

# PHENIX WEEKLY PLANNING



7/16/2009  
Don Lynch

# This Week 7/13 - 7/17

TECHNICAL SUPPORT NOON

## Task

Start Date End Date

Task	Start Date	End Date
• Fabricate RPC3 N survey fixture	Done	Done
• DC FEM Troubleshooting/Repair	Done	Done
• Order Tilt Table Lifters	Done	Done
• Get list of RPC3N installation hardware and place orders	Done	Done
• Remove ladder & dumb waiter from EC (1/2 day)	Done	Done
• Remove MuID collars	Done	Done
• Move MMS South	Done	Done
• Fold up EC platforms (1/2 day)	Done	Done
• <b>Move MMS North</b>	Done	Done
• Assemble HV, experimental gas and N2 gas distribution and install tent	in progress	7/15
• Field Fit $\frac{1}{2}$ octant retaining arm/clamps design to fit	in progress	7/15
• Test RMC higher comm speed on EC	Done	Done
• Disassemble and stow Wall & Base (3 -4 days)	in progress	7/17
• Finalize gap 5 N cable and pipe reorganization plan	in progress	7/17
• <b>Presurvey <math>\frac{1}{2}</math> octants at RPC Factory</b>	in progress	7/17

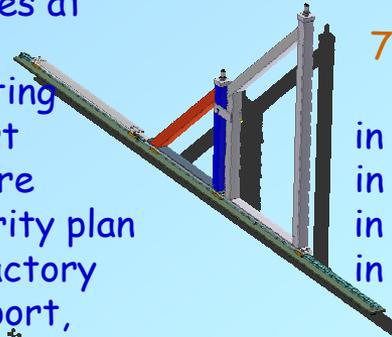
# Next Week 7/20 - 7/24

## Task

## Start Date

## End Date

- | Task  | Start Date  | End Date |
|---|-------------|----------|
| • Load Test new chilled water system  | 7/20        | 7/20     |
| • Order burn-in test cover and AC control   | in progress | 7/20     |
| • Move MMS South/North (for EC move)  | 7/20        | 7/22     |
| • Disconnect EC and Move to AH  | 7/20        | 7/22     |
| • Test base RPC3 N locking/installation fixture   | 7/20        | 7/24     |
| • Test base RPC3 N survey fixture   | 7/20        | 7/24     |
| • Test and commission RPC3N lifting fixtures at factory with S. Kane/designee as witness                    | 7/20        | 7/24     |
| • Fabricate RPC3 N base, pitch support, lifting fixtures and $\frac{1}{2}$ octant 7&8 vertical support      | in progress | 7/24     |
| • Fabricate Base Locking/Installation fixture   | in progress | 7/24     |
| • Fan Tray replacement evaluation and priority plan   | in progress | 7/24     |
| • Receive RPC3 N lifting fixture parts at factory   | in progress | 7/24     |
| • Receive complete RPC3 N base, pitch support, lifting fixtures & $\frac{1}{2}$ octant 7&8 vertical support | in progress | 7/24     |
| • Fabricate RPC3 adjustable $\frac{1}{2}$ octant cradle   | in progress | 7/24     |
| • Assemble Dummy $\frac{1}{2}$ octant and test with tilt table and Burn-in test stand field fit             | in progress | 7/24     |



PHENIX PROJECT



# Next Week 7/20 - 7/24, Cont'd

PHENIX  
 7/16/2009

Task	Start Date	End Date
• Open MMN hatch and O2 check atmosphere	7/20	7/24
• Install ladder/access platform and work platforms for work above MuID steel (3 days)	7/20	7/24
• Move MuID plumbing rack on pedestal away From gap 5	7/20	7/30
• Install IR floor plates, 12 ton cart & manlift	7/22	7/22
• Move MuID collars to AH	7/23	7/23
• Remove 4 MMS lampshades (2-3 days)	7/24	7/28
• Reinstall ladder and dumb waiter on EC in AH and fold down EC platforms (1 day)	7/24	7/31

PHENIX AIRPORT



7/16/2009

# South Arm Installation

# Cable Infrastructures



LV Cables



Optical Fibers

- Fibers: Ready to Install
- LV Cables: 4 more bundles to be made
- All other hardwares are in stock
- Boards Productions are completed.
- All Boards/Chassis/Cables to be shipped to BNL by Aug.

