



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 25, 2019

Ms. Kim Manzione, Licensing Manager
Holtec International
Holtec Technology Campus
One Holtec Boulevard
Camden, NJ 08104

SUBJECT: HOLTEC INTERNATIONAL'S APPLICATION FOR A SPECIFIC INDEPENDENT SPENT FUEL STORAGE INSTALLATION LICENSE FOR THE HI-STORE CONSOLIDATED INTERIM STORAGE FACILITY FOR SPENT NUCLEAR FUEL EVALUATION OF RESPONSES FOR REQUESTS FOR ADDITIONAL INFORMATION, ENVIRONMENTAL REVIEW – PARTS 2 AND 4 (DOCKET NUMBER: 72-1051 CAC/EPID NUMBER: 000993/07201051/L-2018-LNE-0003)

Dear Ms. Manzione:

By letter dated March 30, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML17115A431), Holtec International submitted to the U.S. Nuclear Regulatory Commission (NRC) an application for a specific independent spent fuel storage installation license to construct and operate the HI-STORE Consolidated Interim Storage Facility, in Lea County, New Mexico, in accordance with the requirements of Title 10 of the *Code of Federal Regulations* Part 72, "*Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste and Reactor-Related Greater than Class C Waste.*" The license application seeks NRC approval to store up to 8,680 metric tons of commercial spent nuclear fuel in the HI-STORM UMAX Canister Storage System for a 40-year license term.

The NRC staff is conducting a detailed environmental review of the application and determined that additional information is necessary for its review. The staff sent requests for additional information for the environmental review on September 13, 2018 (ADAMS Accession Number ML18257A238), and December 14, 2018 (ADAMS Accession Number ML18345A134). Holtec responded to those requests on November 30, 2019 (ADAMS Accession Number ML18345A153), January 31, 2019 (ADAMS Accession Number ML19037A280) and March 15, 2019 (ADAMS Accession Number ML19081A083). The staff reviewed the information in Holtec's responses and determined that some further information is needed for the staff to consider certain responses to be complete. The information needed by the staff is detailed in the enclosure.

Please provide the responses within 30 days from the date of this letter. If you are unable to meet this deadline, please notify the NRC staff in writing, within two weeks of receipt of this letter, of your new submittal date and the reasons for the delay.

Please reference Docket Number: 72-1051 and CAC/EPID Number: 000993/07201051/L-2018-LNE-0003 in future correspondence related to the technical review for this licensing action. If you have any questions, please contact me at (301) 415-7674 or via email at Jill.Caverly@nrc.gov.

Sincerely,

/RA/

Jill S. Caverly, Senior Project Manager
Environmental Review Branch
Division of Fuel Cycles Safety and Safeguards
and Environmental Review
Office of Nuclear Material Safety
and Safeguards

Docket No. 72-1051
CAC/EPID Nos.
000993/07201051/L-2018-LNE-0003

Enclosure:
Evaluation of Holtec International's
Responses to Requests for Additional
Information

SUBJECT: HOLTEC INTERNATIONAL'S APPLICATION FOR A SPECIFIC INDEPENDENT SPENT FUEL STORAGE INSTALLATION LICENSE FOR THE HI-STORE CONSOLIDATED INTERIM STORAGE FACILITY FOR SPENT NUCLEAR FUEL EVALUATION OF RESPONSES FOR REQUESTS FOR ADDITIONAL INFORMATION, ENVIRONMENTAL REVIEW – PARTS 2 AND 4 (DOCKET NUMBER: 72-1051 CAC/EPID NUMBER: 000993/07201051/L-2018-LNE-0003)

DATED: July 25, 2019

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ADAMS Accession Number: ML19141A158

***via email**

OFC	NMS/FCSE	NMSS/FCSE	OGC	NMSS/FCSE	NMSS/FCSE
NAME	JCaverly	AWalker-Smith	*EHouseman	CRomán	JCaverly
DATE	07/22/2019	07/22/2019	07/19/2019	07/25/2019	07/25/2019

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Evaluation of Holtec International's Responses to Requests for Additional Information from the U.S. Nuclear Regulatory Commission for the Holtec Hi-Store Consolidated Interim Storage Facility

Response to RAI ER-CB-5, November 2018 (ML18345A137)

RAI ER-CB-5 requested additional details for the calculations and assumptions for the \$4.5 million operation and maintenance costs in ER Table 9.2.5 (Holtec, 2017: hereinafter called ER Rev 0). Table 9.2.5 from ER Rev 0 cited the 2017 Data Call as the source for the information in Table 9.2.5. However, the 2017 Data Call document was not provided in the initial license application.

The RAI response updated ER Chapter 9 (Holtec, 2018a: hereinafter called ER Rev 3) and Holtec Report HI-2177593 (Holtec, 2018b). The Data Call 2017 document was included within ER Rev 3 as Appendix G. The revisions in ER Rev 3 changed the annual operation and maintenance cost estimate from \$4.5 million to \$27.3 million but did not clarify how the \$27.3 million estimate was generated.

