

Nuke Plants

An Endangered Species?

by Michael Welch

Are nuclear-powered plants on their way to becoming the woolly mammoths of the U.S. electrical-generating world? That has long been the hope of many renewable energy activists and concerned citizens, and recent news items may be heralding the early days of this species' demise.

Every spring, the anniversaries of two of the most catastrophic nuclear reactor events (Three Mile Island and Chernobyl) cause me to reflect upon the value of nuclear energy relative to the risks inherent in the technology. The fear of and results from those catastrophes—and the knowledge that they will likely happen again—turned me into a keen hunter of the nuclear mammoth. Depending upon the source, the radioactive releases from the Three Mile Island meltdown either caused no human health effects (Pennsylvania Department of Health) or caused a 600% increase in cancer deaths and a statistically significant increase in infant mortality (TMI Public Health Fund). Likewise, the Chernobyl meltdown either killed 57 workers and emergency personnel (International Atomic Energy Agency) or an additional 130,000 residents (Ukrainian Ministry of Public Health).

In 1976, three nuclear engineers quit their high-paying jobs with General Electric's Nuclear Energy Division. Having once been excited about the prospect of a "limitless" source of energy, Dale Bridenbaugh, Greg Minor, and Richard Hubbard soon testified before Congress' Joint Committee on Atomic Energy that "we could no longer justify devoting our life energies to the continued development and expansion of nuclear fission power..." They believed this energy source to be so dangerous that "it now threatens the very existence of life on this planet." They went on to state that deficiencies "in the design, construction, and operation of nuclear power plants make a nuclear power plant accident...a certain event. The only question is when and where."

That question was answered three years later in Harrisburg, Pennsylvania—and again a mere 10 years later in Chernobyl in the Ukraine. While some of the consequences of the meltdowns have been acknowledged, the horribly unfortunate thing is that the real lessons were overlooked, making the "certain event" likely to happen again.

The fear of accidents is enough to turn many citizens against the use of nuclear energy, and was the impetus that spurred me—and many others—into relentless "hunters"

of the industry. Many other factors heap even more fodder onto the "No Nukes" side of the argument.

- No effective method exists to deal with reactors' high-level radioactive waste, which will remain dangerous for hundreds of thousands of years.
- Huge amounts of public money invested in nuclear energy take funding away from other cleaner, cheaper, and less centralized technologies.
- Nuclear energy is more expensive than any other commonly used source of electricity.
- Siting, licensing, and construction lead times on plants can span a decade.
- It's the most centralized form of electricity production, since reactors must be humongous to approach justifying their economics, and they must be located away from populated areas (where the electrical loads are) for safety reasons.
- It produces "waste" materials that can be used to build nuclear weapons and "dirty" bombs.
- The processing of uranium into reactor fuel is a dirty and hazardous procedure.
- The mining of uranium exploits uninformed workers in developing nations, and leaves huge amounts of dangerously radioactive tailings and dust behind.
- Nuclear power plants require vast amounts of cooling water, and the return of the heated water back to its source affects the flora and fauna in those waters.
- Nuclear reactors are attractive targets for terrorist attacks.

Despite the seemingly overwhelming evidence condemning the use of nuclear energy, this has not been enough to kill it. It turns out that the industry is a hearty breed and able to survive by using propaganda and undeserved political influence. Although pronuclear faithfuls were in the minority for many years—reducing the likelihood that new nuke plants might be built—human-caused climate change has breathed new life into the nuclear industry with a new source of propaganda to exploit: Compared to fossil-fueled power plants, nuclear power plants produce less carbon dioxide while operating.

But this industry is one that should be allowed—no, *encouraged*—to go extinct, for the sake of all the real species living on Earth. And hunters of the nuclear industry are celebrating

recent events that are indications of the declining nuclear species.

Jon Wellingshoff is the new chairman of the Federal Energy Regulatory Commission—one of two major federal agencies that deal with energy. In April, he stated that we may never need to build a new nuclear power plant, claiming that nuke plants were too expensive. He said, “The last price I saw for a nuke was north of \$7,000 a kilowatt. That’s more expensive than a solar system.” He explained that renewables and improved energy efficiency will meet future demand and that, in the meantime, natural gas can fill in.

Over the past four presidential administrations, Nevada’s Yucca Mountain has been the only potential permanent repository for high-level radioactive waste. But despite tens of billions of dollars spent and a Congress seemingly willing to spend \$50 billion more, the project has never held much promise—mainly because the siting and concept were bad ideas from the beginning. The site was not chosen on its merits, but rather because there was less political power in Nevada opposing the site—even though other states had potentially more appropriate geology for a repository that needs to last for a thousand centuries.

The Obama administration intends to terminate the project, and has removed from its budget request any monies needed to move forward. In the meantime, the administration says they will explore other ways of dealing with reactor waste storage. My guess is it will pile up at the plant sites, while bureaucrats and the nuke industry hope for some kind of technological breakthrough for dealing with dangerous nuclear waste—the same hope they’ve had since the 1950s.

Another foretelling of the dying nuke industry is its recent inability to get what it needs for a resurgence: lots of free or “cheap” money. Time after time, the industry has tried to slip into legislation billions of dollars in federally guaranteed loans so that its financing problems will go away. Lenders consider repayment of nuclear financing so risky that money is not available to the nuke industry. But if the industry could get taxpayers to guarantee the loans, lenders would be more than willing to make the money available since there would be no risk to them. Then, when a nuke plant fails for whatever reason, taxpayers will pay off its loans. At least four times this year, nuke loan guarantees have made it into legislation—and three times, grassroots efforts have been successful at having them removed before passage. As I write this, another attempt was slipped into the Clean Energy Bank bill that would make unlimited loan guarantees available to the nuke industry. Activists are working hard to fight this, and the wording will likely be eliminated—showing once again that the nuclear mammoth is on its way out.



In a monumental grassroots victory, local activists have halted the planned construction of a nuclear power plant in Missouri. Utilities that want to build expensive new power plants have long counted on being reimbursed for construction work in progress (CWIP). This allows them to recoup their investment as a plant is built, thus shifting the risk and financial burdens to ratepayers without providing them with any electricity. But Missouri activists passed a state law banning CWIP, which applies to high-cost, long lead-time nuclear power plants. After failed attempts by the nuke industry to have the law overturned, utility AmerenUE cancelled its plans to construct a new French Areva reactor at the Callaway, Missouri, site.

There has not been a single nuclear power plant that has started construction in the United States since Three Mile Island, and the overall percentage of U.S. electricity coming from nuclear has been on the decline ever since solar and wind (competing species) have gained a foothold in nuclear energy’s territory.

The nuclear industry continues to lobby for government funding, and still tries to convince the public that the technology is safe. Like the woolly mammoth, though, it is not aware of its impending demise as the citizens and government support truly renewable, sustainable energy sources. The extinction of the mammoth was due in part to pressure from hunting. So also goes the nuke industry, as modern humans keep up the pressure and sharpen their hunting skills by using the political system and improving grassroots organizing around the issue.

Access

Michael Welch (michael.welch@homepower.com) is keeping his political spear well honed and aimed at the heart of the nuclear industry.

