

The Political Dimension of America's Nuclear Future

Address to

ANS Eastern Carolinas Local Section Meeting in Raleigh, North Carolina
on
December 5, 2011

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Greetings, and thank you for the opportunity to speak to you tonight as we all work towards a brighter future for our nuclear sciences and technologies.

First, I personally - and on behalf of the American Nuclear Society - express my gratitude to those in the Eastern Carolinas Local Section who made this meeting possible and such a success. I also acknowledge the members of the North Carolina ANS Student Chapter, many of whom are present tonight. I'm truly impressed by the vitality you show.

Tonight, I share some insights I have gathered over my career with other ANS members, to help you benefit from my experiences.

To work within a system one must first understand that system. In the highly regulated nuclear industries we must pay special attention to the boundaries and requirements of the regulatory regime. Regulations are established by the government - hopefully with consultation and recognition of our input - and it is then our responsibility to understand and observe them.

Let me be clear, safety is universal to NS&T, however, regulation is national and local. We the technologists must adapt to changing regulation, but never compromise on safety.

From our early age we are taught the importance of rules and order. Kids are taught to obey the Golden Rule, and hundreds of other platitudes that we believe help turn our children into successful adults. As these children journey into adulthood they pay more attention to the laws of the land as laid down by Congress and the founding fathers.

But what happens when we disagree with a law? What are our options to resolve disputes about the laws? What happens when the Government is ignoring its own laws?

Tonight I share with you my answers to those three questions:

- What happens when we disagree with a law?
- What are our options to resolve disputes about the laws?
- What happens when the Government is ignoring its own laws?

As the 2005 ANS Glenn T. Seaborg Congressional Fellow, I learned about our government and our political system from the inside. The lessons, and those insights, have stuck with me throughout my subsequent industry career. Those lessons and insights have been called to mind by the current lawsuits and discussions embroiling the National Nuclear Waste Repository at Yucca Mountain. Tonight I will discuss three insights and lessons learned, and hope that you can learn from them as well.

One. The times, they are always changing.

Two. In our nuclear community, policy/politics is everything.

Three. Each of us has power which must be either used or forfeited.

Now, to the problem. Almost thirty years' worth of legislation and government action (or inaction, depending on with whom you speak) on nuclear waste management, and the attendant disputes, came to a head this past summer when petitioners from South Carolina and Washington, supported by their state and certain county governments, challenged the DOE decision to abandon the Yucca Mountain nuclear repository and prevent the NRC from scientifically determining whether the repository design was safe. The petitioners asked the court to order the DOE and NRC to "follow the rules" established by Congress.

As members of the nuclear power industry, I am sure that each of you is familiar with the intent of, and previous plans for the Yucca Mountain high level waste repository. I suspect that few here tonight, however, realize just how long the debate has been going on over a national nuclear high level waste repository. While the Yucca Mountain site only entered public discussion in the 1980s and 1990s, the need for a nuclear waste repository has been a concern since the 1950s. In those early days, the nuclear power industry was on its own to come up with waste management solutions. Plans for a closed nuclear fuel cycle with spent nuclear fuel (SNF) reprocessing, and an open cycle with used nuclear fuel (UNF) going to a repository were serious topics. But industry could not identify a program that was both economical for customers and still acceptable to the government. Thus, the need for storage of high level nuclear waste from nuclear power plants – the SNF – has been recognized and discussed for almost six decades. We still don't have a repository. We do have federal legislation - but still no repository.

In 1982, the federal government passed the Nuclear Waste Policy Act (the NWPA). It required a repository to be built and managed by the federal government. All costs were to be paid from the Nuclear Waste Fund, a fund that is financed by fees charged on nuclear power generation. The NWPA made DOE responsible for identifying and qualifying repository sites, with final selection by the Congress. The NRC was required to decide whether the repository was safe and issue a license if it was. DOE would complete the design and build of the repository and begin picking up SNF in 1998. We had a path forward. It seemed that we had a solution.

Passage of the NWPA in 1982 should have been the end of the story. We had a plan. We had a defined endpoint. We had two responsible government agencies. We had funding. But things are different today than they were in 1982. I know. I was there. That brings me to my first insight: "The times, they are always changing."

In 1982 - 29 years ago - Ronald Reagan was President of the United States. The Soviet Union, not radical Islam, was the biggest threat to our national security. The lessons from the Three Mile Island incident were being absorbed.

After Chernobyl, the nuclear power industry absorbed those lessons and subsequently compiled an admirable safety record. The public and the politicians became more accepting of nuclear power. Nuclear power was a reliable source of energy. Nuclear power was a necessary part of strategies to curb global warming. There was talk of a nuclear renaissance, even here in the U.S. Then came the Fukushima earthquake-tsunami event. Rightly or wrongly, the fragile confidence of the public, the politicians, and investors was shaken.

