



NUCLEAR ENERGY INSTITUTE

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Committee on Energy and Natural Resources
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Chairman Murkowski and distinguished members of the Senate Energy and Natural Resources Committee, I am Marvin Fertel, Senior Vice President of the Nuclear Energy Institute. The Institute is the Washington, D.C.-based policy organization for the nuclear industry. I am pleased to have this opportunity to testify regarding the renewal of the Price-Anderson Act, nuclear energy research and development funding and industry workforce issues.

The Nuclear Energy Institute (NEI) establishes public policy on various issues affecting the nuclear energy industry, including federal regulations that help ensure the safety of the 103 commercial nuclear power plants operating in 31 states. NEI represents nearly 275 companies, including every U.S. utility licensed to operate a commercial nuclear reactor, their suppliers, fuel fabrication facilities, architectural and engineering firms, labor and law firms, radiopharmaceutical companies, research laboratories, universities and international nuclear organizations.

Congress should renew the Price-Anderson Act unchanged, and it should do so with an indefinite renewal. This is a proven framework that has worked for nearly 50 years. Given this proven record, Congress should renew it indefinitely. If needed, Congress can reopen the law if modifications are needed. In addition, Congress can request updates on the status of Price-Anderson Act implementation from the NRC.

The Price-Anderson Act is necessary to assure the public that the industry is prepared for contingencies. The law assures the availability of billions of dollars to compensate members of the public who suffer a loss as the result of a nuclear incident. It establishes a simplified claims process for the public to expedite recovery for losses and provides immediate reimbursement for costs associated with any evacuation that may be ordered near nuclear power plants.

Overview of Nuclear Power Plant Performance

Nuclear power produces 20 percent of the nations' electricity—supplying power to one of every five U.S. homes and powering our high-tech economy. The commercial

nuclear industry is a dynamic, growing sector that has played a key role in the economic growth and environmental protection of our nation for decades.

After many years of steady improvements, U.S. nuclear power plants achieved record safety and reliability levels in 2000. The industry set another production record last year, generating 754 billion kilowatt-hours in 2000, or 3.5 percent more than in 1999.

The increased electricity generation from nuclear power plants in the past 10 years was the equivalent of adding 22 new, 1,000-megawatt plants, or enough to meet 23 percent of our nation's demand during the past decade.

The industry's performance has been outstanding over the past 20 years, and we believe it will continue to improve. The Nuclear Energy Institute announced earlier this week **Vision 2020**—a strategic plan to build 50,000 megawatts of new nuclear power generation during the next 20 years. This new nuclear power generation is essential to meet both our increasing electricity demand and to maintain the 30 percent share of all emission-free electricity generation today.

Many Americans are just beginning to focus on our increasing energy needs, and many are just learning that for decades, nuclear energy has played a vital role in protecting our air quality. Between 1973 and 1999, nuclear plants avoided emission of 32 million tons of nitrogen oxide, 62 million tons of sulfur dioxide and 2,620 million tons of carbon.

Nuclear energy is the only expandable large-scale source of emission-free electricity and is the largest source of voluntary reduction as part of DOE'S climate challenge program. Reports last year from the Energy Department's Energy Information Administration made a direct connection between increased production from nuclear plants and the fact that greenhouse gases and other emissions increased less than they otherwise would have.

Congress Should Renew Price-Anderson Act Indefinitely

The Price-Anderson Act of 1957, signed into law as an amendment to the Atomic Energy Act, provides for payment of public liability claims related to any nuclear incident. In its 1998 report to Congress, the Nuclear Regulatory Commission said that the Price-Anderson Act has "proven to be a remarkably successful piece of legislation" that has grown in depth of coverage and that proved its viability in the aftermath of the Three Mile Island accident.

Since the inception of the Price-Anderson Act, the law has been extended three times for successive 10-year periods, and in 1988 it was extended for 15 years. Unless Congress renews the Price-Anderson Act, it will expire on Aug 1, 2002.

The Price-Anderson Act is a proven law that works in these important ways:

- Assures the availability of billions of dollars to compensate affected individuals who suffer a loss as a result of a nuclear incident.
- Establishes a simplified claim process for the public to expedite recovery of losses.
- Provides for immediate emergency reimbursement for costs associated with any evacuation of residents near a nuclear power plant.
- Establishes two tiers of liability for each nuclear incident involving commercial nuclear energy and provides a guarantee that the federal government will review the need for compensation beyond that explicitly required by law. The Price-Anderson framework provides \$9.5 billion of coverage in the two levels of protection.

For the primary level, the law requires nuclear power plant operators to buy nuclear liability insurance available or provide for an equal amount of financial protection. That amount of insurance is \$200 million.

