

# PHENIX WEEKLY PLANNING



Oct. 17, 2013  
Don Lynch

## This Week

- Close out MMS and MMN MuTr WP's
- Continue Assembly of FVTX/VTX West
- Continue assembly and testing of VTX East Strip-pixel ladders
- Finish Upgrade MuTr flow distribution behind south MMS - Done
- Continue upgrading VTX/FVTX supply/return lines to stainless
- Continue MPC-Ex installation prep & design/fabrication of assembly fixtures & components
- Finish Installing Window Washer Winch
- Continue sPHENIX support
  - HCal prototype
  - EMCal prototype design continuing
- Future IR evolution modeling

## Next Week

- Continue Assembly of FVTX/VTX East & West
- Finish assembly and testing of VTX East Strip-pixel ladders
- Finish Upgrade MuTr flow distribution behind south MMS
- Continue upgrading VTX/FVTX supply/return lines to stainless
- Continue MPC-Ex installation prep & design/fabrication of assembly fixtures & components
- Continue sPHENIX support
  - HCal prototype remaining parts due this week then assemble
  - EMCal prototype fixtures received assembly started
- Future IR evolution modeling



## VTX/FVTX

VTX East subassemblies completed and tested East VTX/FVTX Assembly in Progress

VTX West strippixel subassemblies complete testing to finish next week then West VTX/FVTX assembly commences



## VTX & FVTX Remaining Tasks

|  |           |
|--|-----------|
| Receive remaining strippixel stave components                                    | Done      |
| Assemble & test strippixel staves  | Done      |
| Receive remaining pixel ladders  | Done      |
| Test pixel ladders   | Done      |
| Integrate staves & electronics & test  | by 10/21  |
| Assemble East & West VTX & test  | by 10/25  |
| Transport FVTX to Chemistry building.  | By 10/25  |
| Integrate FVTX Integrated into East & West VTX.                                  | By 11/1   |
| Survey VTX/FVTX assembly   | By 11/8   |
| Transport VTX&FVTX assembly to PHENIX and install on rails.                      | 11/11     |
| Re-install coolant and N <sub>2</sub> lines, LV, signal and HV cables and fibers | by 11/25  |
| Re-survey full detector in IR  | by 11/27  |
| Re-commission VTX & FVTX   | by 1/1/14 |

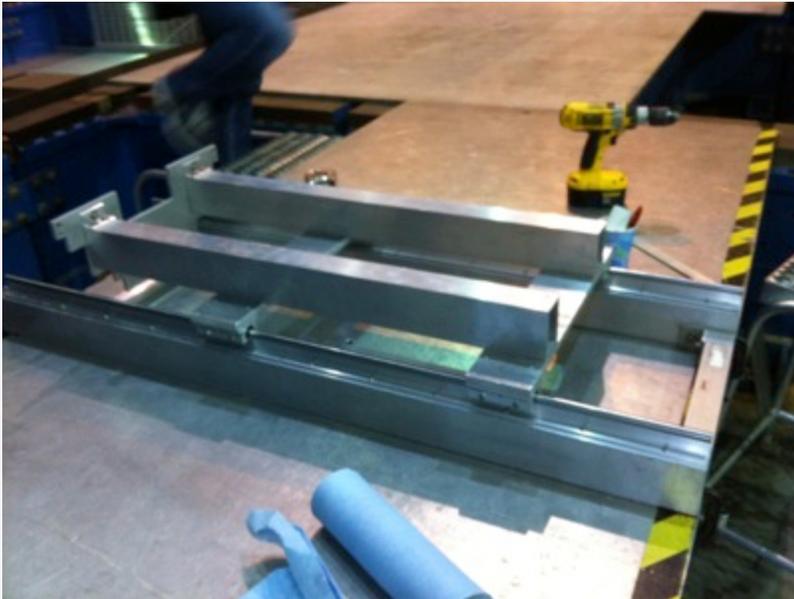
## DC East & West Repairs Summary of Tasks

PHENIX  
 PROTECT  
 NORM

- East Carriage move to AH - Done
- Work Permit - Done
- Design & Construct tent (similar to tent constructed for DC West last year) to prevent foreign material from entering DC East cavity while window is removed. - Done
- CAD to provide 2 vertical manlifts to allow DC experts to remove and replace window - Done
- Get supplies and materials from Stony Brook for window replacement - Done
- Troubleshooting and repairs on DC West - Done
- Supply Gas, DAQ and Electric to EC East - Done
- Isolate and repair leak on DC East - Done
- Remove and replace window - Done
- Isolate and repair leak under electronics card - Done
- Leak test - Done
- Operational tests - Done
- Remove tent and manlift - Done
- DC West broken wire removal - 12/15 - 12/30

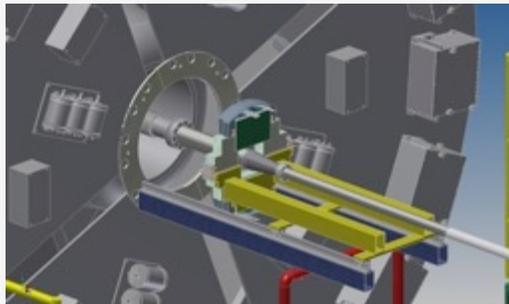
## MPC-Ex Initial (Partial) Installation

