

# PHENIX WEEKLY PLANNING

TECHNICAL SUPPORT NOTES



1/31/2013  
Don Lynch

# This Week

TECHNICAL SUPPORT NOTES

- Commission FVTX rad monitors
- Complete FVTX East services restoration, ready for commissioning
- VTX Strip pixel failure analyses and evaluation
- Continue working on RPC3 shielding near Q3
- Continue window Washer safety upgrades
- Continue sPHENIX design support
- Continue MPC-Ex design support
- Finish White/Blue sheets
- Begin Building Shield Wall

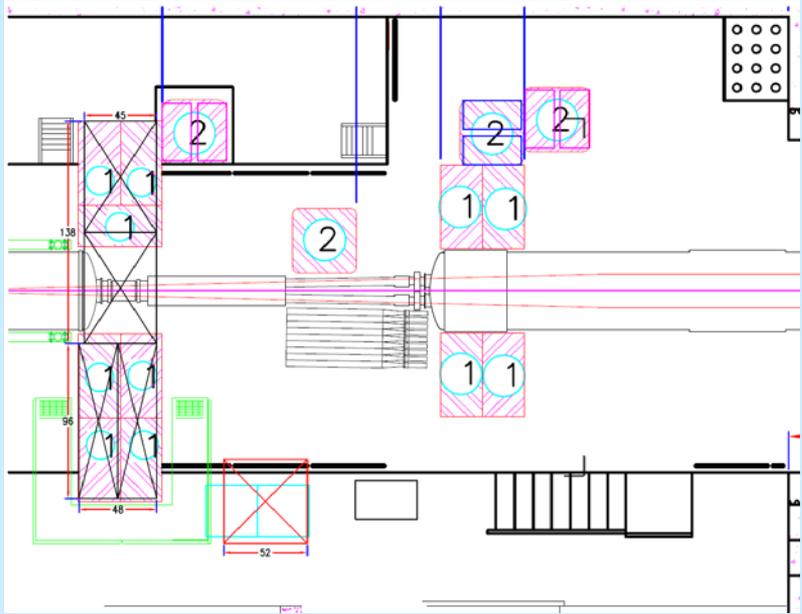
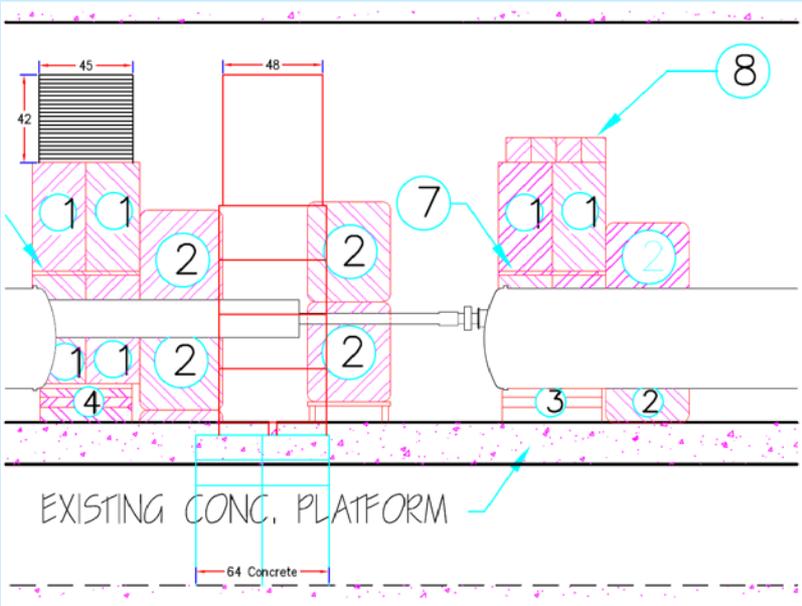
## Next Week

TECHNICAL SUPPORT NOTES

- FVTX commissioning
- Continue working on RPC3 shielding near Q3
- Continue window Washer safety upgrades
- Continue sPHENIX design support
- Continue MPC-Ex design support
- Finish Building Shield Wall/Roll in
- Ready for run 13

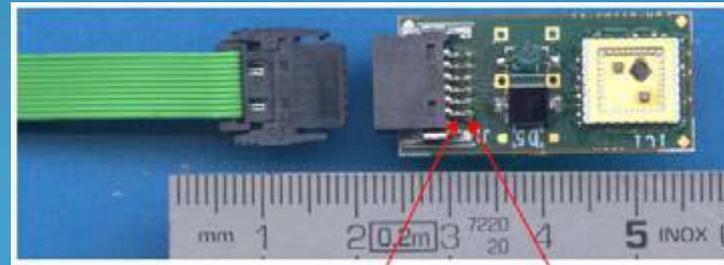
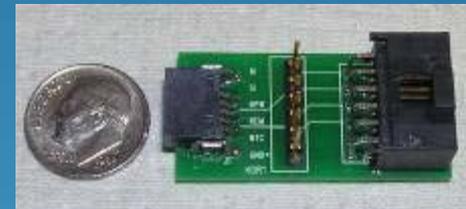


