

WASTE NOT WANT NOT

By Paul Vos Benkowski

With a heavy handed-campaign aimed at increasing nuclear power in the U.S. and around the world the nuclear industry and the current administration have set their sights on increasing the number of reactors while disregarding the alarming amount of radioactive waste being generated and being slow on the uptake as to what to do with said waste. This dilemma is nothing new. In the past 50 years there has yet to be a safe secure method of disposal, yet this fact has done little to dissuade the championing of nuclear energy as a “viable energy source,” and the only alternative to our “dependence on foreign oil.”

A survey of North American nuclear reactors paints a grim picture of carelessness, ill planning and hubris. From the oft stalled Yucca Mountain plan in Nevada to the Nuclear Waste Storage Provision (HR 2419) passed this summer by the Senate (which allows for states with nuclear reactors to designate at least one site for “interim” waste storage), it

appears that little headway has been made in the concern of nuclear waste. The focus now is on rhetoric and monetary gain; human health and environmental safety have always been a secondary concern of the nuclear industry.

The Nuclear Waste Storage Provision is the wily work of Senator Pete Domenici (R-NM). Domenici stated that Yucca’s delays were forcing him to look at interim options because waste inventories will just continue to increase. Besides, the government also faces liability because it breached its contract by not having Yucca available to take in waste, as promised, by 1998. So, tucked into a larger Senate Energy and Water Appropriations Bill, the Provision requires states with nuclear reactors to have one site named as an “interim” Consolidation and Preparation (CAP) facility to house all the nuclear waste from nearby reactors. Aside from excluding Nevada and Utah from housing an interim CAP, the provision gives the Department of Energy (DOE) authority to name which sites will be dumping grounds over any objections from state or local government. It should come as no surprise that there will also be no opportunity for public hearings or debates concerning just which sites will be named. This provision will not only increase the number of places where radioactive waste is stored but it will also increase the amount of traffic of highly dangerous waste, which our faithful readers know is never a safe prospect. Countless train and truck accidents are reported all too frequently for this provision to seem like a good solution.

An illustrative case is the Limerick nuclear power reactor in rural Pennsylvania that has more than 5,000 bundles of used fuel rods stored 20 feet beneath two pools of radioactive water used to cool the reactor. After 20 years of operation those pools are expected to be full in three years. Under the new provision Exelon, the reactor operator, will be able to transfer this highly radioactive used fuel into steel containers that will be put in concrete vaults on the property, thereby doubling the amount of radioactive waste. Obviously this plan has alarmed many people in the surrounding communities, not only because of the tenuousness of the storage proposal and the fear of a terrorist attack rupturing a cask and releasing radiation, but also the fear that the site will become a permanent nuclear waste dump. Officials for Exelon Corporation are quick to point out that the planned storage casks are safe and in a telling comment on the present state of nuclear waste in the U.S. they avow that “they have no other option.”

The dearth of options regarding nuclear waste is not exclusive to the Limerick site. Similar dry cask storage facilities have been constructed at 33 of the 65 commercial nuclear power sites in the U.S., including the nearby Susquehanna and Peach Bottom sites in Pennsylvania. For some cold comfort the nearby residents of Limerick were assured by David Lochbaum, Nuclear Safety Engineer with the Union of Concerned Scientists, that, “in some ways, dry cask storage is actually safer than a nearly full pool. If the pool leaks or the pumps fail, the rods could melt or catch fire, releasing radiation.”

Aside from dry cask storage of radioactive waste, the only other option is the expansion of an existing site — such is the sad reality at the Oak Ridge dump site in Tennessee. The facility was established to handle the massive amount of hazardous and radioactive waste generated by the U.S. DOE. It began taking in waste in 2002 and storing it in two large concrete disposal cells. After a short while the two cells were filled to their 400,000 cubic yards capacity and another two cells were built and filled to capacity, totaling some 1.2 million cubic yards of radioactive waste. As recently as this August the government was given permission to build a fifth disposal cell bringing the total amount of waste to 1.7 million cubic yards, the maximum allowed under an agreement with environmental regulators in 1999.

