

## **NSTX-U Weekly Report (May 10, 2013)**

### **NSTX-U is in the Upgrade Project outage in FY 2013**

NSTX researcher Ahmed Diallo (PPPL) has won a Early Career Research Program grant sponsored by the DOE's Office of Science for his research proposal entitled "Edge Pedestal Structure Control for Maximum Core Fusion Performance." Congratulations to Ahmed on the selection for this highly competitive research grant award. Ahmed joined NSTX in 2009 and he is presently serving as deputy boundary physics topical science group leader for NSTX-U.

NSTX-U team meeting was held on May 7, 2013. In the Research Operation Update, Stefan Gerhardt noted that the available time window for the diagnostic installation is from August 1 to November 29, 2013. If you are planning to install hardware for the FY 2015 operation, please contact Stefan, Brent Stratton, or Bob Kaita if not already. The team meeting presentation material is available on the web:

[http://nstx.pppl.gov/DragNDrop/NSTX\\_Meetings/Team\\_Meetings/2013/2013\\_05\\_07%E8%80%A8/](http://nstx.pppl.gov/DragNDrop/NSTX_Meetings/Team_Meetings/2013/2013_05_07%E8%80%A8/) (M. Ono, PPPL)

David Gates, Keith Erickson, and Bill Davis of PPPL attended the 9th IAEA Technical Meeting (IAEA-TM) on "Control, Data Acquisition, and Remote Participation for Fusion Research in Hefei, China from May 6-10th, 2013. On Monday May 6th, Dave Gates presented a talk entitled "Overview of the Plasma Control System on NSTX-U" immediately followed by a talk by Keith Erickson entitled "NSTX-U Control System Upgrades". There was substantial interest in many of the technical solutions chosen for the NSTX control system. On Wednesday May 8th, Bill Davis presented a poster entitled "Fast 2-D Camera Control, Data Acquisition, and Database Techniques for Edge Studies on NSTX". (D. Gates)

Richard Nygren and Dennis Youchison from the Sandia National Laboratories visited PPPL last week. Among the topics discussed were future plans for high-Z and liquid lithium PFCs on NSTX-U. Youchison also gave a seminar entitled "Helium-Cooled PFCs for Fusion and Other Applications: A History of Analysis and Testing at Sandia." (R. Kaita, PPPL)

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

NSTX Upgrade construction activities continued with the removal of the completed third TF inner quadrant from the mold, and its placement in the stand for testing. The first and second TF quadrants have been crated up for safe keeping until all four quadrants are ready to be assembled. In the NSTX vacuum vessel, trial fit-ups of the neutral beam armor packing plates are in progress.

Preparations for plasma operations in the NSTX-U configuration also continued with the power testing of the new firing generators for the field coil power conversion (FCPC) system rectifiers. Nine of the planned thirty four firing generators have now been delivered to FCPC, four of which have successfully completed power testing. The AC Power group is processing oil and maintaining the autotransformers and transformer rectifiers that will provide the primary power for the NB2 ion sources.

Access to the NSTX test cell will be available only through previous arrangement with the

Upgrade Work Control Center.