CHAPTER 13†: QUALITY ASSURANCE

13.0 QUALITY ASSURANCE PROGRAM

13.0.1 Overview

This chapter provides a summary of the quality assurance program implemented for activities related to the design, qualification analyses, material procurement, fabrication, assembly, testing and use of structures, systems, and components of the HI-STORM 100 System and HI-TRAC transfer cask designated as important to safety.

Important-to-safety activities related to construction and deployment of the HI-STORM 100 System are controlled under the NRC-approved Holtec Quality Assurance Program. The Holtec QA program manual (Reference [13.0.2]) is approved by the NRC (Reference [13.0.4]) under Docket 71-0784. The Holtec QA program satisfies the requirements of 10 CFR 72, Subpart G and 10 CFR 71, Subpart H. In accordance with 10 CFR 72.140(d), this approved 10 CFR 71 QA program will be applied to spent fuel storage cask activities under 10 CFR 72. The additional recordkeeping requirements of 10 CFR 72.174 are addressed in the Holtec QA program manual and must also be complied with.

The Holtec QA program is implemented through a hierarchy of procedures and documentation, listed below.

1. Holtec Quality Assurance Program Manual
2. Holtec Quality Assurance Procedures
3. a. Holtec Standard Procedures
   b. Holtec Project Procedures

Quality activities performed by others on behalf of Holtec are governed by the supplier's quality assurance program or Holtec's QA program extended to the supplier. The type and extent of Holtec QA control and oversight is specified in the procurement documents for the specific item or service being procured. The fundamental goal of the supplier oversight portion of Holtec's QA program is to provide assurance that activities performed in support of the supply of safety-significant items and services are performed correctly and in compliance with the procurement documents.

† This chapter has been prepared in the format and section organization set forth in Regulatory Guide 3.61. However, the material content of this chapter also fulfills the intent of NUREG-1536. Pagination and numbering of sections, figures, and tables are consistent with the convention set down in Chapter 1, Section 1.0, herein. Finally, all terms-of-art used in this chapter are consistent with the terminology of the glossary (Table 1.0.1) and component nomenclature of the Bill-of-Materials (Section 1.5).

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13.0.2 Graded Approach to Quality Assurance

For the HI-STORM 100 System, a graded approach to quality assurance is used by Holtec. This graded approach is controlled by Holtec Quality Assurance (QA) program documents as described in Section 13.0.1.

NUREG/CR-6407 [13.0.1] provides descriptions of quality categories A, B and C. Using the guidance in NUREG/CR-6407, Holtec International assigns a quality category to each individual, important-to-safety component of the HI-STORM 100 System and HI-TRAC transfer cask. The categories assigned to the cask components are identified in Table 2.2.6. Quality categories for ancillary equipment are provided in Table 8.1.6 on a generic basis. Quality categories for other equipment needed to deploy the HI-STORM 100 System at a licensee's ISFSI are defined on a case-specific basis considering the component's design function.

Activities affecting quality are defined by the purchaser's procurement contract for use of the HI-STORM 100 System at an independent spent fuel storage installation (ISFSI) under the general license provisions of 10CFR72, Subpart K. They may include any or all of the following: design, procurement, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair and monitoring of HI-STORM 100 structures, systems, and components that are important to safety.

The quality assurance program described in the QA Program Manual fully complies with the requirements of 10CFR72 Subpart G and the intent of NUREG-1536 [13.0.3]. However, NUREG-1536 does not explicitly address incorporation of a QA program manual by reference. Therefore, invoking the NRC-approved QA program in this FSAR constitutes a literal deviation from NUREG-1536 and has accordingly been added to the list of deviations in Table 1.0.3. This deviation is acceptable since important-to-safety activities are implemented in accordance with the latest revision of the Holtec QA program manual and implementing procedures. Further, incorporating the QA Program Manual by reference in this FSAR avoids duplication of information between the implementing documents and the FSAR and any discrepancies that may arise from simultaneous maintenance to the two program descriptions governing the same activities.

13.1 through 13.5 INTENTIONALLY DELETED

13.6 REFERENCES

[13.0.1] NUREG/CR-6407, "Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety," February 1996.

[13.0.2] Holtec International Quality Assurance Program, Latest Approved Revision.

[13.0.3] NUREG-1536, "Standard Review Plan for Dry Cask Storage Systems," January 1997.

[13.0.4] NRC QA Program Approval for Radioactive Material Packages No. 0784, Docket 71-0784.

SUPPLEMENT 13.I

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SUPPLEMENT 13.II

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