PHENIX

TECHNICAL SUPPORT 2011

PHENIX WEEKLY PLANNING

12/01/2011

Don Lynch

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This Week

- Continue RPC1 N commissioning
- Complete RPC1 S Installation, Begin RPC1 S commissioning
- Complete MuTr station 3 South Clamp-on re-capacitors in MMS
- Continue MuTr station 3 North Clamp-on re-capacitors in MMN
- Final FVTX/VTX integration, alignment and survey
- FVTX/VTX final QA tests in Chemistry
- FVTX/VTX internal thermocouple wiring to internal terminal block
- FVTX rack assembly complete
- Complete DC West Repairs
- Continue design and procurement for RPC3 shielding
- Complete R134A shed set up
- Remove work platforms and steps from MMS
- Pull FVTX fibers from Rack Room to CM
- Re-install MMS east vertical lampshade
- Remove hanging platform
- Reconfigure scaffold for survey
- Begin EC prep for roll in

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Next Week

- Continue RPC1 N & S commissioning
- Continue MuTr station 3 North Clamp-on re-capacitors in MMN
- Continue VTX/FVTX cabling & fiber installation
- Move VTX/FVTX West to 1008
- Install VTX/FVTX West
- Install FVTX racks
- Survey VTX/FVTX West
- Survey RPC1S
- Survey and align CM and beampipe
- Install VTX/FVTX West cables and services
- MPC South troubleshooting
- BBC South installation
- Move VTX/FVTX East to 1008
- Install VTX/FVTX East
- Survey VTX/FVTX East
- Install VTX/FVTX East cables and services
- Continue prep of EC for roll in

General Tasks

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• Remaining Work Permits needed: End of Shutdown WP	12/2
• CM alignment stops	Design in progress
• Reinstall BBC South	12/6
• MPC S troubleshooting	12/6
• Upgrade AH crane	After 1/17/2012
• DC1 East/West troubleshooting as required	Done
• RPC3 Shielding	in progress
• RPC Hodoscope	Mech Installation Done
• Prep for EC roll in, reinstall MMS lampshade	11/28-12/9
• BP Survey (initial survey done, next after CM moved north, final after VTX/FVTX installed	10/17-12/12
• Roll in EC	12/12-12/16
• Prep IR for run	12/12-12/16
• IR run prep, Pink/Blue/White sheets	12/12-12/23
• New and upgraded full detector commissioning	9/15-1/16/2012
• Run 12 cooldown	1/17/2012

VTX/FVTX Tasks

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• FVTX/VTX Chiller leak/contamination improvements	Done
• FVTX west assembly and QA tests	Done
• FVTX west pre-survey	Done
• VTX pixel/strip pixel repairs	Done
• VTX west re-assembly & QA tests	Done
• FVTX east assembly and QA tests	Done
• FVTX west integration with VTX west	Done
• Move FVTX east to Chem lab	Done
• FVTX east pre-survey	Done
• VTX east reassembly and QA tests	Done
• FVTX east integration with VTX east	Done
• FVTX/VTX east half survey	Done
• FVTX/VTX west half survey	Done
• FVTX/VTX complete alignment survey in Chem. Lab	Done
• Install FVTX fibers from rack room thru AH/sill to CM	Done
• FVTX racks ready	12/2
• Install FVTX racks on bridge	12/2
• Final FVTX/VTX QA tests and thermocouple wiring	12/2
• Move west FVTX+VTX half to 1008	12/5
• Install FVTX/VTX west detectors (mechanical)	12/5
• Survey FVTX/VTX west detectors (mechanical)	12/6
• FVTX/VTX west cable routing, plumbing, QA tests	12/7
• Move east FVTX+VTX half to 1008	12/8
• Install FVTX/VTX east detectors (mechanical)	12/8
• Survey FVTX/VTX east detectors (mechanical)	12/9
• FVTX/VTX east cable routing, plumbing, QA tests	12/13
• FVTX/VTX final electrical/fiber/plumbing/monitoring installation	12/16

FVTX Planning/Status

Assembly and installation into IR:

