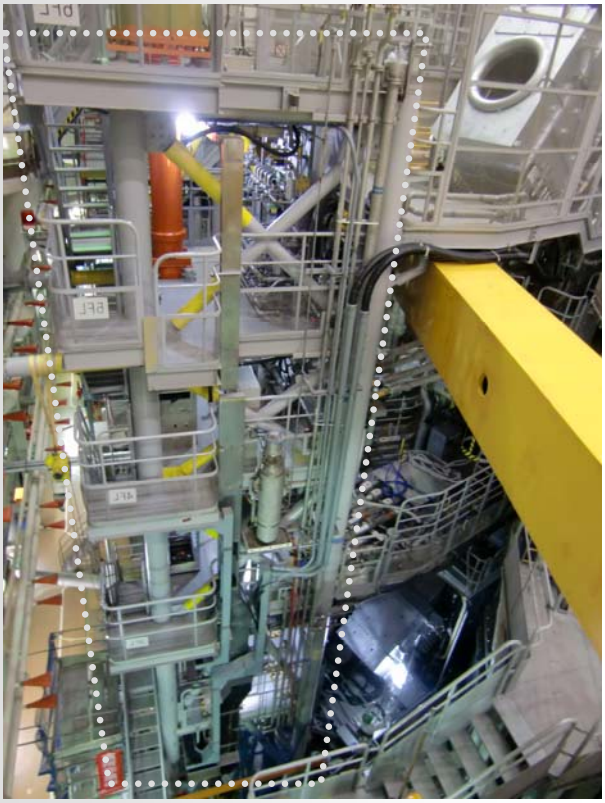
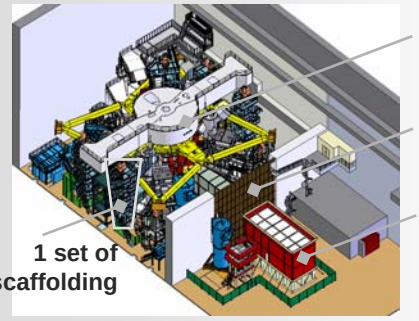
JT-60SA Newsletter
No.9, 30 September 2010

Disassembly of scaffolding for NBI system started

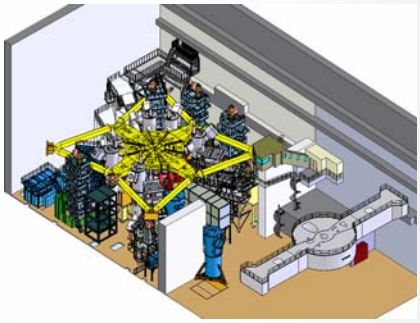


There are seven sets of scaffolding, five stories (approximately 15 m) high each, for the Neutral Beam Injection (NBI) system in the torus hall at JAEA Naka Fusion Institute in Japan. Two of them were disassembled and removed, and the 5th floors of the rest of the sets were also disassembled and removed in August.

Outline of disassembly progress



Before disassembly



Present (2010)

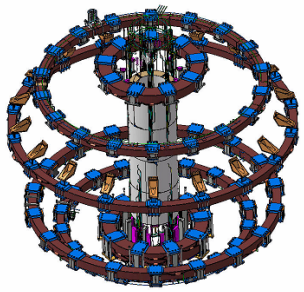
Disassembly of JT-60 was started in 2010 and has been making steady progress. The neutron shield wall and some of the main devices were disassembled and removed, such as the High Voltage Table (HVT) for the negative-ion NBI system, and the diagnostic stage. After all the disassembly works are finished, the construction work for JT-60SA will finally begin.

Welding trial of jackets for CS and EF-L conductors completed

Three different types of superconducting conductors will be used for JT-60SA: the Central Solenoid (CS) conductor, and Equilibrium Field (EF) conductors at the High (H) and Lower field side (L).

