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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

EXTERNAL SAFETY REGULATION OF

DEPARTMENT OF ENERGY

DEFENSE NUCLEAR FACILITIES

SUBCOMMITTEE ON ENERGY AND POWER

COMMITTEE ON COMMERCE

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Good morning, Mr. Chairman and Members of the Subcommittee. My name is John Conway. I am Chairman of the Defense Nuclear Facilities Safety Board.

In your letter inviting me to testify today, several legislative proposals that may impact the Department of Energy's (DOE) current mode of operation were referenced. As an independent Executive Branch establishment, the Board provides advice and recommendations to the President and Secretary of Energy regarding public health and safety issues at DOE defense nuclear facilities. Therefore, I will focus my testimony today on legislative proposal HR 3907 to establish external regulation of DOE defense nuclear facilities.

BOARD OVERSIGHT AUTHORITY

For those who may be unfamiliar with the statute establishing the Defense Nuclear Facilities Safety Board (Board) in 1988, a few words about its nuclear safety duties and responsibilities are in order.

Broadly speaking, the Board reviews operations, practices, and occurrences at DOE's defense nuclear facilities and makes recommendations

to the Secretary of Energy as necessary to protect public health and safety. Upon receipt of the Recommendation, the Secretary must accept or reject it, in whole or in part, and then must prepare an implementation plan for those portions which are accepted. The public has a statutory right to comment upon Board recommendations and upon DOE's responses and implementation plans.

To date, the Board has issued 41 sets of recommendations, containing 194 individual specific health and safety sub-recommendations. The Secretary has accepted the first 40 sets of the Board's safety recommendations thus far, with the exception of two sub-recommendations which currently are under reevaluation by the Board. The latest Board recommendation delivered to the Secretary of Energy on March 8, 2000, is under active consideration by DOE. The Board recommendations detailed in Annual Reports to Congress range from such topics as the need to identify and implement adequate health and safety standards at all DOE sites, major safety improvements needed in the management of high-level waste tanks at the Hanford Site in the State of Washington, to classified safety management issues at the Pantex Nuclear Weapons Plant, Texas.

If, as a result of its reviews, the Board determines that an imminent or severe threat to public health or safety exists, the Board is required to transmit its

Recommendations directly to the President, as well as to the Secretaries of Energy and Defense. The Board also assesses safety management and personnel effectiveness both within DOE and the various operation and management (O&M) contractor organizations.

The Board has assembled a small technical staff with extensive backgrounds in science and engineering disciplines such as nuclear—chemical processing, conduct of operations, general nuclear safety analysis, conventional and nuclear explosive technology and safety, nuclear weapons safety, storage of nuclear materials and nuclear criticality safety, and waste management. As an indication of the Board’s technical talent, 26 percent of the technical staff hold degrees at the Ph.D. level and an additional 67 percent have masters degrees. All technical staff members except interns, possess practical nuclear experience gained from duty in the U.S. Navy’s nuclear propulsion program, the nuclear weapons field, or the civilian reactor industry.

The Board’s enabling statute requires the Board to review and evaluate the content and implementation of health and safety standards, including DOE’s Orders, Rules, and other safety requirements, relating to the design, construction, operation, and decommissioning of DOE’s defense nuclear facilities. The Board must then recommend to the Secretary of Energy any

specific measures, such as changes in the content and implementation of those standards, that the Board believes should be adopted to ensure that the public health and safety are adequately protected. The Board is also required to review the design of new defense nuclear facilities before construction begins, as well as modifications to older facilities, and to recommend changes necessary to protect health and safety. Board review and advisory responsibilities continue throughout the construction, testing, and operation of new facilities. In 1991, Congress specified that the Board's jurisdiction also includes safety oversight of the assembly, disassembly, and testing of nuclear weapons.