- Looks to be in good shape: survey completed, move to IR very soon

Major Challenge to Come: Project Complete by Dec. 30

- Contract with DOE requires for at least part of the detector:
  - Installation into IR
  - Cabled up to real power distribution system in IR, cabled to readout in 1008
  - VTX powered on, cooling running, in principle monitoring, interlocks ON
  - FVTX ON, Collect calibration and cosmic data to verify detector performance
- Quite a bit left to do to accomplish this:
  1. Racks into the IR
  2. Cables run from racks→detector and detector→counting house
  3. Integration issues: (part of #11 on this list)
     1. Cooling
     2. Thermocouples
     3. Interlocks
     4. Survey
     5. Half detector gas seal covers
  4. Finish setup of FEM crates in counting house – this week + next
  5. Finish DCM setup – Chi has started, completion ?
  6. Finish software control/testing of power distribution systems
  7. Finish getting all DAQ readout, calibration working in 1008 – this week + next?
  8. Finish cosmic analysis software (off-site workers) – this week + next?
  9. Support from PHENIX DAQ experts – will everyone be gone to sPHENIX workshop?
  10. Cables rung out, power-up tested before connection to detector, connect to detector…
  11. Run cooling, monitoring, interlocks
  12. Power up at least part of the detector (after all pre-checks done)
  13. Collect data and try to verify performance parameters

FVTX/DAQ Personnel, done in parallel with (1), (2)

Cannot start until (1) and (2) done, non-trivial amount of work

Careful Planning, Strategy Plan needed to Complete by Dec. 30:

- Performance measured on just part of the detector? Do we need to interrupt cabling to accomplish items in time? Can we accelerate cabling? What do we do about powering VTX?

FVTX Planning/Status

DECEMBER 2011						
SUN	MON	TUES	WED	THURS	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1008 Setup
Install FVTX
Install Racks
Finish Cabling?
Start Detector power up?

Complete Detector Tests?

Challenging to do much this week

Rotating in as many people as we can during Dec: our indispensible NY-resident crew + Steve, Hubert, Ming, Cesar, Matt, Melynda… coverage through the week of Dec. 19 so far

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RPC Tasks

• Install and test RPC1 North including all cables and plumbing	Done
• Build 1 new rack, upgrade existing RPC1 prototype rack and install on Bridge	Done
• Move CM north to run position	Done
• Install scaffolding in station 1 south	Done
• Modify BBCS cable routing	Done
• Install RPC1 S	Done
• Remove all scaffolding and hanging platforms	12/5
• RPC1 north and south commissioning	In progress
• RPC3 HV Distribution modifications, gas distribution modifications, PS calibration HV and services testing	In progress-12/5

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MuTr Tasks

2011 Shutdown

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• Clean/install new parts and upgrades (MuTr (3 weeks, At RPC Factory)	Done
• Re-install chambers and FEE plates (1 week)	Done
• Re-install north section of bridge	Done
• Re-cable, re-hose and test (3 weeks)	Done
• Move CM north	Done
• Station 2 North (south side from station 1) new terminators and modify dry air distribution headers	Done
• Station 2 North (north side) new terminators and modify dry air distribution headers	Done
• Station 2 South (south side) new terminators and modify dry air distribution headers	Done

MuTr North & South Station 3 Re-cap clamps

• Install work platforms (north and south for capacitor clamp installation to lower octants of station 3)	Done
• Install new capacitor clamps in lower octants, Including dry air headers	(South Done North In Progress) 7/25-12/31
• Dry air manifolding to Cap clamp headers	(South Done North In Progress) 11/21-12/21
• Remove work platform & steps from MMS	Done
• Re-install MMS east vertical lampshade	12/2
• Remove work platforms from MMN	12/21

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Electronics Group Tasks

2011 Shutdown

- MPC electronics replacement
  - Build racks 12/9
  - Install & wire racks 12/16
  - Test 12/31
- RPC hodoscope installation
  - Run cables 12/31
  - Test 12/31
- RPC1 Wiring
  - Install cables 12/2
  - Test 12/2
- Run 12 restoration of detectors
  - EC rewire (power/cable/fiber) 12/16
  - CM restore magnet power, cooling 12/16
  - WC upgrades 12/16
  - Pink/White/Blue Sheets 12/23
- VTX restoration
  - Reinstall cables, fiber, cooling, monitoring 12/9
- FVTX installation and cabling
  - Racks: assemble, test, install on bridge 12/5
  - Fiber: install, terminate and connect 12/9
  - LV sensor and wedge: fabricate, install, terminate and connect 12/9
- Other
  - ??? 1/17/2012

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Miscellaneous Gas & Cooling System Tasks

