WCOutreachCEm Resource

From: Daniel Shively [shively@iup.edu]
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To: WCOutreach Resource
Subject: comments on storage of nuclear waste

1. Current on-site storage in indoor pools is not safe, secure, or protective of human health and the environment. Fukushima Daiichi has shown that pools can boil or drain dry, sparking a catastrophic radioactive fire, releasing up to 100% of the hazardous Cesium-137 in decades worth of the piled up irradiated nuclear fuel densely crammed into pools. Several storage pools in the U.S. have simply sprung leaks over the decades, unleashing radioactively contaminated water into soil, groundwater, and surface water. As documented in a report by Alvarez et al., NRC commissioned studies themselves have admitted that a pool fire could cause around 25,000 latent cancer fatalities downwind (2001), or even 54,000 to 143,000 latent cancer fatalities downwind, 2,000 to 7,000 square kilometers [770 to 2,700 sq. miles] of agricultural land condemned, and economic costs due to evacuation of $117 to 566 billion [$158 to 765 billion in 2010 dollars, when adjusted for inflation] (1997).

2. Current on-site storage in outdoor dry casks is not safe, secure, or protective of human health or the environment. As shown by a 1998 test performed at the U.S. Army's Aberdeen Proving Ground in Maryland, dry casks were not designed to withstand terrorist attacks. A TOW anti-tank missile blew a hole in the side of a cask, creating the pathway for a disastrous radioactivity release. In addition, the structural integrity of dry casks is very questionable due to non-existent quality assurance and control, as revealed by industry and even NRC whistleblowers over the decades. In addition, many incidents have already occurred with dry casks over the past 25 years, including the near drops of heavy loads during fuel transfer that risked draining pools of their cooling water. Over time, the thermal heat and radioactivity within dry casks, as well as the elements to which they are subjected outdoors, will degrade the concrete and/or steel of which they are made. They will begin to spring leaks, releasing radioactive particles and gases into the environment, unless they are replaced. But once nuclear power plants are decommissioned, there would be no safe location in which to carry out the transfer of irradiated fuel from old, degraded casks into new replacement ones. The replacement of old casks, and the building of new pools in which to carry out the transfers, will prove very expensive, but there is no other option.

3. The NRC's "confidence" that on-site storage for 120 years (60 during reactors operations, 60 after reactor shutdown) is safe and secure would be laughable, if it weren't so seriously wrong. 120 years is half as long as the United States has been an independent country (1776 to 2012, 236 years). A lot can go wrong in 120 years. NRC's consideration of 200 to 300 years of on-site storage is even more preposterous. This is not "interim" or "temporary" on-site storage. This is de facto permanent on-site storage, in any common understanding of the term.

4. NRC should require Hardened On-Site Storage (HOSS) to safeguard high-level radioactive waste against accidents, secure it against attacks, and prevent leakage over time into the environment. HOSS would require fortifications and the highest quality assurance and control. Hundreds of environmental groups across the U.S. have endorsed HOSS.

5. As Beyond Nuclear board member Judith Johnsrud has long argued, the radioactive waste problem is "trans-solutional," a problem beyond our ability to solve. Nuclear power must be abolished. We must stop making radioactive waste in the first place. As shown by the "Mountain of Radioactive Waste 70 Years High," prevention is the only real solution for radioactive waste.

Thank you very much.

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