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C1Po2D-08: Installation, commissioning, and testing of the HB650 CM at PIP2IT

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The Proton Improvement Plan-II (PIP-II) is a major upgrade to the Fermilab accelerator complex, featuring a new 800-MeV Superconducting Radio-Frequency (SRF) linear accelerator (LINAC) powering the accelerator complex to provide the world's most intense high-energy neutrino beam. This paper describes the conversion of the PIP-II Injector Test Facility (PIP2IT) cryogenic system into a test stand for PIP2 High-Beta 650 MHz (HB650) cryomodules at Fermilab's Cryomodule Test Facility (CMTF). A description of the associated mechanical, electrical, and controls modifications necessary for testing HB650 cryomodules are provided. The cooldown and warmup requirements, procedures and associated controls logic is described. The prototype HB650 static and dynamic heat load measurements are reported.

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