

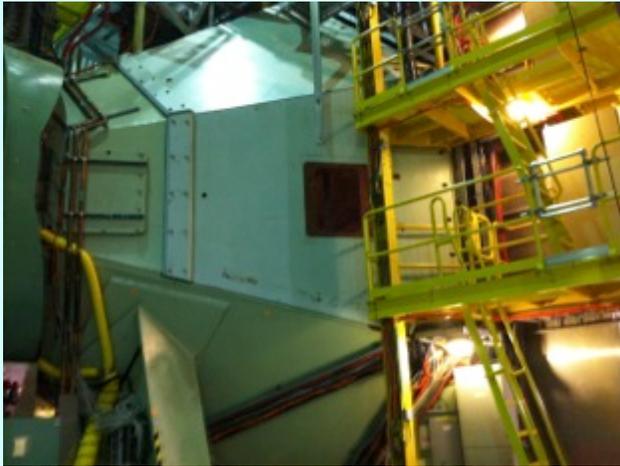
PHENIX WEEKLY PLANNING



7/18/2013
Don Lynch

This Week

- MMS Scaffolding Assembly - **Completed**
- **Begin MMN scaffolding**
- Work Permits for DC East & West and Window Washer Winch- **Done**
- **Remove MMN Hatch - Done**
- Continue building VTX strip-pixel staves
- Continue sPHENIX support
 - Get spot in Hi Bay in PHYSICS
 - Locate and evaluate lift table
 - HCal prototype
 - EMCal prototype design continuing
- MPC-Ex design for run 14 continues
- Future IR evolution modeling



Next Week

- Continue MMN Scaffolding
- Continue VTX Repairs/Upgrade
- Continue building VTX strip-pixel staves
- MPC-Ex installation prep
- DC East repairs prep
- Continue sPHENIX support
 - HCal prototype
 - EMCal prototype design continuing
- MPC-Ex design for run 14
- Future IR evolution modeling

Major Projects This Summer:

- VTX repairs/upgrades/general maintenance (Mike L./Kenny J.) Work permit approved
- DC East Window Replacement (John T.) Work permit at CAD for Approval
- MPC-Ex Initial (partial) Installation (Jim L.) Work Permit needed
- mRPC Tests in mRPC Test Lab (formerly RPC Factory) (Frank T.) Procedures Done
- sPHENIX Prototypes assembly & tests (Carter B., Frank T.) (need space allocation and work permit(s))
- MuTr troubleshooting and Repairs (Chris P.) work permits Done
- Window Washer Winch upgrade (Jim L.) Work permit Done

Other Mechanical (TBD)

Other Electrical Projects

- HVAC Controls Upgrade (Frank T.)
- Complete Window Washer Controls Upgrade (Frank T.)

Other Electronics Projects

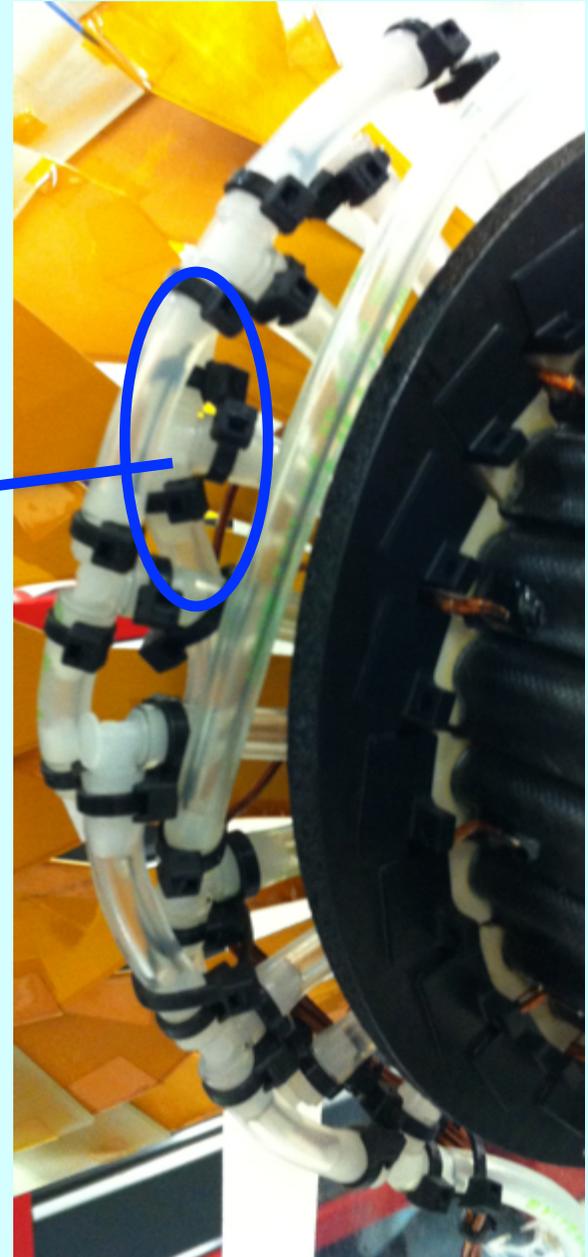
- Additional upgrading of ADAM system to MODBUS (Sal P.)
- Electronics research in support of sPHENIX and MPC-Ex (Sal P.)
- Lecroy HV communications upgrade (Sal P.)

