

NSTX-U Weekly Report (March 6, 2015)

NSTX-U is in the Upgrade Project outage in FY 2014

Jon Menard, Rajesh Maingi, and Stefan Gerhardt of NSTX-U/PPPL participated in the Alcator C-Mod/Magnetic Fusion Experiments Program Advisory Committee meeting held at the MIT Plasma Science and Fusion Center on March 5-6, 2015. (J. Menard)

Experimental Research Operations (S. Gerhardt, R. Kaita)

Several diagnostic vacuum interfaces were completed on March 6-7 in preparation for NSTX-U research operations. The tangential bolometer assembly at Bay "G", the re-entrant window for a Plasma TV at Bay "I", and a gate valve for a bolometer at Bay "I" were installed. (R. Ellis, PPPL)

Engineering Operations (A. von Halle, P. Titus)

NSTX Upgrade activities continued with the final installations of TF bus in both umbrellas. Work in the upper umbrella is complete (see attached photo), and about 45% complete in the lower umbrella. Hydrostatic testing of installed cooling water lines continues. Fit-ups of the upper umbrella lid have started.

The Digital Coil Protection System (DCPS) and the Power Supply Real Time Control (PSRTC) are complete and supporting Field Coil Power Conversion (FCPC) System dummy load testing. Permanent installation of the expansion chassis to incorporate the redundant DCPS into the control system is in progress, and the development of DCPS Algorithms for integrated system coil testing continues. Preparations for the integrated testing of the redundant DCPS's is underway. DCPS 779 (Daily DCPS Set Up/Start Up Procedure) has been reviewed and approved.

Preparations for plasma operations in the NSTX-U configuration also continued with dummy load testing of the FCPC power supplies utilizing PSRTC, DCPS, and the new rectifier firing generators. Testing of the TF rectifiers as needed for the NSTX-U CD-4 plasma has been completed, and good progress is being made on the testing of individual OH rectifier sections over their full range of operation, and on pairs of OH rectifiers configured for 2kV, 24kA operation in OH forward and reverse branches. Welding of the coaxial lines for the deuterated trimethylboron (dTMB) system continued, and control wiring is being installed. Modifications to the test cell Emergency Stop circuits were completed and tested this week. Installation of new fibers for the Beam Emission Spectroscopy has started.

Access to the NSTX test cell will be available only through previous arrangement with the Upgrade Work Control Center.

**NSTX-U Top View (March 8, 2015)
Upper TF Flex Bus Installation Complete**