PHENIX FRONT NOSE

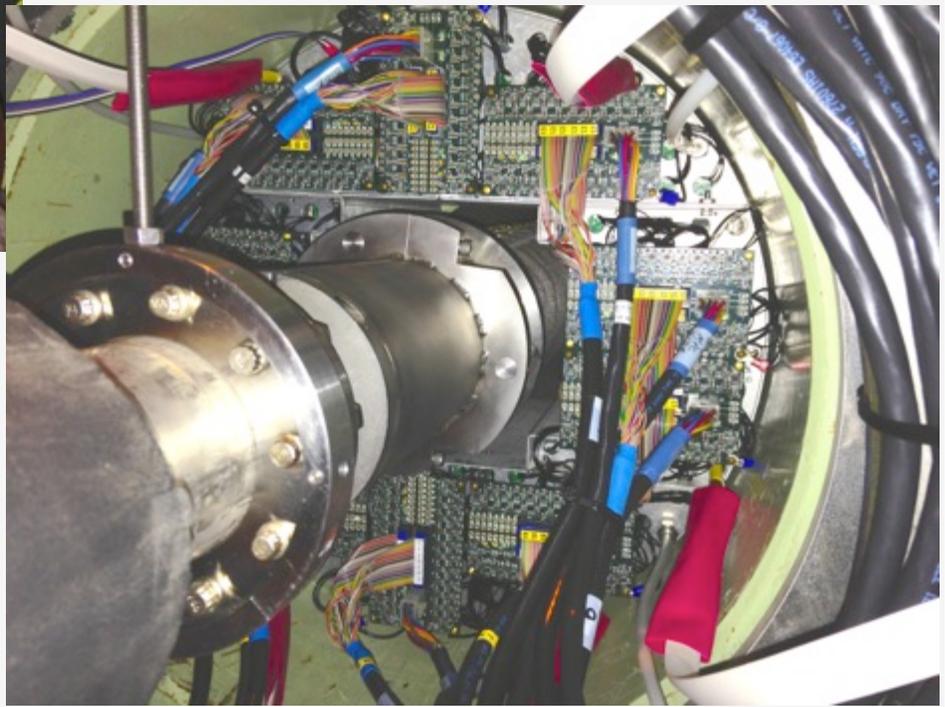
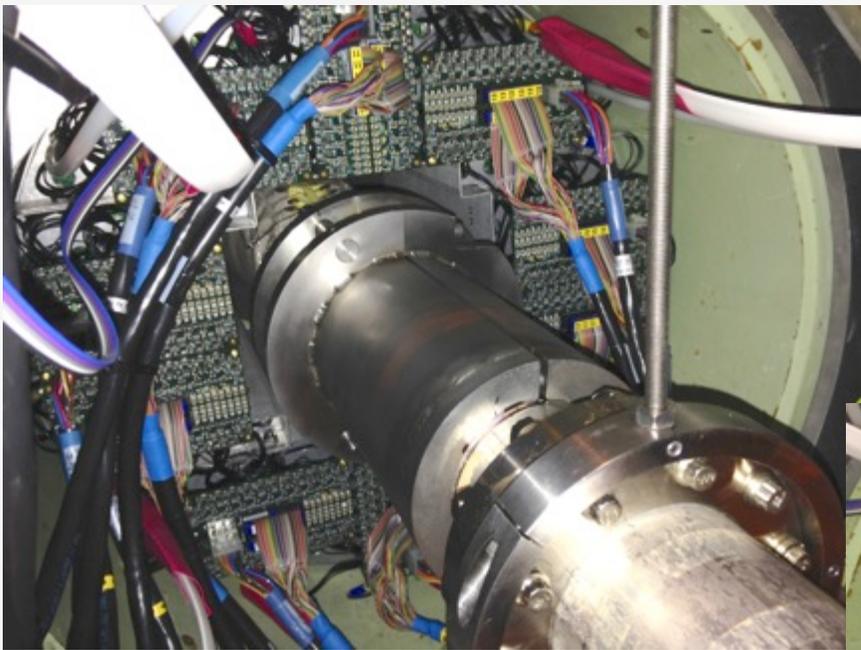


Vacuum bellows anti-squirm in MPC S Cavity installed.

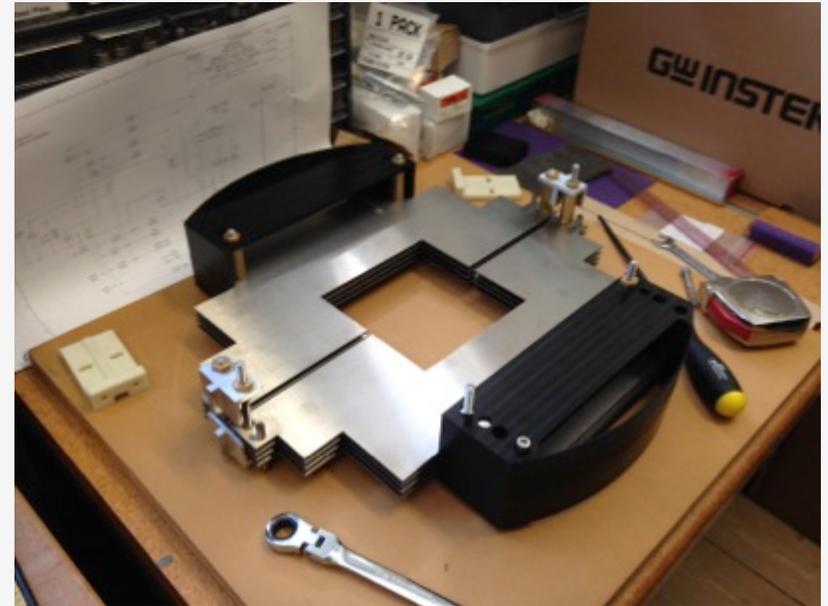
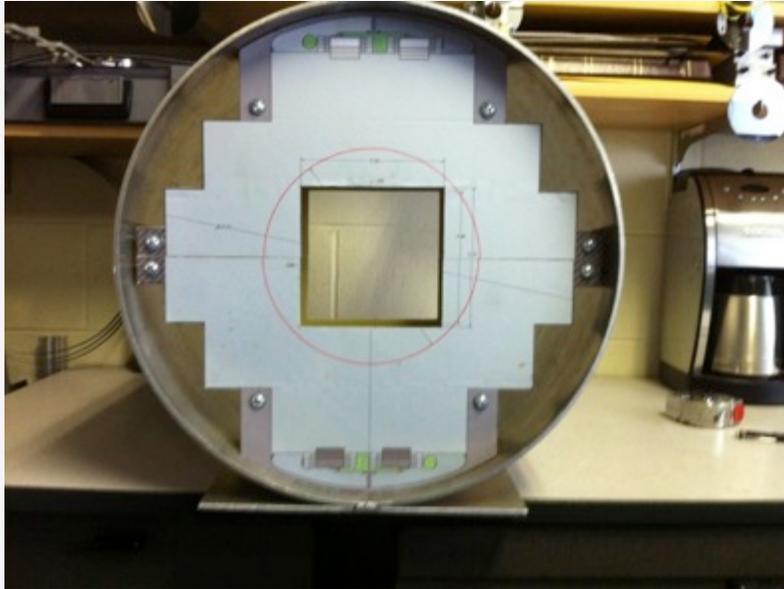
Installation tool assembled; Tool placement for installation is in progress