Other Gas System Projects (TBD)

- RPC Gas Recirc. Upgrade (John T.)
- DC Bubbler Work (John T)
- Drawing and Config. Control Improvements (SULI Student)

Other Infrastructure Projects (TBD)

PHENIX 7/18/2013



7/18/2013

VTX & FVTX Summary of Tasks

VTX/FVTX Disassembly - After Start of shutdown tasks are completed (EC out to AH), coolant and N₂ lines, LV, signal and HV cables and fibers will be carefully removed and coolant drained. East and west detector halves will then be de-mounted and transported to Chemistry bldg for maintenance and overhaul. - Done

At Chemistry lab - VTX, bigwheels and FVTX will be disassembled and all 4 FVTX stations will be transported to the FVTX PHYSICS Lab. - Done

At PHYSICS FVTX lab -FVTX stations will be tested, faults will be isolated, repaired and re-tested.

Concurrently at Chemistry lab -VTX will be disassembled into individual barrels and bigwheels, new /reworked pixel staves will be installed, improved strip-pixel staves will be fabricated assembled and integrated with active components harvested from staves to be replaced, tested and reinstalled in their respective barrels. The VTX will then be re-assembled tested and re-surveyed.

FVTX transported to Chemistry building. FVTX Integrated into VTX. VTX/FVTX assembly surveyed

VTX&FVTX assembly transported to PHENIX and installed on rails.

Coolant and N₂ lines, LV, signal and HV cables and fibers will be carefully reattached.

Full detector re-surveyed in IR

DC East & West Repairs/Upgrade



From VLAD

- East will not require moving DC onto extensions.
- Need 2 manlifts
- Needs fall protection training after 8/25 (special session?)

Hutter Tent structure located in boneyard.

Assembly of Hutter tent structure described in detail in WP 2004-08.

DC East Repairs Summary of Tasks

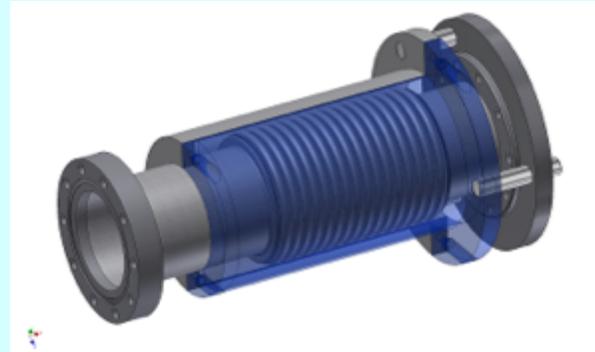
- East Carriage move to AH - Done
- Work Permit needed - in progress
- Design & Construct tent (similar to tent constructed for DC West last year) to prevent foreign material from entering DC East cavity while window is removed.
- CAD to provide 2 vertical manlifts to allow DC experts to remove and replace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

