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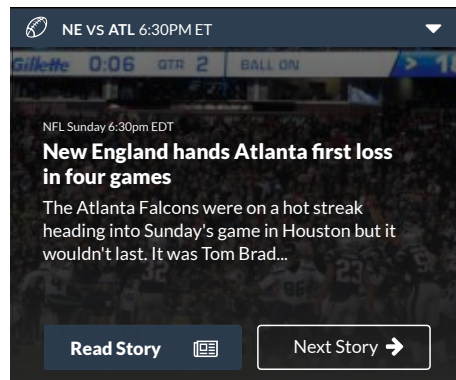
Can Nuclear Power Rise From The Chaos In Washington?



United States Capitol Building where new legislation is being crafted to speed nuclear power along. Photo by Martin Falbisoner

In January, the U.S. House of Representatives passed the [Advanced Nuclear Technology Act of 2017](#), HR 590, that is intended “to foster civilian research and development of advanced nuclear energy technologies and enhance the licensing and commercial deployment of such technologies.” The bill was sponsored by two Republicans and three Democrats and has now moved to [Committee in the Senate](#), chaired by John Thune (R-SD).

At the same time, the latest version of [the Interim Consolidated Storage Act](#) was [introduced in the House](#) by Darrell Issa (R-CA) and Mike Conaway (R-TX). This bill would create one or more interim storage facilities to hold spent nuclear fuel (SNF) from all the nation’s nuclear power plants and would allow the Energy Department to contract for temporary used nuclear fuel storage facilities. The bill would allow the Department of Energy to use interest from the Nuclear Waste Fund to pay site contractors to store the used fuel in facilities approved by the Nuclear Regulatory Commission.



These bills address two of the most important recommendations made in 2011 by then President Obama's Blue Ribbon Commission on America's Nuclear Future ([the BRC](#)), an entity formed to develop a path forward for nuclear power after the Yucca Mountain nuclear waste repository was halted.

The nuclear industry has been waiting for these bills as a way to break the logjam of bureaucratic nonsense that has hamstrung developing and building the new-design reactors and creating a central place for used fuel that can be burned later in some of these new reactors. These are not so difficult scientifically but are very difficult politically and legally.

In fact, the Department of Energy has paid over \$4.5 billion in damages to utilities for not opening a permanent repository and for not taking ownership of the spent fuel as they were supposed to do in 1998.

One of the main problems with spent nuclear fuel is that it's not really very spent. It just has some elemental junk left in it from splitting U-235 that prevents it from making more power in our traditional reactors. Some of these new reactor designs can actually burn this used fuel and get ten times more power out of it, leaving the waste easier to dispose.

The Advanced Nuclear Technology Act would speed up the development and licensing of new reactors, presently the most onerous of all regulatory processes. Ironically, one of the issues holding up deployment of new reactors has been having nowhere to put the waste.

New reactor designs are pretty advanced and ready to be rolled out. In January, [NuScale Power](#) out of Oregon [announced](#) their submission to the Nuclear Regulatory Commission of the first design certification application for any SMR in the United States. It is expected to be built in the early 2020s

[Terrestrial Energy](#), another innovative small modular reactor company, has notified the Nuclear Regulatory Commission of its intentions to license their [Integral Molten Salt Reactor](#), or IMSR. They have plans to [submit its licensing application in 2019](#).

“We are moving forward with the design and regulatory actions needed to allow the company to bring the IMSR to market in the 2020s,” said Terrestrial Energy Director and CEO Simon Irish.

As David Blee, Executive Director of the [United States Nuclear Infrastructure Council](#), puts it, “We believe that trailblazing the advance of nuclear energy technology, including Gen III+, Small Modular Reactors (SMRs), Non-Light Water Advanced Reactors and Fusion Reactors, is one of the key imperatives for U.S. market competitiveness.”

The timing of these two bills seems perfect. The NRC agreed last month to review an [application by Waste Control Specialists](#) to temporarily store used nuclear fuel at its West Texas facility, something Congressman Conaway knows well.

If the Interim Consolidated Storage Act legislation passes, the government could begin collecting and centralizing nuclear waste in the next five years. This bill is an easy one since spent fuel can be stored in dry casks for over 160 years and has been approved by NRC. Such a facility is not much more than a high-end cement pad with guards and gates. So the cost is about \$500 million to build and about \$300 million a year to operate.

This cost can be covered just by the annual interest on the Nuclear Waste Fund alone, leaving the principal to cover the eventual deep geologic repository that would hold the truly spent fuel in the future.

The cost of an interim storage facility is a lot cheaper than the \$200 billion Yucca Mountain would end up costing taxpayers for throwing away fuel that is still useful. Such a high cost could never be covered by the Nuclear Waste Fund in total. Increasing taxes or allotting more funds from elsewhere would be needed, an unlikely occurrence.

But there are some Republicans in Congress that are determined to resurrect Yucca Mountain, no matter what it costs, just as Nevada is determined never to host such a repository as it was shoved down their throats in 1987. Besides the original reasons for Yucca Mountain are gone

– the spent fuel can be used again, and most of the high-level defense nuclear waste is no longer high-level.

“Nuclear utility plants currently have no choice but to store their waste on site. This legislation allows the Department of Energy to cut through the red tape and enter into contracts with licensed facilities, ensuring that nuclear waste will be properly stored until a permanent site is established,” Congressman Conaway said.

Spent nuclear fuel is currently stored on-site at over 120 facilities in the United States. “In my district, the San Onofre Nuclear Generation Station houses more than 3.6 million pounds [1,800 tons] of nuclear material right on the coast, along a fault line, on one of the largest U.S. military bases, in the heart of one of our most densely populated communities,” Congressman Issa noted. “Allowing it to stay there indefinitely is only asking for trouble. This is just one of hundreds of examples of similar sites nationwide.”

The ball is now in Congress’ court. After all, they do run this country. I just hope they realize it.

Dr. James Conca is a geochemist, an energy expert, an authority on dirty bombs, a planetary geologist and professional speaker. Follow him on Twitter @jimconca and see his book at Amazon.com

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