PHENIX 7 SDCOOL-1 NO-13

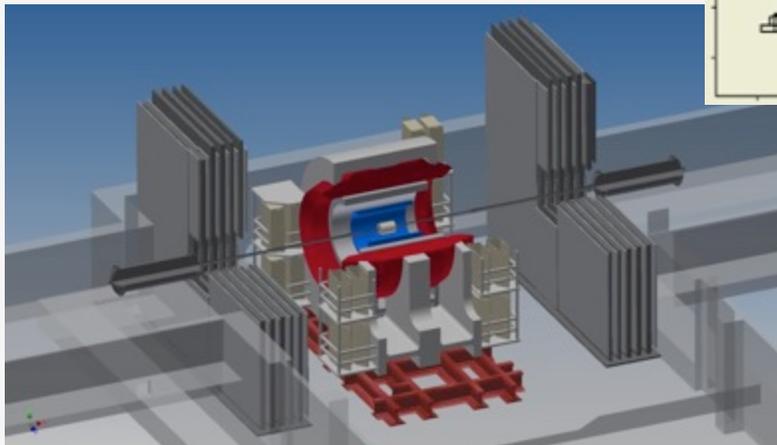
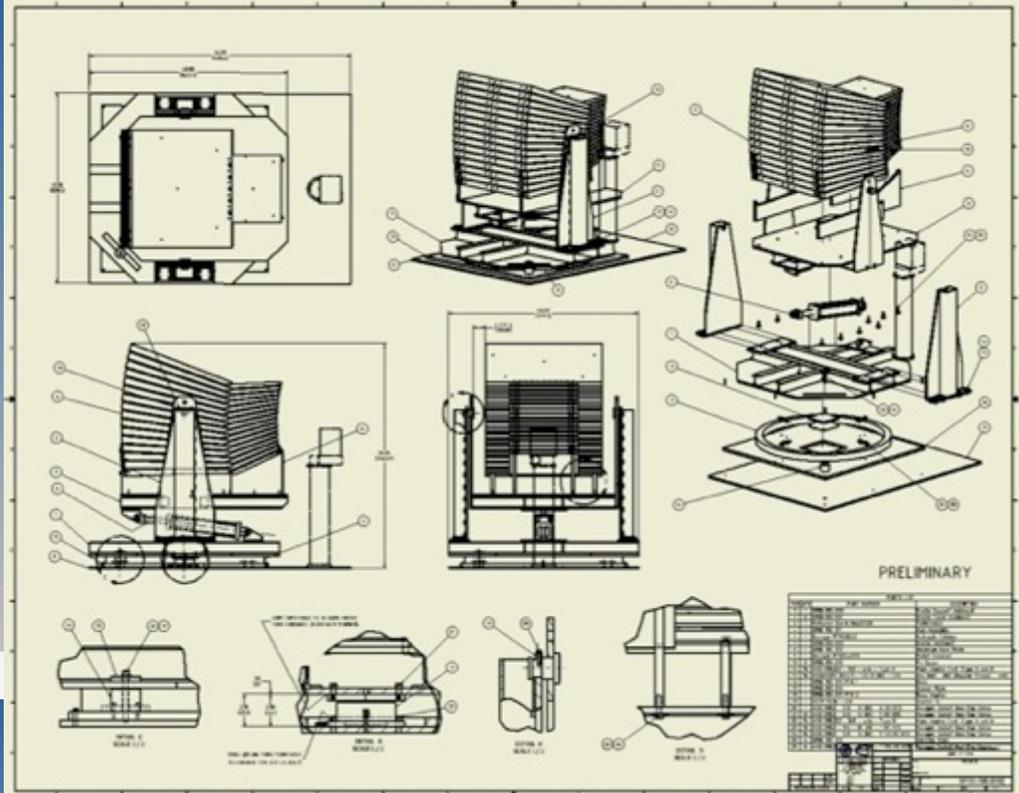
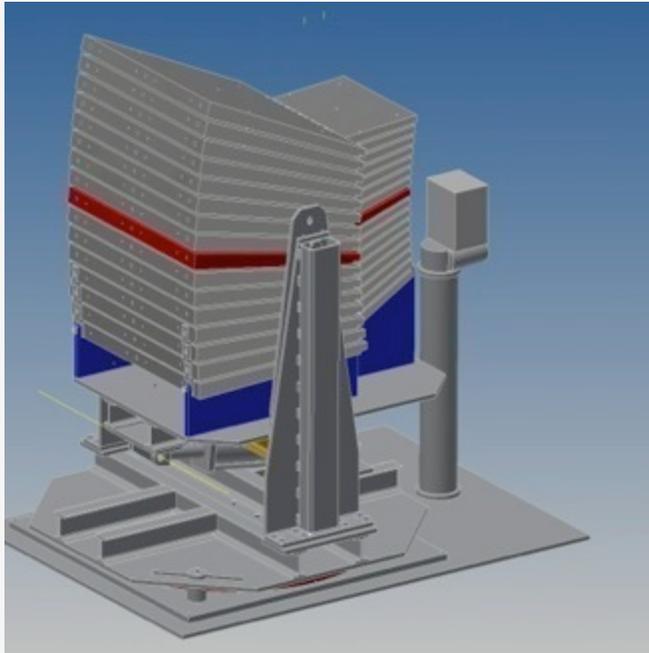


10/17/2013



Partial installation modified to include all (16) tungsten plates. Additional spacers to accommodate have been ordered.

PHENIX PROTOTYPING



Remaining Hcal Prototype support components expected this week

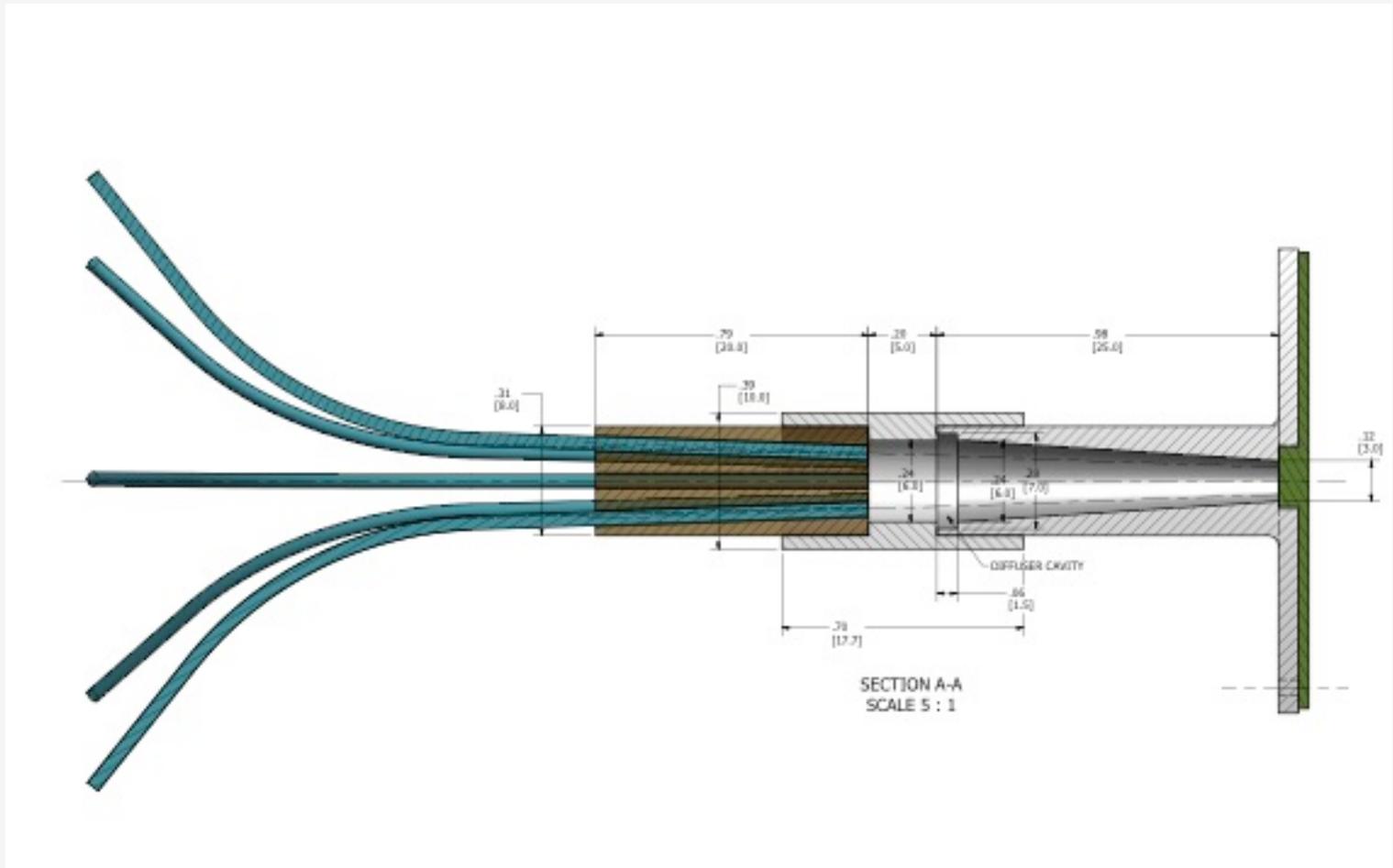


Hi-Bay Prototype Assembly Area



sPHENIX prototype electronics rack





Light Collection for HCal

## sPHENIX Prototype Assembly and Test Tasks

PHENIX  
PROTOTYPING

Design Hcal and EMCal Prototypes and support components and shipping crates - *in progress*

