

PHENIX

WEEKLY PLANNING

7/31/06

Don Lynch

PHENIX Shutdown Overview



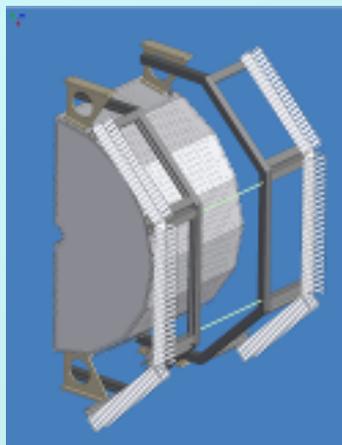
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Task_Name	Duration	Start_Date	Finish_Date
PHENIX Shutdown '06	145 days	5/1/2006	11/17/2006
Pre Shutdown Tasks	60 days	5/1/2006	7/21/2006
End of Run 6	0 days	6/27/2006	6/27/2006
Shutdown Preparations	16 days	6/27/2006	7/18/2006
Detector Upgrades	47 days	7/19/2006	9/21/2006
Planned electrical power outage	5 days	7/24/2006	7/28/2006
Subsystem maint/repair tasks	47 days	7/19/2006	9/21/2006
Building and infrastructure tasks	113 days	5/1/2006	10/4/2006
E carriage roll in & setup	14 days	9/22/2006	10/11/2006
RHIC Cooldown Begins	0 days	10/16/2006	10/16/2006
Run Prep	25 days	10/16/2006	11/17/2006
Shutdown Concluded	0 days	11/17/2006	11/17/2006

Prior To Shutdown

TECHNICAL SUPPORT 2006

Pre Shutdown Tasks	60 days	
Mechanical design For RXNP	4 wks	Complete
HBD cable mangement	4 wks	Complete
Receive TOF West detectors from VU	0 days	Complete
TOF West pre-installation tests (hi bay)	4 wks	Complete
Design mounting/install'n for MPC N	6 wks	In Progress
Order/fabricate parts for RXNP/HBD/MPC N	12 wks	In Progress
Modify TEC connectors	2 wks	Complete
Design piping route for Bridge water	1 wk	Complete
Work Permits	1 wk	Waiting for Approval
End of Run 6	0 days	Run Ended



Shutdown Prep

TECHNICAL SUPPORT + 2006

Shutdown Preparations

- Purge gas from all detectors
- End of Run party
- DAQ tests (no Flam. Gas)
- Open up & prep
- Open rolling door
- Remove rolling door plug doors
- Take down ECR
- Prepare EC for move
- Remove bearing
- Move MMS from north and re-
- Retract and re-extend ECR
- Install 12 ton
- Move beam pipe
- Install decking



	16 days	6/26/2006	7/18/2006
Purge gas from all detectors	2 days	Done	Done
End of Run party	0 days	Done	Done
DAQ tests (no Flam. Gas)	3 days	Done	Done
Open up & prep	1 day	Done	Done
Open rolling door		Done	Done
Remove rolling door plug doors		Done	Done
Take down ECR		Done	Done
Prepare EC for move		Done	Done
Remove bearing		Done	Done
Move MMS from north and re-		Done	Done
Retract and re-extend ECR		Done	Done
Install 12 ton	1 day	Done	Done
Move beam pipe	1 day	Done	Done
Install decking	1 day	Done	Done

complete

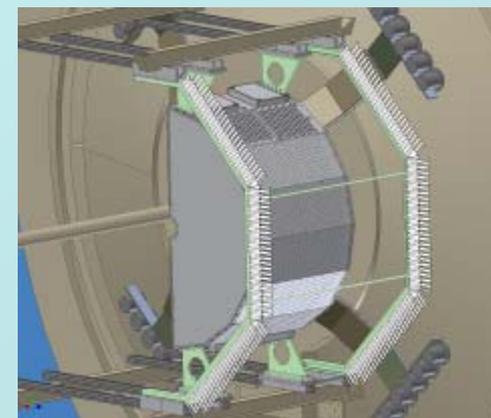


Detector Upgrades



TECHNICAL SUPPORT 2006

TOF W		13 days	7/17/2006	8/4/2006
Prepare installation Fixtures		1 day	Done	Done
Mockup test installation		1 day	Done	Done
TOF Mechanical installation		3 days	Done	Done
Electrical Outage		5 days	Done	Done
TOF Electrical Installation		5 days	7/31/2006	8/4/2006
RXNP		15 days	7/31/2006	8/18/2006
Prepare for installation		5 days	7/31/2006	8/4/2006
Mechanical installation		5 days	8/7/2006	8/11/2006
Electrical installation		2 days	8/14/2006	8/15/2006
Prepare for Summer Sunday Tours		3 days	8/16/06	8/18/06
HBD		15 days	8/14/2006	9/1/2006
Prepare for installation		2 days	8/14/2006	8/16/2006
Mechanical installation		5 days	8/21/2006	8/25/2006
Electrical installation		5 days	8/28/2006	9/1/2006
MPC North		18 days	8/28/2006	9/20/2006
Move CM south		2 days	8/28/2006	8/29/2006
Prepare for installation		5 days	8/30/2006	9/5/2006
Mechanical installation		5 days	9/6/2006	9/12/2006
Electrical installation		5 days	9/13/2006	9/19/2006
Move CM North		1 day	9/20/2006	9/20/2006



Subsystems

TECHNICAL SUPPORT + 2006

Task	Duration	Start	End
Subsystem maint/repair tasks	109 days	5/1/06	9/28/06
Prepare EC for subsystems work	2 wks	7/31/06	8/11/06
Magnet subsystems tasks	0 day	None	None
Aerogel tasks	0 day	None	None
BBC tasks	50 days	7/21/06	9/28/06
Remove BBC South	2 days	8/21/06	8/22/06
Replace PMT's	13 days	8/23/06	9/12/06
Reinstall BBC South	2 days	9/13/06	9/14/06
Remove BBC North	2 days	8/28/06	8/30/06
Replace PMT's	5 days	8/31/06	9/6/06
Reinstall BBC North	2 days	9/7/06	9/8/06
DC			
HV/LV Patch panel	2 wks	Done?	Done?
DC West wire repairs	1 week	9/15/06	9/19/06



Subsystems (continued)

