

NUCLEAR ENERGY: REGULATORY CHALLENGES

Sen. James Inhofe
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Link to Press Release

Watch Speech

Mr. President, when it comes to developing a comprehensive energy policy in the United States, we are faced with a stark contrast.

We can develop and produce domestic supplies of reliable and affordable energy that will help jump start our economy, create high paying jobs, and bring down energy costs on consumers, all while making our nation less dependent on foreign energy supplies, **OR** we can implement policies designed to drive up the costs of energy on American families, ship jobs overseas, and deepen this recession.

For the sake of our economy, our energy security, and our environmental goals, I choose an "all of the above approach." Nuclear energy is one source that is clean, safe, reliable, and affordable, and I strongly believe it should play an increasing role in meeting our energy needs.

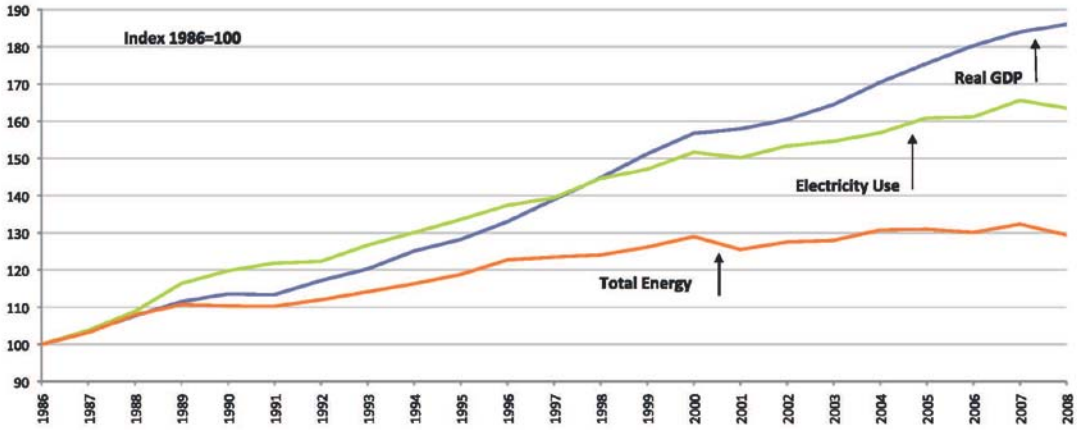
Over the next several weeks, I plan to speak on the floor several times about the benefits of nuclear energy and my proposals for reinvigorating the industry. Today I'm going to discuss how nuclear can help put Americans back to work and move our economy forward as well as focus on the regulatory challenges facing new nuclear construction and what I plan to do to help nuclear energy play an increasing role in meeting our energy needs.

Energy Tied to Economy

The need to grow our domestic energy supply is clear. The Energy Information Administration projects that our demand for electricity will increase by 26% by the year 2030, requiring nearly 260 gigawatts of new electricity generation. Every source will need to grow and produce more energy to meet that demand. Curtis Frasier, executive vice president of Shell Americas Gas & Power was recently quoted in *Greenwire* warning that the recession could be masking a global energy shortage: *"When the economy returns, we're going to be back to the energy crisis," he said. "Nothing has been done to solve that crisis. We've got a huge mountain to climb."*

Mr. Frasier voices a very real concern. As you can see in this graph, electricity and total energy use are closely tied to economic growth. When our economy grows, so does the demand for energy. One way our energy policy can provide a solid foundation for economic growth is by supporting increased development of nuclear energy.

Economic Growth is Linked to Electricity Use



1986 represents the base year. Graph depicts increases or decreases from the base year.