2011 Shutdown

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• Replace MuTr flowmeters (north and south)	north done, south by - 12/31
• Replace tygon lines (80 lines) from the cooling manifolds to the detector with 1/4" ID teflon tubing.	Lines ready for installation
• Insulate whatever Big Wheel chiller lines in the IR that we can get to to reduce sweating in the IR.	AH lines are done
• Build a system to clean the Novec during the run.	
• Pixel cooling upgrade for 10° C without impacting strip-pixel cooling.	In progress
• Replace all cooling RTD transmitters	Parts here ready for installation
• Upgrade Mutr, MuID and DC/PC computers in GMH by 12/15	Done?
• RPC station 1 gas panels: (north and south)	Done
• RPC Station 1 supply lines and exhaust (connecting to existing lines).	
• Plumbing new supply for R134A, incl. heat tape and insulation.	In progress
• MuID panel circulation. Class one div 2 fans.	
• Dry air for Mutr HV work. (north and south)	South done, North in progress
• Dry air filters to be replaced before run starts.	Done ?
• Other	???

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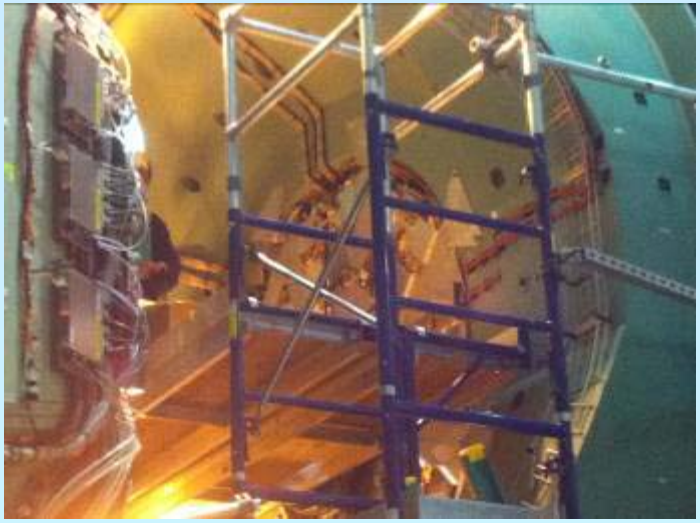
RPC1S



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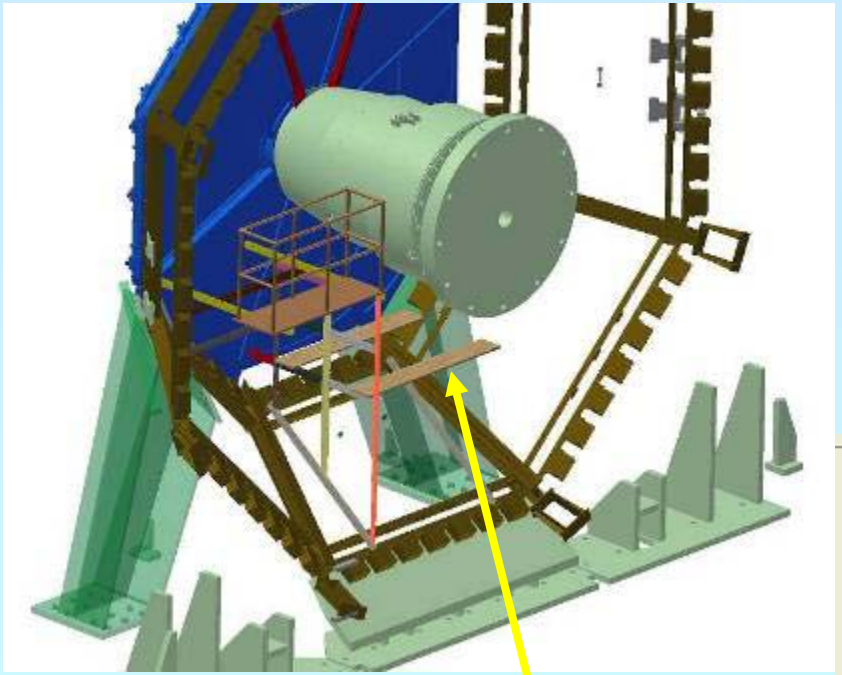
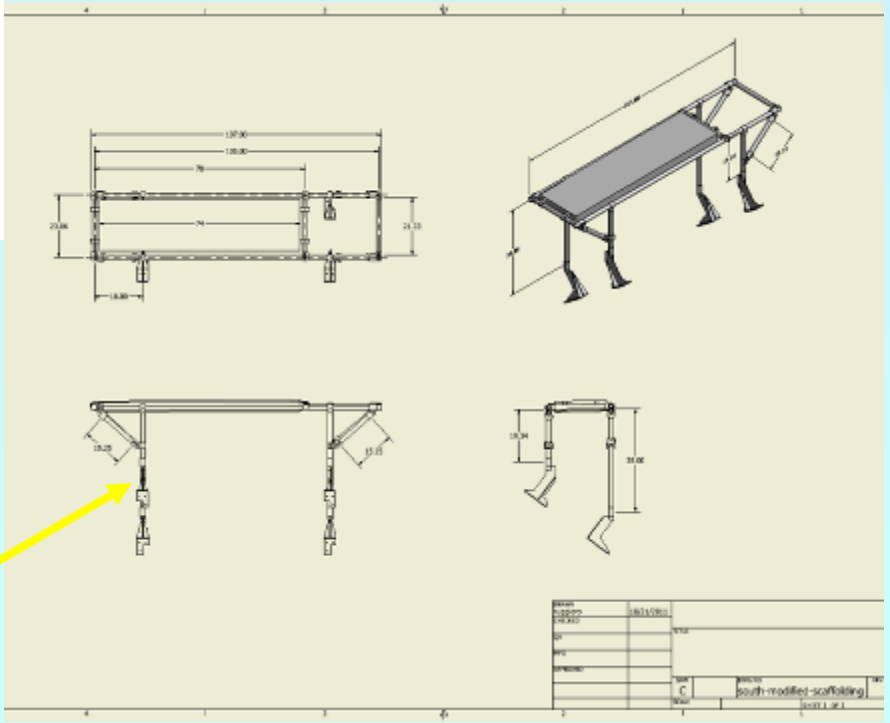
Station 2/3 S/N Access