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Task	Duration	Start	End
Subsystem maint/repair tasks	109 days	5/1/06	9/28/06
EmCal tasks (EC)	7 days	Done	Done
EmCal tasks (WC)	5 days	Done	Done
FCAL tasks	1 day	None	None
MPC S repairs	3 wks	7/19/06	8/4/06
MuTr tasks	42 days	Done	Done
Remove vertical lampshade	1 day	7/19/06	Done
Remove Bias lampshade	1 day	8/8/06	8/8/06
Troubleshoot shorts	5 days	8/7/06	8/11/06
Reinstall Bias lampshade	1 day	8/14/06	8/14/06
Repair HV	8 wks	7/20/06	9/17/06
Reinstall vert. lampshade	1 day	9/18/06	9/18/06
MuID tasks	1 wk	10/2/06	10/6/06
PC tasks	1 day	None	None
RICH tasks	1 day	None	None
TEC tasks			
(General Maintenance)	9 wks	7/19/06	9/19/06
TOF E tasks (1 day	None	None
ZDC tasks (TBD)	1 day	None	None
Subsystem Survey	3 wks	7/31/06	8/18/06
Misc Subsystem tasks (TBD)	6 wks	8/9/06	9/19/06



Infrastructure Work



Building and infrastructure tasks	113 days	6/26/2006	10/4/2006
AH infrastructure tasks	0 days	None	None
Nothing planned	0 day	None	None
IR infrastructure tasks	17 days	7/17/2006	8//2006
Repair water lines to Bridge	1 day	7/17/2006	7/17/2006
Replace emergency fan louvres	1 wk	7/18/2006	7/24/2006
Rewire/add IR Ceiling lights on emergency power	1 wk	7/25/2006	8/1/2006
Move WC away from Wall	1 day	8/2/2006	8/2/2006
Replace WC sliding platform hoisting cables	1 wk	8/3/2006	8/9/2006
Gas Pad	0 day	None	None
Nothing planned	0 day	None	None
Gas Mixing House	3 wks	8/14/06	9/1/06
Exhaust fan maintenance	3 wk	8/14/06	9/1/06
Rack Room	0 day	None	None
Nothing planned	0 day	None	None
Counting House	0 day	None	None
Nothing planned	0 day	None	None
all other PHENIX infrastructure	113 days	6/26/2006	10/4/2006
New raw materials storage container – painting & doors needed	4 wk	6/26/06	7/21/06
Repair roof leaks	113 days	6/26/06	9/22/06
Install bridge access platforms from EC & eyebrow	2 days	Done	Done

EC Roll-in

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E carriage roll in & setup	14 days	9/22/2006	10/11/2006
Prepare EC for move to IR	1 wk	9/22/2006	9/28/2006
EC Roll in	2 days	9/29/2006	10/2/2006
Connect EC services	1 wk	10/3/2006	10/9/2006
MuID Commissioning	1 wk	10/2/06	10/6/06
Install EC Ladder	1 day	10/10/2006	10/10/2006
Install EC rear access & ext.	1 day	10/11/2006	10/11/2006
RHIC Cooldown Begins	0 days	10/16/2006	10/16/2006

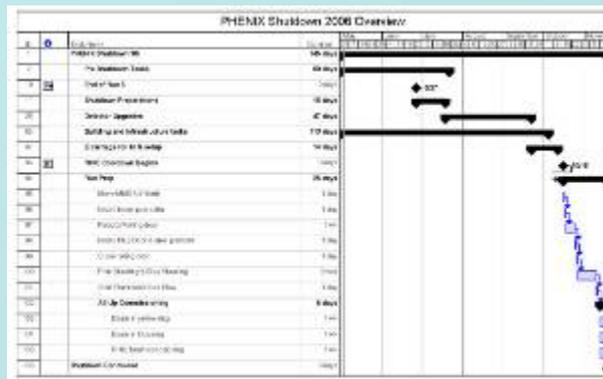


No Change

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7/31/06

RHIC Cooldown Begins	0 days	10/16/2006	10/16/2006
Run Prep	25 days	10/16/2006	11/17/2006
Move MMS full North	1 day	10/16/2006	10/16/2006
Install beam pipe collar	1 day	10/17/2006	10/17/2006
Rebuild Rolling door	1 wk	10/18/2006	10/24/2006
Install Plug Door & steel platform	1 day	10/25/2006	10/25/2006
Close rolling door	1 day	10/26/2006	10/26/2006
Pink Sheeting & Blue Sheeting	2 wks	10/27/2006	11/9/2006
Start Flammable Gas Flow	1 day	11/10/2006	11/10/2006
All Up Commissioning	5 days	11/13/2006	11/17/2006
Beam in yellow ring	1 wk	11/13/2006	11/17/2006
Beam in blue ring	1 wk	11/13/2006	11/17/2006
RHIC beam conditioning	1 wk	11/13/2006	11/17/2006
Shutdown Concluded	0 days	11/17/2006	11/17/2006



Shutdown 2006

key dates

- MPC North & RXNP Safety Reviews June 22 [Done]
- Run ends June 26 [Done]
- End of Run Party June 29 [Done]
- Open Shield wall June 26 [Done]
- Prep and move EC July 10 [Done]
- **Install TOF W (start) [In Progress]**
- Planned electrical outage July 24th-28th (1 week)
- Install RXNP (start) July 31 [In Progress]
- Install HBD (start) Aug 14
- Summer Sunday tours Aug. 20
- Install MPC North (start no later than) Aug 28
- Start EC roll in Sep. 22
- Start RHIC Cooldown Oct. 15
- Start of Run Party [Date and Time TBD]
- Start Physics data taking Nov. 17

No Change

Subsystems: Get requests for maintenance in early to get on the schedule

PHENIX
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SCHEDULE
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2006

This Week

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- Electrical Outage completed
- New remote breaker kill switch installed
- HBD Road trip to Stony Brook
- TOF W mechanical installation completed electrical and gas installation continue
- RXNP assembly and testing continues
- RXNP fabrication nears completion
- HBD fabrication continues
- MPC fabrication continues
- Start assembling HBD support parts
- Work permit for MPC South rework approved
- Work permits for RXNP, HBD and MPC North completed and submitted to CA

Next Week

- Remove and stow TOF West Installation fixture and scaffold
- RXNP assembly and testing continues
- RXNP test fit up and prepare for installation
 - Fabricate and install fg I-beam
 - Get approved work permit
 - Measure for & make new beam pipe delrin shim
 - Reinstall baseplate
 - Test fit quadrants
 - Mark drill & tap 8 arm mounting holes
 - Install RXNP/HBD cable trays
 - Presurvey quadrants (at Chemistry?)
 - Begin installing quadrants
- HBD fabrication continues
 - Get reworked mounting gussets (at SB)
 - Begin assembling HBD cable trays and mounting supports
- MPC fabrication continues
- Complete TOF West Electrical installation
- MPC South rework
- Prepare for MuTr tests and repairs

TECHNICAL SUPPORT + 2006

8/7-8/11

- MuTr Troubleshoot and Test week/ RXNP installation week
- MuTr magnet test w/bias lampshade on
- Additional MuTr troubleshooting and repairs
- Complete RXNP quadrant installation
- HBD fabrication continues
 - Get reworked mounting gussets (at SB)
 - Begin assembling HBD cable trays and mounting supports
- MPC fabrication continues
- Start RXNP Electrical installation (Rack?)
- MPC South rework?
- Prepare for MuTr tests and repairs
- TEC repairs?