TECHNICAL DRAWING



# PHENIX Run 13

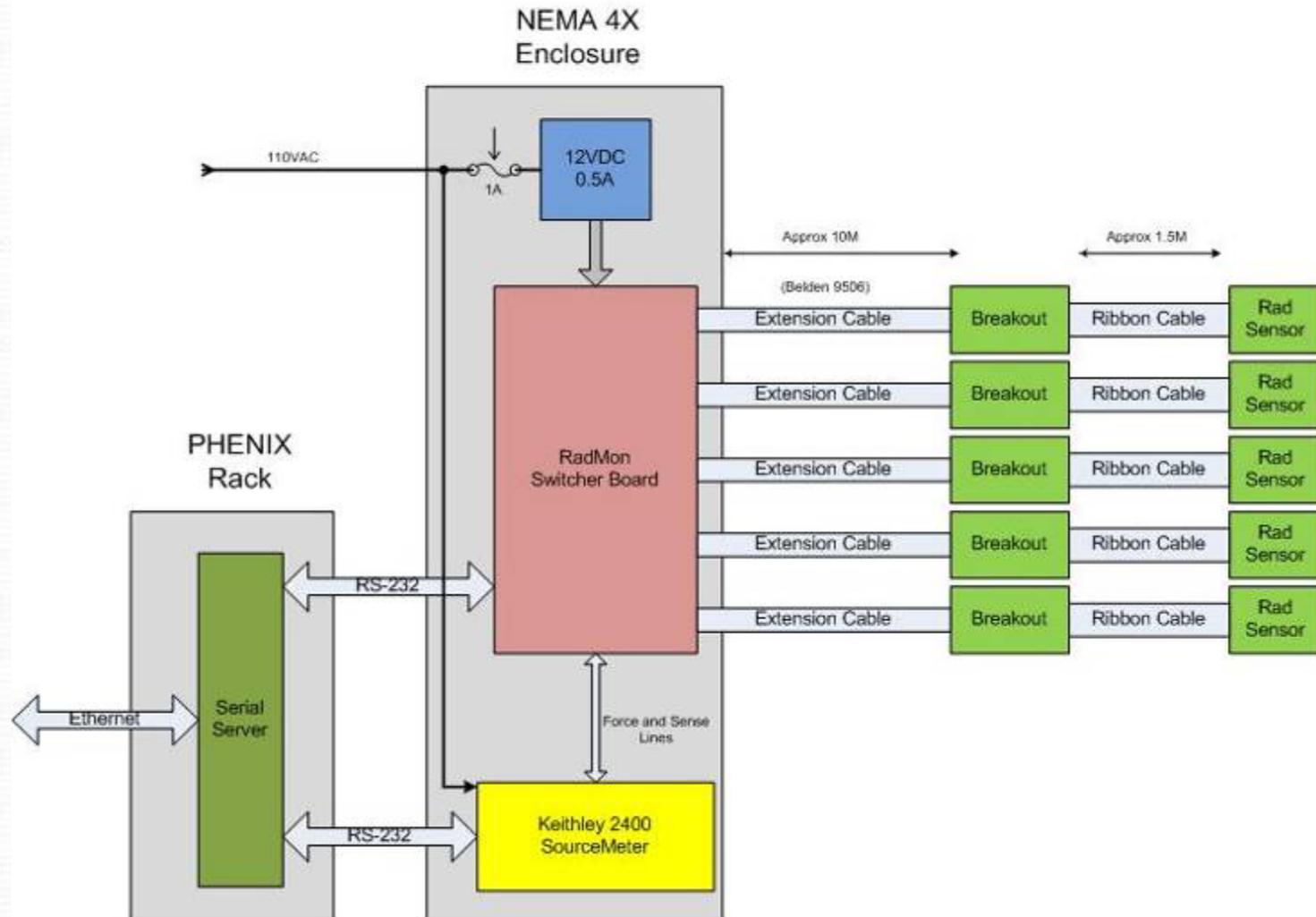
## Radiation Monitoring System



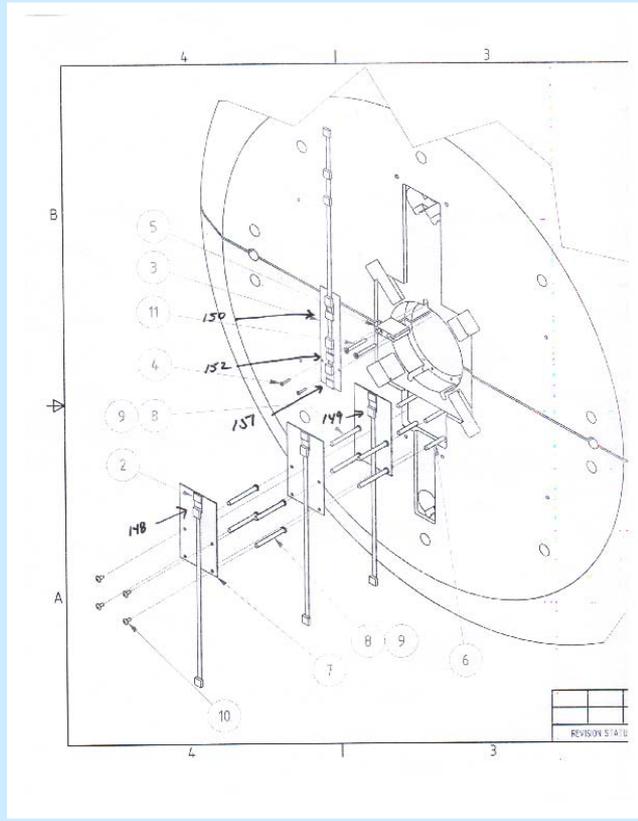
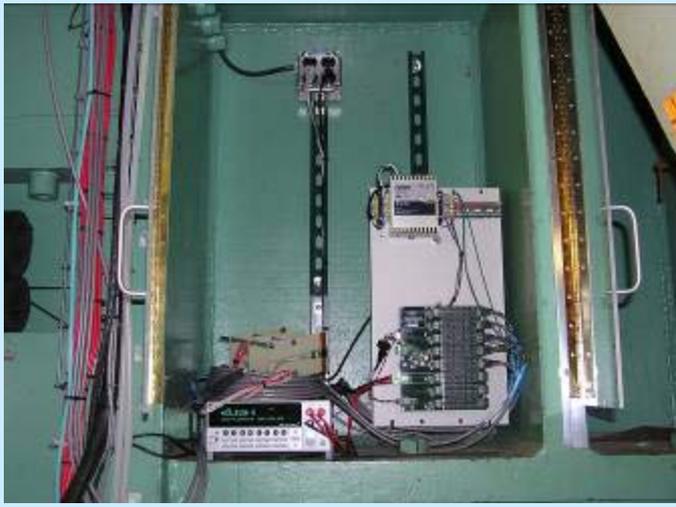
# PHENIX Radiation Monitoring System

- Five sensor boards, each with RADFET, Silicon diode and temperature sensor are installed on PHENIX central arm.
- Sensors are multiplexed by RadMon Switcher board into Keithley 2400 SourceMeter.
- RadMon Switcher and Keithley are controlled by RS-232 from serial server in CMN rack.
- Data acquisition is controlled by a Python script running on a computer in the counting house.

