IFERC Newsletter

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DEMO Design Activity meeting

8th Technical Coordination Meeting of DEMO Design Activity (TCM-8)

The 8th Technical Coordination Meeting (TCM-8) of DEMO Design Activity (DDA) was held at Kyoto University Uji Campus (hosted by Prof. S. Konishi) on 7th – 8th February 2017 with 34 participants (including 7 remote participants); 4 from IFERC-PT, 12 from JA home team and 12 from EU home team. From the summer of 2016, the DDA project team and EU and JA home teams have been preparing for the 2nd DDA intermediate report, which summarized the progress of common research topics in DDA after the 1st DDA intermediate report (2015 February), and emphasized the design integration and impact on DEMO system design. In the TCM, the main results were presented by the authors responsible for the chapters, and the consistency between chapters was discussed, to improve the contents for the publication (2017 February).

The 2nd DDA intermediate report covers the progress in 9 topics; 1) Systems code and scoping study, 2) DEMO Physics Basis, 3) Divertor and Power Exhaust, 4) In-Vessel and Tritium Breading Blanket design, 5) Remote Maintenance, 6) Superconducting Magnet, 7) Plant Design, Balance of Plant and Tritium Process, 8) Safety, and 9) Structural Material R&D. A new topic of this report is "Plant Design, Balance of Plant and Tritium Process": simplification and integration of cooling system are the critical issues for the fusion power plant, in comparison with existing power plants. Auxiliaries and other plant systems such as heat reserve system for pulse operation and plant power diagram concept considering

operation mode, are summarized. A section on "Key Findings and Recommendations for Future Work" has been added as a final chapter, in order to summarize the research plans during the extension period of DDA (2017-2019). A final report will be issued thereafter.

In addition, progress in design of the breeding blanket in EU was reported. Specific issues in the remote handling of the vertical maintenance included cooling pipe connection and port size. Simulation results of the plasma profile in the divertor detachment were discussed for the 20th IFERC Project Committee (2017 March). Recent status and the prospects of involvement of IAEA in Fusion DEMO activities were reported. Next DDA Task Meeting (28th DDA TM) is planned at 20-22 June 2017 in Garching, where research topics in the BA DDA extension period, presentations for the next DEMO review meeting and DDA joint papers will be discussed. The next TCM (9th DDA TCM), including R&D topics, is planned in conjunction with the Project Committee meeting (22nd IFERC PC) at 14-16 February 2018, in Osaka.

(Hiroyasu Utoh)

