

ECA Update: January 29, 2014



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Senate Environment and Public Works Committee Hearing
January 30, 2014 (9:30 AM EST)

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Witnesses

The Honorable Allison M. Macfarlane
Chairman

Nuclear Regulatory Commission
The Honorable Kristine L. Svinicki
Commissioner
Nuclear Regulatory Commission

The Honorable George Apostolakis
Commissioner
Nuclear Regulatory Commission

The Honorable William D. Magwood, IV
Commissioner
Nuclear Regulatory Commission

The Honorable William C. Ostendorff
Commissioner
Nuclear Regulatory Commission

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Going nuclear--and small--with new type of reactor

CNBC

January 27, 2014

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The fortunes of the battered nuclear power sector may hinge on the development of small- and medium-sized reactors (SMRs), now being heralded by some as industry as the next wave in the industry.

Ten countries, including the United States, are exploring plans to construct SMRs, and that could have broad implications for electricity generation.

As coal plants across the country are decommissioned, an opportunity rises for alternative energy sources, especially natural gas and nuclear power. Five SMR-style facilities, including one in the Tennessee Valley, are in the planning stages, the U.S. Nuclear Regulatory Commission said.

A new white paper by the Nuclear Energy Institute highlights the opportunity for SMRs, saying that as many as 73 nuclear reactors will be retired within the next 10-20 years.

That could pave the way for more efficient SMRs, which can be a source of both clean energy and economic growth, says Paul Genoa, the institute's senior director of policy development.

"If we develop clean energy technology the world wants, we can transfer that ... and build relationships with these developing countries that can last 100 years," Genoa said in an interview. With fears about nuclear power still percolating nearly three years after Japan's disaster at Fukushima, Genoa said the new generation of atomic reactors were designed with those fears in mind.

"Small reactors were designed with Fukushima's lessons learned," he said. In addition to being what he called "environmentally benign," SMRs are built "to completely avoid the kind of meltdown [you get] when you lose offsite power."

But a recent report by the Institute for Energy and Environmental Research cast doubt on the idea that SMRs could help revive the nuclear industry.

The think tank said small reactors "still present enormous financial risks," citing the sector's tendency to overrun on costs. It said the four reactors under construction were in part subsidized by taxpayers. The report said the mass production of SMRs could require \$90 billion, and migrating from reactors to smaller modules "is a financial risk shell game, not a reduction in risk."

It's been a rough decade at least for nuclear facilities. Once considered a

prominent part of the U.S. energy mix, the sector fell prey to costly facilities and a natural gas boom that chipped away at nuclear power's usefulness in generating power.

At the same time, new environmental regulations are making coal plants less viable. That development makes nuclear industry participants think SMRs could take their place--and even use their existing infrastructure with little additional cost. The Nuclear Energy Institute says that small reactors can be added incrementally as energy demand increases.

BP's annual energy outlook cited nuclear energy output as expected to rise until 2035, with demand from emerging markets accounting for 96 percent of the growth. Part of the reason may be the limitations of renewable energy as an alternative to fossil fuels, said Genoa.

"Renewables are great, but solar generated 0.1 percent of [U.S.] electricity, and 0.5 percent across the globe. It's absolutely inconsequential," he said. "It's growing rapidly and maybe will get up higher, ... but we're not going to power New York, Tokyo and Mumbai with solar. It's a pipe dream."

Obama warns Congress on debt limit

The Hill

January 28, 2014

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President Obama reminded the American people about October's government shutdown in the State of the Union address on Tuesday and warned Congress not to create a new crisis on the debt ceiling.

Obama started the address by listing some bright spots in the economy.

"The question for everyone in this chamber, running through every decision we make this year, is whether we are going to help or hinder this progress," he said. He noted that the Capitol has been consumed in debates over the size and scope of government.

"But when that debate prevents us from carrying out even the most basic functions of our democracy -- when our differences shut down government or threaten the full faith and credit of the United States -- then we are not doing right by the American people," Obama said.

He said that Congress should build on the bipartisan two-year budget deal struck in December, which avoided a shutdown this year.

"Nobody got everything they wanted, and we can still do more to invest in this country's future while bringing down our deficit in a balanced way. But the budget compromise should leave us freer to focus on creating new jobs, not creating new crises," he said.

The U.S. debt ceiling must be raised in February and Republicans will be discussing later this week how to approach the issue. Many in the conference want to use the opportunity to reduce spending or to enact

other reforms.

Wash. State Slaps Fine For Mishandled Waste At Hanford

KPLU

January 27, 2014

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Over the last several years, Hanford Nuclear Reservation managers have mishandled barrels and boxes of hazardous and radioactive waste in the central part of the southeast Washington site.

The state of Washington last Friday slapped the U.S. Department of Energy with a \$15,000 fine.

Washington state's Department of Ecology is charging Hanford managers a total of \$261,000, but suspending most of that as long as the feds adjust their operations. In late 2011, a leaking box of radioactive waste was found, but the department wasn't informed until months later.

And, at another facility, a leaking barrel of chemical and radioactive waste was found, along with a questionable roof at a waste storage facility.

"There were just some really fundamental housekeeping things that were not being done in the way that is approved by the law," said Jane Hedges, a state Ecology manager in Richland.

The new agreement calls for the feds and their contractors to notify state regulators of spills immediately and pay more attention to how waste containers and buildings are maintained.

How Tumbleweeds Spread Radiation From Old Nuclear Sites

Gizmodo

January 28, 2014

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The tumbleweed, which seems so at home rolling down an American highway, is actually an invasive plant from the Russian steppes. In the relatively short time it's been invading the plains--just over a century--the tumbleweed has managed to establish itself as an indelible symbol of the western landscape. It is the ultimate sleeper cell, we might say, an enemy plant, if we were to resort to Cold War metaphors.

For last month's issue of National Geographic, George Johnson wrote an eloquent hate letter to the tumbleweed. Johnson has been fighting a losing battle against the tumbleweed on his patch of New Mexico land; the plant is ubiquitous and tenacious, making it a ready invader.

What especially caught our attention, however, was this paragraph,

which shows just how persistent the damn weed is. A note on terminology here: "tumbleweed" can refer to any number of plants that break free of their roots and tumble around spreading their seeds, but the most common one is the Russian thistle, also known by its scientific name *Salsola tragus*.

"During the early 1960s, after aboveground nuclear testing finally ceased at the Nevada Test Site, the first thing said to grow back was Russian thistle. Radioactive *Salsola* has come tumbling out of the old Hanford Nuclear Reservation in Washington, where plutonium was manufactured during the Cold War. I half expect to hear someday that Russian thistle has been found on the moon."

The Hanford site in Washington state, which is the most contaminated nuclear site in the U.S., has recently encountered trouble with leaking waste tanks. What intrigues me is that the containment problems at Hanford have also long been compounded by what one internal presentation calls "biological vectors," aka tumbleweeds but also fruit flies, mud dauber wasps, pigeons, swallows, mice, and rabbits, species on the loose potentially spreading radiation beyond the site. Hanford even has a whole Biological Control program to deal with these vectors.

In 1959, in what may be the worst pest incident in Hanford history, a badger broke into a radioactive waste pit setting off a biological chain reaction. Bunnies tromped in looking for salt, spreading 200 curies worth of radioactive poop over 2,000 acres of the Hanford site, according to Science. The appearance of radioactive doo doo today would launch a whole manhunt--or rabbithunt--for the offending rodent. After all, we can't have radioactive bunnies dropping cesium-filled pellets all over the landscape. A former nuclear reactor still needs pest control.

Nuclear's long-lasting legacy, whether for electricity or for war, forces us to act as permanent stewards of the earth. Hanford has been a massive cleanup site for decades, and its tanks will need monitoring for many more to come. When Yucca Mountain was being proposed as a nuclear waste repository, the EPA mandated warnings that could be intelligible for 10,000 years to come. That's a blink in geologic time--but how many 10,000 year-old, or even 1,000 year-old, languages are readily understandable to us now?

But anyway: tumbleweeds. The plant's taproots can creep 20 feet down, bringing up radioactive waste from underground burial sites. Then winds can carry these radioactive bundles up to four miles away. A few years ago, Hanford's staff was removing 30 of them a year. "Our dream is that we have this place tumbleweed-free," the site's then biological control manager for radiation protection told the L.A. Times in 2001. "But that's about as likely as a Soviet reunion," quipped the paper in response.

As the most visible of radioactive "biological vectors" at Hanford, tumbleweeds seem to have especially captured the imagination. The idea of radioactive waste tumbling about is radically at odds with, say, a gif of tumbleweeds meant to convey, "Nothing here, move along." But there's plenty to ponder here--most of all how a radioactive danger of our own doing ended up being spread by Russian invaders. [National Geographic--Science--Wall Street Journal--L.A. Times