For the second level, power plant operators are assessed up to \$88 million for each accident that exceeds the primary level at a rate not to exceed \$10 million per year, per reactor for a total of \$9.3 billion. The NRC increases the level for inflation every five years. An important feature of the law is that it spreads the liability for a major accident across the entire industry. In addition, Congress may establish more assessments if the first two levels of coverage are not adequate to cover claims. The Price-Anderson Act framework provides the same level of liability for DOE facilities as for the commercial sector.

Research or small power reactors are required to self-insure at least the first \$250,000 of any nuclear incident. The federal government also provides up to \$500 million of indemnity. At present, there are no small power reactors in operation that qualify for this coverage. But the groundwork is being laid to design power reactors that would be smaller, safer and more cost effective to build. That very extensive research and development would be jeopardized if the Price-Anderson Act is not renewed expeditiously.

The costs of Price-Anderson coverage are included in the cost of electricity, they are not a taxpayer expense or federal subsidy. That means the nuclear industry bears the cost of insurance, unlike the corresponding costs of some major power alternatives. For example, risks from hydropower (dam failure and flooding) are borne directly by the public. The 1977 failure of the Teton Dam in Idaho caused

\$500 million in property damage. The only compensation for this event was about \$200 million in low-cost government loans.

In addition to the approximately \$180 million paid in claims by the insurance pools since the Price-Anderson Act went into effect, the law has resulted in payment of \$21 million back to the government in indemnity fees.

The NRC and DOE has recommended renewal of the Price-Anderson Act to Congress. The NRC, in its 1998 report, describes the benefits the law provides to the public. The agency says that "the structured payment system created to meet the two objectives stated in the Price-Anderson Act has been successful. The Commission believes that in view of the strong public policy benefits in ensuring the prompt availability and equitable distribution of funds to pay public liability claims, the Price-Anderson Act should be extended to cover future as well as existing nuclear power plants.

The Department of Energy in 1999 has also recommended renewal of the law. The Energy Department said that its indemnification "should be continued without any substantial change because it is essential to DOE's ability to fulfill its statutory missions involving defense, national security and other nuclear activities..."

The Price-Anderson Act has withstood court challenges dating back to 1973 when the Carolina Environmental Study Group, the Catawba Central Labor Union and 40 individuals brought suit against Duke Power Co., which was building nuclear power plants in North and South Carolina.

In June 1978, the U.S. Supreme Court upheld the constitutionality of the law. In an opinion written by Chief Justice Warren Burger, the court held that because the liability limit was created to encourage private sector construction of nuclear power plants it was neither arbitrary nor irrational.

The industry recommends an indefinite renewal of the Price-Anderson Act. Like any other legislation, if Congress wants to reconsider and amend the law it can do so at anytime. We would encourage Congress to hold periodic oversight hearings and, if required, modify the law accordingly.

The industry believes that the retrospective premium should remain at \$10 million per nuclear plant. The NRC initially recommended it be increased to \$20 million, based in part on the assumption that 25 nuclear plants would be closed without relicensing, and that total insurance coverage would decrease as a result. However, most nuclear plants will be relicensed. NRC Chairman Richard Meserve, in a May 11, 2001 letter to members of Congress, retracted this recommendation based on the number of plants seeking license renewal. The NRC no longer believes that the increase in the retrospective premium to \$20 million is necessary.

Nuclear Energy Research and Development Funding

For the United States to remain the world leader in nuclear safety and technology, it is crucial that industry and government continue to invest in nuclear technology research and development.

U.S. electricity demand grew by 2.2 percent a year on average during the 1990s, and by 2.6 percent in 2000. Even if demand grows by a modest 1.8 percent annually over the next two decades, the nation will need nearly 400,000 megawatts of new electric generating capacity, including replacement of retired capacity, according to the U.S. Energy Information Administration. This capacity is the equivalent of building about 40 new mid-size (500-megawatt) power plants—20,000 megawatts—every year for the next 20 years.

NEI urges the committee to approve \$433 million in FY-2002 for DOE's Office of Nuclear Energy, Science and Technology—twice the current budget. This level of funding is consistent with recommendations in legislation recently introduced authorizing increases in nuclear energy programs. Funding increases also have been suggested in recent years by the President's Committee of Advisors on Science and Technology (PCAST), the Secretary of Energy's Nuclear Energy Research Advisory Committee and DOE's Near-Term Deployment Group.

The Nuclear Energy Research Initiative (NERI)—which seeks to expand America's nuclear energy program in the 21st century—fills a vital need identified in a 1997 report by PCAST. The report recommended an R&D program to address potential barriers to the long-term use of nuclear energy and to maintain America's nuclear science and technology leadership. The PCAST report also recommended another R&D initiative—the Nuclear Energy Plant Optimization (NEPO) program—aimed at getting more low-cost energy from America's nuclear power plants.