North Magnet Platform

South Magnet Platform



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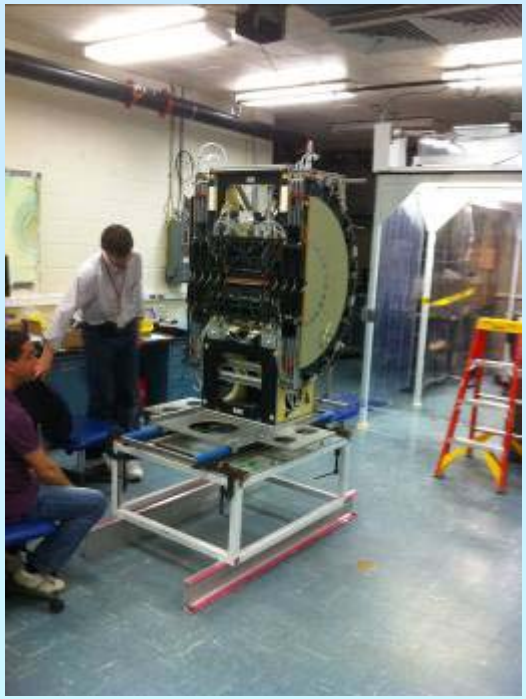

VTX/FVTX

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MPC
new
electronics
racks

Infrastructure Issues

- Roof leaks in utility bathroom at northwest corner behind tech offices, over door between rack room and assembly hall, over door between control room and elect. ass'y room, southeast corner of IR and laser room.

- Flooding in AH/ Driveway heaving

- Electronics test/assembly room-to-parking lot door
(does not open/close/lock properly – needs to be replaced)

Safety, Security, Etc.

From Ray Karol:

1. Please make sure that you and coworkers wear the correct footwear. Recently BNL has found scientists/engineers/technicians wearing flip flops, slippers and some staff wearing high heels while walking in grass.
This is not acceptable as it can easily lead to twisted and broken ankles, smashed toes and other injuries that are totally preventable with the correct footwear. If you see an individual wearing unsafe footwear, please inform them to leave the area until they wear safe shoes. Supervisors, managers and group leaders need to enforce this as line managers.

