

The Honorable Spencer Abraham
Secretary
U.S. Department of Energy
Forrestal Building
1000 Independence Avenue, SW
Washington, D.C. 20585

December 17, 2001

Dear Mr. Secretary:

We write on a matter of paramount importance to the future of our country – the sustained health of our scientific infrastructure.

The nation faces unprecedented challenges to its national and homeland security, health, economy, environment, technological leadership and future energy independence. In times of war and peace, science and technological innovation have played important roles in meeting major national challenges. Global positioning systems (GPS), X-ray and security technology, fiber optics, the Internet, laser surgery and magnetic resonance imaging (MRI) are just a few of the transforming technologies that would not have been developed without federal investment in physical sciences and engineering research. While developed for different purposes, these examples of technology each have significant application across many national needs including counter terrorism.

Despite the crucial contributions that the physical sciences and engineering make to these challenges, federal support for key disciplines is stagnant or declining. U.S. student enrollments and degrees awarded in the physical sciences and engineering are falling. Workforce talent pools in highly technical areas are shrinking. Our world-class research facilities are not being optimally utilized and are in need of significant upgrades. These trends must be corrected if we are to respond fully and effectively to the challenges we face.

Therefore, we urge the creation of a special five-year initiative to revitalize the physical sciences and engineering in all departments and agencies, especially those whose missions depend on such research – DOE, DOD, NASA and NSF. As the leading source of federal investment in the physical sciences and scientific facilities and a significant supporter of engineering and computer science, we believe the Department of Energy is well positioned to take a leadership role in promoting this new initiative. To this end, we respectfully request your support for a five-year focused program to revitalize science in the DOE. Specifically, we propose a five-year

initiative to strengthen DOE investments in science to include the following elements as annual increments in our investment portfolio:

- \$100 million to strengthen research and education in the physical sciences and engineering;
- \$100 million to improve utilization of DOE's world-class research facilities shared by researchers from universities, national laboratories and industry;
- \$50 million to accelerate development of the next generation of scientific research tools for the physical sciences and engineering; and
- \$50 million to advance research and innovation to meet our energy needs.

Recent innovations that can be traced back to DOE research investments include the Nobel Prize-winning discovery of new forms of carbon, non-invasive detection of cancers and other diseases, improved computer models for understanding global climate change, and new insights on the fundamental nature of matter and energy. Nuclear technologies previously developed by the DOE make our lives safer on a daily basis, while new biosensor technologies currently being developed by the Department hold great promise to detect and protect against future biological attacks. The DOE Office of Science also played a seminal role in the sequencing of the Human Genome and developing the underlying science that will lead us to cleaner and more efficient automobiles.

We enclose a discussion paper describing the proposed initiative and its rationale. We hope this paper is helpful in fostering a better understanding and a vision for the critical role that DOE plays in support of our nation's scientific infrastructure. We stand ready to work with the Department in implementing this important initiative.

We look forward to sharing this paper with the White House and on Capitol Hill at the appropriate time. Next year, working with national university associations, science societies, and with private companies, we intend to promote this initiative throughout the legislative cycle.

You have our appreciation, our support and our readiness to contribute to the national mobilization of our scientific and technical resources to help our nation meet the challenges we face.

Sincerely,



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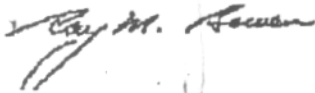
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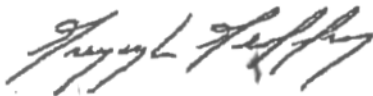
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