8/14-8/18

HBD Installation starts/ RXNP Installation finishes/ Prep for Summer Sunday

- Reinstall bias lampshade
- Complete RXNP electrical installation
- HBD fabrication continues
 - Get reworked mounting gussets (at SB)
 - Begin assembling HBD cable trays and mounting supports
- MPC fabrication continues
- MPC South rework?
- TEC repairs?
- Prep for Summer Sundays Tour

muTr repair week Plans - week of 7-11 August

Goals

- fix large noise in South Sta-3 Oct-4 correlated with CMO B-field on
- replace FEE boards in problematic areas (hot channels and AMU errors)

Plan (see more details on next pg)?

- magnet ON tests Monday morning
- remove top-east south arm lampshade Tuesday morning
- work on top-east sta-3 FEE from manlift
 - looking for stray ground connections
 - monitor noise with scope connection to FEE premap inside chassis
 - power on CMO occasionally to check noise levels (while manlift is down and off)

Needs:

- cooling water, power, magnetic sweep, power supplies, etc to turn on CMO
- riggers to remove/replace South top-east lampshade on fast turnaround
- DAQ, power to IR
- manlift and qualified operator during test periods (which might include evenings depending on when we can run magnet)

muTr Personal:

- MJL, Sergei Butsyk, Ming Liu, X-R Wang, Han Liu, InJea Choi
- training issues? (e.g. MJL's "GE Fall Prot." expired)

Details of plan for muTr noise & FEE repairs - week of Aug 6-12:

- **Friday, Aug 4th**
 - install stairs inside MMS
 - move MMS into "data-taking" position against CM (PHENIX techs)
- **Sunday evening**
 - run DAQ and test noise (muTr crew)
- **Monday morning**
 - start water cooling and run CMO (CAD, Achim)
 - verify large noise problem with DAQ (muTr crew, DAQ experts)
- **Monday afternoon**
 - move MMS south (PHENIX techs)
 - check if noise still present (muTr crew)
- **Tuesday morning**
 - remove MMS top-east lampshade panel (CAD)
 - check if noise persists (muTr crew)
- **Tuesday - Saturday**
 - work on MMS electronics in problem area using manlift (PHENIX techs & muTr crew)
 - replace other problematic electronics boards in MMS and MMN

