NSTX Weekly Report (September 14, 2007)

FY 2007 NSTX plasma operations completed on June 22, 2007.

Planned: 12 weeks

Completed: 12.63 weeks with 1,879 plasma discharges.

• There will be no Monday Physics meeting on September 17, 2007 due to the Tokamak Planning Workshop being held at MIT, Sept. 17 -19. (S. Kaye)

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

The NSTX outage continued this past week with the completion of the cleaning of the NSTX lower divertor tiles, and the start of the in-situ cleaning of the plasma facing surfaces of the remaining in-vessel tiles. Also this week, the third and last neutral beam ion source was removed from the test cell for refurbishment, and the first replacement ion source was completely assembled. Electricians continued on upgrades to the NSTX bake-out system, the diagnostic ground buss, and the FIDA/PCHERS diagnostics.

The NSTX test cell will be in unrestricted (card reader) access this coming week.

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

• The evaporation of the residual lithium in lithium evaporator LITER Unit 1 was started in L245 and is in progress. Sample coupons of silicon and graphite have been coated with the evaporated lithium during this operation.

• The machining of new divertor port covers for larger LITER TIVs started.

• A. Brooks has started eddy current simulations of the liquid lithium divertor (LLD) using measured NSTX fields and field time derivatives being provided by S.Gernhart. R. Nygren (SNL) will attend the TTW at MIT 9/17-9/19. Following this meeting he will be at PPPL 9/20 for LLD discussions.

• Preparations are in progress for a platform and tooling needed for cleaning the vessel graphite tiles.

Diagnostic Operations (R. Kaita)

• The coils and mounts for the new outboard divertor halo current sensors have been fabricated. A procedure for their installation has been completed and reviewed.

• The Langmuir probes mounted in the carbon plasma-facing tiles have been cleaned, and their impedances checked. The damaged probes that could be repaired without major removal of plasma-facing components have been fixed.

• The cables for the Biased Elecrode and Probe (BEaP) system have been re-routed to prevent possible damage during future plasma operations. It has also been upgraded with the installation of additional Langmuir probes.

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