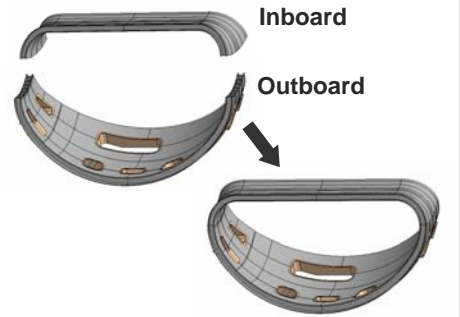


Vacuum vessel sector assembly building completed



A building for the vacuum vessel (VV) sector assembly (W 17 m, L 36 m, H 11 m) was constructed at JAEA Naka Fusion Institute in Japan. Inboard and outboard modules of the VV fabricated in the manufacturer's factory in Japan are going to be delivered to the Naka site, and joined by welding at the site due to size and weight limits for transportation on public roads. In the building, a top running overhead crane was installed in order to move efficiently the large and heavy parts of the VV and machines for welding.

Other new buildings already completed

Two new buildings were already constructed at Naka Fusion Institute for the JT-60SA project last year. One is the superconducting coil winding building (W 25 m, L 80 m, H 11 m) for winding all the equilibrium field (EF) coils from EF1 to EF6, and another is the superconducting conductor jacketing building (W 15 m, L 38 m, H 9 m, with Jacketing Line 630 m) for jacketing the superconducting cables for the central solenoid (CS) and the EF coils. All the work carried out in these buildings has been making steady progress for the project.



Superconducting Coil Winding Building

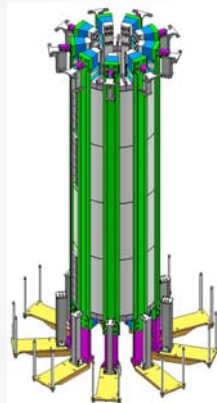


Superconducting Conductor Jacketing Building

Superconducting conductor manufacturing for CS and EF-L to start



Trial operation of the devices for compacting and winding the superconducting conductors for the CS and EF coils at low field side (EF-L/ EF1, 2, 5 and 6) began using copper dummy conductors. The devices are being adjusted based on the trial operation, in preparation for manufacturing of the superconducting conductors which is going to be started soon. The picture above shows the winding device bending the dummy conductor for the CS.



Bird's eye view of CS

HTS current lead developed at KIT



Prototype HTS current lead for W7-X

In JT-60SA, high-temperature superconductor (HTS) current leads are required in order to carry the electrical current reducing cryogenic loads from the power supplies at room temperature to the superconducting coils at low temperature (-269 degrees C).

Karlsruhe Institute of Technology (KIT) in Germany is in charge of the development, construction and testing of the HTS current

for the Wendelstein 7-X (W7-X) stellarator, another type of experimental fusion device currently being built at IPP (Max Planck Institute for Plasma Physics) Greifswald in Germany, as well as those for JT-60SA.

The prototype HTS current leads for W7-X were examined at KIT. The overall results show that the design and technical construction of these current leads are fully confirmed, with them demonstrating excellent results for current carrying capability, losses and stability.

The design of the current leads for JT-60SA is quite similar to that of the W7-X current leads, and so the test results also demonstrated the excellent safety performance of the HTS current leads expected for those of JT-60SA as well.

26 HTS current leads for JT-60SA will be delivered to the Naka site by 2016.



Test setup



Test cryostat

More JT-60 diagnostic apparatus removed



Disassembly of diagnostic apparatus installed in the lower region of the JT-60 device, started in May, was completed, and disassembled apparatus such as the far Infrared laser interferometer, vacuum ultra violet Doppler broadening, and charge-exchange neutral particle analyzer etc. were removed including their ancillary equipment.

Meetings

TF Coil design review meeting

A design review meeting of the toroidal field (TF) coil was held at the Naka Fusion Institute from 3rd to 4th August. All the members concerned in the EU and JA Home Teams attended the meeting, and had vigorous discussions on the interfaces of the TF magnet, the tolerance system proposed with regard to assembly, remaining clearance issues, and the next version of the CAD models.

Joint work on SmarTeam/CATIA systems



Joint work was carried out on systems of SmarTeam, which is a comprehensive management system of various data including CAD data, and on CATIA, which is a multi-platform CAD software, at Naka Fusion Institute from 2nd to 6th August. All the members concerned in the EU and JA Home Teams attended the work. They discussed and trained on overall collaborative usage of the systems in detail, and had demonstrations of these systems.

Visit



In August, experts from the IFMIF/EVEDA (International Fusion Materials Irradiation Facility / Engineering Validation Engineering Design Activities) project, one of the Broader Approach Activities, visited Naka Fusion Institute, and had a site tour of the superconducting coil winding building and the superconducting conductor jacketing building.

Calendar

September 15-16, 2010
9th Technical Coordination Meeting
Naka, Japan

September 27-October 1, 2010
26th Symposium on Fusion Technology
Oporto, Portugal

October 11-16, 2010
23rd IAEA Fusion Energy Conference
Daejon, Republic of Korea

October 19, 2010
7th Meeting of the STP Project Committee
Japan and EU (Remote)

November 7-11, 2010
19th Topical Meeting on the Technology of Fusion
Energy
Nevada, USA

Local



Castle of Karlsruhe

Karlsruhe, where paths converge – a legendary city in the sunny south-west of Germany, famed for its fan-shaped historic street plan, where margraves reigned in times past, and German joie de vivre reigns today. The plan of the city says it all: this metropolis, nestling in the countryside of Baden, marks a meeting point for the sunny side of life!

No other city boasts so much appealing scenery right on its doorstep. It's a stone's throw from Alsace and of course Karlsruhe lies on the edge of the famous Black Forest. Then there are the Vosges Mountains and the Palatinate Forest. Put simply: in Karlsruhe you're never far away from beautiful countryside.

KIT is located approximately 10 km north of this beautiful city.

Contact Us

The JT-60SA Newsletter is released monthly by the JT-60SA Project Team. Suggestions and comments are welcome and can be sent to masayasu.sato@jt60sa.org.

For more information please visit the website: <http://www.jt60sa.org/>