South

Region with magnet-related LARGE noise

11126M

11129M

11130M,11131S

11021M

11138M,39S

11015M

Station 1 Access

East

11143S

11009M,11010S

11010S

Worst Hot channels

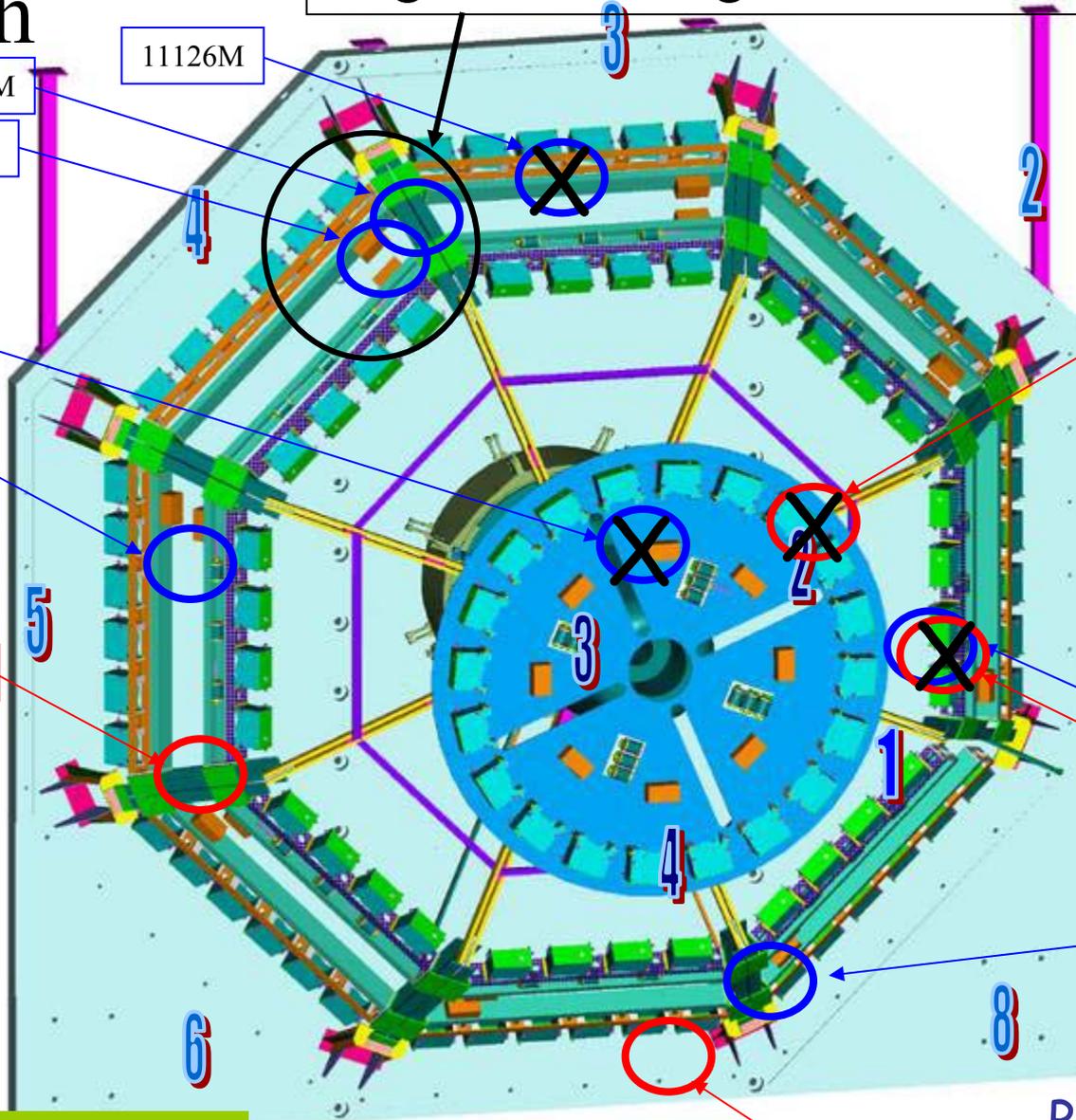
11096S

East Lampshade REMOVED + steps

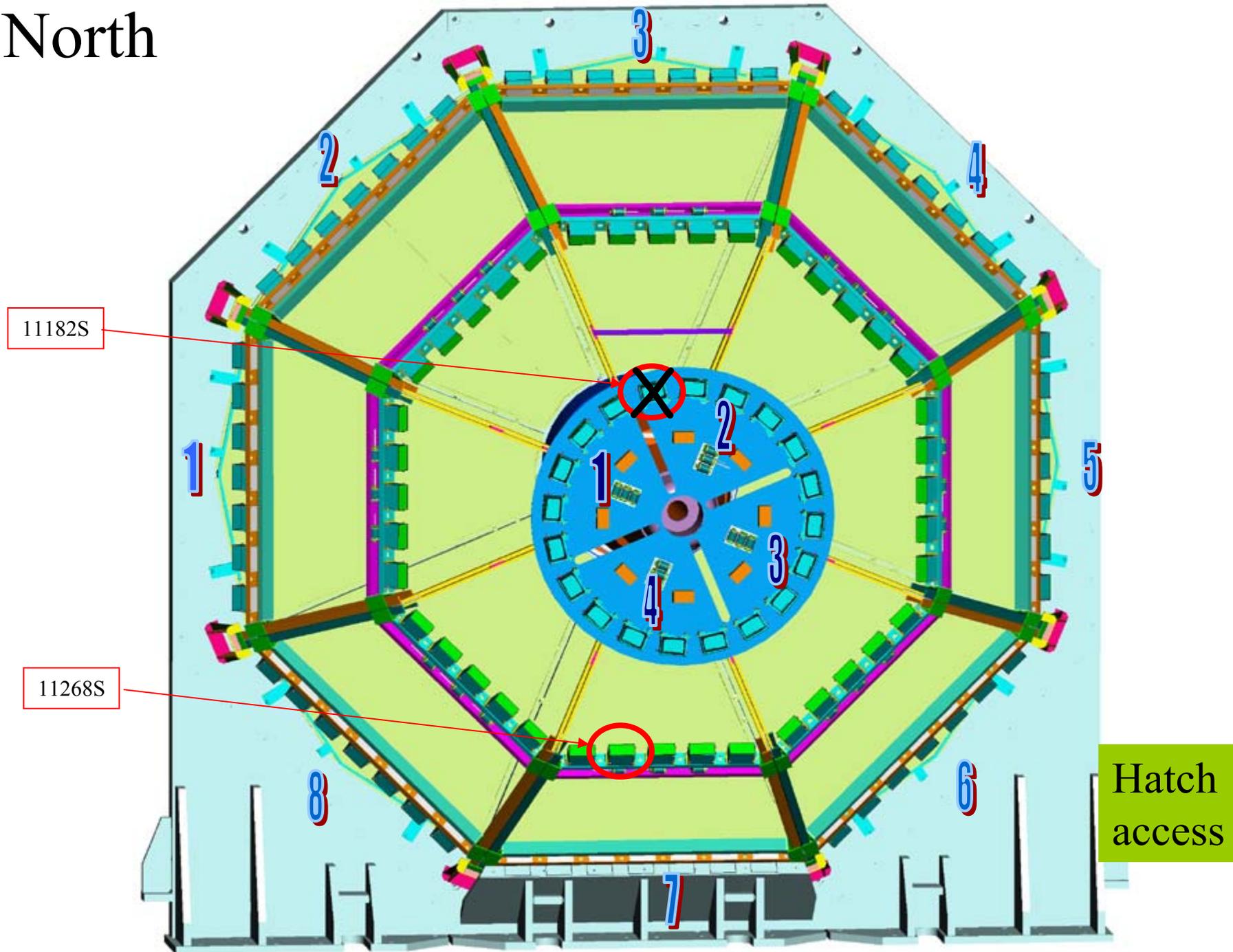
Blue - hot
Red - AMU errors
X - not reachable?

11157M

Weekly Planning Meeting



North



Types and frequency of errors by packet & location

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Hot packet errors

> 0.02 pkt # > 0.10

692	11096	291	south s2 o7 c4 slave
80	11021		south s1 q3 c1 master
67	11131	44	south s3 o4 c2 slave
66	11129	43	south s3 o4 c1 master
63	11130	41	south s3 o4 c2 master
55	11139	14	south s3 o5 c2 slave
53	11126		s3 o3 c5 master
52	11009		s1 q1 c5 master
49	11138		s3 o5 c2 master
47	11010	21	s1 q1 c5 slave

AMU cell errors

> 0.005 pkt # > 0.01

49	11143	48	south s3 o5 c5 slave
47	11015	11	s1 q2 c3 master
38	11268	28	north s2 o7 c2 slave
35	11182		s1 q2 c1 slave
31	11157	31	south s3 o7 c4 master
31	11010	25	s1 q1 c5 slave

muTr HV work????

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- Mechanical installation complete
- Electrical Installation continues



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- W2 Installation done
- Electrical installation and commissioning continues next week and beyond



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RXNP

- Annoyances persist



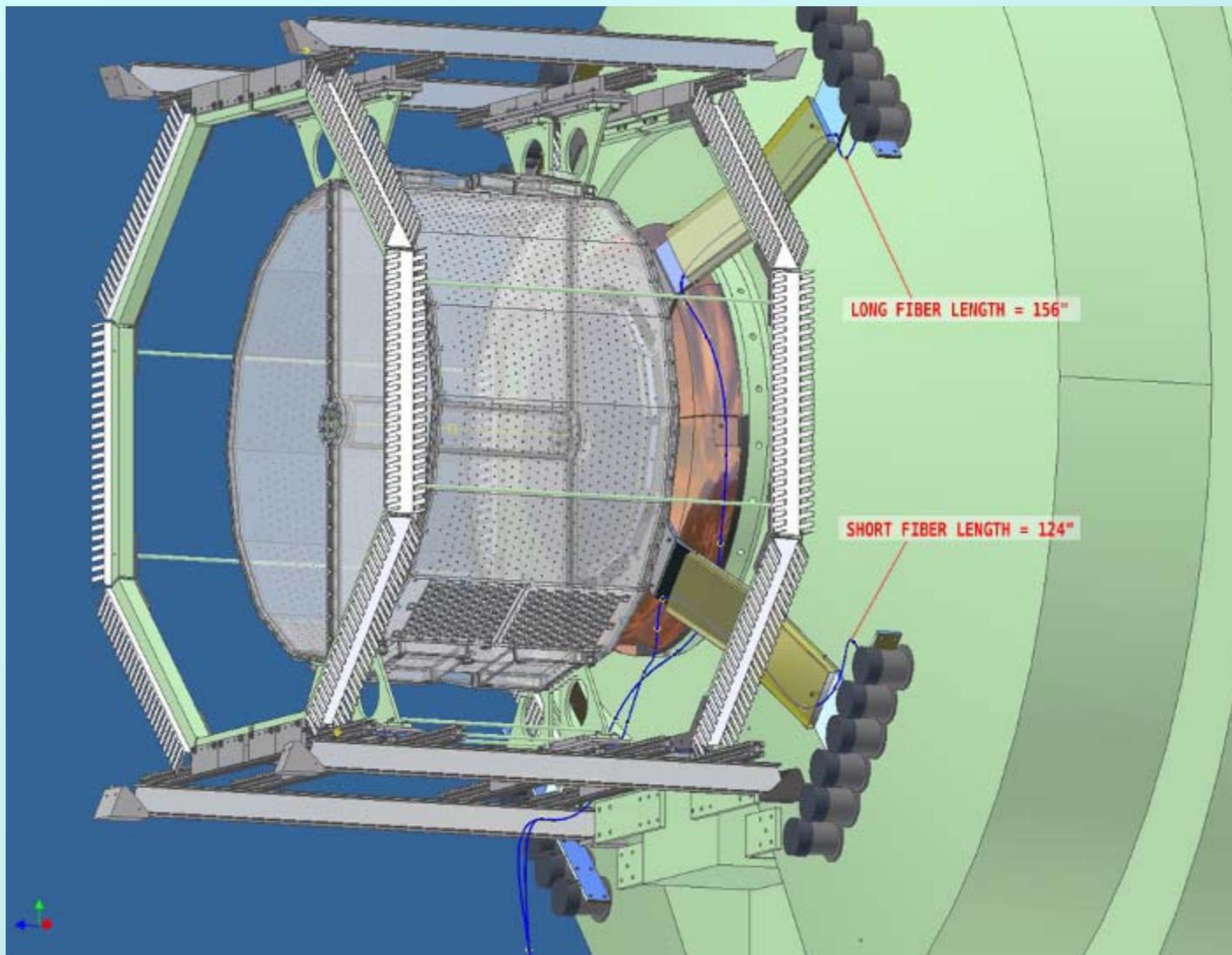
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RXNP

