NSTX Weekly Report (Sept. 12, 2008)

FY 2008 NSTX plasma operations

Planned: 15 run weeks

Completed: 16.62 run weeks, 2571 plasmas (run completed on July 14, 2008)

• Michael Bell presented a talk, accompanied by a poster, on "An Overview of Recent Results from the National Spherical Torus Experiment" and N. Nishino (Hiroshima University, Japan) gave a presentation entitled "Status of two-dimensional ion velocity measurement system in NSTX" at the 14th International Congress on Plasma Physics (ICPP2008) in Fukuoka, Japan, that was held during September 8-12, 2008. (M. Bell, R. Kaita)

• There will be an NSTX Physics Meeting on Monday, 9/15 at 1:30 PM in LSB318. Howard Yuh and David Smith will present outlines of their APS Invited talks for group discussion: H. Yuh - Suppression of turbulent transport in NSTX internal transport barriers and D. Smith - Electron gyro-scale fluctuations in NSTX plasmas. If anyone else would like to present something, please let me know before the meeting. The talks will be found in **http://nstx.pppl.gov/DragNDrop/NSTX_Meetings/Monday_Physics_Meetings/2008/9-15-08/.**

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

The NSTX outage continued this week with the installation of the in-vessel measuring arm to prepare the proposed location of the collection optics for the new Beam Emission Spectroscopy (BES) diagnostic. Tiles and fixtures are being removed as necessary to install the baseplate for the boring mill that will be used to machine new ports in the vessel for BES. The machine's upper and lower umbrella lids and TF flexible links have been removed to provide access for an upgrade to the OH buswork to reduce error fields, and to allow for inspections of the lower TF flag joints. Vacuum windows for diagnostics are being cycled through the Vacuum Prep Lab for cleaning.

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

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

• Liquid Lithium Divertor (LLD)
- Communications were held between SNL-CA, SNL-NM, NSTX and SNL-CA vendors to clarify steps in the LLD fabrication plan.
- Work started on plans to fabricate an aluminum step-bent, prototype of an LLD 90° segment at PPPL for analysis and a trial fit-up in the vessel.
- Work progressed on assigning feedthrough and port allocations in preparation for initiating Control Wiring Diagrams (CWDs).

• Lithium Evaporator (LITER)
- Work was initiated on fabricating 3 spare LITER units for FY09 service.

• Graphite Samples
- NSTX plasma facing graphite tiles were shipped to SNL (W.R. Wampler) for ion bean analysis.
- Graphite tile core samples were shipped to Purdue University (J. P. Allain) for surface analysis.

• Materials Analysis Particle Probe (MAPP)
- A teleconference workshop was held with Purdue University collaborators (J. P. Allain) to discuss implementation of a Material Analysis Particle Probe (MAPP) for use during the 2009 Experimental campaign. Actions items were obtained, and work is in progress for a forthcoming Final Design Review.