

PHENIX WEEKLY PLANNING

TECHNICAL SUPPORT NO-0



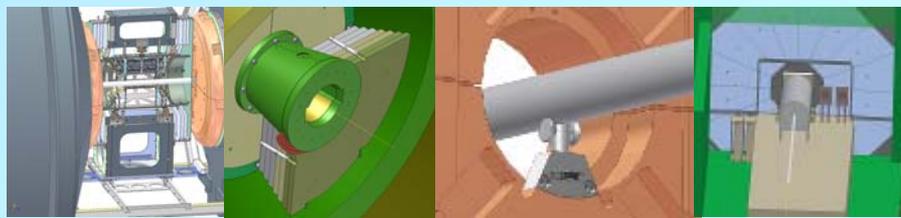
6/11/2010
Don Lynch

2010 Tasks (Overview)

TECHNICAL SUPPORT 2010

	Start Date	End Date
Run 10	Done	Done
VTX Installation Plan (Final)	In progress	6/17
RPC3S Installation Plan (Final)	Done	Done
Design support structure, alignment scheme for VTX	Done	Done
Specify and procure electronics racks and support equipment for VTX	Done	Done
Fabricate beam pipe supports	Done	Done
Beampipe NEG coating (CERN)	In Progress	7/15
Fabricate/procure parts for RPC3 S installation	In progress	6/30
Fabricate/procure parts for VTX installation	In progress	7/31
End of run 10	Done	Done
Installation Reviews RPC3N (incl. absorber), VTX (incl beampipe)	6/14	6/25
End of Run Party	6/18	6/18
Prep IR for shutdown	In Progress	7/1
Complete unfinished business for MuTrgr FEE & RPC3 North	6/23	8/1
Install Beam pipe	7/1	9/1
Install VTX	8/1	11/1
Install RPC3 South	6/23	11/1
2010 Shutdown Other Tasks	6/23	12/1

6/11/2010



Post Run 10 Tasks



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Task

Start Date

End Date

Commissioning Tests (HV, Mixed gas and Freon only)

Done?

Done?

Send mass flowmeters out for recalibration (DC/PC, MuID, TOF.W)

In Progress

6/30/2010

AH Crane 110 switch for lockout

In Progress

6/30/09

This Week:

- Run 10 ends
- RPC3N Commissioning/Cosmic Ray Tests end
- Roll out and begin disassembly of rolling shield wall,
- Remove MuID Collars
- Disconnect EC
- Future upgrade support as necessary
- Design/analyses of Absorber lifting fixture
- VTX & BP assembly/installation parts & fixtures procurement & fabrication
- RPC3 S assembly/installation fixtures parts & fixtures procurement & fabrication
- Work Permits (RPC3 not including absorbers done at CAD, shutdown startup, BBC removal/reinstall, MPC removal/reinstall Done)
- Prep for RPC3N, VTX, BP and Absorber installation review)

All flammable gas in PHENIX are now turned off. All lines in the mixing house containing flammables have been depressurized. Bottles on the pad have been turned off. All system are now flowing non hazardous gases.

List of Gas Lines (51 total so far)

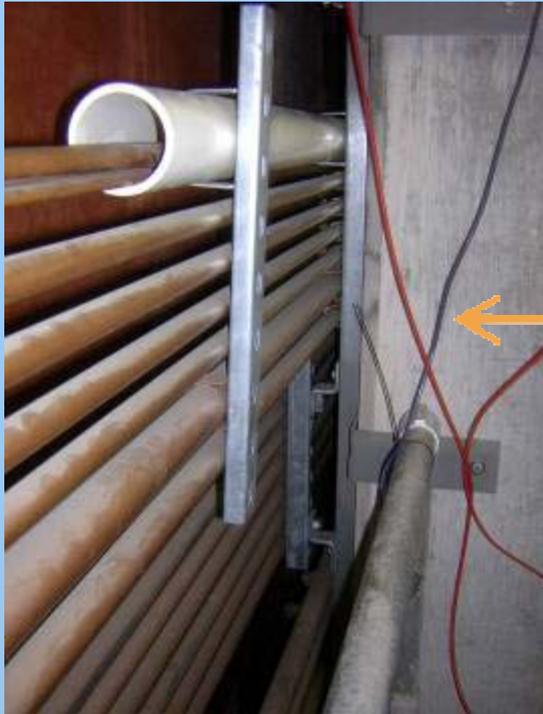
"Front Row" in GMH Go to West Side in the IR

Rack purge air supply-----	1-1/8"
Detector Purge Air Supply-----	1-1/8"
North MuID Return-----	1-1/8"
MuID North Supply-----	1-5/8"
MuID North Purge Supply-----	1-1/8"
MuTr North Supply-----	1-5/8"
MuTr North Return-----	1-5/8"
DC/PC BVP Return (dead)-----	1-5/8"
Nothing-----	2-5/8"
Beam-Beam N2 Cooling-----	5/8"
Helium Bag Supply-----	5/8"
TOF West Supply-----	5/8"
West RICH Control #1-----	3/8"
West RICH Control #2-----	3/8"
West RICH Control #3-----	3/8"
West RICH Buffer Return-----	3/8"
West RICH Supply-----	1-1/8"
MuTr South Supply-----	1-5/8"
MuTr South Return-----	1-5/8"
MuID South Return-----	1-1/8"
MuID South Supply-----	1-5/8"
MuID South Purge Supply-----	1-1/8"

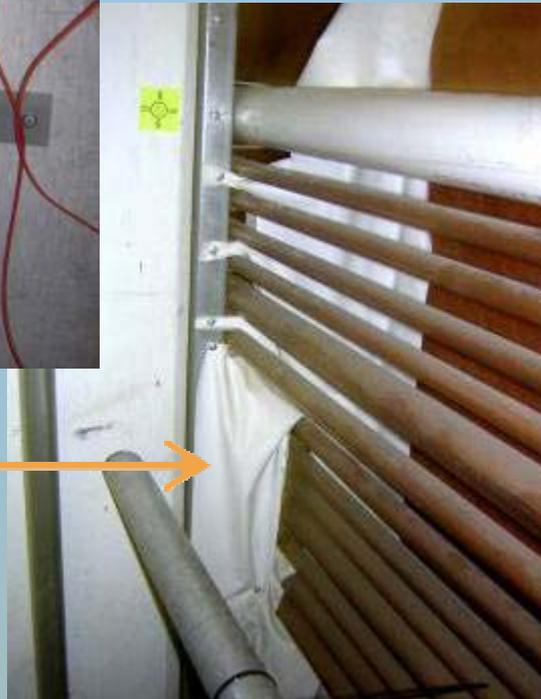
"Back Row" in GMH Go to East Side in the IR

RPC-----	1/2"
East DC Supply-----	5/8"
West DC Supply-----	5/8"
Aerogel Nitrogen-----	7/8"
TRD Nitrogen-----	7/8"
Nothing-----	7/8"
West DC Return-----	1-5/8"
RPC Vent (Not Used)-----	1-1/8"
Nothing-----	5/8"
Nothing-----	3/8"
Nothing-----	3/8"
East DC Return-----	1-5/8"
TEC BPV Return (Dead)-----	1-1/8"
PC Supply-----	1-5/8"
TEC Supply-----	1-5/8"
DC/PC Return-----	2-5/8"
TEC Return-----	2-5/8"
East RICH Supply-----	1-1/8"
TEC CO2 Supply-----	5/8"
East RICH Control #1-----	3/8"
East RICH Control #2-----	3/8"
East RICH Control #3-----	3/8"
East RICH Buffer Return-----	3/8"

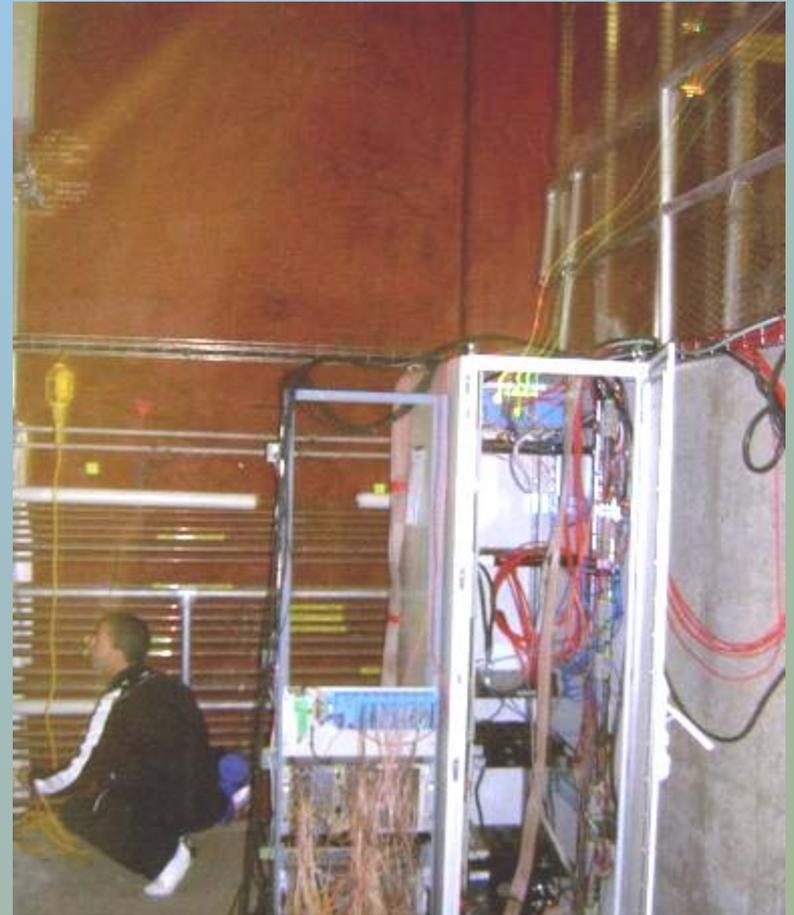
South West in Tunnel



Pipes go under beam pipe



Gap behind MuID



All pipes have to be removed to install RPC.

