NSTX-U Weekly Report (May 4, 2012)

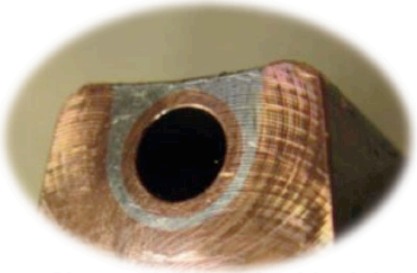
NSTX-U is in the Upgrade Project outage in FY 2012

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

NSTX Upgrade construction activities continued this week with the ongoing reinstallation of the upper and lower passive plates in-vessel, and removal of the old outer TF coil clevis pads ex-vessel. Engineering details and procedures have been prepared and are ready for the installation of the new clevis pads. A Pre-Job Briefing for the removal of three of the outer TF coils has been held, and that work will be performed over the next few weeks. A Preliminary Design Review of the proposed ex-vessel MPTS diagnostic modifications has been held, and the relocation of MPTS diagnostic equipment needed for the outer TF removals has been completed. The first soldering of a coolant tube into a TF coil inner conductor was successfully completed this week (see the attached figure below). On the neutral beams, leak checking of components for the 2nd NSTX neutral beam-line continued, along with the refurbishment of the calorimeter for that beam-line. Good progress was made on the fabrication and test cell installation of cryogenic lines for that beam-line.

Access to the NSTX test cell will be available only through previous arrangement with the Upgrade Work Control Center.

Developed new soldering technique with resin-based flux in response to TF bundle fault lesson-learned



Images of tubes pull tested to ultimate strength of the solder . Note good wetting of both the tube and copper bar, indicating effectiveness of flux.

Close up views of solder joint

TF conductor soldering station

Soldered TF conductor