

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

- ◆ Continuing “dual-track” approach to fabricating Cu-SS-Mo LLD plates
  - ▶ SNL: form, laminate SS to Cu, adjust shape, Mo coat
    - Brazed first plate last week: reported to be satisfactory
  - ▶ PPPL: laminate SS to Cu, cut and bend to shape, Mo coat
    - 5 plates brazed, 4 plates cut, 1 in final machining before bending
- ◆ Design Review on 12/17 for LLD Controls designed by SNL/NM
  - ▶ Purchasing equipment; software development will be critical
  - ▶ PPPL design of rack installation, cable trays, cabling in progress
- ◆ Continuing development of loading techniques for LLD in L-245 lab.
- ◆ Two new LITERs made, one more 60% done for Li-coating (incl. LLD)
- ◆ Preparing to install 2 improved lithium powder droppers for this run
- ◆ Installing vacuum interface and support stand on Bay-J lower port for new **Surface Sample Probe** (Purdue University)

## Research Operations Division Diagnostics (*R. Kaita, B. Stratton*)

- ◆ Diagnostics now being reconfigured for operation after bakeout
- ◆ Encouraging testing of control, data acquisition and analysis with new LINUX-based CAMAC and MDS+ systems *as soon as possible*
  - ▶ Calibration of MPTS system in January revealed several problems which were solved with help from Computer Division
  - ▶ *Be amongst the virtuous who know that their diagnostic works*
- ◆ Resuming operation with 20-channel divertor bolometer, fast IR camera (ORNL), remote control for high-k mirrors, “shunt” tiles for halo currents
- ◆ **BES** – collaboration with G. McKee (UWisc)
  - ▶ PPPL: collection optics; UW: filter and detector assemblies
  - ▶ Aiming to be ready for installation in next major opening
- ◆ **MSE-LIF** (Nova)
  - ▶ PDR for system in January
  - ▶ Additional resources needed to allow installation in next opening

## Research Operations Division

### RF systems (*J. Hosea*)

- ◆ HHFW antenna upgraded to provide symmetric end feed
  - ▶ In-vessel components and new feedthroughs completed
  - ▶ Design evolved from virtual to actual ground at strap center
  - ▶ Change necessitated major changes in external transmission lines
  - ▶ Peer review for new lines in January
  - ▶ Working to resolve possible interferences with access to VV entry port
  - ▶ Install lines during maintenance weeks, weekends, after hours
- ◆ Two sources scheduled be ready for operation in late March

## Research Operations Division Physics Operations (*D. Mueller*)

- ◆ Administrative procedure agreed to control NB power from PCS
  - ▶ Initial implementation will be pre-programmed source waveforms
  - ▶ Plan to be ready for NB feedback control of plasma energy at mid-run
- ◆ Planning to develop discharge scenarios and control strategies for operation with LLD
  - ▶ Involving modelling collaboration with M&AE post-doc.
  - ▶ XPs planned to measure time scale and test gain matrices
- ◆ Implementing new capabilities for CHI experiments
  - ▶ Connect SPAs to upper nulling coils for suppressing absorber arcs
    - Expect to be ready by end of 1st maintenance week
  - ▶ Reconnect CHI rectifier for long discharges to condition electrodes
    - Design reviewed, work underway: ready after 1st maintenance week