

## **EXPERTS: U.S. HAS AGREED TO STORE ENOUGH NUCLEAR REACTOR WASTE TO FILL TWO YUCCA MOUNTAINS ... OR FACE BILLIONS OF DOLLARS IN NEW PENALTIES**

***“Under the Radar”:* *Outgoing Bush White House Hiked Likely Penalties Borne by Taxpayers By Inking Deals With Over a Dozen Utilities; 170 Groups in All 50 States Release Principles Urging an Upgrade in Spent Reactor Fuel Storage Safety to Withstand Equivalent of “9/11 Attacks.”***

**WASHINGTON, D.C.//March 24, 2010**///Between the output of existing commercial nuclear reactors and 21 proposed nuclear reactors covered by agreements quietly signed by the outgoing Bush Administration with more than a dozen electric utilities, the United States already has agreed to store enough spent (used) reactor fuel to fill the equivalent of not one, but two, Yucca Mountain high-level radioactive waste repositories, according to documents acquired under the Freedom of Information Act (FOIA). Given that the U.S. is back to square one for the first repository, U.S. taxpayers would be on the hook for potentially tens of billions of dollars in penalties that would have to be paid to utilities if the 21 proposed reactor projects proceed.

This new information about the daunting scale of the challenge that faces the United States in disposing of spent fuel from commercial nuclear reactors comes one day before the first meeting of the Obama Administration's "Blue Ribbon Commission on America's Nuclear Future." In addition to highlighting the serious consequences of the eleventh-hour deals struck by the Bush White House, experts also focused public attention on the fact that the recently cancelled Yucca Mountain repository – even if it were open today, 35 years after the process to create it started – would already be filled to its legal limit of 63,000 metric tons of commercial waste by this spring. A second repository the same size would be filled with the 42,000 additional metric tons of spent fuel yet to be produced by existing nuclear reactors and the 21,000 metric tons that would be produced by the 21 proposed reactors covered under the Bush-industry agreements.

Separately, over 170 groups in all 50 states today released the "Principles for Safeguarding Nuclear Waste at Reactors" calling for specific steps to protect the public from the immediate threats posed by the currently vulnerable storage of commercial spent fuel at nuclear reactor facilities. The principles call for safer on-site storage of spent nuclear fuel through the use of less densely packed reactor pools and "hardened on-site storage" (HOSS) designed to "withstand an attack by air, land, or water from a force at least equal in size and coordination to the 9/11 attacks." (See below.)

Dr. Arjun Makhijani, president, Institute for Energy and Environmental Research (IEER) said: **“Yucca Mountain was known to be a poor repository site when it was chosen. Now, after 10 billion dollars of ratepayer money has been wasted and Yucca has rightly been abandoned, even the Nuclear Regulatory Commission has not expressed confidence that a repository will open within ten years of the expiration of the first new reactor. In fact the NRC has not committed to any specific date for a repository; it has no logical or factual basis to come up with one. It was rash for the Bush Administration to sign contracts for new reactors while taxpayers are on the hook for billions due to default on existing waste contracts. These new contracts are likely to add billions more in damages at a time when the federal government is struggling with deficit containment.”**

Beyond Nuclear Radioactive Waste Specialist Kevin Kamps: **“The bottom line here is that we have an industry and a White House proposing to race ahead with new reactors when we haven't figured out how to clean up the mess created by the first wave of reactors. Instead, 28 years after passage of the Nuclear Waste Policy Act, 35 years after the repository search began, 53 years into commercial nuclear power, and 68 years after Fermi first split the atom during the Manhattan Project, the U.S. still has no safe, sound, permanent storage plan for high-level radioactive waste.”**

Diane Curran, Esq., partner, Harmon, Curran, Spielberg & Eisenberg, LLP, said: **“There was no apparent justification for the George W. Bush Administration's rush to sign these spent nuclear fuel disposal contracts for new reactors. Having already paid out hundreds of millions in contract damages on spent fuel disposal agreements it could not fulfill, the government should have**

**waited until it knew whether it could deliver on the contracts, instead of signing up for more liability. These corporations have already reaped tens of millions of dollars in taxpayer-funded contract damages, and stand to get hundreds of millions more. The funds for the damages are coming from the taxpayer-funded Department of Treasury's Judgment Fund."**

The utilities and the 21 reactor projects covered under the Bush Administration agreements are: Duke Energy in South Carolina (Lee 1&2); Southern Nuclear in Georgia (Vogtle 3&4); South Texas Project in Texas (South Texas 3&4); Nine Mile Point in New York (Nine Mile Point 3); UniStar Nuclear in Maryland (Calvert Cliffs 3); Virginia Electric in Virginia (North Anna 3); Florida Power and Light in Florida (Turkey Point 6&7); South Carolina Electric & Gas in South Carolina (Summer 2&3); Pennsylvania Power and Light in Pennsylvania (Bell Bend); Progress Energy in North Carolina (Shearon Harris 2&3) and Florida (Levy 1&2); Ameren UE in Missouri (Callaway 2); and Luminant in Texas (Comanche Peak 3&4).

