

WCS_CISFEISCEm Resource

From: Karl Koessel <karl.koessel@gmail.com>
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To: WCS_CISFEIS Resource
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Even “routine” or “incident-free” shipments of irradiated nuclear fuel carry health risks to workers and innocent passers by. This is because it would take so much radiation shielding to completely hold in the gamma radiation, being emitted by the highly radioactive waste, that the shipments would be too heavy to move economically. So NRC has compromised, and “allows” for or “permits” a certain amount of hazardous gamma radiation to stream out of the shipping container.

NRC’s regulations allow for up to 10 millirem per hour (mR/hr) of gamma radiation to be emitted, about six feet (two meters) away from a shipping cask’s exterior surface. That’s about one to two chest X-rays worth of gamma radiation, per hour of exposure.

Since the radiation dissipates with the square root of the distance, this means that NRC’s regulations “allow” for up to 200 mR/hr, at the surface of the cask’s exterior. That’s 20 to 40 chest X-rays worth of gamma radiation, per hour, which NRC “allows” to stream out, right at the cask’s surface.

NRC has done a cost-benefit analysis – the cost, to human health; the benefit, to the nuclear power industry’s bottom line – and deemed these exposure levels “acceptable” or “permissible.” (“Permissible” or “acceptable” should never be confused with “safe” or “harmless” – exposures to 200 mR/hr, or even 10 mR/hr, still carry health risks. After all, any level of radiation, no matter how small, has long been confirmed to cause cancer. For more information, see:

<https://web.archive.org/web/20160325141005/http://www.nirs.org/press/06-30-2005/1>)

The humans actually harmed by these exposures to hazardous radioactivity – related to the industry’s NRC-approved, unnecessary shipments, for example – might beg to differ! But of course, any negative health impacts associated with irradiated nuclear fuel shipments will not be closely tracked (or tracked at all) by NRC, or any other government agency for that matter. NRC and industry almost always downplay the health risks, and would almost certainly deny any connection between such exposures and negative health outcomes.

Six feet away could affect a person standing beside a train track, as the train goes by. Some real world examples of this situation include the Takoma Metro Station near Takoma Park, Maryland – the Red Line Metro Station platform is right beside the CSX railway, which is targeted for trains to haul irradiated nuclear fuel from the Calvert Cliffs, MD and North Anna, VA nuclear power plants, such as bound for WCS, TX.

Although further than six feet away, residences located immediately adjacent to these same CSX rail lines in Tacoma, D.C. mean that those living there could well be exposed to gamma radiation,

although at a lower dose rate (again, the dose rate decreases inversely with the square root of the distance). However, residents can be expected to be present in their homes a lot more often than commuters standing on a Metro platform – including during sleep hours, when trains carrying irradiated nuclear fuel could still go by. And of course, residents along these tracks, would also be commuters standing on the platform, leading to multiple exposures in their daily (and nightly) lives, for years on end during a WCS shipping campaign.

Trains pausing next to commuter platforms or residences will prolong these potentially hazardous exposures. Paused trains – even ones carrying ones carrying hazardous cargos – are commonplace in the U.S. Pauses can sometimes last a long time. Lead cars stuck by paused trains at railroad crossings could mean the occupants of those cars are exposed to gamma radiation. Even a rolling train car would emit a certain dose as it passed by, to lead car occupants stopped nearest the tracks.

Similar situations will arise across the U.S. Innocent passers by, whose daily lives bring them in close proximity to railways or waterways that would be used to ship irradiated nuclear fuel, mean that ordinary people would be exposed to hazardous gamma radiation in some amount greater than zero – perhaps repeatedly, over the course of years during a WCS, TX shipping campaign.

The 200 mR/hr “acceptable” dose rate at the surface of shipping casks would most likely impact workers – locomotive engineers, railway workers, inspectors, security guards, etc.

However, when, in 2003, the Big Rock Point reactor pressure vessel (albeit so-called “low” level radioactive waste, it still serves as a cautionary tale) was shipped by heavy haul truck into Gaylord, Michigan to be loaded onto a train, for its shipment by rail to Barnwell, South Carolina, to be buried in a ditch, neither the nuclear utility, Consumers Power, nor the NRC (nor any other federal or state agency), nor local law enforcement, created a security or safety or health perimeter around the shipping container. As if it were a parade, onlookers were allowed to simply approach the shipping container, walk right up to it, and even touch it. In fact, a parade would probably have had better health, safety, and security precautions in place! (See 2003 written entries, as well as a photo, about this and other incidents that occurred during this single shipment, posted online at: <https://web.archive.org/web/20151211005008/http://www.nirs.org/radwaste/hlwtransport/mobilechernobyl.htm>). WCS would involve 4,000 irradiated nuclear fuel shipments into the Andrews, TX parking lot dump; and an equal number out, *if* the waste ever were to leave.

Likewise, Bob Halstead, several years ago, was able to guide a camera crew deep into the heart of a rail yard, just off downtown Chicago, that would be used to temporarily store (albeit, “temporarily” could last for days) train cars holding irradiated nuclear fuel. Security was nowhere to be seen. (Halstead, then serving as transport consultant to the State of Nevada Agency for Nuclear Projects, now serves as the agency’s director.)

Similarly, Rick Hind of Greenpeace U.S.A. guided a Wall Street Journal reporter deep into the heart of underground train tunnels under Washington, D.C. The graffiti and art on the walls showed clearly that the tunnels are frequented by human beings. (Hind was showing the reporter how insecure such tunnels, even the nation’s capital, are to potential security risks, even as hazardous train cargos – including chlorine shipments – pass by.)

In these ways, that 200 mR/hr “permissible” dose rate could impact not only workers, but even members of the public.

In this sense, even “routine” or “incident-free” shipments of irradiated nuclear fuel can be considered as similar to mobile X-ray machines that can’t be turned off, a phrase describing the concept first expressed by Lauren Olson, a supporter of NIRS.

To make matters worse, there have been large numbers of shipments, externally contaminated with radioactivity, making their actual dose rates much higher – and thus more hazardous – in serious violation of the already compromised “permissible” or “acceptable” levels.

Areva – a key partner in the WCS proposal – at its home base in France, experienced just such a plague or epidemic of externally contaminated shipments. A full 25% to 33% of Areva’s irradiated nuclear fuel shipments, into its La Hague reprocessing facility, were externally contaminated, for years on end, above “permissible” levels. This amounted to many hundreds of individual shipments, contaminated above “permissible” levels, over the course of several years. On average, the shipments were giving off radiation dose rates 500 times the “permissible” level; in one instance, a shipment was emitting radiation 3,300 times the “acceptable” level.

Environmental watchdogs and journalists revealed this contaminated shipment scandal. See the WISE-Paris write up, Transport Special - Plutonium *Investigation* n°6/7, posted at <http://www.wise-paris.org/> under Bulletins.

But such externally contaminated shipments have happened in the U.S., as well. Halstead documented this in a report prepared for the Nevada State Agency for Nuclear Projects in 1996. It is entitled “Reported Incidents Involving Spent Nuclear Fuel Shipments, 1949 to Present.” 49 “surface contamination” incidents are documented. This report is posted online at:<http://www.state.nv.us/nucwaste/trans/nucinc01.htm>.

Please don't expose the public to the radiation of these nuclear wastes. It's unconscionable!

Thank you for your attention to my opinion.

Sincerely,

Karl Koessel

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