# PHENIX Run 13 Radiation Monitor System



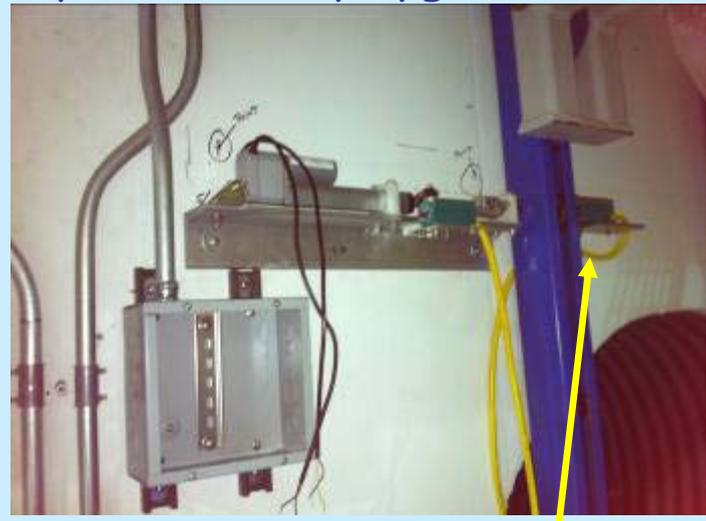
TECHNICAL SUPPORT - 2013



# Window Washer Remote Pin Removal and Winch/spooler safety upgrades



South Side pin



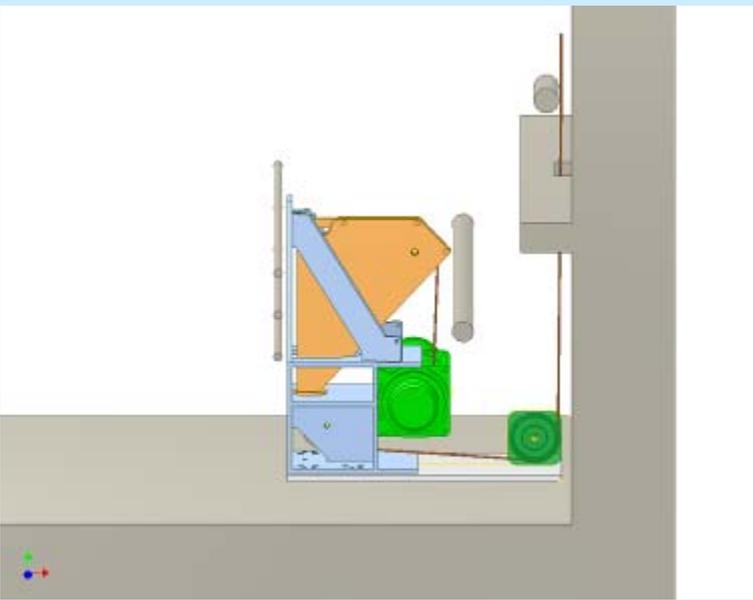
North Side pin



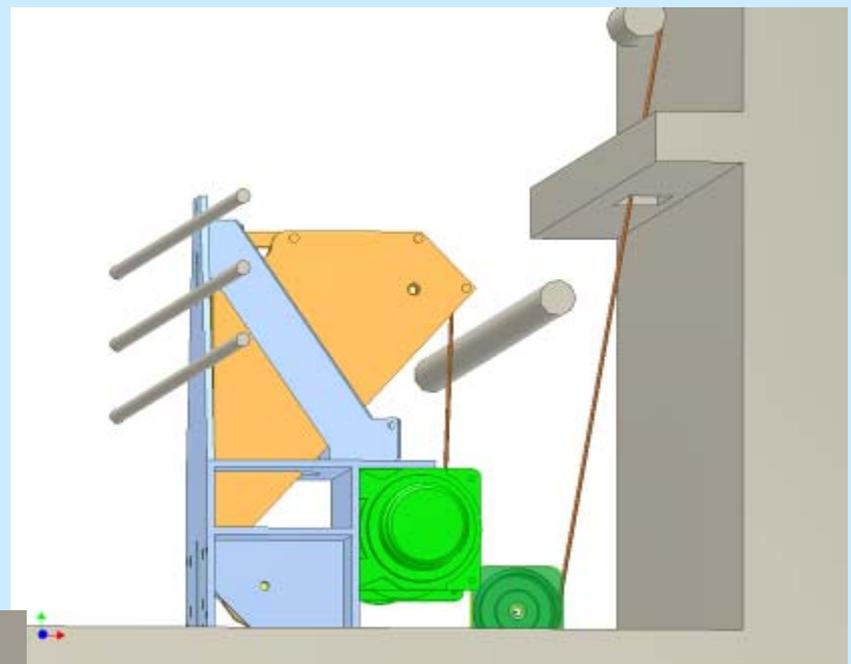
Limit switch

Limit switch

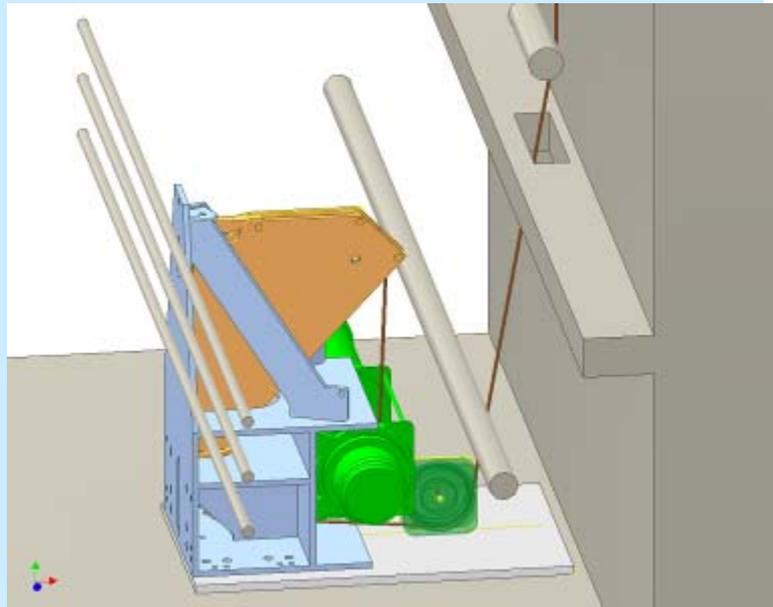
# Window Washer Remote Pin Removal and Winch/spooler safety upgrades



Minimum angle from winch: Need clearance between 1 and 2 inches from wall



Maximum angle from winch: Need clearance between 1 and 4 inches from wall



TECHNICAL SUPPORT 2013



The two 10 ton units will have their Trane controls replaced with Automated Logic Corp. (ALC) controls.

Both units will be out of service during modification work for two weeks in February. Rack Room winter heat loads will be handled by the 30 ton and floor unit during this time.

Engineering work is in progress to eventually upgrade the 30 ton roof mounted unit controls and IR HVAC controls.

PHENIX - BLDG 1000 - WEST HVAC - RACK ROOM (1/31/13)

