

**Plan for Pre-submission Readiness Audit of Holtec International's Proposed License Application for the HI-STORE Consolidated Interim Storage Facility in Lea County, NM
February 22-23, 2017**

A. Location

The pre-submission readiness audit will be held on February 22-23, 2017 at the address below:

**Holtec International Technology Campus
2500 Broadway
Camden, NJ 08104**

B. Background

On August 3, 2015, Holtec International submitted a letter of intent to file an application for a site-specific license for the HI-STORE Consolidated Interim Storage Facility (CISF) in an undeveloped and isolated patch of land in Southeast New Mexico, owned by the Eddy-Lea Energy Alliance. In its letter, Holtec stated that it intends to use the HI-STORM UMAX Canister Storage System, currently certified for general license use by Part 50 licensees under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 72, as the dry cask storage system to be used at the proposed CISF. By letter dated September 20, 2016, Holtec stated that it intends to submit the license application for the HI-STORE CISF by March 31, 2017. Holtec intends to initially apply for authorization to store up to 5,000 metric tons of spent nuclear fuel, with plans to subsequently amend the license to expand to a maximum capacity of 100,000 metric tons.

NRC staff has held several pre-application meetings with Holtec to discuss the details of the proposed facility. The first pre-application meeting with NRC staff was held on December 9, 2015. Subsequent pre-application meetings were held on April 4, 2016 to discuss proposed amendment to HI-STORM UMAX to store horizontal canisters at HI-STORE facility; on December 6, 2016 to discuss draft environmental report; and on February 1, 2017 to discuss the proposed Safety Analysis Report.

The NRC will conduct a pre-submission readiness audit of Holtec's application to construct and operate the HI-STORE CISF. The purpose of the audit is to familiarize NRC staff with the content and structure of the license application prior to submittal, and provide any feedback to Holtec regarding the level of detail that the staff expects to ensure a timely and efficient acceptance review of the application.

C. Audit Scope

The scope of the pre-submission audit will include information provided in the proposed License Application (LA), Safety Analysis Report (SAR), and Environmental Report (ER). Specific details regarding the scope for the staff audit of each of these documents is discussed below:

1. Introduction and Discussion of LA/SAR/ER Structure

The staff expects Holtec to provide a brief overview of the layout and structure of the LA, SAR, and ER, and how the guidance provided in Regulatory Guide 3.48, NUREG-1567, NUREG-1748, and any applicable Interim Staff Guidance is addressed in the application. Additionally, staff expects Holtec to briefly discuss the process it used to incorporate by reference any NRC-approved analyses from previous licensing or certification approvals, and how they are identified in the HI-STORE license application. Holtec should also identify the specific sections or

chapters of the HI-STORE CISF SAR that contain additional site-specific technical analyses and/or calculations to supplement those incorporated by reference from the HI-STORM UMAX FSAR.

2. Individual LA/SAR/ER Chapter Review by NRC staff

NRC license reviewers will conduct a brief review of their designated LA/SAR/ER chapters, as well as any additional information that may also be referenced in their respective areas. The individual reviews from staff are expected to start with the HI-STORE CISF SAR chapters, which should contain the discussions, analyses, and justifications to demonstrate how the proposed design and operations of the CISF meet the site-specific ISFSI requirements in 10 CFR Part 72. This initial review will then guide staff to review specific sections or analyses from the HI-STORM UMAX FSAR that are incorporated by reference in the HI-STORE SAR. Accordingly, the staff expects that an updated copy of the latest NRC-approved revision of HI-STORM UMAX FSAR, as well as any supplementary calculation packages or appendices, be available to staff for verification. The staff will focus more attention to SAR sections that contain new site-specific analyses that incorporate site parameters to demonstrate compliance. The staff audit review will not confirm the presence of every analysis necessary for demonstrating compliance with all NRC regulations. Rather, the staff will select specific scenarios or analyses, and verify that the justifications, analyses, and/or supporting calculations are properly identified and available.