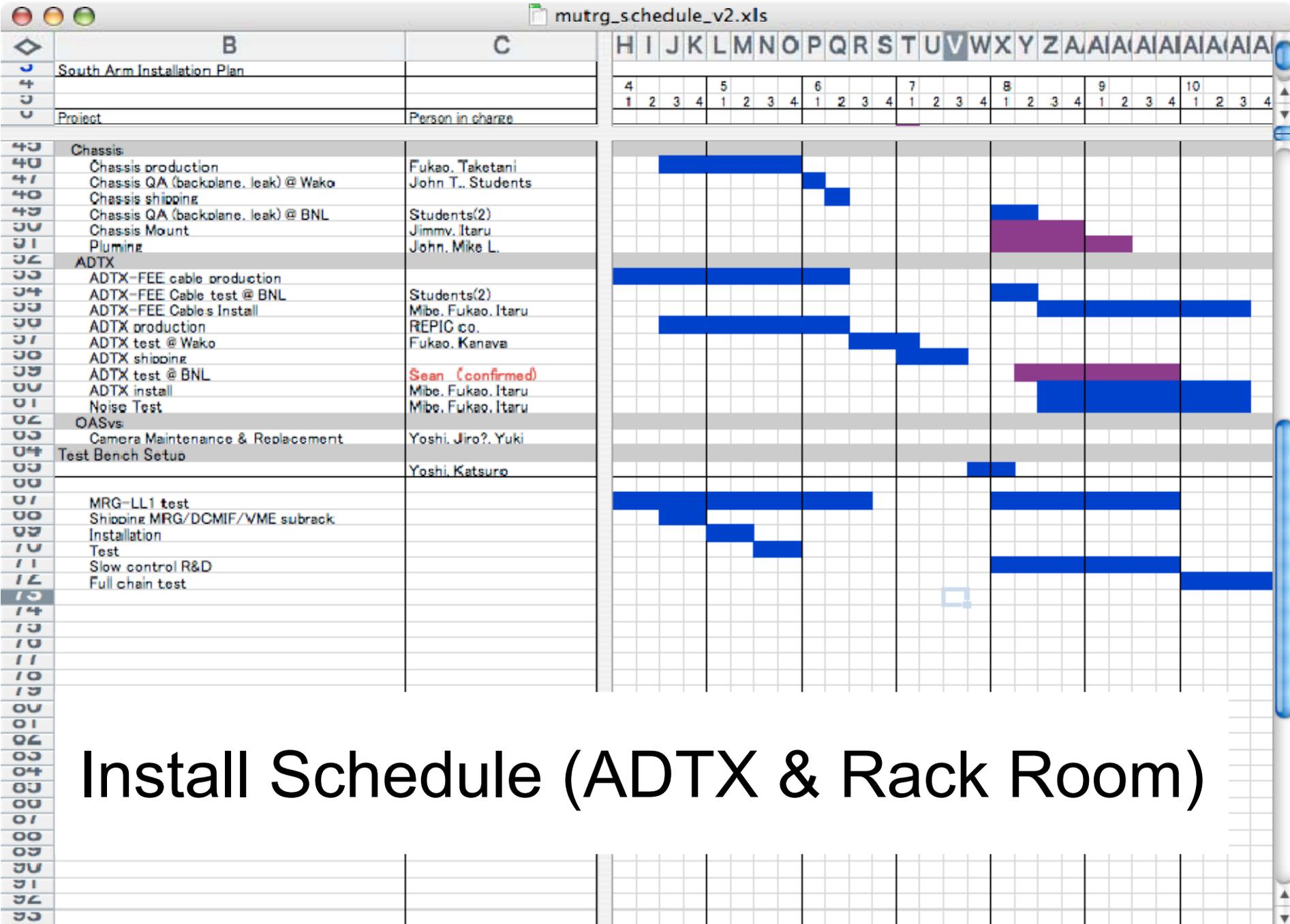


7/16/2009

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
5	Schedule																						
6																							
7																							
8																							
9																							
10																							
11																							
12	East Carriage Roll Out																						
13	South Rampshade Off																						
14	South LV Rack																						
15	Power Supply Install to Rack	Frank																					
16	Cable Tray Install	Paul																					
17	St.1 Scaffold Assembly	BNL Union																					
18	St.2&3 Scaffold Assembly	Jimmy, John																					
19	St.1 Scaffold Disassembly	Jimmy, John																					
20	St.2&3 Scaffold Disassembly	Union																					
21	Lampshade Back On																						
22	East Carriage Roll In																						
23	Shield Wall Back In																						
24	Infrastructures																						
25	Cable Install																						
26	Signal Cable Chain Test																						
27	Chassis Mount	Jimmy																					
28	Cooling Water Plumbing	John T.																					
29	Board																						
30	ADTX QA @ BNL	Sean																					
31	ADTX Install & Test																						
32	ADTX - FEE Cathode Cable Install																						
33	Rack Room																						
34	LL1 Chain Test																						
35	MRG Install																						
36	Cable Install																						
37	ADTX - MRG Full Chain Test																						
38	Man Power																						
39	Expert																						
40	Student Help																						
41																							
42																							
43																							
44																							

# Installation Schedule

B		C	H	I	J	K	L	M	N	O	P	Q	R	Spin fest				Y	Z	A	A	A	A	A	A	A	
			4	5				6				7				8				9				10			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
South Arm Installation Plan																											
Project		Person in charge																									
East Caridge Roll Out																											
South Rampshade Off																											
South																											
LV Rack																											
Power Supply Install to Rack		Frank																									
Cable Tray Install		Paul																									
St.1 Scaffold		BNL Union																									
St.2&3 Scaffold		Jimmy, John																									
LV cable																											
