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fact sheet

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Nuclear Power: Renaissance or Dead on Arrival?

Despite the events of September 11 and seemingly oblivious to the fact that terrorists are targeting nuclear power plants, the nuclear industry and its proponents in government are plotting a nuclear renaissance. The U.S. Department of Energy (DOE) has put forth a plan that they claim would result in new nuclear reactors by 2010. The Nuclear Energy Institute (NEI), the industry's propagandists and lobbyists, have their own plan to construct fifty nuclear reactors by 2020.

As part of the DOE's Nuclear Power 2010 initiative, the Bush administration proposes to spend a total of $38.5 million in 2003 to demonstrate the early site permit (ESP) process and to conduct additional nuclear power plant research. The Department of Energy will subsidize these limited liability nuclear corporations' attempts to site new nuclear reactors by splitting the cost of the NRC's siting process.

Three nuclear corporations: Exelon, Entergy and Dominion Energy have indicated that they will apply for early site permits at three existing nuclear plant sites. Dominion Energy will seek an early site permit for the North Anna site in Virginia; Entergy at the Grand Gulf site in Mississippi, and Exelon will seek an early site permit for the Clinton site in Illinois. These nuclear corporations plan to submit their applications in the fall 2003, and expect that the Nuclear Regulatory Commission (NRC) to approve the permits by 2005.

However, not one of these nuclear corporations has designated a specific reactor design that it intends to build. This reticence on the part of Exelon, Entergy and Dominion is not due to the lack of potential nuclear plant designs. The NRC has already certified several nuclear power plant designs including: General Electric's Advanced Boiling Water Reactor, Combustion Engineering's System 80-plus, and the Westinghouse AP600.

Rather, these nuclear corporations have failed to choose a specific nuclear reactor design because none of the reactors are economically viable. Even nuclear industry proponents at the American Physical Society acknowledge that despite the fact that "the cost of electricity for these plants (advanced light water reactors) has been improved and is estimated to be lower than today's nuclear plants by about 20% ….the capital cost is still too high to be competitive with gas-fired plants in the U.S. rate de-regulated market, assuming present gas prices and no environmental credits, requiring continued efforts to bring down the capital costs."

The nuclear corporations and the NEI are currently pressuring the Nuclear Regulatory Commission to change its regulations for early site permits to accommodate the nuclear industry's indecisiveness.

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Rather than focusing on the safety and security of the existing fleet of nuclear power plants, the Nuclear Regulatory Commission is squandering its limited resources by entertaining the prospect of certifying even more reactor designs.

Westinghouse is in the process of attempting to certify the AP-1000 design despite the fact that it could not find a market for the AP-600. According to the American Physical Society report, "the cost goals for the AP-600 are estimated to have been met, but proved to be insufficient when abundant supplies of low cost natural gas became available in the 90's." Westinghouse is attempting to achieve economies of scale by increasing the size of their advanced design. However, the increase in reactor size reduces safety margins and makes the design more dangerous than the AP-600.

General Atomics continues to pursue the Modular High Temperature Gas-cooled Reactor (MHTGR) or the Gas-Turbine Modular High-Temperature Reactor (GT-MHR). Whatever name General Atomics finally decides upon it will not alter the fact that the Nuclear Regulatory Commission's Advisory Committee on Reactor Safeguards (ACRS) concluded years ago that the lack of containment on this and other Department of Energy (DOE) sponsored designs constituted a "major safety trade-off."

Exelon has recently backed out of plans to develop of the Pebble Bed Modular Reactor in South Africa and the NRC has shelved plans to certify the design in the United States. Exelon wasn't pushing the Pebble Bed Modular Reactor (PBMR) because it was the best design but because it was the cheapest. However, Dr. Dana Powers of the ACRS and other members of the NRC staff have questioned the safety and design characteristics of the PBMR. In a report on his trip to Germany, Dr. Powers concluded that, "as currently designed, the Pebble Bed Modular Reactor does not conform with the defense in depth regulatory philosophy of the Nuclear Regulatory Commission and could not be certified."

Equally disturbing is his finding that, "the Pebble bed modular reactor is tailor made for the facile production of weapons grade plutonium." In a post September 11 world, where terrorists and rogue states are attempting to secure fissile material in order to make nuclear weapons, this fact alone should preclude further examination of the PBMR design.

Nuclear power, once touted as "too cheap to meter," is now too costly to continue. Rather than experiencing a renaissance, the nuclear industry is struggling to maintain its relevance. Fortunately for the U.S and the world there are safer and more economical ways to generate electricity than by splitting atoms. After all, terrorists aren't targeting windmills and solar panels.