

NSTX Weekly Report (Nov. 12, 2004)

FY2005 Planned Operations: 14 weeks
Completed: 0 weeks producing 0 plasmas

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

- A number of NSTX Team members participated in the International Tokamak Physics Activities (ITPA) topical group meetings during November 8-11, 2004 at Lisbon, Portugal. These are Stan Kaye in the Confinement Data Base and Modeling Group, Jon Menard in the MHD Disruption Control Group, Randy Wilson in the Steady State Operations Group, Rajesh Maingi (ORNL) in the Scrape-Off Layer Divertor and the Pedestal Edge Groups, and Ed Synakowski and Martin Peng (ORNL) in the Transport Physics Group. The results from these meetings will help enhance the NSTX contributions to the physics optimization of the ITER plasma, and benefit the near-term and long-term research on NSTX. (M. Peng)

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

The NSTX outage continued this past week with the installation of the last RWM error field coil and the successful electrical insulation testing (HiPots) of all of the RWM coils. Cables are now being installed from the RWM coils to the new Switching Power Amplifier (SPA) system installed in the power supply building. The TF flags have been temporarily mated to the TF center conductors through pressure-sensitive paper (Fuji films), successfully confirming the quality of contact surfaces. The first layer of windings for the new PF1A coil has been completed and the winding of the second and last layer is in progress. Two new ports to provide ECH and gas injection capability at the lower divertor have been installed. The mirrors for the new high-K scattering diagnostic are being assembled for installation, and fit-ups of the Bay H and Bay I port covers to the machine are in progress. Leak checking of the Bay K and Bay G port covers has started in the vacuum prep lab. An initial fit-up of the NB duct and bellows assembly to the machine is scheduled for Tuesday and will require some access restrictions in and around the NSTX vacuum vessel. (A. von Halle)

Research Operations (M. Bell)

Boundary Physics Operations (H. Kugel)

- The installation of Bay-K poloidal sample coupon array was completed. The array will be loaded with sample coupons after Faro arm position measurements, and the final vessel cleanup.

- A Peer Review for the relocation of the Bay K GDC anode to the outer wall, and the installation of a test GDC anode at Bay G was successful, and fabrication was initiated.
- The FDR recommended installation of additional interlocks and an isolated pressure gage for the Supersonic Gas Injector (SGI) was completed. (T. Provost, R. Gernhardt)
- Designs for 3 advanced styles of SGI nozzles were completed, and drawings are in progress. (V. Suckhanovskii, LLNL)
- A controls design for the SGI probe and prototypical of controls needed for the Moveable GDC anode was received, and is under review. (P. Sichts)

Diagnostic Operations (R. Kaita)

- The alignment of the vertical X-ray spectrometer was successfully completed with personnel from the Lawrence Livermore National Laboratory and PPPL..
- The spatial calibration of the gas puff imaging (GPI) edge fluctuation diagnostic was performed with R. Maqueda (Nova Photonics) and PPPL personnel.
- The CCD camera was mounted on the SPRED VUV survey spectrometer and the MCP image intensifier was tested. The full-readout images look quite uniform with no sign of hot spots. The SPRED should provide better quality data and be more reliable during the upcoming NSTX run period with the new MCP. (C. Skinner and B. Stratton)

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