Contribution ID: **425** Contribution code: **WED-PO2-723-04** Type: **Poster**

Current Status of the Facility for High Field Cable Testing at Fermilab

Wednesday, 17 November 2021 10:30 (20 minutes)

Fermi National Accelerator Laboratory (Fermilab) is building a new High Field Vertical Magnet Test Facility (HFVMTF) with a capability similar to the European facilities EDIPO and FRESCA2. This facility will be located at Fermilab. The background magnetic field of 15 T in the HFVMTF will be produced by a magnet provided by LBNL. This facility will serve two US national programs within the DOE Office of Science, the Magnet Development Program (MDP), and the US Fusion Energy Science (FES) program for testing HTS samples in a high magnetic field and wide range of temperatures. For the MDP, the facility will make it possible to test hybrid magnets built on LTS and HTS superconductors –an important step toward the 20 T dipoles to be used in future hadron-hadron colliders. This paper describes the current status of the facility including the civil construction, designs of the cryostat, heat exchanger, and lambda plate, and systems for powering, quench protection and monitoring.

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Session Classification: WED-PO2-723 Moel Coil II & Test Facilities