NSTX Weekly Report (Feb. 26, 2010)

FY 2010 NSTX plasma operations
Planned: Total - 15 run weeks (Base - 14 run weeks, ARRA - 1 run week)
Completed: 0 run week and 0 plasma shot

On February 15, David Smith (University of Wisconsin-Madison) gave a seminar entitled "Electron gyroscale fluctuations in NSTX plasmas" at the University of Wisconsin-Madison. (D. Smith)

The NSTX researchers presented two invited talks at the APS April meeting in Washington, DC. February 12-14, 2010. L. f. Delgado-Aparicio (JHU) gave a talk entitled "Multi-energy SXR imaging for magnetically confined fusion studies," where the capabilities of this diagnostic technique for radio frequency heating experiments, fast electron temperature measurements, perturbative momentum, electron and impurity transport studies were presented. A. Diallo gave a talk entitled "Applications of spectro-polarimetric techniques for imaging plasma flows and current density in fusion devices" where the recent 2D imaging measurements of the CIII flow in the divertor of the DIIID tokamak, imaging of the magnetic filed pitch angle in the TEXTOR tokamak, and potential extensions of this imaging techniques to NSTX were presented. (L. F. Delgado-Aparicio, A. Diallo)

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

The NSTX start-up activities continued this week with the ongoing bake of the NSTX vacuum vessel. Also this week, testing of the field coil power conversion system safety interlocks was completed, and preparations are underway for the open-circuit testing of the field coil power supplies.

Access to the NSTX test cell will be restricted this coming week during vessel bake-out operations and power supply testing.

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

• Liquid Lithium Divertor (LLD)
- A vacuum chamber mockup of an LLD plate air cooling feedthrough connected to typical LLD interior insulator components was tested with 5 psi, 400°C air. Initial results found that the vacuum seal and interior welds performed successfully. Cyclic thermal testing is in progress.

• LLD Diagnostics
- The remaining element of the Divertor Spectrometer fiber-optic system, the part needed to focus the outputs of the 20, long fiber-optics on to the spectrometer grating was received and passed Receiving Inspection.

• Lithium Powder Dropper
- Maintenance on the first of the three 2009-dropper units has been completed, and preparations are in progress to calibrate its controls.