

Towards the procurement of the ITER divertor (P2-F-439)

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The procurement of the ITER divertor is planned to start in 2009. On the basis of the present common understanding of the sharing of the ITER components, the Japanese Participating Team (JA PT) will supply the outer vertical target, the Russian Federation (RF) PT the dome liner and will perform the high heat flux testing, the EU PT will supply the inner vertical targets and the cassette bodies, including final assembly of the divertor plasma-facing components (PFCs).

The manufacturing of the PFCs of the ITER divertor represents a challenging endeavor due to the high technologies which are involved, and due to the unprecedented series production. To mitigate the associated risks, special arrangements need to be put in place prior to and during procurement to ensure quality and to keep to the time schedule. Before procurement can start, an ITER review of the qualification and production capability of each candidate PT is planned. Well in advance of the assumed start of the procurement, each PT which would like to contribute to the divertor PFC procurement, should first demonstrate its technical qualification to carry out the procurement with the required quality, and in an efficient and timely manner. Appropriate precautions, like subdivision of the procurement into stages, are also to be adopted during the procurement phase to mitigate the consequences of possible unexpected manufacturing problems.

In preparation for writing the procurement specification for the vertical targets, the topic of setting acceptance criteria is also being addressed. This activity has the objective of defining workable acceptance criteria for the PFC armour joints.

A complete set of analyses is also in progress to assess the latest design modifications against the design requirements. This task includes neutronic, shielding, thermo-mechanical and electromagnetic analyses.

More than half of the ITER plasma parameters that must be measured and the related diagnostics are located in the divertor. All the seven ITER PTs are involved in the procurement of the divertor diagnostic systems. The engineering implications of integrating the required diagnostics in the divertor design are being assessed.

This paper presents an organisational overview and the future procurement plans for ITER. Its aim is to show the work that will need to be carried out until the start of the divertor procurement.