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

- Installed larger-bore center-stack gas injector
  - Gas will enter from upper shoulder of c-s
  - Share controller with existing c-s injector
- Successfully tested fast valve for Supersonic Gas Injector
  - Now developing nozzle
- Assembling prototype for Lithium Pellet Injector (1 barrel)
- Installed two new in-vessel pressure gauges
  - Now need to calibrate all gauges
- Installed Quartz Deposition Monitor
- IR cameras took calibration data during bake-out
- Performed D_2-GDC and He-GDC during bakeout
- Progress in approving boronization during bake-out
  - Changes approved for SAD and FMEA
  - Peer Review, ACC Inspection, and ES&H Executive Safety Board meeting in early January

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

Diagnostic	**Contact email**	**Status / Availability Date**
Bolometer – tangential array	SPaul	Needs new electronics box / 1st Plasma
Bolometer array - divertor	SPaul	Operational / 1st Plasma
CHERS	RBell	New neon calib. needed, some DAQ software mods needed including establishing Tree. Will test during OH phase, ready to take data for NBI. Analyzed data ready ~ April
Diamagnetism	MBell	Needs recalibration / Ready for 1st Plasma
Divertor fast camera	RKaita	In transit from Japan / 1st Plasma
EBW radiometer	GTaylor	Needs work on limiter control / After 1st Maintenance Week
Edge pressure gauges	HKugel	Existing set needs to be reconnected / 1st plasma; new ones need cabling / 1st Maintenance week
Edge rotation spectroscopy	TBiewer	Some DAQ software mods needed including establishing Tree. Will test during OH phase, ready to take data for NBI
Fast lost ion probes	DDarrow	iFLIP ready for first beam run; sFLIP first data after 2nd maintenance week
Filterscopes	RMaingi	Operational / 1st Plasma
FIReTIP	KCLee	2 old + 2 new channels nominally ready, new ch. may need some alignment tweaks
Gas puff imaging	SZweben	Phantom 1/27, PSI in February
H_a camera - 1D	VSoukhanovskii	Two calibrated and ready with possibility of third new camera for edge view / 1st Plasma
Infrared cameras	RMaingi	Operational / 1st Plasma
Interferometer - 1 mm	RKaita	Components at UCLA / After 1st Maintenance Week
Langmuir probe array	HKugel	Being recommissioned / mid-run
Magnetics - B coils	JMenard	Ready for calibration Jan 2 / 1st plasma
Magnetics - Flux loops	JMenard	Ready for calibration Jan 2 / 1st plasma
Magnetics - Locked modes	JMenard	Ready for calibration Jan 2 / 1st Maintenance week
Magnetics - Rogowski coils	JMenard	Ready for calibration Jan 2 / 1st plasma

Research Operations Division
Diagnostics *[2]*

Diagnostic	Contact email	Status / Availability Date
Magnetics - RWM sensors	JMenard	Integrators needed / mid-run
Mirnov coils – high frequency	JMenard	Ready for calibration Jan 2 / mid-January
Mirnov coils – toroidal array	JMenard	Ready for calibration Jan 2 / mid-January
Mirnov coils – poloidal array	JMenard	Ready for calibration Jan 2 / late-January
MSE	FLevinton	Look at spectrum in Feb. First light on 4 channels in March/April
Neutral particle analyzer	SMedley	Need to recalibrate motion control / Mid-January
Neutron measurements	DDarrow	Ready now
Plasma TV	RMaqueda	Needs new stand - holiday work needed to be ready for 1st Plasma
Reciprocating probe	HKugel	Ready / UCSD visit
Reflectometer - Core	SKubota	Profile System: 1st Plasma; Fixed Frequency and Correlation Systems: After 1st Maintenance Week
Reflectometer - SOL	wilgenjb@ornl.gov	Awaiting response
SPRED VUV spectrometer	VSoukhanovskii	NSTX SPRED operational/TFTR SPRED has leak but otherwise approved for use in NTC/1st Plasma
Thomson scattering	BLeBlanc	Ready with 20 ch, 2 lasers after Rayleigh scat.; New spectral calibration desirable, possibly during an early maintenance week.
Ultrasoft X-ray arrays	DStutman	Needs electronics / 1st Plasma
Visible bremsstrahlung det.	VSoukhanovskii	Needs to be calibrated / 1st Plasma
Visible spectrometer (VIPS)	VSoukhanovskii	Needs final connections in diagnostics prep room / 1st Plasma
X-ray crystal spectrometer - Horizontal	MBitter	Modified system ready for debugging after 1st maintenance week.
X-ray crystal spectrometer - Vertical	MBitter	Ready for initial data after 1st maintenance week
X-ray GEM camera	RKaita	Components at JHU / After 1st maintenance week
X-ray pinhole camera	BStratton	Needs new camera mount / 1st Plasma
X-ray transmission grating spectrometer	DStutman	Components at JHU / After 1st Maintenance Week

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

- Decouplers retuned after antenna modifications
- Power splitting / phasing found to be OK after antenna modifications
- Completed feedback controller modifications for remote control
  - Tested in local operation
- Begun source and interlock checkout into dummy load
- Implemented new technique to obtain six source vacuum match
  - Should allow easier set-up for vacuum conditioning
- On track to begin vacuum conditioning 1/2/03

Research Operations Division
Physics Operations

- Preparing for rtEFIT development early in run
- Random crashes of SkyBolt control computer have occurred over recent weeks
  - Attempting to diagnose cause but no “smoking gun” yet