

# PHENIX WEEKLY PLANNING



TECHNICAL SUPPORT ZONE

9/20/2012  
Don Lynch

# This Week

TECHNICAL SUPPORT ZONE

- Continue Repairs & Upgrades for MuTr Stations 2&3 N&S
- Continue Prep for DC West
- Continue MPC N&S Repairs
- Continue VTX/FVTX Repairs
- VTX Cooling System Upgrades
- RPC3 Gas Recirculation Upgrade
- RPC1 South Cooling Upgrade & Thermocouples
- sPHENIX design support - Prep for Review
- MPC-Ex design support

## Next Week

- Continue Repairs & Upgrades for MuTr Stations 2&3 N&S
- DC West Work Platforms and Tent installation
- Continue MPC N&S Repairs
- Continue VTX/FVTX Repairs
- VTX Cooling System Upgrades
- RPC3 Gas Recirculation Upgrade
- RPC1 South Cooling Upgrade & Thermocouples
- sPHENIX design support
- MPC-Ex design support

TECHNICAL SUPPORT



Repairs and testing  
in Progress at Chemistry (VTX)  
and Physics (FVTX) Departments

TECHNICAL SUPPORT NON

- Station-1 South re-capacitation and termination



# Clamp-on Terminator Installation on North & South Station-3

- Lower clamp-on terminators already installed for both north and south sta-3 (bottom 4 octants)
- With new work platforms that reaches all of sta-3; install remaining (upper) clamp-on terminators.



TECHNICAL SUPPORT NON



# MPC Repairs -

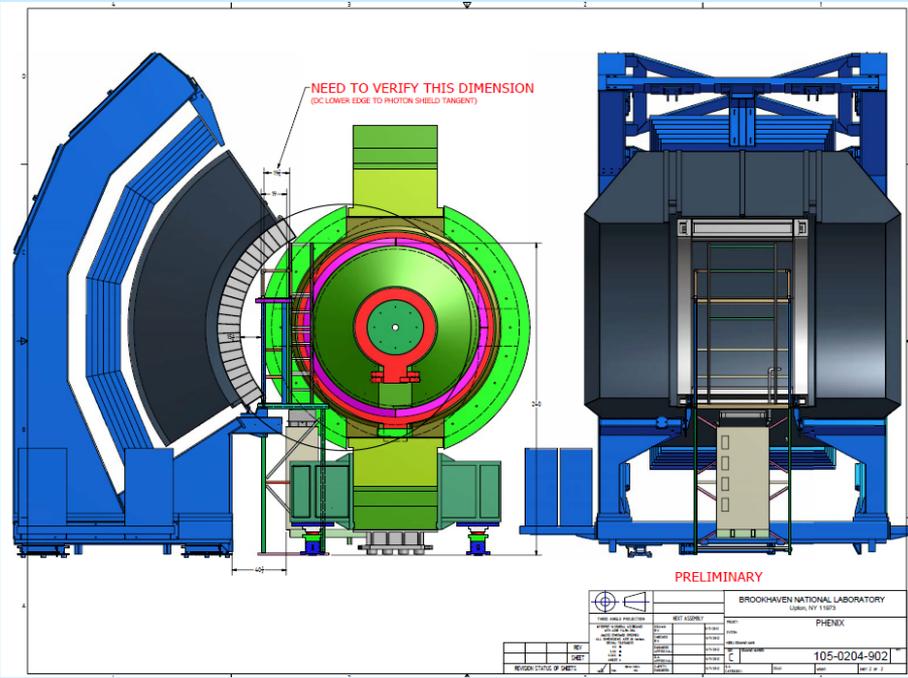
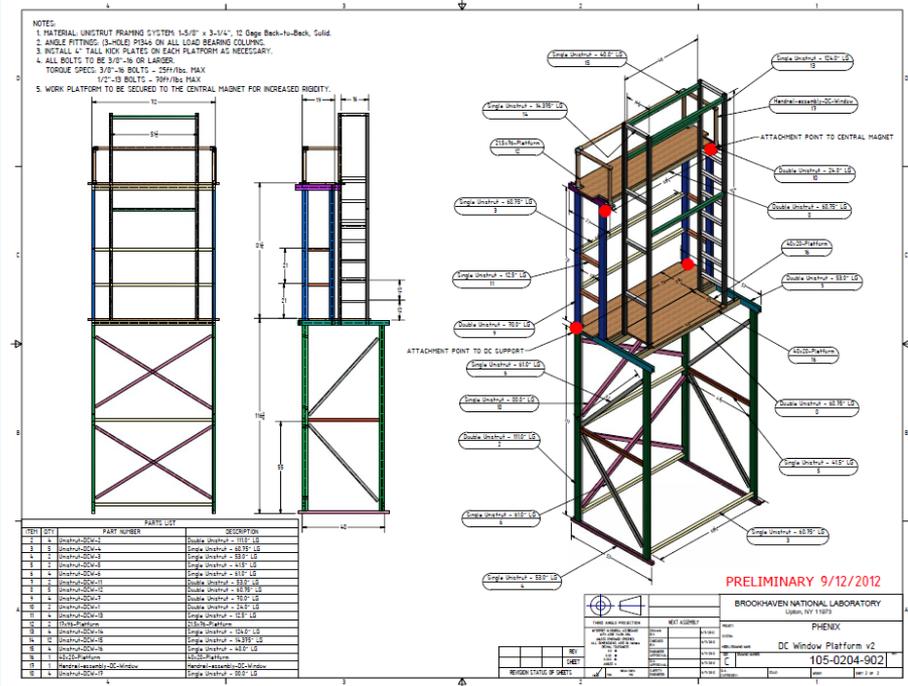
North MPC Removed for Evaluation



