

STATEMENT FOR THE RECORD

**SUBMITTED BY
JOHN E. KANE
SENIOR VICE PRESIDENT
NUCLEAR ENERGY INSTITUTE**

**TO THE
ENERGY AND AIR QUALITY SUBCOMMITTEE
ENERGY AND COMMERCE COMMITTEE
UNITED STATES HOUSE OF REPRESENTATIVES
FEBRUARY 16, 2005**

Mr. Chairman and members of the committee, I appreciate your tireless efforts to craft comprehensive energy legislation and the opportunity to provide the nuclear energy industry's perspective on this important work.

In his State of the Union speech on February 2, 2005, President Bush was emphatic that the passage of comprehensive energy bill by the Congress is long overdue. He stated that it is imperative that we enact legislation that will ensure we have the energy we need to support our expanding economy now and in the future, "including safe, clean nuclear energy."

Our economy and high standard of living depend on low-cost, reliable and safe electricity generation. We encourage Congress to take the final steps now to enact comprehensive energy legislation that benefits all Americans.

Nuclear power is a critical part of our nation's electricity supply. America's 103 reactors cleanly and reliably produce electricity to power one of every five U.S. homes and businesses.

The nuclear energy industry fully supported the H.R. 6 conference report of the 108th Congress that you and your members shaped over the past two years. We understand that this is the starting point for your deliberations in this new Congress, and we applaud your leadership in getting a bill through the House expeditiously.

There are three key steps that this committee can take to ensure nuclear power remains a critical part of a diverse electricity portfolio that provides future generations with clean, reliable and affordable electricity.

The three steps are:

- pass comprehensive energy legislation that contains the necessary provisions for nuclear energy and other vital electricity sources to meet the challenges of adding baseload power plants, new transmission capability and other infrastructure
- support investment options to share the cost of the business risk of building the first few next-generation nuclear power plants

- consider several issues for action in this or subsequent legislation important to the long-term viability of nuclear energy, including the nation's used fuel repository at Yucca Mountain.

The industry backed H.R. 6, because it helped provide the framework for nuclear energy's future in the United States. We strongly support similar legislation in this Congress.

COMPREHENSIVE ENERGY BILL WOULD HELP ENSURE NUCLEAR ENERGY'S ROLE

In the legislative arena, the nuclear industry's first priority is the passage of comprehensive energy legislation that includes the following nuclear energy-related provisions:

- financial incentives to promote investment in new nuclear facilities
- long-term reauthorization of the Price-Anderson Act
- funding authorization for key research and development programs
- provisions that support a stable regulatory environment essential to nuclear safety and security
- uranium market sales provisions
- creation of an assistant secretary of energy for nuclear energy at the Department of Energy
- funding authorization for educational and training programs.

GOVERNMENT-INDUSTRY PARTNERSHIPS SUPPORT NEW-PLANT INITIATIVES

America's electricity demand is expected to increase by 50 percent over the next 20 years, according to projections from the Energy Information Administration. Nuclear power is the only emission-free energy source that can be readily expanded to meet this demand.

The Detroit News recognized the need for new nuclear plants this week in an editorial titled "Put Nuclear Option Back on the Table." In the Feb. 14 editorial, the News said, "as natural gas prices continue to escalate and the nation remains handcuffed by the countries that control the lion's share of the world's oil, it's time to seriously consider nuclear power again."

The industry has taken enormous strides during the past few years to explore alternatives for new nuclear plants. Investment in new nuclear generation is a key priority for the industry. We believe that it is wise energy policy to support public-private partnerships in jumpstarting the construction of new nuclear plants.

The H.R. 6 conference report included several important tax provisions supporting investment in new nuclear facilities; the industry would welcome the same provisions in the bill you are currently crafting. However, we realize that the jurisdiction for these measures lies with the tax-writing committees.

We would urge that you examine the inclusion of such measures as an investment tax credit, accelerated depreciation, production tax credits (similar to those detailed in Section 45), or a combination of these investments tailored to the needs of those interested in building new plants. We ask you to consider how these measures may augment a company's strategy to build new nuclear plants, in view of varying competitive structures within energy companies' states, geographic areas or service territories.

