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N E W S A L E R T

ITER technology proves successful

Fusion for Energy (F4E) with the support of the European Commission, Japan Atomic Energy Agency (JAEA) and ITER Organisation have successfully tested a prototype superconductor for the ITER Poloidal Field coils made of Niobium(Nb)-Titanium(Ti) reaching a stable operation at 52 kA in a magnetic field of 6.4 Tesla. Poloidal Field coils will be used to maintain the plasma equilibrium and shape inside the ITER Tokamak reactor.

"This is a breakthrough for the fusion community. We have successfully tested and demonstrated a key technology milestone which is integral to the success of ITER. Based on these achievements, Europe, Russia and China will proceed with the procurement of the ITER Poloidal Field conductor" said Fusion for Energy Director, Didier Gambier.

The test coil with an outer diameter of 1.5 m and weighing 6 tons was the product of an international collaboration between Russia, Europe and Japan.
Russia produced the 0.73-mm diameter Nb-Ti superconducting strands and bundled them into a cable consisting of 1,440 strands. Europe assembled the cable into a steel jacket to make the final conductor and was also responsible for winding the conductor, insulating the turns and bonding them together to form a coil.
Japan was in charge of testing the coil at the JAEA site in Naka because of its world class expertise with a team of experts from the ITER Organisation, Europe, Japan, Russia and the United States. The results gave scientists complete confidence that this conductor would fulfill the extremely demanding performance required for ITER.

ITER will be the world's largest experimental fusion facility to demonstrate the scientific and technological feasibility of fusion power. Fusion is the process which powers the sun and the stars. When light atomic nuclei fuse together to form heavier ones, a large amount of energy is released. Fusion research is aimed at developing a prototype fusion power plant that is safe, environmentally responsible and economically viable with abundant fuel resources.

Europe will contribute almost half of the costs of its construction, while the other six Members to this joint international venture (China, India, Japan, the Republic of Korea, Russia and the United States), will contribute equally to the rest. The site of the ITER project is at Cadarache, France.

For photos see:
http://www.iter.org/press_release/pf_coil/2008_09_05/

For information about Fusion for Energy and ITER see:
http://fusionforenergy.europa.eu/
http://www.iter.org/

For information about ongoing Fusion For Energy Procurements see:
http://fusionforenergy.europa.eu/Procurement_operational.htm

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