NSTX Weekly Report (Nov. 13, 2009)

FY 2010 NSTX plasma operations
Planned: TBD run weeks
Completed: 0 run week and 0 plasma shot

• R. Maingi (ORNL) was elected as a fellow of the American Physical Society for his contributions in boundary physics in NSTX and DIII-D. The citation reads: *"For his seminal work in boundary physics research in tokamaks and spherical tori, including divertor pumping for density control, pellet fueling to surpass conventional density limits, and the discovery of a high-confinement mode and a new class of edge instabilities in large spherical tori."*

• The NSTX Research Forum for 2010 is scheduled for December 1 - 3, 2009 at the Princeton Plasma Physics Laboratory in Princeton, NJ USA. Team members or prospective collaborators are invited to attend or to participate remotely. Information is posted on the forum website: http://nstx-forum-2010.pppl.gov/. The Research Forum is intended to provide team members the opportunity to present ideas for experiments to be conducted on NSTX in the forthcoming run and for theoretical work supporting NSTX. Both well-developed and new ideas in the early stages of development are welcomed. Proposals for experiments to be performed in 2010 can soon be submitted for discussion at the Research Forum through this web site. There are no registration fees for the meeting, but researchers from other institutions must pre-register through web site to participate. (M. Bell)

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

The NSTX outage continued this week with the ongoing Liquid Lithium Divertor (LLD) system installations. All four LLD plates are now in place, and the connecting of heater and diagnostic cables to the vessel feed-throughs is in progress. In-vessel work for the new Beam Emission Spectroscopy (BES) diagnostic resumed this week, and the Faraday shields for the HHFW antennas were reinstalled. Machinists continued on RWM error field coil modifications at bay G in support of preparations for the new MSE-LIF diagnostic. Also this week, cyclic testing of a new double-bellows design for the NB calorimeter actuator began.

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)
- Plates -1, -2 and -3 are installed. Trial fit-ups of the final plate (-4) started.
- Connectorization of the in-vessel power, thermocouple, and diagnostic cables at the vessel vacuum feed-through started, and 3 of 20 connectors were completed.
- Installation of the external cabling and their connectorization started.
- Remote testing of the Control Rack in the Test Cell is in progress from C-Site.
- The Activities Certification Committee (ACC) reviewed LLD installation progress and operating plans. The review was found to be a success pending resolution of CHITS.

• LLD Diagnostics
- A Requisition was submitted for fiber optics for the divertor spectrometer.

• Lithium Evaporator (LITER2010)
- A Purchase Order for two pump carts to support LITER reloading was awarded.

Diagnostic Upgrades (B. Stratton)

• The re-entrant tubes that will hold the BES lenses were welded in place and the shutters have been installed. The shutters were tested manually and they are working well.