfl file and performing a heat balance. The procedure for performing a heat balance is outlined in Chapter 5 of the Flotran Analysis Guide.

TYPICAL GUI PATH(S): N/A

Not applicable

FIRST INCORRECT VERSION(S):*

CORRECTED IN:*

Rev. 5.1

Release 5.5

SUGGESTED USER ACTION FOR RUNNING ON UNCORRECTED VERSION:

The user should verify the heat balance in cases with heat generation by looking at the difference between energy in and energy out and comparing it to the volumetric heat generation term (if applicable). In some cases, users specify temperatures instead of heat sources. In such cases, the energy flow into the system is from Wall Heat Transfer. This is checked against the energy flow in/out.

COMMENTS:

AUTHOR/CORRECTOR:

Rich Lange
Rich Lange

DATE: September 15, 1997

REVIEWED BY QA:

William J. Bryan
William J. Bryan

DATE: September 15, 1997

APPROVAL:

Dave Conover
Dave Conover

DATE: September 15, 1997

*Unless noted otherwise, this report applies to all ANSYS family products which contain the described feature in the indicated Release(s). See the reverse side for details regarding product applicability.

Unless noted otherwise, this error report also applies to all releases after the first incorrect one and prior to the corrected release. All releases after "corrected in" are corrected. Manual corrections are included in on-line documentation as appropriate. Please see the reverse side of this sheet for additional information on ANSYS release identifiers.

ANSYS Release Identifier Description

ANSYS release identifiers consist of a major release level, a minor release level, a correction and a build date. An example of how this is constructed is shown below:

```
      5.3 UP030797 <--- build date (form = UPmddyy)
      ^  ^
      |  |
major release level --  -- minor release level
```

Major release level changes indicate that new features have been added to the program and that some level of program architecture change and/or file structure may have occurred. Minor release level changes also indicate that new features have been added to the program, but files are upwardly compatible. All known error fixes are included in both minor and major releases. The build date corresponds to the date the program was created. Special versions may be provided to circumvent an error and are identified by build date. Special versions are not general releases to all ANSYS licensees, since they typically represent error corrections occurring only on one system, a subset of our customers who have specific graphics devices, etc.

When a release identifier on a Class3 Error Report does not include a build date, all build dates for the indicated release level are included. When a release identifier for FIRST INCORRECT VERSION explicitly includes a build date, the release level with the indicated build date as well as all earlier build dates for that release level are affected. When a release identifier for CORRECTED IN explicitly includes a build date, the release level with the indicated build date as well as all subsequent build dates contain the correction.

For example, a Class3 Error Report with "5.3 UP100396" for FIRST INCORRECT VERSION and "5.5 UP063098" for "CORRECTED IN" would apply to all 5.3 releases with a build date UP100396 or later, all 5.4 releases (regardless of build date) and all 5.5 releases with a build date earlier than UP063098.

The ANSYS release identifier(s) shown under "corrected in" on the front side of Class3 Error Reports indicates the first possible release that contains the correction.

An identifier indicated under "corrected in" does not guarantee that a general distribution of that release of ANSYS will occur. It does indicate that the correction is known and implemented in that or any subsequent release.

Product Applicability

The ANSYS family of component products occasionally undergoes name changes between releases and/or changes in the functionality of derived products (such as ANSYS-PC/LINEAR). To minimize the potential for confusion in these areas, unless otherwise noted on the front side of the Class3 Error Report, the error report applies to all ANSYS family products (including standalone component products) that contain the described feature(s) in the designated release(s).