

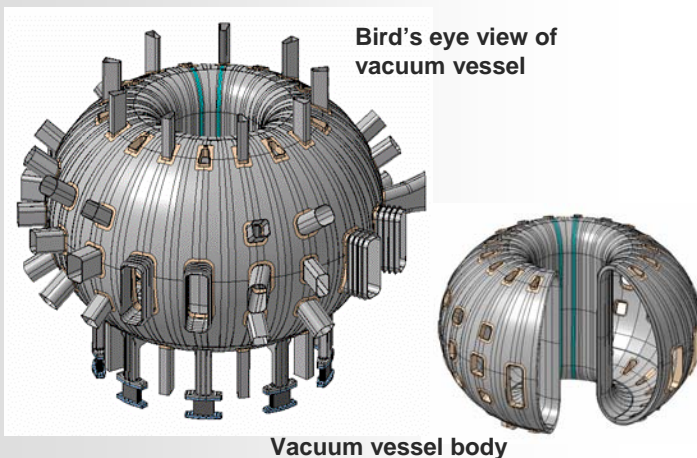
Vessel inboard/outboard welding trials finished



Welding trials of the inboard and outboard upper half of the 20 degree sector of the vacuum vessel were successfully completed at the manufacturer's factory in Japan.

The left hand picture shows the inside of the vacuum vessel, the side facing the plasma: the upper straight part of the vacuum vessel is the inboard section and the lower curved part is the outboard section. The right hand picture shows the outside of the vacuum vessel. These pictures were taken when the welding process was finished, and welding jigs and scaffolding were still attached to the vacuum vessel.

Vacuum vessel for JT-60SA



The vacuum vessel is one of the major components of the JT-60SA device, and will be procured by JAEA (Japan Atomic Energy Agency) in Japan.

The vacuum vessel is composed of the vacuum vessel body (18 toroidal sectors), 73 ports, and 9 gravity supports. The vacuum vessel body is the torus-shaped and double-walled enclosed chamber inside the cryostat, where the fusion reaction takes place. The vacuum vessel will be 9.95 m in diameter, 6.63 m in height and 150 t in weight, and constructed out of a stainless steel, SS316L, with low cobalt content. The space between the double-walled structure will be filled with cooling water, and the ports will provide access to the vacuum vessel for various systems of plasma heating, diagnostics, exhaust, cooling water, and electrical connections.

Toroidal field magnet procurement arrangement signed

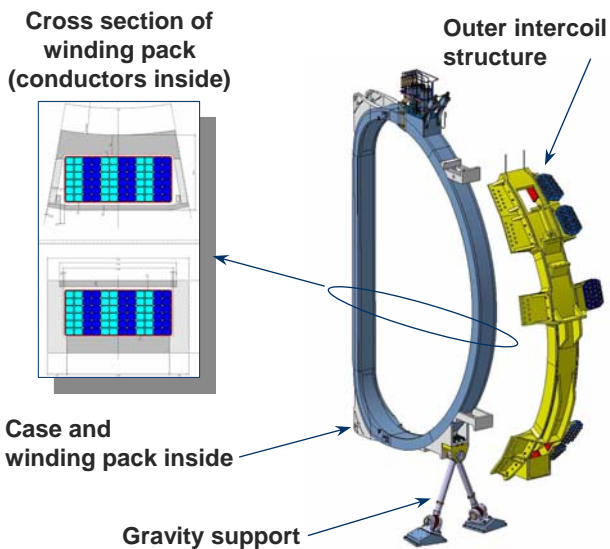


In July, a major EU in-kind procurement arrangement (PA) for the toroidal field (TF) magnet for the JT-60SA project was signed by the Deputy Director of the International Affairs Department of JAEA, T. Yoshikawa (right), and witnessed by the Project Leader, S. Ishida (left), following the signature by Director of F4E (Fusion for Energy), F. Briscoe.

Subjects of this PA are the conductor for the TF coils and the TF feeders, 18 winding packs, 18 cases, the intercoil structures, and 18 gravity supports. The PA defines the requirements and interfaces for design, fabrication, works tests, and transport to the port of entry in Japan, and defines the criteria for works acceptance of the TF coils by the JT-60SA project. The first TF coil will be delivered to Japan by Oct. 2013.

The signature on the PA allows the launching of the tendering procedures for manufacturing of the different magnet components.

The work will be carried out by F4E, CEA (French Atomic Energy and Alternative Energies Commission) in France and ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development) in Italy.



See also JT-60SA Newsletter No.4 for more technical information on the TF coil.

Nine superconducting cables manufactured



Jacketing the 9 superconducting cables of the high field side equilibrium field coil (EF4) and winding them around drums 3 m in diameter took place at the Naka Fusion Institute and was completed by the end of June.

All cables successfully passed a helium leak test, pressure test and airtightness test. 8 of the 9 superconducting cables were stored in the Superconducting Coil Winding Building at the institute.

Diagnostic stage in torus hall removed



February 2010



July 2010

Diagnostic apparatus installed in and on the diagnostic stage in the torus hall was disassembled and removed beforehand, and the diagnostic stage itself, 40 m in length and 200 t in weight, was removed to the assembly hall.

Meeting

Kick off meeting of cryostat base held



The contract of the cryostat base (CB) was signed between CIEMAT (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas) and Felguera Construcciones Mecánicas (FCM), Spain, in July, and its kick-off meeting was also held.

The meeting took place at the FCM workshop, Barros-Asturias in Spain. Apart from the FCM people involved in the project, attendants from F4E (E. Di Pietro, L. Meunier and S. Davis), CIEMAT (M. Medrano and J. Botija) participated in the meeting. The general manager of FCM, Ana Isabel Bernardo, welcomed all the participants. Presentations by FCM, F4E and CIEMAT were made, covering all the technical and management aspects of the contract. F4E presented the management aspects of the CB PA. CIEMAT presented an overview of the CB component and the final acceptance package data. Dedicated persons in the project, from FCM, presented the project organization, management, quality assurance program, manufacturing program, welding plan, CAD office, material procurement plan, final assembly/dimensional control, test and inspections, packaging and time schedule. There were extensive discussions to ensure technical clarity. An extended visit to the workshop completed the meeting.

Research Plan discussed in EFDA

On 1st July, a JT-60SA research programme seminar was held by EFDA (European Fusion Development Agreement) in the U.K. and the JA PM, Y. Kamada, and K. Lackner gave presentations regarding the JT-60SA Plasma Regimes and Research Plan. Approximately 50 members of EFDA attended the seminar and had lively discussions afterwards.

Calendar

August 1-6, 2010
Applied Superconductivity Conf.
 Washington, D.C., USA

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
 Daejeon, Republic of Korea

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

Home Teams



The EU Home Team headquarters of JT-60SA is located at the antenna of Fusion for Energy in Garching, Germany.

The job of this small team is to coordinate the European work on the project. It takes care of technical and administrative preparation of the design specifications, PAs between the Implementing Agencies, and agreements of collaboration. It works closely in this with the voluntary contributing organisations which are largely responsible for placing the contracts with industry to make Europe's hardware for JT-60SA.

The team also works with the JA Home Team to ensure the best possible design, manufacturing and assembly integration, and undertakes analysis to support the TF magnet, cryostat, cryoplant and magnet power supplies procurements. It also contributes strongly in developing the project's common quality management system, and much of the project software infrastructure.

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/>