2. All of our machine shops and buildings have the new BNL PPE postings required to enter these areas. ***This is an area-based PPE system in which the PPE must be worn as specified on the posting just to enter the area.*** Other operational PPE may be required as described in procedures and work planning (e.g., Arc flash PPE to operate breakers and electrical switches)

3. C-AD has ordered high-visibility safety vests which we will place at STAR and PHENIX (15 each). Users who walk the RHIC roads at night should wear these vests to avoid getting hit with a car. Many of our staff who work late at night have complained that they have trouble seeing Users walking on the road and they worry that they may hit someone. ***Please return these vests when you return to STAR or PHENIX so others can safely walk the streets at night.***

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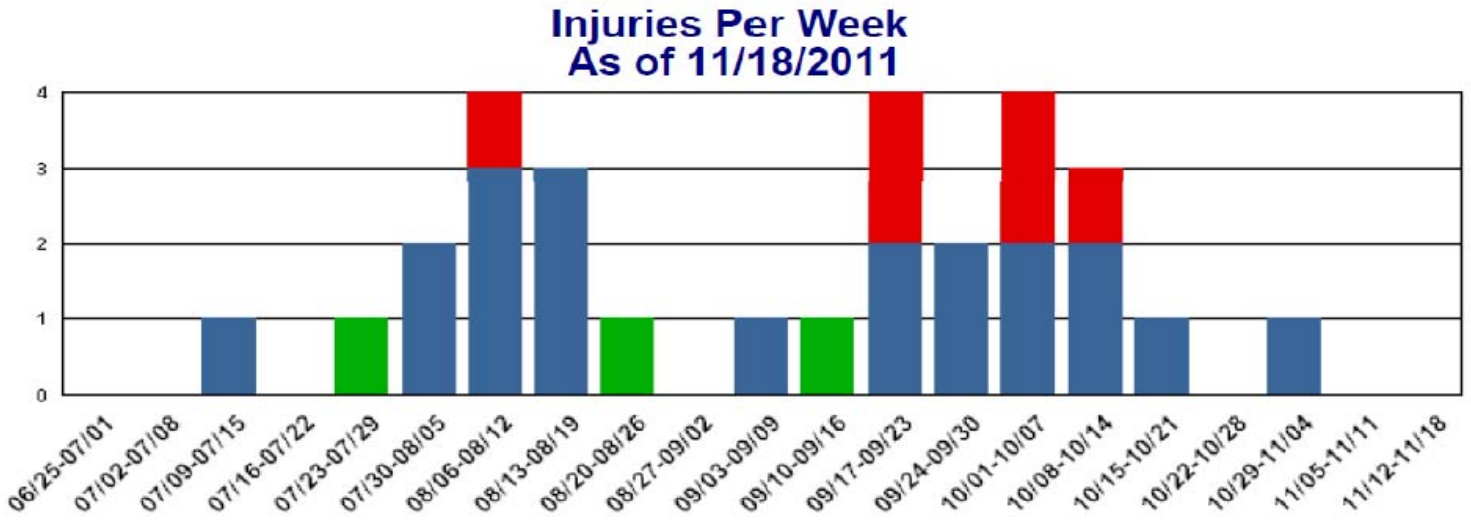
4. This week: Contractor seriously injured by fall from a scissor-type man lift. – Expect increased scrutiny and possible lab-wide stand down for man-lift work. We take care and plan our work to minimize potential hazards.

5. PHENIX Annual safety review – Dec. 22 ??

6. New "safety" features to be installed at PHENIX.

7. Asbestos abatement at 510: starts 12/12, obey all postings, avoid work areas.



Injury Status:
FY12 YTD: DART – 3, TRC – 3, First Aid – 6
FY11: DART – 27, TRC – 42, First Aid – 45

Recent Injuries		
		No new injuries for the week

Recent Events		
11/16/11	Non-reportable	Employee called in sick today due to back pain. The employee believes the back pain may have resulted from climbing through a window to access a roof for inspection at ~10:00 am on 11/16/11. UPDATE on 11/17/11 by E. Sierra: Further discussion has revealed that the employee did not suffer an occupational injury. Therefore the initial declaration of an SC-BNL categorization by the Facility Manager has been rescinded.
11/9/11	SC-BNL	Damage to (11) ground water monitoring wells has been reported. They are in various states of disrepair. The total cost of restoration has been estimated at $15,000.00 - $20,000.00. The damage is due to construction - deconstruction in the area. Digging and backfilling have taken a toll on the landscape. Some wells were trampled, etc. A detailed list has been provided by the ground water monitoring group. The categorization has been made in concert with D. Rocco, ERP Director.

Where To Find PHENIX Engineering Info

Coming Soon
to an
IR near you !!

Links for the weekly planning meeting slides, archives of past meeting slides,long term planning, pictures, videos and other technical info can be found on the PHENIX Engineering web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm