

NSTX-U Weekly Report (April 15, 2016)

FY 2016 NSTX plasma operations

Operation Targets: Total – 18 run weeks

Completed: 7.23 run weeks and 748 plasma shots

Rajesh Maingi, Mike Jaworski, and Dick Majeski of PPPL presented a sequence of talks at Oak Ridge National Lab. Maingi's talk was "Lithium and Liquid Metal Studies at PPPL: an Introduction", Jaworski's talk was "NSTX-U upgrade plan for liquid metals PFCs", and Majeski's talk was "Lithium walls and enhanced tokamak performance." Collaborative discussions with the fusion energy and materials divisions were held, as were lithium related PMI experiments on Proto-MPEX. (R. Maingi)

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

Jim Terry (MIT) visited PPPL to discuss plans for the MIT collaboration on the gas-puff imaging diagnostic on NSTX-U. The planned 90 channel fiber array offers 2 Mhz sampling and complements the existing camera based GPI analysis. (R. Maingi, PPPL)

The midplane MGI assembly was installed. The lower MGI assembly passed its high-pot test on the bench. The roughing pump for the Xeus, LoWEUS, and Mona Lisa UV spectrometers was installed. That assembly is now being pumped by the turbo/roughing pump combination. (R. Ellis, PPPL))

A mockup of the waveguide run for the FIRETIP and High-k diagnostics has been installed between the east wall of the NSTX-U Test Cell to the vicinity of the vacuum vessel. (R. Kaita, PPPL)

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

NSTX-U has completed the first of a two week maintenance period, which includes the warm-up and regeneration of the neutral beam LHe cryoplant. Installation activities during this maintenance period include the Lowus/Zeus/Mona Lisa diagnostic vacuum systems, the UCLA Reflectometer, trigger systems for MSE-LIF, the Massive Gas Injector, the fast Voltage measuring system needed for CHI operations, the Bay H Top Camera, and a variable angle flange for the SPRED diagnostic. Control cabling for the lithium evaporator (LITER) probes is being rerouted and properly documented in preparation for installing the probes. Engineering is setting up for borescope inspections and photographing of the TF coil leads. Corrective actions related to the RF source crowbar circuit failure have been completed, and a close-out meeting is being scheduled for early next week. All six of the RF sources are being prepared for operation and conditioning of the HHFW antennas.

Access to the NSTX-U Test Cell is available for approved work for most of the coming week. The maintenance period will conclude on Friday with the start of machine area scrub, and with a vacuum vessel boronization over the weekend.