6/13/2010 5/12/2010

VTX Chiller Specification/Procurement

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Low Temp Chiller Options						
Vendor	Chiller	KiloWatts	Flow	Material	Del	Price Each
Advantage	M1-5W (BNL 49433)	7032@15F	12gpm @52psi	Cu,	6-7wks	\$9,365
Advantage	M1-5W (waiting for Quote)	7032@15F	12gpm @52psi	Cu, Sealed SS tank	6-7wks	\$11,575
Affinity	PWK-040K BE37CBD2 (BNL 1335)	3000@16F	5 gpm@60psi	Cu	8-10wks	\$22,519
Affinity	PKW-060k- BE44CBD2 (BNL 1262-2)	6000@15F	8gpm@60psi	Cu	8-10wks	\$
Affinity	Custom (BNL 1250)	6000@17F	10gpm@ 30psi	SS,Ni, SS tank	12-14wks	\$41,667

PHENIX
 recommends this option
 X 3

Big Wheel chiller						
Vendor	Chiller	KiloWatts	Flow	Material	Del	Price Each
Advantage	M1-5W (waiting for Quote)	>10000@55F	12gpm @52psi	Cu, Sealed SS tank	6-7wks	\$11,575
Affinity	Custom FAA-032L- ED21CBD4 (BNL1343)	9800@68F	16gpm@ 35psi	SS, NI	12-14wks	\$11658

DC West Maintenance Probable Time Schedule

Dates: July 26 - Aug. 13. 15 working days

Step 0. ¼ day

General planning meeting

Step 1. 3 days

Start with DAQ running and HV “in hands”

Start gas flow 2.5-3 days

Disassemble electronics, installation of dummy grounds

Transportation boards to SBU, start board testing

Step 2.

Work on HV cards and HV problems, 2-3 days

?? Cut the mylar window for wire removal ??, 1-2 days

Final test with HV

Work on electronics and its test at SBU - 5-7 days

Step 3.

Start signal board and ASD/TMC boards mounting after HV work finished. 2-3 days

Step 4.

Final electronics assembling and testing. 3-5 days

Requested PC maintenance for this summer from Anders Oskarsson

East arm. Pull DC/PC out on permanent rail. Half a day manlift help West arm: Pull DC/PC out on permanent rail. 2 hrs manlift help. (Anders estimates)

In detail We have the following problems to deal with:

EAST ARM

-Packet 4027, 3rd from bottom on PC1E, north side. This has been replaced once. Worked for a while after that but then bad again with the same error. Suspect the white LV connector. Try to locate the problem with measurements with DVM before removal of FEM. If we can verify connector problem we dont need to replace FEM.

-Packet 4031. Second FEM from the top on PC1E north side. No light in DCM fiber according to John. Need to take the board down and replace it. Can possibly be repaired.

Each of these actions need a couple of hours manlift help. Needs East arm to be operable so that functionality after repair can be established. We probably need to pull the DC/PC package out. It should be sufficient to pull it as far as the original rails go. Hopefully that can be done without uncabing the LV and HV.

WEST ARM

-Packet 4008, PC1W, topmost FEM on south side. This has had an unstable behaviour since the first year of running. Now with CM out I hope it is possible to get there. This would be the first time in 10 years when this is possible. Needs a manlift to get to the FEM. Possibly also to pull out the DC/PCWest out, but since it is the top one one may be able without pulling it out . Need to operate the electronics after change.

-Likely broken wire in PC3_WS_BS1. Verify that its a broken wire. If so, the only thing we can do is to localise the short and disconnect HV to the shorted wires to make the sector operable again. This can be done without help from the 1008 crew and I dont see that it can interfere with anyone since the work is done from inside the mounting boxes for PC2/PC3.

Unfortunately, disconnecting the wires has not been so succesful in the past since the broken wire tends to move and shorts new wires. But this chamber is rather horizontal so gravitation will have small influence on the loose wire.

Next Week

Finish disassembly of shield wall

Prepare for VTX, RPC3S, BP & absorber installation reviews

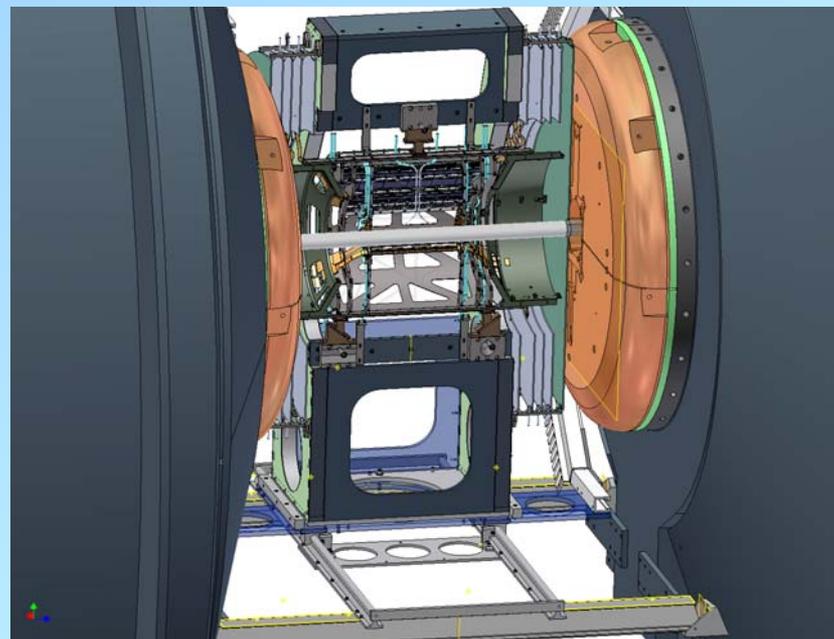
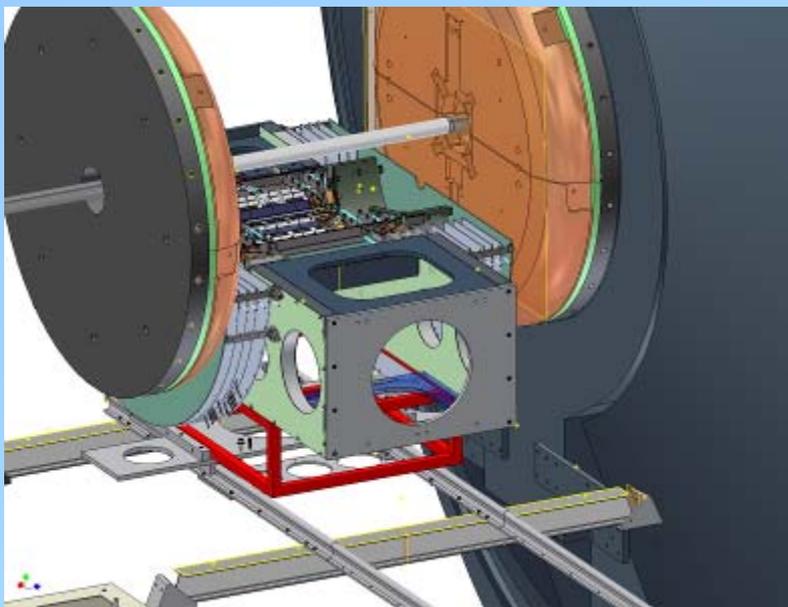
Design of installation tools and fixtures for VTX

