DOE Asked to Fill in the Blanks on Fuel Recycling Research Plan

The Bush Administration’s plans for a grand research program aimed at eventually recycling nuclear waste aren’t ready for prime time, legislators said at a pair of hearings last week. But they seem willing to support at least most of the $250 million price tag for next year.

Dubbed the Global Nuclear Energy Partnership (GNEP), the program was launched in February as a high-tech effort to expand nuclear power globally. At its technical core is a move to reprocess nuclear waste to extract fuel to be burned in so-called fast reactors. But although scientists are hashing out the particulars—researchers from nine Department of Energy (DOE) national laboratories met last week in Salt Lake City, Utah, to put together a research plan—the lack of detail is frustrating lawmakers.

“Why doesn’t Congress know more about [GNEP]?” asked Michael Simpson (R–ID) at a 5 April meeting of the House Appropriations Committee. Simpson supports GNEP, but he’s unhappy that DOE Assistant Secretary for Nuclear Energy Dennis Spurgeon couldn’t provide a road map for the project that includes estimates of foreign contributions and full costs. Outside scientists are as flummoxed as policymakers. “I’m not sure anybody really knows what GNEP is,” says nuclear engineer and longtime DOE grantee Denis Beller of the University of Nevada, Las Vegas.

Part of the rationale for GNEP is to reduce the volume of waste that will require long-term storage. The government is responsible for disposal of some 55,000 metric tons of spent fuel rods at U.S. sites, but its designated repository—at Yucca Mountain in Nevada—isn’t expected to open before 2020 and is expected to reach its legal capacity by then.

Subcommittee Chair David Hobson (R–OH) added nonbinding language to a spending bill last year instructing DOE to develop chemical reprocessing facilities that would extract fuel to be used in current U.S. reactors—a move DOE says would reduce the volume of wastes destined for Yucca by an estimated 10%. Now Hobson wants any reprocessing facilities DOE builds to offer storage for spent fuel rods. But DOE says it cannot legally hold the waste in such facilities. And DOE officials argue that burning recycled fuel in fast reactors would increase Yucca’s capacity by at least sixfold.

GNEP’s opponents, such as Tom Cochran of the Natural Resources Defense Council in Washington, D.C., say the dismal record of fast reactors abroad—the Monju reactor in Japan—poses RQF would use a system of peer review to assess research quality and add another parameter: “impact,” which would take account of social, environmental, and economic dividends. But some scientists worry that too much emphasis on impact could favor applied research at the expense of academic research.

There is also concern that the framework will impose a corporate, target-oriented culture onto the academic research sector. “We cannot set targets. We cannot say that $250 million is our goal,” says Virginia Walsh, executive director of the Group of Eight Universities (Australia’s major universities), says, “There’s no way we’d do justice to all the disciplines” if the government were to adopt the panel’s proposal to have a dozen peer-review committees when the U.K. system used 67.

An advisory group headed by Australia’s chief scientist Jim Peacock is expected to report by June on the weighting factors and other issues.

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