

IFERC Newsletter

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International Fusion Energy Research Centre, Rokkasho, Aomori 039-3212, Japan

Meetings

The 1st DEMO Joint Technical Coordination Meeting (JTCM-1)

The 1st DEMO Joint Technical Coordination Meeting (JTCM-1) between the Demo Design Activity (DDA) and the DEMO R&D Activity was held at Fusion for Energy premises in Garching (via Video Conference (VC) from Barcelona and Rokkasho), on 11th September, 2013 combined with the DDA task meeting on 12-13 September. More than 30 participants attended the meeting in total; 3 from IFERC Project Team (PT), 16 from the JA home team including 7 via VC, 16 from the EU home team including 13 via VC. The main objectives of the JTCM are to improve communication and to ensure the appropriate cooperation between the DDA and the DEMO R&D Activity, taking into account the recommendations that were made by the peer review panel of DEMO R&D activity implemented in 2012. From such a viewpoint, the opening address was made by the Project Leader and the development of the DDA in EU and JA, including JA updated plans and the EU DEMO roadmap, were presented. DEMO R&D activities in JA and EU including updated JA R&D plans were outlined and a discussion about DEMO was held by the DDA Leader

In the EU DDA, there has been substantial progress on the activities aimed at preparing the start of the DEMO conceptual design activity foreseen for 2014. Two design options, DEMO1 and DEMO2 are being investigated as a near-term DEMO (pulsed operation) and an advanced DEMO (steady state operation), respectively. Also, plans for the reorganization of fusion development activities in EU were presented. EFDA and the bilateral agreements between the European Commission and the national fusion laboratories – Contracts of Associations, which used to provide annual baseline support – come to an end. EUROfusion consortium is now being formed (including all current EFDA Associates) to implement the Roadmap into the

fusion research activities under the Horizon 2020 framework programme. In JA DDA, acceleration of research on the divertor design, remote maintenance study and DEMO blanket design was proposed. Updated plans of JA DEMO R&D were presented in the 5 task areas regarding SiC/SiC composites, tritium technology, materials engineering for DEMO blanket, and advanced neutron multiplier and tritium breeder for DEMO blanket with a plan of a new building. In EU, following the recommendations of the *Roadmap to the Realisation of Fusion Energy*, DEMO technology R&D is expected to significantly increase especially in the areas of breeding blanket and materials.

In the discussion toward DEMO, it has been pointed out that the technical and physical design bases supported by JA and EU for DEMO have converged enormously through an effective dialogue and collaboration in the Phase-2 and that both IAs have started a DEMO scoping study to explore possible DEMO design parameters under specific design criteria following the benchmark of systems codes. Concretely, a design range of DEMO by EU and JA seems to converge in a range between 8m and 9m.

On the other hand, with respect to the in-vessel maintenance, two schemes using a large sector and the multi-module sectors are being investigated. The former replaces the divertors and blankets all together, but the latter replaces them separately. From a viewpoint of operation flexibility of DEMO, this difference seems to be an important issue, and so further discussion with this viewpoint will be expected in the next period of the DEMO design activity.

The next JTCM (JTCM-2) will be held at 6th February 2014 at the Katsura new campus of Kyoto University, combined with the 5th TCM of DDA.

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JTCM-1 at Fusion for Energy in Garching