

Impact of Political Processes on Nuclear Technology

“It’s Time We Come Together”

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My father is a professed, but proud, “pack rat”. He claims he can find any receipt that has ever crossed his hands in less than 20 minutes. So I was not surprised when he called me to the garage this past Christmas to show me he had found his old college essays and high school term paper. As I grudgingly glanced through them, what caught my attention was the term paper titled, “Nuclear Power – It’s a Waste.” How was it that my dad was once a critic of such an important aspect of nuclear technology, considering his stance today? But even more perplexing, why were the arguments he made against nuclear power over thirty-five years ago the same ones still being debated and discussed today? It was as if time had stopped on resolving the issues needed to make nuclear power the gold standard for reliable, clean, and cost effective energy. It really is baffling that after so much time, we are still arguing that nuclear energy is too risky when weighed against environmental, health and safety concerns. Certainly, there has to be more to it than simply the technical challenges, the economics, or irrational fears. So what is it that perpetuates little to no action on the development of nuclear technology and prevents the public from fully accepting an energy resource that could be a reality for all in tomorrow’s world? I have now come to understand that the real culprit is politics. The split American political system and its processes has impeded the implementation and experimentation of nuclear energy for the past several decades. Unless our divisive political system can unite with a common vision for nuclear technology in the United States, the poor decisions that have led to its slow growth will continue indefinitely.

The political process, while necessary in any society, often acts in direct opposition to the development of nuclear technologies, whether that be for the next generation of nuclear reactors for clean energy, a new treatment of cancer using radioisotopes, or an ingenious irradiation technique to make food safer and to help eliminate world hunger.¹ The Brooking Institute, a non-profit public research think tank would agree with me on some level, but also argues that “eccentric government policies, including environmental ones, have not been the overriding source of the nuclear industry’s tribulations in the United States over the past thirty years”.² They dismiss the lingering reservations about safety and security, and contend that the nuclear renaissance in the United States with regards to nuclear energy has been impeded by four fundamentals causes, (1) demand for power never returned to pre-1974 heights, (2) gas-fired technology is inexpensive to install, (3) little economic incentive to retire the nation’s vast coal-

burning infrastructure, and (4) more than a hundred old atomic reactors are still on line.³ However, the reality is that their research was written over fourteen years ago and these fundamentals have changed considerably; yet, the “nuclear renaissance” has not happened. So what gives?

While strong arguments can still be made that it’s purely an economic decision for a company to invest in nuclear energy (i.e. a capital cost per kilowatt hour comparison) or that we in the United States are blessed with so many cheap resources such as coal and natural gas that there is no need to build new nuclear power plants, my research leads me to a different conclusion. Take nuclear energy for example, it has not become the power of choice in the United States because of technological issues or economic decisions, but rather because of politics and the associated processes that inherently come with or follow it. Under one presidential administration, the government will support the policies needed to grow the nuclear industry; however, the next administration may come in four years later and push a different agenda to achieve the same outcome – low cost energy. This constant redefining of what is the best energy source makes it very difficult for the general public to discern what is the smartest solution for energy independence in America. The current administration support renewables - wind, solar, geothermal, and modern bioenergy - as the right answer; and, in turn, funding slows for research and development or the policies needed for regulatory action to make nuclear energy viable. Unfortunately, in some cases, millions, if not billions, of tax payer dollars have already been spent on nuclear technology, but no one is held accountable for the decision to change a policy which, ultimately, stalls the development in which all the money was invested. There is no doubt political will and the right mix of policies—not vast resource potential—have made wind and solar power, not nuclear power, the world’s fastest growing energy sources over the past decade.⁴

Just as damaging to a new nuclear technology as a split government is the surfacing of an unexpected legal, licensing, or community issue. These usually accompany the political process of the local or federal government which do not take decisive action to support an amenable solution to all parties. This can happen to any nuclear technology being implemented, including nuclear medicine technologies designed solely for the purpose of helping humans live a healthier

or longer life. Once a contentious issue makes it into the legal system, it's very unlikely it will be resolved quickly. One only needs to study the timeline for the permanent underground repository of high level waste at Yucca Mountain to understand how the political process has slowed that critical decision, one that hurts the nuclear industry as a whole. Unfortunately, the political process enables politicians to take positions on nuclear technologies that solely boost their chances of reelection, and, consequently, poor decisions are made with the "not in my backyard" mentality – not necessarily what's best for the country. Politicians have become masters at manipulating the budgetary process and allocation of money to slow nuclear technology. It is utterly absurd when a nuclear technology such as the Mixed Oxide Fuel (MOX) project at Savannah River Site, designed to convert the US plutonium to MOX fuel for commercial use, is threatened to be defunded after spending \$4.8 billion dollars and when it's over seventy percent complete.⁵ It does not make sense, but time and time again we see federal dollars on the "chopping block" when it comes to nuclear programs and technologies.⁶

Another powerful aspect in the political process that is often underestimated is the contentious tangential relationships of social movements. Social movements promote agendas and maximize political opportunity to affect their change. In fact, a well-organized social movement can be the coup de grace to even the best nuclear technology or idea. The anti-nuclear movement has become a powerful force in slowing the implementation of nuclear technology. Over the past fifty years, it has successfully led many protests and demonstrations against nuclear power that have negatively shaped the views and opinions of the public on not only nuclear power but all nuclear technologies. The scare tactics and manipulation of nuclear "threats" used in their propaganda are extremely effective in directing public opinion in regards to every area of the nuclear industry. I am not saying we should ever forget disasters like Chernobyl or Three Mile Island accident, but rather we should use the lessons learned from these events to improve nuclear safety systems. Unfortunately, over the years the anti-nuclear movement in partnership with the environmental movement has virtually stalled the development of nuclear technologies and decreased funding by the government for research on the next generation of power plants.⁷

The political process in the United States impacts nuclear technology and its development in numerous ways. If one were to list all the positive benefits and uses of nuclear technology with

the end goal in mind, it would seem foolish not to come together as a country to be the leader of world-wide nuclear technology. If we do not have political policies supporting the advancement of nuclear technology in the United States, then China or Russia will undoubtedly attempt to take that role, putting us at a tremendous disadvantage in the global economy.⁸ Finally, the threat of terrorism today permeates in political processes' decisions regarding all nuclear technologies. It is reasonable for people to fear that the radioisotopes used in medicine, research, or agriculture might one day be used in a dirty bomb. It will take a lot of extra work and funding to safely manage any new nuclear technology from cradle to grave to avoid such horrific attacks. Even with all this mind, I can only imagine how great a world full of innovative nuclear technologies would be for all of mankind; however, this sort of future is only possible without hidden political agendas and hateful rhetoric. Hopefully, my children will not be reading this essay one day asking the same questions.

Sources

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