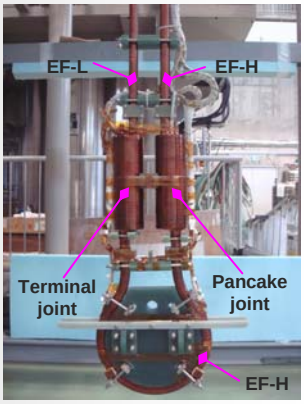
Manufacturing of the EF-H superconducting conductors has already been started and nine of them has been completed so far.

As for the CS conductor and the EF-L conductor, trial operation of the compacting and winding devices for them was performed, and welding trials of the jackets for the CS and EF-L dummy conductors were also started. Consequently, optimized welding conditions for them were defined, and the CS dummy conductor jacket, 466 m in length, was successfully completed.



Bird's eye view of arrange-ment of CS and EF coils

Joints of EF conductors examined

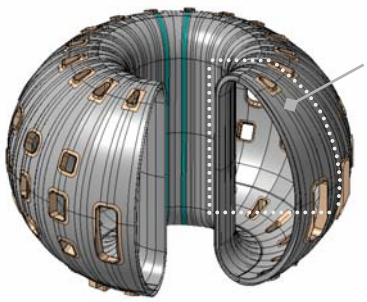


A joint sample having 2 different types of joint was examined, at the National Institute for Fusion Science (NIFS) in Japan, in order to measure their resistance values when applying current: a pancake joint like that where the EF-H superconducting conductors connect, and a terminal joint like that where the EF-H and EF-L superconducting conductors connect.

The resistance values measured at the maximum magnetic field strength set for the examination successfully met their specifications. It is, therefore, determined that both joint structures will be applied to JT-60SA.

Trial upper half of 20 degree sector of VV delivered

The trial upper half of the 20 degree sector of the Vacuum Vessel (VV) was delivered to the Naka site. The part was delicately unloaded from a truck using a crane, and temporarily stored in the vacuum vessel sector assembly building.



Upper half of 20 degree sector : approximately 3.3 m high, weighing 4 t

Meetings

DRM and TCM-9 held in Naka, Japan

The 3rd Design Review Meeting (DRM) of the Magnet Power Supply (MPS) was held at the Naka Fusion Institute from 13th to 14th September. Most experts involved in designing the MPS, from both EU and JA Home Teams, attended this meeting and had discussions on the technical issues of the power supplies based on the analysis results of plasma physics.

As for the Cryoplant, the 1st DRM was also held at the institute on the same days. The members concerned in both Home Teams discussed the technical specifications of heat loads, interface issues, etc. in order to draw up the procurement arrangement.

The 9th Technical Coordination Meeting (TCM-9) was held at the institute from 15th to 16th September, following the DRMs.

A total of 51 members, including 14 members from the EU HT, 30 members from the JA HT and 7 members from the Project Team, participated in the meeting, and other members concerned also participated in the meeting by video conference.

Issues discussed at the DRMs were reported, and the meeting had further discussions on the interface issues and assembly, etc. taking the reports of the DRMs into consideration.

After the meeting, all the experts visited the coil and vessel manufacturing buildings, and gathered for a photograph on the banner with a full scale drawing of JT-60SA (cross-sectional view) spread outside.

Calendar

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 Europe (Remote)

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

December 9-10, 2010
10th Technical Coordination Meeting
Cadarache, France

December 15, 2010
8th Meeting of the BA Steering Committee,
Madrid, Spain

Local

Naka city, where the Naka Fusion Institute is located, is famous for “Osuke matsuri (festival)” held in mid-August every three years.

Osuke matsuri was held on 15th August this year. Many floats and portable shrines were paraded in the city on that day. And nine special floats, which represent nine communities of the city, decorated with about 200 paper lanterns each, rushed into Kashima shrine, one of the historical shrines in the city, along with traditional festival music in the evening. In the shrine several Shinto rituals handling fire were performed, and showcased summer in Naka 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/