A blue ribbon panel of seven experts appointed by the Nuclear Energy Research Advisory Committee has offered recommendations on how DOE can support university nuclear engineering programs, help to maintain university research and training reactors and promote collaboration between universities and DOE laboratories. DOE's Near-Term Deployment Group is developing recommendations on agency actions needed in FY-2002 and 2003 to facilitate the NRC review of early site permitting applications for new nuclear power plants.

Also, authorizing legislation introduced this year in the Senate and House of Representatives would expand funding in these areas as well as provide incentives to increase electricity generation from nuclear power plants.

The nuclear energy industry urges the committee to approve \$60 million in FY-2002 for the NERI program, which is paving the way for the expanded use of nuclear energy and maintaining U.S. leadership in nuclear plant technology and safety. In FY-2001, NERI received \$22.5 million—less than one-half of the \$50 million annual appropriation recommended by PCAST in its 1997 report. Beginning in FY-2002, PCAST recommended NERI funding be increased to \$100 million a year. Although current funding has been sufficient to continue projects initiated in previous fiscal years, it leaves little money to launch new R&D projects.

The nuclear energy industry also encourages the committee to allocate \$15 million for the NEPO program, which improves efficiency and, reliability while maintaining outstanding safety at U.S. nuclear power plants. This public-private partnership is helping to facilitate America's economic growth and prosperity—and improving our nation's air quality. NEPO received \$5 million in FY-2000 and 2001—half the annual funding recommended by PCAST.

DOE has launched a project to prepare a technology roadmap for developing and deploying next generation nuclear plants, called Generation IV. As a part of its roadmap effort, DOE is preparing a report on near-term deployment activities that will need to be implemented, in order to have new nuclear plants in operation by 2010 or sooner, while longer term technologies are being developed. DOE is coordinating its efforts with NEI's Executive Task Force on New Nuclear Plants. In the interim, recommendations on activities requiring immediate attention are being prepared by DOE and will be released imminently. To support completion of the DOE technology roadmapping effort and to begin implementation of these near term recommendations, NEI urges the Committee to approve \$42 million in FY-2002 for the Nuclear Energy Technology Development program.

The industry also requests \$34.2 million for DOE's University Support Program, which enhances vital research and educational programs in nuclear science at the nation's colleges and universities. The number of college programs in nuclear engineering and science is dwindling. To maintain our nation's position as the international leader in the nuclear field, it is vital that this trend is reversed and that our nation's best and brightest technical minds be attracted to the nuclear technologies fields. We urge Congress to sufficiently fund student recruitment, teaching facilities, fuel and other reactor equipment, and instructors to educate a new generation of American nuclear specialists.

The industry asks the committee to support the new initiatives included in authorization legislation introduced this year. One such initiative is the Production Incentive Programs, which the industry believes should be funded at \$15 million.

Attracting and maintaining a skilled workforce is essential to the future success of the nuclear industry. Consequently, NEI is working with the industry to implement

a plan to address workforce demands through a newly created task force. A major concern is recruitment of new workforce, as well as retention of staff.

Additionally, the industry has an on-going young generation initiative to increase the number of students that can be sponsored by the DOE Nuclear Engineering Fellowship program. Similarly, the industry is working to sponsor students in other engineering disciplines interested in careers in nuclear technology. The Administration's national energy policy, along with growing widespread support in the public sector, is sending a strong message to students and educators that nuclear technology, and nuclear generation in particular, has a bright future.

Conclusion

Nuclear energy is the second-largest source of electricity in the United States, and the only large source that is both emission free and readily expandable. The industry's safety record, reliability, efficiency and price stability make nuclear energy a vital fuel for the future.

One need only look at the current energy situation in the United States, marked by thinning capacity margins and volatile prices for fossil fuels, to see why nuclear energy is so important to our nation's energy mix.

In the future, as electricity demand continues to rise, nuclear energy will be even more important to American consumers, and to our nation's economy as a whole. Our nation's nuclear power industry has proven over the past two decades that nuclear energy is a reliable, efficient and safe source of electricity for our nation's economic growth. I urge the members of this committee to continue to support the role of nuclear energy as part of the United States' diverse energy policy.

This support should include indefinite renewal of the Price-Anderson Act, increased funding for nuclear energy research and development and congressional support for new programs that ensure a growing talent bank to design and operate advanced nuclear technologies.

Thank you for giving me this opportunity to share the industry's perspective on oversight of nuclear facilities and related matters.