Procure materials and detail parts - *in progress*

Receive and inspect parts

Assemble prototypes

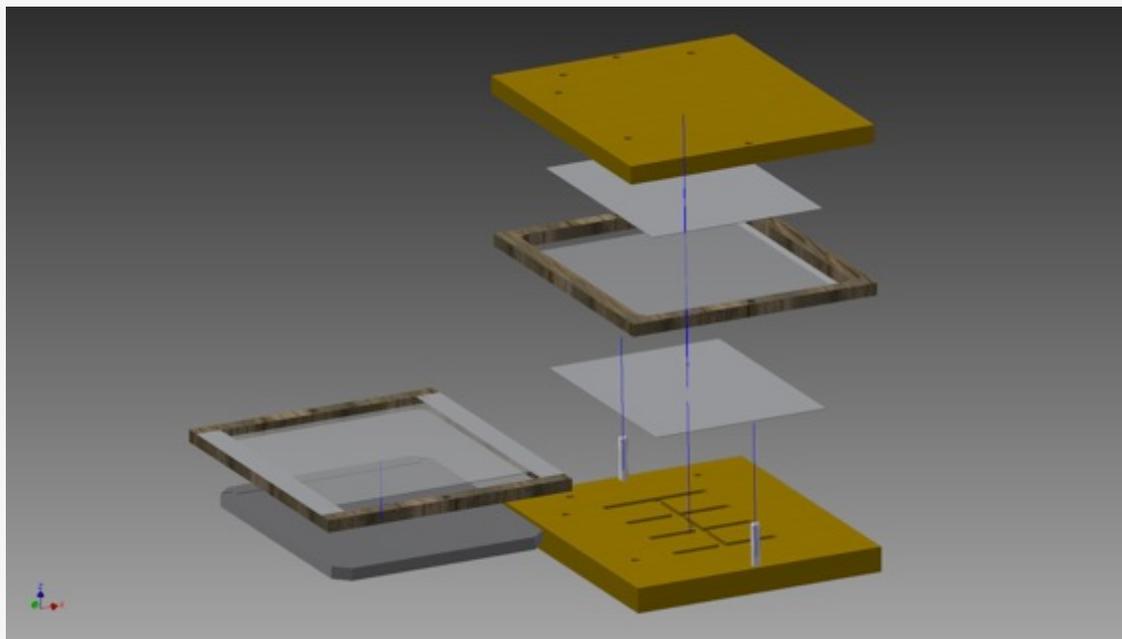
Test assemblies for mechanical fit and function

Package and ship prototypes to FERMI Lab for performance tests

Test and Evaluate at Fermi Lab

# EMCal Prototype

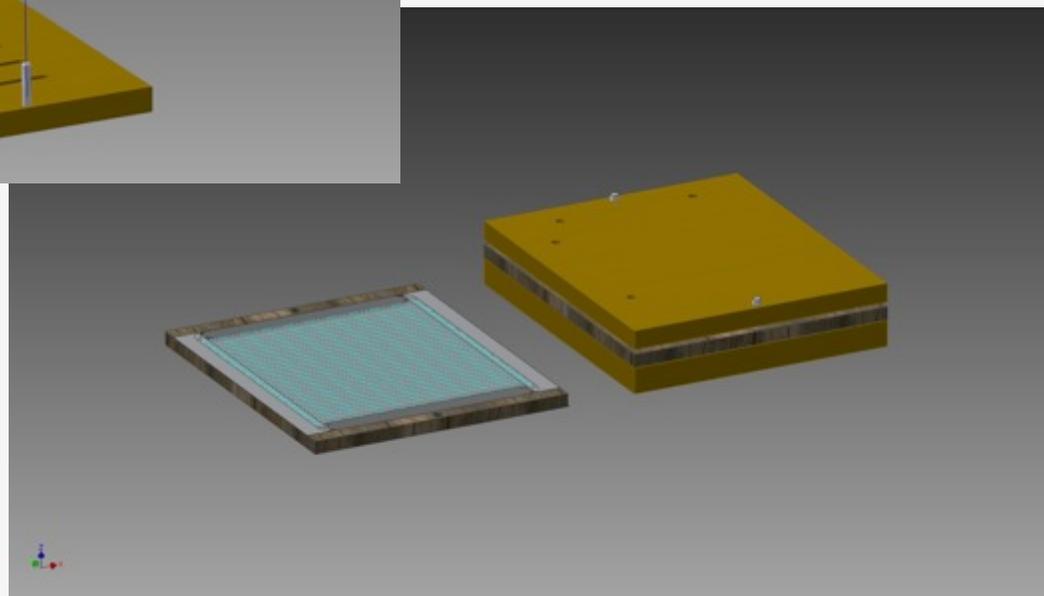
PHENIX PRODUCTION



Gluing Fixture for sandwiches,  
Tower Stacking/holding fixture  
fabricated and received.  
Assembly starting this week