Under the Atomic Energy Act, the Board is authorized to conduct investigations, issue subpoenas, hold public hearings, gather information, conduct studies, establish reporting requirements for DOE, and take other actions in furtherance of its review of health and safety issues at defense nuclear facilities. These powers of the Board and its staff all relate to the accomplishment of the Board's mandate to identify safety problems and recommend corrective actions, and then to ensure that DOE corrects those problems at defense nuclear facilities. The Secretary of Energy and contractors at defense nuclear facilities are required by statute to cooperate fully with the Board.

The following excerpt from a report of the Senate Armed Services Committee summarizes the rationale for creating an oversight Board:

The committee does not believe that a safety board is a panacea for all DOE safety problems, or that it can in any way absolve the Secretary or the Department's contractors of their fundamental safety responsibilities. In fact, many witnesses testified that DOE's shortcomings largely reside within the Department's line management, and that there can be no substitute for capable and committed line management. What the Board can do is provide critical expertise, technical vigor, and a sense of vigilance within the Department at all levels . . . Above all, the Board must have a primary mission to identify the nature and consequences of any significant potential threats to public health and safety, to elevate such issues to the highest levels of authority, and to inform the public.

For the past 10 years, this Board has been dedicated to fulfilling the above stated mission.

IMPROVEMENTS IN DOE HEALTH AND SAFETY POSTURE

Interpreting the Board's statutory authority, the Court of Appeals for the District of Columbia stated that the Board is an agency with action forcing powers.

The Board does considerably more than merely offer advice. It conducts investigations, which "has long been recognized as an incident to legislative power" delegated to agencies by Congress. It has at its disposal the full panoply of investigative powers commonly held by other agencies of government. The Board formally evaluates the Energy Department's standards relating to defense nuclear facilities, and forces public decisions about health and safety.

Each year the Board reports to Congress on its activities and DOE's progress in improving safety at defense nuclear facilities. In our Tenth Annual Report to Congress issued in February 2000, the Board noted significant progress by the DOE in upgrading its safety management program and practices at defense nuclear facilities. The record of Board accomplishments in assisting DOE in its safety practices attests to the efficiency of the Board's structure as legislated in 1988. Using its action forcing powers, the Board has been able to help reorient DOE's safety program and to set it on a course that:

- Places more reliance on standards that define good practices and less reliance upon expert-based safety management;
- Makes work planning and safety planning an integrated process;
- Treats public, worker, and environmental protection as an integrated process;
- Treats radioactive and nonradioactive hazards in an integrated fashion in establishing controls; and
- Tailors safety measures to the hazards involved.

In accordance with its statutory mandate, the Board has focused on enhanced safety management of defense nuclear activities. DOE has recognized the benefits of such enhancements for all of its hazardous activities and is extending the enhancement principles and functions complex-wide. This is being done without the potentially litigious and confrontational processes that frequently characterize adjudicatory proceedings under regulatory regimes.

EXTERNAL REGULATION OF DOE AND H.R. 3907

While many reports have been written about external regulation, pilots conducted at non-defense facilities, and opinions offered on this subject, I must emphasize that the Board is the only external, independent organization that has actually conducted full-time technical oversight of public and worker health and safety at DOE defense nuclear facilities. Consequently, the Board frequently has been called upon by both the legislative and executive branches to share its collective knowledge gained from 10 years of oversight experience in DOE's defense nuclear facilities. In fact, the National Defense Authorization Act for Fiscal Year 1998 directed the Board to prepare a written report making recommendations to the Congress and answering specific questions on the pros and cons of external regulation of DOE defense nuclear facilities as compared to the Board's current independent oversight authority. We have copies of the report with us today and ask that the report be made part of the hearing record.

As stated in the report, the Board found no creditable arguments, either on the grounds of improved safety or cost effectiveness, to subject the defense nuclear facilities to additional external regulation. On the other hand, the Board did advise of the potential for external regulation of nuclear safety adversely impacting our Nation's national security program. There is nothing that has

developed since our 1998 report to cause the Board to modify its earlier findings.

THE NEED FOR ADDITIONAL REGULATION?