Design of installation tools and fixtures for absorber

Future upgrades support

Begin disassembly of HBD, RXNP, BBC, MPC, RPC Prototypes

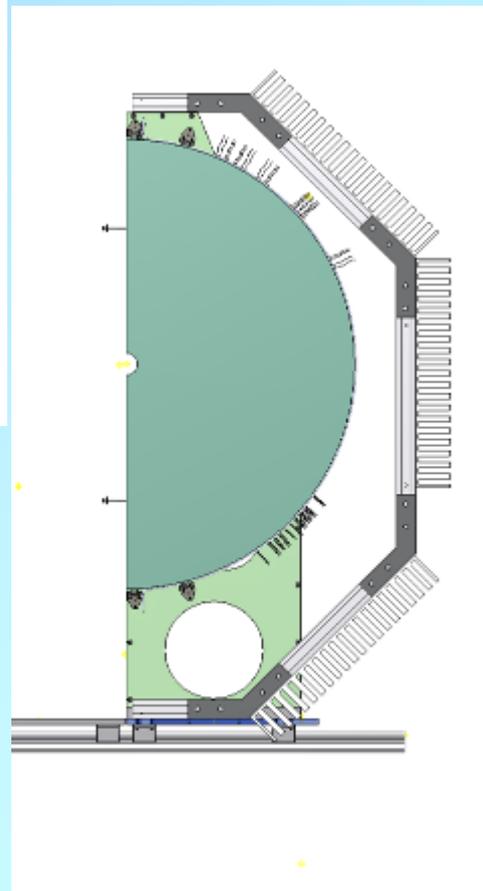
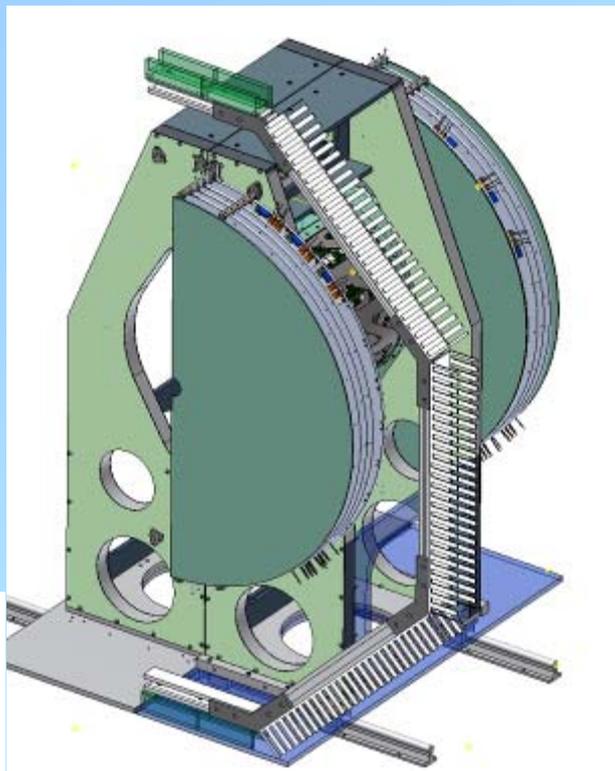
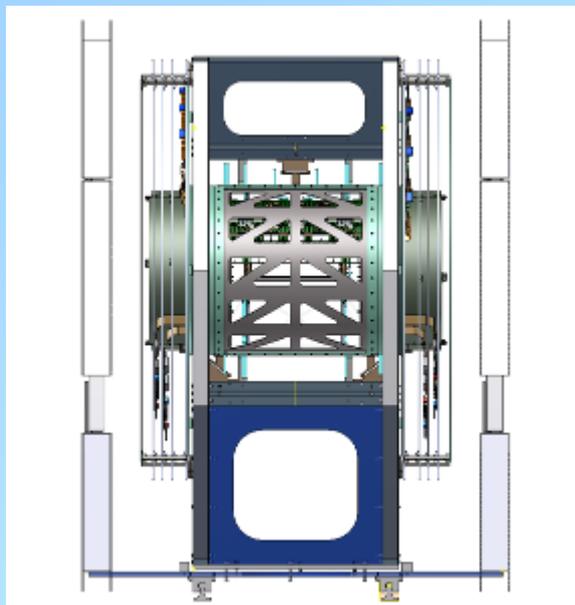
Begin RPC3S area prep

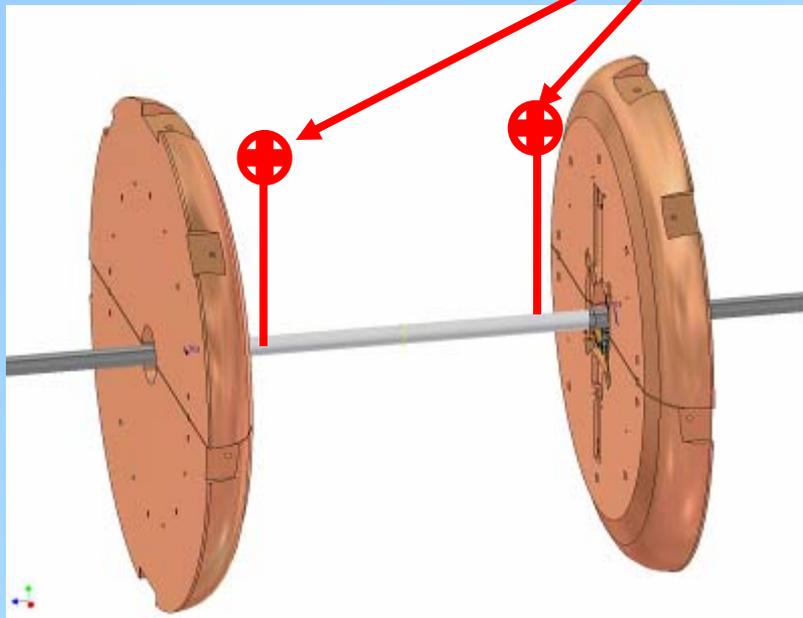


VTX Support Structure Base
Assembly and Installation Plan
in Progress

VTX cable tray concept

Similar to HBD





Survey Targets and fixtures TBD
 Must be able to align BP to req'd
 radial and angular accuracy
 without VTX and with VTX in
 clamshells open configuration.

On Deck in the Design Room



VTX Gas enclosure fabrication



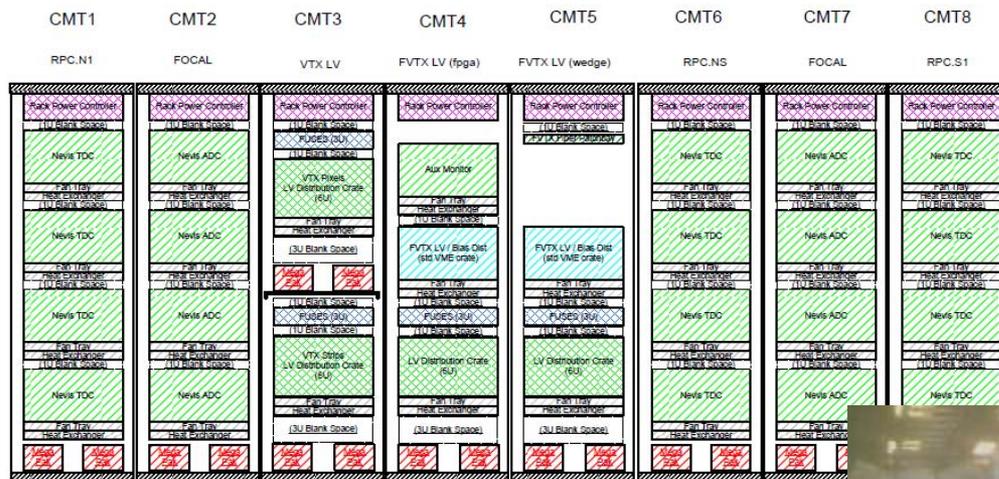


RPC2 & RPC3 Prototypes and associated Cables, electronics and gas support to be removed



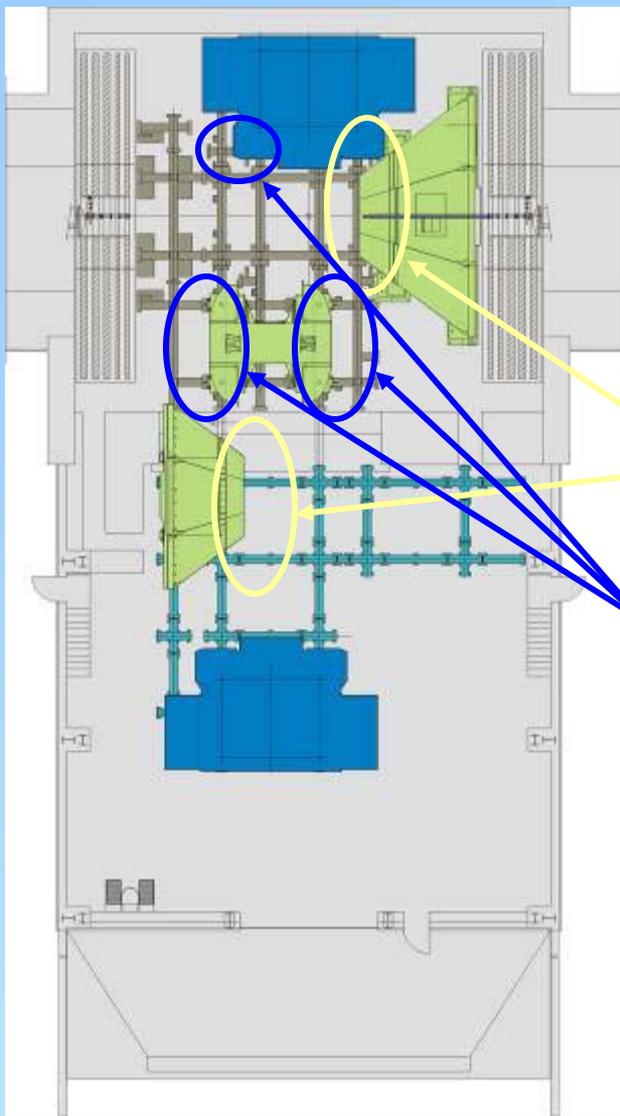
MuID Collars are down

PHENIX Bridge Racks



HBD, RXNP Racks to be removed intact





We expect the major PHENIX carriages and magnets to be in this configuration for most of August 2010. During this period the old PHENIX beampipe is removed, the north and south side of the CM is prepared for the absorber, the absorber is installed, work is done on MuTr and MuTrigger station 1, North and south and DC west.