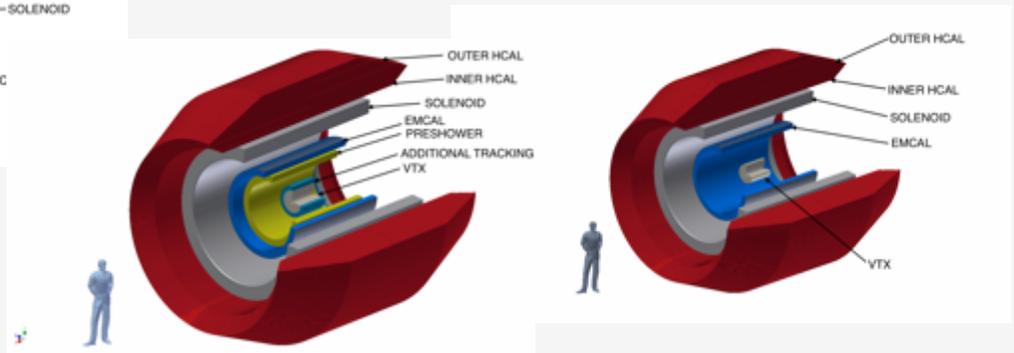
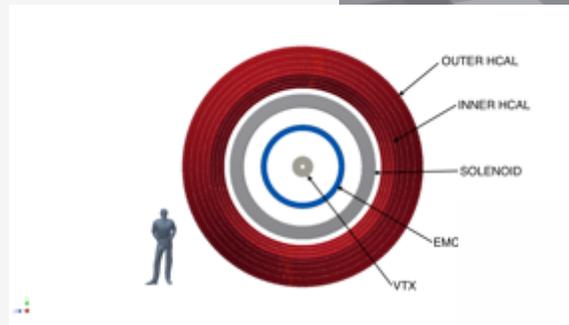
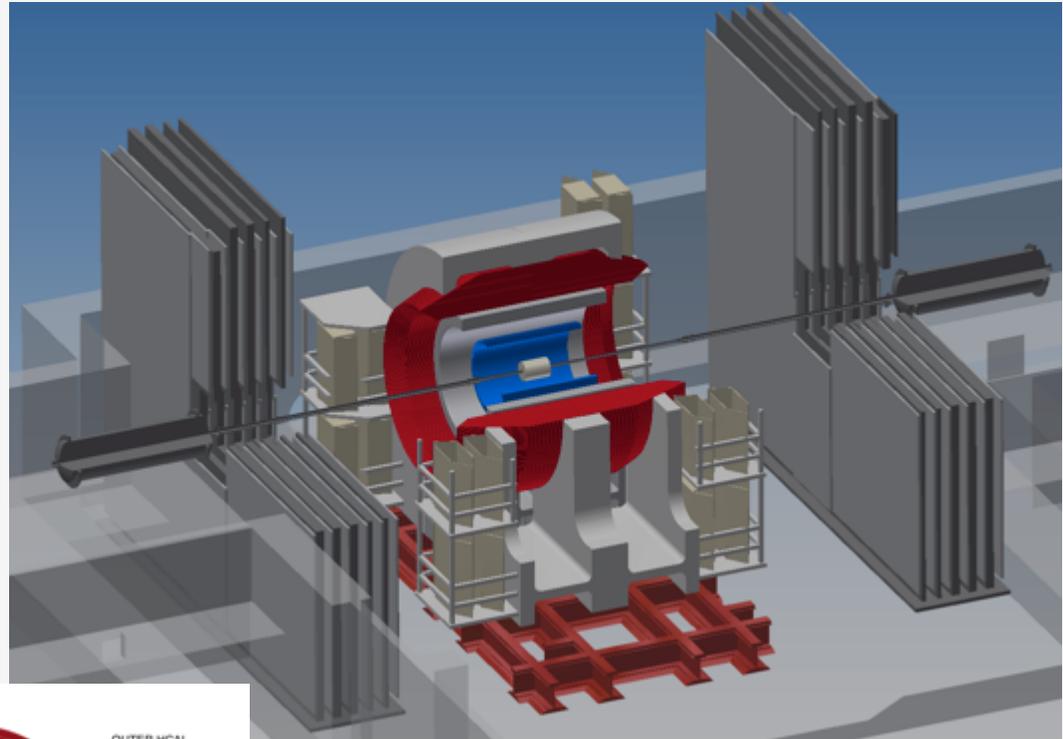
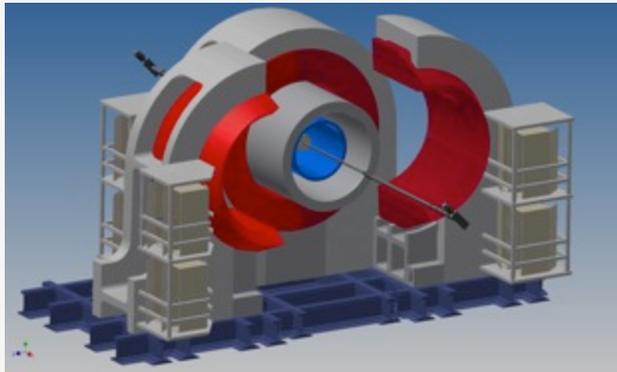


Prototype "Egg Carton"  
light collection



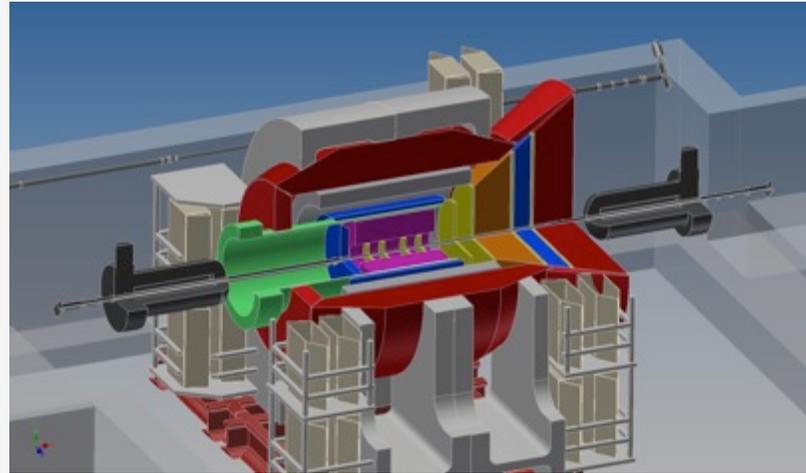
10/17/2013

PHENIX PROGRESS REPORT

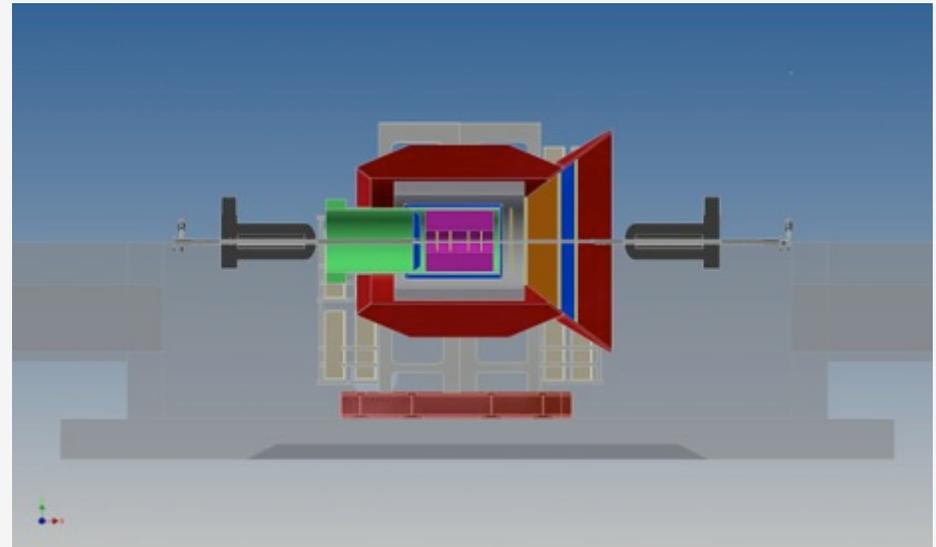
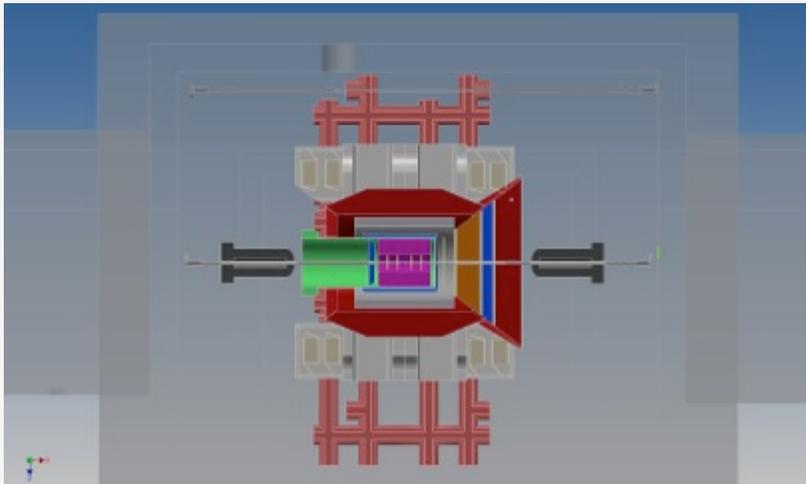


