

IT3 (Invited Talk): Mon, 11.00-11.40

The European contribution to ITER

Frank Briscoe

Fusion for Energy (F4E), Torres Diagonal Litoral B3, Josep Pla 2, 08019 Barcelona, Spain

The European Joint Undertaking for ITER and the Development of Fusion Energy (F4E) acts as the European Domestic Agency and provides the European in-kind contributions to ITER. The presentation will describe the progress to date and the implications of the new ITER baseline.

In relation to progress, F4E is now largely established with about 240 staff and seconded national experts and many operational processes in place. The main current focus is on the critical path items – buildings, magnets and vacuum vessel.

On buildings, a small antenna of about 10 staff has been established at Cadarache and 3 important support contracts are now in place, viz. support for the owner, architect engineer, and health and safety coordination & legal services, which already provide about 100 support staff. The contract for the PF coils building is in place and the actual building work is starting. The contract for the excavations, support structure and lower basement of the tokamak building is also in place and again the actual work is starting. The contract for the anti-seismic bearings is also in place. With the help of the Architect Engineer, the design of the buildings (other than the PF coils one) will be completed and then the contracts for the construction of these will be tendered.

On magnets, the TF are well advanced with contracts awarded for the radial plates, the conductor, the cabling and jacketing and the winding packs. The contract for cold test and coil insertion will be awarded next year. The tender for the PF coils is in progress; the aim is to award the contract by the end of 2010.

On the vacuum vessel, the tender was launched in February with the aim of awarding the contract in October. Progress on other less urgent components will also be reported.

In relation to the new ITER baseline, there are some implications for the EU work. On schedule, the target of first plasma at the end of 2019 is very challenging with several EU contributions on or near the critical path and already requiring special measures such as multiple production lines. On cost, the EU budget for the construction phase is being increased substantially in line with new estimates, but the new budget will be fixed, i.e. any further cost increases must be matched by cost savings. Consequently, on scope, there will be a need to re-visit and prioritise some design choices and ideas in the context of cost containment and a fixed EU budget.

In summary, on the European side (and more generally), the ITER work is now moving forwards from an initial phase of organizational start-up and design completion to a second phase of construction of buildings and manufacture of the core machine components.