MPC-Ex Initial (Partial) Installation

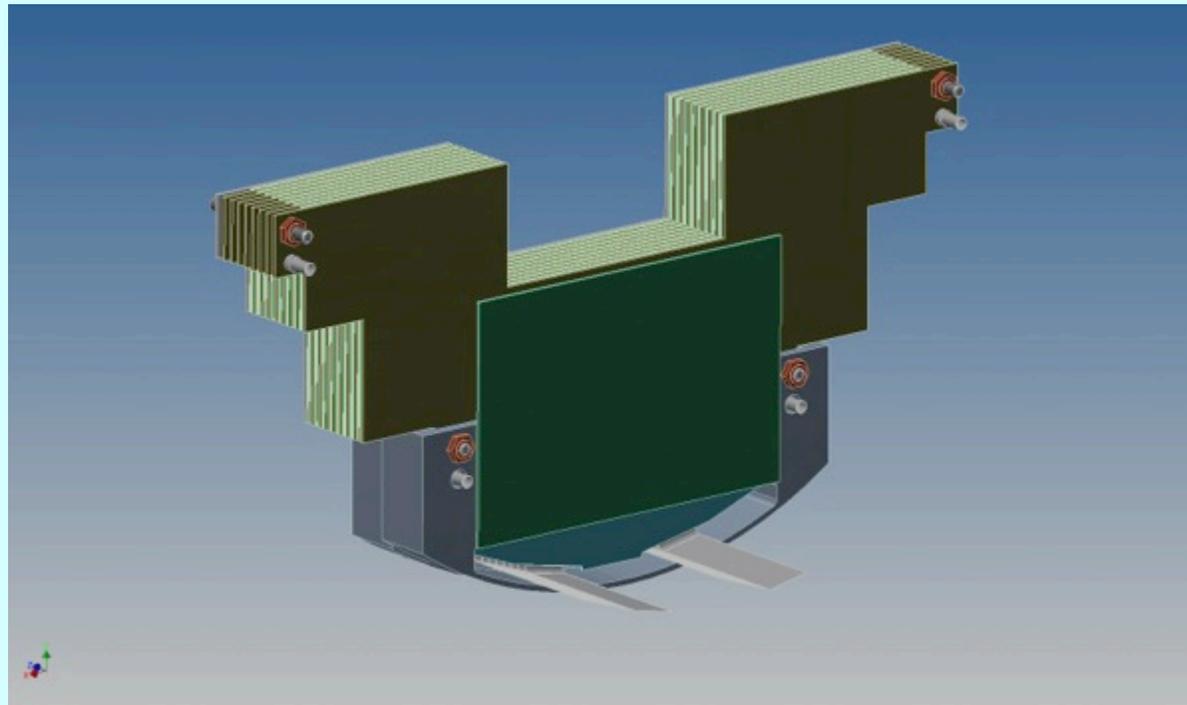
PHENIX
 PRODUCTION
 NO. 1



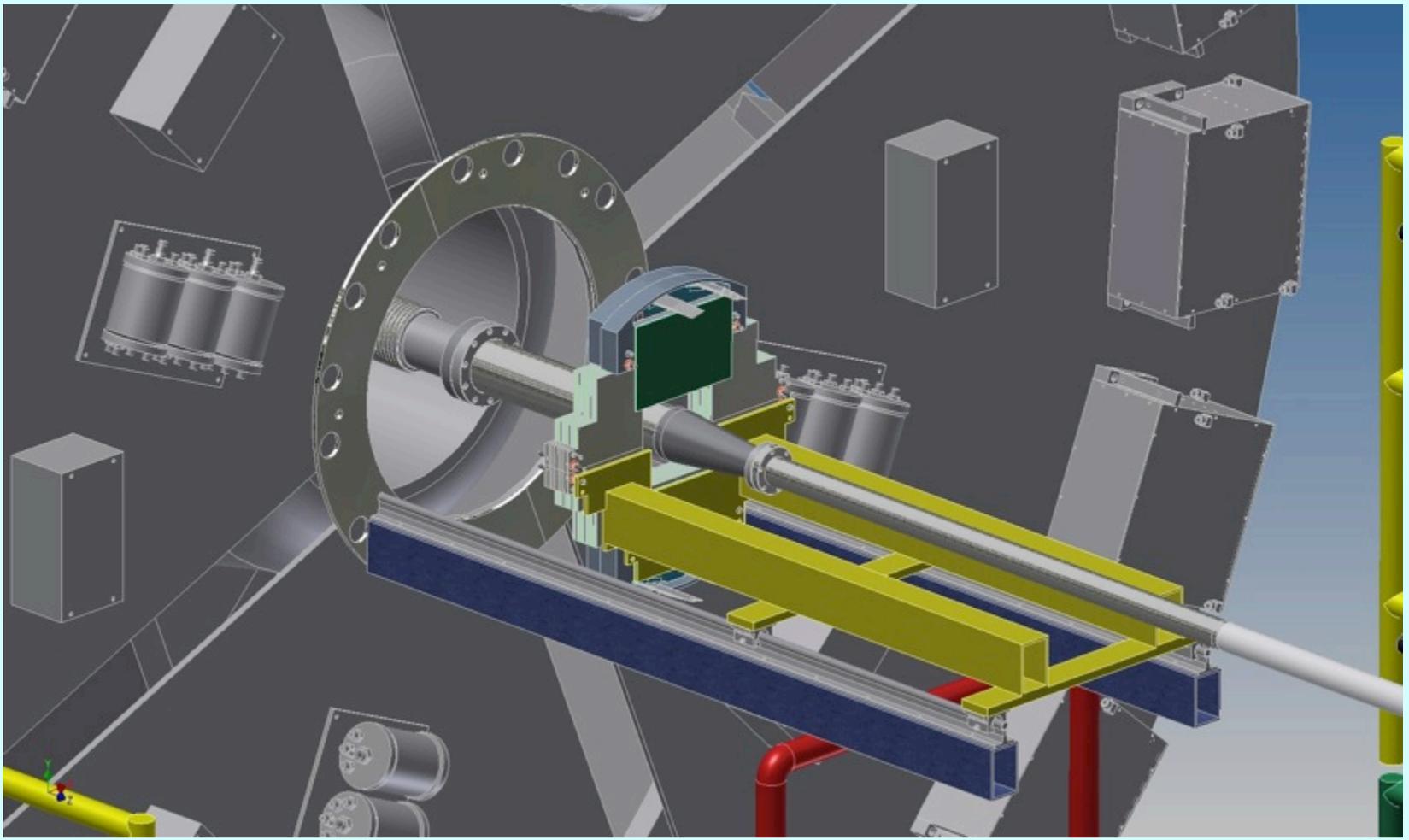
Existing vacuum bellows anti-squirm In MPC S Cavity