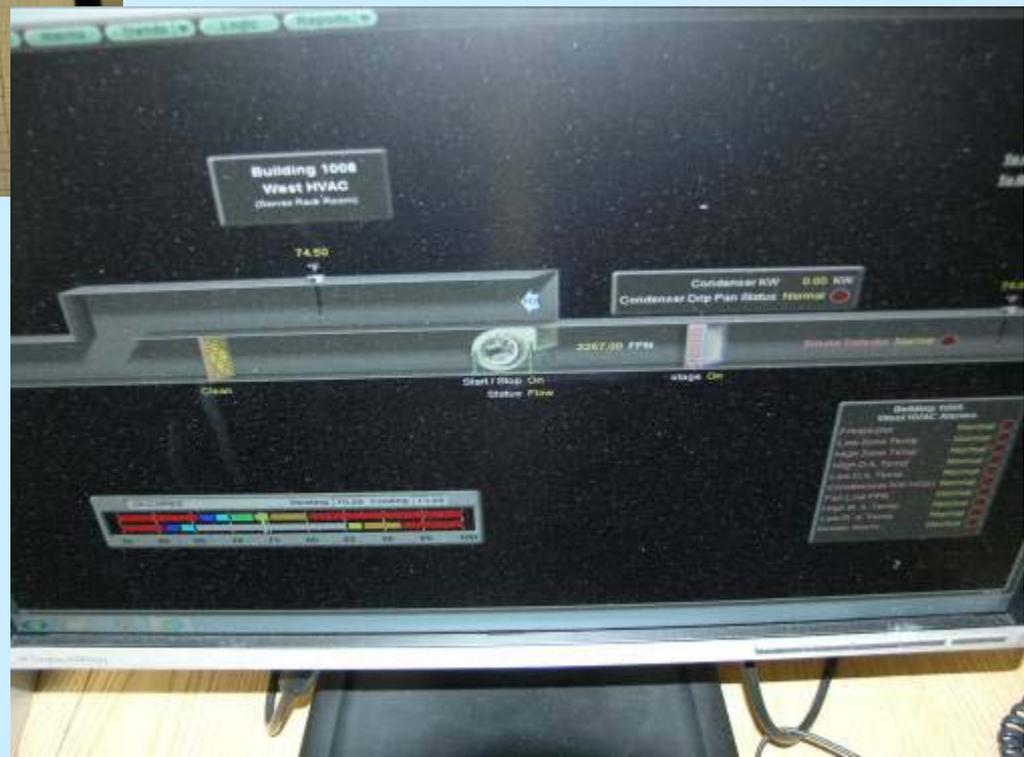
PHENIX - BLDG 1000 - WEST HVAC - RACK ROOM (1/31/13)

PHENIX - BLDG 1000 - WEST HVAC - RACK ROOM (1/31/13)

PHENIX - BLDG 1000 - WEST HVAC - RACK ROOM (1/31/13)

NO.	NAME	UNIT TYPE	UNIT STATUS	UNIT ID	UNIT ON	UNIT OFF	UNIT ON	UNIT OFF
1	CONDENSER MOTOR	4-1/2 HP	4-1/2 HP	X				
2	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
3	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
4	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
5	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
6	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
7	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
8	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
9	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
10	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
11	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
12	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
13	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
14	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
15	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
16	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
17	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
18	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
19	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				
20	REF. COMP. MOTOR	1/2 HP	1/2 HP	X				

### HVAC Rack Room Controls



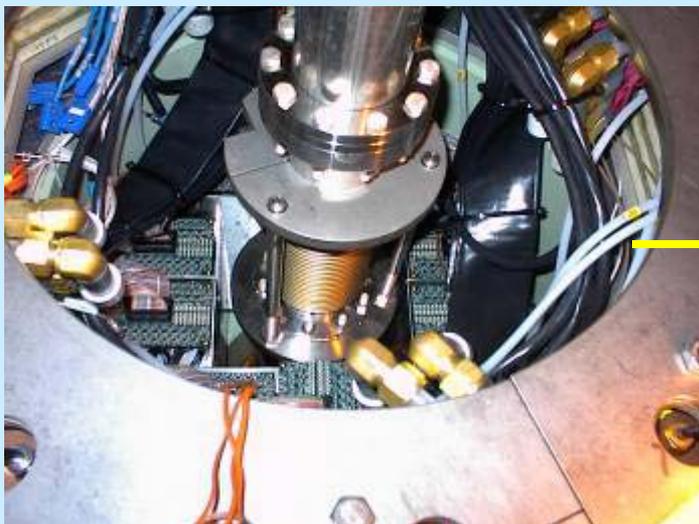
TECHNICAL SUPPORT NOTES



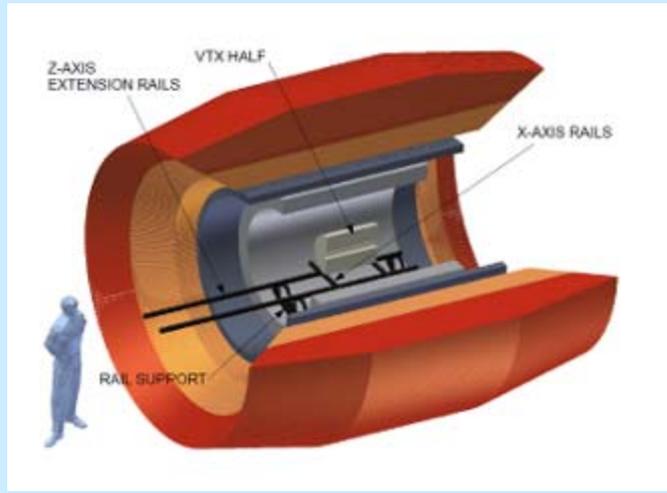
Existing vacuum bellows anti-squirm  
In MPC S Cavity



