

# PHENIX WEEKLY PLANNING



4/16/2009

Don Lynch

PHENIX  
WEEKLY  
PLANNING

## Yesterday's Maintenance Access Report

- HBD relay module
- TOF.E troublesome HV channels?
- PC investigate gas and HV
- BB daughtercard change
- TOF.W HV?
- RPC passive LV Filter tests
- RICH LVL1 board swap
- Evaluated Gap 5 with Grout Rep

Next Maintenance Access Day - April 29



Discussed Grout Preparation in Gap 5 North with Grout Rep. Grout spec determined, pour in 2 steps: 1<sup>st</sup> step to fill gaps and establish rough reference base before installing base supports. 2<sup>nd</sup> step after base installed and surveyed for precision support and fixity of base.

## Shutdown '09 Major tasks (expect 5 month shutdown):

- 2009 shutdown Begins June 28
- End run, remove wall, MuID collars down, EC to AH (3 weeks)
- RPC Factory Operations (in progress and continuing beyond Shutdown '09)
- RPC Station 3 North (entire shutdown)
- Install Station 1 South scaffolding (1 week)
- Install Station 2/3 scaffolding (2 weeks)
- Install stations 1, 2 and 3 south MuTrigger FEE's (12 weeks)
- MuTr decapacitations: station 3 south (3 weeks)
- PC1 East repair (4 weeks)
- Mechanical/Electrical Plumbing installation of (4) new DCM racks
- Add Ar Dewar and expand gas pad to add storage (12 weeks)
- Prep for future upgrades/existing equipment maintenance & Repair (as necessary)

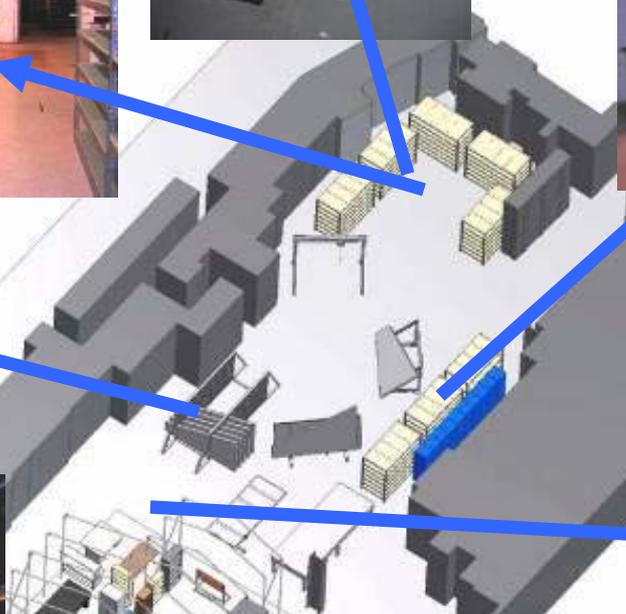
# End of Run, Start of Shutdown

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- End of Run 9 6/28
- End of Run Party 6/26
- Flammable Gas Purge 6/30
- Open Wall and Disassemble 7/2
- MuID Collar Removal 7/8
- Move MMS South 7/10
- Disconnect EC and move to AH 7/17
- Move MuID Collars to AH 7/20
- Install IR floor plates, rolling cart & manlift in IR 7/22
- Reconnect EC for shutdown mode 7/24
- Remove East/West vertical & Upper Bias MMS lampshades 7/24

- Gap and Module assembly and testing (continues through shutdown) in-progress
- Gap and Module Storage with humidity control 4/17
- Tilting transport Table 5/1
- Burn in test stand (Bike rack section) 5/15
- Burn-in test stand gas system and controls (ready for 1<sup>st</sup> half octant) 5/29
- Assembly of half-octants for station 3 north 6/1-9/1

