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C3Or3D-02: ITER LHe plants first tests results

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ITER liquid helium plants (LHe plants) provide 75kW of cold power at 4.5K to cool-down the 10 000 tons of magnets, the cryopumps and the current leads of the tokamak. The 3 cold boxes delivering this power are one the most powerful equipment ever built at this level of temperature. Before being connected to the tokamak, these LHe plants shall pass a complex series of tests to demonstrate their performance in different operation modes, and their ability to operate together to mutualize their capacity. The test complexity will increase all along the test program. This paper describes the results of the 1st steps of this test program, namely, the performance of an individual plant operating in steady state mode and with pulsed heat loads. The final step of this ambitious test program is the operation of the 3 plants in parallel with pulsed heat loads.

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