Contribution ID: **353** Contribution code: **THU-OR4-202-02** Type: **Oral**

About the first 6 toroidal field coils and 2 poloidal field coils completed by EU for ITER

Thursday, 18 November 2021 16:15 (15 minutes)

The plasma confinement of the International Tokamak Experimental Rector (ITER) is provided by the magnetic field generated by 18 toroidal field (TF) coils while 6 poloidal field (PF) and 6 central solenoid coils have the function to drive, shape and pre-heat the plasma. Fusion for Energy (F4E), the European Domestic Agency for ITER, is responsible for the supply of 10 TFC and 5 PFC to the ITER project. The ITER Organization (IO) team is instead responsible for the design of such coils as well for the coordination of the activities of the different Domestic Agencies (DA) producing the different components, and their assembly into the Tokamak. The PF coils utilize NbTi Cable-in-Conduit-Conductor and have different diameters between 7 and 25 meters and a weight up to 400 tons. So far two EU PF coils have been delivered to IO. PF6 has been manufactured by the Institute of Plasma Physics Chinese Academy of Sciences (ASIPP) under a collaboration agreement with F4E. PF5, has been manufactured at the ITER site by a cluster of suppliers managed and supervised by F4E. The remaining 3 PF coils, also being produced in Cadarache: PF2 will be completed by 2021 while the last coil (PF3) will be ready 2023. The TF coils utilize a Nb3Sn conductor and are manufactured with the "Wind, React & Transfer"method. At the time of the abstract, the first 3 TF coil have been completed and delivered to ITER, and 2 more coils will be delivered within 2021. The remaining TF coils will follow at a rate of about one every 3-4 months. We will report on the main aspects of the 6 coils completed so far, on the main results obtained together with some statistical analysis as well as on the status of the remaining coils.

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Session Classification: THU-OR4-202 Fusion Magnets II