# Report to Congress
# on the
# Role of the Defense Nuclear Facilities Safety Board
# Regarding
# Regulation of DOE's Defense Nuclear Facilities

DEFENSE NUCLEAR FACILITIES
SAFETY BOARD

NOVEMBER 1998

## EXECUTIVE SUMMARY

This report responds to a requirement in the National Defense Authorization Act (Act) for Fiscal Year 1998, to prepare a report and make recommendations to Congress as to what the role of the Defense Nuclear Facilities Safety Board (Board) should be in the event that Congress considers legislation for external regulation of nuclear safety at Department of Energy (DOE) defense nuclear facilities.

The Act required the Board to address 16 specific items, as listed in Appendix 1 of this report. The Board's responses and supporting analyses are contained in Section III of this report. In some instances, information requested was not readily available to the Board and thus the Board solicited information from both the Nuclear Regulatory Commission (NRC) and the Department of Energy (DOE). Those letters and responses are included as Appendices 4 and 5.

Based on available information, the individual experiences of Board Members, and current analyses, the Board concludes 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 Department of Energy 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.

- The most serious problem with any external nuclear regulation of DOE's defense program would be a potential for adverse effects on national security. Delay is a commonly encountered consequence of a regulatory process. The Secretaries of Defense and Energy and the Directors of DOE's national laboratories are on record in stating that significant delay in the conduct of DOE's weapons program "could have serious national security implications" including causing other entities to doubt or question the credibility of our nation's nuclear deterrent.

- While we are respectful of the views of those seeking change in the regulatory regime for DOE contractors, the Board believes such action is hardly justified by the costs likely to be incurred for any benefits that might accrue. This is particularly true for defense nuclear facilities because the costs include the real potential for undue intervention and delays that could effectively block interminably the construction and operation of new facilities or the upgrades of existing ones that are needed either for safety reasons or to support the national security mission. The potential for increased vulnerability of defense nuclear facilities to litigious proceedings and extended delays needs to be recognized as a potentially serious cost.

- There is no basis to assert that cost savings or even cost-neutral results are achievable. On the contrary, it is generally recognized that transition to external regulation of DOE nuclear safety will require a cost increase.

- Considerable complications—legal, technical, and fiscal—would accompany any attempt to change the Atomic Energy Act to require DOE defense nuclear facilities to be subject to external nuclear safety regulation.

- DOE's credibility with the public improves when it performs its responsibilities in a safe, efficient, and creditable manner, not when additional government regulatory agencies are layered on it. DOE has made notable progress with regard to cooperation and openness with the public, particularly in the formation and utilization of local citizen advisory boards.

The record of Board accomplishments in assisting DOE in its safety activities has been documented in the Board's annual reports to Congress. This record attests to the efficiency of the Board's structure as legislated in 1989. The Board has been able to help reorient DOE's safety management program and to set it on a course that:

- Places much less reliance upon expert-based safety management and much more on standards that define good practices;

- 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 regulatory regimes.

The Board's accomplishments during the 9 years since its establishment clearly demonstrate that there are ways of achieving enhanced safety objectives without adding unnecessary regulatory layers and processes.

Based on its review of the factors that would attend to the external regulation of defense nuclear facilities, the Board does not believe that additional external regulation of defense nuclear facilities is in the best interest of our nation.

## TABLE OF CONTENTS


I. INTRODUCTION AND BACKGROUND . . . . . 1

A. Legislative History (1987-1994) . . . . . 1
B. Legislative History (1994-1998) . . . . . 3
C. DOE Initiatives . . . . . 3

II. PIVOTAL CONSIDERATIONS . . . . . 6

A. National Security Considerations . . . . . 6

1. Atomic Energy Act . . . . . 6
2. Impact of Regulation on National Security . . . . . 6
3. Impact of Regulation on Stockpile Stewardship . . . . . 8

B. Cost/Benefit Considerations . . . . . 9

1. Credibility . . . . . 9
2. Cost Effectiveness . . . . . 11
3. Improved Safety . . . . . 13

C. Government and Administrative Policies . . . . . 14

1. Layering of Government Agencies . . . . . 14
2. Additional Potential Obstacles . . . . . 15
3. Reinventing Government Initiative . . . . . 16

III. RESPONSES TO THE CONGRESSIONAL REQUEST FOR INFORMATION . . . . 17

IV. CONCLUSION . . . . . 45

APPENDIX 1: ITEMS REQUESTED BY CONGRESS . . . . . A1-1

APPENDIX 2: BOARD MEMBER JOSEPH J. DINUNNO STATEMENT ON THE REPORT OF THE DOE ADVISORY COMMITTEE ON EXTERNAL REGULATION . . . . . A2-1

APPENDIX 3: LISTING OF EXISTING AND PLANNED DOE NUCLEAR FACILITIES. (Attachment to a letter from John T. Conway, Chairman, DNFSB, to Shirley Ann Jackson, Chairman, NRC, July 22, 1998) . . . . . A3-1

APPENDIX 4: DEFENSE NUCLEAR FACILITIES SAFETY BOARD CORRESPONDENCE WITH THE NUCLEAR REGULATORY COMMISSION . . . . . A4-1

APPENDIX 5: DEFENSE NUCLEAR FACILITIES SAFETY BOARD CORRESPONDENCE WITH THE DEPARTMENT OF ENERGY . . . . . A5-1

APPENDIX 6: COMMENDATIONS REGARDING DNFSB PERFORMANCE . . . . . A6-1

# ROLE OF THE DEFENSE NUCLEAR FACILITIES SAFETY BOARD

## I. INTRODUCTION AND BACKGROUND

This report by the Defense Nuclear Facilities Safety Board (Board) responds to a requirement in the National Defense Authorization Act for Fiscal Year 1998. Citing the expressed intent of former Secretary of Energy Hazel O'Leary to seek external nuclear regulation of the Department of Energy's (DOE) defense nuclear facilities, the Authorization Act directed the Board to prepare a report and make recommendations to Congress as to what the Board's role should be in the event such legislation be considered by Congress. In responding, the Board was requested by Congress to address 16 specific matters (see Appendix 1) involving, among other things, detailed listings of defense nuclear facilities and assessments of the interrelationships among DOE, the Nuclear Regulatory Commission (NRC), and the Board.

### A. Legislative History (1987-1994)

In the late 1980s, it became increasingly clear to Congress that conditions at sites used for production of nuclear materials and weapons were such that additional measures were needed to ensure adequate safety management by DOE. Residuals of production in formerly used facilities represented a potential threat to the safety of the public, workers, and the environment, and facilities required for the national security mission needed to be brought into operational modes consistent with current safety and environmental protection objectives. From 1987 to 1989, both houses of Congress examined a variety of legislative proposals intended to upgrade the safety management of DOE defense nuclear facilities. The Senate Committee on Governmental Affairs under the chairmanship of Senator John Glenn initially proposed to establish an independent, nuclear safety board with recommendation powers.[1] The Senate Committee on Armed Services under the chairmanship of Senator Sam Nunn proposed in the Nuclear Protections and Safety Act of 1987 an independent defense nuclear safety board with advisory powers, but reserving to the Secretary of Energy the ultimate responsibility to accept or decline advice. In its report accompanying the proposed legislation, the Committee noted that DOE had managed its safety responsibilities well and that it was DOE's contractors who actually were responsible for operating the facilities under DOE supervision. The report quoted the National Academy of Sciences, as follows:

> The contractors responsible for the operation [of DOE production reactors] have excellent records of safe operation. There have been no major reactor accidents at these facilities. [They] have records of avoidance of lost workdays as a result of on-the-job injuries at least 10 times better than that of U.S. industry as a whole.[2]

During 1988, the House and Senate worked out a compromise solution resulting in formation of the Defense Nuclear Facilities Safety Board in 1989. The Board was granted

---

[1] S. 1085, *Nuclear Protections and Safety Act of 1987*, April 1987.

[2] S. Rep. No. 232, 100th Cong., 1st Sess. 7-8 (1987) (quoting *Safety Issues at the Defense Production Reactors,* National Academy of Sciences, National Academy Press, Washington, D.C., p. 61 (1987)).

extensive safety oversight including investigative functions over defense nuclear facilities under the control or jurisdiction of DOE. The Atomic Energy Act of 1954, as amended, currently establishes two categories of defense nuclear facilities subject to Board jurisdiction: (1) those facilities under Secretary of Energy control or jurisdiction, operated for national security purposes, that produce or utilize special nuclear materials, and (2) nuclear waste storage facilities under the control or jurisdiction of the Secretary of Energy. The term does not include facilities or activities associated with the Naval Nuclear Propulsion Program, transportation of nuclear explosives or nuclear materials, the U.S. Enrichment Corporation, and any facilities developed pursuant to the Nuclear Waste Policy Act of 1982 and licensed by the NRC, or any facility that does not conduct atomic energy defense activities.[3]

In line with the intent of the Committee on Armed Services, the Board was not made a 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. The new provisions inserted in the Atomic Energy Act represented the most extensive modification of that statute since the Energy Reorganization Act of 1974.[4]

Under its enabling statute, 42 U.S.C. § 2286 *et seq*., the Board is responsible for independent oversight of all programs and activities impacting public health and safety within DOE's defense nuclear facility (i.e., nuclear weapons) complex, which has served to design, manufacture, test, and maintain nuclear weapons.

The Board is authorized to review and analyze facility and system designs, operations, practices, and events, and make recommendations to the Secretary of Energy that the Board believes are necessary to ensure adequate protection of public health and safety, including worker safety. The Secretary may accept or reject the recommendations in whole or in part. The Board must consider the technical and economic feasibility of implementing the recommended measures, and the Secretary must report to the President and Congress if implementation of a recommendation is impracticable because of budgetary considerations. If the Board determines that an imminent or severe threat to public health or safety exists, the Board is required to transmit its recommendations to the President, as well as to the Secretaries of Energy and Defense. (To date, the Board has issued 38 sets of safety recommendations containing 174 specific recommendations; no Board recommendation has been rejected by the Secretary of Energy.)

The Board's enabling statute, 42 U.S.C. § 2286 *et seq.*, also 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 full life cycle of defense nuclear facilities, including design, construction, operation, and decommissioning. 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 public health and safety are adequately protected. The Board also is required to review the design

---

[3] 42 U.S.C. § 2286g.

[4] 42 U.S.C. §§ 2286 - 2286i, enacted in Pub. L. No. 100-456, September 29, 1988.

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.

The Board may 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 ancillary powers of the Board relate to the accomplishment of the Board's primary function, which is to assist DOE in identifying and correcting health and safety problems at defense nuclear facilities. DOE is required to cooperate fully with the Board, as are its defense nuclear contractors to the extent required by contract.

## B. Legislative History (1994-1998)

In February 1994, the Chairman of the House Committee on Resources and three other House members sponsored a bill entitled, *Federal Nuclear Facilities Licensing and Regulation Act*.[5] Among other things this bill would have required that all new DOE nuclear weapons and research facilities be licensed by the NRC. A Presidential Commission would have been created to review options for regulation of existing facilities.

In March of that year, the Subcommittee on Energy and Mineral Resources of the House Committee on Resources held hearings on that bill. The hearings were chaired by Representative Richard Lehman, one of the bill's sponsors. Dr. John Ahearne, a former NRC Chairman, testified he believed that NRC should regulate DOE defense nuclear facilities. Chairman John Conway, in representing the Board, opposed external regulation of nuclear safety at defense nuclear facilities. DOE Deputy Secretary Charles Curtis, on behalf of DOE, asked for time to study the proposal.

No companion bill was introduced in the Senate and no other Committee of the Congress including those that had substantive responsibility for DOE defense activities, e.g., Committees on Armed Services and Energy and Natural Resources, considered the bill sufficiently important for consideration. Similar to thousands of other bills introduced in the Congress that are not acted upon, this bill was never voted on or even reported out of Committee or Subcommittee.