TESTING - REPORT + NOO 6

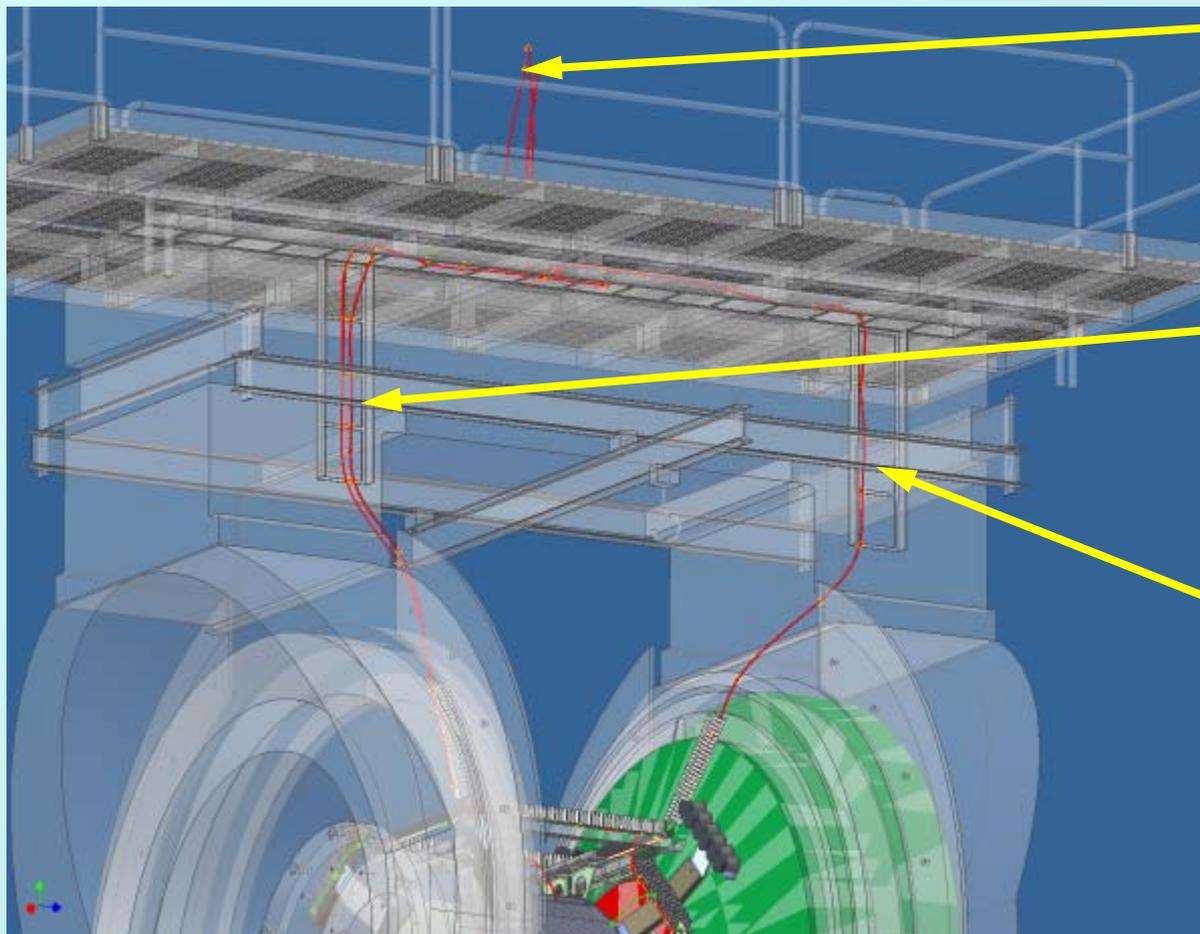


6002 + 3020 - 9035 - T



RXNP & HBD Cable Routing 1

TECHNICAL SUPPORT NOON



HBD HV & RXNP racks on Bridge near center

HBD HV Cables routed on southeast face of CM flux return

RXNP cables routed on northeast face of CM flux return

RXNP & HBD Cable Routing 2

TECHNICAL SUPPORT 2006

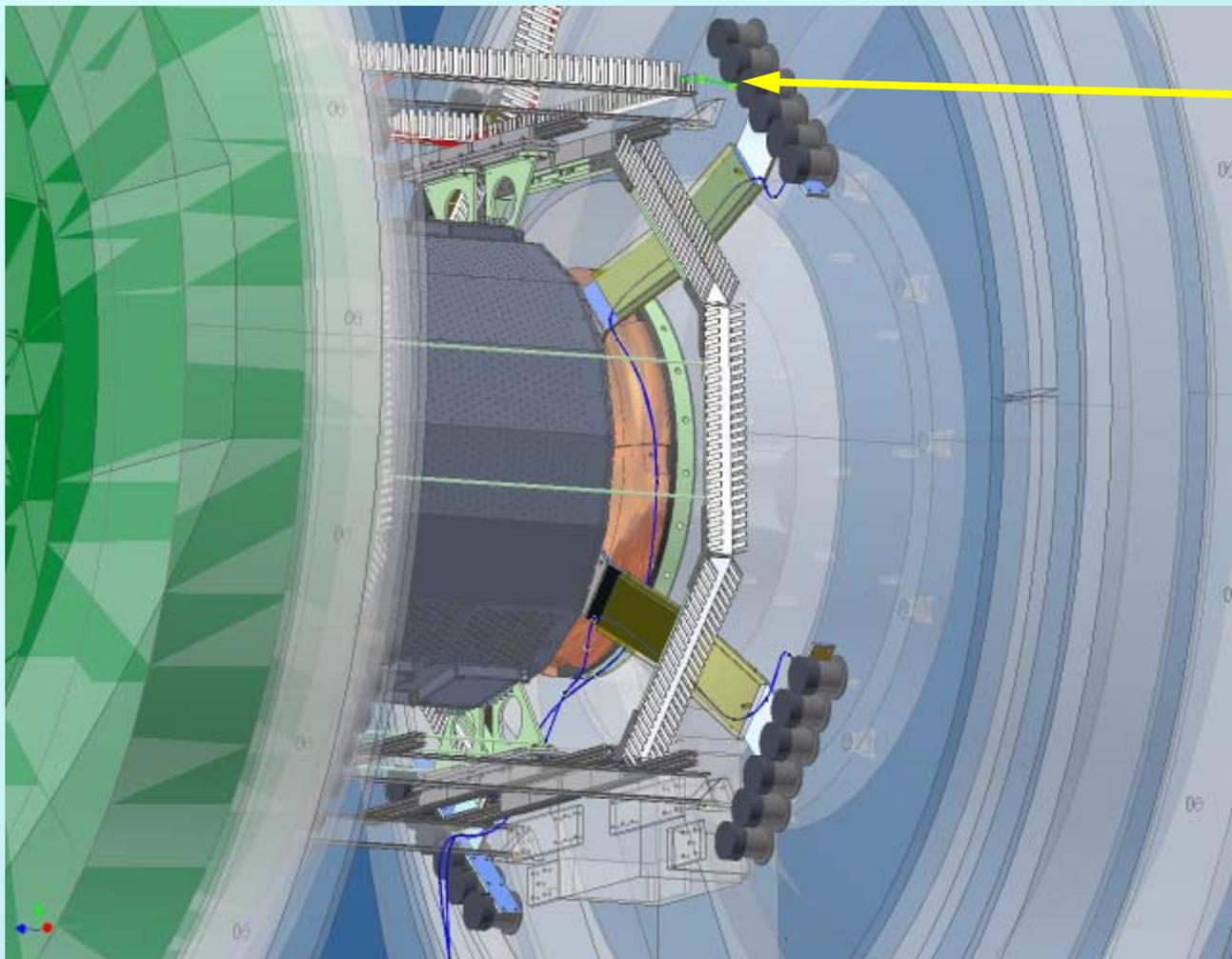


RXNP cables come down from top of CM north pole face to east upper i-beam, $\frac{3}{4}$ cross over to west upper i-beam and $\frac{1}{2}$ cross to south pole face

HBD HV cables follow opposite route (from top of CM south pole face to west upper i-beam, $\frac{3}{4}$ cross over to east upper i-beam and $\frac{1}{2}$ cross to north pole face)

