

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

- ◆ Fabrication of LLD-1 system is progressing
 - ▶ SNL formed, laminated SS to Cu for 4 plates (+ 2 spares)
 - Suspended PPPL fabrication after success of SNL effort
 - ▶ Plates now with Mo-coating vendor: expect delivery by 6/1
 - ▶ Assembly of LLD control equipment well advanced at SNL/NM
 - ▶ Preparing here for rack installation, cable trays, cabling
 - Software development will be critical
 - ▶ Testing LLD heaters and loading techniques in L-245 lab.
- ◆ Dual LITERs being used extensively in experiments
 - ▶ Reloaded once already; top up this week
- ◆ Aiming to install lithium powder dropper(s) next maintenance week
- ◆ New **Surface Sample Probe** (Purdue U.) at Bay-J is producing data
 - ▶ Analyzed deposition with in-situ TDS

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Diagnostics (*R. Kaita, B. Stratton*)

- ◆ Diagnostics now performing well in support of experiments
- ◆ Y. Ren visited PPPL to start work on high-k scattering diagnostic
- ◆ MPTS and MSE calibrations performed prior to plasma operations
- ◆ LLNL-PPPL Lyman-alpha diagnostic for recycling peer reviewed
- ◆ High-density Langmuir probe array for LLD peer reviewed
- ◆ BES (collaboration with Univ. Wisconsin)
 - ▶ Dave Smith now working on BES as UWisc post doc.
 - ▶ FDR for ex-vessel components held May 5.
 - ▶ Spec. for fiber optic bundle ready pending completion of FDR
 - ▶ Redesign of detectors, fabrication of detector boxes progress at UWisc

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Diagnostics [2]

- ◆ MSE-LIF:
 - ▶ Design for reconfiguration of DNB is nearly complete
 - Not necessary to modify buss support tower near Bay H
 - ▶ Design of viewing optics and shutter at Bay G nearly complete
 - ▶ Redesign of Bay G bolometer to avoid interference progressing
- ◆ Divertor bolometer:
 - ▶ Bay I lower and Bay J midplane views working
 - ▶ Electronics for Bay J top returned to vendor for repair
- ◆ Additional channels for MPTS:
 - ▶ Planning to install 12 new channels during 2010 shutdown
 - Primarily in pedestal region
 - ▶ Realign ten existing polychromators during 2009 shutdown
 - ▶ Work plan and cost estimate being prepared for review

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RF systems (*J. Hosea*)

- ◆ HHFW antenna upgraded to provide symmetric end feed
 - ▶ Installing $\lambda/2$ loops between bottom and top feedthroughs
 - ▶ All 12 should be installed during the current maintenance period
 - ▶ Most loops should be tuned by the end of this week
- ◆ On weekends and during the next maintenance week in June:
 - ▶ Tune remaining loops
 - ▶ Tune remaining 4 trombones on the upper loops
 - ▶ Add 6 decoupling loops
 - ▶ Reattach feeds from 6 sources
- ◆ System scheduled to be ready for operation in late June

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Physics Operations (*D. Mueller*)

- ◆ Now operating quite successfully
 - ▶ Early operation suffered woes due to remnants of last year's lithium
 - ▶ Shot rate has improved with elimination of HeGDC by LITER use
- ◆ Control system operating well with little down-time
 - ▶ Occasional nuisance issues, mostly with gas system
 - ▶ Work to prepare for NB control proceeding well
- ◆ Preparing to implement new capabilities for CHI experiments
 - ▶ Connect SPAs to upper nulling coils for suppressing absorber arcs
 - ▶ Reconnect CHI rectifier for long discharges to condition electrodes
- ◆ Conducted successful non-solenoid start-up experiment on DIII-D