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United States and International Partners Initial ITER Agreement

Paves the Way for Large-Scale, Clean Fusion Energy Project

BRUSSELS, BELGIUM – Representing the United States, Dr. Raymond L. Orbach, Director of the U.S. Department of Energy's (DOE) Office of Science, joined counterparts from China, the European Union, India, Japan, the Republic of Korea, and the Russian Federation today to initial an agreement to construct ITER, an international fusion energy project. Fusion energy is an important component of President Bush's Advanced Energy Initiative (AEI), given fusion's potential to become an attractive long-range option for the U.S. clean energy portfolio. In FY 2006, DOE allocated \$25 million to ITER and the President, as part of the AEI, has requested \$60 million for the project in FY 2007.

"As partners in ITER, we are pursuing the promise of unlimited, clean, safe, renewable, and commercially available energy from nuclear fusion, which has the potential to significantly strengthen energy security, at home and abroad," Secretary of Energy Samuel W. Bodman said.

President Bush announced on January 30, 2003, that the U.S. was joining the negotiations for the construction and operation of this major international research project, whose mission is to demonstrate the scientific and technological feasibility of clean fusion energy. The U.S. was one of the original participants in the early design and R&D for ITER, and U.S. participation in the ITER construction and operation phases capitalizes on the previous investment.

President Bush's initiative in joining ITER allows the United States to share the combined experience and knowledge that will result from the design, construction and operation of this vital project at a greatly reduced cost to the individual partners. As the host, Europe will contribute 45.4 percent of the construction cost, with the six other partners, including the U.S., each providing 9.1 percent. DOE laboratories will subcontract with industry to build the components of ITER for which the U.S. is responsible. The U.S. total contribution to the construction of ITER will be \$1.1 billion.

"Initialing this agreement brings us one step closer to a viable source of fusion power, with the potential to free the quickly growing global economy and population from the looming constraints of conventional energy supplies and their associated environmental effects," Dr. Orbach said. "It is for reasons of international peace, prosperity, and environmental security that President Bush led the United States to participate in the ITER project. This is the first stand alone, truly international, large-scale scientific research effort in the history of the world. It is quite striking that the seven parties to the agreement represent more than half of the world's population."

By initialing the ITER agreement, U.S. representatives and international partners agree to formally conclude negotiations and submit the agreement to their governments for final approval.

DOE will transmit to Congress the final initialed text of the Joint Implementation Agreement to begin the 120-day review required by the Energy Policy Act of 2005. DOE provided a number of briefings to Committees of jurisdiction in both the House and the Senate during the negotiations process to facilitate the 120-day review. The Parties expect to sign the formal Agreement this fall.

Fusion energy, created when light atomic nuclei are fused together at temperatures greater than those of the interior of stars and far above the melting point of any solid container, could provide significant amounts of electricity and also generate hydrogen needed to power fuel cell vehicles of the future. Fusion power has the following advantages:

- Fusion is clean: It produces negligible atmospheric emissions and zero greenhouse gas emissions.
- Fusion is safe: Reactors cannot “melt down,” and do not generate the high-level, long-lasting radioactive waste associated with nuclear power.
- Fusion is renewable: Commercial fusion reactors would use lithium and deuterium, both readily available natural resources.

President Bush’s Advanced Energy Initiative represents a 22 percent increase in clean-energy research at the Department of Energy (DOE) that will accelerate breakthroughs in the way we power our cars, homes and businesses. For FY ’07, the AEI requests more than \$2.1 billion for research into cutting edge technologies. If we are successful in implementing the Advanced Energy Initiative, we will reduce our oil consumption by 5 million barrels a day by 2025 and produce clean electricity for millions of homes.

DOE's Office of Science is the single largest supporter of basic research in the physical sciences in the nation and helps ensure U.S. world leadership across a broad range of scientific disciplines. The Office of Science supports a diverse portfolio of research at more than 300 colleges and universities nationwide; manages 10 world-class national laboratories with unmatched capabilities for solving complex interdisciplinary scientific problems; and builds and operates the world’s finest suite of scientific facilities and instruments used annually by more than 19,000 researchers to extend the frontiers of all areas of science.

For more information about ITER, please visit <http://iter.energy.gov>.

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