



Why Nuclear Energy is a Matter of National Security

Only One State Remains on the Path

BY COMMISSIONER TIM ECHOLS

To say that nuclear energy in the U.S. is snake-bitten, as one journalist put it recently, is an understatement. Nuclear plants are closing around the country. The new-build in South Carolina was recently suspended.

My own state's project in Georgia, Plant Vogtle, is teetering on cancellation dependent most likely on Toshiba staying solvent and paying its parent guarantee obligations to Georgia Power. Yet the national security argument that should be made about nuclear energy is missing. Here's what I wish I heard coming out of the White House.

First, the U.S. has always prided itself in being a world leader. We built the world's first nuclear reactor, and since that time, countries around the world have looked to our country for leadership in using nuclear in safe and proliferation-resistant ways.

As we decommission reactors and fail to replace them, the world is looking to other places, like China, India and Russia, for leadership. According to World Nuclear Association, China is increasing nuclear generation capacity

by seventy percent. As the U.S. commercial nuclear declines, U.S. standards for nuclear safety and security will no longer be the international norm.

We have gradually forfeited our nuclear leadership position over the last twenty years because of our inability to efficiently construct plants like Plant Vogtle in the U.S. That stark fact is changing the geopolitical landscape by realigning government relationships.

Remember, the U.S. introduced nuclear power to France over fifty years ago which helped bond our governments. In today's world, it's Russia selling new reactors to countries and forming long term relationships with those countries that will last for at

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least two generations. I believe this will change alliances in the Middle East, Africa, India, and around the world – and that impacts our national security.

Meanwhile, we wring our hands in the U.S., citing concerns about the "market" and our fear of picking economic winners and losers and ignoring the fact that Russian, Chinese, and French nuclear infrastructures are state owned.

They are selling to state owned utilities or ministries in these developing nations. So literally, these are government to government relationships. The result is that we fall further behind in this critical area.

Second, while we normally think about nuclear technology in terms of arming a weapon, let's not forget the reactor technology that gives military advantage to naval vessels.

According to the National Nuclear Security Administration, this includes our ten aircraft carriers, fifty-five attack submarines, and eighteen strategic submarines. The nuclear technology allows these vessels to travel one million miles before refueling.

Former Secretary of Energy Ernie Moniz recently pointed out the strong overlap between the Navy supply chain and the commercial nuclear energy sector. The Navy workforce needs U.S. citizens who have security clearances.

Yet, according to the American Society for Engineering, more than half
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AEIC's Monthly Committee Report

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Representing EPRI, Chris Holmes discussed EPRI's end-use load data initiative update, and Ken Schiermeyer of San Diego Gas & Electric gave survey results from the LR&A's basics course,

which is taught every spring.

A major block of time in the agenda was allowed for the Committee to discuss both its current and future states, including membership, committee

projects, a greater awareness of AEIC's Load Research & Analytics Committee within AEIC member companies, and future initiatives the Committee will consider undertaking.

In addition to its many educational events, the Committee will meet again in late October or early November in Asheville, N.C. **PUF**

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of the students enrolled in engineering programs are foreign-born and not eligible for security clearances needed to work in the current Navy nuclear propulsion program. Without a U.S. commercial nuclear industry to provide steady employment and training of the nuclear supply chain, it will have an adverse impact on the sustainability of the U.S. nuclear Navy program.

Third, nuclear generation is carbon-free and has zero emissions. As we close coal plants that provide baseload power, replacing those fossil fuels with clean energy is more important than ever.

Cheap natural gas brought to us by hydraulic fracturing is wonderful, but it produces carbon and other emissions, and is subject to price volatility. Nuclear generation provides a hedge against natural gas price increases that might result from the export of liquefied natural gas or future regulation on fracking.

God forbid that we have a terrorist

hop the fence and use a shape charge filled with explosives to blow one or all of the national pipelines that deliver this "just-in-time" resource to power plants. With more and more plants using natural gas to generate electricity, a lengthy outage would create chaos in many states.

It is against great odds that we persist. And it will only be with God's help that we finish.

Finally, don't forget that nuclear reactors produce medical isotopes for imaging and cancer treatments. Bruce Power recently made an announcement that they are expanding their medical isotope production capabilities using their commercial reactors in Canada.

China is now introducing their new reactor designs to the world market and will most likely sell them and build those long-term relationships as well.

Recently, China beat the rest of the world to a deployable Generation IV reactor which should be complete by the end of this year.

It's a pebble bed High Temperature Gas Reactor that is inherently safe, even better than passively safe. The U.S. commercial nuclear plant fleet is the world's oldest and the average age of a U.S. commercial nuclear reactor is thirty-six years.

The plant life was for forty years,

with renewals of those license on eighty-four of our ninety-nine reactors for an additional twenty years. That extension essentially kept our nuclear program on life support.

Only one state remains on the path to build new nuclear generation and keep the U.S. moving forward – and that is Georgia. It is against great odds that we persist. And it will only be with God's help that we finish. **PUF**

Regulation for the Unregulated

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live in a constantly changing world. New technologies, financial realities, environmental laws, business relationships and other internal and external

factors, affecting the regulated utility, have in the past and can individually or collectively be in the future, the drivers for regulatory policy change.

Regulation, although seemingly permanent, has been in the past and will be in the future, subject to change. Whether those changes are beneficial or detrimental to specific non-utility business interests will depend a lot on a business understanding and participating in regulation. **PUF**