sPHENIX Modeling support for updated MIE

ePHENIX



Plan View



Elevation View



# Window Washer Winch Upgrade



10/17/2013

## Window Washer Winch Upgrade Summary of Tasks

Receive and Inspect winch and components - Done

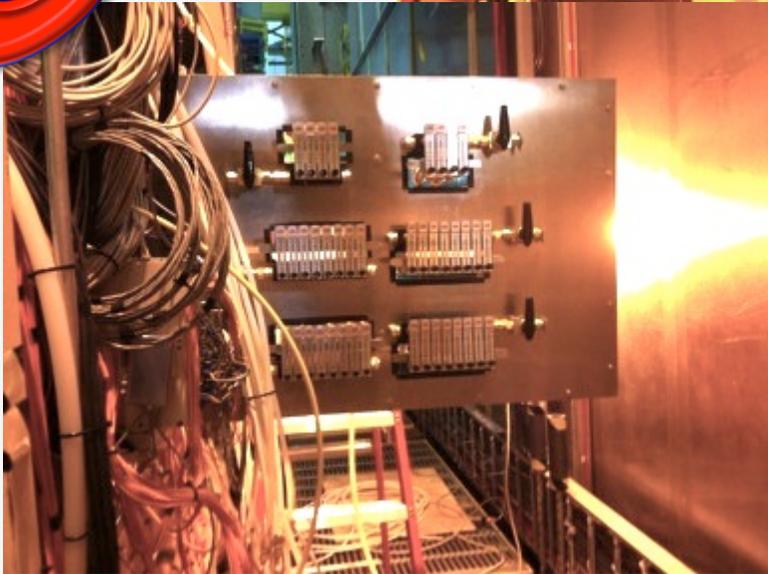
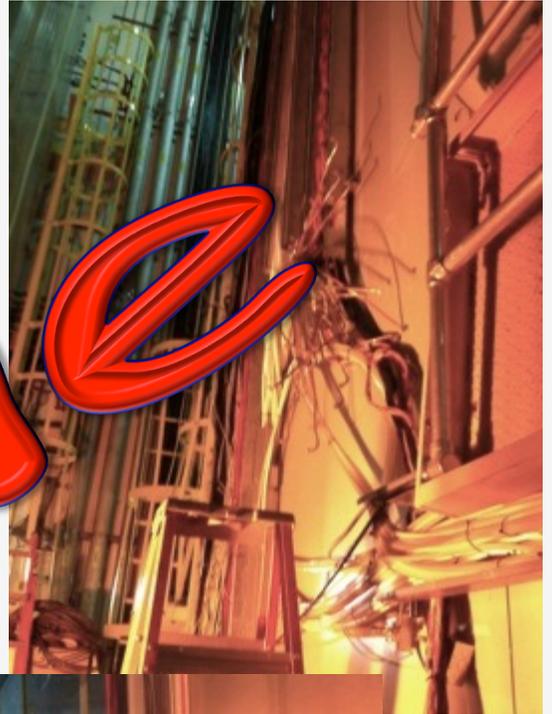
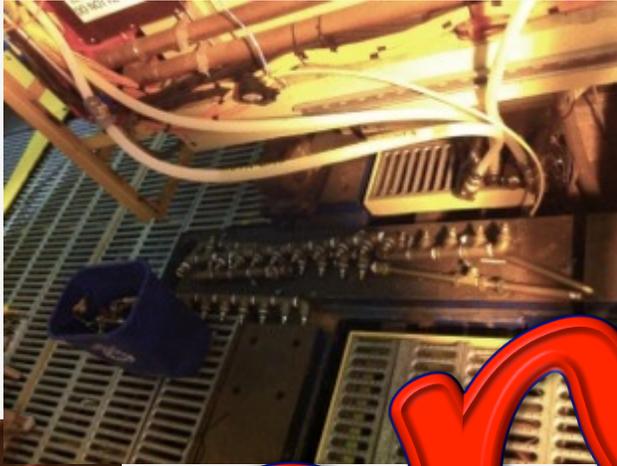
Design and Fabricate Winch & Sheave Base - Done

Install and test Winch, integrate with window washer hardware, controls and power

Final Inspection and approval of window washer upgrade

(Note: remote safety pin insertion and retraction was installed and has been in operation since the start of run 13.)





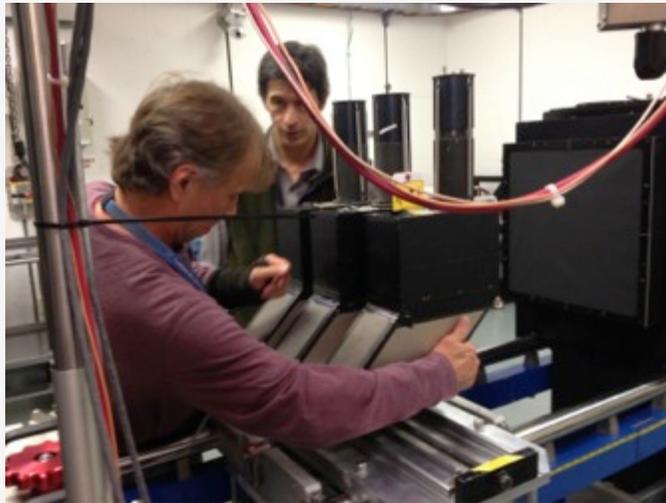
MuTr Gas Distribution Upgrade



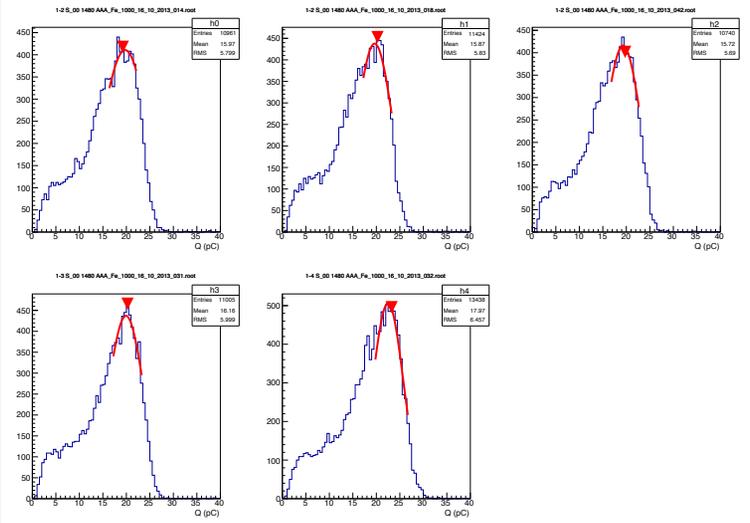
Replace VTX supply tubing with stainless steel  
as much as possible - **in progress**

Additional Shutdown Work

- ZDC Remove, Test, Recalibrate



Test is done ZDC's returned to south tunnel (and re-installed?)



