

# Menacing Reactors

## Reactor Revival Budget

WASHINGTON — In the midst of proposed federal budget cuts to vital social and educational programs, renewable energy programs, and environmental cleanup of radioactive sites, the Bush administration is pushing an increase in funds for nuclear reactor development and technologies. In the proposed Fiscal Year 2006 budget, the DOE's Nuclear Energy, Science and Technology division allotment is \$511, a \$25 million increase over last year's amount. A short breakdown includes the following:

- \$70 million for the "Advanced fuel cycle initiative," to promote reprocessing of high-level radioactive waste. Reprocessing results in large-scale liquid and gaseous releases to air, water and soil.
- \$56 million for "Nuclear Power 2010" to pave the way for site permits and construction and operating licenses for the first new reactors in three decades.
- \$45 million for the Generation IV nuclear energy systems initiative — research and development of an "advanced" or "next-generation" nuclear reactor.
- \$24 million for "university reactor infrastructure and education assistance," or outreach to 35 universities to encourage the next generation of nuclear engineers.
- \$20 million, a 124 percent increase, for the "nuclear hydrogen initiative," related to the \$1.1 billion hydrogen-generating reactor that was proposed in last year's energy bill. The reactor would be built at DOE's Idaho National Environmental Engineering Lab, completely at taxpayer expense.

— *Nuclear Information and Resource Service*, Washington DC, February 9, 2005

## Cracking Reactors in Britain

LONDON — British Energy could be forced to close some of its aging nuclear reactors due to cracking inside the core. The problem is centered on the splitting of graphite bricks which are used to slow the speed of neutrons. All eight of the company's advanced gas cooled reactors, or AGRs, are affected by the cracking. Such a move would throw Britain's energy supply into disarray because British Energy generates more than 20 percent of the country's electricity.

— *The Guardian*, Dec. 2, 2004

## China Heads Toward Reactor Boom

DAYA BAY, China — The demand for electricity in China is growing rapidly, and the country has embarked on an ambitious nuclear energy program to keep up with the demand. China currently has eight nuclear reactors in operation, supplying less than 2 percent of its energy. The plan is to build two reactors a year between now and 2020. In five years, planners predict a quadrupling of nuclear output to 16 billion kilowatt hours.

"We don't have a very good plan for dealing with spent fuel and we don't have very good emergency plans for dealing with catastrophe," said Wang Yi, a nuclear energy expert at

the Chinese Academy of Sciences in Beijing. Despite the risks, there is little opposition. The public, currently dealing with power cutbacks and outages in major cities, is likely to support any effort that produces more electricity. Energy demand is growing so fast, however, that even if the national plan is fulfilled by 2020, nuclear power would still contribute less than 4 percent of the country's electricity.

— *New York Times*, January 15, 2005



## New Study Finds 40 Percent Cancer Increase in Belarus

MINSK, Belarus — In November 2004, the *Swiss Medical Weekly* published findings by researchers at the Clinical Institute of Radiation Medicine and Endocrinology Research in Minsk, Belarus. The findings show that between 1990 and 2000, cancer rates rose by 40 percent in Belarus. The researchers compared the cancer rates before the Chernobyl catastrophe of April 1986 with rates after the accident. Belarus has had a national Cancer Registry since 1973.

Dr. Chris Busby of the Low Level Radiation Campaign, a British based organization that researches the effects of low-level radiation, predicted in 2001 that cancer would increase by 125 percent over the lifetimes of the exposed population. This stands in stark contrast to the prediction of the United Nations, which in 2000 made the following statement, "Apart from the substantial increase in thyroid cancer after childhood exposure observed in Belarus, the

unexpectedly shifted speed. The pumps increase the rate at which water flows through the reactor to increase the efficiency and power level.

- **Jan. 24, Fermi II Nuclear Power station, Newport, Michigan:** The reactor was shut down manually when water began leaking into the containment vessel at a rate of about 50 gallons per minute.
- **Jan. 26, Davis-Besse Nuclear Station, Oak Harbor, Ohio:** Ice buildup inside the reactor's cooling tower damaged some tiles that slow the rate of water flow and help cool the water. The reactor was already shut down for routine maintenance when the damage occurred. Davis-Besse is the site of the most extensive corrosion ever found at a U.S. nuclear reactor.
- **Feb. 3, Fermi II:** Fermi II's restart was halted when operators detected another leak in the plant's radioactive containment area. The site operator, Detroit Edison, shut down the reactor in order to fix the leak and begin the restart process. The reactor was operating at 12 percent capacity when the steam leak was discovered.
- **Feb. 7, Fermi II:** A stuck steam drain isolation valve caused a radiation release inside the containment building. The problem occurred while the reactor was at 90 percent capacity, on its second attempt to achieve full power since it was shutdown Jan. 24 due to a leak.
- **Feb. 14, San Onofre:** Unit 2 was shut down due to a faulty water valve. It was later discovered that the valve was missing some parts. The valve helps direct water to cool various pumps connected to the reactor.
- **Feb. 20, Kewaunee Nuclear Power Station, Kewaunee, Wisc.:** The reactor was shut down after workers detected a possible weakness in the auxiliary feed-water system.