PHENIX TECHNICAL SUPPORT



Tilting Transport Table



Fabrication in progress



Concept approved at C-A Design Review, with minor corrections

## RPC Factory Burn In Test Station For Octant and Half Octant Burn-in Tests



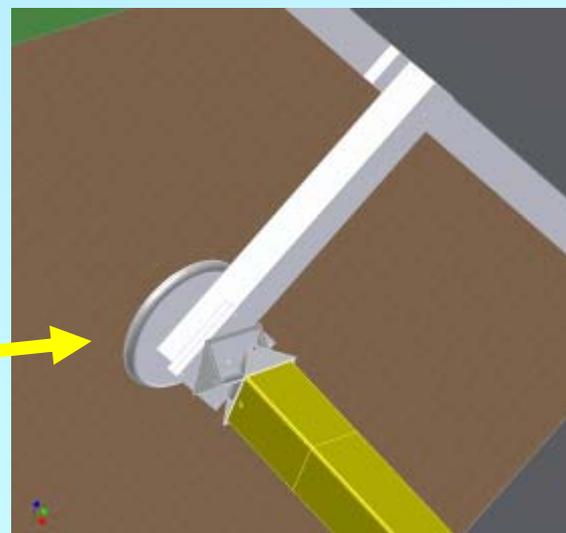
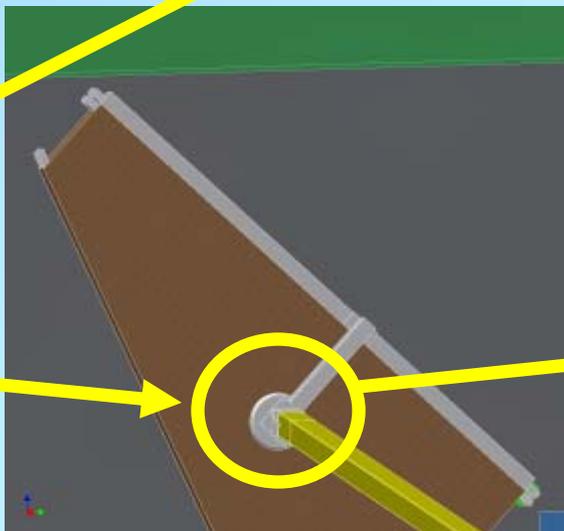
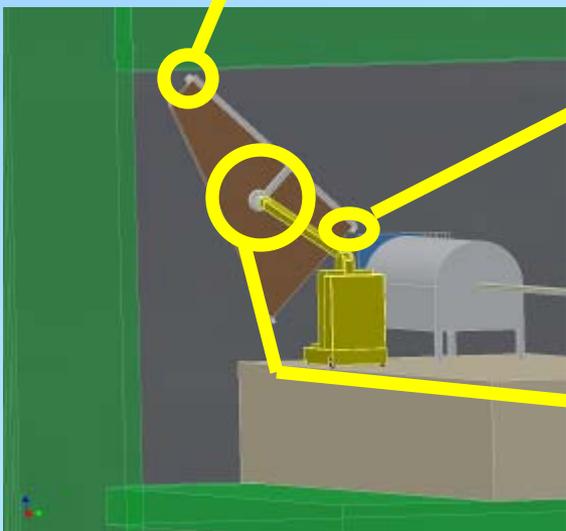
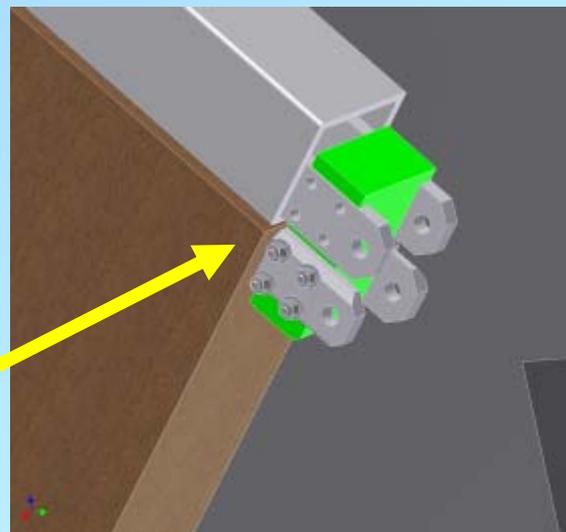
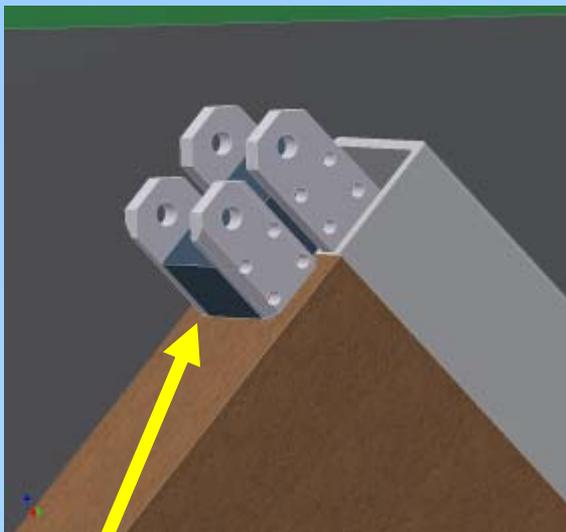
Design reviewed and approved. All mechanical components acquired and ready for assembly. Gas and control systems fabrication in progress. Will be ready before first half octant is assembled.

# RPC3 North Installation Schedule

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Installation Concept Finalized	Mar. 31
Half-Octant Brackets, Connecting Blocks, under detector translating support design	Mar. 31
Installation Fixturing and Tooling Design	Apr. 30
Redesign crystal palace/IR Gas Barrier	May 29
End of Run 9	June 28
Fixturing/Tooling, Brackets/Block/support Fabrication	June 30
Move Shielding/Remove Crystal Palace	June 29-July31
Move cable trays and piping in gap 5	June 29-July 31
Simulated (practice) installation with new fixturing/ tooling	July 13-July 31
Install, level & survey support structure	Aug. 3 - Aug 14
Half Octant Testing and Assembly Complete (1 <sup>st</sup> half Octant ready by Aug.17, 16 <sup>th</sup> by Sep.18)	Aug. 17- Sep. 18
Mechanical Install Align & survey RPC3 N	Aug 17 - Sep. 30
Install 3 elect. Racks, all cables & gas system	Oct. 1 - Oct. 30
Commissioning	Nov. 1 - Nov. 30
Install new crystal palace/IR Gas Barrier & Shielding	Nov. 1 - Nov. 30
Start Run 10	Dec. 1

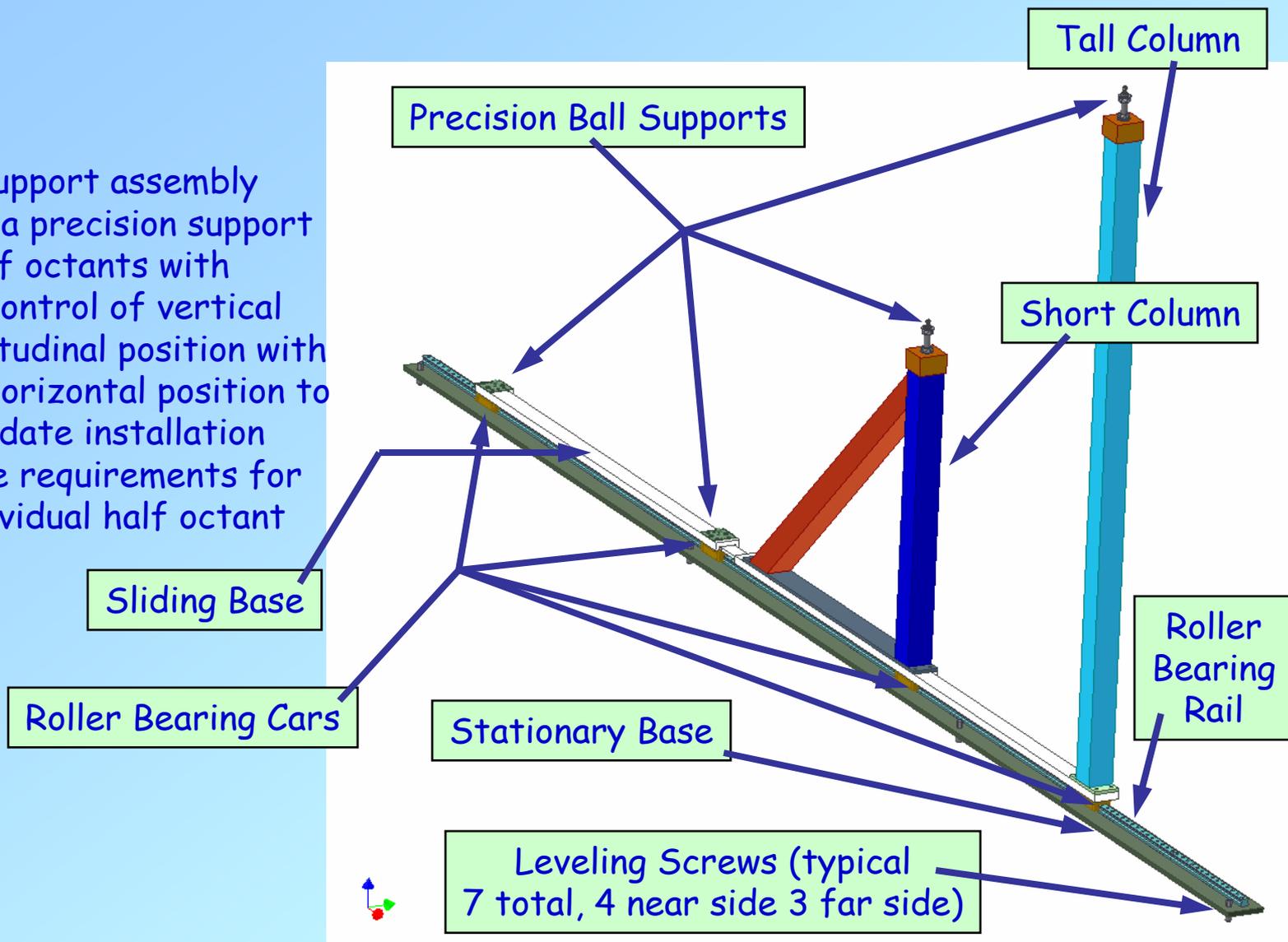
RPC 3 North  
Installation  
Tooling  
Concept



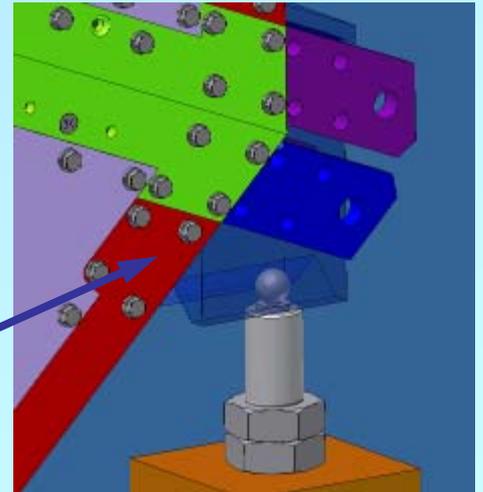
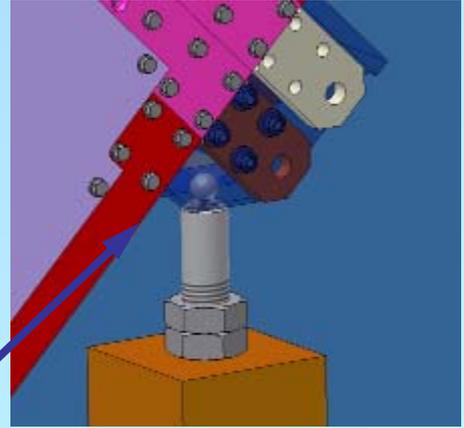
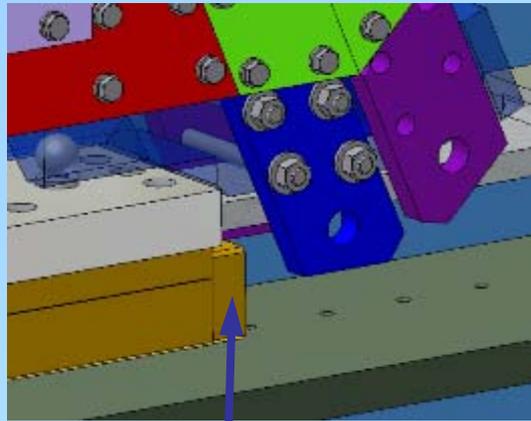
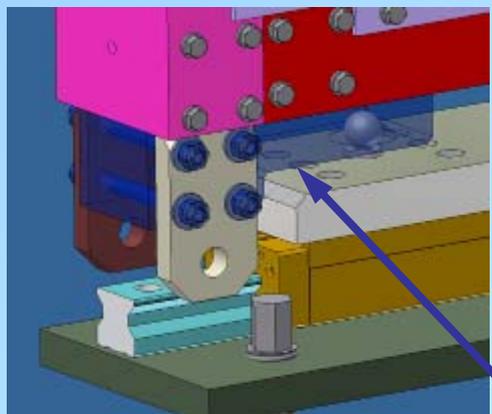
# Sliding Half Station Support Assembly

TECHNICAL SUPPORT

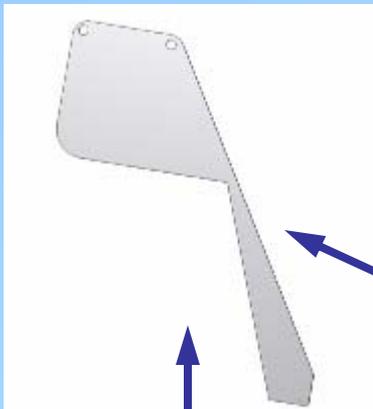
Sliding support assembly provides a precision support for 8 half octants with precise control of vertical and longitudinal position with varying horizontal position to accommodate installation clearance requirements for each individual half octant



4 lower OD interconnect blocks with precision ball receivers for support and alignment of half station. East and west are the same



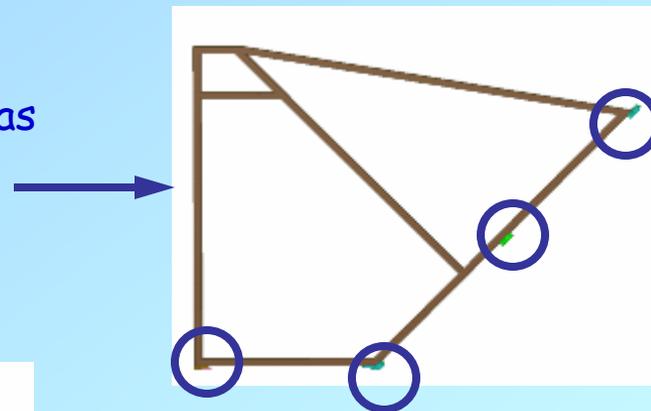
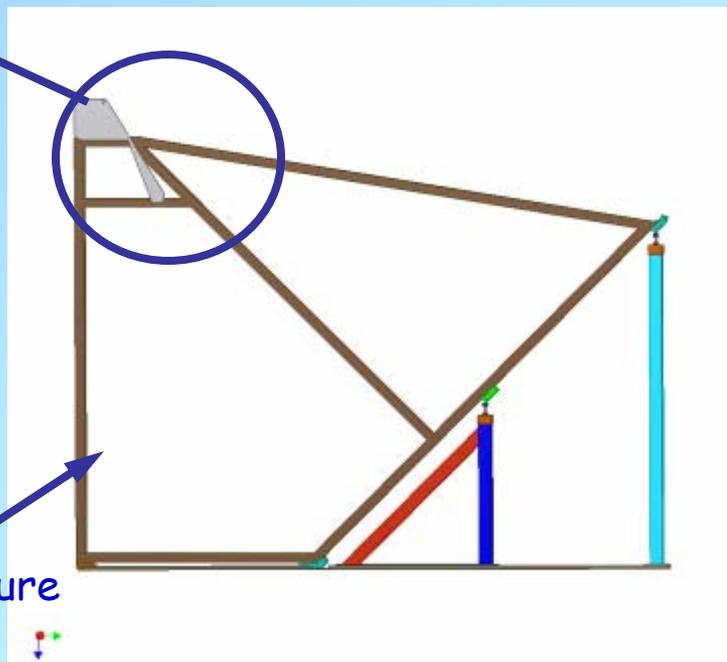
*Note: All interconnects to have bolt holes for both Half octants connected whether used or not.*



Target Holder  
Mounts to skeleton  
precision pins

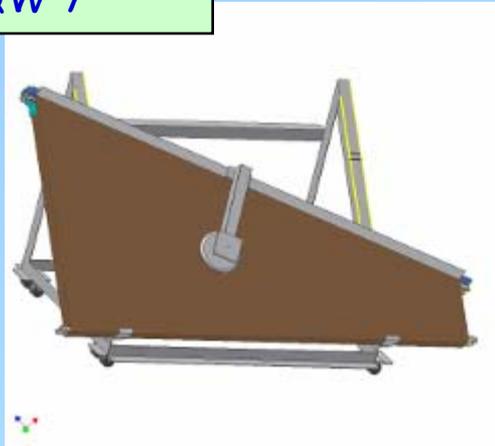
Half Octant Base  
support Survey Fixture

Fixture skeleton simulates  
bottom 3 half octants and has  
3 precision pins to mount  
target holder



Skeleton includes the 4 lower  
mounting/interconnect  
brackets used by the lower 3  
half octants to connect and  
mount on the base support  
assembly. 3 Precision locating  
pins are assembled to the  
skeleton to support the  
survey target holder. Same  
target holder is used to  
survey each half octant.

