

NSTX Weekly Report (July 29, 2011)

FY 2011 NSTX plasma operations started on October 4, 2010

FY 2011 NSTX Outage started on October 25, 2010

Planned Run Weeks: 14 run weeks

Run Weeks Completed: 4.21 run weeks and 839 plasma shots

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

Investigations continued this past week into a turn-to-turn fault that occurred in the TF magnet inner conductors. The inner TF bundle has been dismantled and lifted from its tension tube while maintaining high vacuum in the NSTX vacuum vessel, and is now in its stand in the South High Bay Area. The faulted conductors are easily verified via an ohmmeter, but there is no visible damage to the bundle other than the soot/debris at the lower conductor ends, and the melted solder seen in both the upper and lower cooling tube ends of the faulted conductors (the copper conductors themselves appear undamaged). Clean-up of the lower conductor ends and an attempt to clear the solder from the cooling tubes to allow for an internal borescope inspection are in progress. Tests to establish the exact location of the fault(s) are also planned.

Access to the NSTX test cell is expected to be available for the majority of the coming week. The test cell will be locked up for parts of the day on Tuesday and Wednesday for HHFW testing/conditioning and SPA testing into the RWM error field coils.

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

- Lithium Evaporators (LITERs)
 - LITER-F1 (filled with 42g of lithium), and LITER-K2 (filled with 74g of lithium) were vented with argon, sealed in their respective double-wall chambers, and moved to a secure area to facilitate machine maintenance now in progress.
- Materials Analysis Particle Probe (MAPP)
 - Progress continued on the electrical and controls design.
- Lithium Centrifugal Granule Injector for ELM Pacing
 - Machining of the final assembly parts started.

Diagnostic Upgrades (B. Stratton)

The upgrade of the NSTX Multi-Point Thomson Scattering diagnostic to include 12 additional spatial channels was successfully completed. The new hardware has been installed, the software has been modified, and the system has been successfully tested off-line and calibrated. It is ready to take plasma data when NSTX next operates. This MPTS upgrade was supported by the American Recovery and Reinvestment Act (ARRA) funding.