

Mobile Chernobyl shipping risks

Southeast New Mexico, near the Texas border, has the dubious distinction that every single train car load of high-level radioactive waste will pass through on its way into (and, if it ever leaves, out of) Holtec International/Eddy-Lea [Counties] Energy Alliance (ELEA). But transport impacts, to eventually import more irradiated nuclear fuel than currently exists in the U.S. into southeast New Mexico, will be felt nation-wide. Transporting 100,000 metric tons, or more, of irradiated nuclear fuel to New Mexico makes this proposal even bigger than the highly controversial, unacceptable Yucca Mountain, Nevada permanent burial dump scheme, in terms of transport impacts (limited to 70,000 metric tons under current law). In that sense, ***when it comes to radioactive waste transportation risks, we all live in New Mexico.***

Countless millions of Americans, in most states in the Lower 48, would be put at risk by these highly radioactive, irradiated nuclear fuel shipments by train, truck, and/or barge.

A *de facto* permanent surface storage "parking lot dump" at Holtec/ELEA in S.E. New Mexico would only increase safety risks. It would not decrease them. It would multiply transport risks, as it would only be temporary (supposedly, even if decades, or centuries, or more, can be called "temporary"!): All that highly radioactive waste would have to move again, to a permanent burial site (yet to be identified – that's a big IF! Yucca is NOT suitable!). And that could be back in the same direction from which it came in the first place, meaning transport corridor communities could see these high risks coming and going!

Holtec/ELEA's assumption that the dump at Yucca Mountain, Nevada will open someday, to take the highly radioactive waste away, is inappropriate. The vast majority of Nevadans have expressed their very adamant non-consent for 30+ years now, and still vehemently oppose it. This is reflected by bipartisan resistance by elected officials, at both the state government level, as well as the congressional delegation level, in NV.

Holtec/ELEA's assumption that another permanent burial dump will be opened, by someone, somewhere, someday, somehow, is also inappropriate. After all, the search for a national geologic repository has gone on since the 1950s, but has failed. And DOE's current estimate for the opening of the U.S.'s first repository is 2048, 31 years from now. Except they have no idea where that will be. There is every likelihood that the 2048 date will slip into the future as well.

The failed Private Fuel Storage, LLC (PFS) parking lot dump targeted at the Skull Valley Goshutes Indian Reservation in Utah, likewise assumed the Yucca dump would open. They were, of course, incorrect. PFS was based on Holtec casks, just as is the current NM scheme.

So PFS's "Plan B" was to "return to sender." Holtec has a similar plan, if casks show up damaged or contaminated, in order to protect its supposedly "start clean, stay clean" Centralized Interim Storage Facility (CISF), or Monitored Retrievable Storage (MRS) site, in southeast NM. If 100,000 metric tons of irradiated nuclear fuel - the amount targeted to go to Holtec/ELEA in southeast NM - were to be "returned to sender" some decade or century due to the lack of a permanent dumpsite to send it to, what would that look like in terms of multiplied transport risks?!

Maine Yankee was a PFS nuclear power industry consortium member. More than 50 rail sized containers of highly radioactive irradiated nuclear fuel would have traveled 5,000 miles round trip, from Maine to Utah, accomplishing absolutely nothing, other than exposing millions of people in numerous states to high-risk shipments.

This game of high-risk, highly radioactive waste musical chairs, or highly radioactive waste hot potato, on the roads (initial leg heavy haul truck shipments), rails, and waterways (initial leg barge shipments), is unacceptable. It amounts to Radioactive Russian roulette on the roads, rails, and waterways. Multiplying transport risks for no good reason is wrong, and makes no sense.

The Holtec's infamous Quality Assurance (QA) failures and violations are very significant to shipping risks. Shipping casks would be less capable of withstanding severe accidents (such as high-speed crashes, including into immovable objects, like bridge abutments; high-temperature, long-duration fires; deep, long-lasting underwater submersions; drops from tall heights, onto unyielding surfaces, such as bridge foundations or rocks down below; or some combination of all those), as well as intentional attacks (such as with shaped charges, or anti-tank weapon systems - see below) or other powerful explosions (such as explosive cargoes on passing trains, including, nowadays, crude oil "Bomb Trains," as from the Bakken oil fields in North Dakota).

