

The Nexus of Politics and Nuclear Technology
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The nuclear industry is one of the most heavily regulated economic sectors in the United States. This is due to a variety of reasons, ranging from national security risks associated with proliferation concerns to an ever increasing regulatory structure intent on maintaining nuclear safety at the nation's nuclear power plants. Regardless of the reason for the strong government involvement in our modern-day nuclear industry, it has the potential to either doom it, or completely revitalize it; depending on the politics of Congress and the White House. Every time there's a change of administration in our government, there's a corresponding change in the level of regulation. Whether or not this change benefits or harms the nuclear industry... well, that's dependent on the men or women elected.

There are multiple examples of politics influencing the path of nuclear progress. As early as 1953, President Eisenhower promoted "Atoms for Peace" during a speech before the United Nations. This political decision to promote the beneficial aspects of our new nuclear capability was intended to communicate to the United States and the world that nuclear technology had many positive benefits and should not only be associated with weapons and their destructive power. This political effort provided materials and nuclear technology to research organizations and countries and ultimately advanced nuclear technology on a large scale. In 1977, Jimmy Carter issued Presidential Directive NSC-8 and impacted nuclear technology once again. His directive halted any further progress on use of spent fuel reprocessing as well as halted efforts being pursued with breeder reactor technology (EBR-II) in Idaho. Although these actions were meant to bolster non-proliferation efforts worldwide, it was largely ineffective. India, Pakistan, North Korea and possibly Iran have obtained nuclear weapons since we halted pursuit of reprocessing and breeder reactors. Without a comprehensive energy policy supported by both political parties, new administrations and cabinet members drive a constantly-shifting set of priorities with regards to nuclear efforts, even if the policy shifts seem minor in nature. As a result of his political support of President Barack Obama, Harry Reid was able to get his science policy advisor, Gregory Jaczko, appointed to the Nuclear Regulatory Commission (NRC) in 2005 and in 2009 President Obama designated Gregory Jaczko Chairman of the NRC. During his tenure at the NRC, Chairman Jaczko halted the ongoing review of the Yucca Mountain license application being pursued by the Department of Energy (DOE). As part of the 1982 Nuclear Waste Policy Act, the Yucca mountain repository was intended to close the nuclear fuel cycle for the United States and allow the DOE to meet their contractual obligation to remove spent fuel from nuclear power plants. However, Harry Reid has steadfastly opposed operation of Yucca Mountain. Lack of progress on a national spent fuel storage facility has been politically influenced. It is near impossible to get any long-term nuclear projects completed because shifting Congressional support, battles over funding, and lobbying from anti-nuclear organizations make it difficult to stay the course. This fact is looming large today because of the significant number of aging nuclear power plants spread across the United States, many of which have already undergone license extension for an additional twenty years. These plants will need to eventually be replaced. This will require the political will to influence public opinion and help make it a reality.

The American public is not very well-informed about the issues being debated in Congress regarding nuclear technology. Schools do not provide much nuclear energy or nuclear technology-related education to their students. When nuclear energy is addressed, it's frequently marginalized or sidestepped for fear of raising a "controversial subject". These factors lead the American public and subsequently their elected officials to not take nuclear seriously or recognize its contribution to the national energy mix.

As for a solution to the issue of politics hampering progress in the field of nuclear energy and technology, there are many potential solutions to bringing the public and government officials more in-line with the facts and the industry as a whole. Better community outreach and public education programs need to be pursued, and the importance of the nuclear industry for state and local economies needs to be stressed whenever possible in advertisements, interviews, and articles. Nuclear experts need to become activists as well, following in the footsteps of the spaceflight industry and scientists around the world. The nuclear industry NEEDS evangelists; people like Bill Nye and Neil de Grasse Tyson, who managed to help re-invigorate public interest in spaceflight and scientific pursuits in general. The nuclear industry also needs to be more politically active and support PACs and lobbyists to persuade members of Congress to support nuclear energy and technology when it comes time to vote on bills and decide on regulations. Experts and workers from all over the U.S. need to rally together and work on plans of action to re-energize public interest and support for nuclear projects.

Eventually, if a cohesive political effort is made and the message about nuclear technology's benefits is brought into the public eye, citizens will take notice. If there's a clear political message, the public will in turn learn and (hopefully) be inspired by what nuclear technology and energy can offer to our country and the world as a whole. As it stands now, Congress is starting to move in the right direction via the Nuclear Energy Innovation Capabilities Act, passed by the Senate in late January. This law aims to revitalize the nuclear industry and move towards construction of new reactors domestically. This political initiative by Congress, coupled with an experienced nuclear industry and enthusiastic young engineers, increases the likelihood that we are at the dawn of a new age of nuclear technology. The very future and well-being of the United States depend on us taking that bold next step.

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