Use standard scaffolding to access work in these areas

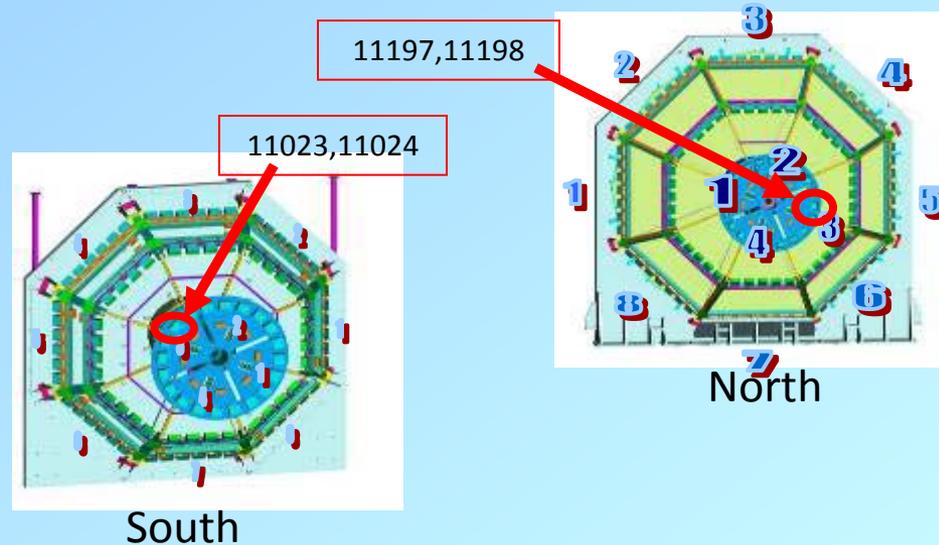
Use manlift(s) to access work in these areas

Work on EC, MuTr and MuTrigger Stations 2 and 3, and other subsystems in the EC and WC may also be performed during this period by subsystem experts, but PHENIX tech assistance will be extremely limited or not available and additional scaffolding (e.g. inside Muon magnets will not be available), and manlifts will not be available for these efforts.

Shutdown 2010 - muTr FEE repairs

FEE - one FEM in each station-1

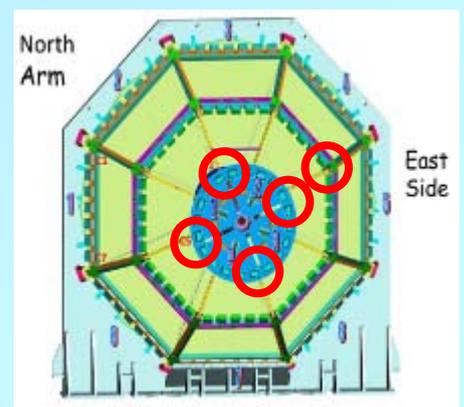
- 11023, 11024 - south S1 Q3 C2 (top); may be glink/clink RX module
- 11197, 11198 - north S1 Q3 C4 (bottom east); probably controller



Shutdown 2010 - Calibration cable termination repairs

Calibration cable connections - fix terminations

- north S1 - O2 G1; O3,4 G3; O6 G3; O8 G2 - all infinite termination now
- north S1 - O3,4 G1,2 - 57 ohms (rest all 105 ohms)
- north S2 - O5 G1 - $\frac{1}{2}$ gain of all others (probably can't reach)



Shutdown 2010 - MuTr HV

- disabled but cannot be reached (S271-6, S311-0, S331-2, N222-6, N341-0)
- S381-5 high current - also can't be reached?

Nothing can be done w/o scaffolding

Station	Current	Voltage	Status
S271-6	0.00	0.00	Disabled
S311-0	0.00	0.00	Disabled
S331-2	0.00	0.00	Disabled
N222-6	0.00	0.00	Disabled
N341-0	0.00	0.00	Disabled
S381-5	1.50	1.50	High Current

Station	Current	Voltage	Status
S271-6	0.00	0.00	Disabled
S311-0	0.00	0.00	Disabled
S331-2	0.00	0.00	Disabled
N222-6	0.00	0.00	Disabled
N341-0	0.00	0.00	Disabled
S381-5	1.50	1.50	High Current

Shutdown 2010 MuTr/MuTrigger - Other

muTrg, Itaru et al.

- south S3 O7 - threshold problem
- north S3 O1 - high noise (not reachable); S3 O4 - bad ADTX board

South arm disconnect/reconnect (fibers, power)

- lower glink/clink crates on top of eyebrow (to fit thru big IR door)
- move out/in; reconnect & test

Anode terminations

- station-1 gap-1 both arms - recap & terminate?
- station-2 all gaps, where we can reach w/o scaffolding (2 lower octants/arm) - terminate (under dry-air manifolds)?



TECHNICAL SUPPORT NO-0

New Beampipe Pre-Installation Prep

TECHNICAL SUPPORT NO-0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Send beampipe to CERN for NEG Coating	~ Done	CAD Vacuum
Choreograph removal of old beampipe and installation of new (final)	6/11/2010	PHENIX Design & Engg
Design BP installation and survey tools/fixtures	6/18/2010	In Design queue
Beampipe Installation Review (Final)	6/18/2010	Y. Makdisi ESRC
Receive bp back at BNL	7/31/2010	Mapes, Riggers to move from rec'g to CAD
Receive BP transitions & spool back at BNL from SAES after NEG Coating	7/31/2010	Mapes, Riggers to move from rec'g to CAD
Final acceptance and inspection bp and sections	8/6/2010	Mapes, Riggers to move from CAD to PHENIX
Fabricate BP installation and survey tools/fixtures	8/6/2010	CS

VTX Subassembly, Top Assembly, Installation and Integration Prep

TECHNICAL SUPPORT NO-0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
VTX Installation Plan	6/14/2010	PHENIX Design & Engg
VTX Survey Plan	6/14/2010	Consult w/ F. Karl
Installation Review (ESRC)	6/18/2010	Set up With Y. Makdisi
Design fixtures, techniques and mockups for installation, alignment and survey	6/15/2010	PHENIX Design & Engg
Specify components, assembly tools and fixtures, electronics for racks, cables, cable management etc.	6/15/2010	PHENIX Design & Engg
Beampipe & VTX Installation Work Permits	6/18/2010	D. Lynch, CAD Safety Approval
4 th of July Holiday	7/5-7/6/2010	Enjoy the long weekend
BigWheel Fabrication & Procurement	7/15/2010	PHENIX, CS
Receive, inspect, test, rework and qualify components, assembly tools and fixtures, electronics for racks, cables, cable management etc.	7/15/2010	PHENIX Design & Engg
Fabricate/procure detail components for installation, support and alignment, including station 1 work platforms	8/31/2010	PHENIX Design & Engg, PHENIX Techs, CAD, Carpenters
Fabricate fixtures, techniques and mockups for installation, alignment and survey	8/31/2010	CS, PHENIX Techs
Receive & inspect components (installation, support, alignment & Survey)	9/15/2010	PHENIX Techs
Assemblies, Mock installations/alignments, bench tests	8/31/2010	PHENIX Techs
Cooling system procurement	9/30/2010	Pisani Coordinate with CAD Cooling Water, Electricain

6/11/2010

RPC3 Pre Shutdown Prep

TECHNICAL SUPPORT NO-0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Prepare Installation Plan	Done	Done
Design Absorber Installation fixtures & tools	6/11/2010	PHENIX Engg & Design →
Receive purchased parts	6/4/2010 (Done?)	PHENIX Techs →
Fabricate PHENIX parts	6/15/2010	CS, PHENIX Techs →
Receive and inspect CS fabricated parts	6/15/2010	PHENIX Techs →
Prepare work permit for installation	Done	D. Lynch, CAD Safety Approval
Assemble, test and burn-in 1/2 octants	6/18/2010	RPC Factory →
Pre-Assemble base components at PHENIX	6/18/2010	PHENIX Techs
Fabricate Absorber Details	7/31/2010	RPC Group and PHENIX
Fabricate/procure Absorber Installation fixtures & tools	7/31/2010	CS, PHENIX Techs