Cable length estimation (South)		Itaru																									
LV Cable order																											
LV Connector Order		Itaru	done																								
LV Cables & Connectors Assembly + Labeling		Frank, Eric, Schadrac																									
LV Cables Bundle		Eric, Schadrac+RPC																									
LV Cable Uninstall																											
LV Cable Install (St-2&3)		Mike, Students																									
LV Cable Install (St-1)		Mike, Students																									
LV rack connection + Power test		Itaru, Students(2) + Frank																									
LV power drop measurement + voltage tuning		Fukao, Itaru																									
LV Rack database		Itaru																									
IR																											
Optical Cable Order (IR)		Itaru																									
Optical Cable Test, Labeling		Eric																									
Cable Banding		Schadrac+RPC																									
Optical Cable Uninstall		Mike, Students (2-4)																									
Optical Cable Install (St-2&3)		Mike, Students (2-4)																									
Optical Cable Install (St-1)		Mike, Students (2-4)																									
Optical Patch Connection + Chain Test		Itaru, Students (2-3)																									
Optical Cable database		Itaru, Students(1-2)																									
Rack Room																											
Optical Cable Order																											
Optical Cable Test, Labeling		Students																									
Optical Cables Banding		Students(2)																									
Trunk Cable																											
Order (6 weeks)		Steve																									
Labeling		Eric																									
Install		Itaru, Students																									
Patch Connection + Chain Test		Students(2-3)																									
Chassis																											
Chassis production		Fukao, Taketari																									
Chassis QA (backplane, leak) @ Wako		John T., Students																									
Chassis shipping																											
Chassis QA (backplane, leak) @ BNL		Students(2)																									
Chassis Mount		Jimmy, Itaru																									
Plumbing		John, Mike L.																									
ADTX																											
ADTX-FEE cable production																											
ADTX-FEE Cable test @ BNL		Students(2)																									
ADTX-FEE Cables Install		Mibe, Fukao, Itaru																									
ADTX production		REPIC co.																									



