

NSTX Weekly Report (March 19, 2004)

FY 2004 weeks of operation planned: - 18 weeks, Completed: - 6.6 weeks

Dear the NSTX Team Members,

The CHERS vent recovery is going quite well. If all goes well (hot boronization early this week and the bake-out completion in the mid-week), the plasma operation could start the following week on March 29 about one week ahead of the original schedule of April 5. We will give you the latest status update at the March 25 team meeting.

Masa

Department, Project, Program (M. Ono, M. Peng, M. Williams, E. Synakowski)

- The following NSTX foreign collaboration researchers arrived this week. Yuichi Takase (Prof. University of Tokyo, Japan) arrived on March 14, 2004 to work on the solenoid-free start-up on NSTX with Jon Menard and the NSTX Team. M. Nagata (Prof. Himeji Institute of Technology, Japan) arrived on March 15, 2004 to work on the current start-up experiments on NSTX (with improved CHI system) with Roger Raman (Univ. Washington) and the NSTX Team. Michaela Nelson arrived on March 16, 2004 to work on X-ray crystal spectroscopy on NSTX with Manfred Bitter and the NSTX Team. Michaela is currently working on her Ph.D. thesis on X-ray crystal spectroscopy on the MAST Device, Culham Laboratory, UK. (J. Savino)
- The March NSTX Team Meeting will be held on Thursday, March 25, 2004 at 1:30 P.M., in LSB318. Remote participation will be available for our off site team members. We will update you on the NSTX schedule and on the recent Budget Planning Meeting. (J. Savino)

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

- The NSTX maintenance period is proceeding well with the completion of vessel leak checking and the start of the high temperature vacuum vessel bake. The bake-out will continue around the clock over the weekend and is expected to be complete by early this coming week. The neutral beam calorimeter has been re-installed after the replacement of a guide bearing and bellows, and the beam-line is back under vacuum. Cryogenic cool-down will begin this weekend after the completion of leak checking, and ion source conditioning will start this coming week. All work is on track for resumption of plasma operations by early April.

Access to the NSTX test cell will be restricted during bake-out operations early this coming week, and during machine area scrubs later in the week. (A. von Halle)

- A PDR was held for the power feed of the Resistive Wall Mode (RWM) power supply system. The Switching Power Amplifier (SPA) will be installed on the 2nd floor or the Field Coil Power Conversion (FCPC) building. The power feed will consist of cabling from the output of the Transrex DC source power supply on the 1st floor of FCPC to the input of the SPA on the 2nd floor, and then from the SPA to a termination box the NSTX test cell. (C. Neumeyer)

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

- The Joint CDX-U/NSTX Supersonic Gas Injector/Edge Magnetic Sensor team met to review progress and resolve design issues.
- A Joint CDX-U/NSTX Lithium Evaporator team met to review near term plans for the offline development and testing of lithium evaporation probes.
- The Lithium Pellet Injector (LPI) successfully launched aluminum test pellets in vacuum through an aluminum foil. The intermittent malfunctioning of propellant valves was discussed with factory representatives, proposed solutions were applied, and testing of the upgrades is in progress. (G. Gettelfinger)
- GDC and In-Vessel Illumination filaments were tested successfully after pump-down. (R. Gernhardt)
- Silicon and stainless steel coupon samples from the vessel Wall and the Deposition Monitor were shipped to W.R. Wampler

(SNL) for analysis.

Diagnostic Operation (R. Kaita)

- The SPRED VUV survey spectrometer suffered a loss of signal during plasma operations shortly before the recent NSTX vent. Check of the alignment and inspection of the sightline for misalignment or obstructions when the vacuum vessel was up to air indicated that the problem was not in the beamline. The spectrometer was moved to CDX-U and installed there this week for further tests with plasmas.