

NSTX-U Weekly Report (June 13, 2014)

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

The NSTX Upgrade Program Advisory Committee (PAC-35) meeting was held June 11-13, 2014 at PPPL. The PAC was asked to address 3 charges including assessments of (1) operational preparation and research priorities and preliminary plans for the first two run-years of NSTX-U, (2) a preliminary set of ideas to make NSTX-U more attractive and/or available to university scientists, and (3) progress and plans for establishing and expanding the partnership between the NSTX-U program and the PPPL theory department. The PAC provided excellent feedback on all the charge questions and provided many helpful comments on the results and plans for each NSTX-U topical science area. In addition, three NSTX-U PAC members gave experimental seminars before and after the PAC. On June 11, Dr. Ian Chapman from the Culham Centre for Fusion Energy (CCFE) gave a presentation entitled "Recent MAST results and status of MAST Upgrade project" and Dr. George Sips from JET/CCFE gave a presentation entitled "JET Results and plans for DT operation". On June 13, Professor Dennis Whyte from the MIT Plasma Science and Fusion Center gave a presentation entitled "Exploring high-field side RF launchers and current-drive in the ADX, Vulcan, ARC conceptual tokamak designs." (J. Menard, PPPL)

On June 9, M. Ono (PPPL) visited University of Tsukuba and met with Prof. Imai and his gyrotron development team. He heard the progress on the 28 GHz gyrotron development and also discussed the gyrotron collaboration on NSTX-U. He gave a seminar on the status and plans of NSTX-U to the GAMMA-10 group. (M. Ono)

Engineering Operations (A. von Halle, C. Neumeyer)

NSTX Upgrade activities continued with the successful completion of fit-ups of the upper and lower halves of the OH/TF mold. Assembly of the molds seals, O-rings and valving needed for the subsequent vacuum impregnation with epoxy (VPI) is now in progress. In the NSTX-U test cell, the installation of the neutral beam #2 High Voltage Transmission lines has been completed.

Development of the new Digital Coil Protection System (DCPS) continued with ongoing testing of system software and user interfaces, and the design of hardware and I/O layouts. The final design review of the DCPS hardware interface was held this past week.

Preparations for plasma operations in the NSTX-U configuration also continued with the ongoing in-vessel installations of the new compliant center conductors on the HHFW Antennas. Calibrations of the MAPP and sFLIP diagnostics continued this week, and the Bay J port cover has been installed on the vessel. Neutral Beam and Field Coil Power Conversion Subsystems are being made ready for power testing with the exercise of pre-operational test procedures. A new layer of new stone has been installed in the NB switchyard. Good progress is being made on the testing of the Stand Alone Digitizer (SAD II) system prototype, and on the design of circuit boards for the new Ip Calculator. Both of these systems should be ready for their final design reviews by late June or early August.

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