## C. DOE Initiatives

In January 1995, former Secretary of Energy Hazel O'Leary announced the formation of a 25-member Advisory Committee on External Regulation to explore the placement of DOE nuclear activities under additional regulation by other Federal agencies. She appointed Dr. John Ahearne and Mr. Gerard Scannell, former Director of the Occupational Safety and Health Administration (OSHA), to co-chair this committee. A member of the Defense Nuclear Facilities Safety Board, Mr. Joseph DiNunno, was invited to participate. The committee held a series of public hearings during 1995 and delivered its report, *Improving the Regulation of Safety at DOE Nuclear*

[5] H.R. 3920, 103d Cong., 2d Sess. (1994).

*Facilities*,[6] to Secretary O'Leary in December of that year. This report contained dissenting views of committee members; for example, Mr. DiNunno expressed reservations concerning this report. His views are presented in Appendix 2 of the instant report. The report, referred to as the *Ahearne Report* after one of its co-chairmen, recommended that:

> An existing agency—either the Nuclear Regulatory Commission (NRC) or a restructured Defense Nuclear Facilities Safety Board (DNFSB)—regulate facility safety at all DOE nuclear facilities under the Atomic Energy Act (AEA).
>
> The Occupational Safety and Health Administration (OSHA) regulate all protection of workers at DOE nuclear facilities under the Occupational Safety and Health Act (OSH Act), unless regulation of worker risks at a given facility could significantly interfere with maintaining facility safety (for example, if nuclear criticality is possible), in which case the regulator of facility safety should regulate all worker protection at that facility under the Atomic Energy Act.
>
> The Environmental Protection Agency (EPA) continue to regulate environmental protection matters for all DOE nuclear facilities and sites under the environmental statutes.
>
> States with programs authorized by EPA, OSHA, or the regulator of facility safety acquire or continue to have roles in regulation of environmental protection, facility safety, and worker protection comparable to those they now exercise in the private sector.[7]

Another committee, the Department of Energy Working Group on External Regulation, was formed by Secretary O'Leary in January of 1996. This 22-member Working Group was composed entirely of federal employees (mostly DOE) and chaired by Mr. Thomas Grumbly, then Under Secretary of Energy. Its assigned tasks included developing specific recommendations on a regulatory framework for external regulation of DOE nuclear facilities, selecting a preferred facility safety regulator, and examining the costs of alternative approaches. This Working Group completed its report in December 1996.[8] The Working Group initially identified four options, which were then narrowed to two for detailed analysis and cost estimates. One option provided a permanent sharing of nuclear safety oversight jurisdiction between the NRC and the Board; the other provided a 10-year transition period ending in termination of the Board and full jurisdiction for NRC. The cost of the first option was estimated to be in the range of $50-60 million/year (total of Board and NRC costs); the cost of the all-NRC option was estimated to be in the $150-$200 million/year range.

---

[6] *Improving Regulation of Safety at DOE Nuclear Facilities*, Advisory Committee on External Regulation of Department of Energy Nuclear Safety, December 1995.

[7] *Id.* at 4.

[8] *Report of Department of Energy Working Group on External Regulation*, DOE/US-0001, December 1996.

In parallel with, but independently of these DOE efforts, the NRC examined whether it could and should undertake regulation of DOE nuclear facilities not already under its jurisdiction. As part of its Strategic Rebaselining Initiative, the NRC developed a series of "Direction Setting Issues," or DSIs. DSI-2 was designated "Oversight of the Department of Energy."[9] Three public hearings on this paper were conducted by the NRC staff during the latter part of 1996. At the end of March 1997, the Commission voted to support external regulation of DOE nuclear facilities with itself as the regulator of nuclear facility safety.

In 1996, the Board, in response to its enabling statute, provided Congress in its Fifth Annual Report an appraisal of its progress in improving DOE's safety management program, and its perceptions of need for additional authorities to achieve the objectives sought by Congress. The Board advised that no additional action-forcing or regulatory powers were needed.

On March 6, 1996, in response to a request from the Senate Committee on Armed Services, the Board commented on the Ahearne Report. In testimony before the Committee, the Board cited the reasons why it did not believe external regulation would improve safety, enhance DOE credibility with the public, or save the taxpayers money.

NRC and DOE began cooperative efforts in early 1997. On March 31, 1997, Under Secretary Grumbly appeared before the NRC to present the findings of the DOE Working Group and to state that former Secretary O'Leary endorsed the higher-cost option of terminating the Board after a 10-year transition period, with full NRC jurisdiction thereafter. In the ensuing 6 months, NRC and DOE staffs negotiated a memorandum of understanding (MOU) to establish a pilot program of "simulated regulation." On September 19, 1997, NRC's senior staff and senior DOE officials met again to review the proposed pilot program. The MOU was executed on November 21, 1997, and the pilot program started immediately.[10] The overall objective of the MOU was "to provide DOE and NRC with sufficient information to determine the desirability of NRC regulatory oversight of DOE nuclear facilities and to support a decision whether to seek legislation to authorize NRC regulation of DOE nuclear facilities."[11] Three DOE facilities were reviewed by NRC during FY 1998.[12] The Board has been informed that the first pilot to be conducted in FY 1999 will be at the Pacific Northwest National Laboratory on the Hanford Site in Richland, Washington. Additional DOE facilities to be reviewed in FY 1999 have not yet been announced. The pilot program of simulated regulation is planned for a 2-year period ending in FY 1999.

---

[9] A draft of this paper was released by NRC to the public on September 16, 1996.

[10] Memorandum of Understanding Between the U.S. Department of Energy and the U.S. Nuclear Regulatory Commission, Pilot Program on External Regulation of DOE Facilities by the NRC, November 21, 1997.

[11] *Id.* at 5.

[12] The first three pilot facilities are the Lawrence Berkeley National Laboratory in Berkeley, California, the Radiochemical Engineering and Development Center in Oak Ridge, Tennessee, and the Receiving Basin for Offsite Fuel at Savannah River Site in South Carolina.

## II. PIVOTAL CONSIDERATIONS

One cannot reasonably address the proposition that nuclear safety of DOE's production and utilization of nuclear materials, particularly for the nation's defense mission, should be externally regulated, rather than externally monitored and constructively critiqued, without being clear what purposes are to be served.

The Board believes three basic considerations by Congress are pivotal: (1) national security, (2) cost/benefits, and (3) government administrative policies and precedents. With respect to each of these, the Board observes the following.

### A. National Security Considerations

The Board believes that the most serious problem with any external nuclear regulation of DOE's defense program would be the potential for an adverse effect on national security.

#### 1. Atomic Energy Act

At the very outset of the Atomic Energy Act of 1954, and resonating throughout, is the declaration of the "paramount objective" of the Atomic Energy Act: "that the development, use, and control of atomic energy shall be directed so as to make the maximum contribution to the . . . common defense and security . . . ."[13]

DOE's most important contribution to national security under the Atomic Energy Act is its effective conduct of this country's nuclear weapons program, a program that has changed significantly and is still evolving, since the end of the Cold War. Part of DOE's responsibility in furtherance of this essential mission is the function of prescribing and assuring compliance with adequate nuclear health and safety requirements for public and worker protection.

#### 2. Impact of Regulation 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 diminish the declared primacy of national security by relieving DOE of a significant portion of its responsibility for the nuclear weapons program. DOE would shift its focus to treat the regulated portion of health and safety as a stand-alone objective without regard for national security or any damage to national security the regulatory process could cause. Conflicts would have to be umpired.

National security is a precious amalgam of prevailing law and policy. It has extensive purview and both tangible and intangible facets. This was ably and successfully explained last year by government lawyers in the case of the Natural Resources Defense Council versus the

[13] 42 U.S.C. § 2011.

Secretary of Energy, in the Federal District Court for the District of Columbia.[14] 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, arguing 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 . . . ."[15] The court also contended that any delay in the conduct of DOE's weapons program "could have serious national security implications."

As Judge Stanley Sporkin made clear in his opinion, these comments were amply supported by statements by the Secretaries of Defense and Energy and the Directors of DOE's national laboratories engaged in nuclear weapons work. In his opinion, the Judge pointed out: "What is more, Defendants claim that 'even a modest delay in implementing the SSM (Stockpile Stewardship and Management) Program could have a serious impact in the short term.'"[16]

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 intervenors are accommodated. Licensing arenas are often battlegrounds over legal processes rather than substantive nuclear health and safety issues, and often result in extensive delays. Witness the recent failed licensing proceeding for the proposed Louisiana Energy Services centrifuge enrichment facility, which was subject to full adjudicatory hearings during a several-year period.

Note that the Board is not a regulatory body. It cannot control, direct, or govern any function, or interfere with the paramountcy of national security.

The Board assumes that the regulatory process that NRC would seek to have authorized would parallel or generally resemble the procedural course now applicable to commercial NRC licensees, because the DOE-NRC MOU indicates that one of its objectives is to "build public trust."

The Board would not agree to the following suggestion in the Final Report of the Advisory Committee of External Regulation, commonly known as the Ahearne Report, which is referred to in the DOE-NRC MOU: "NRC is only empowered but not required to 'minimize danger to life and property.' The health and safety provision of the Atomic Energy Act to 'minimize danger to life and property' could be strengthened by making it a nondiscretionary requirement for the regulation of DOE nuclear facilities." Not only would such a standard be extremely costly to

---

[14] *NRDC v. Peña*, 972 F. Supp. 9 (D.D.C. 1997).

[15] *Id*. at 20.

[16] *Id*.

achieve, it would further expand the opportunities for legal and judicial contributions to the regulatory system. This would unquestionably suit the agendas of opponents of nuclear weapons (or of all things nuclear), who are among some of the strongest advocates of nuclear defense regulation. The legal intervention process for major nuclear facilities that is normally a part of formal external regulation could readily be exploited by the more hard-line opponents of U.S. national security policy by crippling the nuclear weapons program.

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.

Formal regulation of our nation's defense nuclear facilities, similar to what is imposed on the civilian nuclear utilities would unquestionably aid those who are attempting to close down the Los Alamos National Laboratory and other national laboratories by demonstrations and lawsuits. As reported in the October 2, 1998, *Albuquerque Journal*:

> Peace Action, billing itself as the nation's largest grassroots disarmament group, is inviting hundreds of activists from 28 states next summer for a mass march on the lab.

The article, which points out that certain groups are seeking new ways to court public opinion, including marches and lawsuits, quotes the Peace Action organizer from the group's headquarters in Washington, D.C., as saying: "I think from groups like Peace Action, you're going to see a lot of stepped up activity in the Santa Fe-Los Alamos area."

Regulating agencies in general, and NRC in particular, 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 enterprise of the Government. The notion that in contentious adversarial proceedings the NRC could decide whether DOE may have a license or certificate to build or operate a nuclear weapons facility gives the NRC and intervenors a ready tool to overrule the President and Congress on an issue of national security.

### 3. Impact of Regulation on Stockpile Stewardship

DOE's nuclear weapons program is critical to national security. To appreciate the present posture of DOE's most important national security mission, it helps to read DOE's Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management. Therein are described the treaties influencing our nation's security interests, and the substance of the Stockpile Stewardship and Management Program developed by DOE to continue to meet its obligation to ensure the safety and reliability of the nuclear weapons stockpile under the following programmatic restraints:

- No new-design nuclear weapons will be produced.

- The emphasis will be on reducing the size of the stockpile by dismantling existing nuclear weapons.

- The moratorium on nuclear testing, begun in 1992, will continue.

- Existing weapons are expected to remain in the stockpile well into the next century.

These limitations are to be compensated for in the Stockpile Stewardship and Management Program by what DOE calls "a single, highly integrated technical program for maintaining the continued safety and reliability of the nuclear weapons stockpile." Details of that complex program are presented in the DOE Environmental Impact Statement: They show an intricate interplay of stockpile stewardship functions, including research and development; testing of components and products; assessments and certification of safety and reliability; and the stockpile management activities of production, surveillance, refurbishment, and dismantlement of the nuclear weapons stockpile, along with fabricating replacements for pits, high explosives, and nonnuclear components. The necessities of stockpile stewardship include retention of the technical competencies of the three weapons laboratories, as well as maintenance of the capability to conduct nuclear tests under a "supreme national interest" condition "because there can be no absolute guarantee of complete success in the development of experimental and computational capabilities." New facilities will be needed, e.g., the National Ignition Facility, the Contained Firing Facility, and the Atlas Facility, and additional experimental facilities may turn out to be needed in the course of the program's evolvement.

As the DOE Environmental Impact Statement makes clear, the enduring stockpile mission it describes is a difficult one. The Statement, however, makes no mention of the possibility of an external regulatory presence. If NRC were assigned a role in the Stockpile Stewardship and Management Program, the Board believes that the regulatory process would seriously hamper DOE's programmatic day-by-day tasks and diminish assurance of adequacy of the nuclear weapons stockpile.

## B. Cost/Benefit Considerations

Cost/Benefit considerations can be grouped thematically along the following lines:

- Credibility
- Cost Effectiveness
- Safety.

### 1. Credibility

The credibility DOE now needs most is that which comes from doing its work safely and cost effectively within budgets Congress has thus far supported. DOE's credibility will improve by performing its responsibilities in a safe, efficient, and creditable manner, rather than by having more external regulation imposed upon it. DOE has made notable progress with cooperation and

openness, particularly in the formation and utilization of local citizen advisory boards. Trust and credibility are developed at the local level, not by layering government agencies.

The last 4 Secretaries of Energy have been at the fore in establishing this kind of attitude and fostering a safety culture to sustain it. The Board has also played a key role in DOE's safety upgrade effort. Significant milestones in the Board's and DOE's efforts to improve the assurance of safety at defense nuclear facilities include Recommendations 90-2, 93-3, 95-2, 98-1, and the associated DOE implementation plans for these recommendations.[17]

The first of these recommendations 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 NRC requirements. The second of these recommendations addressed the technical competence of DOE personnel in critical safety positions. DOE's implementation plan in this case created the first ever DOE-wide technical qualification program. The third 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. The full implementation of this recommendation, now well along at a number of facilities, is showing substantial gains not only in safety, but also in efficiency. The last of these recommendations (98-1) 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.

The principal thrust of this upgrade is identification of applicable safety requirements with clearly defined safety measures, to be mutually agreed upon by DOE and its contractors in authorization agreements as contractual conditions for performing hazardous work. In effect, such defined conditions are to be those conditions mutually agreed as necessary to ensure the protection of the public, the workers, and the environment. As of November 1998, 40 authorization agreements had been completed for 77 defense nuclear facilities and activities. DOE is proceeding to have all of the most hazardous defense nuclear facilities operating in accordance with such agreements within the next 2 years. In the meantime, operations are continuing under permits issued by the EPA and states for environmental compliance and DOE-approved, Board-scrutinized bases for interim operations in the area of nuclear safety.

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.

[17] Recommendation 98-1 was issued in September 1998, and is still under review by the Secretary of Energy.

### 2. Cost Effectiveness

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.

The Board has been asked by Congress to provide estimates of costs for transfer of defense nuclear facilities to NRC and presumably OSHA. The Board is not able to quantify costs to be incurred by other agencies with any greater reliability than has already been done by them.

Neither DOE's External Regulation Advisory Committee nor DOE's Internal Study Group has provided any convincing estimates of what a move to use NRC for nuclear safety regulation, and OSHA for regulation of occupational safety, would cost. An NRC estimate reported in the External Advisory Committee Report, at page 54, stated that 1100-1600 additional staff and $150-200 million per year would be required to regulate DOE's nuclear facilities. DOE's estimates as reported by DOE's Working Group on External Regulation, at pages 3-8 to 3-10, were in the same range, but stated that costs would build up to that annual level during a 10-year transition period.

It should be noted also that the above are estimates only of the cost to the external regulator, and do not include the costs of DOE response to new regulatory requirements. For these costs to DOE, we turn to estimates that have been made by that body.

In December 1996, former Secretary of Energy Hazel O'Leary announced her intention to seek legislation that would authorize the transfer of nuclear safety oversight to the NRC. Based on the Report of the Department of Energy Working Group on External Regulation, Secretary O'Leary chose the following option as the preferred method for external regulation of all DOE nuclear facilities.

> **Option #2:** 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.[18]

[18] Action Memorandum to Hazel O'Leary from Thomas P. Grumbly, *Recommendation on Implementing External Regulation*, approved by Secretary O'Leary, p. 2, December 19, 1996.

The DOE staff attempted to study the cost impacts associated with the above external regulation proposal.[19] The costs to regulate DOE under NRC were estimated using two cost scenarios:

(1) the current NRC regulatory structure, and

(2) using "enlightened compliance" assumptions.

The upper-case cost estimate is based on the current NRC regulatory scheme; that is, each major nuclear facility or operation would receive an individual license. The upper-case cost estimate does not include any savings resulting from productivity or streamlining improvements.

The lower or best-case cost estimate is based on enlightened compliance assumptions. For DOE this means that multiple facilities and operations at a site could be enveloped within a single broad-scope or materials license. The best-case cost estimate includes the assumption of DOE/contractor productivity improvements of 40 percent during a 10-year period that have been achieved by the commercial nuclear industry. Further, the best-case cost estimate does not include any penalties for options with dual regulation.

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**

| **Cost to Implement Option 2** | **Best Case** (in billions of dollars) | **Upper Case** |
|---|---|---|
| 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 | 3.9 | 7.4 |

The DOE staff places a further caveat on its cost estimates with the following caution:

> Other data indicate a potential for significantly higher costs due to external regulation. Data gathered from experience both at the Gaseous Diffusion Plants (GDP) and Waste Isolation Pilot Plant (WIPP) indicate the potential for

[19] *Report of Department of Energy Working Group on External Regulation,* Appendix K, Subteam Report on *Costing External Regulatory Options,* Appendix K, December 1996.

> higher than anticipated costs. Data from the GDP experience indicate that as much as 16% of the annual operating cost can be attributed to the cost of regulation and our study of WIPP indicates that regulatory creep can increase costs significantly. Experience at WIPP has shown that regulatory creep can account for as much as 27% of the life-cycle cost.[20]

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.

What can be said with confidence is that it is simply not realistic to assume that transfers in regulatory functions can be accomplished as a zero fund process, i.e., DOE savings are equal to additional regulatory cost. Any external regulatory system imposed fully on DOE that is comparable in legal processes and proceedings to that current for the commercial industry will cost the government much in the way of added dollars. If the experience gained with the gaseous diffusion plants is any indication, these costs for the most hazardous of defense nuclear facilities are likely to be in the tens of millions of dollars per plant per year.

In contrast to the estimates by NRC and DOE (OSHA costs not included), during the past 9 years (FY 1990-1998) the Board has expended a total of about $127 million or on the average less than $15 million per year. For this amount the Board has provided oversight of facilities that make up the defense nuclear component of DOE's nuclear facilities. For these costs the Board through its action-forcing—not regulatory—powers has helped bring DOE well along in the upgrading of its safety management program.

The Senate Committee on Armed Services stated in its report on the National Defense Authorization Act of 1999, "The committee notes that DNFSB continues to provide exceptional and effective external oversight with a budget that equals about one-tenth of one percent of total Atomic Energy Defense funding."

### 3. Improved Safety

The historical record of DOE management of its contractors with respect to the nuclear safety aspects of its facilities and occupational environment of workers has not been above criticism. However, judged objectively by statistical evidence of safety performance, DOE's record compares favorably with that of comparable industries.

Without doubt, DOE has effected improvements in safety management of its contractors as a result of external pressures brought to bear by the Board. Any external regulator could reasonably have been expected to have an equivalent effect. However, to make a case that such improvements will result only if nuclear safety at DOE is externally regulated is not supportable and diminishes the stature and accomplishments of DOE.

---

[20] *Id*. at K-15.

As reported in a study done in 1996 by the National Academy of Public Administration on occupational health at DOE,[21] DOE's statistical safety and health record has always compared favorably with that of private industry. Are continued efforts aimed at improvement justified? The answer is Yes, of course. Continuous efforts to improve operations in all facets are a well-established "best practice." The development and maintenance of a safe work environment are never-ending tasks that must keep current with the changing missions of DOE. Does such a requirement justify change in the lead agency responsible for ensuring a safe work place? Evidence does not support such a change.

As of January 1997, 18 DOE operating contractors, representing 60 percent of contractor employees, were reported to be active participants in the Voluntary Protection Plan (VPP), with 2 defense nuclear sites recognized by OSHA as having achieved Star Status for safety management excellence, marking them as being on a par with the best in industry. Enhanced work planning processes and integrated management concepts to which DOE is now committed are bringing further upgrades into place.

While being in the forefront of those that have been constructive critics of DOE's safety management of its contractors, the Board has been favorably impressed by the responsiveness of DOE to the Board's recommendations for improvements. While continuing to find areas for improvement, this progress and responsiveness are clear indications that an effective safety management program can be effected without resort to the complications that the proposed external regulatory concept would entail. The Board has found no fatal flaws in DOE's safety management program. All 4 Secretaries, since the creation of the Board, have been willing to respond affirmatively to the Board's recommendations for improvement.

## C. Government and Administrative Policies

### 1. Layering of Government Agencies

The idea that credible performance by one government agency can be assured only by layering another on top of it is, on the surface, poor administrative policy. It becomes even more so if one government agency regulates another through the authority to levy penalties. It is bureaucracy at its worst and as a matter of public policy raises the question of where such layering ends. If DOE, as a cabinet-level office, is not performing credibly the job it is required by law to perform, should the public be asked to fund a second entity of government to improve its credibility? Credibility should come from a job well done, not from a system of layering of government agencies. Congress and the Administration can do much more to increase public confidence in the job being performed by appointing administrators who understand DOE's missions, by selecting and training highly-skilled and technically-competent staff, and by holding accountable those entrusted with safety as well as mission.

There are those who rightfully say that the Federal Government is already doing layering in the environmental protection field where EPA has such authority. Further, in the same field, states are levying fines on the federal agencies for failures to meet negotiated environmental compliance

[21] NAPA Report, *Ensuring Worker Safety and Health Across the DOE Complex,* pp. 108-109, January 1997.

agreements. Such penalties in effect divert funds from the very actions required in the public interest.

One federal agency forcing a second federal agency to perform its statutorily required duty through enforcement action with penalties is not good administrative policy. Administrative fines between federal agencies serve no purpose (i.e., no net gain to the treasury) other than to call attention to deficient performance. Interagency fines do, however, pull money from where it is most needed—the budget of the deficient activity.

In the commercial nuclear world, NRC regulates private entities that perform work. In most of the civilian weapons complex, DOE regulates contractors that operate DOE-owned facilities. Unlike the commercial world, external regulation of DOE nuclear activities would result in a regulator regulating the regulator regulating the contractors performing the work. This relationship might improve safety performance, but at great cost to the taxpayer. The Board has shown that safety performance can be improved at much lower cost than adding a layer of full regulation. In response to the Board's prodding, and in some cases as a result of the Board working with DOE, qualified administrators have been put in place, safety programs have been markedly improved, and DOE is now in the process of upgrading its internal assessment programs to ensure effective regulation of its own activities.

### 2. Additional Potential Obstacles

Regulation of toxic and hazardous materials at DOE is extensive and highly divided. DOE's contractors must deal with numerous laws and regulatory agencies associated with protection of the public, workers, and the environment.

DOE's contractors must conform to requirements of the EPA and the states in connection with discharge of toxic and hazardous wastes to the environment, including radioactive materials when mixed with hazardous waste. Although DOE sets standards for its use of radioactive material, the Department of Transportation (DOT) regulates their transport, and DOT and the NRC are involved in approval of containers in which the radioactive material is shipped. The NRC will regulate disposal of high-level nuclear waste in an ultimate repository, subject to EPA-established standards and subject to ongoing impediment by states. EPA and the State of New Mexico will regulate disposal of low-level and transuranic waste in the Waste Isolation Pilot Plant. Meanwhile, all states through which traffic to disposal sites will flow are preparing to oversee and possibly limit that movement. Protection against radioactivity and for all hazardous activities in the workplace is administered by DOE using OSHA and other requirements. Individually, the objectives of each of these regulatory restraints cannot be faulted. Altogether, it generally appears that the world is full of people who can say "No," but nearly empty of those who can say "Yes."

