



UNITED STATES SENATOR • IDAHO

LARRY CRAIG

NEWS RELEASE

STATEMENT OF
SENATOR LARRY E. CRAIG

INTRODUCTION OF THE FUSION ENERGY SCIENCES ACT OF 2001

June 28, 2001

Mr. President, today I am introducing a bill of great significance to our energy future, the "Fusion Energy Sciences Act of 2001." I am especially pleased that my colleague from California, Senator Feinstein, is joining me as the primary cosponsor of this legislation. This bill is designed to strengthen the fusion program at the Department of Energy and to accelerate planning for the next major step in fusion energy science development.

In recent months, the news has been dominated by energy concerns. Although there may be differences of opinion about the causes of our current energy problems and what the appropriate solutions might be, there is general agreement that energy forms a vital link to our economic prosperity and provides the means by which the conduct of our daily lives is made easier and more comfortable. While we grapple with short term remedies, we need to stay focused on long term investment in those endeavors which have the potential to help secure our energy future. I believe that fusion energy has this potential.

Fusion is the energy source that powers the sun and the stars. At its most basic, it is the combining or fusion of two small atoms into a larger atom. When two atomic nuclei fuse, tremendous amounts of energy are released.

If we can achieve this joining of atoms - and successfully contain and harness the energy produced - fusion will be close to an ideal energy source. It produces no air pollutants because the byproduct of the reaction is helium, it is safe and its fuel source - hydrogen - is practically unlimited and easily obtained.

In the technical community, the debate over the scientific feasibility of fusion energy is now over. During the past decade, substantial amounts of fusion energy have been created in the

laboratory setting. I am proud to note that some of this underlying scientific work has been conducted at the Idaho National Engineering and Environmental Laboratory in my state, which has been selected by the Department of Energy to lead efforts on fusion safety.

Although certain scientific questions remain, the primary outstanding issue about fusion energy at this point is whether fusion energy can make the challenging step from the laboratory into a practical energy resource. Achieving this goal will require high quality science, innovative research and international collaboration - and the resources to make this possible. That is the goal to which this legislation is directed.

According to the scientific experts, the path to practical fusion will involve three steps. First, there is a need to conduct a "burning plasma" experiment. Second, this effort would be further developed in an engineering test facility. The third step would be a demonstration plant. If taken in series, each of these steps would take approximately fifteen years, but through international collaboration, it may be possible to accelerate this process. In addition to these steps, continued investment in an strong underlying program of fusion science and plasma physics will still be necessary.

Therefore, this bill instructs the Secretary of Energy to transmit to the Congress by July 1, 2004 a plan for a "burning plasma" experiment, which is the next necessary step towards the eventual realization of practical fusion energy. At a minimum, the Secretary must submit a plan for a domestic U.S. experiment, but may also submit a plan for U.S. involvement in an international burning plasma experiment if such involvement is cost effective and has equivalent scientific benefits to a domestic experiment. The bill also requires that within six months of the enactment, the Secretary of Energy shall submit a plan to Congress to ensure a strong scientific base for the fusion energy sciences program. Finally, for ongoing activities in the Department of Energy's fusion energy sciences program and for the purpose of preparing the plans called for, the bill authorizes \$320,000,000 in fiscal year 2002 and \$335,000,000 in fiscal year 2003.

As we suffer through near term challenges in the energy sector and meeting our immediate needs, it is more crucial than ever that we invest in those items that hold the promise for long term solutions. Recent accomplishments in the laboratory demonstrate that fusion energy has this long term potential. The Fusion Energy Sciences Act of 2001 will bring this promise closer to reality for future generations.