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May 6, 2002

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: USNRC Docket No. 72-1014
HI-STORM 100 Certificate of Compliance 1014
Alternatives to Codes and Standards – Cask Transfer Facility

References:
1. Holtec Projects 50438 and 5014
2. NRC Inspection Report 07200037/2001-002 (DNMS), dated August 13, 2001
3. NRC letter, Cynthia Pederson to Mr. Oliver Kingsley, Exelon Nuclear, dated May 3, 2002

Dear Sir:

In response to the Reference 3 letter, we are providing information to the NRC pertaining to the fabrication of the Holtec HI-TRAN 140™ cask transfer facility (CTF) for the Dresden Nuclear Power Station. As described in Reference 2, an NRC inspection of the Dresden CTF conducted in mid-2001 concluded that the CTF was designed and fabricated properly, and that it is capable of performing its intended functions without limitation. We note that there were no unresolved items in the Reference 2 inspection report pertaining to weld records. The purpose of this correspondence is to specifically address a new issue, raised in the Reference 3 letter, on quality documentation requirements applicable to weld inspection records archived during the CTF's manufacturing in the fabrication facility.

By way of background information in this matter, we should observe that the CTF is an SSC (structure, system, or component) used exclusively to conduct activities governed by 10 CFR 72 and is not used for activities governed by 10 CFR Part 50. The HI-STORM 100 System Part 72 CoC, Appendix B, Section 3.5.2.1.1 states:

> "The metal weldment structure of the CTF structure shall be designed to comply with the stress limits of ASME Section III, Subsection NF, Class 3 for linear structures. The applicable loads, load combinations, and associated service condition definitions are provided in Table 3-3. All compression loaded members shall satisfy the buckling criteria of ASME Section III, Subsection NF."

It is our interpretation that the CoC invokes only the stress limits and buckling criteria of Subsection NF and is not intended to invoke any other portions of the ASME Code, such as Subsection NCA. We recognize, as pointed out in the Reference 3 letter, that the HI-STORM CoC also refers to NUREG-0612 for design, fabrication, operation, testing, inspection and maintenance of the transfer cask and MPC lifting device used with the CTF. This issue is discussed further in the following paragraphs.

During the development of the Dresden CTF design documents, the quality assurance requirements were determined based upon 10 CFR 72, Subpart G because of the CTF's exclusive use in Part 72 activities. Holtec International's QA program employs the graded approach to quality for important-to-safety activities conducted under 10 CFR 72. This is consistent with requirements in 10 CFR 72, Subpart G and the guidance in NUREG-1536, "Standard Review Plan for Dry Cask Storage Systems." The HI-STORM 100 System FSAR further states that the components and structures which comprise the CTF shall be given an ITS category designation in accordance with a written procedure which is consistent with NUREG/CR-6407 and Chapter 13 of the FSAR.

Our QA program provides the means for determining the appropriate quality category (A, B, or C) under the graded approach through appropriate Holtec Quality Procedures (HQPs). The highest QA category of any

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component or structure of the CTF was determined to be important-to-safety, quality category B (ITS-B) based on its design function. Therefore, QA program applicability for all CTF activities, from design through procurement, including development of shop travelers and weld-related documentation was commensurate with the ITS-B classification for the CTF. The ITS-B designation is also consistent with the Exelon specification document (DRE1-99-0001) for the CTF.

Numerous other implementing documents were developed for shop fabrication of the CTF components. These documents, following the mandate of the CoC and the FSAR, used criteria from various sources, including ASME Section III, Subsection NF and NUREG-0612, for design criteria, weld acceptance criteria, testing, and maintenance. However, the 10 CFR 50 quality requirements included in these documents (i.e., ANSI N.45.2 and Regulatory Guide 1.28) were not invoked by the CoC or the FSAR and therefore were considered to be outside the scope of the criteria applicable to the CTF. For this reason, the lower-tier implementation documents contain no mention of the QA guidance from ANSI N.45.2, Regulatory Guide 1.28, or NCA. In summary, the reason that we did not overlay 10CFR50 Appendix B QA program requirements for "safety-related" activities or the additional QA program requirements from the ASME III Code, Subsection NCA, derives from the fact that the CTF is neither a Part 50 SSC nor an ASME Code stamped structure.

The NRC-approved Holtec QA program, as extended to the fabrication facility, addressed all necessary aspects of fabrication, including record requirements of welds for an ITS-B SSC. The CTF weld inspection records meet the Holtec QA program requirements for an ITS-B structure. That is, we have documented evidence of welder qualifications, welding procedure specifications, weld identification, and results of weld inspections, and have maintained traceability and retrievability for these records. The CTF welding documentation is in compliance with our QA program governing travelers and weld inspections for ITS-B applications.