Proposed vacuum bellows anti-squirm  
In MPC S Cavity to accommodate MPC-Ex



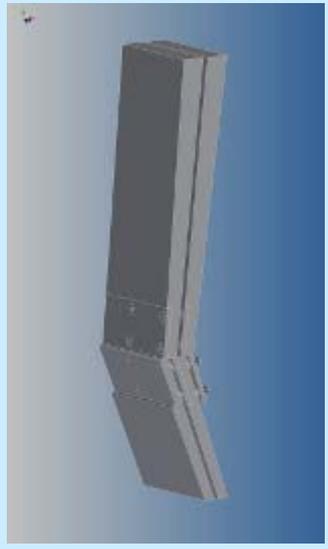
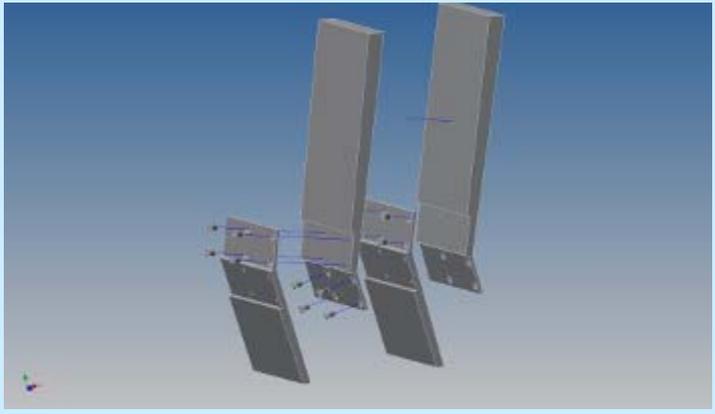
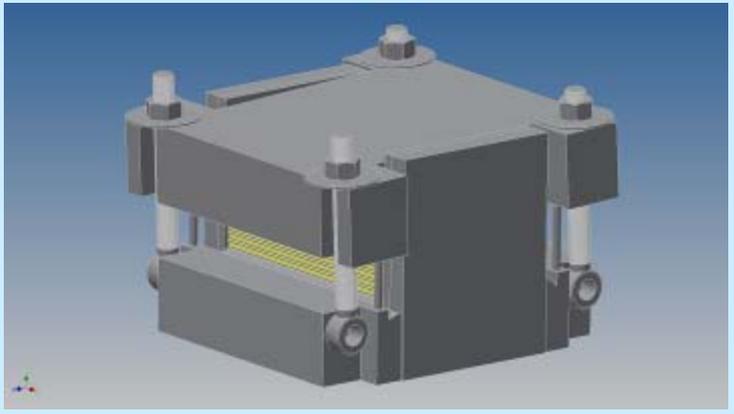
MPCS Flat cables replaced with round cables.



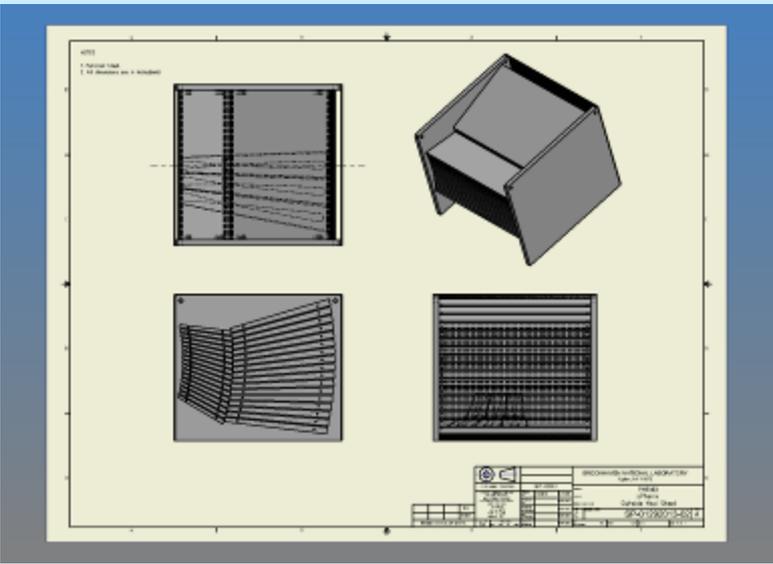
# sPHENIX Proposed Upgrade

Work continues evaluating engineering tradeoffs for EMCal and HCal design, materials, etc.

