

ITER

## U.S. rethinks stake; site talks continue

**T**HE UNITED STATES may be rejoining the ITER project, three years after withdrawing from the international fusion collaboration. President Bush's scientific advisor and director of the Office of Science and Technology Policy, John Marburger, said the U.S. is reviewing its position. "I definitely think that our participation should be reconsidered," Marburger told a group of reporters on January 8, the journal *Nature* reported.

Construction on the International Thermonuclear Experimental Reactor, which was conceived in the mid-1980s, is scheduled to begin in the next few years. It will be the first fusion device to produce thermal energy at the level of an electricity-producing power station. The U.S. left the project in 1999, citing its high projected cost of \$10 billion. Since then, the price has been

*Construction on ITER is scheduled to begin in the next few years, and the United States may once again be involved in the project.*

cut approximately in half, owing to reduced technical objectives.

Meanwhile, ITER constituent delegations from Canada, the European Union, Japan, and Russia met in Tokyo in mid-January to continue formal negotiations on the joint implementation of the project. This was the second meeting (see *NN*, Sept. 2001, pp. 17–18) in a series that is expected, by the end of this year, to lead to an international agreement that will govern the construction, operation, and decommissioning of the reactor.

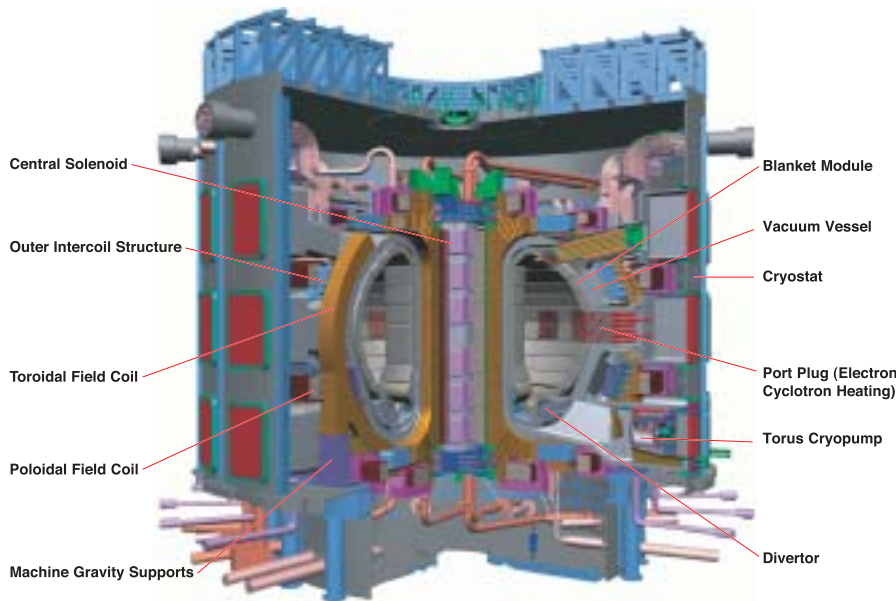
Representatives from Canada, who presented an offer last June to host the ITER

project, said that the first formal review of the ITER project by the Canadian Nuclear Safety Commission will occur this month. The review is part of the formal licensing process initiated for possible siting of ITER near the Darlington nuclear power station in Ontario.

Possible construction sites in Europe and Japan were also discussed during the meeting. Representatives from the European Union reported that France had requested that the EU define conditions under which a European site could be proposed for ITER construction. EU officials submitted a site in Cadarache, France, for consideration, as well as a site in Spain. In Japan, three cities have announced their candidacies to host the ITER project, according to *The Japan Times*.

ITER is to be an experimental fusion reactor based on the tokamak concept—a doughnut-shaped magnetic configuration in which the conditions for controlled fusion reactions are created and maintained. In the design, superconducting magnet coils around a toroidal vessel will confine and control a mix of charged particles—the plasma—and induce an electrical current.

The project began at the November 1985 Geneva Summit Meeting when the Soviet Union proposed an international collaboration to build a next-generation tokamak. In 1992, Europe, Japan, the Russian Federation, and the United States signed an agreement that established the engineering design activities for six years. In 1998, that agreement was extended for three years and the projected cost was to be slashed. Last July, documentation on the ITER design, including a full cost analysis and safety assessment, was completed and approved by the ITER Council.



**ITER DESIGN:** A view of the planned ITER experimental fusion reactor. It is based on the "tokamak" concept—a toroidal (doughnut-shaped) magnetic configuration in which to create and maintain the conditions for controlled fusion reactions. The overall ITER plant comprises the tokamak, its auxiliaries, and supporting plant facilities. (Source: ITER)