What advantages might accrue from imposing additional regulation on DOE? One of the previously-used arguments favoring an external regulator asserts that such a scheme will prevent DOE from repeating the environmental, safety, and health problems that occurred as a result of early defense nuclear production programs during the Cold War era. In fact, many of DOE's present environmental remediation projects resulted from activities that predated the Federal Facilities Compliance Act and regulation under a comprehensive body of environmental laws vigorously enforced by Federal and State agencies.

We believe that an adequate system of checks and balances, both internal to DOE operations and external to DOE, has been implemented during the past 15 years which will effectively prevent the recurrence of past environmental abuses. The Department of Energy today is required to comply with rules and regulations issued by State and Federal Environmental Protection Agencies and others including the Occupational Health and Safety Administration, the Bureau of Mines, and the Department of Transportation.

Justification for additional regulation is also based on two suppositions, both of which we believe to be fatally flawed:

1. That it will enhance DOE credibility with the public, and
2. That it will improve safety.

ENHANCE DOE CREDIBILITY?

We suggest the public's trust in DOE will not increase by setting up another Federal government agency here in Washington, D.C. to regulate its activities, whether the agency be the Defense Nuclear Facilities Safety Board or the U.S. Nuclear Regulatory Commission (NRC) or some combination of the two operating in a formal regulatory manner. Rather than by having more external regulation imposed upon it, DOE's credibility will improve by performing its responsibilities in an efficient and creditable manner. We believe DOE has made notable progress in upgrading its safety management programs and in cooperation and openness, particularly in the formation and utilization of local citizen advisory boards. Trust and credibility are developed at the local levels, not by layering government agencies.

One must keep in mind that the actual work carried out by the Government in its nuclear weapons activities is done by contractor employees,

not by federal employees of the DOE. It is DOE's responsibility to assure that the work is done safely, efficiently and with full compliance with the environmental laws of the Nation and its States. In effect, for all intents and purposes and from a practical point of view, the DOE "regulates" the individual contractors doing the work. DOE has the authority and power to force a site, a facility or particular job to be curtailed or be shut down.

Do we need to add additional government employees of another government agency such as the NRC to assure that DOE government employees are properly enforcing government laws, safety rules and regulations on contractor management and workers? If so, at what additional cost?

THE COST OF EXTERNAL REGULATION

In 1995, the Advisory Committee on External Regulation of DOE Nuclear Safety issued a report (generally referred to as the Ahearne Report) acknowledging that regulation would require additional startup costs, but asserted that savings will result from having fewer DOE employees assigned to environmental safety and health issues. In that report, the NRC advised that if it is to assume regulatory responsibility for DOE, the Commission would need an

additional 1,100 to 1,600 full-time employees and an increase of \$150 million to \$200 million per year in its budget.

How much of that addition in personnel and dollars cost would DOE save? I know of no organization, in government or in private industry, that reduces personnel or response costs when additional regulatory authorities are imposed on it. The opposite occurs. The Ahearne Report did not set forth how savings will accrue from its recommendation, nor did it specify what safety improvements will occur and how.

While there have been many external regulation scenarios studied during the past six years, the subject of cost to effect an external regulation scheme keeps surfacing as a significant issue. For example, the December 1996 Report of the Department of Energy Working Group on External Regulation contains an estimated cost of the following external regulation proposal:

All DOE nuclear facilities would transition into full regulation by the Nuclear Regulatory Commission in a little over 10 years. In years 1-5, all Nuclear Energy and Energy Research nuclear facilities and selected Defense Program and Environmental Management nuclear facilities would become regulated by the Nuclear Regulatory Commission. This transition would begin immediately after enabling legislation is passed. Except for the selected facilities regulated by the Commission,

Defense Program and Environmental Management nuclear facilities would continue to be regulated by the Department with oversight by the Defense Nuclear Facilities Safety Board in this first phase. In years 6-10, all Environmental Management nuclear facilities would become regulated by the Commission and the Board would maintain oversight only of Defense Program facilities. After 10 years, all DOE facilities would be regulated by the Commission. Remaining Board staff would merge into the NRC.

DOE's estimated costs to implement this external regulation plan are shown

in the following table.

