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SUN DAY CAMPAIGN ♦ TMI-ALERT ♦ U.S. PUBLIC INTEREST RESEARCH GROUP

October 3, 2006

Re: Support securing irradiated fuel at reactor sites; Oppose away-from-reactor “interim” storage of this waste

Dear Member of Congress:

As national, regional and local public interest organizations, we are writing to urge you to oppose the provisions in the Senate and House FY 2007 Energy & Water Appropriations bills (H.R. 5427) that would create away-from-reactor interim storage sites for irradiated fuel. Instead, the most sensible action in the near-term is to protect the public from the threats posed by the current vulnerable storage of commercial irradiated fuel by safeguarding this waste at reactor sites.

Under any of the current proposals for managing nuclear waste, irradiated fuel will remain at reactor sites around the country for several decades – at a minimum. Out of concern about public health and safety, public interest groups from around the country have developed *Principles for Safeguarding Nuclear Waste at Reactors*. These Principles are attached, along with the list of more than 100 national and local signatories representing millions of members – citizens, taxpayers, and ratepayers.

Clearly, the United States does not have a near-term solution for the permanent storage of high-level nuclear waste. The proposed Yucca Mountain site is unsafe for geologic or interim storage of nuclear waste and the program remains mired in bad science, mismanagement, and yet another design overhaul. None of the proposed legislation that aims to turn around this flawed project would actually solve these fundamental problems. On September 13, Department of Energy (DOE) Director of the Office of Civilian Radioactive Waste Management Ward Sproat testified that the “best achievable” opening date for Yucca Mountain of 2017 is not the “most probable.” Even if the repository opens, transporting waste to the site would take more than 30 years – a total at least 41 years that this waste will remain vulnerable at reactor sites. Moreover, not all of the waste produced in the U.S. could be legally stored at Yucca Mountain.

Without a permanent repository available in the near-term, attention has turned to dry cask interim storage of irradiated fuel. But after 6 years of Nuclear Regulatory Commission review, the only site to be licensed for away-from-reactor dry cask interim storage of irradiated fuel, Private Fuel Storage (PFS) located on Skull Valley Goshute Native American Reservation land in Utah, now appears unlikely to open. The Bureau of Indian Affairs denied approval of the PFS lease of the tribal land, listing among other concerns the uncertainty about the availability of a permanent repository, and the lack of an analysis on the environmental impacts of a terrorist attack.

There are numerous reasons why away-from-reactor storage is not even a temporary waste solution. First, creating centralized surface storage sites would not meaningfully reduce the number of

locations where high-level radioactive waste is stored, as long as most commercial nuclear power plants remain in operation for decades to come. Second, rather than reduce risks, centralized “interim” storage would unnecessarily increase transport risks to the public. Third, interim storage at DOE sites, as proposed in H.R. 5427, would be contrary to legal agreements made with States and tribes to clean up these sites. Fourth, the use of Yucca Mountain for “interim” surface storage, as proposed in legislation introduced by Sens. Domenici and Craig (S.3962), would make it virtually impossible to have an unbiased, scientific analysis of DOE’s license application for a permanent repository at the site. Finally, given the extreme difficulty faced in opening this country’s first permanent high-level waste repository, it is unlikely that additional or alternative repository space will be available soon. Thus, “interim” storage sites would become long-term storage for high-level radioactive wastes with nowhere else to go.

The Senate FY2007 Energy and Water Appropriations bill requires states with nuclear reactors to designate at least one site in that state for 25-year interim waste storage, called a Consolidation and Preparation (CAP) facility. Tucked into a large appropriations bill, this provision would result in a sweeping change to the country’s nuclear waste policy without hearings or public debate. This proposal would give the U.S. Department of Energy (DOE) authority to site a waste dump within a state over the objections of the state and local governments. It also provides an unreasonably short timeline: only 9 months to choose sites, potentially in all 31 states with nuclear power reactors, and a total of only 3½ years for siting and licensing of those sites. The bill also limits the scope of the National Environmental Policy Act (NEPA) review to the 25-year license period, which does not represent the actual long-term effects that could occur and is contrary to 35 years of NEPA practice.

The House FY2007 Energy and Water Appropriations bill requires DOE to “conduct a voluntary, competitive process to select one or more interim storage sites” by either re-issuing Request for Expressions of Interest for the proposed Global Nuclear Energy Partnership (interim storage at the “integrated recycling facilities”) or issuing a new Request for Proposals for interim storage alone. Connecting interim storage with the proposed reprocessing plant is highly speculative. While 14 entities have applied to host a reprocessing facility and/or fast reactor, none of the local communities were actually consulted about these facilities or about being the nation’s nuclear waste storage site. State and local opposition is likely to be strong, as was seen with Private Fuel Storage in Utah. Furthermore, assuming that a reprocessing plant is constructed, this site will become *de facto* long-term storage for the separated components of reprocessing, including highly radioactive strontium and cesium and other fission products, as well as plutonium. The necessary technologies to actually reduce the radioactivity of the waste are not going to be viable or economical in the foreseeable future.