Design vacuum bellows anti-squirm in MPC S Cavity to accommodate MPC-Ex. Meet with Mike Mapes to get CAD approval for the new anti-squirm



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MPC-Ex Initial/Partial Installation Summary of Tasks

PHENIX
 PROJECT
 SUPPORT
 TEAM

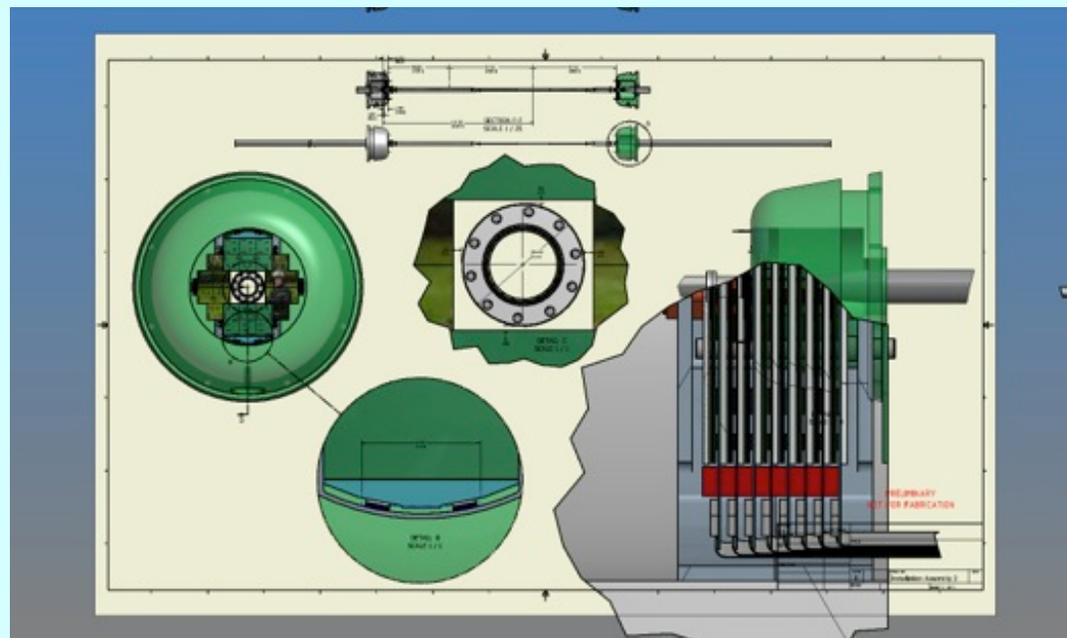
Determine extent of installation for 2013 - Done:
 For Run-14 the goal will be to install four mechanically complete layers of the MPC-EX, both top and bottom halves (8 tungsten plates) in the south muon magnet piston. Four layers will have carrier boards, and those carrier boards will be partially populated so that we have partial coverage in azimuth with full coverage in depth. *Installation Schedule 11/1-11/15*