The specific LA/SAR/ER chapter review assignments are outlined below:

Table 1 – License Application Audit Review Assignments

| License Application Contents | Assigned Reviewer | Notes |
|--|-----------------------------|-------------------------|
| General Information and Financial Qualifications | J. McKirgan, J. Cuadrado | |
| Technical Information (Safety Analysis Report) | (Detailed below) | |
| Site Environmental Report | J. Caverly, J. Gwo | |
| Quality Assurance and Training Programs | J. Tapp, E. Goldfeiz, Z. Li | |
| Security and Emergency Plan | Not reviewed | |
| Inventory and Records Requirements | J. Tapp | |
| Decommissioning Funding Plan | J. Cuadrado, J. McKirgan | |
| Proposed License Conditions and Technical Specifications | All relevant reviewers | M. Rahimi to coordinate |

Table 2 – Safety Analysis Report Audit Review Assignments

| SAR Chapter | Assigned Reviewer | Notes |
|-----------------------------------|--|--|
| Chapter 1, "General Information" | J. Cuadrado | |
| Chapter 2, "Site Characteristics" | J. Gwo, E. Goldfeiz, Z. Li | J. Gwo to coordinate with J. Caverly for consistency with ER |
| Chapter 3, "Operations Systems" | J. Wise, S. Everard, J. Chang, E. Goldfeiz, Z. Li, J. Cuadrado | |

| | | |
|---|--|--|
| Chapter 4, "SSC and Design Criteria Evaluation" | All disciplines, as necessary | Y. Diaz to coordinate review observations |
| Chapter 5, "Installation and Structural Evaluation" | S. Everard | |
| Chapter 6, "Thermal Evaluation" | J. Borowsky | |
| Chapter 7, "Shielding Evaluation" | E. Goldfeiz, Z. Li | |
| Chapter 8, "Criticality Evaluation" | Z. Li, E. Goldfeiz | |
| Chapter 9, "Confinement Evaluation" | J. Chang, E. Goldfeiz, Z. Li | |
| Chapter 10, "Conduct of Operations Evaluation" | J. Wise, J. Chang, J. Tapp, E. Goldfeiz, Z. Li | M. Rahimi to coordinate review observations |
| Chapter 11, "Radiation Protection Evaluation" | E. Goldfeiz, Z. Li | Audit review will also verify presence of 10 CFR Part 20 Program |
| Chapter 12, "Quality Assurance Evaluation" | J. Tapp | |
| Chapter 13, "Decommissioning Evaluation" | Not evaluated | |
| Chapter 14, "Waste Confinement and Management Evaluation" | E. Goldfeiz | |
| Chapter 15, "Materials Evaluation" | J. Wise, S. Everard, J. Borowsky | |
| Chapter 16, "Accident Analysis" | All disciplines | Y. Diaz to coordinate review observations |
| Chapter 17, "Technical Specifications" | All disciplines, if necessary | M. Rahimi to coordinate review observations |

3. Discussion of Individual Chapters with Holtec staff

NRC staff will hold individual breakout sessions with designated Holtec representatives for each review discipline to ask questions, request clarifications, and/or discuss discrepancies, if any, concerning the documents reviewed. NRC staff reviewing analyses or chapters with cross-cutting applicability may need to join discussions with other review disciplines, as needed.

4. Internal NRC Staff Discussion/Caucus of Initial Observations

After the individual discussions with Holtec, the NRC staff will internally discuss their initial observations for each discipline, and create a consolidated list for internal discussion. The staff will screen this initial list of audit observations for any redundancies or common themes, and summarize them into the following broad categories:

- **Necessary for completion of acceptance review; Safety or Environmental** – observations that may become the subject of a Request for Supplemental Information (RSI);
- **Necessary for completion of detailed technical review and regulatory compliance findings; Safety or Environmental** – observations that may become the subject of a Request for Additional Information (RAI);

- **Editorial: Safety or Environmental** – observations about the editorial format or content of the license application, including the references cited in the LA/SAR/ER.

5. NRC Presentation/Discussion with Holtec of Audit Observations

NRC staff will present a summary of the audit observations and provide Holtec representatives the opportunity to ask questions or seek clarifications from NRC staff. The staff will also encourage Holtec to provide any clarifications or additional detail on the discussed subjects that may resolve any of the initial observations presented. The NRC staff will note and consider any additional information received during this stage in the preparation of the final audit report.

