



Contribution ID: 1218

Type: **Invited Plenary Oral Presentation**

Overall Status of the ITER Project

Monday 28 August 2017 09:15 (45 minutes)

ITER, a first-of-a-kind nuclear tokamak, is being constructed by a partnership between China, European Union, India, Japan, Korea, Russian Federation and USA, in southern France. The buildings are well under construction and the tokamak components, largely supplied in kind by the partners, will start arriving at the end of this year. Component assembly activities start in 2018 and continue until 2025. Fabrication of the vacuum vessel is moving forward, manufacturing of the thermal shield is in progress, and cryostat elements delivered by India are being assembled into large-scale sections of the cryostat (~29m diameter ~29m height). The magnet system, with 50GJ of stored energy, will be the largest ever built. Over 600t of Nb3Sn and 300t of NbTi superconducting strand were produced for these magnets and 95% of the superconductors for the magnets are now complete. Winding packs, weighing 100t each, for the first 2 toroidal field coils were completed in Europe and the double pancakes for a further 2 were stacked in the EU and Japan. About 60% of the winding of the TF coils is completed. Winding of the first central solenoid coil is underway at a supplier in USA. The first double pancakes for the poloidal field coils are being wound in the European Union, Russia and China. The feeders, complex and vital parts of the system, are fabricated by Chinese suppliers and the first units will be delivered in August. At this point the project is successfully overcoming multiple challenges simultaneously. For example, as the first magnets are built and tested adjustments and corrections are made to maintain performance, without loss of schedule. The restructuring of the ITER organization in 2015 and 2016, and a positive spirit of mutual collaboration among the partners, is helping us to stay on track for first plasma in December 2025.

Submitters Country

ITER IO in France

Author: BIGOT, Bernard (ITER International Organization)

Co-author: MITCHELL, Neil

Presenter: BIGOT, Bernard (ITER International Organization)

Session Classification: Mon-Mo-Pl2

Track Classification: B1 - Superconducting Magnets for Fusion