NSTX-U Weekly Report (January 20, 2017)

FY 2017 status: NSTX-U is in a maintenance and repair outage.

NSTX-U Research (J. Menard)

Daniel Den Hartog and Lisa Reusch from the University of Wisconsin visited PPPL to meet and discuss physics and diagnostic issues with several NSTX-U researchers. They met with Diallo and LeBlanc to discuss the progress of the pulse-burst laser system (PBLS) installation, schedule and milestones for PBLS implementation, and optimization of PBLS operation. Possible collaborations on MST to determine the effect of tearing mode island asymmetry on plasma stability, particularly density limits were also discussed. Luis Delgado-Aparicio discussed the planning for x-ray spectroscopy collaborations on MST and also discussed diagnostic implementation and possible scientific goals. Discussions were held with K. Tritz (JHU) regarding the use of ADAS for analysis of x-ray data and possible experimental validation of models for atomic parameters used in ADAS.

NSTX-U Recovery Project (R. Hawryluk)

The first Design Verification and Validation Review (DVVR), reviewing the NSTX-U Instrumentation and Control Systems, was held this week identifying many gaps or issues with the system that will be considered in the development of the corrective action plan. The next DVVR will be held on Tuesday, January 24th, addressing the requirements for the integrated design. Progress continues on the development of NSTX-U System Design Descriptions (SDD's), and drafts are being reviewed and updated. In the test cell, the removal of the lower ceramic break was successfully completed, and the in-vessel floor is now being reinstalled. Preparations for the removal of the PF1BL coil continue. Re-commissioning of the coil winding facility continued with the completion of the fabrication of parts for the coil winding brake skid, and the receipt of parts for the coil conductor payout rollers. The coil facility oven is being configured to support PF1A fabrication. Internal temperature sensors in the cold box of the neutral beam liquid helium refrigerator were repaired and tested. Voith Hydro Reps are on site, and are making good progress on scheduled maintenance of the NSTX-U Motor Generator Upper and Lower Guide Bearings. Rich Hawryluk chaired the Max Planck Institut für Plasmaphysik Fachbeirat in Garching Germany, which reviewed their program.