Prototype HCal and EMCal in progress



TECHNICAL SUPPORT - 2013



# 2012 Shutdown Schedule Remaining Tasks

TECHNICAL SUPPORT 2013

De-cable and disconnect utilities for VTX/FVTX East	Done
Disconnect gas, water, electric, fibers from EC	Done
Move EC to AH	Done
Dismount VTX/FVTX East	Done
Prep Chemistry Lab for VTX/FVTX East	Done
Transport VTX/FVTX East to Chemistry Lab	Done
Document Current configuration	Done
Remove FVTX Cages	Done
Dismount VTX Strip Layers	Done
Dismount VTX Strip-Pixel Layers	Done
Test FVTX	Done
Design and fabricate VTX stiffeners and bigwheel spacer/seals	Done
Re-assemble FVTX with VTX stiffeners and spacer/seals	Done
Transport FVTX to 1008 and install on rails	Done
Align and Survey FVTX East	Done
RPC Shielding under DX magnets	Done

# Run 13 Prep Schedule Remaining Tasks (continued)

TECHNICAL SUPPORT ZONE

Move EC to IR	Done
Re-cable and re-store utilities to FVTX East and isolate (valve off) VTX West circuits	Done?
Re-connect gas, water, electric, fibers to EC	Done?
Unfold the EC platforms, re-install safety rails, (carpenters and Riggers under CAD supervision)	Done
Move the MMS north	Done
Martin Luther King Holiday weekend	Done
Install the MuID Collars	Done
Pink Sheets	Done?
Test and Commission FVTX	1/22-2/8/2013
Re-install the EC material lift and ladder (dumb waiter) BNL carpenters and Riggers under CAD supervision	Done
Blue Sheets	Done
Magnet Tests (white Sheets)	Done
Start Watch Shifts	Done
RPC tunnel Shielding (Dave Phillips)	1/31/2013
Window Washer pin & spool upgrades	1/31/2013

TECHNICAL SUPPORT NOTES

Assemble shield Wall	1/28-2/7/2013
Roll-in shield wall	2/8/2013
Safety system checkout complete/start flammable gas flow	2/8/2013
Start run 13(cooldown)	2/11/2013
End of Shutdown/Start of Run Party	2/13/13

1. PHENIX Annual Safety Review: action items

- PHENIX to provide C-AD with a plan for continued use of the RPC factory (O'Brian, Lynch Feb 15, 2013)
- Review to assure all power supplies are NRTL equivalent compliant and affix respective labels (Giannotti Feb 10, 2013)
- Provide the new flammable gases leak rates (Pisani, Feb 1, 2013)
- Provide the updated gas usage quantities (Pisani Feb 1, 2013)
- Provide details of the Rad Monitor EE! (Boose Feb1, 2013) **Done**
- Provide approval by a certified EE for the Rad Monitor system (Giannotti Feb 1, 2013)
- Carry out the Blue Sheeting (CAS, Phillips Feb 1, 2013) **Done**
- Provide documentation on the upgraded NOVEC gas system (Pisani Feb 15, 2013)
- Provide an assessment of the new gas system software, what QA rating and proposed configuration control (Pisani Feb 15, 2013)
- Provide updated sweep procedures (Sampson Feb 15, 2013)
- Carry out an inspection of the installed platform gates (Cirnigliaro Feb 10, 2013)

