

New Status of ITER Project

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The ITER Baseline has finally been approved by the ITER Council on 28 July this summer and the ITER project has moved into a new era of construction. Over the past two years, intensive efforts have been devoted in major areas of ITER project construction and an extensive set of technical documents has been developed, together with revised schedule and cost estimates. The Baseline is composed of scope, schedule and cost.

The Scope was already agreed at the second meeting of the ITER Council (IC-2) in June 2008. The overall programmatic objective is to demonstrate the scientific and technological feasibility of fusion energy for peaceful purposes. There are two principal technical objectives:

- Plasma Performance:
 - $Q > 10$ inductive pulse operation to achieve a significant fusion power amplification with output power of 500 MW in inductively driven plasmas;
 - $Q > 5$ non-inductive steady-state operation to aim at the demonstration of steady-state operation by non-inductive current drive;
- Engineering Performance and Testing: to demonstrate the availability and integration of technologies essential for a fusion reactor (e.g. superconducting magnets and remote maintenance).

The IC approved the Overall Project Schedule presented by the Director-General aiming for completion of the Construction Phase with the achievement of First Plasma in November 2019 (early finish). It noted that analysis of the schedule uncertainties indicated that the late-finish date for the Construction Phase would be July 2021. It endorsed the IO target date of March 2027 for the commencement of DT operation, consistent with achieving First Plasma in November 2019. It also encouraged the IO to continue its exploration of ways to optimize the schedule to begin DT operation in 2026.

Most of the components for ITER will be provided “in-kind” by the Members through procurement agreements. At present, the IO and relevant DAs had signed 45 PAs in total, encompassing approximately 60% of the total procurement value for the construction of ITER. Another 14 PAs are scheduled to be signed by the end of 2010 corresponding to a further 15%.

At present, the critical path for ITER involves the design completion of the superconducting magnets, vacuum chamber and in-vessel components. In relation to cost containment, the major issues are additional direct investment (ADI), which typically includes in-vessel coils (VS coils, ELM control coils), cold tests and so on, and spares, which are strongly linked to the success of quality control. We are in close collaboration with the DAs of the 7 Members to finalize designs, solving the necessary issues to take the ITER project forward.

At the Cadarache site, cranes, earth scrapers and power shovels have moved onto the platform. Work has begun on the tokamak pit and on the site of the future ITER Headquarters. Concrete is being poured for the pillars of the building where PF Coils will be assembled. The project's size and scope are now clearly visible to all. The presentation will provide an excellent opportunity to present the new status of the ITER project.