Research Operations Division
Boundary Physics *(H. Kugel)*

- Preparing to install larger-bore center-stack gas injector to improve flow characteristics
- Developing plan for Supersonic Gas Injector
  - Expect higher fuelling efficiency
  - Aim to prepare port now for installation of nozzle later
- Preparing to test NSTX Lithium Pellet Injector on CDX-U
- Installing Micro Neutral Pressure gauges in upper and lower divertor regions *[UWa]*
  - Tested and calibrated gauges in magnetic fields
- Installing Fast Micro Ion Gauge for pressures in RF antenna
- Received preliminary report on dust collected from vacuum vessel *[INEEL]*
- Calibrating IR camera window transmission
- Developing plan for applying boronization during bake-out
  - Activity Certification Committee recommends Peer Review.

Research Operations Division
Diagnostics *(D. Johnson, R. Kaita)*

- Proceeding with installation of full resistive wall mode sensors (24 each B_r, B_z coils) on primary passive plates
- Completed spatial calibrations for the CHERS, MSE, and edge rotation diagnostics with measuring arm
  - Before vessel closing:
    - CHERS, edge rotation need white-plate calibration
    - Edge rotation needs spectral calibration
  - Expect belated delivery of special laser-cut air slits today
- Bay G port cover temporarily reinstalled and diagnostic calibrations performed
  - Visible bremsstrahlung view checked
  - Tangential bolometer array sightlines at new location
  - Interferometer target tile aligned and secured
- Alignment and spatial calibration completed for upgraded Gas Puff Imaging diagnostic
- Completed installation of new vertical x-ray crystal spectrometer, except for ion pump

Research Operations Division Diagnostics *[2]*

- Horizontal x-ray crystal spectrometer upgraded with larger viewing aperture
- In-vessel cabling continues for the new scintillator-based, fast lost ion probe (sFLIP)
- Fitup of new EBW antenna with movable local limiters uncovered some interferences
  - Now remachining some parts
- Performed extensive in-situ vacuum tests of the MPTS shutter mechanism that jammed during last run
  - Qualified new vespel bushings to replace failed BN
  - Eliminated excess friction in one gear assembly
  - Appears to be a wide torque margin for safe operation
- About 60% of other diagnostic shutters now tested

Research Operations Division
RF Systems *(R. Wilson)*

- Completed modifications to antennas to improve standoff
  - Reduced diameter of center conductors
  - Added electrical stress reduction rings
- Continued work on remote control chassis
  - Should be finished in early December
- Power outage Nov 13 – Dec 6 will affect high power testing of complete system