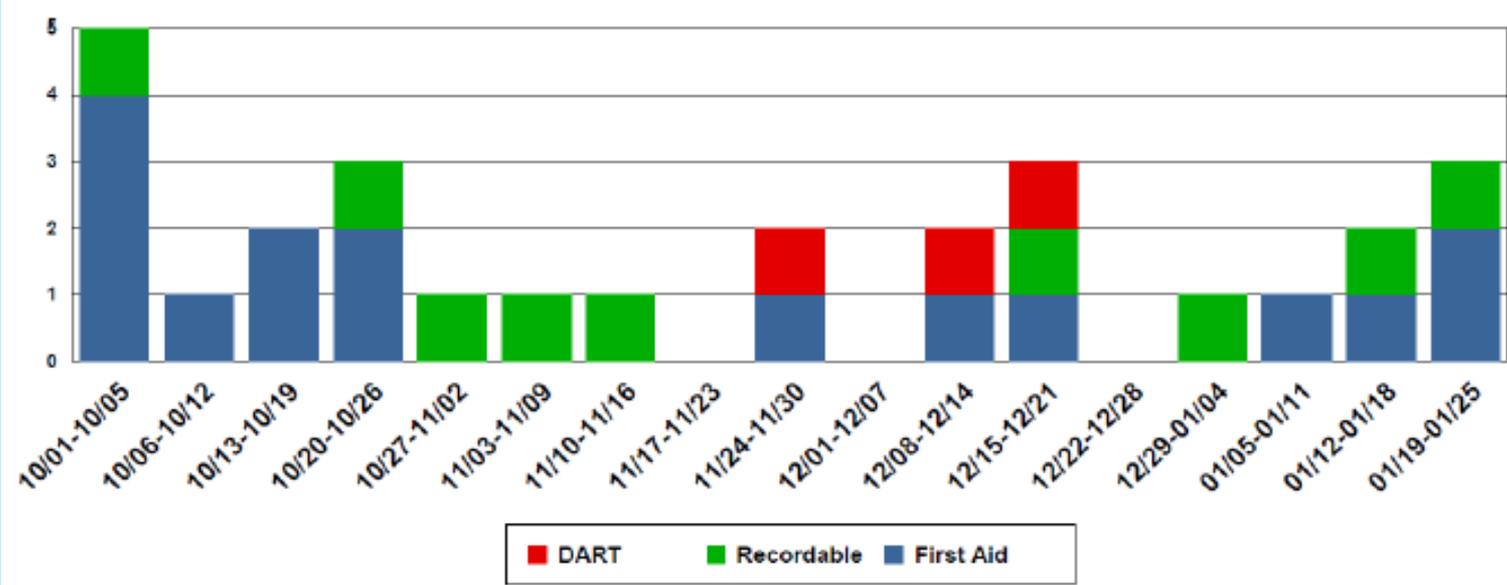


- 1.(cont'd) General Items:
  - Update the PHENIX ECR. (Craner, Feb 15, 2013)
  - Update the PHENIX work plan (Cirnigliaro Feb 1, 2013) **Done**
  - Carry out a magnetic safety review (Phillips Feb 10, 2013)
  - A walk through of the PHENIX detector prior to introduction of flammable gas. (Makdisi / Etkin et al Feb 7, 2013)
  - Update the documented work procedures. (Lynch Continuing from last year) **Done**
  - Establish trained PHENIX watch shifts. (O'Brien Feb 1, 2013) **Done**
  - Review and update the PHENIX emergency procedure if necessary (Makdisi Feb 1, 2013)
2. PHENIX Procedures: Rob/Paul/Don 3 year cycle review completed: 22 procedures renewed without change, 6 procedures de-activated, PHENIX Awareness revised to include ladder stuff ODH1 and POM training renewal
3. RHIC tunnel is now posted as ODH-0 (does not include PHENIX IR). Web training necessary to go in tunnel.
4. Make sure annual PHENIX awareness and Collider User trainings are up to date.
5. BNL PPE Demo Room Open every Thursday 9:30-1:00



TECHNICAL SUPPORT 2013

**Injuries Per Week (FY)**  
As of 1/25/2013



**Injury Status:**

FY13 YTD: DART – 3, TRC – 12, First Aid – 16  
 FY12: DART – 17, TRC – 35, First Aid – 70  
 FY11: DART – 30, TRC – 44, First Aid – 45

FY13 Injury Listing: <https://intranet.bnl.gov/esh/shsd/seq/OccInj/BNLInjuries.aspx>

Recent Injuries		
1/22/13	First Aid	An employee slipped and fell on an icy surface and injured their back. ( <a href="#">Event Link</a> )
1/22/13	Recordable	Following required physical training, an employee fell injuring the lower ribs. At the OMC, an examination was conducted and the worker was sent for an x-ray. A script for medication was also given, making this a recordable case.
1/22/13	First Aid	An employee slipped and fell on a wet surface while instructing another employee in building maintenance. At the OMC, first aid treatment was given. ( <a href="#">Event Link</a> )
1/18/13	Recordable	An employee was injured pulling and dressing electrical cables. The worker went to a local ER and was given an injection for pain and a prescription for medication. This is recordable. ( <a href="#">Event Link</a> )

Recent Events		