Design assembly, support and installation fixtures

Assemble and bench test

Install

Performance tests



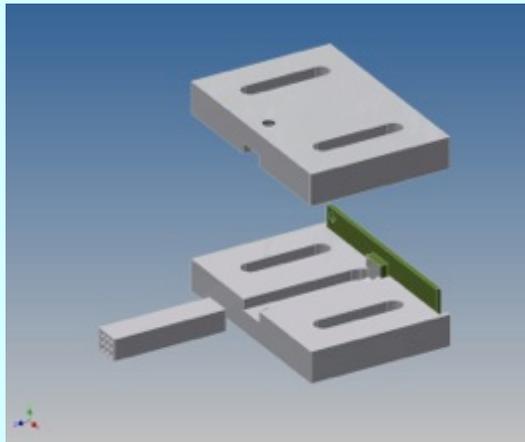
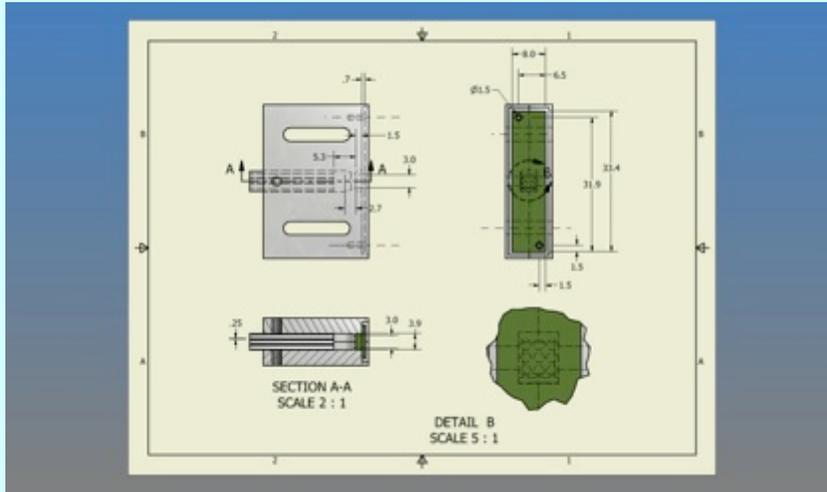
mRPC Test Lab Project

PHENIX PRODUCTION



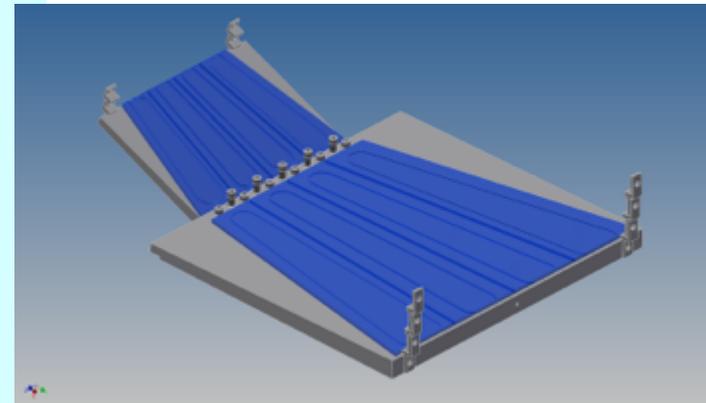
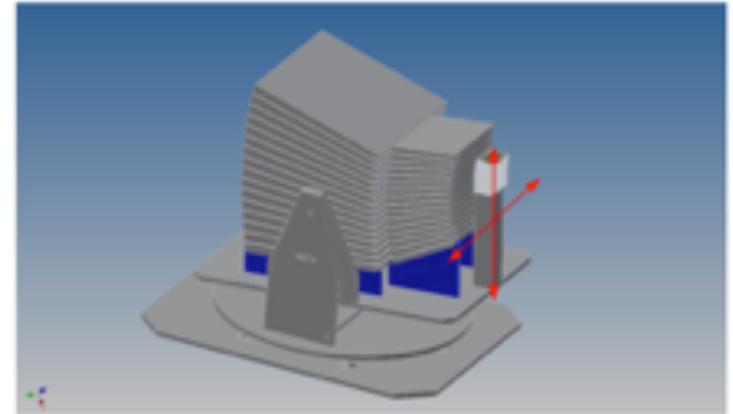
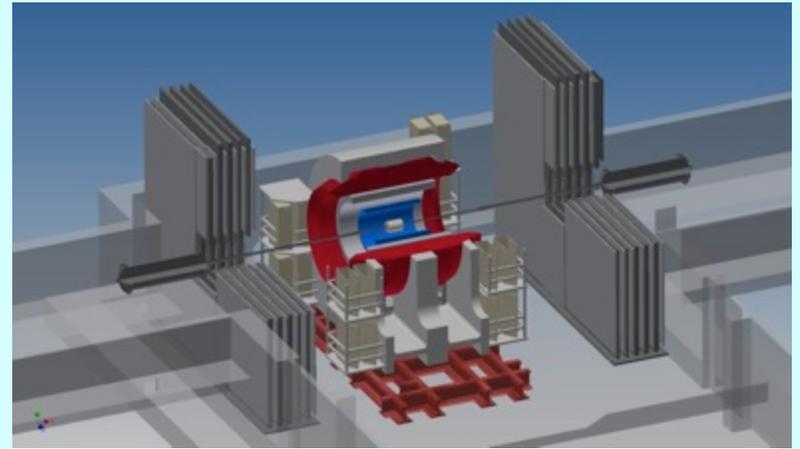
mRPC Test Lab Support
as required