The expansion of an already contaminated site does not bode well for environmental issues. The Oak Ridge site has had a number of problems, including surface flooding and issues with waste evaluations. There is also grave concern about groundwater underneath the waste cells reaching into what is supposed to be a 10-foot dry buffer zone. “The water was rising up to come in contact with the base of the waste cell,” states John Owsley, director of the DOE clean-up, “We installed a French drain in the center and that appears to be causing the water table to drop. But it’s difficult to show that with just a couple of years. We’ll withhold judgment.” As for the overall operation of the landfill, Owsley said, “They are doing fairly well.”

The interim storage of radioactive waste appears to be just a stopgap until the Yucca Mountain site or some other plan comes to fruition, if at all. Conservative estimates put the opening of Yucca Mountain at year 2017, yet the recently passed Provision reveals the truth that is so troubling about nuclear waste. As much as law-makers want Yucca Mountain to be our nation’s nuclear outhouse it is not only geologically unsafe, it is reprehensible and no matter how many design overhauls the site goes through they will always come to the same scientific conclusion: there is no end to the nuclear cycle. That leaves but one solution to the question of nuclear waste — stop further production.



These dry storage casks are located at Xcel Energy’s Prairie Island reactor site which sits along side the Mississippi River. The Minnesota Legislature has allowed Xcel to place 48 of these containers on a concrete pad at PI. In August of 2006, Xcel petitioned for 30 dry casks at its Monticello reactor which has applied for a 20-year operating license extension.

Heat Affects Reactors Causing Shutdowns and Environmental Damage

Drop It Like It’s Hot

Remember how nuclear power was going to save us from global warming? Heh. Funny story. As Europe has gotten, you know, warm lately, a handful of nuclear power reactors have been forced to reduce or stop production. Seems the continent’s relentless heat wave has warmed the rivers that cool the reactors. Some power producers in Germany and France have been given permission to dump hot water into rivers to avoid power failures. France, which sources more than three-quarters of its electricity from nukes, has had to import power. Bruno Comby of Environmentalists for Nuclear Energy suggests that future nuke plants could cope with the problem by building bigger cooling towers or being built near the sea. That’s what you want from a solution to global warming, right? Vulnerability to heat. It just makes sense. — Daily Grist, July 31, 2006

By Bonnie Urfer

Minnesota’s Monticello and Prairie Island units 1 & 2; Illinois’ Quad Cities, Zion and Dresden unit 2; Pennsylvania’s Limerick unit 2; and Cook in Michigan have all experienced heat related problems. Reactors in Germany, Spain and France have also encountered unexpected difficulties due to the heat.

Power output was cut at the Quad Cities reactors, 155 miles west of Chicago, because the Mississippi River was too warm to condense turbine steam. Water extracted from the Mississippi River for cooling the reactor is returned warmer to the river and reached as high as 90 degrees. Hot water going into the river reduces power capacity and harms fish and other aquatic life.

The same problem existed at Exelon’s Limerick reactor where the cooling water coming out of the turbines read 125 degrees. Cooling water can not be air cooled in the towers to 95 degrees if ambient air temperature is hotter than that.

The same “hot water/hot air” phenomenon occurred at the Santa Maria de Girona reactor on the River Ebro in Spain. The river was simply too hot to cool the reactor.

German reactors Krümmel, Brunsbüttel and Brokdorf situated along the river Elbe which flows through Eastern and Northern Germany had all been slowed down and the nuclear reactors Isar 1 near Munich and Neckarwestheim near Stuttgart were authorized to drain hotter water into the nearby rivers. German energy expert Hermann Scheer says the situation shows a need for radical change in policy. “We must massively invest in renewable energy sources, and get rid of nuclear power as soon as possible,” he said.

In France, operators were given special permission to dump excessively hot water back into rivers to avoid power

failures. France, with 58 reactors supplying 80 percent of the country’s energy, has had to import electricity. “For many years now, French authorities have defended nuclear power, arguing that it is clean energy, good for the environment, and that it will help combat global warming, for it does not emit greenhouse gases,” said Stephane Lhomme, coordinator of the environmental network Sortir du Nucléaire (Phase Out Nuclear Power). “Now, with global warming leading to extreme hot summers, we are witnessing that it is the other way around,” Lhomme said. “Global warming is showing the limits of nuclear power reactors, and nuclear power is destroying our environment.” Drought in Europe has reduced water levels in rivers further complicating the precarious situation.

