1 March 2002

General John Gordon
Undersecretary of Energy and Administrator
National Nuclear Security Administration

Dear General Gordon,

This letter and the two enclosures constitute the report by the National Nuclear Security Administration (NNSA) Advisory Committee (AC) in response to your tasking of June 2001.

The NNSA AC formed on 26 June 2001. We initially were given a charge to review the NNSA research and development portfolio and make strategic recommendations for strengthening NNSA leadership in science and technology. The events of 11 September 2001 and thereafter have made this task all the more critical.

Since June 2001, we have met with members of your staff and members of the three principal national laboratories supporting NNSA, and we have reviewed a variety of reports concerning the Defense Programs and Nonproliferation operations. There is a great deal that is progressing well. We are pleased with the scope and vision of the NNSA 2001 Strategic Plan you have recently signed. Stockpile Stewardship is maturing. Annual certification of the stockpile is an established process and indicates the overall reliability and safety of the stockpile. However, the stockpile is showing signs of aging and newly recognized birth defects. The national laboratories report a high rate of acceptance of offered positions. There is renewed awareness of the necessity for a mature, aggressive nuclear, biological, and chemical nonproliferation and detection program (even before September 2001). Senior leadership within headquarters, field offices and the national laboratories is clearly dedicated to execution of these programs for the maximum benefit of the United States.

Nonetheless, there are worrisome longstanding problems:

Integrated plans for implementing the NNSA Strategic Plan have not been promulgated. These plans are needed for effective prioritization of activities, and for effective balance across the spectrum of scientific and technical (S&T) activities. Specifically, a planning and financial management structure (for example, Planning, Programming and Budgeting System (PPBS)) is needed that clearly identifies resources allocated to products (ranging from nuclear warheads to biosensors), broader S&T to meet future challenges, and supporting facilities and infrastructure. Also, peer review and warhead safety and reliability certification require attention.

NNSA retains the well-documented deficiencies of the DOE bureaucracy. For instance:

- There are apparently still a large number of personnel throughout NNSA who assume authority to task the laboratories and contractor organizations, creating excessive micromanagement.

- Although section 5.5 of the DOD/DOE report to The Congress of 3 November 2000 indicates the laboratories are satisfied with the latitude for hiring and personnel administration, discussions with laboratory personnel indicate a different picture: the personnel administration portion of the contracts (Appendix A) remains cumbersome, difficult to execute, makes work for NNSA personnel and inhibits aggressive efforts to hire the most talented personnel.

- There are significant barriers to efficiency in conduct of research. Excessive administration is required to move money from one project to another.

While progress has been made on improving personnel practices in order to retain nuclear expertise, we found that the situation remains unsatisfactory in several respects. For instance:

- Hiring of personnel fluctuates excessively year to year as a result of fiscal constraints. For example, fewer than 100 personnel were hired at Sandia National Laboratories in FY 2000, over 600 were hired in FY 2001.

- The average age of laboratory staff continues to increase.

Prior national security strategies have failed to give sufficient priority and appropriate guidance for non-proliferation research, in particular, for chemical and biological weapon countermeasures research. As noted in the Advisory Committee letter to you of 27 August 2001:

> A large fraction of our nation's science and technology base for detecting, characterizing, and responding to proliferation activities is found in the weapons laboratories of the National Nuclear Security Administration (NNSA) and in other national laboratories of the Department of Energy. The Office of NNSA's Deputy Administrator for Nonproliferation conducts research and development for the entire national security community—the Departments of Defense and State, and the Intelligence Community. The stewardship of our science and technology base for dealing with proliferation must be one of the highest priorities of the NNSA. Over the past several years, support for this science and technology base has seriously eroded. A continuation of this erosion will have detrimental effects on our ability as a nation to develop and field the latest technologies against the threats posed by the proliferation of weapons of mass destruction.
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> The National Security Council is currently developing a new National Security Strategy. ***It is strongly recommended that the new strategy give explicit mention to the importance of preserving America's science and technology base for dealing with the threats posed by the proliferation of weapons of mass destruction and NNSA's role as steward of this national asset.***

Improving material protection, control and accounting (MPC&A) of worldwide inventories of weapons-usable fissile material, and decreasing excess inventories worldwide are imperatives both to stem nuclear proliferation and to combat the threat of nuclear terrorism.

The events of 11 September 2001 reinforce the above recommendations.

Following the 11 September 2001 attacks and indications of anthrax in several areas around the country, efforts in detection of nuclear, biological, and chemical weapons have indicated the need for a direct link between the intelligence community and NNSA (both the Defense Programs and Nonproliferation offices) and laboratory activities. Specifically, with the nature of the research being conducted by NNSA activities, we believe there should be a close relationship between NNSA and intelligence elements of the DOE. Further, the need for direct NNSA involvement with the intelligence community is greater for NNSA activities than any other part of DOE. Accordingly, we strongly recommend that an expeditious study be conducted to document NNSA capabilities to support the technical intelligence community and to consider organizational changes to strengthen NNSA's role and relationship to the intelligence community.

Members of the Advisory Committee are in broad agreement on our findings and recommendations in response to the initial tasking.

Warm regards

Henry G. Chiles Jr.
Chairman, National Nuclear Security
Administration Advisory Committee

Enclosures:

Science & Technology in the Stockpile Stewardship Program
Science & Technology in the Nonproliferation and Counterterrorism Programs