Start of Shutdown



TECHNICAL SUPPORT NO-10

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
DAQ Tests	Done	PHENIX
Purge Gas From Detectors	Done	PHENIX, CAD remove LOTO
End of Run 10	Done	☺
EOR Party	6/18/2010	Commando Grill Squad
Remove BP Collar	Done	Done
Move MMS south	6/18/2010	PHENIX Techs
Prep EC for move to EC	6/18/2010 (in progress)	PHENIX Techs
Close North and South BP gate valves and lock closed for until new BP is installed	Done?	CAD Vac Group
Open and disassemble wall	Done	Done
Remove EC ladder and fold platforms	In progress	Carpenters & Riggers
Move EC to AH	6/28/2010	PHENIX Techs
Install cart	6/28/2010	PHENIX Techs
Move Collars to AH	6/30/2010	PHENIX Techs
Install decking	6/30/2010	PHENIX Techs
Install Manlift	6/30/2010	PHENIX Techs
Remove RPC2 Prototype, support brackets, cabling & Piping	6/29/2010	PHENIX Techs, CAD Techs , Electrician
Remove MMS east vertical lampshade	6/30/2010	CAD Techs

Beampipe De-installation

TUESDAY
 WEDNESDAY
 THURSDAY
 FRIDAY
 SATURDAY
 SUNDAY

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
4th of July Holiday & Floating Holiday	7/5&7/6/2010	Enjoy
Remove HBD's and HBD cables Remove RXNP's and cables	7/9/2010	PHENIX Techs ASAP
Remove MPC's	7/16/2010	PHENIX Techs ASAP →
Remove BBC's	7/16/2010	PHENIX Techs ASAP →
Position MMS for Vacuum break	7/19/2010	PHENIX Techs
Install Temporary supports for old BP	7/19/2010	Supports TBD →
Break vacuum on north side of MMS	7/19/2010	CAD Vac Techs
Remove south bellows	7/19/2010	CAD Vac Techs →
Move MMS north, remove spool and south3-5 transition	7/20/2010	PHENIX Techs
Move the MMS south & Prep MMS for move to AH	7/23/2010	Begin MMS prep with shutdown start →
Move CM south, remove north bellows	7/23/2010	PHENIX & CAD Vac Techs
Move old Be bp south into MMS and move CM north	7/23/2010	PHENIX Techs →
Move MMS to shutdown park position	7/23/2010	PHENIX Techs →
Remove old Be BP	7/23/2010	PHENIX Techs →
Move CM south and east	7/23/2010	PHENIX Techs →
Remove north 3 to 5 transition	7/23/2010	PHENIX Techs →

6/11/2010

New Beampipe installation

PHENIX

TECHNICAL SUPPORT NO-0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Prepare north 3 to 5 transition for installation with roller guides, bakeout wrap and thermocouples	7/23/2010	PHENIX Techs & CAD Vacuum Techs
Prep CM North and South for Absorber and install	8/13/2010	PHENIX Techs
Install north 3 to 5 transition in MMN	8/13/2010	PHENIX Techs
Install new Be pipe in CM on temp supports	8/17/2010	PHENIX Techs
Move CM back to beamline & connect new Be BP to 1-5/8 transition and bellows and north 3-5 transition	8/17/2010	PHENIX Techs PHENIX Techs
Move CM to run position	8/18/2010	PHENIX Techs
Prealign Be/Alum pipe with transitions attached on new BP supports At MPC north, BBC south and north nosecone	8/19/2010	Surveyors & PHENIX Techs
Prepare south 3 to 5 transition for installation with roller guides, bakeout wrap and thermocouples	8/19/2010	PHENIX Techs
Install south 3 to 5 transition, bellows and 1-5/8 to 3" transition in MMS	8/20/2010	PHENIX Techs
Move MMS back into IR on beamline	8/20/2010	PHENIX Techs
Move CM south, slide Transition assembly in MMS north and connect to new Be BP	8/20/2010	CAD Vac & PHENIX Techs
Move CM and MMS north and install south spool. Leak check. Move MMS South	8/27/2010	PHENIX Techs
Install temporary bakeout supports	8/27/2010	PHENIX Techs
Install bakeout blankets and monitoring	8/27/2010	CAD Vacuum Techs
Labor Day Lab Holiday	9/6/2010	Enjoy
Bakeout New BP and activate NEG coating	9/10/2010	CAD Vacuum Techs
Leak check BP	9/10/2010	CAD Vacuum Techs
Re-install MPC's & BBC's including Cables and services	9/24/2010	PHENIX Techs Concurrent
Move CM to run position	9/24/2010	PHENIX Techs
Final alignment of new BP	10/1/2010	PHENIX Techs

May be 1-2 week slide in this area

6/11/2010

VTX Installation, VTX Services and Electronics



TECHNICAL SUPPORT NOTES

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Install and align VTX rail attachment hardware to CM	10/1/2010	PHENIX Techs Install during bakeout?
Install and align VTX rails parallel to beam line	10/8/2010	PHENIX Techs
Install and align VTX rails perpendicular to beam line	10/8/2010	PHENIX Techs
Install and align west half detector module	10/15/2010	PHENIX Techs & Survey
Install and align east half detector module	10/22/2010	PHENIX Techs & Survey
Install mechanical support structures for VTX services and electronics	10/29/2010	PHENIX Techs Concurrent Effort
Install Cable trays	10/29/2010	
Install racks	10/29/2010	
Install chiller	10/29/2010	
Install cables, plumbing	10/29/2010	
Connect cables and plumbing	10/29/2010	V
Thanksgiving and Black Friday Holiday	11/25 & 11/26/2010	Enjoy
Test and commission	12/1/2010	PHENIX Techs

RPC3 South Prep, Early Shutdown

PHENIX

TECHNICAL SUPPORT NO-0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Remove wiring, walkovers, FCAL and scintillator hardware that would otherwise interfere with installation	7/2/2010	PHENIX Techs →
4th of July Holiday	7/5 & 7/6/2010	Enjoy
Remove/relocate shielding	7/9/2010	Riggers →
Remove crystal palace & vapor barrier	7/16/2010	CAD →
Inspect Gap 5 south for legacy items/problems	7/23/2010	PHENIX Techs →
Address legacy items/problems as convenient prior to shutdown start	7/30/2010	PHENIX Techs →
Install lighting & relocate sensors as necessary	8/6/2010	Electrician →
Temporarily relocate, re-position or otherwise address interfering piping, cable trays	8/20/2010	PHENIX (w/ CAD Help?), Electrician →
Remove RPC prototype	8/20/2010	PHENIX/CAD Techs →
Pre-survey 1/2 octant reference points	8/27/2010	PHENIX Techs & Surveyors →
Drill and tap 1/2 octant and rotating piston mounting points	8/31/2010	PHENIX Techs →
Build/install access and work platforms for walk on top of MuID steel including stairs from MMS eyebrow	8/31/2010	Carpenters →
Final cleaning and prep of gap 5 for grouting	9/3/2010	PHENIX Techs →
Labor Day Lab Holiday	9/6/2010	Enjoy
Pre-installation orientation meeting with masons and riggers	9/7/2010	PHENIX Techs Masons & Riggers →
Position lifting equipment in tunnel	9/10/2010	Riggers →
Move east and west base structures into south tunnel and assemble on east and west sides of pedestal respectively. Include translation control fixtures	9/10/2010	Riggers & PHENIX techs →

Want to accelerate these items, if possible

so that

we can get to these items as soon as possible.