Source for Data: Bureau of Economic Analysis and Energy Information Administration. Chart originally created by the Edison Electric Institute, 2008.
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Industry has Improved Safety, Performance, and Cost

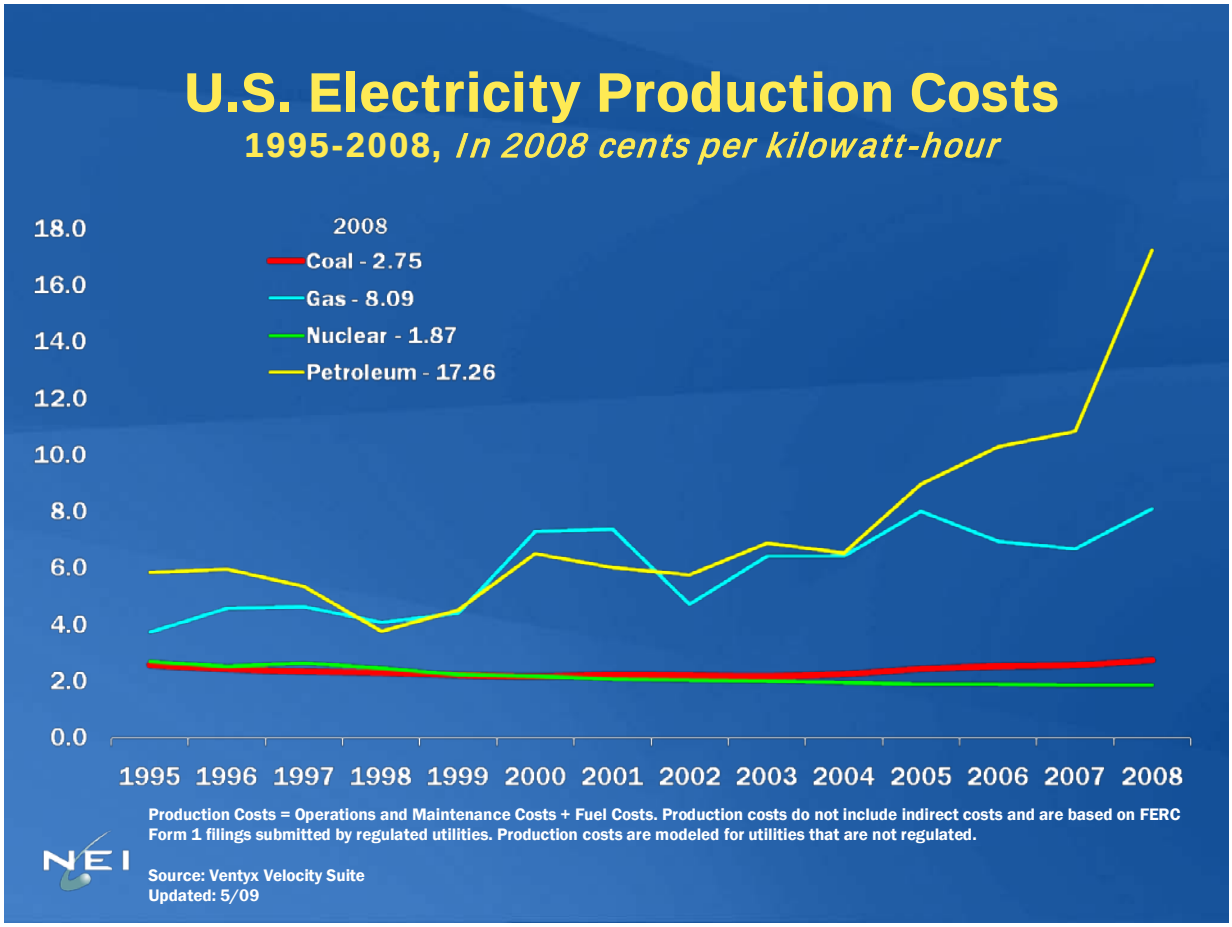
This is not your father's nuclear industry. Today's nuclear industry has demonstrated marked improvement in safety, reliability, and cost since the late 1980s. The industry has also proved that safety and reliable performance are closely linked.

As plants are maintained to higher levels of safety, they also perform more consistently. One indicator of safety is the number of significant events, such as degraded safety equipment, that are recorded by the Nuclear Regulatory Commission. As you can see in this chart, the industry has consistently improved its safety, with fewer and fewer significant events since the information was first

published in 1988. As a result, the industry has dramatically increased its capacity factor by 45%, and has operated roughly 90% of the time for the last 5 years. This improved performance has demonstrated that nuclear is both safe and reliable. It has also made nuclear energy more affordable.