A backgrounder outlining the "below the radar" Bush Administration deals with the nuclear industry and the implications of the same for taxpayers is available online at <http://www.ieer.org>.

### **ABOUT THE PRINCIPLES**

Citizens Awareness Network Executive Director Deborah Katz said: **"The Principles for Safeguarding Nuclear Waste at Reactors are based on the urgent need to protect the public from the threats posed by the current vulnerable storage of commercial spent fuel. The United States does not currently have a national policy for the permanent storage of high-level nuclear waste. The Obama Administration has determined that the Yucca Mountain site, which has been mired in bad science and mismanagement, is not an option for geologic storage of nuclear waste. Unfortunately, reprocessing proponents have used this opportunity to promote reprocessing as the solution for managing our nuclear waste. Contrary to their claims, however, reprocessing is extremely expensive, highly polluting, and a proliferation threat, and will actually complicate the management of spent fuel."**

Among the steps called for under the Principles are:

- **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."
- **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 ... 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."
- **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."
- **Dedicate funding to local and state governments to independently monitor the sites.**
- **Prohibit reprocessing.**

The full text of the Principles is available online at <http://www.ieer.org>.

## **BACKGROUND ON THE BUSH ADMINISTRATION DEALS**

In a period of less than three months, the Bush Administration signed contracts to accept irradiated nuclear fuel from 21 new commercial atomic reactors even though at that time, no repository for new sources of irradiated fuel existed or was planned. It also did so even though the U.S. government had already paid out \$565 million in contract damages – and faced an additional \$790 million of contract damages at that very same time – for its failure to dispose of the *existing* inventory of irradiated fuel in the United States. And it did so even though it already expected to face around an additional billion dollars of damage payments to nuclear power utilities each and every year for the next decade.

As the backgrounder notes: “Given that after 35 years of searching, the U.S. has failed to license a single repository, it is reasonable to predict that the siting of *two* new repositories will take at least 50 years, if not 75 or 100 years. Thus, there is a very real potential for defaults on the new irradiated nuclear fuel contracts signed in 2008-2009 ... Barring ‘unavoidable delays,’ DOE would face breach of contract charges for missing these contractual deadlines. Resulting damage awards could cost U.S. taxpayers billions, or even tens of billions, of dollars.”

Between 1983 and 1987, DOE signed radioactive waste disposal contracts with over 100 operating commercial atomic reactors in the U.S. DOE was contractually obliged to begin accepting waste from utilities on Jan. 31, 1998. When this deadline was missed, the first of a current total of 71 lawsuits were filed by nuclear utilities against DOE for breach of contract, seeking damages to compensate them for on-site storage costs. As of July 2009, \$565 million in damages had been awarded, and paid, to five nuclear utilities pursuant to settlements, and one trial court judgment that was not appealed. The funding for these damage awards is ultimately coming out of the U.S. Treasury because the courts have ruled that the Nuclear Waste Fund (estimated to have \$23.8 billion remaining at the end of Fiscal Year 2009) cannot be used to pay liability to nuclear utility waste contract holders.

DOE has estimated that by 2020, taxpayer liability for breach of contract damages will amount to \$12.3 billion – thus, around a billion dollars of damage payments to nuclear power utilities each and every year for the next decade. DOE has not yet estimated liabilities beyond 2020. The nuclear industry itself estimates damages will top \$50 billion of taxpayer money. Neither of these estimates reflects the impact of the 21 proposed reactor projects covered under the Bush Administration agreements with major utilities.

The new contracts signed in the waning days of the Bush Administration will add significantly to future liability. In addition to damages, the Department of Justice has, thus far, expended another \$154 million of taxpayer money trying to defend DOE against breach of contract charges and damage awards. This “endless litigation,” at taxpayer expense, is expected to continue indefinitely for decades to come, unless Congress intervenes by changing the applicable laws.

Also called spent or used nuclear fuel, irradiated nuclear fuel is the high-level or highly radioactive waste which results when “fresh” nuclear fuel rods become a million times more radioactive after undergoing fissioning in atomic reactor cores.

## **ABOUT IEER**

The Institute for Energy and Environmental Research (<http://www.ieer.org>) provides policy-makers, journalists, and the public with understandable and accurate scientific and technical information on energy and environmental issues. IEER’s aim is to bring scientific excellence to public policy issues in order to promote the democratization of science and a safer, healthier environment.

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**EDITOR'S NOTE:** A streaming audio recording of the news event will be available on the Web as of 6 p.m. EDT on March 24, 2010 at <http://www.ieer.org>.