RXNP & HBD Cable Routing 3

600N + 30P0S - 90351 - TCCENT



RXNP Cables from i-beam take short route to PMT's

HBD

SB Road Trip

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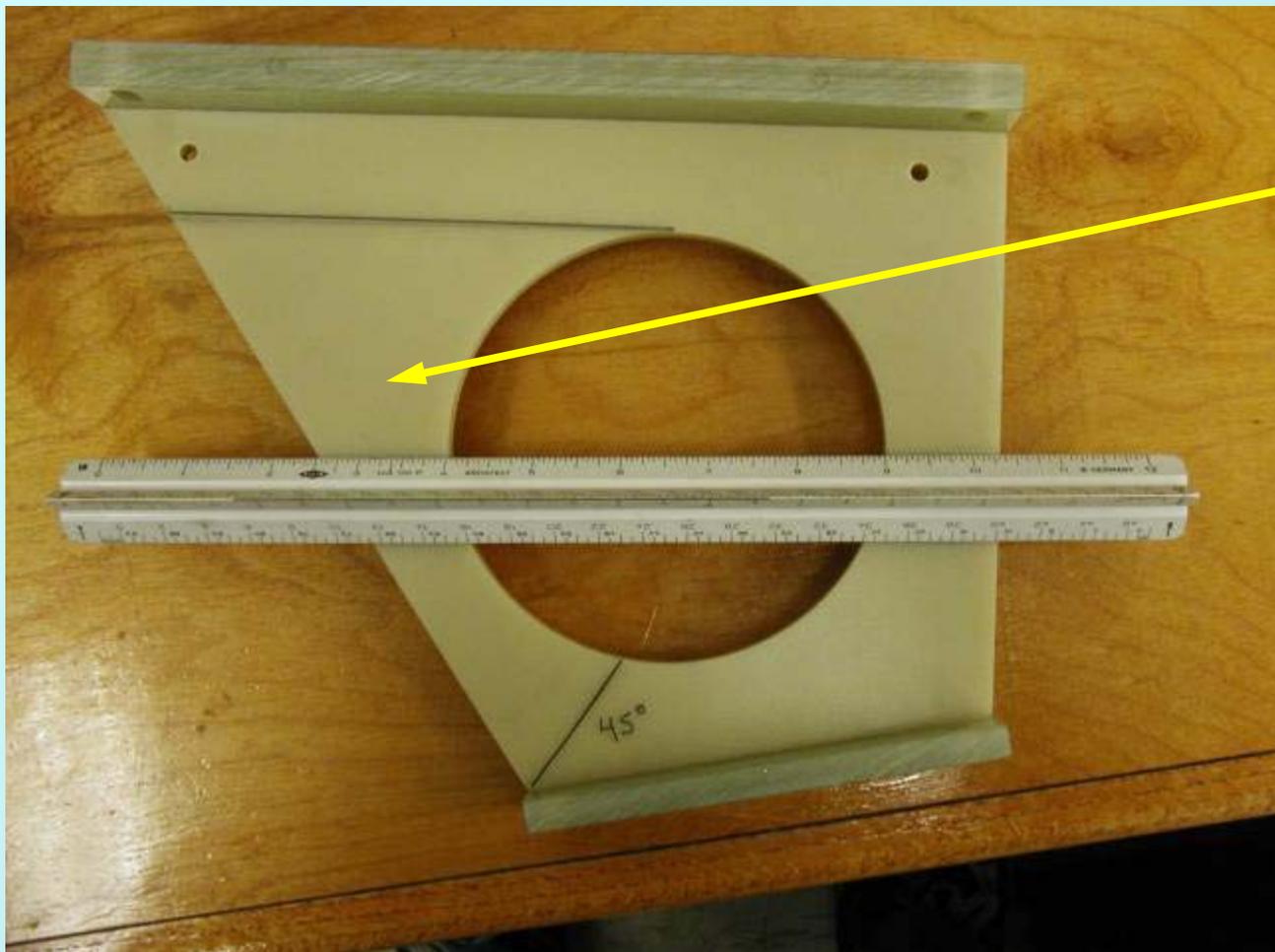




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HBD

TECHNICAL SUPPORT 2006

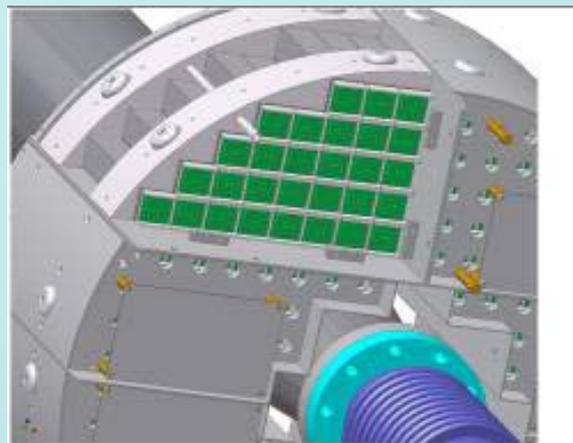
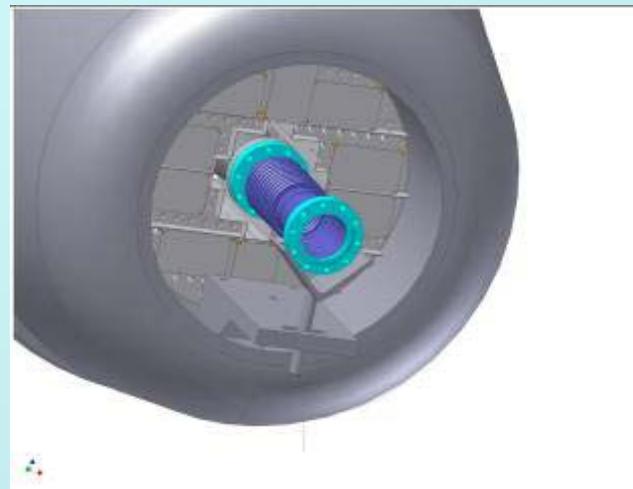


Modification to HBD support needed to accommodate 3-way gas valve: parts delivered to SB for rework expect them back next week.

MPC North

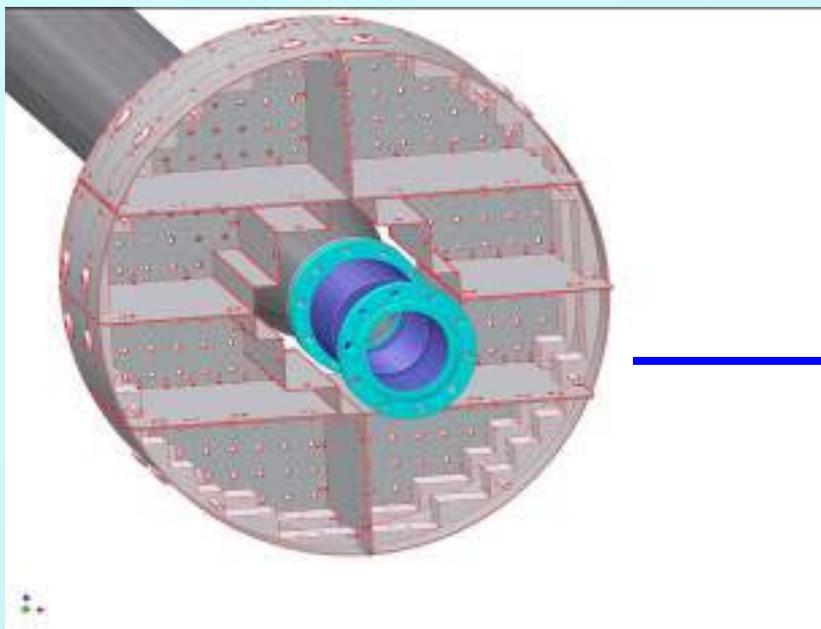
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- Model rec'd
- Manufacturing/Assembly drawings
- Rack final location?
- Cable routing plan
- UI techs assist in installation?