PHENIX ZDC

## 2013 Shutdown Schedule

PHENIX  
 LABORATORY  
 NORTH

|  |                 |
|--|-----------------|
| Prep for 2013 shutdown   | Done            |
| Design, Fabricate MPC-Ex   |                 |
| Define tasks and goals   |                 |
| Analysis and design of fixtures, tools and procedures                  |                 |
| Fabricate/procure tools and fixtures                                   |                 |
| Tests, mockups, prototypes   |                 |
| Receive, fabricate, modify, finish installables                        |                 |
| Review and approval of parts, tools, fixtures and procedures           |                 |
| Assembly and QA tests  |                 |
| VTX Strippixel redesign  | Done            |
| VTX Strippixel 1 <sup>st</sup> article stave assembly                  | Done            |
| VTX Strippixel 1 <sup>st</sup> article qualification/performance tests | Done            |
| VTX Strippixel sensor reclamation                                      | Done            |
| Run 12 Ends  | Done            |
| Shutdown Standard Tasks  | Done            |
| • <del>Open wall, disassemble wall, Remove MuID Collars</del>          |                 |
| • Move EC to AH, etc.  |                 |
| VTX/FVTX Post run tests  | Done            |
| Disassemble VTX/FVTX services  | Done            |
| July 4 <sup>th</sup> Holiday   | Done            |
| Remove VTX/FVTX and transport to Chemistry Lab                         | Done            |
| Remove Lampshade MMS, East Vertical                                    | Done            |
| VTX strippixel stave production  | Done            |
| Pixel Ladder repairs   | Done            |
| VTX Strippixel ladder assembly & Test                                  | 7/15-10/21/2013 |
| Assemble, Test and Install MPC-Ex (Partial, location TBD)              | 7/22-11/15/2013 |

PHENIX  
 PRODUCTION

|  |                  |
|--|------------------|
| MuTR Troubleshooting, maintenance and repairs              | Done             |
| Summer Sunday (8/4) Prep and teardown                      | Done             |
| Summer Sunday (RHIC)                                       | Done             |
| DC West troubleshooting & Repairs                          | Done             |
| DC East Window Upgrade and Related Repairs                 | Done             |
| sPHENIX HCal Prototype Assembly/test                       | 8/19-12/31/2013  |
| Re-assemble VTX/FVTX halves                                | by 11/1/2013     |
| Test, survey (at Chemistry and IR) and re-install VTX/FVTX | 11/1-11/11/2013  |
| Install & Survey VTX/FVTX in 1008 IR                       | 11/11-11/25/2013 |
| VTX Commissioning  | 11/25-12/31/2013 |
| Other detector maintenance as required                     | As required      |
| Infrastructure maintenance as required                     | As required      |
| Pre-run commissioning and prep for run 14                  | 11/25-12/31/2012 |
| Veterans Day, Lab Holiday                                  | 11/11/2013       |
| Prep for EC roll in  | 11/1-11/22/2013  |
| Roll in EC   | 11/25-11/27/2013 |
| Prep IR for run  | 11/1-11/30/2013  |
| Thanksgiving Holidays                                      | 11/28-29/2013    |
| Pink/Blue/White sheets                                     | 12/14-12/31/2013 |
| DC West wire repairs                                       | 12/15-12/30/2013 |
| Christmas Holiday  | 12/24-25/2013    |
| New Year's Day Holiday                                     | 1/1/2014         |
| Start run 14   | 1/2/2014         |

## Safety and Security

From Ray Karol:

1. Recently we found spry cans in a dumpster. This is not allowed as a disposal method. Please make sure you give you spray cans to Bill Needrith, the C-AD Environmental Coordinator for proper, compliant disposal.



In addition you should never bring hazardous items from home to dispose at work, e.g., an old car radiator. This was also recently found but it was dry of all antifreeze.

2. You always need to wear a hard hat when cranes are in use where you are. If you don't have a hard hat, stop work and get one to work in the area. Pay close attention to the postings for hard hat use. Recently experimenters and staff were noted as working under an operating crane with no intention of getting a hard hat. This is not acceptable.
3. Remember that eating and drinking or smoking is not allowed in posted Radiation Areas. Recently a complaint was given that some workers were drinking coffee and eating food and smoking in B912. The garbage is there to see. This is unacceptable. Please keep yourself out of trouble and pay attention to these simple rules.

From John Maraviglia:

1. ODH-1 Training Practical Wed. 11/13, Wed. 12/4, Fri 12/6

Attend one of these from 11:15-Noon if you need to access tunnel during run 14

From John Maraviglia (cont'd):

2. From John Maraviglia:

If you currently have unescorted access to the RHIC tunnel (all with TLD badges) then you need to attend a short training session on the newly installed Vacuum Oxygen Deficiency Hazard (VODH) safety system. This short training session is important to your safety and to those you may escort into the area. The new detection method and helium isolation system will be discussed, which is enabling us to return the hazard classification to ODH Class 0.

Please attend any session:

All sessions are 11:15 AM - 12 noon, Bldg 911 Snyder Seminar Room

November 12  
November 19  
November 21  
December 5

(A reminder will be sent as the first date approaches.)

From Bob McKay (forwarded from BNL Police):

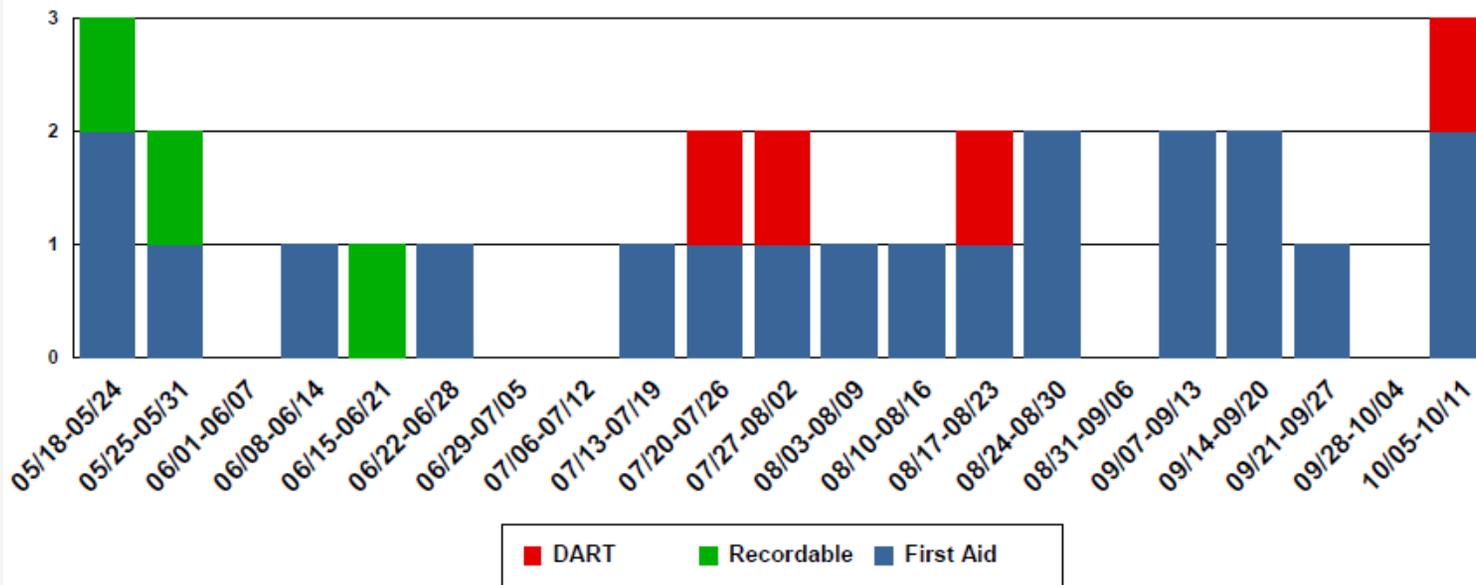
The southwest door on the trailer building was unlocked at 8:39 PM on 10/15/13 (Tuesday).