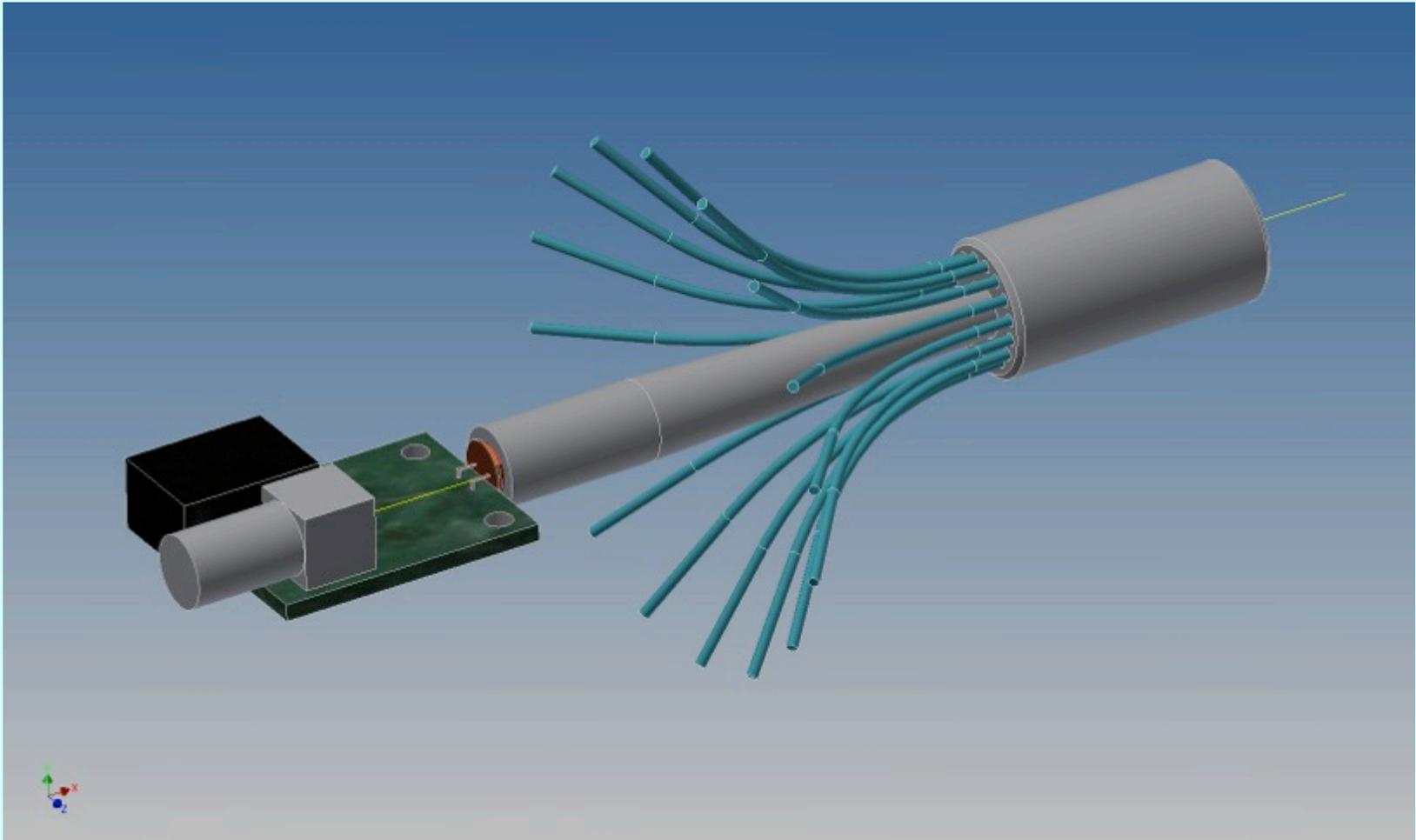


Hcal prototype component procurement is underway:

Steel and scintillator procurements in progress



PHENIX 7-STRAND FIBER OPTIC CABLE



WON FRONT DOOR LUCKY HITCH



7/18/2013

sPHENIX Prototype Assembly and Test Tasks

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

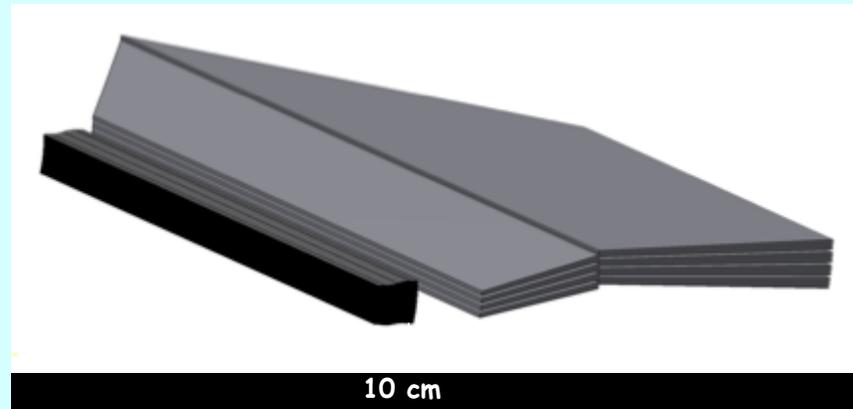
Test and Evaluate at Fermi Lab

EMCal Prototype

Prototype accordion plates with fibers produced as part of SBIR. EMCal for test beam will be flat tapered plates



