

Transport risks: “Mobile Chernobyls, Dirty Bombs on Rails, Floating Fukushimas”

Shipping is probably the weakest link in the entire chain of irradiated nuclear fuel management. Waste going zero miles per hour in pools or dry casks is dangerous enough, but waste going 60 miles per hour or faster on the roads and rails introduces new and greater risks.

While U.S. industry brags of a “perfect” shipping record for high-level radioactive waste, the 2,500 to 3,000 shipments almost entirely took place decades ago, in the 1960s and 1970s. In fact, a full-scale away-from-reactor transport campaign – as to the now-cancelled Yucca Mountain, Nevada dumpsite – would involve as many shipments in a single year as have occurred in the U.S. over the past 70 years. Such Yucca annual shipment rates would have gone on for 24 to 48 years, greatly multiplying transport risks.

Robert Halstead, now director of the State of Nevada Agency for Nuclear Projects, has documented 72 incidents involving irradiated nuclear fuel shipments between 1948 and 1996. Of these, 4 involved radioactivity release beyond the vehicle and transport container. Around 50 involved exterior surface contamination of the shipping container.

In the late 1990s, watchdogs and journalists revealed that a quarter to a third of all irradiated nuclear fuel shipments to the French reprocessing facility involved shipping containers contaminated to radiation levels 500 to 3,000 times permissible doses, representing a hazards to workers as well as innocent public passersby.

Even “routine, accident-free” shipments represent “mobile x-ray machines that cannot be turned off.” NRC allows a chest x-ray per hour worth of gamma radiation to emanate from a shipping cask to a distance of 6 feet away. At the cask surface, dose rates equivalent to 20 chest x-rays per hour are allowed. This represents radiological risk to workers, as well as unsuspecting public bystanders.

The Komis case in New Mexico showed that radioactive stigma effects lower property values along designated radioactive waste transport routes, even before shipments begin.

Conservative estimates reveal that each truck cask on the highways would carry up to 40 times the long-lasting radioactivity released by the Hiroshima atomic bomb. Rail and barge casks, six times larger, would carry over 200 times the long-lasting radiation released at Hiroshima.

Risks of severe accidents, such as high-speed crashes into immovable objects like bridge abutments or rock surfaces, high-temperature/long duration fires, or deep/long lasting underwater submersions could turn radioactive waste truck, train, and barge shipments into “Mobile Chernobyls” or “Floating Fukushimas.”

Transport casks are not designed to withstand terrorist attacks, as by anti-tank missiles, high explosives or shaped charges, risking “dirty bombs” on the roads, rails, and waterways.

Apart from at a handful of urban research reactors, high-level radioactive waste is not located in metropolitan centers. However, the thousands or tens of thousands of irradiated nuclear fuel shipments

envisioned by the atomic establishment in the years and decades to come would move this deadly material directly through such population centers, as well as past vital water supplies and the agricultural heartland.

Hundreds to thousands of barge shipments -- on rivers and the Great Lakes, or along sea coasts and bays -- threaten vital fresh water drinking water supplies and fishing grounds, not to mention areas essential to tourism, recreation, and ecological biodiversity.

Due to such shipping dangers, as well as resistance to proposed dumps, large-scale popular protests have erupted against irradiated fuel shipments. In Germany, tens of thousands have come out to block transports, sitting in roads and locking themselves to train tracks. In 1997, the German government deployed 30,000 police to guard a convoy of just six casks, costing US\$100 million. In 2010, 50,000 protestors turned out. These kinds of protests in Germany laid the groundwork that has led to the nuclear power phase out by 2022 in the aftermath of the Fukushima nuclear catastrophe.

The dedication of the Martin Luther King, Jr. Memorial on the National Mall serves as a reminder of the long, proud tradition of non-violent civil disobedience and resistance in the U.S. in the pursuit of progressive social change. Similar protests as we've seen in Germany could happen in the U.S. if the atomic establishment insists on forcing its bad ideas on the American public, and rushing into a full-scale radioactive waste shipping program for no good reason whatsoever.