## Tier 1 inspection last week

- improperly stored ladders (several)
- drill press requires machine guard
- hydraulic hoses at base of chiller mezzanine untidy (trip hazard)
- edge mark steps from tech area to Rack room
- Tech Ass'y room multi-conductor wire hanging from tray with un-terminated wires
- Chemical locker blocks access to fire extinguisher

*All Items have been addressed*

Injuries Per Week  
As of 10/11/2013



**Injury Status:**

FY14 YTD: DART – 1, TRC – 1, First Aid – 2

FY13: DART – 14, TRC – 36, First Aid – 53

FY12: DART – 19, TRC – 38, First Aid – 69

FY13 Injury Listing: <https://intranet.bnl.gov/esh/shsd/seg/Occlnj/BNLInjuries.aspx>

| Recent Injuries |           |   |
|-----------------|-----------|---|
| 10/9/13         | DART      | An employee was injured using hand tools. Surgery was required to repair damage to his hand. He is currently losing time.   |
| 10/9/13         | First Aid | An employee was stung by a yellow jacket on his right hand. At the OMC, first aid was given.  |
| 10/7/13         | First Aid | An employee reported to the OMC with dust in an eye. Unable to remove the foreign body by flushing, the OMC referred him to an ophthalmologist. The latter was able to remove it using a cotton swab. |

| Recent Events |                |  |
|---------------|----------------|--|
| 10/7/13       | Non-Reportable | While using a crane in the EEBA portion of Building 912 (AGS Experimental Building) to decommission old beam lines from the High Energy Physics program, a small portion of a crane bolt fell about 35 feet from the crane structure. The trolley was being moved at the time and there was no load on the crane hook. The failed part was a small portion of the 1-inch bolt beyond the nut, a washer and the nut itself. Visual inspection so far has not found the bolt location experiencing the failure. The failed bolt weighs only a few ounces. The crane has been placed out of service and inspection of the crane will begin tomorrow to determine from where the bolt piece came. There were no injuries and no worker was impacted by the falling failed bolt piece. All personnel in the area had hard hats on as required when cranes are in operation. Delay in the beam line decommissioning work has no impact on the Collider-Accelerator Department (C-AD) experimental program or mission. ( <a href="#">Event Link</a> ) |
| 10/1/13       | SC-BNL         | A guest researcher performed an experiment on a rat without appropriate protocol in place. ( <a href="#">Event Link</a> )  |

| Recent Events |                |   |
|---------------|----------------|---|
| 10/3/13       | Non-Reportable | An unexpected event occurred with the ATF, Building 820. ATF Linac operations were ongoing throughout the day, with electron beam delivered intermittently to the Experimental Hall (EH). After the beamline safety shutter was closed for routine entry, an ATF staff member entered the EH and noticed that the two (2) red strobe lights were flashing. He immediately contacted the Linac Operator and noticed that the strobes turned off. The strobe lights are used for an indication of beam imminent. There is no indication that beam was delivered to the EH while personnel were present. The beam shutter indicator was "closed" and the local "chipmunk" was not in an elevated dose rate state. The Linac modulators were turned off and secured by LOTO. Investigation is underway to determine the cause of this safe failure. Two attempts to reproduce the flashing light anomaly were unsuccessful. No work was in progress when the event occurred. C-AD will prepare an internal critique of this safe failure when the investigation is finished. ( <a href="#">Event Link</a> ) |
| 10/3/13       | Non-Reportable | A driver for Roads & Masons damaged a roll-up door at Building 339 when the top of the dump truck struck it. The driver, with the assistance from a back-up person, had just parked the freightliner FL60 in Building 339 and partially closed the roll-up door. The driver subsequently needed to re-position the dump truck to access materials in the building. Upon pulling forward, the raised edge of the body behind the cab struck the roll-up door, causing damage. At present, the roll-up door is not operational. There were no injuries to the driver or anyone else. ( <a href="#">Event Link</a> )   |
| 9/30/13       | SC-BNL         | Brookhaven Computer Facility (BCF - Linux Farm room) took delivery of several computer racks for the RHIC Program. In the afternoon, two staff members were setting up the raised floor tiles to enable electrical power to the racks. This is standard procedure and is part of the work plan for the installation of new computer racks. The task requires the temporary removal of floor tiles to adjust the electrical connectors. In the process of aligning the rack with the hole in the floor tile through which the power cables run, the rack wheels fell into the open space, leading the rack to tip over and fall on its front face. The two staff members were the only ones in the room and were at the back side as the rack fell forward. No one was injured or struck. There was no damage to the surrounding infrastructure, and it is not known yet what damage, if any, was received by the computer. ( <a href="#">Event Link</a> )   |

# Where To Find PHENIX Engineering Info

## October 17, This Day in History

- 539 BC - King Cyrus The Great of Persia marches into the city of Babylon, releasing the Jews from almost 70 years of exile
- 1777 - British General John Burgoyne surrenders at Saratoga NY
- 1781 - Cornwallis defeated at Yorktown
- 1814 - London Beer Flood occurs in London killing nine.
- 1888 - Thomas Edison files a patent for the Optical Phonograph (the first movie).
- 1907 - Marconi's company begins the first commercial transatlantic wireless service between Canada and Ireland.
- 1920 - Chicago Bears play 1st NFL game, win 7-0
- 1931 - Al Capone convicted of tax evasion, sentenced to 11 years in prison
- 1933 - Albert Einstein arrives in US, a refugee from Nazi Germany
- 1964 - Yanks fire Manager Yogi Berra
- 1972 - Chuck Berry's "My Ding-a-ling," is #1
- 1978 - NY Islanders start a streak of 23 undefeated games at home (15-0-8)
- 1979 - Mother Teresa of India, awarded Nobel Peace Prize
- 1986 - US Senate approved immigration bill prohibiting hiring of illegal aliens & amnesty to illegals prior to 1982
- 2006 - The United States population reaches 300 million

[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)