Russian Federation and Ukraine there is no evidence of a major public health impact related to ionizing radiation 14 years after the Chernobyl accident. No increases in overall cancer incidence or mortality that could be associated with radiation exposure have been observed.... Generally positive prospects for the future health of most individuals should prevail." (U.N. Scientific Committee on the Effects of Atomic Radiation)

— Low Level Radiation Campaign, Britain, Dec. 1, 2004

## Nuclear Power Boosts: A Dangerous Move for Aging Reactors

BRATTLEBORO, VT — As part of the industry's push to squeeze more electricity out of aging nuclear reactors, the Vermont Yankee Nuclear Power Station has asked the Nuclear Regulatory Commission for permission to boost the reactor's power by 20 percent. Up until 1998, requests for power boosts were relatively small, increasing power by less than 6 or 7 percent. Since that time, however, the NRC has approved 12 power boosts above that level, and it is expected to rule on 15 more requests in the next four years.

While so far the boosts have been granted with little controversy, nuclear safety advocates and the state of Vermont itself have expressed concern about the Vermont Yankee request. "These plants were designed for 40 years, and we've seen indications the older they get, the more problems they have," said Paul Blanch, a nuclear engineer and whistleblower who revealed major safety lapses at Connecticut's Millstone plant in the late 1980s and early 1990s. Blanch is consulting the New England Coalition on Nuclear Pollution, a Brattleboro antinuclear group, on this issue.

By applying for NRC permission for existing units to work harder and longer, owners have been able to increase the output of the nation's 103 decaying systems the equivalent of 24 new reactors.

A team of NRC inspectors, who assessed the safety of Vermont Yankee with regard to the power boost, found eight problems at the reactor that were described as having "very low safety significance." Ray Shadis, of the New England Coalition, questioned the report. "Our suspicion is that this report is being finessed, bent, folded, stapled and mutilated in order to fit the agenda of giving the licensee whatever it wants." The NRC will make a final decision in the coming months.

— *Brattleboro Reformer*, Nov. 7, 2004; *Vermont Guardian*, Dec. 17, 2004; *Boston Globe*, Oct. 12, 2004.

## Alaskan Town Possible Site for Mini Nuclear Reactor Experiment

GALENA, Alaska — This small Alaskan town, population 700, could become the site of an experimental mini nuclear power reactor. On Feb. 1, local community leaders met with the Nuclear Regulatory Commission and representatives of Toshiba, initiators of the project who will build the reactor. Approval of the plan would give Toshiba an opportunity to test its new reactor design, which they call 4S for "super safe, small and simple." It will generate about 10 megawatts of power, roughly one percent of a typical reactor's capacity.

Locals in Galena, an Athabaskan village, 540 miles northwest of Anchorage on the Yukon River, seem to welcome the plan. They have to pay three times the national average for their diesel generated electricity. An air force base uses most of the town's electricity. Neighboring villages are not as eager to support the project. One tribe, part of the Yukon River Intertribal Watershed Council, an organization of 58 tribal governments, is trying to enact a ban on transportation of radioactive material on the river, which would doom the plan. Anti-nuclear activists point out that it is no coincidence that Toshiba has chosen a remote, sparsely inhabited region, where it is more likely to get a license.

— *New York Times*, Feb. 3 & *New Scientist*, Feb. 15, 2005

## Reactor Accidents and Shutdowns

As U.S. nuclear reactors approach the end of an initial 40 year period during which they are permitted to operate, the aging dinosaurs are plagued with more problems. The past few months have seen leaks, cracks and other malfunctions resulting in shutdowns at reactors throughout the country. Below is an abridged chronological list of shutdowns and other incidents.

- **November, San Onofre Nuclear Generating Station, Calif.:** Cracks were discovered in the water heater of Unit 3 during a routine 55 day refueling that began on Sept. 26. The heaters keep the reactor's coolant at a constant 2,200 pounds per square inch and make sure the water inside the core does not boil. It will cost nearly \$7 million to replace the heaters. The reactor's two steam generators are also cracking, forcing plant officials to propose replacing them at an estimated cost of \$600 million.
- **Dec. 6, V.C. Summer Nuclear Reactor, Jenkinsville, Georgia:** The unit was shutdown when a steam leak was discovered by a reactor worker.
- **Dec. 3, Salem Nuclear Generating Station, Salem, N.J.:** The two Salem reactors were shut down due to an oil spill from a damaged tanker on the Delaware River. The oil had spread dangerously close to the unit's water intake valves. On Dec. 7, Salem 1 sprang a leak from a heat exchanger. Workers stopped the leak by tightening some seals on the equipment.
- The station's Hope Creek reactor was shut down October 10, 2004 when a pipe broke and radioactive steam burst into the turbine building. While the unit was off-line, engineers discovered problems with the "B" recirculation pump. Despite controversy surrounding the deteriorating pump, Hope Creek officials chose to bring the reactor back on-line.
- **Jan. 6, Perry Nuclear Power Reactor, Perry, Ohio:** The unit was shut down after two recirculation pumps

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### Deadly Deceit: The Myths and Truths of Nuclear Power

The government claims that nuclear power is cheap, safe and clean. A look at the facts reveals the opposite is true -- nuclear reactors are colossally expensive, toxic to the environment, dangerous, deadly and unsustainable for long-term energy production.

Join the movement to oppose new nuclear reactors! Help spread the truth about nuclear energy production.

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