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STATUS ON DESIGN AND CONSTRUCTION OF THE ITER BUILDINGS AND PLANT SYSTEMS

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The Tokamak Complex building construction is progressing on the ITER site. This consists of the Tokamak building hosting the machine, the Tritium building and the Diagnostic building, together with a wide range of auxiliary buildings, such as those for the heating systems, cryoplant, power supply, control of the entire plant or the assembly of the Tokamak machine. The majority of the auxiliary buildings are currently in the execution phase on site.

The ITER project applies a staged approach, with the First Plasma phase scheduled in 2025, followed by the Pre-fusion Power Operations I and II, and finally the Tritium phase scheduled in 2035. As a consequence of the staged approach, the schedule of the building construction and plant systems installation have to be organized accordingly, and the plant configuration for each phase to be defined.

While the manufacture of the long lead items for the Tokamak machine is currently ongoing, the plant systems are completing the final and manufacturing design, in order to start the manufacture of the components, and to be ready on time for the start of the installation works in the buildings.

This paper gives an overview of the building overall design process, and the construction status of each building. The plant layout for the First Plasma is described, with the systems requirements to be fulfilled in order to achieve the first plasma.

This paper further highlights the definition freeze and control, for the physical interfaces, that is needed so as to decouple the plant systems design, reducing the risk of possible changes propagated to the more advanced and mature interfacing systems. The accomplishments and planning towards the Manufacturing Readiness Review for the plant systems, which are required for First Plasma, are summarized.

An overview of the final configuration is presented, to prepare the installation and construction of the plant systems in the buildings, including allowance for the shared use among the contractors.

Eligible for student paper award?

No

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