1/25/13	Non-Reportable	At approximately 5:07am, BNL Fire Rescue issued an OEM e-mail notification that it was responding to an alarm of fire at the Child Development Center (Building 370). The building was searched and cause for alarm undetermined. Alarm System would not reset and a request for a Fire Alarm electrician was made. There were no injuries and no personnel were evacuated from the building. ( <a href="#">Event Link</a> )
1/23/13	Non-Reportable	At approximately 3:10 PM on January 23, a power supply located in Building 740 overheated during testing, creating soot and smoke. The failed power supply was promptly identified by technicians performing the test. After removing electrical power to the power supply the technicians called BNL Fire Rescue (FR). The smoldering ceased when the electrical power was removed. Upon arrival, BNL FR confirmed that removal of electrical power had ended the event. There were no visible flames and no one was injured. The extent of damage appears to be limited to the single power supply. The building was not evacuated. ( <a href="#">Event Link</a> )
1/23/13	SC-BNL	At approximately 10:20 am on January 23 BNL Fire Rescue (FR) reported that it responded to a light smoke condition emanating from a transformer in the basement of Chemistry Building 555. FR stated there were no visible flames and the area had been ventilated to remove the smoke. This event resulted in a precautionary evacuation and has been categorized as a Significance Category BNL Report. ( <a href="#">Event Link</a> )
1/18/13	Non-Reportable	An employee called Fire Rescue to report an odor from Bld. 830 Lab 5. Fire Rescue responded and determined the source of the odor to be an accumulation of stagnant water. ( <a href="#">Event Link</a> )

# Where To Find PHENIX Engineering Info



Groundhog Day Feb. 2

If he sees his shadow: 6 more weeks of winter

If not: an early spring

Punxsutawney Phil has been right 37% over 125 years of records, Overall groundhogs have about a 28% record. So if you bet against the groundhog you will be a big winner

Other Famous Groundhogs:

Balzac Billy (Alberta, Canada); Staten Island Chuck;

General Beauregard Lee (Georgia); Buckeye Chuck (Ohio);

Smith Lake Jake (Alabama); Sir Walter Wally (N. Carolina);

Wiarnton Willie (Ottawa, Canada);

[http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL\\_SSint-page.htm](http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm)