There are those who advocate inserting into this already complex maze external regulation of DOE's program for ensuring the protection of health and safety from radiation hazards in its defense nuclear activities. Though this has been suggested as a means of replacing DOE's control of safety by NRC's, and thus benefitting from an assumed greater public acceptance of the control of safety, that hand-off would not and could not occur. DOE's responsibility for protection of

nuclear safety would be undiminished, as has been so in relation to regulatory control by EPA and OSHA where that has been exercised. It would only be more complicated and more costly.

There would be a profound effect on the status quo as the transition was made to a new regulatory regime. DOE's entire safety management structure would be altered. Furthermore, the interfaces between DOE and the other regulators would require redefinition. The interface problem is not trivial. Witness the controversies on these interfaces in other arenas where conflicts have existed. Do the claims of expected benefits justify the upset of the existing effective, functioning system? The Board believes not.

### 3. Reinventing Government Initiative

One of the most innovative and constructive attempts in recent years to improve the administrative function of government is captured in what is called the "National Partnership for Reinventing Government Initiative." The stated goal is a government that "works better, costs less, and gets results that Americans care about."

The initiative calls on government agencies to "give the public the protection and services it expects at a reasonable cost, while eliminating ineffective and unnecessarily burdensome regulation." Further, it advocates that agencies "employ regulations more selectively and sometimes use other approaches to accomplish their goals . . . ."[22] That concept was formalized by the President in Executive Order 12,866, *Regulatory Planning and Review*, September 30, 1993. That Executive Order requires that agencies evaluating changes to regulatory systems identify the problem that the change is meant to address, examine whether modifying existing regulatory arrangements is a more effective path than developing new regulatory schemes, assess available alternatives to direct regulation, and perform cost/benefit assessments of the various options. DOE's advocacy of increased regulation falls far short of this level of rigor.

In fact, the concept of regulation of DOE by NRC with its resulting complexity, added cost, reduction of national security, and questionable benefit would be completely counter to the intention of the Reinventing Government Initiative.

---

[22] *Improving Regulatory Systems*, Accompanying Report of the National Performance Review, Washington, D.C., USGPO, September 1993.

## III. RESPONSES TO THE CONGRESSIONAL REQUEST FOR INFORMATION

Congress, in 1997, passed the National Defense Authorization Act for FY 1998. The Act, which was signed into law by the President on November 18, 1997, contains Section 3202 which requested that the Board prepare a report and make recommendations on what its role should be in the event that Congress considers legislation for external regulation of defense nuclear facilities. The report was to include responses, and supporting analyses, for 16 items of interest to Congress as germane to the discussion of the need for external regulation.

The following are responses to the issues and questions raised by Congress.

### *1. An Assessment of the Value of and the Need for the Board to Continue to Perform the Functions Specified under Chapter 21 of the Atomic Energy Act of 1954 (42 U.S.C. § 2286 et seq.)*

Experience after almost 9 years of oversight operations has confirmed the concerns and wisdom of the Senate Committee on Armed Services in establishing an independent oversight board with advisory authority. The flexibility and the authority provided in the enabling legislation allowed the Board to aggressively focus its expertise on Congressional concerns for safety and viability of the nuclear weapons complex while preserving to the Secretary of Energy the power to address his responsibilities to meet national security requirements. As authorized by Congress, the Board's charter was carefully defined, allowing the Board to blunt early efforts by third-party litigants to force the Board to an agenda other than addressing the high risk conditions already identified by Congress.

Through the architecture of the Board's uniquely prescriptive enabling legislation, which closely follows the Committee on Armed Services concerns and the unique contours of the challenges presented by our country's nuclear weapons complex, Congress wisely avoided adversarial and cumbersome processes that sometimes attend traditional external regulatory structures and would certainly dilute the Board's ability to provide its assistance and advice to the Secretary of Energy. Consequently, the Board has been able to assemble and fully utilize the expertise of its staff not only to identify the risks to the health and safety of the public and workers, but also to assist DOE in mobilizing the resources and expertise required to remove the risks.

The independent oversight advisory structure provided Congress, the Secretary, contractors, representatives of labor, citizen advisory groups, and the Board with the flexibility DOE needed to successfully meet the new challenges to DOE's operations of the last 9 years. Among these are sharply changing mission, dwindling resources, aging facilities, and the rapid dissipation of expertise needed to competently and safely dismantle facilities that are no longer needed.

The Board has also helped to ensure safety in the course of DOE's stewardship of the enduring stockpile, nourish the leadership needed to modernize the nuclear weapons complex (including the National Laboratories), and maintain the nuclear weapons needed to meet national defense requirements. Because of its unique charter, the Board has provided leadership and assistance to facilitate effective communication among labor interests, citizen advisory groups,

federal and state agencies, concerned individuals, and those private-sector interests seeking constructive participation in resolving health and safety concerns.

The Secretary of Energy has been and continues to be confronted with challenges far beyond those difficulties recognized by Congress when it created the Board. Nevertheless, the inherent strengths of external oversight that provide assistance rather than adjudgment, of advice rather than command and control, and of facilitation rather than adversarial dispute resolution allow the Board to craft technically-sound recommendations.[23] From our vantage point, the continuance of the Board with independent oversight and advisory powers is the superior governance mechanism to promote and protect the several public interests that converge on DOE's defense nuclear facilities.

To the extent the Board can be criticized for any shortcomings, we think it appropriate to recall the Senate Committee on Armed Services admonition:

> 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.[24]

This the Board has done, and these actions and responsive improvements have been documented in its annual reports.

---

[23] The Senate Committee on Armed Services noted that oversight provided the necessary assistance and flexibility for DOE to upgrade safety in the diverse weapons complex.

> The Board should be instrumental in helping DOE to develop appropriate and operationally meaningfully [sic] safety standards, and ensuring their translation into clear and consistent requirements for DOE management and contractors.
>
> Many recommendations may pose complex requirements for planning, analyzing, designing, contracting, and implementing on the part of the Department. It may not be obvious to the Board at the time it issues a recommendation how much money or time might be needed for implementation. There is a real need for latitude on the part of the Secretary, on the one hand, and the Board, Congress, and the contractors who would perform the work on the other, at all stages of the implementation process.

S. Rep. No. 232, 100th Cong., 1st Sess. 16 (1987).

[24] *Id.* at 21.

### *2. An Assessment of the Relationship between the Functions of the Board and a Proposal by the Department of Energy to Place Department of Energy Defense Nuclear Facilities under the Jurisdiction of External Regulatory Agencies*

We interpret this reporting requirement as asking for a comparison of the safety oversight functions as performed by the Board and the functions of a proposed external regulator. To assess the relationship between the Board's functions and the functions of an external regulatory agency, it is important to first define the components of "independent oversight" and the elements of "regulation" proposed by former Secretary of Energy Hazel O'Leary.

The Board, by law, currently exercises independent oversight of safety standards, activities, and practices at defense nuclear facilities, from design, construction, and operation through decommissioning, to ensure that worker and public health and safety are adequately protected. Such oversight includes site visits; technical reviews; evaluations of the adequacy of safety standards including DOE Orders, rules, and other safety requirements; formal investigations; hearings; briefings; and data gathering. These activities are designed to determine whether the Board should issue recommendations, and in what form, to the Secretary of Energy to ensure that public health and safety are adequately protected.

For example, when DOE initiated its effort to streamline its directives system and move from safety Orders to rules under the Administrative Procedure Act, the Board committed substantial resources to provide timely review of the technical content of the revised DOE Orders, regulations, and other safety directives. The Board's contribution in maintaining the technical content of these new directives and rules was highly praised by the DOE Under Secretary, who characterized the Board's efforts as "seamless oversight." The courts likewise have recognized the Board's unique oversight as having action-forcing authority.

As stated in the Board's Policy Statement No. 2, the Board also flexibly exercises its oversight function by working cooperatively, and informally, with DOE to correct safety problems identified by the Board and its staff that are not serious enough to warrant issuing a formal Board recommendation. The Board's Annual Reports to Congress detail safety improvements made by DOE both in response to the Board's formal recommendations and achieved cooperatively by informal means.

Regulation of the DOE complex would depend upon the exact legislation passed by Congress. As noted previously, however, DOE and NRC have now taken the position that the exact scope and format for the regulatory program must await the results of the pilot program. Certain elements of regulatory programs are nevertheless considered standard. For example, a regulator normally would promulgate regulations after notice and comment. DOE could, however, have authority to petition the regulator for promulgation of needed safety rules, and could comment on any rules proposed. Those rules would have the force and effect of law, allowing the regulator to mandate compliance with the regulations and use civil or criminal enforcement tools to rectify any noncompliance.

Table 2 presents a side-by-side comparison of the Board's statutory oversight functions with typical regulatory functions.

**Table 2 - Comparison of the Board's Oversight Functions with Regulatory Functions**

| Function | Board's Independent Oversight | Regulation |
|---|---|---|
| Inspection of Facilities and Access to Property | Yes. [42 U.S.C. §§ 2286b(h), 2286c(a)] | Yes |
| Investigative Authority | Yes. [42 U.S.C. § 2286a(2)] | Yes |
| Access to Documents and Subpoena Authority | Yes. [42 U.S.C. §§ 2286a(3), 2286b(d), 2286c, 2286a(a)(3)-(4); 42 U.S.C. § 2286b(a)(2)] | Yes |
| Hearings | Yes. [42 U.S.C. § 2286b(a)] | Yes |
| Set Safety Standards | No. The Board reviews and evaluates the content and implementation of DOE standards, and may recommend adoption of standards, including DOE Orders, regulations, or other requirements, "to ensure that public health and safety are adequately protected." [42 U.S.C. § 2286a(a)(1)] | Yes, by formal rulemaking processes or otherwise. |
| Establish License or Permit Conditions | No. The Board may make recommendations regarding the safety content of contracts and existing licenses and permits. Pursuant to Rec. 95-2, DOE now requires authorization agreements akin to licenses for its hazardous activities. | Yes |
| Enforce Mandatory Safety Requirements | No. However, the Board's functions are considered "action forcing" on DOE by the courts. To date, no Recommendation has been rejected by DOE. | Yes, by a number of civil and/or criminal enforcement mechanisms in furtherance of its regulatory authority. |
| Public Involvement | Yes, through legislative style hearings for information purposes, briefings, Freedom of Information Act (FOIA), a public reading room, Internet access, and Sunshine Act processes. | Yes. Hearings are of the adjudicatory form. |

During DOE's assessment of the need for additional regulation during the past 3 years, there has been extensive discussion of the extent to which DOE is self-regulating. "Self-regulating" means the extent to which the DOE's programs and actions are unconstrained by outside agencies. The premise that DOE today is self-regulating is inaccurate. In fact, DOE is subject today to very substantial external regulation and oversight. This results not only from oversight of nuclear safety by the Board, but also regulation by DOT, EPA, and the states.

The Board has issued 38 sets of safety recommendations containing 174 specific recommendations. Given that DOE has not rejected any of the 174 specific recommendations to date and that DOE has completed many of these recommendations and is making progress in implementing others, it is clear that DOE can achieve its nuclear safety goals under the current regime for defense nuclear facilities.

### *3. An Assessment of the Functions of the Board and Whether There Is a Need to Modify or Amend Such Functions*

In the Board's original enabling legislation, Congress required the Board to perform a comprehensive assessment of its functions and provide "recommendations for continuation, termination, or modification of the Board's functions and programs" as a part of the Board's Fifth Annual Report to Congress. That statutory reporting requirement is nearly identical to the present one. In its Fifth Annual Report, the Board presented its comprehensive assessment of all Board functions and determined there was a need for only minor modifications in order for the Board to be more effective. Those modifications have now been completed and include the assignment of site representatives to key defense nuclear facilities to serve as the Board's technical eyes and ears, and the expansion of efforts to increase public involvement in the Board's work.