# Install Schedule (ADTX & Rack Room)

## Continuing Tasks currently underway

Task	Start Date	End Date
• Install MuTrigger FEE Sta 2/3 cable Management and cable runs behind MMS	in progress	7/28
• Move PHENIX-North tunnel shielding, remove PHENIX-North vapor barrier and crystal palace, repair/replace area lighting	in progress	7/31
• Move MuID piping, piping supports out of Gap 5 to temporary store area	in progress	7/31
• Move MuID cables and cable tray out of Gap 5 to temporary store area	in progress	7/31
• cleaning and testing of MuTracker HV splitter boxes	in progress	7/31
• Simulated RPC installation at RPC Factory (practice/tests) commission all installation components base, locking/install, survey, cradle	in progress	7/31
• Order & receive parts for gap5 N cable management	in progress	7/31
• Evaluate Gap 5 grout at Factory	in progress	7/31
• Design concept for Base locking/Installation fixture for RPC3N	in progress	7/31
• Design RPC3 adjustable $\frac{1}{2}$ octant cradle	in progress	7/31
• Receive and test MuTrigger FEE's	in progress	7/31
• Receive MuTrigger FEE's cable and connectors, prep and bundle for installation	in progress	7/31
• Work permits for RPC3, MuTrigger/MuTr N&S	in progress	7/31



## Continuing Tasks currently underway (cont'd)

900N-120P-SCAL-AC-CHZ-EMT

Task	Start Date	End Date
<ul style="list-style-type: none"> <li>Order MuID cable management components</li> </ul>	in progress	8/1
<ul style="list-style-type: none"> <li>PC1 East repair fixture: order raw materials, order off-the-shelf components &amp; hardware, receive and inspect components</li> </ul>	in progress	8/1
<ul style="list-style-type: none"> <li>Prep RPC3 N racks for installation</li> </ul>	in progress	8/14
<ul style="list-style-type: none"> <li>Plan and install 2 new PHENIX gas pad expansion pads</li> </ul>	in progress	9/4
<ul style="list-style-type: none"> <li>Spec, purchase, install and test instrumentation and monitoring, cables, etc.for rack room AC3 and new electronics water chiller</li> </ul>	in progress	10/31
<ul style="list-style-type: none"> <li>Spec, purchase, install and test instrumentation and monitoring, cables, etc.for non-PHENIX fire alarm status panel</li> </ul>	in progress	10/31
<ul style="list-style-type: none"> <li>Spec, purchase, install and test power wiring for new DCM racks</li> </ul>	in progress	10/31
<ul style="list-style-type: none"> <li>Start Design supports for Beampipe upgrade</li> </ul>	in progress	11/30
<ul style="list-style-type: none"> <li>Design &amp; Fabrication support for VTX</li> </ul>	in progress	11/30
<ul style="list-style-type: none"> <li>Design support for FVTX</li> </ul>	in progress	11/30
<ul style="list-style-type: none"> <li>Design support for FOCal</li> </ul>	in progress	11/30
<ul style="list-style-type: none"> <li>Fan Tray replacements (as time permits)</li> </ul>	in progress	11/30

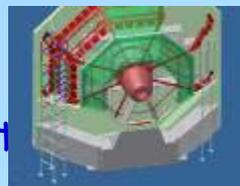
## Expected IR Configuration During Shutdown '09

- 7/6 - 7/17 Run configuration EC and WC can be moved east/west ~3 ft
- 7/17-7/22 MMS moved south, CM in run position EC & WC can be moved east/west ~3 ft
- 7/22-7/28 MMS north, Run configuration WC can be moved east/west ~3 ft EC in AH
- 7/28-10/1 MMS south, CM in run position, EC in AH WC in west position (against wall), scaffolding in station 1 and station 2/3 south
- 9/25-11/10 MMS, CM & WC positions TBD, EC in AH
- 11/10-12/1 MMS & CM in run position, EC and WC can be moved east west ~3 ft

These dates are approximate and subject to change

# Remainder of July Schedule

## Task



- ID/label gap 5 N cables & pipes and move out of gap 5
- Troubleshoot MUTrigger FEE's in MMN
- Troubleshoot MUTr decaps in MMN
- Move MMS South
- Install Station 1 Scaffolding (3 days)
- Inspect Station 1 Scaffolding (1/2 day)
- Install MuTrigger Station 1 S FEE cable management

Start Date End Date

Start Date	End Date
7/27	7/30
7/27	8/31
7/27	8/31
7/28	7/28
7/28	7/30
7/30	7/31
7/30	7/31