Adding to these shipping risks, is the potential for barge shipments on surface waters. Shipments to Holtec/ELEA in southeast NM are supposed to be "mostly rail" -- which can also mean many barges (more than two-dozen reactors in the U.S. lack direct rail access, meaning barges on surface waters -- the Great Lakes, rivers, seacoasts -- could be used to haul the 100+ ton, rail-sized casks to the nearest rail head). Backgrounders (including more details on the high risks) on these various barge routes (including maps) were originally written for the Yucca dump scheme; however, Holtec/ELEA could just as well involve such barges.

(However, with something as simple as a rushed NRC rubber-stamp amendment - which the shamelessly complicit and colluding agency would be only too happy to provide the company -- Holtec could apply for, and perhaps even quickly get, permission to *truck* in smaller-sized, "Legal Weight Truck" (LWT) casks to the s.e. NM CISF/MRS. After all, Holtec has bragged in its CISF license application

documents submitted to NRC that it would accommodate any and all cask models, not just its own, at the s.e. NM MRS site. Any and all would include LWT-sized outer casks and inner canisters containing irradiated nuclear fuel. This mix of trains/barges/heavy haul trucks, and LWT casks/canisters, would mean even more American communities would be exposed to Mobile Chernobyl risks, as along interstate highways.

"Dirty Bomb on Wheels" security risks would abound. This was made clear by the test of an anti-tank missile against an (empty) irradiated nuclear fuel shipping cask at the U.S. Army's Aberdeen Proving Ground in Maryland. The June 1998 test targeted a German CASTOR cask. While certified for storage-only in the U.S. (the cask model is deployed at the nuclear power plant in Surry, VA), it is used for transport in Europe, as in France and Germany. CASTORs have relatively thick die cast iron walls, as opposed to much thinner walled steel inner canisters in the U.S. (15+ inches thick CASTORs, versus around 0.5 inches thin inner canisters as with the Holtec containers!) That is, CASTORs are significantly more robust, more capable to withstand such an attack. However, even the CASTOR, the "Cadillac of shipping casks" as some have called it, was severely breached by the anti-tank missile test at Aberdeen Proving Ground. A hole as big around as a grapefruit or softball was blown clean through the side of the cask wall. Had irradiated nuclear fuel been inside, the hole would have created the pathway for release of disastrous amounts of hazardous radioactivity - all the more so, if an incendiary attack were combined with the explosive attack. If the zirconium metal cladding on the fuel rods in the irradiated nuclear fuel assembly were to be heated to its ignition temperature, the fire could even become self-feeding, like highly radioactive, super-sized 4th of July sparklers. In short, shipping containers were not designed to withstand such attacks.

Such a scenario could unleash disastrous amounts of hazardous radioactivity into the environment, hence the label of potential "Dirty Bombs on Wheels." As San Onofre Safety has put it, each Holtec canister holds an equivalent amount of volatile (able to escape in a fire) radioactive Cesium-137 as was released by the Chernobyl nuclear catastrophe. And as Dr. Marvin Resnikoff of Radioactive Waste Management Associates has put it, a container holding 24 Pressurized Water Reactor (PWR) irradiated nuclear fuel assemblies' holds 240 times the long-lasting radioactivity (in terms of radioactive Cesium isotopes alone, let alone the hundreds of additional hazardous radioactive isotopes) released by the Hiroshima atomic bomb. Only Holtec has moved on from containers holding 24 PWR assemblies, to ones capable of holding 37 assemblies! That would thus mean 37 Hiroshima atomic bombs' worth of long-lasting radioactivity in each container! Only it's worse than that, as Resnikoff's figure applied to low burnup fuel; high burnup fuel, unfortunately commonplace today, is even more radioactive!

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