A. Fixture on long side, octants E1, E5, W3 & W 7



B. Fixture on short side, octants E2, E6, W4 & W 8

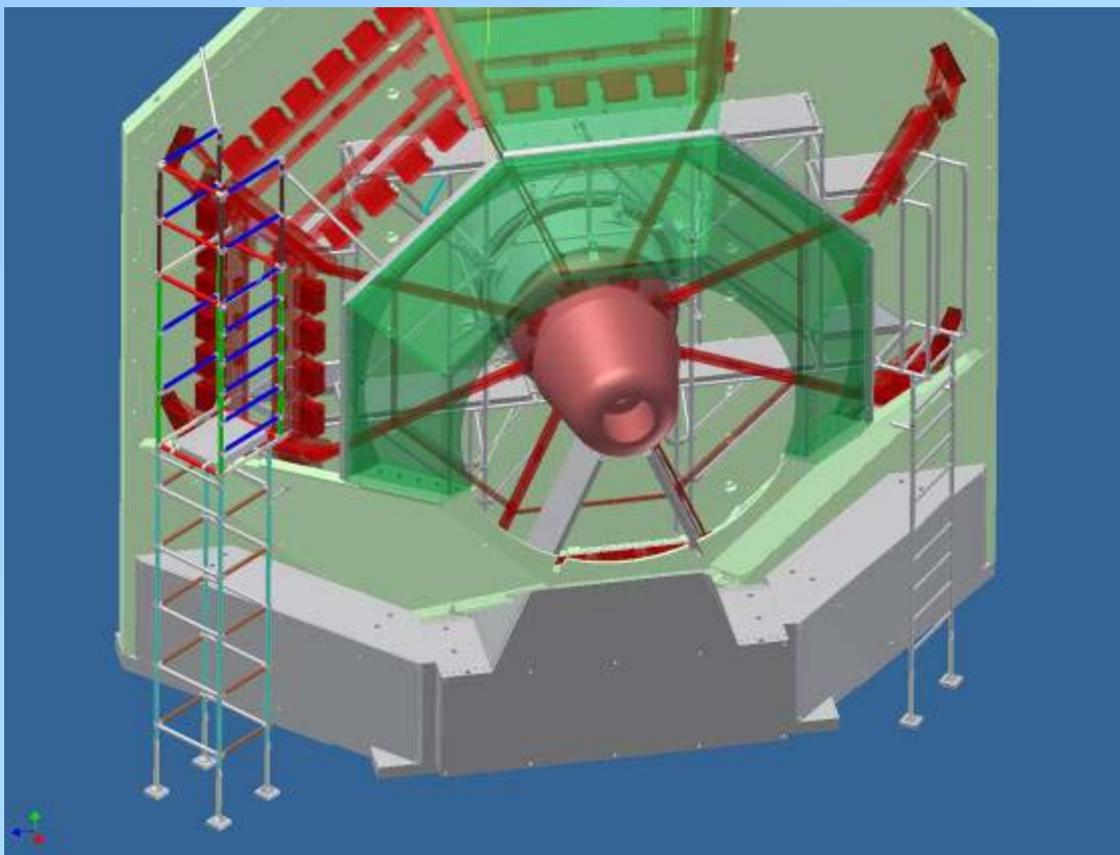


C. Fixture on long side, octants E3, E7, W1 & W 5



D. Fixture on Short side, octants E4, E8, W2 & W 6

- Install Station 1 South Scaffold (carpenters) 7/31
- Install station 2/3 scaffolding (Techs) 8/14
- Install station 1 FEE's 8/28
- Install station 1 electronics and cable mngment 8/28
- Station 1 plumbing 9/11
- Install station 2/3 FEE's 9/25
- Install station 2/3 electronics & cable mngment 9/25
- Station 2/3 plumbing 10/9



## MMS scaffolding

Designed for MuTr installation. Approved in 2000 for use. Stress analysis done for worst case. Current design has minor modifications.