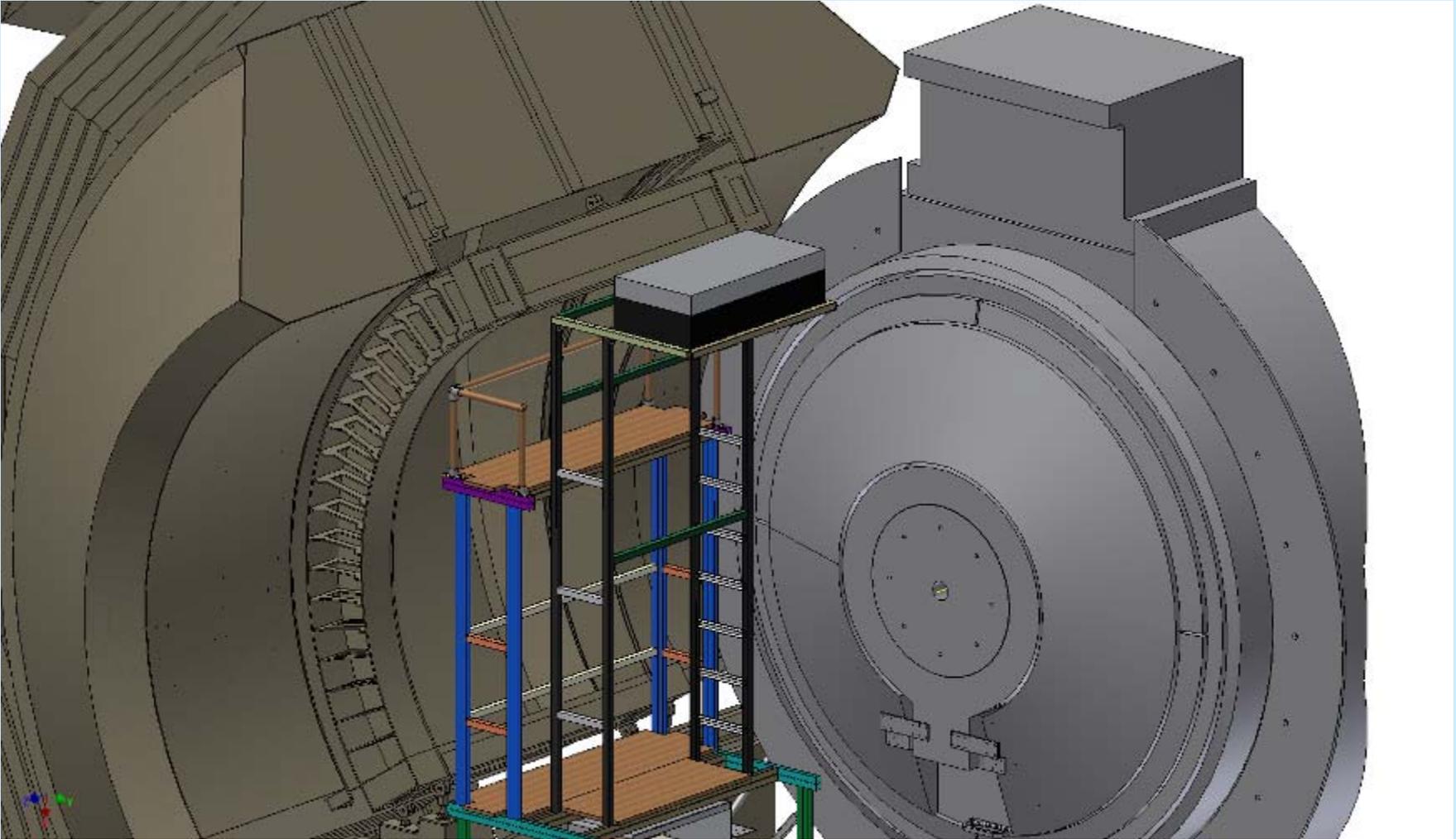
# DC West Repairs

The plan for the DC West Repairs is as follows:

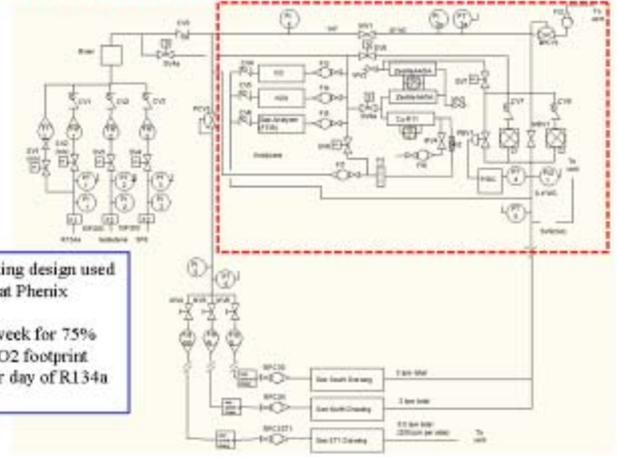
- Gather drawings and materials from DC group - Done
- Make measurements, new drawings and create parts lists as necessary - Done
- Procure/fabricate parts - Done
- Design work platforms and protective covering to access and protect DC west during disassembly/ reassembly. CAD approval received
- Work Permit submitted ?
- Disassemble existing window and sealing components
- Repair/remove broken wires, etc.
- Install new window and seal.
- Leak and functional tests



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### Run 12 Shutdown Work Overview Gas/Cooling Systems Recirculating Upgrade to RPC Gas System



- Based on working design used for many years at Phenix
- Save money
  - \$3k per week for 75%
- Reduces lab CO2 footprint
  - 60 lbs per day of R134a

June 20, 2012

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## RPC Recirculation Upgrade



## VTX/FVTX Cooling Upgrade

# RPC Station 1 North and South Cooling Upgrade

TECHNICAL SUPPORT ZONE