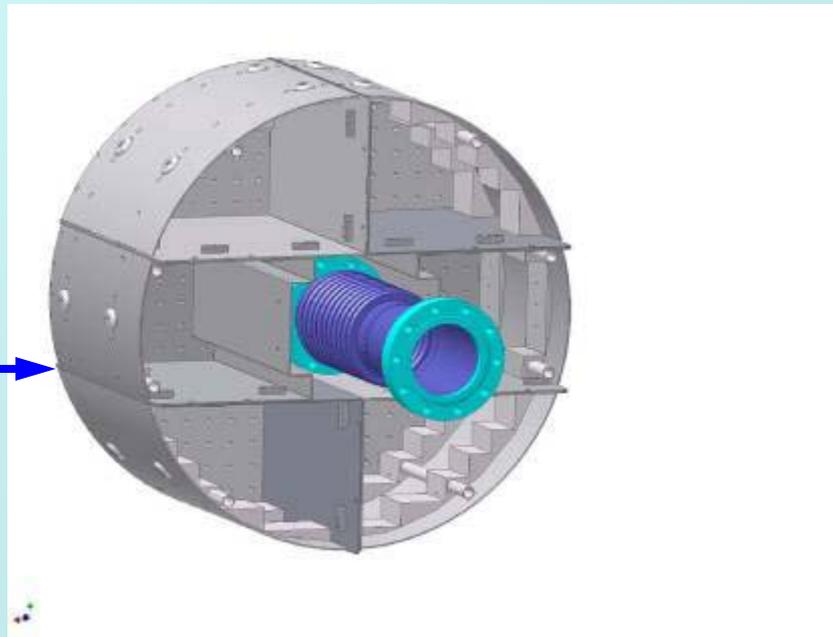


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Version 1



Version 2

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Location for MPC N rack
(side of MuID rack)

Need to relocate this cable tray

MPC North

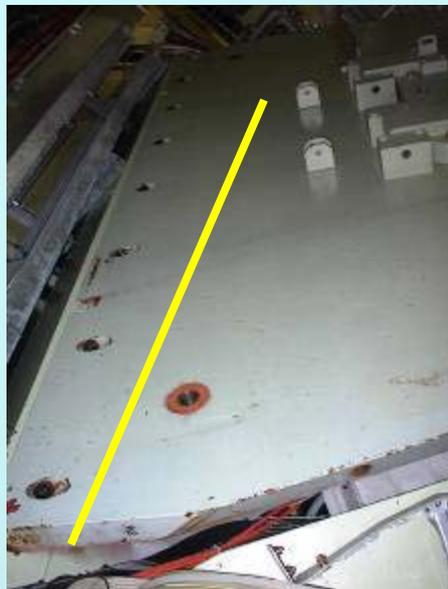
Cable Routing

TECHNICAL SUPPORT 2006

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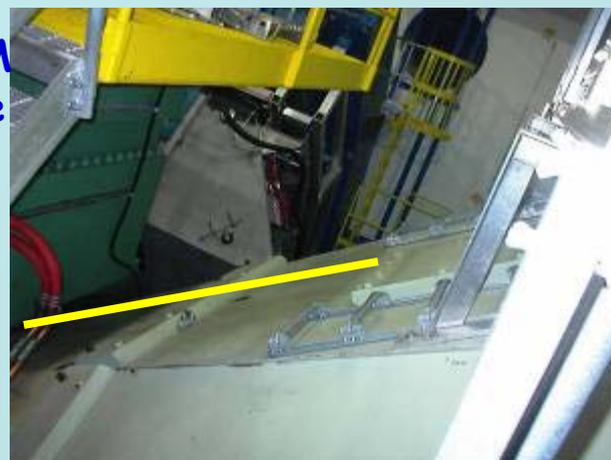
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1. From MuID rack to NMM
2. Up NMM vertical I/shade
3. Over top of NMM to center, then down
4. Under scaffold platform
5. down top lampshade (like MPC S)

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Other Projects

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Muon RPC

- Nothing New

Beampipe design

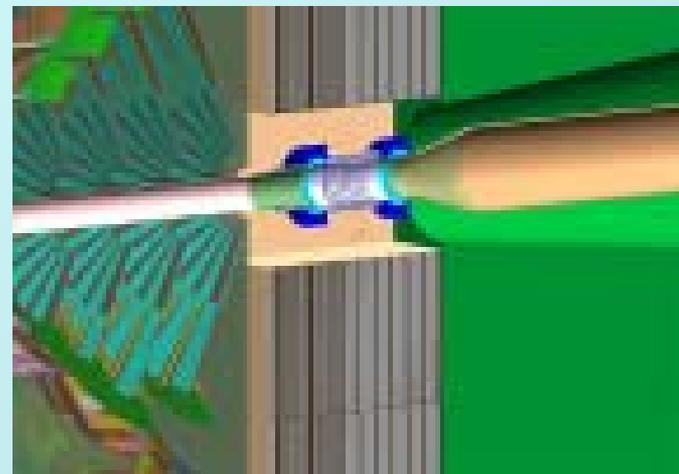
- Nothing new design concept in progress

New CM Crane

- C Pearson caution concerning interference with bridge utils.

Engineering Documentation

- Nothing new



Survey

TOF West - Skipped need to make our own measurements

RXNP - Pre installation and post installation

HBD - Pre installation and post installation

MPC S & MPC N - South we're on our own, North?

EMCal - Partial for location

MuID - Check for movement

Comprehensive - next shutdown?

Need to coordinate with Frank Karl and
schedule in advance (sent email last week-no response)



Work Permits

New Detectors

- TOF West same as last year, update and submit [DONE]
- RXNP Need to finalize procedure [DONE]
- HBD (Med-low-low) [DONE]
- MPC N similar to last year, update and submit [DONE]

Maintenance

- MuTr - combine N & S confined space permit [DONE]
- DC Low-low-low? PHENIX permit/procedure [DONE]
- BBC Low-low-low? PHENIX permit/procedure [DONE]
- MPC S Low-Med-low? PHENIX permit/procedure [Done]
- EmCal Low-low-low? PHENIX permit/procedure [DONE]
- TEC Low-low-low? PHENIX permit/procedure [DONE]

Other Work

- No permit requirements identified?

Breaker Safety

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Update on breaker analyses and equipment upgrade plans:

Fuse Issues

Siemens Allis Low Voltage Air Circuit Breaker



C-A Tasks

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Current Tasks

- General run support/building services
- New storage trailer needs doors (paint?)
- Fix roof leaks
- HVAC troubleshooting/repair

Tasks for Shutdown 2006

- See Shutdown schedule



Where To Find PHENIX Technical Info

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Links for the shutdown schedule as well as weekly planning meeting slides, long term planning, pictures, videos and other technical info can be found from the web site:

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