### *4. An Assessment of the Relative Advantages and Disadvantages to the Department and the Public of Continuing the Functions of the Board with Respect to Department of Energy Defense Nuclear Facilities and Replacing the Activities of the Board with External Regulation of Such Facilities*

The major advantages of continuing Board oversight, as opposed to regulation of defense nuclear facilities, were discussed in detail in the Board's Fifth Annual Report to Congress, and are summarized in the following points:

- Independent oversight may be conducted without unduly interfering with critical national defense and security functions at defense nuclear facilities.

- The Board's oversight is far less costly than regulation and yet can achieve comparable safety benefits.

- The oversight model as structured by the Board's enabling statute has proven to provide the kind of flexibility needed to address substantive issues presented by the disparate facilities and circumstances.

- Board recommendations may be accepted or rejected. The plans for implementing accepted recommendations are developed by DOE, which is ultimately responsible for safety at defense nuclear facilities.

- Recommendations are developed by a neutral party, interested in safety and in the success of the overseen activity.

- The Board's recommendations, including the Secretary of Energy's implementation plans that respond to the recommendations, are made available to the public, except where national security considerations prevail. The recommendation process provides affirmative steps to solicit comments from the interested public. It is also designed to involve the public in constructive participation in dealing with conditions or practices that may endanger the public and worker health and safety.

- The Board structure is well-established and already possesses the specialized expertise necessary to ensure that DOE provides adequate protection of public health and safety within the unique nuclear defense complex.

- Shifting to a regulatory structure at this point would disrupt progress being made under Board recommendations.

The major advantages attributed to regulation, defined to include licensing or permitting of facilities, are the following:

- Regulations and licenses contain detailed safety requirements that have the force and effect of law, which the regulated defense nuclear facilities must follow. A regulator can mandate that actions be taken within the complex and enforce its will through administrative, and ultimately, judicial actions.

- Regulations are circulated for comment by experts and the general public prior to finalization.

- Requirements are developed by a neutral party, interested only in safety and have no statutory responsibility in the success or failure of the regulated activity.

- The regulatory process results in promulgation of requirements that are relatively difficult to amend, but as a consequence, provide stability. The regulated entity knows what is expected for compliance, and can engage in short-term and long-term planning based on a settled set of expectations regarding requirements.

Regulation poses some serious potential disadvantages when applied to facilities vital to national security, such as the core defense nuclear facilities engaged in weapons activities (listed in response to item 8 below). The use of injunctions and other legal processes when regulations are violated could result in DOE not being able to fulfill nuclear stockpile and other national security

commitments. (See statements of Secretaries Peña and Cohen filed in *NRDC v. Peña et al.*,[25] regarding the impact of an injunction under the National Environmental Policy Act (NEPA) on national security programs.) Regulatory programs, such as the Resource Conservation and Recovery Act (RCRA), with the potential for impacting the national security prerogatives of the President contain provisions for Presidential override of regulatory actions that impede national security programs. Such override is not reviewable in court. These national security issues would be compounded if citizen suits were authorized by statute for enforcement of regulations or license conditions at defense nuclear facilities. It should be noted that NRC regulations and licenses for commercial nuclear facilities do not now authorize such enforcement actions initiated by citizens, although the Ahearne Committee's report recommended that the law be changed to permit such actions for DOE facilities.

Other disadvantages include the potential enormous cost of regulatory processes. NRC expends nearly $3 million per reactor per year to conduct its regulatory and licensing activities. By contrast, the Board's oversight appropriation for FY 1999 is $16.5 million, and it covers all defense nuclear facility oversight. Other disadvantages are the time-consuming and cumbersome legal framework required for such processes, the enormous cost of bringing facilities into compliance with the rules, and the inherent inflexibility of regulatory requirements. As stated in response to item 2, many functions and activities at DOE's defense nuclear facilities are already regulated. Adding another layer of regulation to existing ones would be duplicative, costly, and could actually result in less safety rather than more. For the small subset of operations within production, utilization, and weapons-related facilities that are currently subject to oversight alone, no adequate justification for conversion to regulation has been given.

### *5. A List of All Existing or Planned Department of Energy Defense Nuclear Facilities That Are Similar to Facilities under the Regulatory Jurisdiction of the Nuclear Regulatory Commission*

A list of existing and planned DOE nuclear facilities is contained in Appendix 3 of this report. Also appended is a set of correspondence between the Board and NRC that addresses the question of which defense nuclear facilities are similar to facilities under the regulatory jurisdiction of NRC (see Appendix 4). These letters reflect the difficulty shared by the Board and NRC in obtaining accurate information on any direct and indirect costs for selected categories of NRC facilities deemed similar to the defense nuclear facilities. To develop an estimate of regulatory cost, NRC believes that it would be necessary to review information on each defense nuclear facility on a case-by-case basis. As stated in its letter to NRC on September 9, 1998, the Board is concerned that the time-consuming and expensive effort to collect such data for use in extrapolating possible regulatory costs would be of questionable value for this reporting requirement.

[25] 972 F. Supp. 9 (D.D.C. 1997).

### *6. A List of All Department of Energy Defense Nuclear Facilities That Are in Compliance With All Applicable Department of Energy Orders, Regulations, and Requirements Relating to the Design, Construction, Operation, and Decommissioning of Defense Nuclear Facilities*

Neither the Board nor NRC can verify, at any given point in time, that a specified defense nuclear facility or commercial nuclear facility is in full compliance with "all" applicable requirements. Such requirements, in the case of defense nuclear facilities, include thousands of contracting, financial management, personnel, and other administrative requirements that have nothing, or little, to do with the safe operation of the facilities. Moreover, individual safety-related requirements may number in the hundreds or even thousands for a particular facility. Even if limited to the 2 sets of DOE regulations on quality assurance and radiation protection, and the "DOE Orders of Interest to the Board" containing environment, safety, and health requirements, few, if any, facility managers could assert they are in full compliance, at all times, with safety requirements.

However, temporary noncompliance with some portions of applicable rules or Orders does not necessarily support the assertion that such facilities are unsafe. The Board is able to identify facilities that are in such substantial compliance with fundamental safety requirements that they pose no undue risk to public health and safety at this time. This has most often been seen when the Board reviewed DOE restarts of facilities after DOE conducted an operational readiness review (ORR), or when the Board made a determination, pursuant to Section 3133 of Public Law No. 102-190, that a plutonium operations building at the Rocky Flats Environmental Technology Site (RFETS) could resume operations because public health and safety were adequately protected. Both kinds of actions require DOE and its contractor to determine the status of compliance with applicable safety requirements, issue findings, and take corrective actions where necessary before resuming operation. The following is a list of a few of the many facilities that have resumed operation after it had been independently determined by DOE and the Board that public health and safety were adequately protected:

- Idaho National Engineering and Environmental Laboratory (INEEL) Idaho Chemical Processing Plant, de-nitrator process (DNFSB 1995 Annual Report, p. 17)

- INEEL Idaho Chemical Processing Plant, New Waste Calciner Facility (DNFSB 1997 Annual Report, pp. 2-19)

- Lawrence Livermore National Laboratory (LLNL) Building 332, plutonium facility (DNFSB 1996 Annual Report, p. 47)

- Mound Laboratory reservoir unloading (DNFSB 1996 Annual Report, p. 47)

- Oak Ridge Y-12 Plant, shipping and receiving, weapons secondary surveillance, and weapons secondary dismantlement areas (DNFSB 1996 Annual Report, p. 46)

- Pantex Plant, weapons surveillance and disassembly activities (DNFSB 1997 Annual Report, pp. 2-19)

- Savannah River Site (SRS) K-Reactor (DNFSB 1992 Annual Report, p. 16)
- SRS HB-Line (DNFSB 1994 Annual Report, p. 23)
- SRS Replacement Tritium Facility (DNFSB 1995 Annual Report, p. 15)
- SRS F-Canyon, dissolving Mark-31 plutonium targets (1997 Annual Report, pp. 2-19).

In addition, the following plutonium operations have been successfully restarted in accordance with the Board's responsibility under Section 3133 of Public Law 102-190:

- RFETS Building 559 (DNFSB 1993 Annual Report, pp. 11-12)
- RFETS Building 707 (DNFSB 1993 and 1995 Annual Reports, pp. 33-34 and 16)
- RFETS Building 371 (DNFSB 1997 Annual Report, pp. 2-33)
- RFETS Building 771 (DNFSB 1997 Annual Report, pp. 2-3).

The Board's Annual Reports to Congress chronicle 8 years of Board oversight activity that has improved the content and implementation of DOE standards, including Orders, rules, and other requirements at defense nuclear facilities. That line of activity began with the issuance of the Board's Recommendation 90-2, and continues today in DOE's implementation of Recommendations 94-5 and 95-2, which call for compliance with applicable requirements by use of integrated safety management in the DOE defense nuclear complex. For integrated safety management of all radiological work, DOE and its contractors must: (1) define the scope of work, (2) identify and assess the hazards, (3) develop controls for safely executing the work, (4) perform the work safely, and (5) evaluate the work and develop feedback to improve the process.

Under the implementation plan for Board Recommendation 95-2, DOE is committed to having contractually specified requirements for both site-wide and facility-specific activities performed by contractors. These requirements are the drivers for developing facility and activity-specific safety control measures that are tailored to the hazards of the work and mutually agreed upon by DOE and contractors as conditions for performing that hazardous work. For high-hazard category facilities or activities, formal authorization agreements setting forth these agreed conditions are to be established. These agreements are the contractual equivalent of licenses or permits issued by external regulatory bodies. The Board's attention in this respect since 1996 has been focused on 10 priority defense nuclear facilities, which constitute the pilot subset for this integrated safety management program. The Board and DOE have adopted a goal to have all defense nuclear facilities operating to an upgraded safety management program within the next 2 years. (See Table 3.)

**Table 3 - Status of Authorization Agreements for Priority Facilities and Follow-on Facilities**

| DEFENSE PROGRAMS | | |
|---|---|---|
| **PRIORITY FACILITIES** | **AA in Place** | **Approval Date/Status** |
| **Lawrence Livermore - Superblock:** | | |
| Building 334, Weapon Design & Testing Facility | No | LLNL intends to approve AA's as it implements ISMS in the Superblock, although currently not required by LLNL for Cat 3 facilities. |
| Plutonium Facility, B332 | Yes | Doesn't meet Board expectations. Will be revised after restart. |
| Tritium Facility, B-331 | No | LLNL intends to approve AA's as it implements ISMS in the Superblock, although currently not required by LLNL for Cat 3 facilities. |
| **Los Alamos** | | |
| TA-55, Bldg.4, Plutonium Facility | No | Draft complete - Approve ~ 10/98 |
| TA-3, Bldg. 29, Chemical Metallurgical Research (CMR) Facility | No | Draft in 10/98, Approve about 11/98 |
| **Oak Ridge** | | |
| Y-12: | | |
| Bldg. 9212, Wet Chemistry, Casting, Storage | Yes | 5/15/98 |
| Bldg. 9206, Enriched Uranium Chemical Processing | No | App 11/98 |
| Bldg. 9720-5, Warehouse Operations | Yes | 4/6/98 |
| Bldg. 9204-2E, Disassembly Operations | Yes | 4/6/98 |
| Bldg. 9204-4, Quality Evaluation | Yes | 4/6/98 |
| Bldg. 9215, SNM Processing &Fabrication | Yes | 5/15/98 |
| **Pantex** | | |
| Zone 12, Nuclear Explosive Bays 64,84,99,104 | No | AA's will be approved for specific weapon activity, not for the facility. |
| Zone 12, Nuclear Explosive Cells 44, 85, 96, 98 | No | Same as above |
| ENVIRONMENTAL MANAGEMENT | | |
| **Hanford** | | |
| K Basins Facility | Yes | 9/24/98 |
| Tank Farms | Yes | 7/24/98 |