North

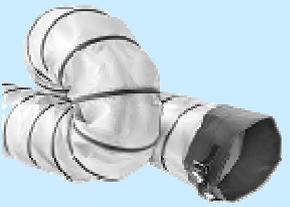


South

TECHNICAL

PORT-NON

South



RPC1 Cooling

North



Item Number/Brand	89685804/Allegro
Type/Power	Axial Blower/Electric
Inlet/Outlet Size (Inch)	8
Cubic Feet per Minute (CFM)	625 (Two 90 Bends); 650 (One 90 Bend); 900 (Free Air)
Horsepower (HP)	0.33
Explosion Proof (Yes/No)	Yes
Blower Casing Material	Polyethylene
Number of Speeds	1
Maximum Voltage Rating (V)	115.00

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Looking towards RPC3 North  
← East                      West →



Looking towards RPC3 South  
← West                      East →



TECHNICAL SUPPORT NON

# MuID Collar IR Holding Area Support



- Structural support improvements designed
- Parts to be ordered
- Installation this fall prior to EC roll in

New Electrical Work for 2012 Shutdown, to be accomplished as time is available

- 1. Add Transient Surge Suppressor to 3 phase power panel on the Central Magnet Bridge.
- 2. The Gas Mixing House Breaker Panel for the Gas Mixing side is almost out of spare breaker slots and needs to be reviewed for increased capacity panel to replace it.

