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## ECA Update: October 17, 2016

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**Can America Trust Its Aging Nuclear Arsenal?**

*The Wall Street Journal*

October 15, 2016

## UPCOMING EVENTS

October 2016

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DOE-EM Site Specific  
Advisory Board  
Meeting in  
Paducah, KY

[More info here](#)

October 2016

24-26

DOE-EM Industry Day and  
One-on-One Sessions for  
SRS M&O Contract  
Procurement in Augusta,  
GA



Much talk during this election cycle has focused, understandably, on the fitness of the presidential candidates to command the formidable nuclear arsenal of the United States. What has been lost in this heated debate is a more fundamental issue: the condition of our nuclear weapons and their reliability in the years ahead.

To ensure future deterrence, the U.S. needs to have a well-maintained nuclear-weapons “complex,” as we in the field call it—that is, the array of laboratories and specialized industrial plants within the Department of Energy that keep our nuclear arsenal in working condition. That complex faces serious challenges today and could begin to break down within the next decade, with dire ramifications for the security of the U.S. and the world.

I started to learn about nuclear weapons in 1972 as a 20-year-old graduate student working at Los Alamos National Laboratory. What struck me most, upon first seeing a nuclear weapon up close, is how small it is. The basic physics of the device packs tremendous energy into a compact space: A conventional explosion compresses plutonium to a critical mass, a chain reaction amplifies the energy 100,000 times, and then there’s another 10- to 100-fold amplification as the X-rays produced cause additional nuclear reactions. It is a tightly linked chain of amplification, and if any one of the stages fails, the weapon fizzles.

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[More info here](#)

October 2016

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**DOE-EM Site Specific  
Advisory Board  
Meeting in  
Pojoaque, NM**

[More info here](#)

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October 2016

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**DOE-EM Community  
Day for SRS M&O  
Contract  
Procurement in Augusta,  
GA**

[More info here](#)

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October 2016

27

Engineering plays an important role. Nuclear explosives must work in a range of extreme conditions, must not go off unintentionally and must be secure, making a weapon inoperable were it to fall into the wrong hands. The design of these devices is very sophisticated, and small modifications can make a big difference in the amplification chain.

But much has changed since my days as a graduate student. It has been 25 years since we last performed a nuclear test, the newest designs in our stockpile date from 40 years ago, and some of our key research and maintenance facilities are now more than 60 years old. The crucial question today is what it will take for us to continue to have confidence in these systems.

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## Good things going on at INL

*Idaho State Journal*

October 15, 2016



It's been little more than a year since I became director of Idaho National Laboratory. What an exciting and enlightening 12 months it has been. My family moved out from Chicago. We're building a house in Idaho Falls. We feel very much at home and for that I am grateful, not just to my friends and neighbors in Southeast Idaho, but also the many wonderful people I have met across the state.

Looking back on my short time at INL, I am so proud of all we accomplished:

- President Barack Obama tasked INL with leading his Gateway for Accelerated Innovation in Nuclear (GAIN) Initiative, through which INL

## DOE-EM Site Specific Advisory Board Meeting in Sun Valley, ID

[More info here](#)

October 2016

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DOE-LM 10th  
Anniversary of Fernald  
Cleanup: "Weapons to  
Wetlands: A Decade of  
Difference" in  
Hamilton, OH

[More info here](#)

November 2016

16-18

INVITATION ONLY  
2016  
Intergovernmental  
Meeting with DOE in  
New Orleans, LA

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will help sustain the existing fleet of nuclear reactors and develop the next.

- INL continued to provide support to NuScale Power as it works to develop the world's first operational small modular reactor, which could begin producing power by 2024.
- INL collaborated with Enel Green Power and the National Renewable Energy Laboratory to assess the feasibility and reliability of the nation's first triple hybrid energy plant.
- INL was selected by the Department of Energy to lead four projects and collaborate on eight others over the next three years as part of a \$220 million grid modernization effort. Those include a reconfiguration of Idaho Falls Power's distribution network and improving the capacity of existing power lines.
- The INL continued to establish itself as a global leader in critical infrastructure protection from natural and manmade threats. INL leaders provided expert testimony to several congressional committees, which helped facilitate national policy changes affecting the protection of critical infrastructure.
- INL partnered with government agencies and industry to determine national and international standards for plug-in electric vehicles and charging infrastructure.

There's so much more I could tell readers of the Idaho State Journal about the Laboratory. INL is a large enterprise with lofty goals fitting for a national laboratory. And while I'm justifiably proud of all that was accomplished, I look forward to the Lab doing even more to help resolve the nation's big energy and security challenges.

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## Part of WIPP closing over employee safety concerns

*Albuquerque Journal*

October 14, 2016

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The Department of Energy plans to close off the south end of a southeastern New Mexico nuclear waste repository after a series of dangerous roof collapses made the area unsafe.

No one was hurt in the roof collapses, which occurred over the past year in areas already restricted to workers. But the incidents have laid bare the challenges of recovering the Waste Isolation Pilot Plant after a February 2014 radiation accident that contaminated the repository and curbed workers' ability to perform maintenance.

"Rock fall is the single highest hazard to workers and to the mission at WIPP," said Phil Breidenbach, project manager at WIPP contractor Nuclear Waste Partnership, during a special town hall meeting this week called to address the ground control issues.

"We're now in the process of making the decision to close the south end of the underground," said Todd Shrader, DOE field office manager in Carlsbad, saying he hopes to get it done in four or five weeks.

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## Uranium conversion potential for Wyoming, some say

*Casper Star Tribune*

October 15, 2016



Wyoming plays an important role in nuclear power generation in the U.S., ranking first in the nation for production of the metal used in nuclear fuel. But state lawmakers are considering doing more with uranium than digging it from the ground.

Legislators are investigating ways to allow for potential uranium conversion facilities in Wyoming, the next step in the development of enriched uranium, which can be used in nuclear power reactors.

The Joint Minerals, Business and Economic Development Committee, which chooses mineral-related topics to be considered in next year's legislative session, also decided at a meeting Monday to update obsolete language in Wyoming law that addresses potential nuclear waste storage in the state.

It's unlikely that Wyoming would move in either direction in the immediate future.

Federal nuclear waste plans are incomplete, and public opposition to storage of the volatile fuel is strong. Low uranium demand worldwide makes a conversion facility unlikely in the current market.

Still, there are those who believe the state should consider its options.

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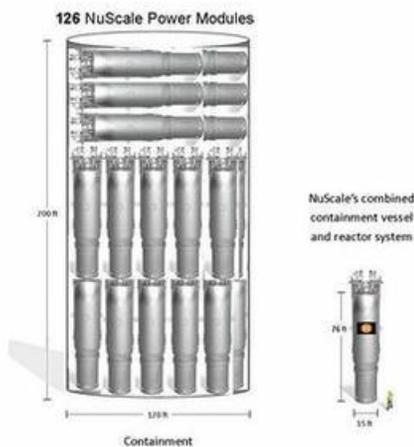
## This new technology could save the troubled nuclear power industry

*The Guardian*

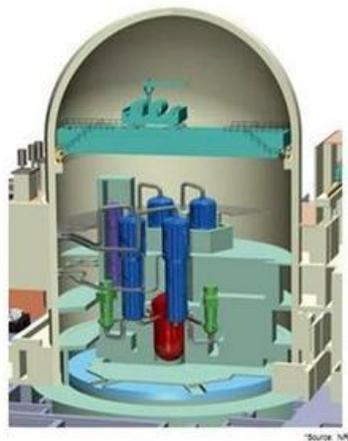
October 16, 2016

### Size Comparison

Comparison size envelope of new nuclear plants currently under construction in the United States



Typical Pressurized Water Reactor



The future of the nuclear industry may happen somewhere on scenic but relatively isolated land that's about 100 miles southwest of Yellowstone National Park. Amid the 890-square-mile Idaho National Laboratory campus, a plan is in

motion to build a type of nuclear reactor unlike any that's currently in use to produce electricity.

The plan belongs to Utah Associated Municipal Power Systems, a consortium of 45 municipal agencies looking to replace their aging coal-fired plants. It won approval from the US Department of Energy earlier this year to scope out a site at the lab to analyze the environmental and safety impacts of what's called the small nuclear reactor. If all goes well, the consortium plans to build a power plant there with 12 reactors totalling 600 megawatts in capacity.

The analysis is crucial for determining whether there's a strong business case for building small nuclear reactors. The emerging technology is meant to create cheaper and safer nuclear power plants. Nuclear power plants emit no emissions, but existing designs have become too costly to be a popular solution for climate change. The new technology has gotten significant funding from investors such as Bill Gates.

The Utah group isn't alone in investing in the new technology. In May, the Tennessee Valley Authority, which supplies power to nine million people in seven southeastern states, became the first utility to apply for a permit from the Nuclear Regulatory Commission to build a small nuclear reactor.

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## **DOE Releases Request for Information/Sources Sought for the Savannah River Site Operations**

**DOE-EM**

October 17, 2016



Cincinnati -- The U.S. Department of Energy (DOE) Environmental Management Consolidated Business Center (EMCBC) today issued a Request for Information (RFI) /Sources Sought in support the upcoming follow-on procurement for the management and operation (M&O) of the Savannah River Site (SRS). The current SRS M&O contract, DE-AC09-08SR22470,

with Savannah River Nuclear Solutions (SRNS), expires on July 31, 2018 and is a major component of the overall SRS work scope and contracting structure.

The RFI/Sources Sought is seeking to solicit input via capability statements from interested parties with the specialized capabilities necessary to meet the all or part of the requirements of the Elements of Scope for the management and operation of the Savannah River Site. Within these capability statements, DOE is seeking feedback from contractors and other interested parties regarding options for innovative approaches for the performance of the major Elements of Scope as well as insight into potential contracting alternatives

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