**Table 3 - Status of Authorization Agreements for Priority Facilities and Follow-on Facilities (continued)**

| PRIORITY FACILITIES | AA in Place | Approval Date/Status |
|---|---|---|
| **Rocky Flats** | | |
| Bldg. 371, Plutonium Chemical Processing Facility | Yes | 9/11/97 |
| Bldg. 771, Plutonium Recovery Facility | Yes | 12/31/97 |
| **Savannah River** | | |
| F Canyon | Yes | 9/9/97 |
| FB Line | Yes | 9/26/97 |
| H Canyon | Yes | 7/98 |
| HB Line | Yes | 3/98 |

| DEFENSE PROGRAMS | | |
|---|---|---|
| **FOLLOW-ON FACILITIES** | **AA in Place** | **Approval Date/Status** |
| **Lawrence Livermore** | | |
| Building 231 Complex (Vaults) | No | Currently not required by LLNL for Cat 3 facilities. |
| Building 251, Heavy Element Facility | No | Currently not required by LLNL for Cat 3 facilities. |
| **Los Alamos** | | |
| TA-18, Pajarito Laboratory | No | 2/99 |
| TA-16, Weapons Engineering Tritium Facility | No | 2/99 |
| Defense Nuclear Activities at TA-15, Dual Axis Radiographic Hydrotest (DARHT) Facility | Not Applicable - Under Construction | |
| Defense Nuclear Activities at TA-53, Los Alamos Nuclear Scattering Center | No | 2/99 |
| **Nevada Test Site** | | |
| Abel Site, Area 27 (to be replaced by the Device Assembly Facility, Area 6) | No | The DAF AA has been written and is currently being revised by the affected parties. |
| U1a Complex | No | The U1a AA has been written and is currently being revised by the affected parties. |

**Table 3 - Status of Authorization Agreements for Priority Facilities and Follow-on Facilities (continued)**

| FOLLOW-ON FACILITIES | AA in Place | Approval Date/Status |
|---|---|---|
| **Oak Ridge** | | |
| ORNL: Material Storage (Building 3019) | No | 12/99 |
| **Pantex** | | |
| Building 12-116, SNM Staging Facility, Phase I | Yes | 8/98 |
| Building 12-104A, Special Purpose Bays (New - not operational) | No | FY99 Planned |
| Dynamic Balancer (Bldg. 12-60) | Yes | 12/98 |
| W56 | No | FY99 Planned |
| W69, Revision 3 | Yes | 2/98 |
| W76 | No | FY99 |
| W78 | Yes | FY99 |
| W79 | Yes | 6/98 |
| W87 LEP | No | FY99 Planned |
| B61-11 | Yes | 6/98 |
| B61-7 Alt 920, Rebuild | Yes | 9/98 |
| Paint Bays, (Bldg. 12-41) | No | No plans for AA. 12-104A will replace. |
| **Sandia National Laboratory** | | |
| Sandia Pulse Reactor Facility | No | AAs to be proposed to AL by SNL by 10/26/98 |
| **Savannah River** | | |
| Tritium Facilities | Yes | 8/26/97 |
| Tritium Inventory Storage Area (217H) | Yes | 8/26/97 |
| Tritium Isotope Separation/Purification Facility, Lines I/II (232H) | Yes | 8/26/97 |
| Tritium Reservoir Finishing/Packing Facility (234H) | Yes | 8/26/97 |
| Tritium Reservoir Loading/Unloading Facility (233H) | Yes | 8/26/97 |
| Tritium Burst Test Facility (236H) | Yes | 8/26/97 |

**Table 3 - Status of Authorization Agreements for Priority Facilities and Follow-on Facilities (continued)**

| FOLLOW-ON FACILITIES | AA in Place | Approval Date/Status |
|---|---|---|
| Tritium Byproduct Purification Facility (236H) | Yes | 8/26/97 |
| Tritium Extraction Facility, Line III (232H) | Yes | 8/26/97 |
| Tritium Reservoir Reclaiming Facility (238H) | Yes | 8/26/97 |
| Tritium Storage/Spare Parts/Shipping (237H) | Yes | 8/26/97 |
| **ENVIRONMENTAL MANAGEMENT** | | |
| **Hanford** | | |
| (WESF) Waste Encapsulation and Storage Facility | No | FY99 |
| Plutonium Finishing Plant | No | FY99 |
| **Idaho** | | |
| Underwater Fuel Storage (CPP-603-A) | No | 3/99 |
| Irradiated Fuel Storage Facility (Dry SNM Storage) (CPP-603-B) | No | 3/99 |
| New Waste Calcining Facility (CPP-659) | No | 3/99 |
| Underwater Fuel Storage (CPP-666) | No | 3/99 |
| Radioactive Waste Management Complex (RWMC) | No | 3/99 |
| Unirradiated Fuel Storage Facility (CPP-651) | No | 3/99 |
| **Nevada Test Site** | | |
| Radioactive Waste Management sites in Area 5, Area 3 and the TRU Pad | Yes | 10/1/97 |
| **Oak Ridge** | | |
| Depleted Uranium Tailings | No | 11/98 |
| Material Storage (MSRE) | No | 12/99 |
| **Rocky Flats** | | |
| Building 707, Plutonium Manufacturing Bldg. | Yes | 8/15/97 |
| Building 776, Manufacturing Bldg. | No | 1/99 |
| Building 559, Analysis Laboratory | Yes | 3/1/98 |
| Building 774, Waste Processing | No | Estimated completion 12/15/98 |

**Table 3 - Status of Authorization Agreements for Priority Facilities and Follow-on Facilities (concluded)**

| FOLLOW-ON FACILITIES | AA in Place | Approval Date/Status |
|---|---|---|
| **Savannah River** | | |
| FA-Line | No | No plans to operate. |
| HA-Line | Yes | Covered in H Canyon AA |
| 235-F | No | After SAR approval |
| Defense Waste Precessing Facility | Yes | 10/6/97 |
| ITP/ESP Waste Storage Tanks | Yes | ITP/ESP - 7/16/98<br>Tank Farms - 3/9/98 |
| Receiving Basin for Offsite Fuel (RBOF) | Yes | 9/17/97 |
| K-Reactor Basin | Yes | 9/17/97 |
| L-Reactor Basin | Yes | 9/17/97 |
| **WIPP** | | |
| Waste Isolation Pilot Plant | No | Draft Authorization Agreement prepared in July 1998. AA will be completed after legal challenges have been resolved. |
| **NUCLEAR ENERGY** | | |
| Advanced Test Reactor | No | 3/99 |

### *7. A List of All Department of Energy Defense Nuclear Facilities That Have Implemented, Pursuant to an Implementation Plan, Recommendations Made by the Board and Accepted by the Secretary of Energy*

The Board has issued 38 sets of recommendations, containing 174 individual recommendations; to date no Board recommendation has been rejected by DOE. Twenty-one sets have been closed because they were fully implemented by DOE, or superseded by another recommendation. Table 4 presents the Board's recommendations and applicable defense nuclear facility sites.

**Table 4 - Board Recommendations and Applicable Defense Nuclear Facility Sites**

| LOCATION | RECOMMENDATION |
|---|---|
| All Sites / Multiple Sites | 90-2 Standards<br>91-1 Safety Standards<br>91-6 Radiation Protection<br>92-2 DOE Facility Representative Program<br>92-5 Discipline of Operation<br>92-6 Operational Readiness Review<br>92-7 Training & Qualification<br>93-1 Standards Utilization<br>93-2 Critical Experiment Capability<br>93-3 Upgrading DOE Technical Capability<br>93-4 DOE Technical Management<br>93-6 Nuclear Weapons Expertise<br>94-1 Improved Schedule for Remediation<br>94-2 Low-Level Waste Disposal<br>94-5 Integration of Safety Rules, Orders<br>95-1 Safety of Cylinders Containing Depleted Uranium<br>95-2 Safety Management<br>97-1 Uranium-233 Storage Safety at DOE Facilities<br>97-2 Criticality Safety<br>98-1 Integrated Safety Management |
| Hanford | 90-3 Future Tank Monitoring<br>90-7 Modification to Implementation Plan for 90-3<br>92-4 Multi-Function Waste Tank Facility<br>93-5 Waste Tanks Characterization Studies |
| Oak Ridge | 94-4 Deficiencies in Criticality Safety |
| Rocky Flats | 90-4 Operational Readiness Review<br>90-5 Systematic Evaluation Program<br>90-6 Plutonium in the Ducts<br>91-4 Operational Readiness Review<br>94-3 Seismic and Safety Systems |
| Savannah River | 90-1 Reactor Operator Training<br>91-2 Narrative for Closure Package<br>91-5 Power Limits/K-Reactor<br>92-1 HB-Line Operational Readiness<br>92-3 HB-Line Operational Readiness Review<br>96-1 In-Tank Precipitation System at the Savannah River Site |
| Pantex | 98-2 Safety Management at the Pantex Plant |
| WIPP | 91-3 Readiness Review |

### *8. A List of Department of Energy Defense Nuclear Facilities That Have a Function Related to Department Weapons Activities*

The following list includes facilities which meet the definition of a "defense nuclear facility" in the Atomic Energy Act and are currently used, or are likely to be used in the future, to conduct or support DOE weapons activities. It does not include facilities once related to DOE weapons but not now used, and which are subject to the Board's oversight while they are being cleaned and remediated.

**Stockpile Management**

Defense nuclear facilities involved in stockpile management are those that are used to maintain, repair, and evaluate the enduring stockpile and strategic components/materials or those that are used to permanently dismantle retired weapons. The following list identifies the major facilities by function and by site. Some of the facilities in the complex are used for more than one function and are therefore listed in more than one category for completeness.

- Assembly and Disassembly:

| | |
|---|---|
| Pantex: | Entire Site |
| Nevada Test Site (NTS): | Device Assembly Facility, Area 27 |

- Dismantlement:

| | |
|---|---|
| Pantex: | Entire Site |
| Y-12 Plant: | 9204-2/2E |
| NTS: | Device Assembly Facility, Area 27 |

- Weapon and Component Maintenance:

| | |
|---|---|
| Pantex: | Entire Site |
| Y-12 Plant: | 9204-2/2E, 9212 Complex, 9215 Complex, 9201-5N. 9998 |
| LANL: | Plutonium Facility at TA-55 |
| SRS: | H Area Tritium Facilities |

- Surveillance:

| | |
|---|---|
| Pantex: | Entire Site |
| Y-12 Plant: | 9204-2/2E, 9204-4 |
| SRS: | H Area Tritium Facilities |
| LANL: | Plutonium Facility at TA-55 and Chemistry and Metallurgy Research Building (CMR) at TA-3 |
| LLNL: | Superblock |

- Component Production:

| | |
|---|---|
| LANL: | Plutonium Facility at TA-55 |
| Y-12 Plant: | 9212 Complex, 9215 Complex, 9201-N.9998 |
| SRS: | Tritium Facilities |
| SNL: | Neutron Generator Facility (part of the MDE program) |
| Kansas City: | Nuclear Components |

- Nuclear Weapons and/or Material Storage:

| | |
|---|---|
| Pantex: | Entire Site |
| Y-12 Plant: | 9212 Complex, 9720-5, 9204-2/2E, 9204-4 |
| SRS: | Tritium Facilities, Accelerator Production of Tritium (APT), Actinide Packaging and Storage Facility (APSF) |
| LANL: | Plutonium Facility and Nuclear Material Storage Facility at TA-55, KIVAS and Hillside Vault at TA-18, and CMR at TA-3 |
| LLNL: | B332 |
| RFETS: | B371 |

**Stockpile Stewardship**

A number of defense nuclear facilities are required for the DOE-wide program to support assessments of weapon safety (and reliability) of an ever-aging enduring stockpile in the absence of nuclear testing. These include:

- Laser Facilities:

| | |
|---|---|
| LLNL: | Nova Laser |

- Dynamic Experiment Facilities:

| | |
|---|---|
| LLNL: | Flash X-Ray (FXR) facility |
| LANL: | Pulsed High-Energy Radiation Machine Emitting X-Rays (PHERMEX) Facility and Dual Axis Radiographic Hydrotest (DARHT) Facility at TA-15 |
| NTS: | Sub-Critical Experiment Facility (SCSS or U1a) |

- Accelerator and Pulsed-Power Facilities:

| | |
|---|---|
| LANL: | Los Alamos Neutron Science Center (LANSCE) |

- Nuclear Research Reactors:

  SNL: Annular Core Research Reactor (ACRR)[26]

  SNL: Sandia Pulse Reactor

- Other Research and Development Facilities:

  LANL: Weapons Engineering Tritium Facility (WETF) at TA-16
  Tritium Science and Fabrication Facility (TSFF) at TA-21
  Radioactive Materials Research, and Demonstration (RAMROD) at TA-50
  Los Alamos Critical Experiments Facility (LCEF) at TA-18

  Pantex: Pit Characterization Laboratory

**Support Facilities**

This list includes support facilities (actually functions) without which the weapons complex would be unable to sustain operations:

- Low-Level Waste (LLW) Storage and Processing
- Transuranic (TRU) Waste Storage, Processing, and Disposition (WIPP)
- Liquid Radioactive Residue and Waste Processing (e.g., F & H Canyons at SRS)
- On-Site Transportation
- Radiography at LANL's TA-8
- Assembly of Devices for Testing at LANL's TA-16
- 300 Area at LLNL
- Actinide Packaging and Storage Facility (APSF)

***9. (A) A List of Each Existing Defense Nuclear Facility That the Board Determines--***

***(I) Should Continue to Stay within the Jurisdiction of the Board for a Period of Time or Indefinitely; and***

***(II) Should Come under the Jurisdiction of an Outside Regulatory Authority.***

***(B) An Explanation of the Determinations Made under Subparagraph (A)***

The Board recommends no change in its statutory jurisdiction.

---

[26] Although the Annular Core Research Reactor is a Defense Programs (DP) facility, it is currently being used to support an Office of Nuclear Energy, Science and Technology (NE) mission. The current mission of the ACRR is to produce molybdenum-99 (Mo-99) for domestic medical use. It is also reserved and is used on occasion by DP.

The Board has determined that current and future defense production and utilization facilities should remain within the jurisdiction of the Board indefinitely. That group of facilities includes, but is not limited to, all the current "weapons-related" facilities listed in response to item 8 above, as well as proposed defense nuclear facilities listed in response to item 11 below. The reasons which explain this determination have been generally outlined in response to item 4, regarding the relative advantages and disadvantages of oversight versus regulation of defense nuclear facilities. Board oversight has proven to be a flexible and cost-effective means for bringing about safety improvements within the DOE complex without additional expense and intrusiveness into national security issues.

Defense nuclear facilities currently undergoing decommissioning and environmental restoration are subject to EPA Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and RCRA regulation, as well as appropriate state regulation. Although overlaps in jurisdiction between the Board and these agencies exist in some areas, the Board has established efficient working relationships.[27]

### *10. For Any Existing Facilities That Should, in the Opinion of the Board, Come under the Jurisdiction of an Outside Regulatory Authority, the Date When This Move Would Occur and the Period of Time Necessary for the Transition*

The Board recommends that nuclear health and safety at defense nuclear facilities not be subject to outside regulatory authority, and no transition should be necessary since there would be no change in jurisdiction.

### *11. A List of Any Proposed Department of Energy Defense Nuclear Facilities That Should Come under the Board's Jurisdiction*

For purposes of this list, "proposed DOE defense nuclear facilities" include facilities that are currently being planned, or facilities whose plans have been preserved for contingencies, and have been publicly identified by DOE through a process such as the federal budget or programmatic or other environmental impact statement. This list is a snapshot in time, as DOE plans for new facilities or conversions of existing facilities are always possible and only includes those that require Board jurisdiction under existing law.

- Production and Storage Facilities

  -- Target Fabrication Facility for Tritium Producing Burnable Absorber Rods (TPBARs)

  -- Accelerator Production of Tritium (APT)

---

[27] *See, e.g.*, DNFSB/TECH-12, *Regulation and Oversight of Decommissioning Activities at Department of Energy Defense Nuclear Facilities*, August 19, 1996, and the February 15, 1996, *Memorandum of Understanding Governing Regulation and Oversight of Department of Energy Activities in the Rocky Flats Environmental Technology Site Industrial Area*.

-- Actinide Packaging and Storage Facility

-- Tritium Extraction Facility (TEF)

-- K-Reactor Vault

-- LANL Storage Facilities

- Disassembly and/or Testing

-- Pit Storage Facilities

-- National Ignition Facility (NIF)

-- Contained Firing Facility (CFF)

The following facilities, while further from construction and operation than any of the facilities listed above, were identified in DOE's *Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management*:

- Advanced Hydrotest Facility (AHF)
- Atlas Facility
- High-Explosive Pulsed-Power Facility (HEPPF)
- Advanced Radiation Source (ARS)
- Advanced Recovery and Integrated Extraction System (ARIES)

***12. An Assessment of Regulatory and Other Issues Associated with the Design, Construction, Operation, and Decommissioning of Facilities That Are Not Owned by the Department of Energy but Which Would Provide Services to the Department of Energy***

***13. An Assessment of the Role of the Board, If Any, in Privatization Projects Undertaken by the Department***

Questions (12) and (13) have been combined for convenience. Over the past several years, DOE has been considering the privatization concept for some of its defense-related activities.

The word “privatization” has been used to describe a broad range of governmental initiatives designed to transfer portions of government property, activities, or services to private-sector control. The term includes such action as directly transferring ownership of property to a commercial entity, which then performs services previously executed by the government on that property. The term also includes a variety of other government/private cooperative efforts.

Resolving the legal and policy issues raised by transferring ownership of, or otherwise privatizing, defense nuclear facilities depends upon the exact form that the privatization takes. Until the Board receives a more concrete description of the legal structure for the privatized facilities, the Board cannot speculate on such complex issues, or meaningfully assess how they should be resolved.

The Board notes, however, that "privatizing" defense nuclear facilities does not necessarily obviate Board statutory oversight responsibilities for existing defense nuclear facilities. The Atomic Energy Act provisions delineating the Board's jurisdiction were analyzed in detail in response to reporting item 2. Those statutory provisions direct the Board to review the content and implementation of DOE safety standards, and to oversee safety activities and programs at defense nuclear facilities throughout their entire life cycle.[28] The statute specifies that the life cycle includes design, construction, operation, and decommissioning of "defense nuclear facilities." As analyzed previously, defense nuclear facilities include "production" and "utilization" facilities operated for national security purposes under the "control or jurisdiction" of the Secretary of Energy and "waste storage" facilities "under the control or jurisdiction of the Secretary of Energy."[29]

The Board, therefore, would retain jurisdiction of existing defense nuclear facilities, such as the Tank Waste Remediation System (TWRS) at Hanford, even if aspects of the TWRS were "privatized" and owned by the private sector, so long as the TWRS or its nuclear materials remained under the "control or jurisdiction" of the Secretary of Energy.

In the glossary section of the request for proposal (RFP) for TWRS, "privatized facility" is defined as one which is "privately developed, financed, constructed, owned, operated, decontaminated, decommissioned, and closed under the requirements of [RCRA]."[30] DOE's Office of Environmental Management (EM) has defined the term "privatization" in this manner:

> Contractors, under contract with DOE to provide a service, use private funding to design, permit, construct, operate, decontaminate and decommission their own equipment and facilities to treat tank waste, and receive payments when producing products meeting DOE's performance specifications.[31]

While the contractor owns the "privatized facilities," DOE retains ownership of the land where the facility is located, and ownership and control of the nuclear waste located in the facility. DOE also retains responsibility for the safety of the facility. Congress may wish to clarify this issue.

---

[28] 42 U.S.C. § 2286a.

[29] 42 U.S.C. § 2286g.

[30] Draft Request for Proposal No. DE-RP06-96RL13308 at C-54, November 16, 1995.

[31] *Concept of the DOE Regulatory Process for Radiological and Nuclear Safety for TWRS Privatization Contractors*, Richland Operations Office, Rev. A.1 Draft, November 1995, at 1.

### *14. An Assessment of the Role of the Board, If Any, in Any Tritium Production Facilities*

Defense nuclear facilities which produce tritium for use in nuclear weapons should be subject to the oversight jurisdiction of the Board.

Accelerator produced tritium is not a source, special nuclear, or byproduct material as defined by the Atomic Energy Act. Therefore, an accelerator for production of tritium is not a production or utilization facility. The Board believes that the sense of Congress is that tritium and tritium production safety oversight is the responsibility of the Board. The radiation hazards posed by the APT are considerable and similar to those posed by a commercial utilization facility. The Board has asserted jurisdiction over DOE tritium production and reprocessing facilities located on defense nuclear facility sites. The Board believes that its safety oversight of such facilities, both existing and planned, should be continued.

The Board continues to follow and monitor the two current options for production of tritium—the accelerator and the light water reactor. The Board plans to continue this oversight activity.

### *15. An Assessment of the Comparative Advantages and Disadvantages to the Department of Energy in the Event Some or All Department of Energy Defense Nuclear Facilities Were No Longer Included in the Functions of the Board and Were Regulated by the Nuclear Regulatory Commission*

The Board has already addressed the major advantages and disadvantages of oversight versus regulation in response to item 4. Briefly, these are: weakening of national defense, additional cost, and no added value. Therefore, this response will focus on additional considerations, advantages, and disadvantages which are triggered if NRC is to be designated the regulator.

- The first disadvantage is the termination of the traditional separation of regulation of commercial nuclear facilities from oversight of defense nuclear facilities, dating from the creation of NRC and the Energy Research and Development Administration (ERDA). Beginning with the Atomic Energy Act of 1954, Congress has mandated that military and civilian applications of atomic energy be regulated and managed separately. Though the Atomic Energy Commission had responsibility for both from 1954 to 1974, the Atomic Energy Act provided for a "Division of Military Application" separate from other divisions which were assigned "primary responsibilities [for] the development and application of civilian uses of atomic energy."[32] The Energy Reorganization Act carried this separation one step further, by creating the NRC, with jurisdiction limited to regulation of civilian applications. Regulation and management of military applications were

[32] 42 U.S.C. § 2035.

assigned to ERDA.[33] The Energy Reorganization Act continued the compartmentalization of military applications by creating a statutory position, "Director of Military Application."[34] These functions were finally transferred to DOE by the Department of Energy Reorganization Act of 1977, Section 203(a)(5).[35] Once again, Congress required a separation of civilian and military applications by designation of an Assistant Secretary to manage defense programs and national security functions.[36]

- A second disadvantage is that combining commercial nuclear regulation with regulation of the defense complex under a single set of commissioners would create several administrative, management, and efficiency problems. First, the admittedly complex task of overseeing and regulating the defense function could get lost in the even broader scope of activities NRC currently conducts relative to commercial facilities. While the Board's expertise is currently directed at defense nuclear issues, NRC commissioner expertise is directed at commercial issues, particularly nuclear reactor safety. Defense complex issues would compete for commissioners' attention with commercial issues with which NRC commissioners are most familiar.

- When regulation by NRC was first proposed, Chairman Shirley Jackson acknowledged that NRC regulation of the national laboratories would present a conflict of interest, since NRC relies upon the laboratories for research and technical support of NRC's regulation of commercial facilities.

- Even the various DOE proposals for external regulation have equivocated on the issue of transferring all defense nuclear facilities to NRC regulation and licensing because of inherent technical difficulties, national security issues, and cost.

- Introduction of regulatory authority could provide an opportunity for civil processes to delay and draw out national defense issues indefinitely.

---

[33] Energy Reorganization Act of 1974, Section 104(d) (42 U.S.C. § 5814(d)).

[34] *Id.* § 102(g) (42 U.S.C. § 5812(g)).

[35] 42 U.S.C. § 7133(a)(5).

[36] 42 U.S.C. § 7158(b).

### *16. A Comparison of the Cost, as Identified by the Nuclear Regulatory Commission, That Would Be Incurred at a Gaseous Diffusion Plant to Comply with Regulations Issued by the Nuclear Regulatory Commission, with the Cost That Would Be Incurred by a Gaseous Diffusion Plant If Such a Plant Was Considered to Be a Department of Energy Defense Nuclear Facility as Defined by Chapter 21 of the Atomic Energy Act of 1954 (42 U.S.C. § 2286 et seq.)*

The Board does not believe that it is necessary for existing gaseous diffusion plants to be designated as defense nuclear facilities or for the Board to be given jurisdiction over them. Sufficient highly enriched uranium is available to meet national security needs, and additional supplies are not needed.

