



Holtec HI-STORE CISF Review Discussion of HI-STORE CIS Aircraft Crash Assessment (HI-2188201)

Division of Spent Fuel Management, NMSS
U.S. Nuclear Regulatory Commission

Public Meeting with Holtec International
October 23, 2018



Summary

- March 28, 2018 - NRC issues request for additional information (RAI), Part 1 RAI 2-1 – Requests additional details on aircraft hazards assessment for HI-STORE CISF site
- May 24, 2018 – Holtec submits responses to RAIs
- June 19, 2018 – Public Meeting with Holtec International
- July 27, 2018 – Holtec International submits a report “HI-STORE CIS Aircraft Crash Assessment” (HI-2188201)
- NRC staff has identified issues in Holtec's response to the aircraft hazards analysis:
 - Proximity criteria for flight paths (NUREG-0800)
 - Nearby high-altitude jet route
 - Crash rate for commercial aircraft
 - Ordnance onboard aircraft

Issue 1 - Proximity Criteria from NUREG-0800



- NUREG-0800 Section 3.5.1.6 Aircraft Hazards: Standard Review Plan 1. Acceptance Criteria
- If a plant/site fails any of the three acceptance criteria (A, B, and C), then conduct a detailed review of aircraft hazard from all sources
 - Site failed in Criterion B
- NUREG-0800 acceptance criteria: Not to be used for PASS/FAIL of individual source of hazard
- Assess each potential source of hazard for contribution



Issue 2 - Nearby High-Altitude Commercial Routes



- Two high altitude routes near the site: J15 and Q20
- J15 originates close to Seattle-Tacoma International airport and ultimately goes to Houston International airport
- Q20 branches out of J15 close to Albuquerque International airport and merges again near Junction, Texas: GPS-equipped aircraft use this airway
- Assess potential hazard from aircraft flying these routes



Issue 3 - Basis for Crash Rate of All Civilian Aircraft



- All civilian and commercial aircraft are assumed to have the same crash rate of 4×10^{-10} per mile
 - Basis for assumed crash rate not provided
- NUREG-0800 gives 4×10^{-10} per mile for Commercial Aviation only
- Section 3.5.1.6, 2. Airways of NUREG-0800 cites specific references with data on aircraft crash rates
 - DOE, “Accident Analysis of Aircraft into Hazardous Facilities,” DOE-STD-3014-96, October 1996

Issue 4 - Assessment of Jettisoned Ordnance Onboard Aircraft



- Attachment 2 of HI-2188201 identifies 50% of flights from Dyess Air Force Base (B-52s, B-1s) carry either inert (25%) or live (25%) ordnance up to 2,000 lb (2%)
- Assess potential hazard to the facility from onboard ordnance
- Intentional jettisoning of ordnance from a crashing aircraft or unintentional discharge of a hung ordnance could create a potential impact hazard in addition to an explosion hazard

Conclusions



- NRC staff needs additional information to address RAIs on aircraft hazards and determine compliance with NRC's safety regulations
- Timely completion of NRC review of Holtec's HI-STORE CISF application requires complete and high quality responses to NRC staff's questions
- NRC staff is open to additional discussion with applicant prior to submission of responses

