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ITER: Test protocol to demonstrate the Cryogenic Helium plant performances

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The ITER Tokamak requires an average 75kW of refrigeration power to maintain the nominal operation condition of the ITER superconducting magnets and cryopumps. This is produced by three identical liquid helium (LHe) Plants.

Air Liquide Advanced technologies, as the supplier of the entire ITER liquid Helium plant, should demonstrate through various running conditions, that the expected functionalities and performances will be achieved. In particular, a high power test cryostat will simulate the 75 kW isothermal loads in a liquid Helium bath. This proceeding will present the tests phases as well as the main functionalities and equipments implemented to allow the cryogenic Helium plant acceptance by ITER.

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