The governing QA procedures for CTF fabrication required records of QC acceptance of welds. Documentation of each individual weld via certified weld specification drawings was not required by the CTF QA procedures. We assert, based on our interpretation of the weld documentation requirements in ASME Section III, Subsection NCA, that the weld records for the CTF are consistent with established industry practice and the applicable requirements of NCA-4234.9 and 10, which are not specific regarding documentation for individual welds versus groups of welds. Furthermore, we agree that meeting the requirements of these NCA articles, as the NRC states in its Reference 3 letter, also fulfills the weld inspection record guidance in ANSI N.45.2.

Notwithstanding the above, since we are aware from the Reference 3 letter that the NRC's position is not congruent with our own, and in the ultimate analysis the NRC is vested with the authority to interpret such issues, a request for approval of an ASME Code alternative appears to be the only vehicle available to us to protect Exelon's ongoing fuel loading campaign from being adversely impacted. Accordingly, we hereby agree to invoking NCA-4234.9 (b) and 10(b) of the ASME Code for the Dresden CTF weld inspection records and request approval of the attached Code alternative request (in the form of a clarification) to obtain one-time NRC approval of the Dresden CTF's archived records.

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We respectfully request SFPO's expedited action on this request. If you have any questions or require additional information, please contact the undersigned at (856) 797-0900, extension 668.

Sincerely,

Brian Gutherman, P.E.
Licensing Manager

Approved:

K.P. Singh, P.E., Ph.D.
President and CEO

Concurrence:

Manufacturing

Quality Assurance

emcc: Mr. S. O'Connor, USNRC
Mr. P. Narbut, USNRC
Dr. C. Miller, USNRC
Mr. K. Yessian, Exelon
Mr. J. Reiss, Exelon
Mr. R. Bastyr, Exelon
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Mr. J. Monninger, USNRC
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Attachment: Code Alternative Request

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ASME CODE ALTERNATIVE REQUEST FOR THE DRESDEN CTF

Applicable Code Sections

ASME Section III, Subsection NCA, Article NCA-4234.9(b) and 10(b).

Description of Code Requirements

NCA-4234.9(b): The Certificate Holder shall prepare instructions, procedures, drawings, checklists, travelers, or other appropriate documents, including the document numbers and revisions to which the process conforms, with space provided for reporting of results of completion of specific operations at checkpoints of fabrication, manufacture, or installation. The documents shall include space for: a signature, initials, or stamp; the date that the activity was performed by the Certificate Holder's representative; the Authorized Nuclear Inspector's signature, initials, or stamp; and the date on which those activities were witnessed.

NCA-4234.10(b): The Certificate Holder shall prepare process sheets, travelers, or checklists, including the document numbers and revision to which the examination or test is to be performed, with space provided for recording results of examinations and tests. The documents shall include space for: a signature, initials, or stamp; the date that the activity was performed by the Certificate Holder's representative; the Authorized Nuclear Inspector's signature, initials, or stamp; and the date on which those activities were witnessed. The examination checklist for construction of items shall be filled in and completed by the Certificate Holder who applies the appropriate Code Symbol Stamp to the item.

Alternative, Justification, and Compensatory Measures

The terms "Certificate Holder" and "Authorized Nuclear Inspector" are not applicable to the CTF since it is not an ASME Code-stamped structure. The CTF was constructed as a 10 CFR 72, ITS, Category B item in accordance with Holtec's NRC-approved QA program, which does not invoke the documentation requirements of ASME III, Subsection NCA. The Holtec QA program, extended to the shop fabricator for the CTF, requires documentation of the final QC signoff of welds, with space for the QC inspector's initials and date. Further, groups of welds were signed off concurrently, representing a series of successive weld activities performed over short durations. Weld signoffs by group is an acceptable interpretation of these requirements.

This proposed alternative meets the provisions of HI-STORM 100 CoC, Appendix B, Section 3.3.2.1 as it provides an acceptable level of quality and safety. The primary load carrying welds were re-inspected by a third party inspector and documented individually, after completion of the 125% load

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test conducted at the Dresden site. The particular inaccessible welds identified in the Reference 2 inspection report are not primary load carrying welds and could have been designated "not-important-to-safety." However, we chose to designate these welds as ITS-B to be conservative. As described on page 20 of the Reference 2 inspection report, the NRC has found that:

> "Based on the information provided by licensee, the NRC concluded that the final CTF welds are proper. More specifically, this is based on the licensee's assertion that all welds were inspected and identified discrepancies corrected; the documented results of QC inspector activities (weekly Holtec Users Group reports); and the QA manager's certification of the cumulative welding data."

In addition, the CTF was subjected to extensive pre-operational testing and inspections (e.g., load testing at 125% of design weight) prior to its induction into service in the Spring of 2001. The CTF was successfully used to transfer eight MPCs from a HI-TRAC transfer cask into HI-STORM 100 overpacks since that time.

In summary, the manufacturing of the CTF under Holtec's QA program and its design, stress analysis, and testing protocol governed by the applicable sections of NUREG-0612 and ASME Section III, Subsection NF provide a sound basis to conclude that the CTF will continue to perform its intended functions in a safe manner.