Concept approved at  
C-A Design Review

Bargaining Unit negotiations are next

# MuTr Decapacitations

TECHNICAL SUPPORT NOON

Station 2/3 Decaps

8/14-8/28

Testing/verification

9/4

# PC1 East Repair

TECHNICAL SUPPORT NOON

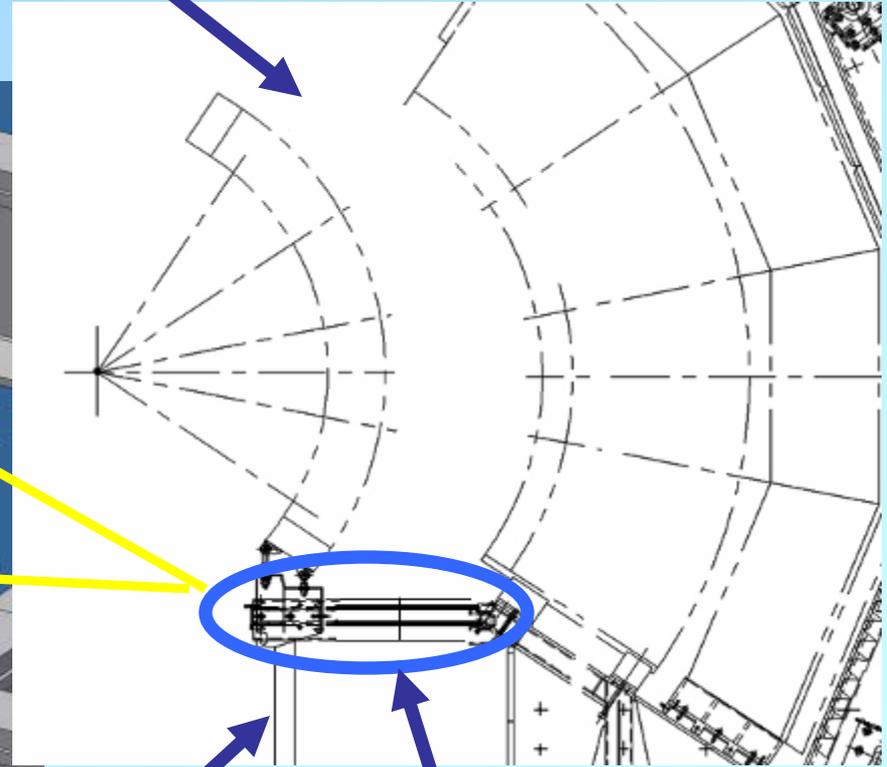
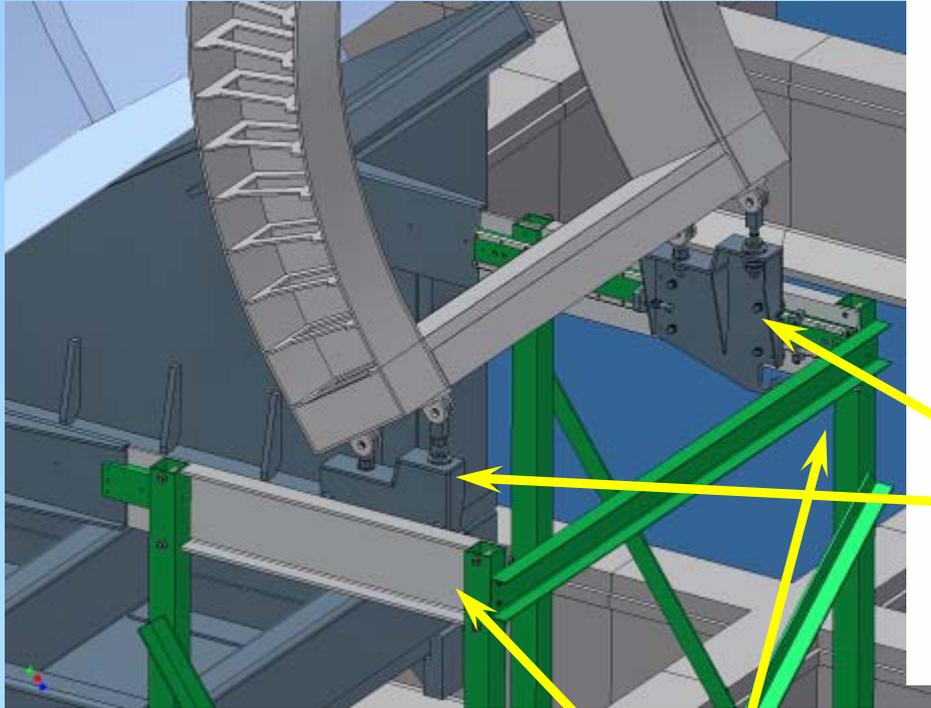
- Design Repair support fixture Done
- Review and approval Done
- Fabrication 7/1
- Install support fixture 8/14
- Remove cables and plumbing 8/28
- Roll out DC/PC1 9/4
- Replace failed PC1 9/11
- Roll DC/PC1 in 9/18
- Restore cables and plumbing 9/25
- Test/commissioning 10/2