There is, however, one investment area within the committee's jurisdiction: the loan guarantee. We recommend that you consider fashioning a limited loan guarantee structure to aid companies interested in pursuing new nuclear plants. As with other investment incentives, a loan guarantee would be available for a very limited number of new, advanced plants.

We understand that there are concerns among some House members relating to the possibility of default with respect to loan guarantees. However, the industry believes that the record of performance of today's nuclear power plants (including records for production and efficiency in three of the past four years) underscores the fact that nuclear energy is competitive today and will remain so in the future. The industry intends to build new plants that will be highly efficient and profitable.

We believe that companies can achieve the best results by pursuing a combination of options, including loan guarantees, investment tax credits, production tax credits and accelerated depreciation. The specific combination of financing tools and techniques will vary from company to company, and from project to project. But companies need a variety of options to move forward toward placing new plant orders.

Dr. Ivan Maldonado, an associate professor of mechanical, industrial and nuclear engineering at the University of Cincinnati, wrote Jan. 30 in *The Cincinnati Enquirer* that “Congress should include the tax incentive in a comprehensive energy bill that’s awaiting final action.” Maldonado wrote that a tax credit (similar to credits for renewables) “would block our backsliding into even greater oil dependency, provide needed electricity capacity, and help slow and eventually reverse the buildup of greenhouse gases.”

The financing challenges for the industry apply to the first few plants in any series of new capital-intensive baseload power plants. As first-of-a-kind capital costs decline, and as investors gain confidence that the licensing process works as intended, companies can finance subsequent plants without federal investment.

Equally important have been changes made to the licensing process in general, which remove bureaucratic, counterproductive hurdles and replace them with

common-sense objective criteria. Energy companies are demonstrating and testing the new licensing processes to ensure that they can be completed in a disciplined manner with full public participation and to ensure no unnecessary delays in the licensing process.

PRICE-ANDERSON ACT RENEWAL

A necessary part of the framework that would enable companies to pursue new plant projects is the renewal of the Price-Anderson Act. H.R. 6 called for an indefinite extension of the Price-Anderson Act; this comprehensive bill should include the same provision.

The portion of the Price-Anderson Act that covers commercial nuclear reactors expired on Dec. 31, 2003. Coverage for Department of Energy contractors has been temporarily extended through Dec. 31, 2006. However, the law provided a “grandfathering” provision that continues the coverage for the current plants until reauthorization. However, no new plants will be covered until Congress reauthorizes the act.

The industry provides more than \$10 billion of no-fault insurance protection in the unlikely event of a nuclear reactor incident. The nation’s electric utilities—not the public or the federal government—pay for this insurance.

The federal government has never paid a penny under Price-Anderson for commercial reactor licensees. To the contrary, the federal government has received \$21 million in indemnity fees from utilities. In addition, the act has served as a model for legislation in other areas, ranging from vaccine compensation and medical malpractice to chemical waste cleanup.

More than \$200 million has been paid in claims and costs of litigation since the Price-Anderson Act went into effect, all of it by the insurance pools. Of this amount, approximately \$71 million has been paid in claims and costs of litigation related to the 1979 accident at Three Mile Island.

This protection consists of two levels. The primary level provides liability insurance coverage of \$300 million. If this amount is not sufficient to cover claims arising from an accident, the second level—secondary financial protection—applies. For the second level, each nuclear plant must pay a retrospective premium, equal to its proportionate share of the excess loss, up to a maximum of \$100.6 million per reactor per accident. This includes a \$95.8 million premium and a 5 percent surcharge that may be applied, if needed, to legal costs.

NUCLEAR ENERGY RESEARCH AND DEVELOPMENT

The nuclear energy industry was especially pleased with the far-reaching nature of the provisions in H.R. 6 focused on research and development of new nuclear power

systems. The industry expects to begin building new nuclear plants and further improving the performance of nuclear power plants throughout the next two decades.

New technologies that will emerge during that time frame will improve efficiency and safety. Based on projections for the growth of electricity demand, we will require greater electricity production in *all* sectors, and nuclear energy must play an integral role in our future national energy portfolio.