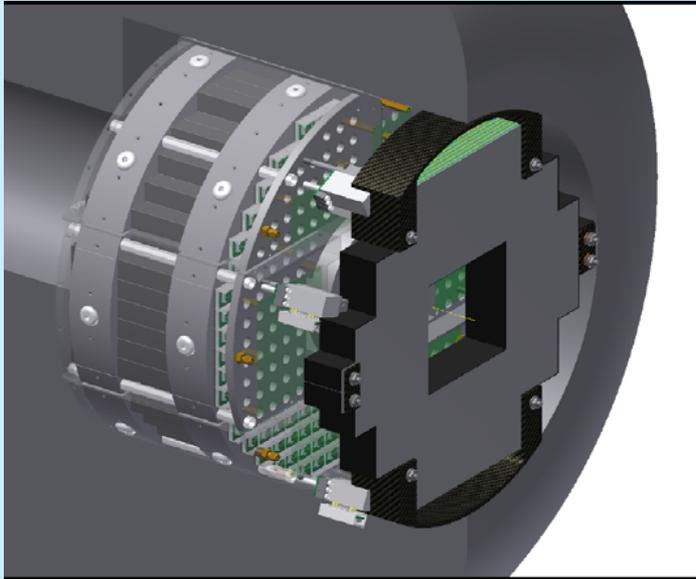
Additional Work for 2012, not yet scheduled, to be fit in as available

- 1. Replaced aging magnet hoses (CM only)
- 2. identify obsolete services passing through sill and remove them.
- 3. Cover for services coming from IR through sill.
- 4. Plan for stripping out TEC electronics and services to free up TEC racks.
- 5. Add limit switch and improved spooling control for window washer cable.

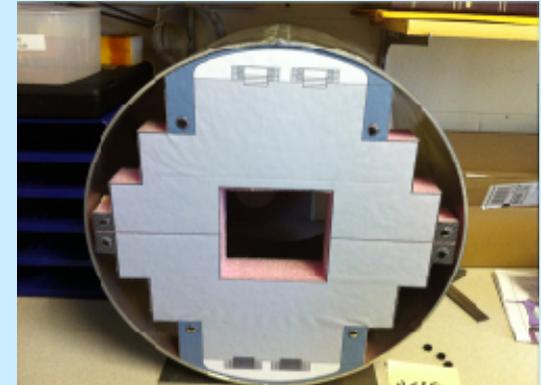
PHENIX Electronics Upgrades

- 1. Replace remaining RS-485 type ADAMs on West carriage with MODBUS/TCP type.
- 2. Install Ethernet switches and MODBUS/TCP ADAMs on Central Magnet arm.
- 3. Install second MODBUS server in counting house.
- 4. Install MTP patch bay and jumpers for FVTX in counting house.
- 5. Add several backup MTP fibers from CH to IR

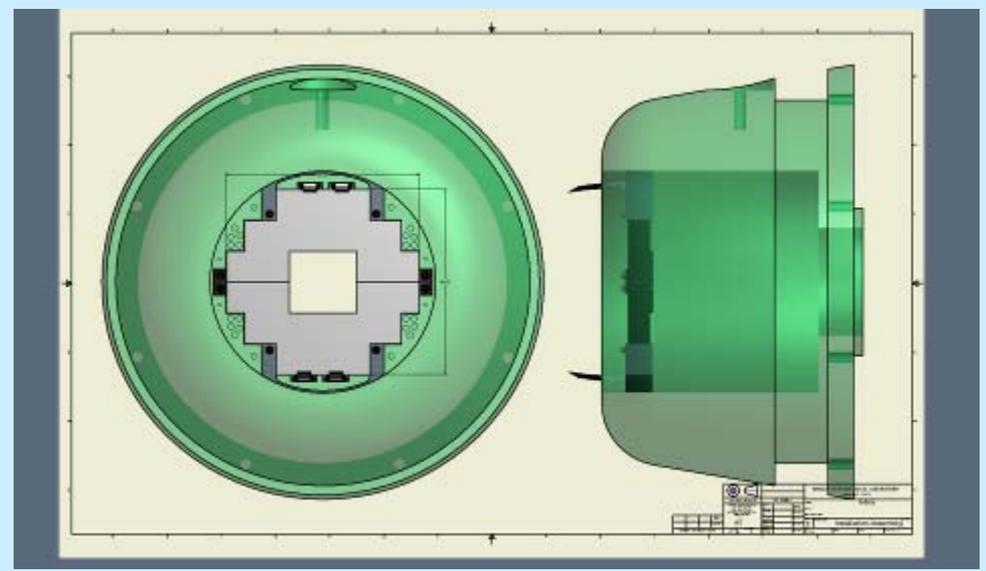
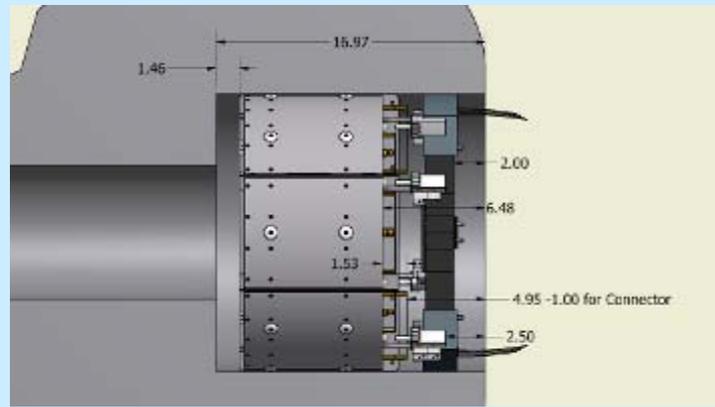
TECHNICAL SUPPORT NON-IRON