D. Agenda

The preliminary agenda for the audit is below:

Wednesday, February 22, 2017

| | |
|-------------------|--|
| 12:30 pm - 1:00pm | Arrival |
| 1:00 pm – 1:15 pm | Opening Remarks (NRC, Holtec), Discussion of Audit Logistics |
| 1:15 pm – 2:30 pm | Holtec Presentation/Discussion of Structure and Contents of License Application, SAR, and Environmental Report |
| 2:30 pm – 3:30 pm | NRC Staff Review of Individual LA/SAR/ER Chapters |
| 3:30 pm – 3:45 pm | Break |
| 3:45 pm – 4:30 pm | NRC Staff Review of Individual LA/SAR/ER Chapters (continued) |
| 4:30 pm – 5:00 pm | NRC Internal Discussion/Caucus of Day 1 Observations |
| 5:00 pm | End of Day 1 |

Thursday, February 23, 2017

| | |
|---------------------|---|
| 8:30 am – 9:00 am | Opening Remarks, Discussion of Day 2 Logistics, NRC Staff Summary of Audit Activities (NRC, Holtec) |
| 9:00 am – 10:30 am | Individual NRC Staff Discussions/Q&A with Holtec staff |
| 10:30 am – 10:45 am | Break |
| 10:45 am – 12:00 pm | NRC Caucus and Summary of Initial Observations and recommendations |
| 12:00 pm – 1:00 pm | Lunch Break |
| 1:00 pm – 2:00 pm | NRC Presentation/Discussion with Holtec of Audit Observations and Preliminary Recommendations |

| | |
|-------------------|--|
| 2:00 pm – 2:30 pm | Closing Remarks/Summary of Audit Observations and Next Steps |
| 2:30 pm | Adjourn, End of Day 2 |

E. Logistics

The NRC staff requests that the applicant have the following documents available for review during the audit:

- Three (3) copies of the HI-STORE CISF Safety Analysis Report
- Two (2) copies of the HI-STORE CISF Environmental Report
- One (1) full copy of the HI-STORM UMAX FSAR (Revision cited in the HI-STORE SAR), including any appendices and supplemental analyses cited in the HI-STORE SAR
- One copy of the following:
 - General Information and Financial Qualifications
 - Quality Assurance and Training Programs
 - Inventory and Records Requirements
 - Decommissioning Funding Plan
 - Proposed License Conditions and Technical Specifications

The NRC staff would also requests that arrangements be made to hold at least 8 separate individual breakout sessions with Holtec staff (either within the same room or separate rooms).

F. Pre-submittal Readiness Audit Team

1. Jose Cuadrado, Project Manager (Audit Lead)
Licensing Branch, DSFM
2. John McKirgan, Branch Chief
Licensing Branch, DSFM
3. Meraj Rahimi, Branch Chief
Renewals and Materials Branch, DSFM
4. Yoira Diaz-Sanabria, Branch Chief
Containment, Structural, and Thermal Branch, DSFM
5. Jin-Ping (Jack) Gwo, Systems Performance Analyst
Renewals and Materials Branch, DSFM
6. John Wise, Sr. Materials Engineer
Renewals and Materials Branch, DSFM
7. Steve Everard, Structural Engineer
Containment, Structural, and Thermal Branch, DSFM

8. Joseph Borowsky, Thermal Engineer
Containment, Structural, and Thermal Branch, DSFM
9. Jimmy Chang, Thermal Engineer
Containment, Structural, and Thermal Branch, DSFM
10. Eli Goldfeiz, Health Physicist
Criticality, Shielding, and Risk Assessment Branch, DSFM
11. Zhian Li, Sr. Nuclear Engineer
Criticality, Shielding, and Risk Assessment Branch, DSFM
12. Jeremy Tapp, Transportation and Storage Safety Inspector
Inspection and Operations Branch, DSFM
13. Jill Caverly, Sr. Project Manager
Environmental Review Branch, FCSE

G. Deliverables

To support Holtec's proposed submission schedule for the HI-STORE CISF license application, the NRC will issue a draft audit summary within 14 days of the audit completion, followed by a final audit summary. The draft and final audit summary will assist NRC staff's and Holtec's planning activities for the receipt, acceptance review, and, if accepted, subsequent regulatory and environmental review of the HI-STORE CISF license application.