Times are always changing we can never be complacent. What was good yesterday may not be good tomorrow. The nuclear industry can never set our responses to past events in concrete. We must always look ahead to ensure that we are doing everything we can to align our aims and goals with the public interest. As the world changed since the 1980s, the global nuclear industry adopted a reactionary response to the ill-informed perceptions of the public, rather than working to shape those perceptions as they changed so rapidly. The nuclear community made a mistake in merely being reactionary.

In our daily lives we deal with the unchanging laws of physics. In our careers, we must be prepared to deal with the ever changing public opinion, public policy and the laws of government. It can be done, and we did it this year.

The controversy over Yucca Mountain is another example of how the political world changes. What happened with the NWPAA as the world changed? In the 1980s, as required by the NWPAA, the DOE selected five potential repository locations around the country and performed environmental assessments of each location. The DOE then, as required by the Act, recommended two sites as candidates for the nation's first two nuclear repositories. But in 1987 Congress changed its own rules, amending the NWPAA to eliminate the requirement for a second repository, thus making the Yucca Mountain site the only location that could be developed as a repository. Thus, by 1987, Congress had obligated the government to build a nuclear waste repository. And that high level waste repository had to be located at the Yucca Mountain site.

DOE began years of technical and environmental studies. Preliminary construction began as required by the NWPAA. The legislative and political story seemed to be over. But we were very wrong. The subsequent twenty years saw challenges from the State of Nevada and special interest groups opposing the repository and nuclear development. There was some "not in my backyard" sentiment, but it was muted because the host county in Nevada has enthusiastically supported the Yucca Project. In 2002 DOE recommended that Yucca Mountain be developed as the repository site. The State of Nevada lodged an official objection that was overridden by a joint resolution of Congress. This brought the site selection process to a conclusion, and established Yucca Mountain as the future site of the first high level nuclear waste repository in this country and the world. Or so we all thought - again.

The 2002 resolution directed the DOE to submit a license application to the NRC. DOE spent six years preparing the application and submitted it in June 2008. The Yucca Mountain Nuclear Waste Repository was as close to reality as it had ever been. The NRC docketed the application and began its staff review and the public hearing process. But time and politicians conspired, and in 2010 the DOE filed a motion to withdraw the application. So what happened? The 2008 elections happened. Anti-Yucca politicians were in control of Congress, the White House, DOE, and the NRC. The DOE motion acknowledged its obligation to take possession and dispose of the nation's spent nuclear fuel and high-level nuclear waste. DOE, however, repudiated the Congressional decision to site the facility at Yucca Mountain and asserted that a geologic repository at Yucca Mountain was not a "workable" option.

This after almost thirty years of study at the site? This after the DOE and Congress agreed previously that Yucca Mountain was the only option? The only way to answer these

questions is to delve into my second insight: "in our nuclear community, politics is everything." Politics trump science every time.

Between 2008 when the DOE submitted its application and 2010 when the DOE withdrew its application, what happened? The current President would say that "Change occurred," and that is exactly why it took only two years for the government position held for two decades to be reversed. President Obama appointed Stephen Chu Secretary of Energy. Secretary Chu shut down the Yucca Mountain program without Congressional authorization or an opportunity for the public to be heard. But should we really have expected anything different?

The Yucca licensing project began under the administration of Ronald Reagan, continued under the Clinton Administration, and progressed most rapidly during the presidency of George W. Bush. Congressional support continued during periods of Democrat and Republican control. But President Obama owed much to arch-Yucca opponent, Senator Harry Reid (D-NV), who supported him during the 2008 presidential campaign and wanted Yucca stopped. Again, I echo my previous observation that four years and partisan politics can change everything.

The Yucca story demonstrates the importance of politics to our industry. The lesson is we must never become complacent, because every four years, the game can change. Note that in just one year with a pro-nuclear and pro-Yucca House of Representatives, we've already seen more change - introduction of legislation to take Yucca and SNF management responsibility out of DOE and place it in the hands of a Federal corporation similar to the Tennessee Valley Authority (TVA). This legislation has already been endorsed in the Preliminary Report of the President's Blue Ribbon Commission Report on America's Nuclear Future and by numerous industry groups, and ANS.

With the Yucca Mountain licensing process on hold at the NRC because of the DOE's 2010 motion to withdraw, where are we? Where does the nation stand on the nuclear waste solution? We need an NRC decision.

Is the Executive Branch - the President, the DOE, and the NRC - in violation of the NWPA? Yes.