6/11/2010

RPC3 South Installation



TECHNICAL SUPPORT NO-0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Install and align base structures on east and west sides of gap 5	9/14/2010	PHENIX Techs & Riggers
Prepare for grouting	9/15/2010	PHENIX Techs & Masons
Install grout	9/16/2010	PHENIX Techs & Masons
Install pitch control rails on pedestal and gap 5 east & west inner walls	9/17/2010	PHENIX Techs
Install upper suspension support hardware	9/17/2010	PHENIX Techs
Install $\frac{1}{2}$ octants, 2 at a time in accordance with work plan/work permit	10/15/2010, sooner is better	Riggers & PHENIX Techs
<i>Transport $\frac{1}{2}$ octants 2 at a time from RPC factory to south tunnel on angled transport carts</i>		
<i>Transfer $\frac{1}{2}$ octants from angled transport carts one at a time to temporary free standing and re-orienting roller fixture (fore and aft wheels and axel)</i>		
<i>Lift (and re-orient if appropriate) $\frac{1}{2}$ octant and install into base structure, previously installed $\frac{1}{2}$ octant or upper suspension hardware as appropriate per work plan</i>		
<i>Pre-align each $\frac{1}{2}$ octant as installed</i>		
<i>Perform electrical integrity tests before proceeding to next pair of $\frac{1}{2}$ octants</i>		
<i>After all $\frac{1}{2}$ octants are in place and tested, join east and west halves of full south station 3 detector and align to survey markers</i>		

6/11/2010

RPC3 South Integration

TECHNICAL SUPPORT NO-0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Final survey	10/22/2010	Surveyors
Install new cable trays and piping supports	10/29/2010	Electrician, PHENIX Techs earlier if possible
Re-install MuID wiring and pipes	11/5/2010	PHENIX Techs
Install south thermal/vapor barrier	11/19/2010	CAD contractor
Thanksgiving and Black Friday Holiday	11/25 & 11/26/2010	Enjoy
Re-install MuID gas rack	11/30/2010	PHENIX Techs
Commissioning and final acceptance tests	11/30/2010	RPC Group
Install RPC3 HV, LV and signal wiring and gas lines	11/30/2010	PHENIX Techs
Install RPC3 South gas distribution rack	11/30/2010	PHENIX Techs
Re-install shielding	11/30/2010	Riggers
Install RPC3 South environmental controls (heaters and thermostats)	11/30/2010	Electrician

We want to get this task started immediately after last 1/2 octant is installed, so we can finish no later than this date

Shutdown 2010 Other Work



TECHNICAL SUPPORT NO-0

<u>Task support</u>	<u>Due By</u>	<u>NOTES</u>
Gas Pad expansion completion (grouting)	6/30/2010	Tasks TBD
RPC3 North unfinished business	7/15/2010	Electronics and cabling, grounding issues, environmental controls
MuTrigger FEE unfinished business	7/15/2010	MMS cable trays,
RHIC Summer Sunday Tour	8/15/2010	During bakeout
DC/PC maintenance/repair	11/15/2010	FEM and wire troubleshooting and repairs, major efforts will require longer shutdon
Thanksgiving and Black Friday Holiday	11/25 & 11/26/2010	Enjoy
PHENIX Survey Review	11/30/2010	PHENIX Techs & Survey
Procedure Updating	11/30/2010	PHENIX Engineering
FVTX support	11/30/2010	As required
FoCal	11/30/2010	As required
Gas Mixing House maintenance & Repair	11/30/2010	Tasks TBD
PHENIX Infrastructure maintenance, repair, upgrade	11/30/2010	TBD
Gas Pad: new gas storage details	11/30/2010	Tasks TBD
Gas Pad services for new dewar support, maintenance and improvements	11/30/2010	TASKS TBD

6/11/2010

Shutdown 2010 Other Work (Cont'd)

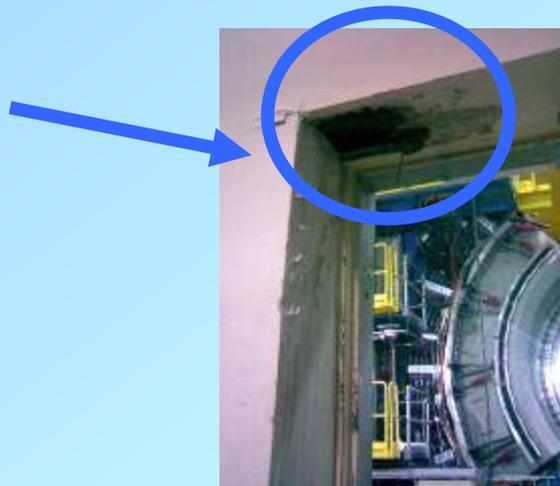
TECHNICAL SUPPORT 2010

<u>Task support</u>	<u>Due By</u>	<u>NOTES</u>
AH Flood prevention improvements	11/30/2010	Tasks TBD
IR Bridge Electrical service upgrade	11/30/2010	Support for 4 full racks in 2010, 4 more (8 total) in future, PHENIX Techs & Electrician
RPC Factory Support	11/30/2010	Tasks TBD
Rack Room upgrade	11/30/2010	Tasks TBD
PHENIX Design Documentation	11/30/2010	PHENIX Engineering
CM Crane	11/30/2010	Tasks TBD
CM alignment stops	11/30/2010	TBD
Gas System maintenance, repair, upgrade	11/30/2010	Tasks TBD
Other subsystem maintenance, repair/upgrade	11/30/2010	Tasks TBD
Future upgrade support	11/30/2010	RPC1, FVTX, FOCal, other Tasks TBD
Prepare for Run 11: EC platforms fold up in AH, fold down in IR, EC Equipment lift take down in AH, Install in IR, Install shielding wall base and build shielding wall & Install MMS Lampshade	11/30/2010	Normal end of shutdown tasks, typically taking 3-4 weeks: Riggers & Carpenters, CAD Techs
Run 11 Start	12/1/2010	
End of Shutdown Party	~12/3/2010	

2010 Building Maintenance Issues

TECHNICAL SUPPORT NO-0

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



- General maintenance for Trailer Offices (in progress)
- Trailer Office Modifications planning in progress (new exterior siding)
- Roof leaks in laser room and IR (southeast corner)
- Flooding in AH/ Driveway heaving [Lake PHENIX]



Progress?



6/11/2010



To be located in front of AC on east side of GMH

Proposed shed addition to Gas Mixing house

Purpose: to house/store larger bottles for R134A to keep up with TOF West & RPC requirements. No flammable gas, standard shed with heat. Barn style doors desirable. Palce on asphalt with no threshold to allow bottle management with pallet lifter.

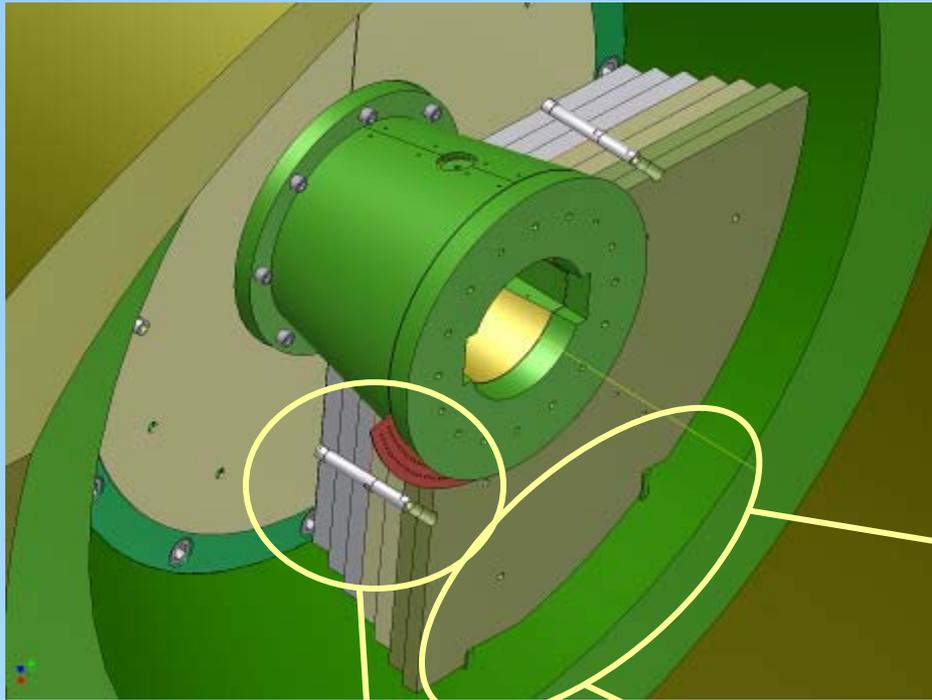
PHENIX Procedure Review Current Status:

147 Procedures Identified

- 85 Made Inactive (not currently in use, will require revision to re- activate if and when necessary, available for reference purposes)
- 9 CAD procedures relevant to PHENIX, 7 are current and up-to- date (on CAD website), **2 more up dated, need to be posted.** (These are accessed via CAD website.)
- 42 PHENIX approved procedures.
 - 1 is currently under review
 - 41 are current and up-to-date (**3 of these soon need updating**)
- 11 Proposed/Draft Procedures (never previously formalized) (**3 are ready for review**)