Table 1 - DOE's Costs to Implement External Regulation

(Data as of December 1996)

Cost to Implement	Best Case	Upper Case
	(in billions of dollars)	
Cost during the first 5 years	\$1.4	\$1.8
Cost for year 6 thru 10	\$1.3	\$2.5
Cost beyond 10 years	\$1.2	\$3.1
Total Cost	\$3.9 Billion	\$7.4 Billion

Both of the DOE cost scenarios offered above reflect the magnitude of the effort and associated resources needed to implement NRC external regulation over all DOE nuclear facilities. The economic reality of a multi-billion dollar venture for this type of external regulation must be considered in any valid cost/benefit study. We believe that in an era of shrinking dollars to perform DOE's major missions—weapons maintenance/ stewardship and cleanup—it would not be prudent to transfer safety-related responsibilities into a more costly regulatory structure for questionable fringe benefits.

SAFETY MANAGEMENT STATUS TODAY

Under its enabling statute, 42 U.S.C. § 2286 et seq., the Board has been providing independent oversight of all nuclear activities impacting public and worker health and safety within DOE's defense nuclear facilities (i.e., nuclear weapons) complex since October 1989. While this oversight is not regulation per se, the Board has been holding DOE nuclear safety to exacting standards under the authority of the Atomic Energy Act through the advisory and formal recommendation process governed by statute.

Through a combination of Board actions and the Department's own upgrade initiatives, the DOE has structured and is administering a much more effective safety management program than the historical program so frequently cited as cause for added external regulation. Board recommendations that have contributed to this outcome include:

M Recommendation 90-2, *Design, Construction, Operation and Decommissioning Standards at Certain Priority DOE Facilities*. This recommendation caused DOE to critically evaluate its set of safety-related standards and embark upon an aggressive program to improve those standards, bringing them into close alignment with the applicable industry requirements. Thus far, DOE has issued a comprehensive set of Policy

Statements, Rules, Orders, Guides, and Technical Standards defining expectations, generally applicable safety requirements and acceptable safety practices.

M Recommendation 93-3, *Improving DOE Technical Capability in Defense Nuclear Facilities Programs*. This recommendation addressed the technical competence of DOE in critical safety positions. DOE's implementation plan in this case created the first ever DOE-wide technical qualification program.

DOE has established qualification requirements for key personnel, and acquired new "Excepted Service" hiring authority from Congress to recruit exceptional individuals outside the regular civil service framework. DOE has formed a Federal Capability Review Panel, reporting to the Deputy Secretary, for stimulating recruitment of highly competent individuals and championing technical excellence in the staff throughout the Department.

M Recommendation 95-2, *Safety Management*. This recommendation encouraged DOE to build on the successes gained in the other two efforts and develop safety management programs for its defense nuclear facilities that integrated public protection, worker safety, and

environmental protection into the work process. An implementation plan set forth by the Department in 1996 has been steadily and effectively pursued. All contractors performing high hazard nuclear activities for the Department are required by regulations and contract terms to establish and operate to such a safety management system. The system is marked by:

- Site-wide nuclear safety requirements, mutually agreed upon by DOE and contractor(s) as applicable to the work performed.
- The establishment by the contractors of manuals of practices reflecting the requirements established.
- Safety planning as an integral part of work planning.
- Safety and hazards analysis with safety measures tailored to the hazards of the operations involved.
- Qualification and training of personnel commensurate to safety responsibilities assigned.

- Assessments and feedback for improvements performed.

M Recommendation 98-1, *Integrated Safety Management*. This recommendation is directed at closing the loop on these safety programs by strengthening DOE's ability to find and resolve safety problems through its independent oversight function. A formal process has been established with clear lines of responsibility defined for addressing safety issues identified by DOE's Office of Independent Oversight. The status of corrective actions is periodically reviewed by the Chief Operating Officer and responsible Program Secretarial Offices.

M Departmental initiatives to upgrade safety management have included the following:

- The issuance of Policy 450.5, *Line Environment, Safety and Health Oversight*, making self-assessments by the line organizations a mainline safety responsibility and Policy 450.4, *Safety Management System Policy*, a complex-wide commitment to the functions and principles of Integrated Safety Management.

