

**Secretary of Energy Advisory Board
Science & Mathematics Education Task Force
Terms of Reference**

Scope & Objectives:

The objective of the Science and Mathematics Education Task Force is to advise the Department of Energy on how it can effectively utilize its scientific and technical resources, including its national laboratories, to inspire, educate and encourage a new generation of career scientists and engineers to meet the challenges of the future and enhance the scientific literacy of the nation.

The task force shall build upon the Secretary of Energy's Science Education Initiative and recommend short-term and long-term initiatives that the Department of Energy and its national laboratories should pursue to leverage its resources to address the need for skilled scientists, engineers and technicians needed for the Department of Energy and the nation to achieve the scientific and technical advances essential to our future and the security of the nation. The task force's recommendations shall complement the major efforts of the National Science Foundation, National Aeronautics and Space Administration, Department of Education, and other Federal agencies.

Background:

The United States leads the world in basic scientific research and development of technology. In the early grades, the nation's children have a keen interest in these areas and get a quick start given the advantages they enjoy growing up with Internet access and in a nation that is a global scientific superpower. According to the Third International Mathematics and Science Study (TIMSS), performed in 1999 and funded by the National Science Foundation, our Nation's school children perform well at the fourth grade level, but fall during middle school, resulting in achievement levels that lag behind nearly every other industrialized nation.

The United States cannot sustain its world leadership in science if these achievement records do not improve. The rapid pace of technological change and the globalization of the economy demand the nation's workforce be literate in science and math. National security depends on having access to a workforce that has highly advanced technical skills, particularly if the Department of Energy is to fulfill its vital roles in cyber-technology and the technologies that are necessary to countering nuclear proliferation, and assuring our nation's energy future.

The Department of Energy is the single largest supporter of basic research in physical sciences, managing 17 national laboratories and funding research in over 250 universities nationwide. Science underpins the Department's missions in national security, energy security, and environmental restoration. The Department of Energy thus has a responsibility to assure that the next generation of American scientists, mathematicians,

engineers, and technicians will be ready to support the Department's missions in the future and to advance the frontiers of science.

Description of the Task Force's Duties:

The task force shall build upon the Secretary of Energy's Science Education Initiative. They should prepare a report recommending short-term and long-term education roles and initiatives utilizing the resources of the Department of Energy and its national laboratories to address its needs for skilled scientists, engineers, and technicians and to enhance scientific literacy of the nation. The task force's recommendations shall build upon existing DOE programs and complement the efforts of the National Science Foundation, National Aeronautics and Space Administration, or other Federal agencies. The task force shall provide the Secretary of Energy, through the Secretary of Energy Advisory Board, with an actionable plan to address this issue and leverage the considerable assets of the Department of Energy and its system of national laboratories .

Reporting:

The task force shall report to the Secretary of Energy through the Secretary of Energy Advisory Board.

Estimated Number and Frequency of Meetings:

This task force shall meet as required to assess the issues and determine the key factors, which must be addressed to produce the next generation of American scientists, mathematicians and engineers and prepare a final report before the end of 2004.

Membership:

The task force shall have approximately ten members. The Task Force is expected to be chaired by a senior corporate executive from a high-technology sector U.S corporation, employing scientists, engineers or mathematicians, and a vice-chair from academia. Members shall represent a balance of viewpoints pertinent to the scope and objectives of this study. The Secretary of Energy, in consultation with the Chairman of SEAB, shall appoint the Chair and Vice-chair, as well as all other members.

Duration and Termination Date:

The task force shall serve for approximately six months, subject to the extension or dissolution by the Chairman of SEAB.