National focus should be on addressing the current security threats from this waste at the reactor sites where it will inevitably continue to be stored for decades to come, not on wasting resources on a failed repository program, a dangerous reprocessing program, or unnecessary interim away-from-reactor storage. ***We urge you to reject away-from-reactor “interim” storage proposals and support securing the waste at reactor sites, as defined in the Principles.***

If you have any questions, please contact Michele Boyd at Public Citizen (mboyd@citizen.org or 202-454-5134) or Kevin Kamps at the Nuclear Information and Resource Service (kevin@nirs.org or 301-270-6477).

Principles for Safeguarding Nuclear Waste at Reactors

The following principles are based on the urgent need to protect the public from the threats posed by the current vulnerable storage of commercial irradiated fuel. The United States does not have a near-term solution for the permanent storage of high-level nuclear waste. The proposed Yucca Mountain site is unsafe for geologic storage of nuclear waste and the program remains mired in bad science, mismanagement, and yet another design overhaul. Even if licensed, Yucca Mountain could not legally contain all of the waste produced by existing reactors. Under the U.S. Department of Energy's unrealistically optimistic scenario, Yucca Mountain is not predicted to begin receiving waste until at least 2017 and transporting waste to the site would take more than 30 years. Meanwhile, irradiated fuel at reactor sites remains vulnerable to accidents and attacks.

The undersigned organizations' support for improving the protection of radioactive waste stored at reactor sites is a matter of security and is in no way an indication that we support nuclear power and the generation of more nuclear waste.

- ◆ **Require a low-density, open-frame layout for fuel pools:** Fuel pools were originally designed for temporary storage of a limited number of irradiated fuel assemblies in a low density, open frame configuration. As the amount of waste generated has increased beyond the designed capacity, the pools have been reorganized so that the concentration of fuel in the pools is nearly the same as that in operating reactor cores. If water is lost from a densely packed pool as the result of an attack or an accident, cooling by ambient air would likely be insufficient to prevent a fire, resulting in the release of large quantities of radioactivity to the environment. A low-density, open-frame arrangement within fuel pools could allow enough air circulation to keep the fuel from catching fire. In order to achieve and maintain this arrangement within the pools, irradiated fuel must be transferred from the pools to dry storage within five years of being discharged from the reactor.
- ◆ **Establish hardened on-site storage (HOSS):** Irradiated fuel must be stored as safely as possible as close to the site of generation as possible. Waste moved from fuel pools must be safeguarded in hardened, on-site storage (HOSS) facilities. Transporting waste to interim away-from-reactor storage should not be done unless the reactor site is unsuitable for a HOSS facility and the move increases the safety and security of the waste. HOSS facilities must not be regarded as a permanent waste solution, and thus should not be constructed deep underground. The waste must be retrievable, and real-time radiation and heat monitoring at the HOSS facility must be implemented for early detection of radiation releases and overheating. The overall objective of HOSS should be that the amount of releases projected in even severe attacks should be low enough that the storage system would be unattractive as a terrorist target. Design criteria that would correspond to the overall objective must include:
 - Resistance to severe attacks, such as a direct hit by high-explosive or deeply penetrating weapons and munitions or a direct hit by a large aircraft loaded with fuel or a small aircraft loaded with fuel and/or explosives, without major releases.
 - Placement of individual canisters that makes detection difficult from outside the site boundary.

- ◆ **Protect fuel pools:** Irradiated fuel must be kept in pools for several years before it can be stored in a dry facility. The pools must be protected to withstand an attack by air, land, or water from a force at least equal in size and coordination to the 9/11 attacks. The security improvements must be approved by a panel of experts independent of the nuclear industry and the Nuclear Regulatory Commission.
- ◆ **Require periodic review of HOSS facilities and fuel pools:** An annual report consisting of the review of each HOSS facility and fuel pool should be prepared with meaningful participation from public stakeholders, regulators, and utility managers at each site. The report must be made publicly available and may include recommendations for actions to be taken.
- ◆ **Dedicate funding to local and state governments to independently monitor the sites:** Funding for monitoring the HOSS facilities at each site must be provided to affected local and state governments. The affected public must have the right to fully participate.
- ◆ **Prohibit reprocessing:** The reprocessing of irradiated fuel has not solved the nuclear waste problem in any country, and actually exacerbates it by creating numerous additional waste streams that must be managed. In addition to being expensive and polluting, reprocessing also increases nuclear weapons proliferation threats.

Signatories (as of October 3, 2006):

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