

25 July 2018

315 Manzano NE  
Albuquerque, NM 87108

U.S. Nuclear Regulatory Commission  
Office of Administration  
Two White Flint North Building  
Washington, DC 20555-0001  
Attn: May Ma

SUNSI Review Complete  
Template = ADM-013  
E-RIDS=ADM-03  
ADD= Antoinette Walker-  
Smith, Jill Caverly (JSC1)

COMMENT (291)  
PUBLICATION DATE: 3/30/2018  
CITATION # 83 FR 13802

Subject: Docket ID NRC-2018-0052; Holtec International's HI-STORE CIS facility for Spent Nuclear Fuel, Lea County, New Mexico

Director Ma:

I write to you as someone familiar with the functions of our nation's regulatory agencies. During my long career at Sandia National Laboratories, I interacted with staff from many federal agencies. This letter concerns the plan by Holtec International to transport and store spent fuel from nuclear reactors at a Consolidated Interim Storage (CIS) facility in in Lea County, New Mexico. I have read Holtec's Environmental Report, Safety Analysis Report, and Decommissioning Plan.

Holtec proposes the CIS facility as a solution to the nation's high-level nuclear waste storage and disposal problem, a solution that will reduce both costs and risks (Environmental Report on the Hi-STORE CIS facility, Rev. 1, pp. 17-19 and 251-254). If risks are indeed to be reduced, the following issues must be resolved.

#### **Transportation risks**

Although the Environmental Report provides a high-level assessment of the transportation risks, it does not address the following risks:

(1) America's infrastructure—in particular the railroad infrastructure—is in poor condition. The American Society of Civil Engineers confirms this every four years with its Infrastructure Report Card. Railroad shipments are particularly risky. Two recent accidents illustrate the precarious condition of America's rail infrastructure. On 18 April 2018 a collision occurred in Monahans, TX, and on 1 May 2018 a derailment occurred on a side track along Highway 80 in Odessa, TX. Both accidents occurred on routes proposed for the transport of high-level nuclear waste to the CIS facility. Had those two trains contained nuclear waste, the consequences could have been catastrophic. Holtec's Environmental Report does not address the considerable risks posed by deteriorated infrastructure, let alone human error, in rail transportation.

(2) The transportation routes, both rail and roadway, are not fully analyzed in the Environmental Report. A complete assessment of expected routes is needed. Conducting such an assessment should be very straightforward.

(3) The transportation impacts on public health have not been fully examined. Specifically, the Environmental Report does not address the potential impacts of terrorist incidents or in-transit accidents on regional public health and safety.

(4) The risks of shipments from storage sites that do not have rail access have not been fully analyzed. The Environmental Report does not describe how waste would be shipped from nuclear power reactors that do not have rail access.

(5) The chain of command for accident response has not been specified. In particular, the roles of New Mexico state agencies (e.g., New Mexico Environment Department) need to be spelled out, as do the training and funding provisions for those agencies.

Additionally, these risks must be assessed in light of the need to move the waste twice—once to the CIS facility, and later from the CIS facility to a yet-to-be-identified permanent site.

### **Waste ownership risks**

Because high-level waste is dangerous for many thousands of years, ownership needs to be specified. Neither the Environmental Report, nor the Safety Analysis Report, nor the Decommissioning Plan specifies who owns the waste at every stage of the process. Ownership should be spelled out explicitly for the transportation, storage, and decommissioning stages, if for no other reason than to determine liability.

Additionally, the risk of legal delays or standstills have not been examined. This is a very high risk, as we know from experience with the Yucca Mountain site. Political interference could delay the construction of a permanent site. That would result in the spent fuel being left at the CIS well into the planned decommissioning phase. Holtec needs to plan for this inevitability.

Correspondingly, the public should be informed about the risks related to spent fuel being held at the CIS facility beyond the planned timetable. Holtec might work with risk-assessment experts at the DOE national security laboratories to analyze and publicize those risks.

### **Quality Assurance risks**

The nuclear power industry faces daunting Quality Assurance challenges. For the CIS, those challenges are largely related to waste emplacement and storage. Holtec's Environmental Report (pp. 217 ff. and 242 ff.) describes the Radiological Environmental Monitoring Program and the QA program, but it does not spell out plans for long-term QA inspections. Because it is very likely that the waste will be stored at CIS longer than planned, the long-term integrity of the storage casks needs to be attested and verified. The QA plan needs to spell out the long-term inspection regime and the methods that will be used for detecting corrosion, degradation over time, and the effects of erosional settling. Additionally, the QA plan must address the unfortunate but very real possibility of loss of institutional control.

### **Institutional control risks**

Loss of institutional control would result in a breakdown of the regime that protects the public from radiation. That regime includes the inspection, maintenance, repair, and replacement of infrastructure and casks at the CIS. Loss of institutional control means this regime would break down and expertise would be lost with the passage of time. In a worst-case scenario, knowledge

of the existence of the facility itself might be lost. If institutional control is lost, the casks would eventually fail, releasing highly radioactive waste into the environment.

This scenario is not far-fetched. Presently America is facing a breakdown of public trust and faith in government institutions; these are the precursors of institutional breakdown and the loss of institutional control. The executive branch of government is actively testing the limits of institutional constraints—provocations that could lead to dire outcomes. Holtec must address the uncomfortable possibility of institutional failure and loss of control. The risks associated with high-level nuclear waste are too great to ignore this contingency.

### **Comparative risks**

The public would benefit from a comparative risk assessment that weighs the risks of shipping nuclear waste to the CIS against the risks of storing it at currently licensed sites (perhaps using Holtec technology combined with hardened on-site storage principles). A comparative risk assessment may reveal that the safest and least costly solution is to store the waste at sites near the points of generation in hardened facilities designed by Holtec—at least until a permanent storage facility is built.

As noted, transporting spent fuel across the country presents numerous risks. Additionally, the current political environment of high uncertainty and low trust calls for caution and conservatism. After analyzing the risks listed in this letter, Holtec may discover that the best option is to store waste at existing licensed sites until a permanent storage facility can be built.

Thank you for your time, and please keep me informed about the NRC's actions regarding this project.

Sincerely,



Timothy P. Peterson