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Two steps forward on US nuclear waste storage

By Michael McMahon

Tracing the U.S. government's development path for a long-term used nuclear fuel storage solution looks more like a stumbling stagger than a focused beeline, but with just two steps, the country now has a clear line of sight to meaningful progress.

The \$27 billion stagger

More than 15 years after the U.S. Department of Energy (DOE) was required by law to take title to commercial used nuclear fuel for long-term storage, used fuel remains **scattered** across the country at 75 operating and decommissioned reactor sites in 33 states. With the failure to create a central storage site, taxpayers have paid the price — to the tune of \$4.5 billion — for the DOE's breach of contractual obligations to U.S. utilities. According to *The National Law Journal*, these taxpayer liabilities are **expected to grow** substantially in the coming years, estimated to top \$27 billion if the DOE is unable to take title by 2021. To rectify this situation, the DOE must first have a location to consolidate and to manage used nuclear fuel.

As the history of this effort shows, safe and secure used nuclear fuel management is a **political hurdle**, not a technical one. Existing law provides for a single such location at Yucca Mountain in Nevada and limits the DOE from operating any federal consolidated storage facility until the Yucca Mountain site is available. To finance used nuclear fuel management, the law also provides for a Nuclear Waste Fund supplied by the ratepayers who directly benefit from nuclear-generated electricity. Despite the technical and safety evaluations that continue to affirm the suitability of Yucca Mountain as a permanent repository for used nuclear fuel and the availability of a dedicated funding mechanism, the politics of state and local consent have proved persistently thorny.

These struggles expose the lack of flexibility in our country's used nuclear fuel management system. Relying on a single-point-of-failure requirement, such as Yucca Mountain, has hobbled our progress toward achieving America's energy goals.

The first step to a solution

There is, however, a cost-effective, community-supported, near-term solution.

As the first step, Waste Control Specialists (WCS) announced its intent to file a license application with the U.S. Nuclear Regulatory Commission to build and to operate a consolidated interim storage facility (CISF) by 2020, deploying existing technology at an existing community-approved location on its [14,000-acre site](#) in Andrews County, Texas. This near-term private solution includes storage services and transportation for nuclear fuel from multiple locations in the United States, with a priority focus on fully decommissioned sites. WCS partnered with AREVA Inc. to license and to develop the facility, and subsequently, AREVA announced an [agreement](#) with NAC International for joint support of the project. Combined, AREVA and NAC represent the technology used at 62 percent of existing dry storage systems in the United States, including 80 percent of the systems at decommissioned sites. Both companies are also experienced global leaders in securely transporting nuclear materials.

At its Andrews County facility, WCS operates two separately licensed low-level radioactive waste (LLRW) disposal facilities, including the Texas Compact Disposal Facility — the only commercial compact facility built since Congress passed the Low-Level Radioactive Waste Policy Act more than 30 years ago. The WCS site is fully characterized for radioactive waste storage with the Texas Commission on Environmental Quality (TCEQ).

The next step

While WCS has not sought federal or state funding for licensing of the CISF, it will require clarity from Congress to move forward. WCS must be sure that the secretary of Energy can enter into contracts with private entities — as [recommended](#) by the president's Blue Ribbon Commission on America's Nuclear Future — to store used nuclear fuel and high-level waste, and to use the Nuclear Waste Fund for that purpose.

A few weeks ago, the Senate Appropriations Committee included corrections within its annual Energy and Water Development bill that provide necessary clarity for a private-storage initiative. Over the next two months, the authorizing committees in both the House and Senate will examine a range of actions to support effective used nuclear fuel management policies.

The availability of such a private-storage service would introduce much-needed flexibility to the U.S. nuclear fuel management system. It would enable more efficient management of used fuel, build confidence in the existing licensing and transportation processes, and protect taxpayers and ratepayers whose contributions have yet to be translated into meaningful action.

With these two steps, our country will again be on the right path for near-term delivery of a used nuclear fuel management capability that benefits all U.S. ratepayers and taxpayers.

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