Previous legislation authorized funding for the following nuclear energy research programs, including:

- the Nuclear Energy Research Initiative, which is focused on future reactors
- the Nuclear Energy Plant Optimization program, aimed at increasing efficiency of existing reactors
- Nuclear Power 2010, DOE's initiative to begin work on new reactors by the end of the decade
- the Generation IV Nuclear Energy Systems initiative, which supports work on advanced reactor designs
- Nuclear Hydrogen Initiative, for research into reactor designs for large-scale hydrogen production
- Nuclear Infrastructure Support, which focuses on maintaining, upgrading and modifying existing nuclear facilities, as well as building new facilities.

The conference report established funding for an advanced nuclear fuel recycling program, aimed at developing proliferation-resistant nuclear fuel recycling and transmutation technologies. It also proposed research focusing on materials science for advanced fission reactors and the DOE fusion program. The industry believes all of these programs are important to our nation's energy future and supports their inclusion in comprehensive energy legislation.

STABLE REGULATORY ENVIRONMENT ESSENTIAL TO NUCLEAR SAFETY AND SECURITY

As the industry plans an increasingly important role in meeting our electricity generation needs, it is essential that we streamline regulatory processes so they are responsive and safe as possible. A stable regulatory environment also builds confidence within the financial community—a necessary condition for companies seeking financing for new plant projects.

With almost 3,000 reactor-years of experience, nuclear energy's safety performance over the past 10 years is virtually unparalleled in American industry. If we look at reactor performance and lost-time accident rates, nuclear plants are among the safest places to work in the entire industrial sector. We want to extend this safety record under a stable, predictable regulatory process.

We thank this committee for its role in helping bring safety-focused regulations to NRC reactor oversight. By applying these same principles, we can achieve a fair and predictable licensing process for new plants and the repository at Yucca Mountain.

Regulation for today's reactors has experienced a sea change over the past five years. First thought to be too complicated, safety-focused, performance-based regulatory concepts are now commonplace in the Nuclear Regulatory Commission revised reactor oversight process.

Today, three-quarters of U.S. reactors are in the NRC green category, the top level of regulatory performance. Meanwhile, there are relatively few "white" inspection findings and performance indicators—the next level of increased regulatory attention—across all plants.

That's an excellent level of safety performance, and one we need to maintain if we want the same safety-focused regulatory concepts applied to new reactors. Stability and objective measures of performance in regulation have been instrumental in achieving this record.

The H.R. 6 conference report contained a number of provisions related to safety and security in the regulatory regimes. The industry found these provisions generally

workable. However, we believe Section 661 should be eliminated from the new bill, since that action has been completed to the satisfaction of the Nuclear Regulatory Commission.

URANIUM FUEL MARKET PROVISIONS

As the need for more nuclear energy arises, the industry must prepare to meet that demand, including ensuring that there is a stable supply of reactor fuel at a fair price. There are several important sections in H.R. 6 that would make the market more stable and competitive. In addition, there is a provision to create more competition in the enrichment market. This is good public policy and should remain in a comprehensive energy bill.

NEW ASSISTANT SECRETARY OF ENERGY FOR NUCLEAR

The industry also supports the provision that would create an assistant secretary of energy for nuclear issues. The performance record and output of the current fleet has shown that nuclear energy must remain a part of America's the future electricity generation. Elevating this position at the Department of Energy from the director to assistant secretary level is an overdue recognition of the position of nuclear power in our nation's energy future.

PERSONNEL AND TRAINING

The industry supports provisions included in previously proposed legislation that fund educational efforts for the energy industry in the personnel and training section. These initiatives also endorsed partnerships with educational institutions that serve traditionally underrepresented groups in energy-related scientific and technical careers, such as historically black colleges and universities, Hispanic-serving institutions and tribal colleges. The industry strongly supports such efforts.

INDUSTRY CALLS FOR SUSTAINED PROGRESS AT YUCCA MOUNTAIN

The industry has concerns regarding Yucca Mountain, an issue not addressed in the H.R. 6 conference report. However, there are important policy issues related to Yucca Mountain that must be resolved by Congress in the first session of the 109th Congress, and one issue that merits consideration during formulation of a comprehensive energy bill.

The federal government has made significant progress on the Yucca Mountain project over the past several years. However, the government must ensure that this important project stays on track so that it is completed in a timely and cost-effective manner.