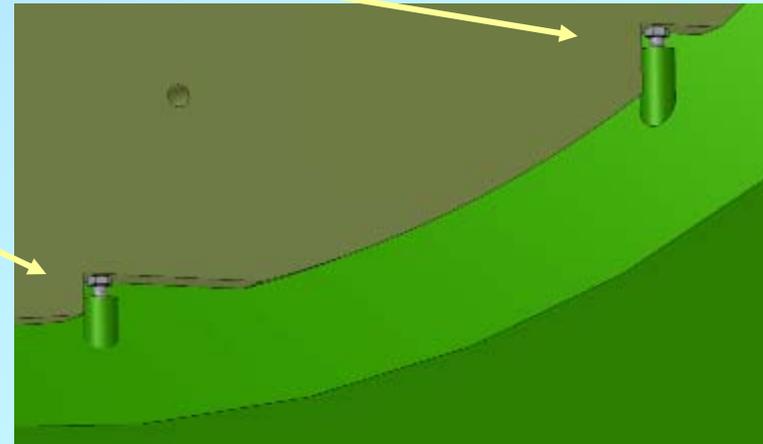
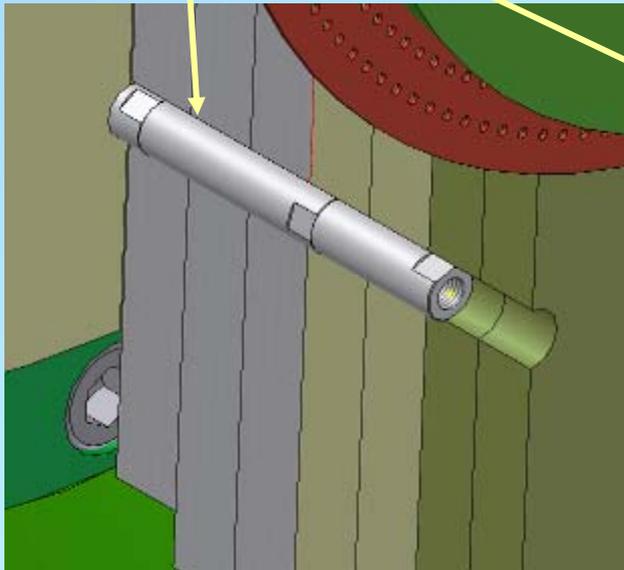
Web retrieval of latest procedures now available from PHENIX Internal:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_procedures.htm



RPC Absorber Final Design

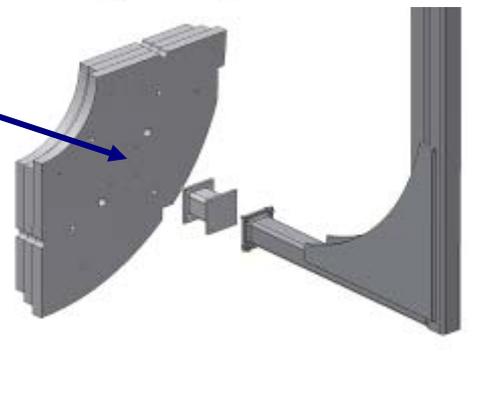
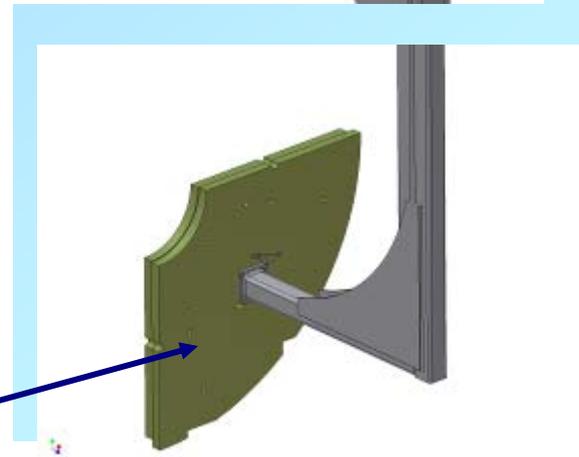
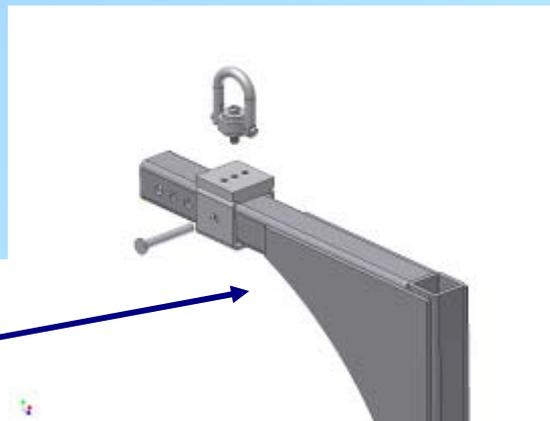
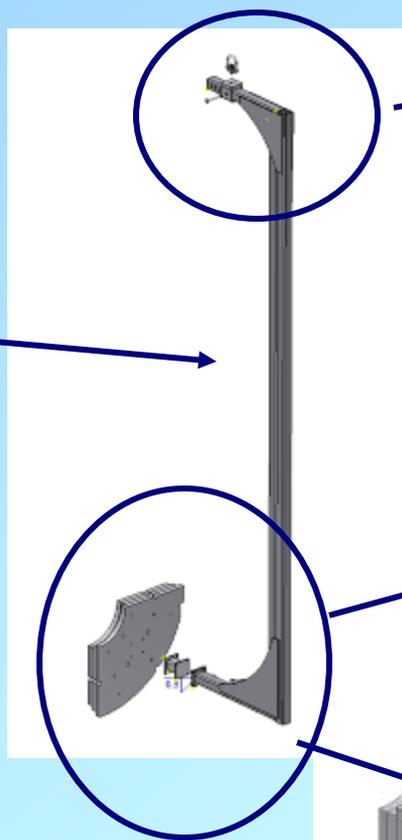
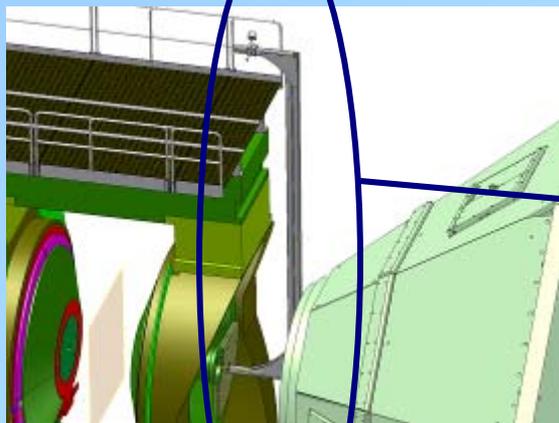
- Welded & tapped vertical support bosses
- 3 stage positioning rod

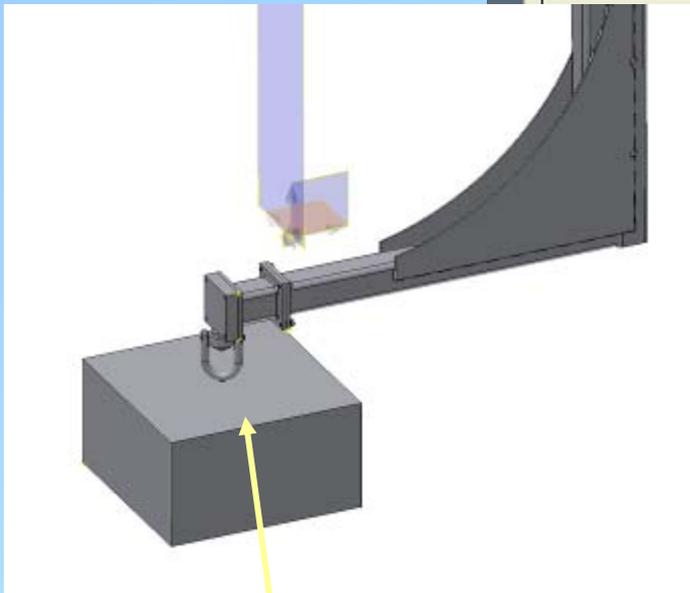


Absorber PO has been placed with ATLAS Tool and Die Works (Chicago)