- Issuance of DOE N411.1-1A Safety Management Functions, Responsibilities, Authorities Manual (FRAM), addressing management's expectations of staff assigned safety responsibilities.
- The establishment of a Secretarial level Safety Council headed by the Deputy Secretary with membership of three Secretarial Officers (EM, DP and Science) to support the Deputy Secretary in establishing safety policies and resolving inter-program safety-related issues and to develop performance standards to be used to hold federal personnel accountable for effective and timely implementation of ISM.
- The establishment of the Field Management Council to ensure consistent implementation of DOE policy in ES&H, safeguards and security, and business management.
- The establishment of a Safety Management Integration Team (SMIT), reporting to the Deputy Secretary, for coordinating and driving the implementation of Integrated Safety Management throughout the complex.

- The reorganization and augmentation of the enforcement functions of both the independent EH Secretarial Office and the Contracting Officers.
- Independent management assessments.
- The revision of Department of Energy Acquisition Regulations (DEAR) to require every contractor for a major acquisition involving nuclear materials to describe and commit to Integrated Safety Management (ISM) in performing the work. Further, the fee awards for that work are to be tied to safety performance.

The Board acknowledges that even with these upgrades to the DOE regulatory structure for safety management, DOE contractors have experienced some recent mishaps that have placed workers at risk. The commercial industry is not accident free, either. On the whole, however, the Department's safety record, complex-wide, compares well with other hazardous industries.

OVERSIGHT OF THE NATIONAL NUCLEAR SECURITY ADMINISTRATION

The suggestion has also been made that the new, semi autonomous National Nuclear Security Administration (NNSA) may insulate the DOE defense nuclear facilities from scrutiny by environmental, safety, and health officials at DOE and elsewhere. As to the Defense Nuclear Facilities Safety Board, let me assure you that after a careful review of the NNSA's enabling legislation and legislative history, the Board's power and authority have neither been repealed nor displaced by the NNSA. Moreover, discussions between the Board and NNSA officials fully support the continued statutory jurisdiction of the Board.

It has also been suggested that the existing environmental, safety and health oversight office within DOE no longer has oversight over NNSA activities. In September of 1998, the Board issued Recommendation 98-1, concerning the effectiveness of the Department of Energy process to address and resolve the safety issues identified by its internal, independent oversight organization at the DOE's defense nuclear facilities. Specifically, the recommendation identification of specific weaknesses in addressing oversight functions and recommended that the Department make improvements to identify roles and responsibilities, issue/dispute resolution, senior management involvement, content of corrective action plans, tracking reporting, and verification approaches.

The central safety issue identified by the recommendation was that the Department needed a clearer, comprehensive, and systematic process to address and resolve environment, safety and health issues identified by the DOE's internal Office of Oversight. To implement this recommendation, the Secretary of Energy committed to take the following actions:

- Establish a consistent, disciplined process and clear roles, responsibilities, and authorities for developing and implementing responses to identified safety issues.
- Establish clear directions on the process for elevating identified safety issues to higher authority for resolution, up to the Office of the Secretary if necessary.
- Establish effective tracking and reporting of corrective action progress.

The Secretary's commitments under this Implementation Plan and all others remain in full force and effect. Again, let me emphasize that neither the Secretary's commitment to implement internal oversight findings nor the Board's continuing oversight of the DOE's defense nuclear facilities have been repealed or displaced by the legislation creating NNSA. We are still very much in business.

IMPACT OF REGULATION ON NATIONAL SECURITY

The most serious problem with any external nuclear regulation of DOE's defense program would be a potential for adverse effects on national security.

To regulate, with or without licensing or permitting authority, is to control, direct, or govern, coupled with the authority to enforce or penalize for violation. Regulatory control by an external agency of the nuclear health and safety aspects of DOE's performance of its defense mission could permit the regulator to shut down vital facilities, thereby diminishing the declared primacy of national security by relieving DOE of a significant portion of its responsibility for the nuclear weapons program.