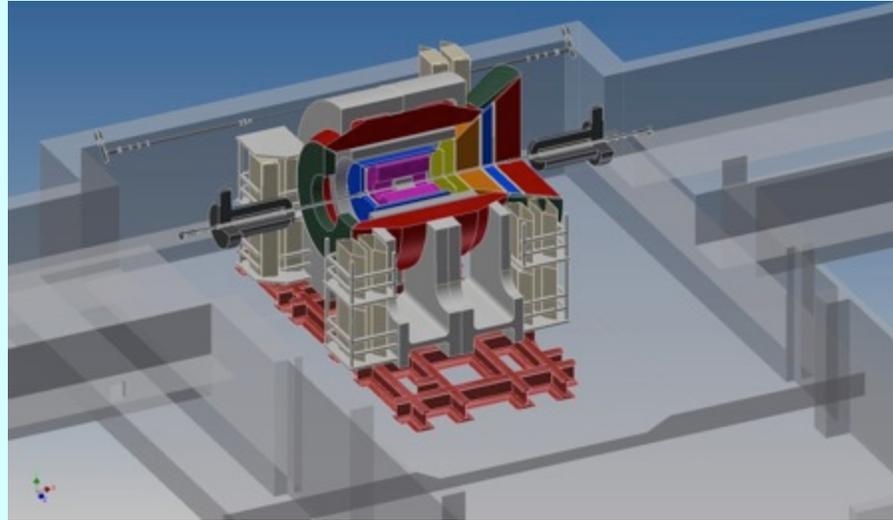
Prototype "Egg Carton" light collection



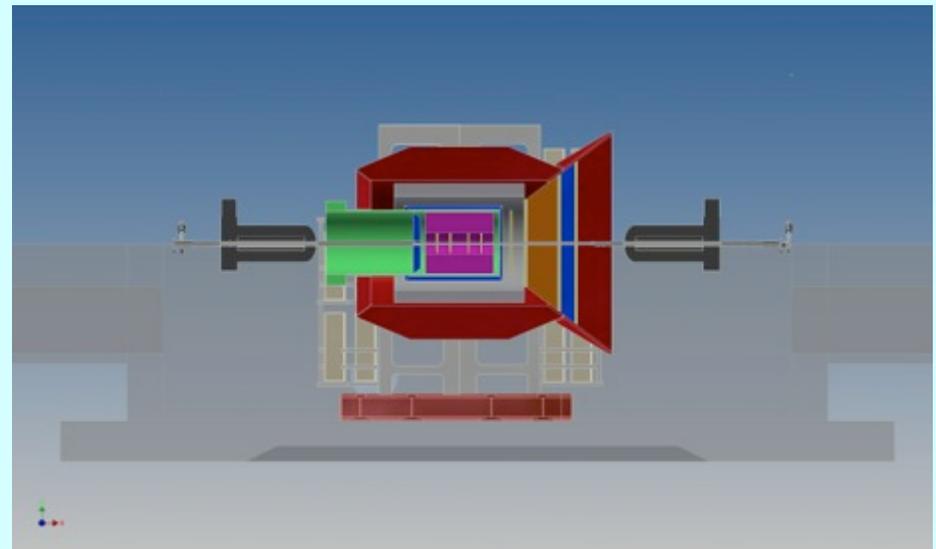
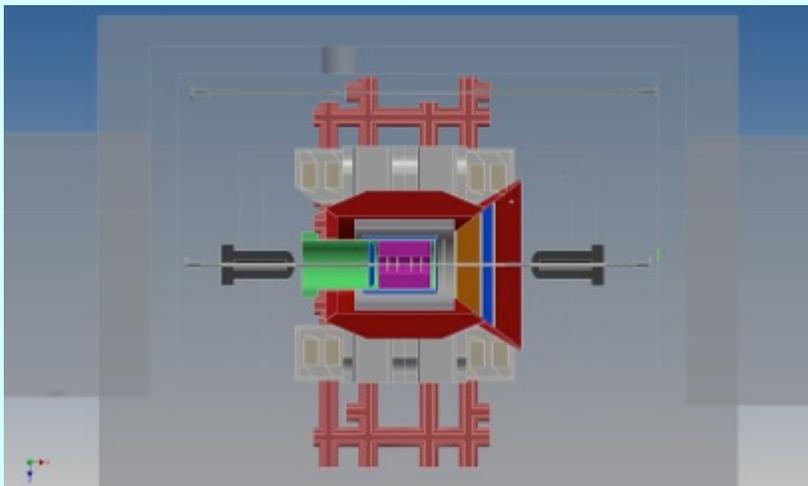
Proto-type EMCal in front of proto-type HCal

