

WCRM-GEIS2CEm Resource

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NUCLEAR WASTE

1. Stop making it. The only solution to the high-level radioactive waste (HLRW) problem is to not generate irradiated nuclear fuel in the first place. Our society's "preferred alternative" to nuclear power and the forever deadly radioactive waste it inevitably generates is efficiency and renewables, such as wind and solar power. As Dr. Arjun Makhijani, President of the Institute for Energy and Environmental Research, showed in his 2007 book *Carbon-Free, Nuclear-Free: A Roadmap to U.S. Energy Policy*, both fossil fuels and nuclear power can be completely phased out of the U.S. economy by 2040, and replaced by efficiency and renewables, without any further technological breakthroughs required, and for the same percentage of our Gross Domestic Product (GDP) as we currently spend on dirty, dangerous, and expensive fossil fuels and nuclear power.
2. For the HLRWs that already exist, require Hardened On-Site Storage (HOSS). Hundreds of environmental and public interest groups, representing all 50 states, have endorsed the Statement of Principles for Safeguarding Nuclear Waste at Reactors, which describes HOSS. Where possible, densely-packed, vulnerable HLRW storage pools, at risk of catastrophic fires and radioactivity releases, should be emptied into on-site dry cask storage that is "hardened": designed and built well, safeguarded against accidents, fortified against attacks, and protected against leakage into the environment. This should be expedited as a national security top priority. Locations where HOSS is not safe (places vulnerable to flooding, for example), hardened dry cask storage should be done as close to the wastes' point of generation as possible, as safely as possible. HOSS must be monitored and retrievable, and is but an interim measure. HOSS cannot be a permanent measure on the sea coasts and fresh water sources (rivers, lakes, reservoirs) of our country, due to rising sea levels and risk of leakage into our vital drinking water supplies.
3. NRC's assumption that "indefinite storage" at reactor sites can go on literally forever, without a loss of institutional control, is absurd. As the environmental coalition's expert witness, Dr. Makhijani of IEER, has pointed out, one of the oldest continuous human institutions in the world, the Catholic Church, is only 2,000 years old. Plutonium-239, for one, will remain hazardous for at least 240,000 years.
4. Under its "indefinite storage" scenario, NRC has assumed that dry cask storage -- cask pads, inner canisters, and the dry casks themselves -- will be replaced once every 100 years, forevermore into the future. NRC assumes that Dry Transfer Systems will be built (and also replaced every 100 years), since pools will have been dismantled during decommissioning, by at most 60 years after permanent reactor shutdown. But NRC has not dealt with the very real risk that the irradiated nuclear fuel will so degrade with age that such transfer operations cannot be carried out safely or smoothly. This is especially a risk with "high burn-up fuel," that has spent more time in an operating reactor core, and is thus significantly more radioactive and thermally hot. NRC has also not provided the price tag for such future transfer and replacement operations.
5. It is inappropriate for NRC, in this GEIS, to use the Private Fuel Storage (PFS), LLC "centralized interim storage" proposal, targeted at the Skull Valley Goshutes Band of Indians in Utah, as a model for away-from-reactor storage. Although licensed by NRC for construction and operation, PFS was canceled in December 2012. NRC claims in its GEIS to observe Environmental Justice (EJ) principles, and yet PFS was a blatant violation of EJ. Nearly 500 organizations across the U.S. joined with Skull Valley Goshute traditions urging NRC to disapprove PFS's license, due to its inherent violation of EJ.
6. NRC downplays the risks of pool fires by assuming that surrounding populations will be successfully evacuated. But nuclear utilities are allowed to store HLRW in pools for many decades after reactors permanently shutdown, in order to defer the costs of dry cask storage as far off into the future as possible, despite the inherent risks. At the same time, NRC allows utilities, via exemptions from regulations, to do away with 10-mile radius emergency planning zones (EPZs) within as soon as 12 to 18 months post-reactor shutdown. This, despite the lingering risk of storing HLRW in pools at such shutdown reactor sites. How can populations be evacuated, if EPZs have been dismantled?!
7. NRC also downplays the risks of pool fires by assuming that a pool drain down accident (or attack) involves the complete drain down of the pool. However, as environmental coalition expert witness Dr. Gordon Thompson of the Institute for Resource and Security Studies (IRSS) has pointed out, any technically competent person paying attention to the issue should have known since 1979 that a *partial* drain down of the pool is actually a worse-case scenario, for the leftover water in the bottom of the pool would block convection current air flow which would help cool the irradiated nuclear fuel, leading to faster heat up to the ignition point.
8. You can also comment to NRC about specific risks with HLRW storage pools or dry casks at the nuclear power plant near you. As a Generic EIS, NRC's current draft largely ignores site-specific risks.

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