The inputs to the updated \$27.3 million estimate in ER Rev. 3 do not appear to be consistent with the estimate provided in the January 2019 response to RAI CB-2 (Holtec, 2019a). ER Rev. 3 stated that the initial \$4.5 million estimate was based on existing decommissioned power plant costs and that the revised \$27.3 million estimate was prorated to more adequately represent expected costs for the proposed CISF. The updated Table 9.2.5 also includes a \$19,404,800 line item identified as plant operation costs (minus labor) but did not explain the basis for this line item cost. The revised estimate accounted for an increase in labor costs (see ER Table 9.2.5) but did not otherwise reflect any change in the number of employees or the hourly rates cited in the 2017 Data Call, which had estimated a \$4.5 million cost.

The following information should be submitted to complete the RAI response:

- Confirm the cost estimate for the operation and maintenance of the proposed CISF.
- Provide a detailed explanation of how this cost estimate was generated, including a description of what comprises the line item for operation costs minus labor. In doing so, explain whether the January 2019 response to RAI ER-CB-2 remains accurate.
- As appropriate, provide conforming changes to the ER and other application documentation (e.g., Holtec Financial Assurance Plan Report).

Response to RAI ER-CB-3, March 2019 (ML19081A075)

RAI ER-CB-3 requested clarification of the net benefits or net losses attributed to the proposed action and inconsistencies in the ER (Holtec, 2017) regarding whether the proposed action would result in a net benefit or net loss. Introductory text in ER Section 9.2.3 stated that the proposed action would result in net benefits rather than net losses under both Phase 1 and full buildout (i.e., Phase 1-20). However, subsequent text in that same section stated that the discounted costs for the full buildout of Scenario 2 resulted in a net loss.

In the response to RAI ER-CB-3, the ER Section 9.2.3 (Rev 5) (Holtec, 2019b) was revised to consistently state that the discounted costs for the full buildout of Scenario 2 result in a net loss.

However, the same revision of the ER contains additional inconsistencies concerning the assessment of net benefits and losses or cost (“net values”) including:

- The first paragraph of ER Section 9.2.3 stated non-discounted costs for full buildout of Scenario 2 results in a net benefit (no estimate provided) whereas paragraph three of the same section stated that non-discounted costs for full buildout of Scenario 2 results in a net cost (loss) of \$300 million.
- The estimated net values presented in the ER Section 9.2.3 text were inconsistent with the net values associated with the information presented in ER Tables 9.2.1 to 9.2.6 (hereafter called the ER Section 9.2 tables). The NRC staff calculated net values shown in the table below. It compares the net values from the ER Section 9.2.3 text and the ER Section 9.2 tables. The discrepancies between the text and tables are in bold. The text in ER Section 9.2.3 contained all of the net values but only some of the proposed action costs and the No-Action alternative costs (“input data”). The ER Section 9.2 tables contained all of the input data but none of the net values.

Comparison of Net Values from ER Section 9.2.3 Text and ER Tables 9.2.1 to 9.2.6.				
Phase	Scenario	Discounting	Net Values (in millions)	
			ER Section 9.2.3 Text	ER Section 9.2 Tables
Phase 1	1 and 2*	None	1,625	1,625
		3 Percent	2,086	786
		7 Percent	2,352.7	252.7
Full Buildout	1	None	na†	4,500
		3 Percent	na	2,800
		7 Percent	na	1,200
Full Buildout	2	None	-300	-300
		3 Percent	600	-1,700
		7 Percent	1,300	-2,300
Full Buildout	3	None	14,200	14,200
		3 Percent	15,100	6,700
		7 Percent	15,800	2,500
*For Phase 1, scenario 1 and 2 cost estimates were the same and no scenario 3 costs were estimated.				
†na - not available since ER Section 9.2.3 text did not provide these values.				

The following information should be submitted to complete the RAI response.

- Identify the correct net values for each of the options presented listed in the table above.
- Either: i) revise the ER so the description of net values in the ER Section 9.2.3 text is consistent with the information in the ER Section 9.2 tables or ii) explain how the description of net values in ER Section 9.2.3 and the information in the ER Section 9.2 tables are consistent.

Response to RAI ER-PA-5, March 2019 (ML19081A075)

RAI ER-PA-5 requested: i) the project schedule be revised to clearly identify by each PY which project stages and phases are active over the license term (e.g., in PY 3 Phase 2 construction and Phase 1 operations are active) and ii) for each project stage, detail the type of activities that would be occurring and types of equipment that may be in use. The ER Table 1.3 (Holtec, 2017) only addressed the first half of the project lifespan and did not clearly identify the overlap in terms of phases. The RAI requested information on the potential overlap in order to assess potential bounding impacts for environmental resource areas, in particular regarding air quality and emission levels.