# August Schedule

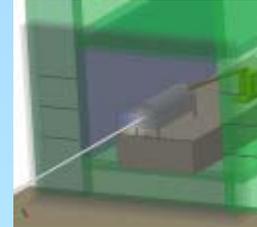
## Task

## Start Date

## End Date

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 900N  
 1200P  
 1300P  
 1400P  
 1500P  
 1600P  
 1700P  
 1800P  
 1900P  
 2000P  
 2100P  
 2200P  
 2300P  
 2400P

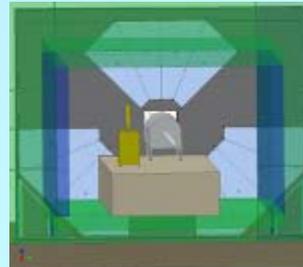
- Reconnect EC utilities for shutdown mode
- Survey tapped holes on MuID5 steel and survey east and west RPC3 N support bases (3 days)
- Drill and tap MuID gap 5 steel top and north
- Install RPC3 N support base & grout (4 days)
- Install Station 3 N pitch control (unistrut rails) on pedestal and east and west gap 5 north walls and attach to support bases (tall column)
- Install MMS station 2/3 scaffolding
- Install Station 1 FEE's & Electronics and connect cables
- MuTr decapacitations & MuTr FEE trouble-Shooting in MMS Sta 1&3
- MuTr Rack 2 troubleshooting
- Vendor install Ar dewar & vaporizer
- Install rails and fences on gas pad
- DCM rack electric prep
- MuTr HV and FEE test and evaluation as MuTrigger FEE's & RPC's are installed
- Set up PHENIX "stage" for Summer Sunday Tour
- Tear down and remove PHENIX "stage" for Summer Sunday Tour



Start Date	End Date
8/3	8/7
8/3	8/14
8/3	8/14
8/3	8/14
8/3	8/14
8/3	8/14
8/3	8/14
8/3	8/28
8/3	8/28
8/3	8/28
8/3	8/28
8/3	8/28
8/3	8/28
8/3	8/30
8/3	11/30
8/5	8/7
8/10	8/11

# August Schedule

Task	Start Date	End Date
• Erect PC1 repair tool	8/12	8/14
• First $\frac{1}{2}$ octant ready for installation	8/17	8/17
• Disassemble DC/PC1 cables & piping	8/17	8/28
• Install Station 1 MuTrigger FEE air & water and test	8/17	9/11
• Install new gap5 N cable & pipe supports, cables and piping and leak test piping	8/17	9/30
• Install RPC3 N $\frac{1}{2}$ Octants (16 days)	8/17	9/30
• Final leak test new Ar dewar/vaporizer and Closeout job	8/28	9/4
• Move DC on EC to access PC1 east	8/31	9/4
• Install Empties racks on gas pad	8/31	9/4
• Install MuTrigger FEE station 2/3 FEE's & Electronics & connect cables	8/31	9/25



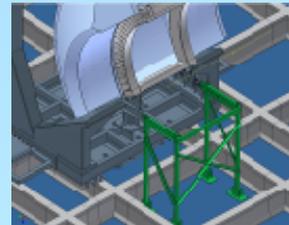
PHENIX

# September Schedule

## Task

## Start Date End Date

- Close MMN Hatch and closeout WP
- Rack room re-organization
- CM Power upgrade (as toime permits)
- Labor Day Holiday - no work
- Remove failed PC1 east module
- Install spare PC1 east module
- Install 2 RPC3 N racks (1/2 day)
- Test PC1 spare and verify operation
- Install MuTrigger FEE station 2/3 air & water plumbing and test
- Move DC on EC back to normal position
- Reconnect cables and piping on DC and PC1 East
- Remove station 1 south scaffolding
- Install rack components in RPC3 N racks
- Final verification tests on PC1 east repair



Start Date	End Date
9/1	9/1
9/1	11/30
9/1	11/30
9/7	9/7
9/10	9/14
9/10	9/14
9/8	9/18
9/14	9/17
9/14	10/9
9/18	9/18
9/21	9/25
9/21	9/25
9/21	9/30
9/28	9/30