# PC1 East Repair Fixturing Design



Repairs to be performed during '09 Shutdown

Access to PC1 is adequate to remove and replace module



*Quote Rec'd from CS*

New Column Supports Under railway extensions

New Railway extensions will allow DC to be pulled out ~ 3 feet more

4/16/2009

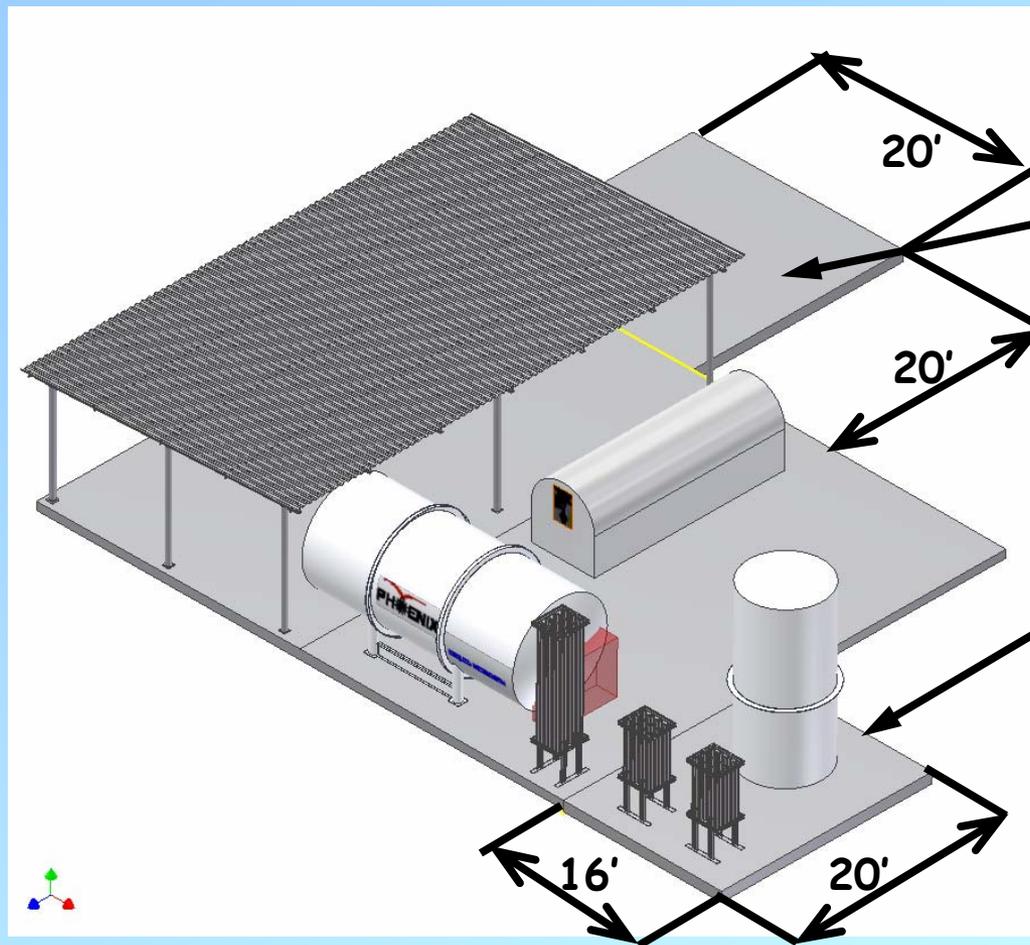
PHENIX

- Proposal Done
- Review and Approval 5/1
- Design 6/1
- Site Preparation 7/1
- Install Empties racks 8/1
- Install Ar Dewar 9/1
- Test and Commission 10/1

(Rough guess actual schedule TBD)

# New Argon Dewar

TECHNICAL SUPPORT NOON



New storage pad for empty gas cylinders, 20' x 20', 9" min thick. reinforced concrete

New Argon Dewar Pad, 16' x 20', 12" minimum thickness, reinforced concrete.

# New DCM Rack Plumbing

(Not Scheduled Yet)

PHENIX TECHNICAL SUPPORT NOON



4 new DCM racks need cooling water plumbing



## 2009 Building Maintenance Issues

*These items passed on to Fred K.*

- Mixing House thermometers not working properly
- Roof leaks in utility bathroom at northwest corner behind tech offices and over door between rack room and assembly hall.
- ~~• Trailer bathroom slop sink (for Custodians). **DONE**~~
- Heat wrap tape for trailer bathroom toilet drains to prevent freeze/clogging in winter.
- Improved Rack Room AC performance (This item has been addressed time and again but unsatisfactorily. Currently the AC fails periodically and is repaired only to fail again. On-condition maintenance is not adequate...an engineered solution is needed.)
- Back bathroom plumbing noise
- AH slop sink leak
- Icy conditions at mixing house north stairs



Top BNL and BSA Officers and Staff will be bringing a VIP Tour to PHENIX ~10:30 AM tomorrow. VIP's will include:

Kirsten Gillibrand	U.S. Senator, New York State
Tim Bishop	Congressman, 1st District, New York State
Mark Lesko	Supervisor, Brookhaven Town
Kristin Walsh	Staff, LI Office, Senator Gillibrand
Tippins Stone	Staff, Senator Gillibrand
Bethany Lesser	Staff, Senator Gillibrand
Jon Schneider	Regional Director, Congressman Bishop
Lisa Wieber	Staff, Congressman Bishop
James Anthony	Staff, Presiding Officer Bill Lindsay Suffolk County Legislature

Please make sure that the entire PHENIX complex, especially the Control Room, Rack Room and Assembly Hall are clean, free of stray cables, wires, etc. and all tools are stowed. Check for tripping hazards, improper storage of equipment (i.e. items stored on top of cabinets), improper use of furniture (i.e. chairs used to support computers), code violations (i.e. items blocking clear access to electrical panels). Make sure the Rack room and Assembly Hall are well lit. No fabrication or assembly in these 2 rooms from now until after the tour tomorrow.

1. CPR Training for Electrical Safety 1 requirements:  
Next Tuesday, 4/21 at 1:30 PM, Bldg 938

The following are signed up. I need the final list today. Anyone else wanting to attend let me know after the meeting.

J. Biggs life# 15639  
 S. Boose life# 20461  
 A. Franz life# 21730  
 P. Giannotti life# 19759  
 K. Jones life# 20135  
 J. La Bounty life # 18643  
 D. Lynch life# 20146  
 R. Pisani life# 21317  
 F. Toldo life# 18297  
 C. Woody life# 15756  
 E. Desmond life# 14884  
 M. Purshke life# 21498  
 C. Pinkenburg life# 22321

2. PHENIX Techs: Mid Year Goal Review and R2A2 review. Your revised R2A2's have been placed into your people soft goal. Brefni made standard R2A2's for everyone, I revised them as appropriate, then are ready for your review. People Soft-> Employee Self Service-> Performance -> then either performance goals or Current R2A2. After reviewing contact me to go over them.

PHENIX TECHNICAL SUPPORT NOON

# Where To Find PHENIX Engineering Info



*It's going to be a very busy shutdown, so if you have any bright ideas, or other support requests for the PHENIX technical staff, let me know as soon as possible.*

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

