

*THE TBM-CA CONFIGURATION MANAGEMENT APPROACH FOR THE ITER TEST  
BLANKET MODULE - APPLICATION TO THE HCLL TBS.*

L. Jourd'Heuil<sup>1</sup>, D. Panayotov<sup>2</sup>, J.-F. Salavy<sup>3</sup>, C. Storto<sup>4</sup>, P. Sardain<sup>1</sup>

<sup>1</sup> CEA, IRFM, F-13108 Saint-Paul-lez-Durance, France

<sup>2</sup> KIT, Hermann-von-Helmholtz-Platz 1, D-76344 Eggenstein-Leopoldshafen

<sup>3</sup> CEA, DM2S, F-91191 Gif-sur-Yvette Cedex, France

<sup>4</sup> LGM, Espace Wagner, Bâtiment D, 10 rue du Lieutenant Paraye, F-13858 Aix-en-Provence Cedex 3

*Corresponding author: laurent.jourdheuil@cea.fr*

TBM-CA is a consortium of 6 European Associates (KIT, CEA, ENEA, CIEMAT, RMKI, NRI). The aim of the consortium is to implement contracts to develop, produce, qualify, install and operate two Test Blanket Systems (TBS) in ITER: the Helium-Cooled Pebble Bed (HCPB) concept developed by KIT and the Helium Cooled Lithium Lead (HCLL) concept developed by CEA.

Designing a complex system like TBM for ITER necessitates an organizational structure inside the consortium to manage in permanence the coherence between requirements (F4E technical specifications and management specifications) and the TBM development through their life time. A special division is in charge of this task: Management Support and Design Integration Team (MDIT). At the present stage, evolutionary nature of the design from the different teams is important. Among the high priorities assigned to MDIT is to perform an efficient control of the Configuration Management (CM). To do so, MDIT defined the dedicated procedures, based on international standards, and developed centralized tools. The TBM-CA CM comprises 4 main processes: a) identifying configuration of a product characteristics, including its interfaces (Configuration identification), b) controlling the evolution from agreed baseline, including the change management and the non conformity management (Configuration Control), c) creating the knowledge database in order to manage the information all along the lifecycle of the items (Configuration status accounting) and d) verifying the current configuration status of the items (Configuration Verification & Configuration Audits).

CM is then a powerful tool to link the requirements for engineering, safety, quality assurance and test & acceptance activities. The application of the CM approach is illustrated through the case of HCLL TBS in the framework of the first grant with F4E. From the original functional and technical requirements, the configuration items were identified (Product Breakdown Structure) and characterized (interfaces and parameters). This technical baseline is shared among the team members of the consortium for their technical activities thanks to the PLM System : Smarteam and its associated ECM (Sharepoint).

After months of implementation, the common system that allows an efficient TBM-CA Configuration Control is established with the associated tools. The result shows that the proposed methodology is suitable and provides quality solution for the items with a complex configuration such as HCLL TBS.

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