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# October Schedule

TECHNICAL SUPPORT NOON

Task	Start Date	End Date
• Disassemble and store PC1 east repair fixture	10/1	10/2
• Attach cables to RPC3 N racks and to Detector $\frac{1}{2}$ octants	10/1	10/9
• Install new PHENIX north tunnel thermal/vapor barrier replacing crystal palace (1 week)	10/1	10/30
• DCM rack supply & Return plumbing	10/5	10/16
• Remove MMS Sta 2/3 scaffolding	10/12	10/23
• Commission RPC3 N racks and detectors	10/12	10/30
• DCM rack internal plumbing	10/19	10/30
• Reinstall MMS lampshades (2 days)	10/26	10/30



# November Schedule

**Task Start Date End Date**

900N 1200P 1300P 1400P 1500P 1600P 1700P 1800P 1900P 2000P 2100P 2200P 2300P 2400P

- Install heaters and thermostat(s) for RPC3N thermal control 11/2 11/6
- Reinstall PHENIX North tunnel shielding (3 days) 11/2 11/6
- Cooldown for Run 10 Starts 11/7 11/7
- Move MuID Collars to IR 11/7 11/7
- Disconnect electric & Fiber in EC 11/2 11/7
- Remove ladder & dumb waiter from EC & Fold up EC platforms in AH (1 day) 11/9 11/10
- Veterans Day Holiday - no work 11/11 11/11
- Remove IR Floor plates and move 12 ton cart to AH 11/12 11/12
- Move EC to IR 11/12 11/13
- Reconnect electric and fiber to EC 11/16 11/20
- Reinstall ladder & dumb waiter on EC & Fold down EC platforms in IR (1 day) 11/16 11/20
- Pink sheets, white sheets, blue sheets 11/16 12/1
- Move MMS north, Install MuID Collars 11/23 11/25
- Assemble shield wall base and wall in AH 11/23 11/30
- Thanksgiving Holiday - no work 11/26 11/27
- Roll in shield wall 11/30 11/30
- Start Run 10, All shutdown activities completed 12/1 12/1

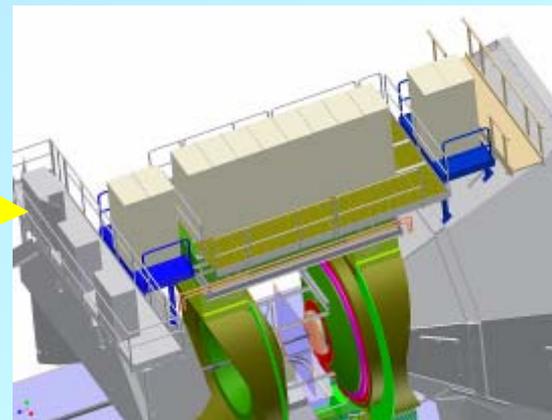


Other potential work this shutdown:

1. Remove the RPC prototype absorber



2. Prep Bridge for future upgrades



# 2009 Building Maintenance Issues

- Roof leaks in utility bathroom at northwest corner behind tech offices and over door between rack room and assembly hall.
- 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.)
- Icy conditions at mixing house north stairs
- Mixing House loose board ?



1. Several observations from DOE safety personnel: a) daisy chained extension cords. B) homemade extension cord. c) improper use of step ladder. d) CM access ladder inadequacies. e) multiple head bump locations. f) homemade confined space sign. All have been or will be addressed. Be vigilant, be safe.
2. Work planning and control practices assessment teams roaming the lab. If asked answer their questions honestly. We try to comply with all safety regulations, we have planning meetings daily and weekly. We plan at PHENIX and with CAD. We have enhanced work permits where appropriate. We keep our training, certifications and calibrations up to date. We have procedures to cover complex tasks, both recurring and one time tasks. We review the procedures prior to the work and we feedback problems and anomalies to make our work safer, more efficient and more productive. Weekly work planning notes are posted on the web as well as work permits and current procedures.
3. Remember to lock up at the end of each day, shifts are over. Techs will lock up before they leave, but others who work late must make sure they lock the doors behind them.
4. Read, understand and sign (original) work permits for tasks you are working on. PDF copies of all PHENIX 2009 shutdown work permits and referenced PHENIX controlled procedures are/will be available on the PHENIX engineering web site.

# Where To Find PHENIX Engineering Info



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)