MPC-Ex Approved this week

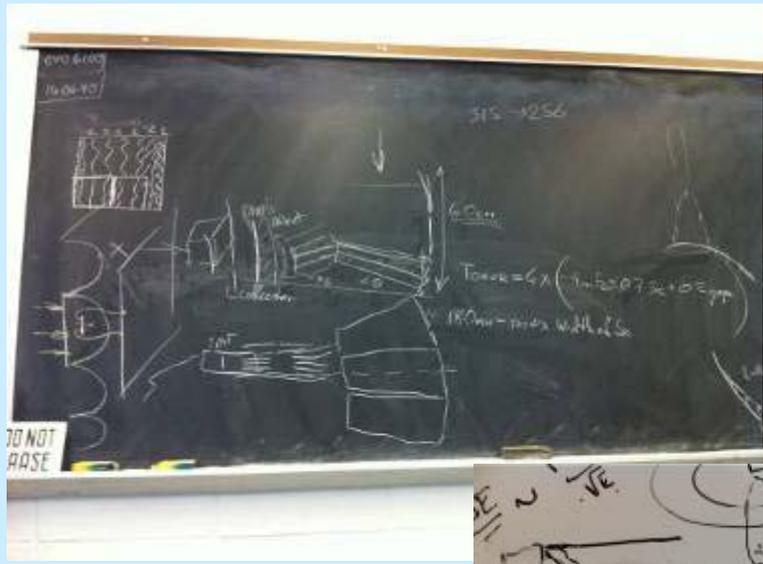


Foam Mockup

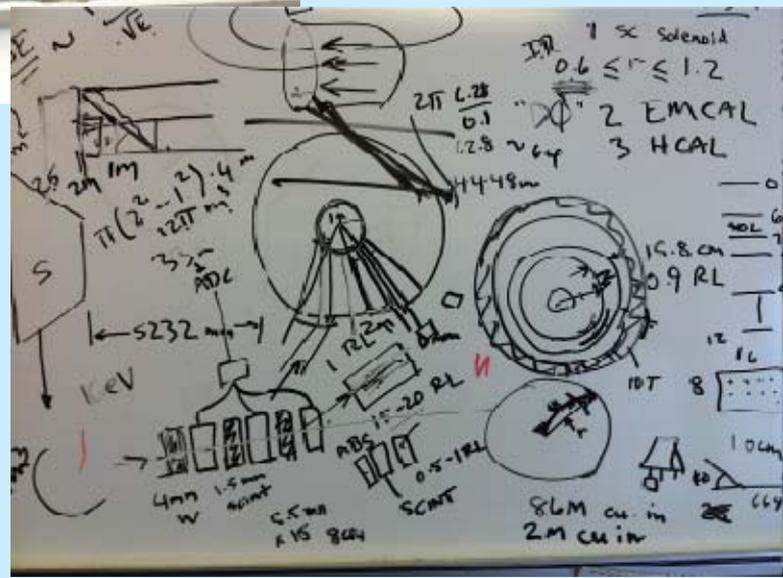


HCal Initial Prototype Spec

sPHENIX



BNL Review 10/5/12,



sPHENIX Initial Specifications

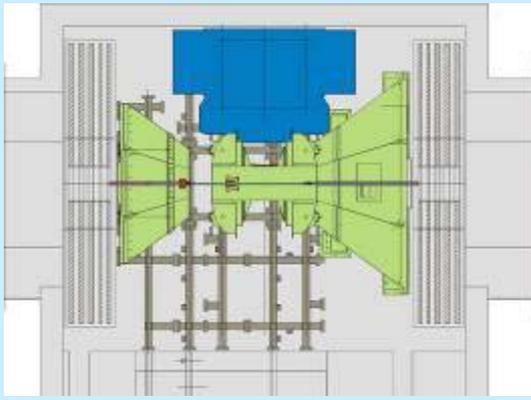
### Procedures for Shutdown 2012

- Existing PHENIX General Purpose Recurring Task procedures -Done
  - VTX Removal -Done
  - FVTX/VTX installation -Done
  - VTX Survey -Done
  - FVTX Survey -Done
  - FVTX Cooling SystemUpgrades -Done
  - MuTr Maintenance & Upgrade (stations 1 2 & 3) -Done
  - MuTrigger Maintenance and Upgrade -Done
  - DC Repair - Incl. in WP
  - MPC removal and re-installation - incl in WP -Done
- Procedures will be part of 1 WP for VTX and FVTX
- Incl. in separate WP's for MMN and MMS entry

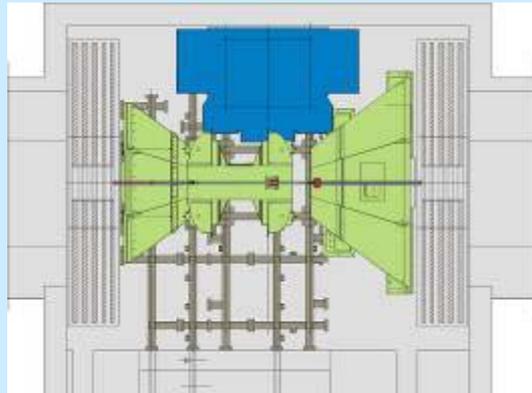