The ER Table 1.3 (Holtec, 2019b) was revised in response to RAI ER-PA-5. For the construction stage, revised ER Table 1.3 identified in which PYs the construction stage was active and also specified the phase (e.g., PY 4 – construction Phase 3 active). For the operations stage, revised ER Table 1.3 identified in which PYs the operation stage was active; however, it did not include the phase information. For the decommissioning stage, a note for revised ER Table 1.3 stated that decommissioning activities will overlap operations during the final years but it did not specify either the PYs or phases. The written response to RAI ER-PA-5 (Holtec, 2019c) did not address the second part of the RAI which requested for each stage, detail what activities are occurring and what equipment is in use.

If the operations and decommissioning stages overlap, then the peak emission levels could exceed the emission thresholds identified in the ER and would seem to be inconsistent with the March 2019 response to RAI ER-AQ-3, which states that operations would cease and all SNF would be removed from the site prior to the start of demolition activities (i.e., that operations and decommissioning would not overlap). In addition, the response for RAI ER-PA-5 stated that operations and decommissioning stages overlap is not consistent with the March 2019 RAI response to RAI ER-AQ-3 which states that all SNF would be removed from the site and operations activities ceased prior to the start of demolition activities (i.e., operations and decommissioning do not overlap).

The following information should be submitted to complete the RAI response.

- Clarify the extent to which, if at all, operational stages at the site would overlap with decommissioning stage activities.
- Explain the implications, if any, for the environmental impact analysis (e.g., for peak emission levels), and update the ER and responses to RAIs PA-5 and AQ-3 as appropriate.
- Update the ER and responses to RAIs PA-5 accordingly.

- Verify whether the March 2019 response to RAI AQ-3 is still accurate. If not, then provide any necessary revisions to RAI AQ-3 when responding to this RAI.

Response to RAI ER-AQ 4, March 2019 (ML19081A075)

RAI ER-AQ-4 requested detailed information (e.g., calculations, inputs, sources, activities, and parameters) used to generate each of the emission inventories in ER Tables 4.6.1 through 4.6.4 (Holtec, 2017).

Holtec's March 2019 response to RAI ER-AQ-4 (Holtec, 2019c) included separate spreadsheet files (Holtec, 2019d) which provided additional information for the generation of the emission inventories in ER Tables 4.6.1 to 4.6.4. The separate spreadsheet files did not provide the equations or a clear description of how the particulate matter PM₁₀ emission rates were generated for the earth moving activities.

The information in the spreadsheet files was also inconsistent with other information in the application. The ER Section 4.6.1.1 (Holtec, 2017) stated that the earth moving activities were calculated accounting for the full 133.5 hectares [330 acres] of land that would be disturbed over the construction period. However, that statement is inconsistent with this information in the separate spreadsheet files which specify a value of 80.9 hectares [200 acres]. The March 2019 response to RAI ER-AQ-8 indicated that no mitigation measures were incorporated into the emission inventories in ER Tables 9.2.1 to 9.2.4. This statement was not consistent with this information in the separate spreadsheet files which incorporate a five percent reduction in emissions for not conducting activities when the wind speed exceeds 40.2 kph [25 mph].

The following information should be submitted to complete the RAI response:

- Revise the ER and the separate spreadsheet files to ensure consistency concerning the amount of land associated with the earth moving activity emissions.
- Provide the equation and input parameters used to estimate the particulate matter PM₁₀ emissions from the earth moving activities.
- If any changes are made concerning the inputs or resulting fugitive dust emission levels for the earth moving activities, then revise both the separate spreadsheet files and ER and supplement the impact analysis if necessary.
- Clarify whether mitigation measures were incorporated into the emission inventories in ER Tables 9.2.1 to 9.2.4 and revise the ER and the separate spreadsheet files if needed.

REFERENCES

Holtec. "Responses to Request for Additional Information." ADAMS Accession No. ML19037A293. Marlton, New Jersey: Holtec International. January 2019a.

Holtec "Environmental Report on the HI-STORE CIS Facility." ADAMS Accession No. ML19095B800. Marlton, New Jersey: Holtec International. March 2019b.

Holtec. "Responses to Request for Additional Information." ADAMS Accession No. ML19081A075. Marlton, New Jersey: Holtec International. March 2019c.

Holtec. "Responses to Request for Additional Information: Attachment 10: Emission Spreadsheets." ADAMS Accession No. ML19081A083. Marlton, New Jersey: Holtec International. March 2019d.

Holtec. "Environmental Report on the HI-STORE CIS Facility." ADAMS Accession No. ML18345A141. Marlton, New Jersey: Holtec International. November 2018a.

Holtec. "Holtec International & Eddy Lea Energy Alliance (ELEA) Underground CISF – Financial Assurance & Project Life Cycle Cost Estimates. PROPRIETARY" ADAMS Accession No. ML18345A142. Marlton, New Jersey: Holtec International. November 2018b.

Holtec International. "Environmental Report on the HI-STORE CIS Facility." ADAMS Accession No. ML17362A087. Marlton, New Jersey: Holtec International. November 2017.