At Zion in Illinois — closed since 1998 — heat is being blamed for causing a lightning device to blow off. The mechanism is designed to stop power surges into the reactor during storms. Zion, in spite of standing idle, remains dangerous. (Tritium contamination was discovered at the reactor site in June of this year.)

During the summer’s heat wave, Tennessee Valley Authority (TVA) interrupted the power of about 60 large industrial customers that agreed to have their power curtailed during peak periods in exchange for a break on electricity rates. TVA imported energy to avoid outages or brownouts. On July 31, Watts Bar Nuclear Plant at Spring City shut off at full power for reasons unknown.

Clearly, nuclear power is vulnerable to global warming increasing the danger of the industry.

Congress Moves to Okay “Temporary” Nuclear Dumps

By John LaForge

If it becomes law, a rider attached to a Congressional spending bill would allow the Department of Energy to open radioactive waste dumps over the objections of state and local governments.

HR 5427 passed the U.S. Senate Appropriations committee without a hearing or debate, yet if it is enacted, it would “lead to hasty, helter-skelter shipments of high-level atomic waste by truck, train and barge,” reports the Nuclear Information and Resource Service (NIRS) in Washington. The legislation would allow the Energy Secretary to override state governors’ decisions, and open so-called “interim” waste dumps in any of the 34 states with nuclear power reactors.

NIRS, Public Citizen and the Coalition for a Nuclear Free Great Lakes are urging calls to Congress to have HR 5427 withdrawn.

The provision, besides increasing the chances of “mobile Chernobyl” accidents during transport and creating “dirty bombs on wheels,” is a reckless rebuke of the National Academy of Sciences (NAS), the government’s most prestigious science advisory group. Earlier this year the NAS recommended that before any such high-level nuclear waste transport program is started, urgent issues must be addressed, studies carried out and preparations made regarding: full-scale crash testing of transport containers; the threat of terrorist attacks upon shipments; the danger of long-lasting and high-temperature fires during severe accidents; and the transparency, safety and security of the DOE’s transport plans.

The bill would extend nuclear’s corporate welfare by transferring ownership title for the waste from commercial utilities to the DOE, thereby relieving private companies of liability for accidents during packaging, transport or storage.

TAKE ACTION: Contact your Governor, State Attorney General and State Legislators and urge them to contact U.S. Congressional leaders and your state’s Congressional delegation to oppose the potential siting of atomic waste “parking lot dumps” against your state’s wishes.

Find your governor: <http://www.firstgov.gov/Contact/Governors.shtml>; find your state attorney general: <http://www.naag.org/>; find your state legislators: <http://www.ncsl.org/public/leglinks.cfm>

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Nuclear Pipe Dreams

accident liability issues. The DOE has spent \$4 billion on its half of the agreement already, but hasn’t “gotten rid of a gram of plutonium” (the purpose of the scheme), the *New York Times* reported July 22. Calling the MOX plan a “boondoggle” and just a “jobs program for South Carolina,” Rep. Hobson’s committee cut all its funding in May, setting up a fight with the Senate’s Pete Domenici (R-NM) who still supports it.

* Japan’s nuclear industry representatives have called GNEP “far too ambitious,” and have said, “They can’t afford it.” Utility officials there warn that Japan would never agree to “lease” fuel that would return to be reprocessed. Shozo Saito, of Japan’s Nuclear Energy Steering Committee said in May that concentration on power reactor construction was far more important than GNEP’s untested systems. “No one in top management is ever dreaming about transmutation or advanced reprocessing,” one utility researcher said. Indeed, because of Japan’s history of bad accidents (see p. 1), the Japan Atomic Industrial Forum advises that “we have to put our effort” into “public acceptance,” and the Japan Nuclear Fuel, Ltd. has stated that “All parties must ... contribute to improving the image of nuclear in public opinion.”