### Work Permits for Shutdown 2012

- Start of Shutdown (PHENIX) -Done
- VTX Removal/FVTX/VTX Installation -Done
- MuTr/MuTrigger Maintenance and Upgrade 3 WP's: Station 1, MMN and MMS work -Done
- RPC1 Cooling Upgrade (PHENIX) -Done
- DC West Repairs
- MPC repairs -Done
- VTX/FVTX Cooling Upgrade (PHENIX) -Done
- RPC Recirculation Upgrade (PHENIX) -Done
- RPC Background Attenuation Shielding 2
- End of Shutdown (PHENIX)

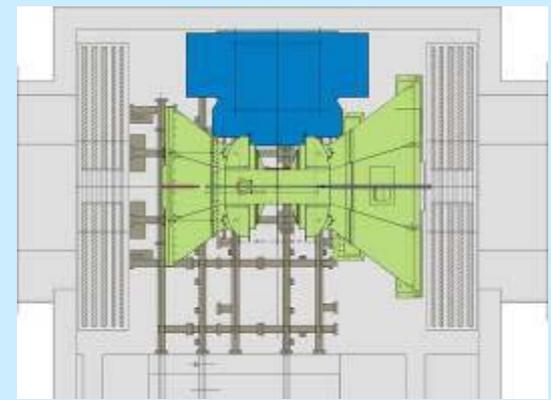
TECHNICAL SUPPORT ZONE



IR is currently in this configuration.



After all work MuTr South work is finished, move CM south, reinstall MPC complete RPC1 North work, survey step 1 for beampipe.



Then move CM north complete beampipe and CM survey. Move MMS North to run position. VTX/FVTX work may be done in any configuration.