Nuclear energy generates nearly 20% of the electricity that powers our economy AND has the lowest production cost compared to other sources, as you can see here in this chart. Not only has nuclear energy had the lowest production cost for the last 7 years, its production cost is also very stable and not vulnerable to the price fluctuations shown here for other resources.



Increasing Nuclear Energy Means New High Paying American Jobs

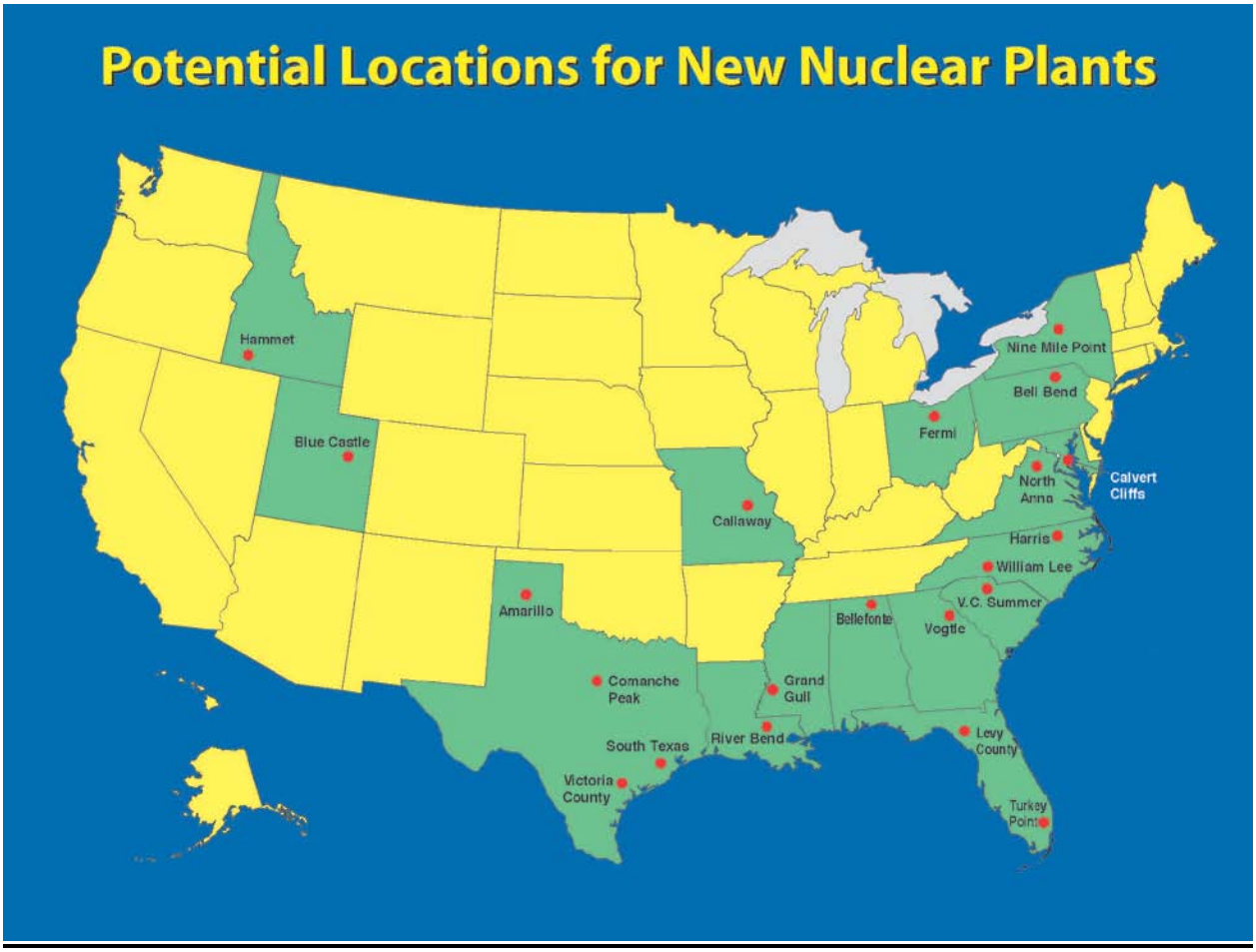
Not only will nuclear energy give a boost to our economy by providing safe, reliable, and affordable electricity, it will also produce new jobs. Mark Ayers, President of the AFL-CIO Building and Construction Trades Department, has described his union's relationship with the industry: *"We will be there with you to help pursue the adoption of a diverse American energy portfolio that places a high priority on the re-emergence of nuclear power."* Why is Mr. Ayers so supportive of nuclear energy? He knows the number of high-quality jobs that just one new nuclear plant would provide. Here they are:

- 1,400-1,800 jobs during construction;
- 400-700 permanent jobs when the plant begins operating, with salaries 36% higher than the local average; and
- 400-700 additional jobs providing goods and services.

Clearly, increased development of nuclear energy will strongly benefit our economy by producing energy and putting Americans back to work. However, right now investors believe that new nuclear plants face political and regulatory risks. The capital investors still remember the cost-overruns experienced during construction of our existing fleet of plants, caused in part by a cumbersome licensing process. The licensing process has been revised, but has yet to be fully tested. The risk of licensing delays may be lower, but the potential consequences of regulatory delays remain significant.

Licensing Challenges

On September 25, 2007, NRG filed an application to build and operate a new nuclear plant near Bay City, Texas. That was the first application for a new plant that the NRC had received in 32 years. Since then, 16 more applications have been filed for a total of 26 new nuclear reactors. These efforts to develop new plants are critical to meeting our energy needs and I'm committed to doing what I can to help build these new plants.



One of the most significant factors contributing to this revitalization is the NRC's transformation over the last 12 years. In 1997, the NRC had been operating without oversight for a dozen years and had become an inefficient, subjective, and unpredictable agency. When I began chairing the Nuclear Safety Subcommittee of EPW, I was determined to conduct rigorous oversight and reform the agency. In 1998, when utilities first applied to extend the licenses for existing plants, the time estimate for NRC review was 4 years. After my subcommittee examined the issue, the NRC implemented "lessons learned" and decreased the review time to 2 years. As of this year, half of our nation's nuclear reactors have been successfully approved to operate for an additional 20 years.

After 12 years of consistent oversight, the NRC has been transformed into a more safety-focused, objective, and efficient regulator capable of executing its responsibilities in a timely fashion. As such, I expect the NRC to maintain the high level of safety of the existing fleet **WHILE** managing the additional challenge of new plant licensing. I will be watching closely to ensure that it does.

In the last several years, the NRC has accomplished a great deal to prepare for new plant licensing applications, including:

- Implementing a new rule providing for the licensing of new plants;
- Reorganizing its management structure so that new plant licensing activities could move forward while maintaining the safety of existing plants; and
- Hiring and training hundreds of new employees to manage the new workload.

So far, the NRC has done a good job coping with the onslaught of licensing activity. Reviews are proceeding simultaneously on 4 designs, one site permit, and 17 license applications representing 26 new reactors. The first few of these new plants may begin operating in 2016 at the earliest.

But these plants won't necessarily all get built. Licensing is a comparatively small investment to "keep the nuclear option open." Companies will make decisions on whether to start construction based on future economics and perceived political risk.

Despite significant efforts on the part of NRC staff, this process hasn't unfolded as smoothly as it could. Schedules are not as detailed or transparent as they should be. Detailed schedules are a critical tool to managing such a large and complex process and ensuring that it is thorough, efficient, and timely. Schedules are publicly available for safety evaluation reports and environmental impact statements, but not for hearings or Commission consideration, which will ultimately determine when the license is actually issued. At this time, there appears to be no information readily available regarding the actual dates that any of the new plant licenses will be issued.

The absence of any specific schedules for issuing licenses seems to indicate a failure of the agency to properly plan and schedule its work, a failure to share such information publicly, or both. This situation is troubling. How can a utility prepare for construction without a firm date when they can expect to receive their license? How can an investor judge the risk of a project without being able to evaluate progress in the regulatory process? Both licensees and their potential investors would greatly benefit from the increased certainty.