Are we back to where we were when the NWPA was signed in 1982? Possibly. But we need to hear from the Judicial Branch in the Yucca litigation. The litigants have asked the Judicial Branch to order the Executive Branch - the NRC - to get back to work.

So, where do we move from here? Do we restart the whole process? What about the almost 30 billion dollars collected for the NWF, the time and research and effort spent and the promises made to the American people? These questions bring me to my last and final insight, "Each of us has power which must be either used or forfeited."

The U.S. Federal Appellate Court may force the NRC to get back to work on the Yucca license because a small group of dedicated individuals sued to force the Administration to obey the Nuclear Waste Policy Act and brought the waste debate to the courts and back into public scrutiny. The Court's preliminary ruling acknowledged the "reasonableness of Petitioner's fears" that the nuclear waste currently stored within their jurisdictions or near their homes will never be removed by the Federal government. It ruled in July that the time for the NRC to approve or disapprove the Yucca application is "at hand." On September 9 the NRC defied the Court and ordered work on the application to be terminated. The South Carolina and Washington litigants have asked the Court to order the NRC to resume the licensing process.

There is some hope that there will be an NRC decision on the license. First, the NRC decision suspended its work on the license because of "budgetary limitations." The license application is still pending. There are no budgetary limitations. Congress has not cut the NRC budget for Yucca. Ratepayers and taxpayers are hurt by the NRC failure to act because it is they who funded the \$12 billion the Yucca project has cost so far, and the \$16 billion it will cost utilities to store SNF on site.

Second, legal experts say that the Court's July decision makes it likely that the Court will order the NRC to complete its work on the license application. A situation that has been muddled and confused now may get a court-ordered path to conclusion. The NRC has punted, and now the Court will decide whether the NRC can abandon its Yucca license responsibilities. The NRC is now operating under the watchful eye of the Court because a small group of Yucca supporters in South Carolina and Washington petitioned the court to intervene. The list of petitioners who have sought to force the NRC to make a decision has grown to include the States of South Carolina and Washington, NARUC (the National Association of Regulatory Utility Commissioners), NEI, and Nye County, NV, the host county for the Yucca project.

The times are always changing and we must be aware of that. From when I was a child and nuclear power was an almost magical solution to the world's energy needs, to the depths of the dark ages of nuclear during the Three Mile Island/Chernobyl era, to the recent resurgence, to the Fukushima earthquake-tsunami disaster, many have worked to change

negative political and public opinion that is wrong and harms not only our industry, but also harms a stable base load source of electricity that is so important to the safety, stability and security of our nation. I urge you to be publicly proactive as well.

Secondly, in politics things can change very quickly. We must hope for the best, but plan for the worst - and remain ever vigilant. I cannot stress how harmful a non-technical politically-driven decision can be to our industry. The damage done to the Yucca Mountain licensing process was a direct result of the 2008 presidential election. Pure and simple. New political leadership abandoned a project that consumed almost 30 years of work and billions of dollars. The repository license process that was almost complete is on the verge of disappearing because President Obama concluded the project is "not workable."

So what do we do? We must remain in the vanguard and channel the tides of change by being publicly and politically active. It is difficult to challenge the President of the United States, but we do it every four years in this great country. Four years isn't really that long, the next election is barely a year away and the presidential election campaign is underway. Let candidates know how you feel about the Yucca project, new reactor construction, nuclear workforce development, and investment in advanced technology.

The bottom line - each individual has power. Our collective history provides hundreds of examples of the power of the individual. From Charlemagne and Abraham Lincoln holding their respective nations together during trying times, to the individual citizen like Martin Luther King, Jr., effecting great change through his personal moral strength. The Yucca Mountain petitioners could have given up and allowed the government to do whatever it wished, but they took it upon themselves as individuals to resist and to try to create change for the good. Their actions recall Edmund Burke - "The only thing necessary for the triumph of evil is for good men to do nothing."

As members - and future members - of the nuclear community, you must all realize that each of us has a personal responsibility to work within and understand a very political system that includes the Congress, the White House, DOE, the NRC, and the courts. Nuclear power can only succeed by navigating within this system. We cannot succeed just by being nuclear engineers and scientists. We must also be participating citizens in our exciting-yet-sometimes-frustrating form of democracy.

So what happens when we disagree with a law? What are our options to resolve disputes about the laws? What happens when the Government is ignoring its own laws?

Those questions can be answered using these three insights:

- The times, they are always changing.
- In our nuclear industries, politics is everything.
- Each of us has power which must be either used or forfeited

Please take those questions and these insights about our laws to make you more than apolitical professionals who stand back and let less knowledgeable leaders shape our industry. We must be the bold advocates.

If not now, when?

If not us, who?

The motivators for this address and significant contributions were made by C.J. Milmoie and Brett Rampal. I thank you both.