

NSTX-U Weekly Report (June 20, 2014)

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

Two NSTX papers merited an Editor's Choice designation by Physics of Plasmas. "Measured improvement of global magnetohydrodynamic mode stability at high-beta, and in reduced collisionality spherical torus plasmas" by J.W. Berkery (Columbia University) et al. Phys. Plasmas 21, 056112 (2014) <http://scitation.aip.org/content/aip/journal/pop/21/5/10.1063/1.4876610>, and "Differentiating the role of lithium and oxygen in retaining deuterium on lithiated graphite plasma-facing components" by C. N. Taylor (University of Illinois at Urbana-Champaign) et al., Phys. Plasmas 21, 057101 (2014) <http://dx.doi.org/10.1063/1.4874340>. The full short list of Editor's Choice papers can be found here: <http://aip-info.org/1XPS-2IU9R-11C9QFXH6B/cr.aspx> (S.A. Sabbagh, Columbia University and C.N. Taylor, INL)

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

NSTX Upgrade activities continued with the vacuum impregnation with epoxy (VPI) of the TF/OH coil assembly. The TF/OH coil and mold are currently in the oven for the thermal cure cycle. Work on the new centerstack casing continues in the South High Bay, and the centerstack casing lift/turning fixture has been successfully load tested. The last of the new PF 1 coils is scheduled to arrive at PPPL next week.

Development of the new Digital Coil Protection System (DCPS) continued with ongoing testing of system software and user interfaces, and the design/fabrication of hardware and I/O layouts. DCPS interfaces in the Field Coil Power Conversion (FCPC) area have been established.

Preparations for plasma operations in the NSTX-U configuration also continued with the ongoing in-vessel work on the new compliant center conductors for the HHFW Antennas. All 12 of the Faraday cages have been reinstalled, and final assembly of the antennas is in progress. Calibrations of the tFIDA and CHERS diagnostics continued, as well as ongoing installations of the optics box and flight tube for the MPTS diagnostic. Neutral Beam and Field Coil Power Conversion (FCPC) Subsystems are being made ready for power testing with the exercise of pre-operational test procedures. The FCPC 350HP cooling water pump has been reinstalled in the Pump Room. The contract weld repair of the MG Set #1 rotor is in progress after the jacking of the rotor to relieve stresses and the installation of gauges to monitor distortion during welding operations.

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