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Prep for shutdown	Done
Shutdown Standard Tasks	Done
• Open wall, disassemble wall, Remove MuID Collars,	
• Move EC to AH, etc.	
VTX Strip-pixel post run tests	Done
FVTX post run tests	Done
Disassemble VTX/FVTX services	Done
Open Station 1 North, remove MPC North for repairs	Done
Temporary power patch for IR and AH lights and cranes	Done
AH electrical power panel upgrades	Done
Remove VTX/FVTX and transport to Chemistry Lab	Done
Remove MMS vertical East lampshades	Done
Summer Sunday (8/5) Prep and teardown	Done
Remove MMS & MMN vertical East lampshades	Done *
MuTr South Station 1 work	
Install access (Sta. 1 work platforms)	Done
Disconnect Cables, hoses etc, ID/label all	Done
Remove FEE plates and chambers	Done
Station 2 Terminators and manifold upgrade through	Done
access opened by station 1 removal	
Station 2 South Hall probe repair	Done
Clean/install new MuTr Sta. 1 chamber parts and upgrades	Done
(concurrent At RPC Factory)	
Re-install chambers and FEE plates	Done

TECHNICAL SUPPORT

MuTr Station 1 Re-cable, re-hose and test	9/5-9/14/2012
Re-capacitation and air manifold upgrades	
Station 3 South (upper half)	10/19/2012
Remove Station 2/3 South scaffolding	10/26/2012
Re-install MMS lampshade	10/31/12
Station 3 North (upper half)      Scaffolding	9/14/2012
Capacitor Clamps and air manifolds	11/9/2012
Remove station 2/3 scaffolding	11/16/2012
MPC South repairs	9/28/2012
MPC South Installed	10/5/2012
RPC 1 South cooling upgrade	10/12/2012
RPC1 South Thermocouples	10/12/2012
Remove Station 1 Scaffolding	10/15/2012
Move CM South, Open station 1 North	10/16/2012
VTX Cooling System Upgrades	10/5/2012
RPC Recirculation Upgrade	11/2/2012
Repair upgrade, reassemble VTX/FVTX	In Progress
Test, survey (at Chemistry and IR) and re-install VTX/FVTX	10/5-10/31/12
Substation breaker upgrade/test (CAD)	8/20-9/30 ?
DC West maintenance (replace window)	9/15-10/15
RPC Shielding under DX magnets	11/21/2012
RPC tunnel Shielding (Dave Phillips)	12/14/2012
Reinstall MPC North	10/26/2012

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RPC1 North Cooling upgrade	10/26/2012
RPC1 North Thermocouples	10/26/2012
Window Washer pin & spool upgrades	11/21/2012
MuID IR storage support	11/21/2012
Veterans Day Holiday	11/12/2012
Pre-run commissioning and prep for run 13	11/1-12/31/2012
Prep for EC roll in	11/12-11/16/2012
Roll in EC	11/19-11/21/2012
Thanksgiving Holidays	11/22-23/2012
Prep IR for run	11/26-12/3/2010
Pink/Blue/White sheets	12/3-12/21/201
Christmas Holidays	12/24-25/2012
Start run 13	1/1/2013



TECHNICAL SUPPORT ZONE

This is the status and priority for the various fixed ladders at PHENIX:

Priority 1 and 2: Ladders to West carriage, North and South: Currently Yellow Tagged: Requires Work permit (Carter has the permit) to use.

Priority 3: Ladder to Eyebrow: Currently Red Tagged: a work around is in place- use new cross over from bridge; ladder repairs in planning stage. Work around is not useable when we move the CM to the south position, so we will need the ladder repaired. Should be upgraded to Yellow tag this week, will require work permit to use (Carter has the permit).