In establishing the form and authority of the Board, Congress deliberated on the matter of oversight versus regulation. While wishing to ensure better environmental, health, and safety protection than historically provided in weapons production, Congress elected the non-regulatory option. National security was an important consideration. Although there are those who are opposed to the nuclear weapons program and are concerned about proliferation, Congress and the Administration still consider our nuclear weapons

program as essential to the national security of this Country and our allies. It is essential that its deterrent objective not be put into question.

This was ably and successfully explained by government lawyers in the case of the Natural Resources Defense Council versus the Secretary of Energy, in the Federal District Court for the District of Columbia (*NRDC v. Peña*, 972 F. Supp. 9 (D.D.C. 1997)). Together with emphasizing the critical importance of the nuclear weapons program to national security, the court cited “credibility” as an important ingredient of national security, stating that the existence of the nuclear deterrent had to be believable and that credibility “depends in large part on the effective and successful” conduct of the weapons program. The court stressed that even a brief disruption of the program would create a vulnerability and that “any such vulnerability—and any future reduction in the credibility of our nuclear deterrent for even a brief period of time—would be unacceptable. . . . Any doubt over the credibility of our nuclear deterrent would create unacceptable risks in the event of a future crisis” The court also contended that any delay in the conduct of DOE’s weapons program “could have serious national security implications.”

Delay is a commonly encountered consequence of the regulatory process. The Atomic Energy Act and the Administrative Procedure Act require a nuclear regulatory agency to adhere to a formalized process that can result in

adversarial hearings, administrative reviews, and an opportunity for judicial appeals such that private and special interest interveners are accommodated. Licensing arenas are often battlegrounds over legal processes rather than substantive nuclear health and safety issues, and often result in extensive delays.

Note that the Board is not a regulatory body. It cannot control, direct, or govern any function, or interfere with the paramount national security mission. In creating the Board, Congress specifically chose not to establish another regulatory agency. The choice of oversight rather than regulation reflected a careful balancing by Congress of national security interests with the various methods for promoting improvements in safety at DOE facilities. This is fully consistent with preserving the semi-autonomous nature of NNSA by preserving the responsibilities of the Secretary of Energy under the Atomic Energy Act

The usual enforcement powers of regulators, e.g., denial of license and fines, are not appropriate for DOE defense activities. Denial of licenses would stop critical national security activities, and fining DOE would merely transfer appropriations away from the safety activities the public is concerned about, thereby making operations potentially more risky and cleanup activities further delayed.

Regulating agencies in general were intentionally chartered to have no stake in the success of the regulated enterprise. In fact, they can and do use the threat of shutting down the enterprise to enforce their goals. But the nuclear weapons program is an inherently governmental function. The notion that in contentious adversarial proceedings an external regulator could decide whether DOE may have a license or certificate to build or operate a nuclear weapons facility gives the regulator a ready tool to overrule the President and Congress on an issue of national security.

CONCLUSION

As a direct result of DOE's improved self regulation, coupled with the Board's independent external oversight, DOE's safety and environmental protection programs at defense nuclear facilities during the past decade have been marked by considerable improvement, increased effectiveness, and minimal disruption to national security missions. The priority that may have been accorded to mission objectives in the past has given way to a DOE management philosophy that stresses doing work safely while competently.

Sections 2 and 3 of H.R., 3907 would deprive the Department of Energy of its enforcement authority with respect to nuclear safety which would be assumed by a regulator, the Nuclear Regulatory Commission, an agency with

no responsibility for the security mission. Regulation by itself cannot assure safety is a maxim long known by those experienced in hazardous occupations. No outside authority or organization can be an effective substitute for a competent and dedicated internal safety organization.

Based on available information and the individual experiences of Board Members, we conclude that Congress made the correct decision in 1988 when it adopted the recommendation of the Senate Committee on Armed Services for national security reasons to maintain responsibility for nuclear safety of DOE defense activities with the Secretary of Energy and to establish the Defense Nuclear Facilities Safety Board as an independent advisory agency and not as a regulator.