

OPERABILITY OF THE ITER HOT CELL FACILITY

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The main function of the Hot Cell Facility (HCF) is to repair or refurbish components, tools and equipment that have become activated by neutron exposure and/or contaminated with tritium and beryllium, or covered with activated dust.

The level of activation and contamination, the size and the weight of components are some of the key drivers for the HCF. This facility is needed to meet the maintenance and upgrading requirements of the ITER machine, as well as to ensure the availability of the machine during the operational phases. Therefore maintenance requirements and the operability analysis are essential inputs for the design.

To fulfill the maintenance strategy, the HCF shall be capable of refurbishing and replacing vacuum vessel components and processing radwaste simultaneously. Based on the top level project requirements, the design scenario giving the most stringent constraints is based on the following scenario during the main shutdown: replacement of 54 cassettes, 3 Test Blanket Modules Port Plugs (TBM PP), the In Vessel Viewing System (IVVS), the repair of 2 Equatorial and 2 Upper Port Plugs (PP) and the use of the Multi-Purpose Deployer (MPD).

The operability between shutdowns is also verified against unscheduled maintenance tasks, in addition to the scheduled refurbishments of spare components and the regular maintenance of the facility.

This paper will outline the methodology, the basic tasks considered and it will present the schedule during shutdown and between shutdown periods. The goal is not only to check the HCF operability versus project requirement but also to assess the use rate of each workstation, which will be used as input data for the RAMI analysis to optimize the design of the HCF.

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