

Start of series production of Vacuum Vessel



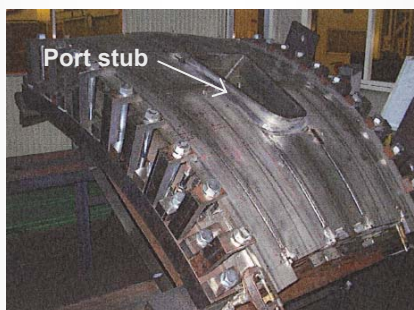
The straight and the curved sections of the 40 degree sector have been manufactured as the first series production inboard sections for the vacuum vessel (VV). The inner walls and the ribs were welded to two straight sections (10 degree x 2) out of four and welding distortion will be corrected as the next step. As for the rest of two straight sections, the inner walls and most of the ribs were welded to them. Welding operations for the curved sections has also been started.

Welding trial of port stub completed

For the vacuum vessel, the port stub was welded to the outer wall of the outboard as a trial at a manufacturer's factory in Japan and this welding trial product was completed.

After an ultrasonic inspection, a mechanical test is going to be carried out using a L shaped welded joint cut out from the welded area.

As for the trial product of the upper half of the 20 degree sector for the outboard, the port stubs were welded to the inner wall and ribs are going to be welded to the outboard later.

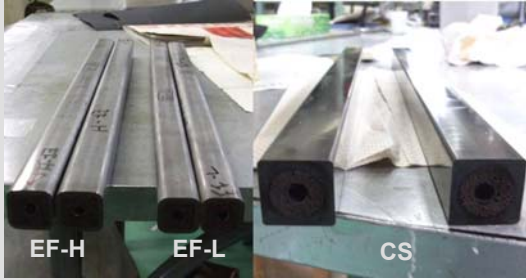


Trial product of port stub welding



Trial product of upper half

Results of AC loss measurement meet specification requirements



AC loss measurement was carried out at JAEA in cooperation with the ITER Superconducting Magnet Technology group using the conductor samples for the equilibrium field at the low field side (EF-L), the equilibrium field at the high field side (EF-H) and the center solenoid (CS). The evaluated values of coupling time constant (nT) were EF-H = 90 ms, EF-L = 80 ms and CS = 70 ms and satisfied the design requirement of ≤ 200 ms.

Electrical insulation materials for CS and EF coils chosen

Electrical insulation materials for the CS and the EF Coils were chosen based on the results of a characteristic test performed at room temperature at a manufacturer's factory in Japan.

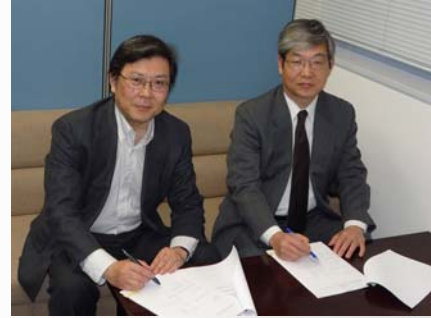
The measured shear strength of the materials successfully met the specification requirements.

A withstand voltage test was already performed using the applicable ground insulation material and it successfully withstood 100 kV.



Withstand voltage test

HTS current leads procurement arrangement signed



On 8th February, the procurement arrangement for High Temperature Superconducting (HTS) current leads, a European contribution, was signed by Director of International Affairs Department of JAEA, K. Hashimoto (right), and witnessed by the Project Leader, S. Ishida (left) after Director of F4E, D. Gambier, signed it.

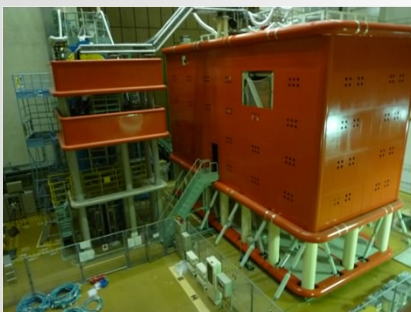
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High voltage table of N-NBI in JT-60 assembly hall removed

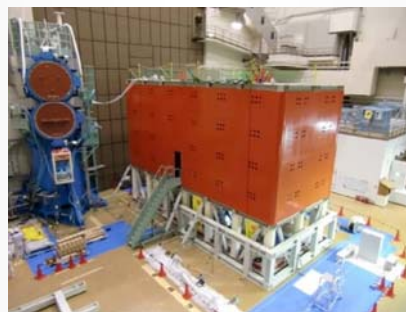
Removing components in the JT-60 assembly hall such as the high-voltage bushing of the Negative Neutral Beam Injector (N-NBI), support structures for maintaining the Negative Ion Source and the high-voltage table (HVT) of N-NBI, started from November in 2009, was completed in January, 2010.

