NSTX Weekly Report (September 21, 2007)

FY 2007 NSTX plasma operations completed on June 22, 2007.

Planned: 12 weeks

Completed: 12.63 weeks with 1,879 plasma discharges.

• The NSTX Research Forum for FY2008 research will be held at PPPL Tuesday - Thursday November 27-29, 2007. The forum will begin on the Tuesday morning and finish around noon on Thursday. Participation in the forum both at PPPL and remotely is welcome and encouraged. Details of the arrangements for the meeting and a provisional agenda will be distributed in October. The run coordinator, task group leaders will be announced prior to the meeting. (M. Bell)

• Many members of the NSTX research team participated in the NSTX, C-Mod, and DIII-D National Tokamak Planning Workshop held September 17-19, 2007. M. Ono presented the NSTX 5-year Plan Overview, J. Menard presented the plan for Integrated Scenario research, S. Kaye presented the plan for Multi-scale Transport Physics research, S. Sabbagh presented the plan for Macroscopic Plasma Physics research, G. Taylor presented the plan for Waves and Energetic Particle research, and R. Maingi presented the plan for Plasma Boundary Interfaces research. D. Gates, D. Mikkelsen, S. Gerhardt, E. Fredrickson, and V. Soukhanovskii served as "coordinators" for NSTX charged with defining appropriate subtopics for coordinated research, discussing what resources are involved, and discussing what can be learned. Reports produced by the coordinators and comments and suggestions from the external facilitators will provide very valuable input for improving the NSTX five year plan, especially for enhancing coordination and collaboration with DIII-D and C-Mod. (J. Menard)

• There will be an NSTX Physics Meeting on Monday, 9/24 at 1:30 pm in LSB318. C.S. Chang will give a talk on XGC and its application to NSTX L-H transitions entitled: “XGC code framework in CPES and its application to NSTX physics.” (S. Kaye)

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

The NSTX outage continued this past week with the in-situ cleaning of the plasma facing surfaces of in-vessel tiles nearing completion. The vessel Langmuir probes have tested, and the fit-up of the new halo current Rogowskis continues. Also this week, electricians continued to install the new diagnostic ground buss, and the upgrades to the bake-out system controls are nearing completion. Lithium evaporation tests using the remaining inventory in LITER-1d evaporator mounted on a test chamber were completed this week.

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

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

• The evaporation of residual lithium from LITER_unit 1 remaining from FY07 experimental operations was completed off-line in the Lithium Test Facility.

• The port at Bay K top, the candidate location for the installation of LITER_unit 2 was measured, marked and removed.

• R. Nygren from SNL visited for discussions on the NSTX Liquid Lithium Divertor (LLD) project. Discussions focused on LLD thermal response and surface conditioning. A. Brooks presented the talk "Liquid Lithium Divertor Eddy Current and Force Estimates Status".

Diagnostic Operations (R. Kaita)

• A trial installation of the sensors and in-vessel cables for the new outboard divertor halo current diagnostic was successfully performed. Final mounting will be performed next week after the completion of the sensor brackets.