The NRC completed the first certification review for these plants in November 1996 and issued its first annual report to Congress on January 5, 1998, reporting on the status of the plants and indicating whether these plants are operating in compliance with NRC's standards. The NRC will recertify these plants at least once every 5 years, in accordance with the United States Enrichment Corporations Privatization Act (USEC), to ensure that the plants are in compliance with NRC regulations and that the USEC in operating the gaseous diffusion enrichment plants ensures adequate protection of the health and safety of the public and workers, the environment, and the common defense and security.

To verify operational safety and assess licensee performance, the NRC conducts a program of scheduled safety and safeguards inspections that relies on resident inspectors to provide on-site presence and focus on daily operation, and on headquarters and regional inspectors to provide specialized technical expertise in areas such as radiological/chemical safety, chemical processing, material control and accounting, training, quality assurance, surveillance/maintenance, emergency planning, configuration control, and management control. During FY 1998, the NRC also continued to review upgraded safety analysis reports for both enrichment plants. The NRC provides security policy and classification guidance support for the protection of national security information and restricted data for licensing, certifying, or regulating uranium enrichment facilities.

The actual cost that would be incurred at a gaseous diffusion plant to comply with regulations issued by the NRC is not known to the Board. In an attempt to obtain these cost data, the Board requested both the NRC and DOE to provide any information responsive to this question. The NRC provided the following cost information in response to the Board's request:

> The estimates of the cost of transitioning the two GDPs at Paducah, Kentucky, and Portsmouth, Ohio . . . are:
>
> | Activity | |
> |---|---|
> | Application preparation | $20,000,000 |
> | Compliance plan | 8,000,000 |
> | NRC certification fee | 7,200,000 |
> | Procedures and training | 4,000,000 |
> | NRC reporting system | 250,000 |
> | 10 CFR review and comment | 85,000 |
> | NRC Office modifications | 170,000 |
> | [Total | $39,805,000] |
>
> Costs to bring the two plants into compliance with existing DOE orders, standards, regulations and guidelines were excluded and were estimated to be about $200,000,000. The costs provided above, attributable to coming under NRC jurisdiction, are for Portsmouth and Paducah. The activity, "NRC certification fee," includes 12 full-time equivalents (FTEs) per year for four years including two resident inspectors at each site, and is for the initial certification of the Paducah and Portsmouth Plants.[37]

DOE provided the following cost estimates for the transition of the gaseous diffusion plant from DOE oversight to NRC regulation. The DOE cost estimates are approximately three times greater than the NRC estimate for direct, NRC-related transition costs.

> The Department has developed cost estimates for the regulatory transition of the gaseous diffusion plants from DOE to NRC certification. The total cost to bring the plants into compliance with NRC standards was approximately $254 million. Certain costs, such as equipment modifications and upgrades are well known. Of the $254 million spent to bring the plants into compliance with NRC standards, the Department spent $37 million on the initial certification application, certification fees, and confirmatory security sweeps. Additionally, another $34 million (inclusive in the $254 million) in NRC-related upgrades were performed by the United States Enrichment Corporation. Thus, $71 million of the total $254 million was spent on NRC-related activities; additionally, it is estimated that other activities, e.g., multiple procedure revisions and training to meet NRC rules, are estimated at an additional $55 million for an estimated total of $126 million for NRC related activities.
>
> If we extrapolate the cost of bringing the plants into compliance with DOE standards, then it is estimated that approximately $128 million of the total cost of $254 million would have been associated with compliance with DOE standards.[38]

---

[37] Letter from S.A. Jackson, Chairman, NRC, to J. T. Conway, Chairman, DNFSB, July 14, 1998, p. 1, 2.

[38] Letter from E.A. Moler, Acting Secretary, DOE, to J. T. Conway, Chairman, DNFSB, August 14, 1998, Enclosure 2, p. 2, 3.

The direct additional cost to support the NRC's uranium enrichment oversight and inspections program was approximately $2.3 million in FY 1996, and is estimated to be in the $1.9 to $2.1 million range in FY 1997 and FY 1998. The cost for general support of this program is not included in these estimates.[39] NRC estimates that for the continuing oversight inspection and recertification of the two plants, NRC is spending about twelve FTEs per year, including two resident inspectors at each site. This level of effort could be somewhat higher if NRC were to license the Gaseous Diffusion Plants (GDPs). Licensing of the GDPs could require three or more FTEs in addition to those expended on the certification, to address environmental issues and the learning process.[40]

On May 29, 1997, the NRC issued a final rule establishing an annual fee of $2.606 million for each certificate of compliance issued to USEC to operate the gaseous diffusion plants.[41] Subsequent to the implementation of this final rule, the USEC filed a request for exemption from the Annual Fee Regulation with the NRC on October 21, 1997, arguing that the combined annual fee of $5,212,000 for the Paducah and Portsmouth Gaseous Diffusion Plants is not based on a fair and equitable allocation of the NRC costs.[42] On March 23, 1998, the NRC denied USEC's annual fee exemption request. The NRC's FY 1998 annual fee for a highly enriched uranium facility is $2.603 million.

In addition, the Board conducted a search of the reports addressing the costs associated with the external regulation of DOE facilities to find any references to costs incurred by DOE and the USEC in transferring the gaseous diffusion plants to NRC regulatory oversight. In discussing the potential impact of external regulation on various proposals to privatize DOE facilities and operations involving nuclear materials, the DOE staff provided the following comments.

> When considering particular privatization involving nuclear material, DOE must conduct a careful analysis of the impact of the transition to NRC jurisdiction. DOE is not currently organized to regulate privatized operations. Consequently as was the case with the Tank Waste Remediation System, privatization may require DOE to establish entirely new regulatory units, requiring additional personnel, increased funding, and substantial startup time. In addition, differences between DOE and NRC requirements could affect fundamental decisions regarding site selection and facility features and could significantly affect the cost and schedule of the privatization. For example, the transition to NRC regulation of the gaseous diffusion plants in connection with privatization of the DOE's former enrichment enterprise could cost

---

[39] U.S. Nuclear Regulatory Commission, NUREG-1100, Volume 13, *Budget Estimates Fiscal Year 1998*, February 1997, p. 71, 73.

[40] Letter from S.A. Jackson, Chairman, NRC, to J. T. Conway, Chairman, DNFSB, July 14, 1998, p. 2.

[41] *Revision of Fee Schedules; 100% Fee Recovery, FY 1997*, Final Rule, U.S. Nuclear Regulatory Commission, May 29, 1997.

[42] Request for Exemption from Annual Fee Regulations Pursuant to 10 CFR § 171.11(d), United States Enrichment Corporation to the U.S. Nuclear Regulatory Commission, October 21, 1997.

> DOE more that $100 million to bring the plants into compliance with NRC requirements.[43]

The DOE staff provided further commentary regarding the estimated cost of moving to external regulation in the above referenced report.

> As there appears to be no realistic way to shift to external regulation in a way that is budget neutral over the short term, the cost of moving to external regulation should be viewed from a long-term perspective. It is clear from the DOE's experience with the gaseous diffusion plants that there will be startup costs associated with the transition and in some cases this cost may be significant.[44]

In a briefing to DOE staff presented by representatives of the USEC in December 1997,[45] the following summary of specific actions taken to help Paducah receive its initial NRC certificate was provided:

| | |
|---|---|
| • Procedures Rewritten | 1500 |
| • Hours Required to do Procedure Rewrite | 192,000 man-hours |
| • Specific Requirements Flowed Down Into Procedure Form | 4700 |
| • Commercial Nuclear Coaching Program | 8 "Blue-Chip" Coaches for 2 years |
| • Senior Managers Replaced by Commercial Nuclear People | 50 percent |
| • NRC Application Submitted | 2300 pages. |

While specific cost data were not provided in the above-referenced presentation, a conservative approximation of the dollar cost for the 192,000 man-hours required to do procedure rewrite can be made. Using staff cost data compiled by the National Academy of Public Administration, $83,000 per work year or $40 per hour represents a very conservative cost

---

[43] *Report of Department of Energy Working Group on External Regulation*, December 1996, Appendix I-119.

[44] *Id*., Appendix I-103.

[45] *Key Steps to NRC Regulation*, Lockheed Martin -- USEC, December 1997, page 3.

factor for compensation and benefits, resulting in a cost of $7,680,000 for this procedures rewrite exercise.[46] A more realistic estimate for compensation and benefits would be $121 per hour, the professional hourly rate used by the NRC to fully recover costs incurred for their nuclear materials and nuclear waste program in FY 1998, resulting in a cost of $23,232,000. The costs attributable to the "Commercial Coaching" program and the replacement of 50 percent of the senior managers (e.g., severance pay, hiring expenses) cannot reasonably be estimated without further data from the USEC.

As to the question of the cost that would be incurred by a gaseous diffusion plant if such a plant were considered to be a DOE defense nuclear facility as defined by Chapter 21 of the Atomic Energy Act of 1954, this matter would have to be considered in light of the current oversight authority and statutory mission of the Board. Even so, without the benefit of an actual field assessment of the gaseous diffusion plants in question, the cost that the USEC and the Board would potentially incur to implement specific Board recommendations to ensure that public and worker health and safety would be adequately protected is speculative at best.

In general, the Board's oversight methods are less intrusive and less resource intensive than NRC's regulation methods. The Board believes the current set of generally applicable DOE safety-related requirements are adequate to ensure the safety of the public, workers, and the environment when tailored to the specific hazards of the work being performed. The Board would not have felt compelled to promulgate new requirements following rulemaking proceedings or to subject USEC to the formal certification processes that the NRC deployed.

One can note from the information provided by DOE that $126 million was spent for NRC-related activities and $128 million for compliance with DOE standards. The $126 million is equivalent roughly to the cumulative annual budget of the Board over the period of its existence (FY 1989-1998) and its oversight of DOE's entire defense nuclear facilities complex during that time.

Rather than imposing a regulatory structure on a defense nuclear facility, the Board works with DOE to upgrade its existing requirements and guidance (e.g., DOE safety Orders, Guides, and Manuals) to ensure adequate protection of worker and public health and safety. However, the NRC's regulatory structure has already been imposed on USEC. Therefore, two factors work against the utility of the Board estimating the cost of oversight of USEC facilities and activities. First, USEC operates under a rigid regulatory structure which would not lend itself to the Board's oversight methods without considerable "retooling" of the USEC safety management program, or extensive changes to the Board's oversight methods. Second, USEC is statutorily excluded from Board oversight under the Atomic Energy Act. Even if it were not, it is doubtful that the U.S. nuclear weapons program will require isotope enrichment services for the foreseeable future, given the surfeit of enriched uranium currently available. Therefore, the Board does not expect that USEC facilities will be declared defense nuclear facilities subject to Board oversight, and as a result, a cost comparison would not be helpful.

---

[46] *Ensuring Worker Safety and Health Across the DOE Complex, A Report by a Panel of the National Academy of Public Administration for the Occupational Safety and Health Administration and the Department of Energy*, January 1997, Appendix A, page 106.

## IV. CONCLUSION

While respectful of the views of those seeking change in the regulatory regime for DOE contractors, such action, in the Board's view, is hardly justified by the costs likely to be incurred for any benefits that might accrue. This is particularly true for defense nuclear facilities because the costs include the real potential for undue interventions and delays that could effectively block interminably the construction and operation of new facilities or the upgrades of existing facilities that are needed to support the national security mission.

Accountability in government is often difficult to establish, but it becomes even more so when fractionation and overlaps in responsibilities among agencies occur. At this time DOE has clear responsibility for both mission and nuclear safety. DOE should be required to fulfill those responsibilities as integrated functions. DOE is committed to doing so, not only for defense nuclear facilities under the independent oversight of the Board, but also as a DOE-wide objective. DOE should seek to bring to bear the expertise of other federal agencies, if needed, to assist in the fulfillment of its safety responsibilities without opting out on defining and enforcing good safety practices for its contractors. DOE, if it advocates external regulation of nuclear health and safety, would be diminishing its stature as a center of technical excellence in the nuclear field, much more than enhancing the credibility it seeks.