This committee can support this important national initiative by considering the following actions:

- expedite the determination of the radiation protection standard for Yucca Mountain to limit program delays
- reclassify the Nuclear Waste Fund to ensure that consumers' money specifically paid into a trust fund for the construction of the Yucca Mountain Project is available to DOE when needed.

A 2004 federal court ruling determined that the Environmental Protection Agency must re-evaluate its 10,000-year radiation standard for Yucca Mountain. As a result, some have expressed concerns that resolving the radiation standard may delay the Yucca Mountain project longer than necessary. The industry believes that Congress must exercise close oversight of steps to resolve the radiation protection standard and take those actions that may be necessary to assure the process is not unduly delayed.

The industry believes that the Committee should direct the EPA to establish the standard in an expeditious manner or institutionalize the standard as a matter of policy that applies to all hazardous material, including radioactive material.

As the Yucca Mountain repository moves toward full-scale development, the funding requirements for the project will increase significantly. Congress must reform the

funding process for Yucca Mountain so that DOE can move forward to complete this project.

Congress established the federal Nuclear Waste Fund in 1982. It is funded by electricity customers to pay for the disposal of used nuclear fuel from commercial power plants. The fund should be used for this purpose, and income into the fund should be available when needed by DOE, subject to congressional oversight.

Electricity consumers have paid more than \$24 billion in fees to the Nuclear Waste Fund, which is growing by about \$1 billion per year. The fund, if used as intended, will pay for disposal of used nuclear fuel from the nation's commercial reactors. The current budgetary process takes consumer money from the Nuclear Waste Fund and uses it in other, unrelated areas. Congress should reform this process to ensure that this money is used for its expressed purpose: the Yucca Mountain program.

CONCLUSION: NUCLEAR ENERGY IS VITAL TO AMERICA'S ENERGY FUTURE

Nuclear energy supplies clean, reliable, affordable and safe electricity and is the only emission-free source that can be readily expanded to meet our nation's growing energy needs. For these reasons, there is widespread support for nuclear power remaining an essential part of our diverse energy mix. The industry believes passage of comprehensive energy legislation that addresses the future of nuclear

energy, including support for new plants and Yucca Mountain, is critical to this effort.

Electricity produced by America's nuclear power plants over the past 50 years has played a key role in the growth and prosperity of our country. Nuclear energy is America's second-largest electricity source, and increased production from today's reactors alone has met one-quarter of the nation's electricity demand growth over the last decade.

Now, nuclear power is poised to play an even greater role in America's energy future. Energy companies are partnering with the federal government to explore possibilities for construction of next-generation nuclear plants, just as the government joined industry to make the first commercial plants a reality 50 years ago.

During the past decade, electricity production at America's nuclear power plants has increased dramatically even though no new plants have been built. Between 1994 and 2004, nuclear plant production increased by the equivalent of 18 additional 1,000-megawatt plants operating at 90 percent capacity—primarily from increased efficiency. In the past four years, the NRC has approved 2,300 megawatts in power uprates, with another 1,100 megawatts in uprates under

review. In addition to building new nuclear plants, energy companies will continue to seek ways to safely increase the capacity of today's reactors.

Nuclear power has a relatively small environmental impact compared to other energy sources. One of the most important environmental advantages is that nuclear power plants produce no harmful air emissions in the process of producing electricity. Nuclear power plants produce electricity that otherwise would be supplied by oil-, gas- or coal-fired generating capacity, and thus *prevent* the emissions associated with that fossil-fueled capacity. As a result, U.S. nuclear plants prevented the discharge of an estimated 700 million metric tons of carbon dioxide into the atmosphere in 2004. This amount equals the carbon dioxide released from nearly all U.S. passenger cars combined.

Nuclear energy also is essential for a strong and vibrant economy. Compared to other fuel sources, uranium fuel for nuclear plants is abundant—readily available from stable sources—and affordable. Nuclear energy's significant role in the energy sector relieves pricing pressure on natural gas and other fuel sources used to generate electricity, and could take the pressure off the high costs of natural gas.

More must be done to ensure that nuclear power can help meet our nation's growing energy demand and balance our energy portfolio over the next half century, while protecting our air quality.

The industry strongly urges Congress to pass comprehensive energy legislation that recognizes the benefits that nuclear energy provides today and helps pave the way for an expanded role in America's energy future.

Thank you for the opportunity to testify before this Committee.