I commend the Commission and the staff for the level of effort that is reflected in the existing schedules. However, I believe the Commission should pursue these remaining steps:

- Require hearing boards to produce and follow detailed schedules that reflect lessons learned during review of the LES National Enrichment Facility in New Mexico;
- Exercise supervision over the hearing boards and respond quickly to issues elevated for Commission resolution;

- Hold itself accountable to goals and timeframes by which it will act to resolve issues elevated to it by the hearing boards;
- Commit itself to a timeframe for final Commission consideration of licenses; and
- Clearly provide all schedule information on the agency's website, complete with target dates and actual completion dates so that all stakeholders can assess whether a given application is progressing smoothly or not.

The Commission must take responsibility for managing the licensing process. A hands-off approach serves no one's interest -- not the applicants', not the interveners', and certainly not the nation's. With that said, license applicants must also do their part. Applicants must act responsibly by providing complete and timely responses to the agency's requests for additional information. Without detailed schedules clearly understood by all stakeholders, no one can be held accountable if the process goes awry. The purpose of such accountability is not for placing blame, but to assess what went wrong, fix any shortcomings, and resume progress.

I firmly believe that proper planning, detailed schedules, and Commission engagement will foster more thorough, consistent, organized, and efficient efforts to issue new plant licenses. I take my oversight role as Ranking Member on EPW very seriously and will work to ensure that the NRC continues to build on the improvements that have been made since I initiated oversight back in 1997. I intend to increase my focus on this and other licensing issues, including monthly progress reports on licensing activity and regular meetings with Chairman Jaczko.

I will also ask the GAO to examine how well the NRC is meeting previously stated scheduling goals and hearing milestones, whether lessons learned on early applications have resulted in time savings on later ones, and whether the Commission is adequately supervising the licensing process.

My hope is to see the NRC issue the first new license before the end of 2011, and eight more before 2013. Given construction estimates of four to five years, the first two reactors could be operational in 2016, with 14 more potentially operational by 2018. Sixteen new reactors will be a good start toward rejuvenating an industry that has been stagnant for over 30 years. I also firmly believe these reactors can revitalize our economy and meet our growing demand for energy.

Looking further toward the future, I plan to host a roundtable to highlight progress toward advanced designs that offer leaps forward in both safety and waste management. There are several innovative designs that have caught my interest and I look forward to learning more about the designs and the path toward licensing them. I will welcome any of my colleagues who share that interest to join me.

Administration is Key to Nuclear Development- But Where Do They Stand?

A lot has been done to prepare for new nuclear construction, but a lot remains to be done. Whether or not the industry will succeed in building new plants will be greatly influenced by President Obama's leadership on this issue. I'm disappointed that the Administration seems to send mixed messages regarding its support for nuclear energy. Last month in Prague, the President said: "*We must harness the power of nuclear energy on behalf of our efforts to combat climate*

change, and to advance peace and opportunity for all people."

And yet, just this month, his budget contains language terminating the Yucca Mountain program before the Nuclear Regulatory Commission can even complete its review. 30 years of research and $7.7 billion dollars down the drain, purely for political reasons. This action doesn't inspire confidence that the current political climate is stable enough for utilities to make 40-year, multi-billion dollar investments.

In addition to that, President Obama's recently appointed chairman at the Federal Energy Regulatory Commission, Jon Wellinghoff, stated his belief that we won't need any more nuclear plants, ever.

These mixed messages may soon become clear. President Obama has recently designated a new chairman at the NRC and is expected to propose two additional nominees soon. Time will tell if the NRC is an effective and efficient regulator capable of issuing licenses for new plants.

In his Senate confirmation hearing early this year, DOE Secretary Steven Chu said, *"Nuclear power … is going to be an important part of our energy mix. It is 20 percent of our electricity generation today, but it is 70 percent of the carbon-free portion of electricity today. And it is baseload. So I think it is very important that we push ahead."*

I agree with Secretary Chu that it is very important that we push ahead. I hope for the sake of our country that his view wins out in Administration discussions on this issue. It takes about 10 years for a company to start up a new nuclear plant, from

the time it decides to develop a license application until the plant begins producing electricity. That's two and a half presidential administrations and five Congresses. Few companies will make these sizeable investments if they fear their projects will be left twisting in fickle political winds.

Here stands one Senator who is committed to ensuring the nuclear industry will grow and continue to do its part to power this great machine called America.