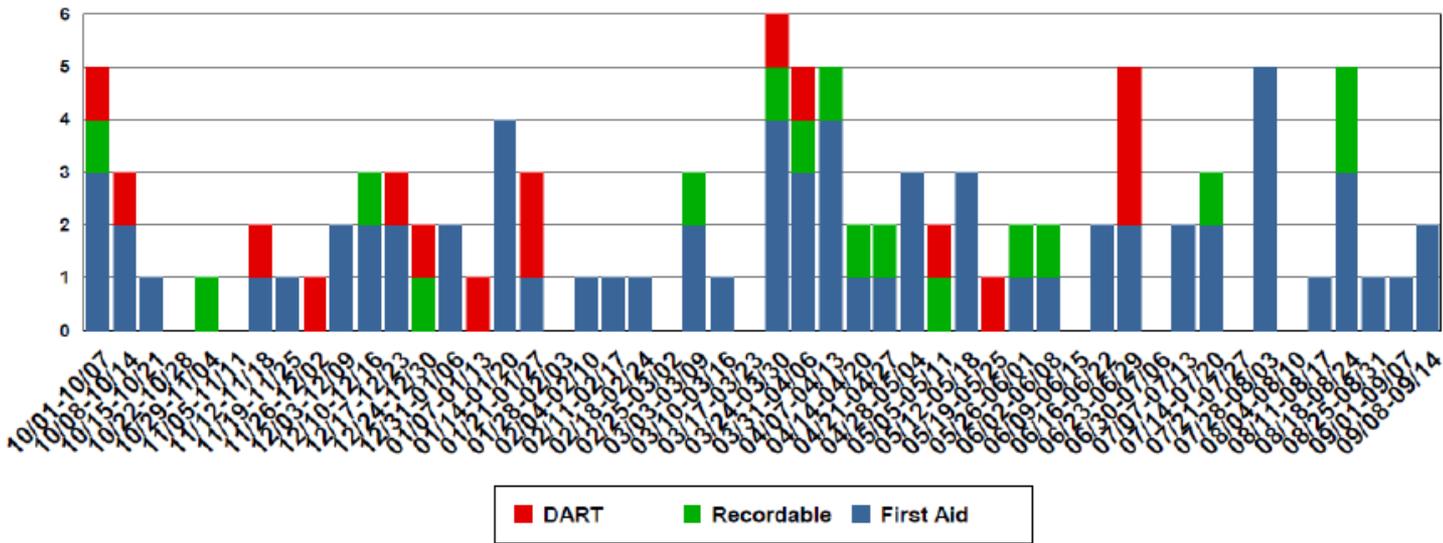
Priority 4: Ladder to Muon ID Steel in Southeast IR: Currently Yellow Tagged: requires work permit to access. We can wait to have the repairs on this ladder. No repairs planned, will probably remain yellow.

Priority 5: Ladder to mezzanine over tech offices to 30 ton AC air handling unit: not yet inspected, effectively red tagged. This ladder is needed to service AC.

Priority 6: Ladder to PHENIX roof over tech offices. Used by AC techs to service 30 ton AC compressor. Not yet inspected, effectively red tagged. Will impact schedule if AC fails.

- Priority 7: Ladder to Muon ID Steel in Northeast IR: Not yet inspected, effectively **red tagged** : work around use yellow tower ships ladders and access from top level. Since we have a suitable workaround there is no urgency to get this ladder inspected.
- Priority 8: AH ladder to crane: Not yet inspected, effectively **red tagged** : needed for crane servicing. Could impact schedule if crane requires service.
- Priority 9 and 10: Ladders on Southwest and Northwest of MuID steel: Not inspected yet, effectively **red tagged** : do not use, no work around. These are needed to access plumbing for repairs, and MuID detector access. We have no current plans involving these ladders so they are lower priority for inspection/repairs, but could need this access before the run.

### Injuries Per Week (FY) As of 9/14/2012



**Injury Status:**

FY12 YTD: DART – 16, TRC – 32, First Aid – 69  
 FY11: DART – 30, TRC – 44, First Aid – 45  
 FY10: DART – 19, TRC – 33, First Aid – 52

FY12 Injury Listing: <https://intranet.bnl.gov/esh/shsd/seg/Occlnj/BNLInjuries.aspx>

**Recent Injuries**

9/13/12	First Aid	An employee was scoping out a future job and was stung by a wasp. At the OMC, first aid was given. ( <a href="#">Event Link</a> )
9/13/12	First Aid	An employee was working when an unknown insect bit him on the back of his neck. He reported to the OMC where first aid was given. He returned to work without restrictions. ( <a href="#">Event Link</a> )
9/5/12	First Aid	An employee struck his elbow against the vehicle door while dismounting. At the OMC, first aid was administered. He returned to work without restrictions. ( <a href="#">Event Link</a> )
7/30/12	First Aid	An employee was assisting in the removal of scaffolding when he was stung by a wasp. At the OMC, first aid was given and he returned to normal duties. ( <a href="#">Event Link</a> )

For more info on insect stings and other hazards of nature at BNL see the SBMS subject area "Natural Hazards in the Environment)

TECHNICAL SUPPORT NON

9/11/12	Non-Reportable	A small spill of legacy Hg occurred during renovation work in Bld. 555 by MPO. The spill of a few drops, the size of a dime was on the floor, there was no introduction of Hg to the soil. Fire/Rescue responded, controlled the area and used absorbers to prevent evaporation. IH responded and found no airborne Hg. This is currently being cleaned up. ( <a href="#">Event Link</a> )

# Where To Find PHENIX Engineering Info

TECHNICAL SUPPORT ZONE



Run 13 is coming soon.

[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)

