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Waiting for the Blue Ribbon Panel

As I write this in mid-August, supposedly there is a list of names sitting on someone's desk at the White House. These names are those of Energy Secretary Chu's nominees to sit on the special Blue Ribbon panel that will decide the future of the nation's high-level radioactive waste and spent nuclear fuel.

But in case you are thinking that everything related to HLW and spent fuel management has come to a screeching halt while the White House mulls over the list, please be assured that the nation's best thinkers are already proposing new solutions for an old problem. Or, perhaps more accurately, proposing old solutions for a new problem. Take your pick.

In an article in the July 10 issue of *Science,* a geologist and a nuclear physicist propose multiple sites for storing or disposing of such wastes—multiple sites *within* the United States. University of Michigan geologist Rodney Ewing and Princeton University nuclear physicist Frank von Hippel argue that while the federal government should set standards and issue licenses for nuclear facilities, local communities, states, or regions (that is, northeastern, southeastern, midwestern, etc.) should be responsible for developing final storage and/or disposal solutions that suit their particular circumstances. Long-distance waste transportation would be less of an issue with regional facilities, these gentlemen say, because the facilities would be located closer to the reactors.

The regional approach would be similar to that being taken in Europe, Ewing noted, where spent nuclear fuel and high-level nuclear waste from about 150 reactors and reprocessing plants is to be moved to a number of geologic repositories in a variety of rock types.

The University of Illinois has also stepped into the void with a plan for long-term spent fuel management. Now is the time to create specific institutions, funds, and financial incentives to manage the spent fuel at the power plants where it was produced, says a report produced from a consensus of nuclear experts from seven Midwestern universities. That consensus was reached during a workshop at the University of Illinois, an appropriate site because Illinois has more nuclear power plants than any other state in the country—indeed, with nine operating plants, it has only one fewer than Sweden.

The report is titled "Plan D for Spent Nuclear Fuel," because Plan D is the only plan of five suggested that seemed viable to the workshop attendees. Plan A, as defined by the report, is reprocessing spent fuel for use in breeder reactors; Plan B is deep burial (think Yucca Mountain); Plan C is actinide burning, which would reduce the amount of waste needing storage; and Plan E is building no more nuclear reactors and abandoning potential future spent fuel reprocessing.

Technical, political, or cost concerns eliminated these options, leaving only Plan D: extended dry cask storage, primarily at power plants sites. Among its recommendations, the report suggests setting up regulated escrow funds for utilities for the costs of managing spent fuel in dry casks. It also suggests allowing the shipment of spent fuel between reactor sites of different utilities within a state, and financial incentives for states to agree to accept spent fuel shipped from a decommissioned reactor in a neighboring state to an operating reactor in their own.

Another recommendation suggests that any state be allowed to ask for much larger financial incentives for hosting long-term spent fuel management facilities, possibly setting up a permanent fund from which it can tap earnings from interest.

According to Clifford Singer, a professor of nuclear engineering and political science at Illinois and one of three writers of the report, Plan D is not just the only option remaining, but "what we should have been doing all along."

Regional Repositories and Plan D

Singer continues: "It is both difficult and unnecessary to try to engineer a facility at this point for long-term storage for tens of thousands of years. About a century from now, people should have a much better idea how to design such facilities and more perspective on whether spent fuel should be placed in them permanently, or with access for potential future reprocessing."

I have only one comment on these proposals (actually, I have many, but will restrain myself by mentioning only one): This is eerily reminiscent of the compact system for handling low-level radioactive waste in the U.S.: states and regions team up to provide a solution to a problem. And we *know* how well that is working!—*Nancy J. Zacha, Editor* ■