

# Bush Push for Reactors and Reprocessing

By Bonnie Urfer

The Bush administration is aggressively pushing for new nuclear reactor construction in the U.S. and abroad. The agenda comes with plans to build a reprocessing facility to separate plutonium from the waste reactor fuel rods, often called “spent fuel.”

The move would make the world more dangerous and reverses President Carter’s 1977 ban on commercial reprocessing which was intended to prevent nuclear weapons proliferation. At home, at least 6 reactors are leaking radiation. All 103 U.S. reactors are aging and already pose an eminent danger for those who have been drinking contaminated water or milk or breathing radioactive air.

Used fuel from the core of nuclear reactors is deadly for more than 300,000 thousand years. Unshielded, it delivers a lethal dose in seconds. It is also the Achilles Heel of the nuclear power industry. The Department of Energy (DOE) is moving forward trying to license Yucca Mountain as a permanent repository for waste fuel rods but all available space is spoken for with the existing 77,000 tons of waste. The current Yucca Mountain budget request is for another \$99 million; \$9 billion has already been spent. A second permanent repository will be needed for any further commercial waste produced by existing or new reactors. The amount of waste produced through reprocessing ends up being far greater than the original amount of irradiated fuel. The reprocessed fuel becomes even more radioactive than the original irradiated fuel and presents even greater problems for existing reactors and disposal.

The U.S. government is expecting cooperation from around the world in its reprocessing plan, which it has dubbed Global Nuclear Energy Partnership (GNEP). GNEP envisions the U.S. and Russia constructing reactors around the world, leasing fuel to the owners then bringing the irradiated fuel rods home for reprocessing. Clay Sell, U.S. Under Secretary of Energy said, “It will allow us to increase U.S. and global energy security, encourage clean development around the world, while improving the environment and reducing the risk of nuclear proliferation.”

Less than 20 pounds of plutonium is needed to make a nuclear bomb. Between 40,000 and 200,000 nuclear weapons could be produced using the 240 metric tons of plutonium now stored in various locations around the world. Reprocessing in the U.S. would increase this volume by more than 500 metric tons. Plutonium makes up about one percent of waste or “spent” fuel.

The Bush plan to mix neptunium or other isotopes with plutonium — making it harder to handle, steal or turn into bombs — does little to slow proliferation. “The tweaking of this process would only provide a minor additional deterrent,” said Edwin Lyman, a nuclear specialist at the Union of Concerned Scientists and an expert on plutonium and nuclear fuel reprocessing.

Britain’s reprocessing of foreign waste is failing due to slack orders and because of bad publicity from a major accident that closed its Sellafield facility. Russia is overwhelmed with the sheer volume of radioactive waste entering the country as it attempts

to reprocesses fuel from first-generation domestic and East European power reactors. The Russian facility is old, subsidized and has caused serious radioactive contamination. Germany’s program stopped in the 1990s. North Korea got its plutonium from a supposedly commercial reprocessing program. Japan wants a reprocessing facility but the “not-in-my-backyard” opposition is keeping the plan at bay. China is designing a pilot-scale reprocessing facility. India possesses nuclear weapons and Bush just agreed to sell nuclear reactors and fuel to New Delhi although it has refused to sign the nuclear Non-Proliferation Treaty.

Existing reprocessing sites are environmental catastrophes, with massive releases of radioactivity to air, land and water, worker radiation exposures and liquid wastes that are harder to handle than the solid waste the process began with. In Europe, radioactive liquid waste from reprocessing is discharged to the sea. France and Britain have contaminated seafood all the way to the Arctic. Neither country considers these discharges illegal because it travels a pipeline into the sea. If the waste were packaged in drums and thrown overboard from a ship, it would be illegal under international law. Pentagon and DOE history shows us what we can expect with any future government facility. Reprocessing in the U.S. has permanently poisoned vast underground water systems — about 200 square miles in the case of the Hanford, Washington nuclear weapons factory which has contaminated the Columbia River. The Savannah River in South Carolina is contaminated by reprocessing at the Savannah River Site. At both facilities, millions of gallons of high-level liquid reprocessing

waste is stored in corroded, leaking tanks. Clean up has cost \$60 billion and may reach \$240 billion. The West Valley Demonstration Project, operated by Gulf Oil from 1966 to 1972, was the only for-profit reprocessing facility to operate in the U.S. The environmental disaster is being managed at taxpayer expense and the clean up is still ongoing after 30 years.

This year Congress funded reprocessing research to the tune of \$80 million — \$10 million above the White House request. The current appropriations bill provides \$50 million for a

competition among communities to host the new reprocessing machinery. Twenty million would be given to four individual sites, at \$5 million each, to demonstrate they can get over regulatory, legal and legislative hurdles to host reprocessing. The remaining \$30 million would be used for research.

Electric power produced by reprocessed nuclear fuel (MOX fuel) is, per kilowatt, the most expensive. France pays about \$1 billion extra per year for plutonium reactor fuel. It is two to three times more costly than uranium fuel and provides only 10% of France’s electric power.

Reprocessing is nothing more than a favor to the nuclear industry according to Arjun Makhijani, President of the Institute for Energy and Environmental Research, “Reprocessing takes the pressure off of the nuclear utilities who are sick of having all this toxic, irradiated fuel building up at reactor sites. It would temporarily reduce the need for the expensive, problem-plagued Yucca Mountain high-level nuclear waste repository in Nevada. Most importantly, it would open the door to the nuclear industry’s top priority: more nukes.”



Department of Energy Photo

**Barrels of radioactive materials stored at Hanford in eastern Washington.**