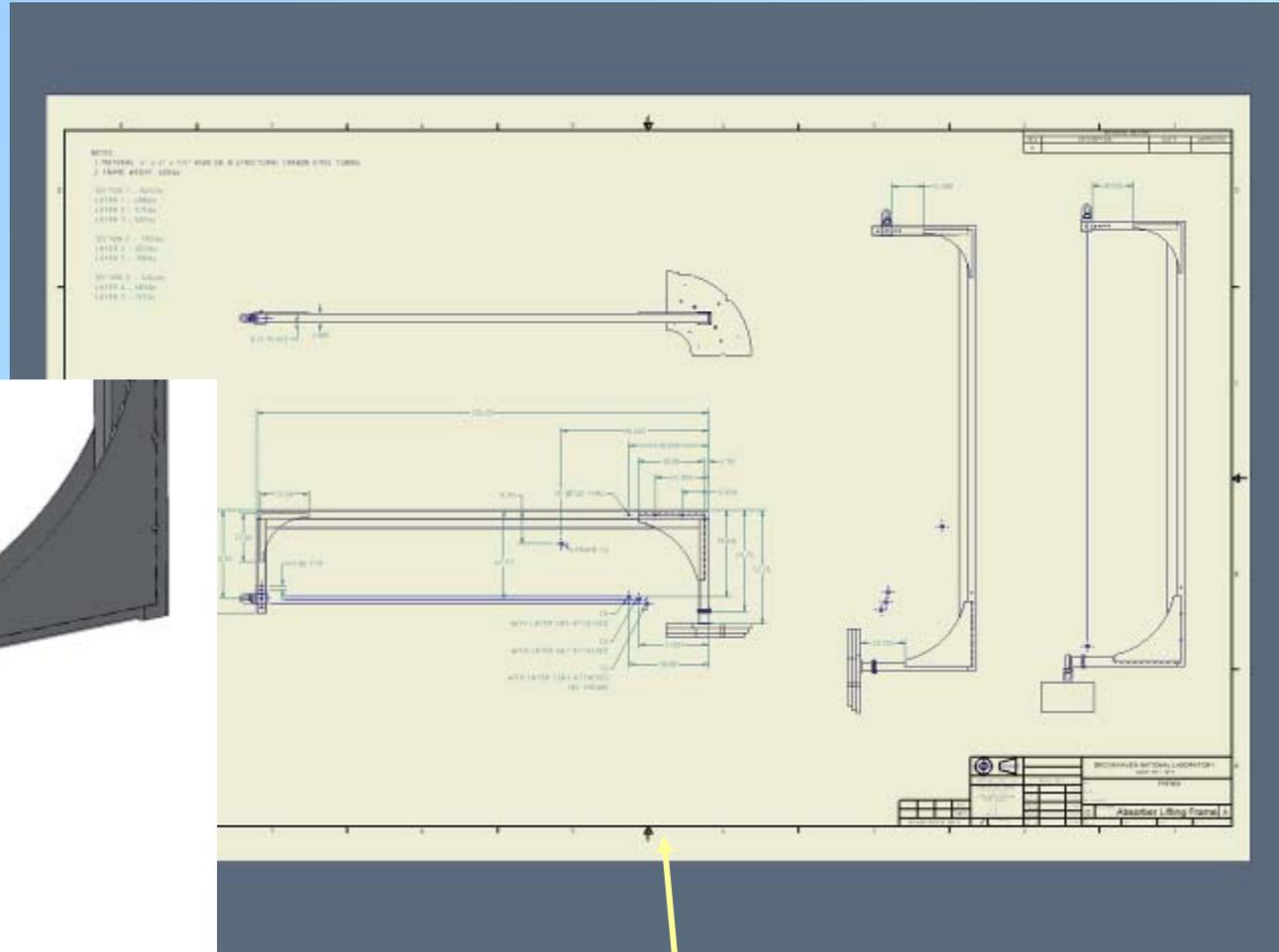
Absorber Instalation Concept

TECHNICAL SUPPORT NO-0





Design for absorber lifting fixture test arrangement



Absorber Lifting Fixture, initial design is complete, analysis in progress

Safety, Security, Etc.

1. Shutdown is now in progress. Please be careful, follow plans, avoid shortcuts, wear proper PPE, read and understand work permits and procedures, remember 2 man rule is always in effect.
2. Up-to-date copies of all PHENIX procedures can be found on the PHENIX internal web site <http://www.phenix.bnl.gov/internal.html> by following the Procedures link on the Engineering and Integration section. From there scroll down to section III. Procedures needed for the 2010 Shutdown. Links to a download a pdf copy of each procedure to be used during the 2010 shutdown are provided there.
3. Pdf Copies of work permits are available from Don Lynch. They will be posted in the Engineering section of the PHENIX internal web site soon.
4. Per asher Etkin: *RHIC ODH areas will be deposted on Saturday June 12, 2010. Obey all postings until they are removed.*
5. *Techs and engineers: please let me know when you plan to take vacation this summer.*

Rules for visits to PHENIX (tours) are as follows:



TECHNICAL SUPPORT NO-0

1. All tours must be cleared with Ed O'Brien, Don Lynch and/or Carter Biggs.
2. Tours must have a PHENIX person in charge. Large tours should have multiple PHENIX tour leaders approximately 1 tour leader per 10 visitors. Tour leaders should inform the visitors to be wary of their footing as there are many openings in the floors for tracks, etc. and many potential trip and fall hazards.
3. No visitors are to be permitted in the AH or IR with out proper shoes (closed toes, no sandals or similar), long pants or skirts (no shorts), hard hats and eye protection in any area where elevated work is being performed in areas above the tour.
4. Check with one of the PHENIX techs or engineers at the hall to find out what work will be going on at the time of the tour.
5. No visitors are to go into the assembly hall or IR when cranes are in use. This is especially true during June and November when the large and heavy wall and detector components are being assembled and disassembled.
6. Visitors are to be limited to the Assembly Hall and the apron area of the IR. Visitors are not permitted on manlifts, ladders, scaffolding, the carriages nor in or on the north, south and central magnets. Visitors are not permitted to touch or handle any tools, detector components or facility components.
7. Visitors are not permitted in the North and South tunnel areas, nor any other areas requiring special training/permits.
8. All tours should be during normal working hours.
9. PHENIX tour leaders must comply with all normal PHENIX rules.
10. The PHENIX tour leader shall be responsible for enforcing these rules with their visitors.

Exceptions to any of these rules must be explicitly approved by Ed, Don, or Carter. In general, exceptions would be made for contractors, vendors and scientific colleagues who might need to see certain features of the experiment not accessible from the apron. In such cases these visitors should be limited to no more than 1 or 2 persons and they may only visit the specific areas approved for such exception. Exceptions for before or after hour tours must otherwise follow the rules for tours during normal hours.

Rack Room Gutter Cleaning

- Soon we are replacing the main Event Builder Switch with our new flagship switch.
- Means a lot of cable pulling in the “Event Builder Aisle”
- In particular the cable tray on top of the rack has a lot of sediments which would benefit from a start from scratch

This is how it looks

- **The Event Builder Aisle**



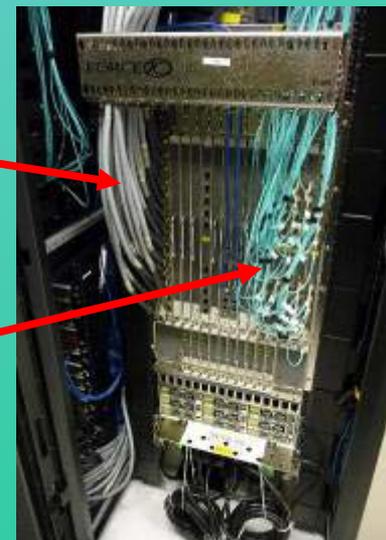
- **This is the tray I'm talking about**

Standard Gigabit ports

The future Switch

“MRJ-20” cable bundles with 6 Gig ports each go to patch panels (or directly to the machines) May make our cable distribution easier, bring a few bundles to the racks

10GbE ports



Timeline

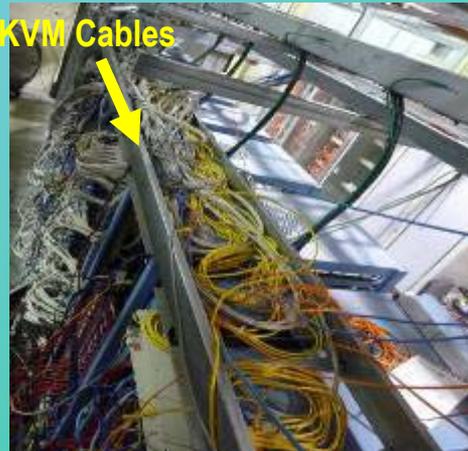
The Task

- We'll rig up a few alternate connections to the first two racks to keep them alive (I do that)
- We disconnect all network cables (about 150 or so) and pull them out, roll them up without tangling them up, remove labels
- More than 100 are local to the rack row, about 50 go somewhere else
- There are fibers mixed in, they have to go out first
- Not by count but by bulk the KVM cables are the biggest, they stay, but it looks like many of them are on top
- From above this doesn't look like much, but on the ground it looks like a big deal

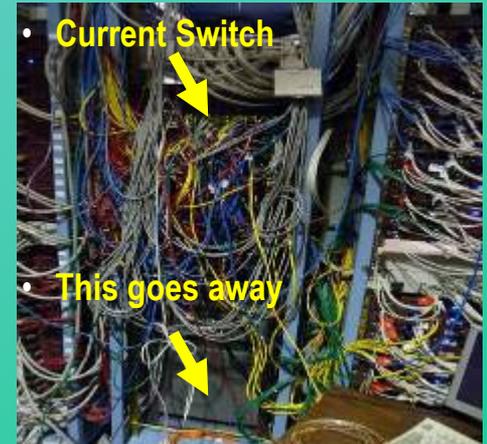
- When our run ends, we can get going (early June)
- Find some room to coil up the pulled cables
- Devise a good labelling scheme for the future
- Then think about putting the new stuff in
- 2 weeks? Reasonable?

Tray from above and below

• KVM Cables



• Current Switch



Where To Find PHENIX Engineering Info

TECHNICAL SUPPORT 2010



We're off to a good start. Let's have a safe and productive shutdown!

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