After the high-voltage bushing of the N-NBI and support structures for maintaining the Negative Ion Source were removed, the HVT was removed.

The HVT was temporarily strengthened and removed with the power supplies in it. A lifting crane of 10.6 m in length and 20 t in weight was used to lift the HVT. One of the few large truck in Japan, called a super carrier, was used for removing the HVT of 150 t all at once.



November 2009

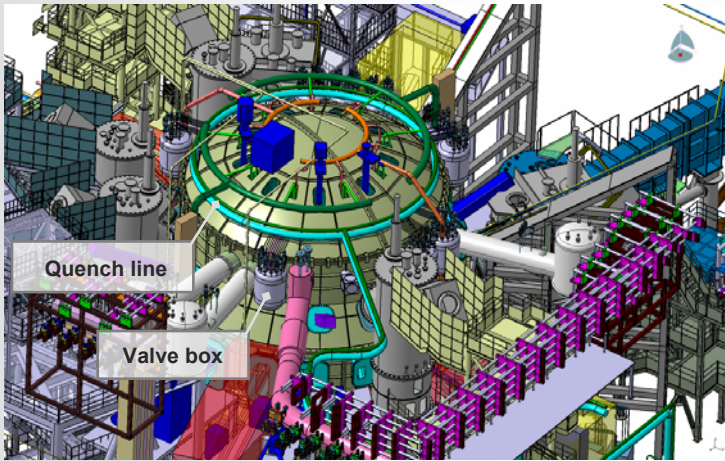


December 2009



January 2010

Piping design of quench line started



Piping design of the quench line, in which helium returns to the cryogenic system if a coils' superconductivity is quenched, was started. The quench line is shown greenish-blue in the picture left.

This line is arranged to be laid out above the Cryostat along the cryoline and the valve boxes are connected to this line.

The layout regarding the safety valves and rupture disks of the valve boxes is being redesigned considering downsizing of the valve boxes and improved considerations of space constraints.

Calendar

January 26, 2010
Video conference on Physics Unit Activities remotely between Japan-EU

March 29, 2010
3rd Joint Project Meeting
Tokyo, Japan

March 30, 2010
6th Meeting of the STP Project Committee,
Naka, Japan

April 12-14, 2010
8th Technical Coordination Meeting,
Frascati, Italy

April 28, 2010
7th Meeting of the BA Steering Committee,
Rokkasho, Japan

June 19-23, 2010
Int. Cryogenic Engineering Conf. 23 - Int. Cryogenic Materials Conf. 2010
Wroclaw, Poland

June 21-25, 2010
37th EPS Conference on Plasma Physics,
Dublin, Ireland

September 14-16, 2010
9th Technical Coordination Meeting
Naka, Japan

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

October 10-16, 2010
23rd IAEA Fusion Energy Conference
Daejeon, Republic of Korea

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Local



Fukuroda-no-taki

One of the three biggest falls in Japan, Fukuroda-no-taki ("taki" means falls) is located in the town of Daigo, 50 km away from Naka Fusion Institute to the North; its height is 120 m and width is 73 m.

It is also called as "Yodo-no-taki" ("yodo" means four) due to the way it drops down over four cascades and because Saigyo-hoshi (a famous buddhist priest and poet, who lived from 1118 to 1190) said when he visited this spot that "To understand it's true beauty, one has to visit this spot in each of the four seasons".

During the winter, Fukuroda-no-taki freezes and people often enjoy ice climbing and it is lit up in various colours in the night.

Click the picture and you can enjoy the panoramic view of Fukuroda-no-taki in the early spring.

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 sato.masayasu@jt60sa.org.