

NSTX Weekly Report (July 9, 2010)

FY 2010 NSTX plasma operations

Planned: Total - 15 run weeks (Base - 14 run weeks, ARRA - 1 run week)

Completed: Base – 5.35 run week and 1020 plasma shots

Completed: ARRA -1.01run week and 171 plasma shots

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

NSTX operations were suspended this past week to investigate an elevated electrical leakage current through the OH coil insulation. The upper and lower hub assemblies were partially disassembled to reveal that an OH lower water fitting thought to be intermittently weeping, actually only had a small amount of mineral deposit (dry) around an "O" ring. The leakage path was later found to be a result of somewhat compromised insulation on the OH water feed area to a lower bracket intended to keep the OH coil and lead assembly supported. The lower bracket was then removed since the new support bracket installed during the previous OH lead area water leak repair can now fully support the OH leads. A procedure for the epoxy lead area insulation repair was reviewed and successfully implemented over the weekend. We expect to be able to reassemble the upper and lower hubs early this coming week and resume operations by mid-week.

Access to the NSTX test cell will be available early in the week during the hub reassembly, and restricted later in the week during plasma operations. Access is expected to be available each evening.

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

- Liquid Lithium Divertor (LLD)
 - Work started on developing a method for removing lithium compounds from the LLD following an air vent.
- Lithium Powder Research
 - Paraffin coated lithium powder was tested successfully at a dropping rate of 100mg/s. The results established that it performed the same as lithium carbonate (Li_2CO_3) coated lithium powder in similar tests.
 - One Lithium Powder Dropper has been calibrated and is ready for installation. A 2nd Dropper is ready for calibration and will be ready for installation thereafter.