(Photos from Eric slides, from Craig and Sean slides)

ePHENIX



Plan View

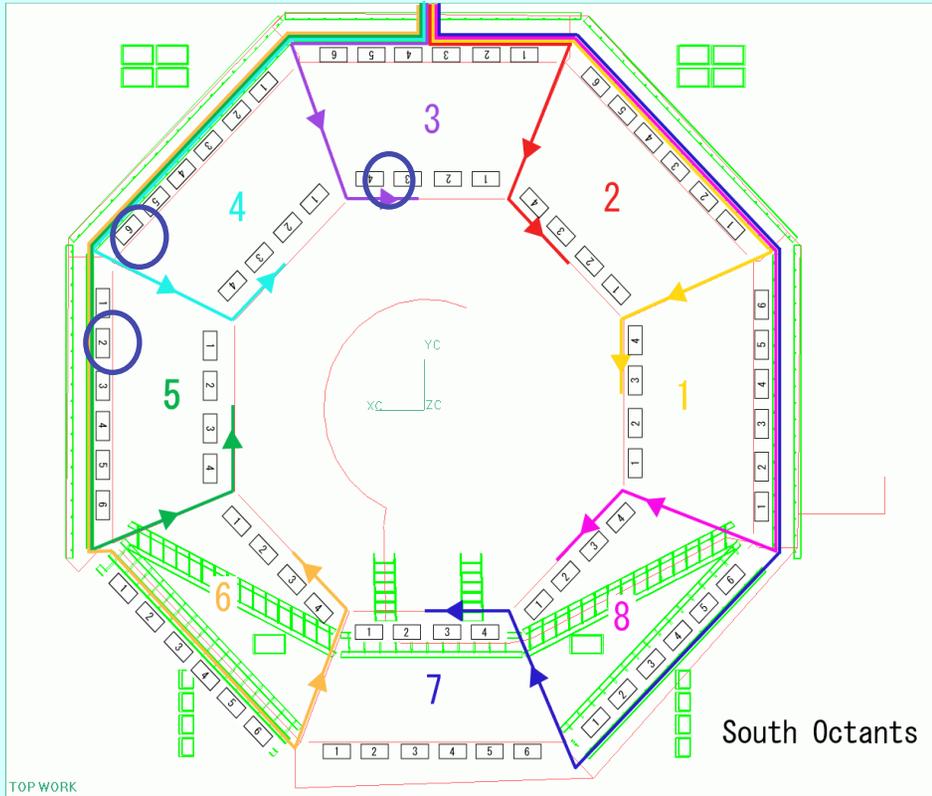


Elevation View

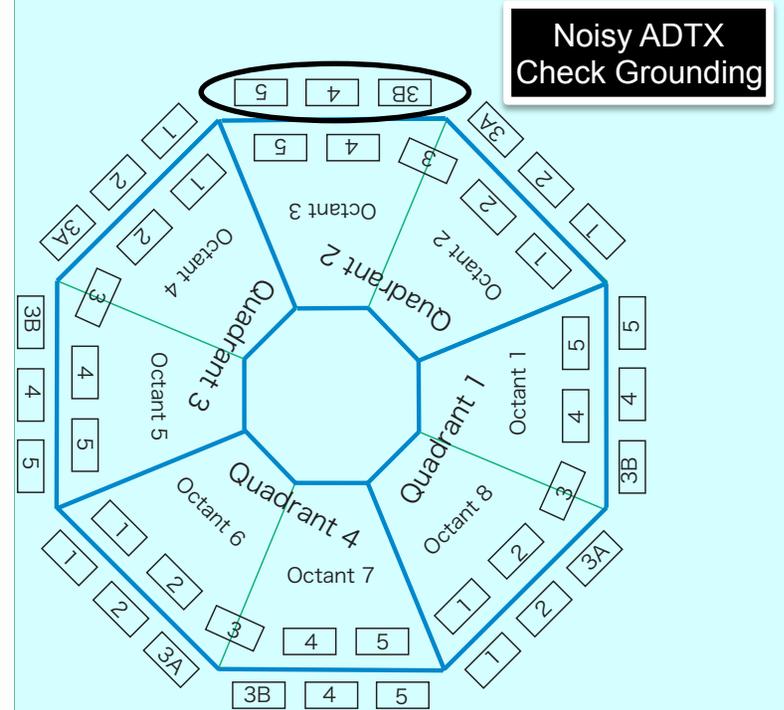
MuTr South Arm Areas to be accessed

PHENIX SOUTH ARM

Station-2,3

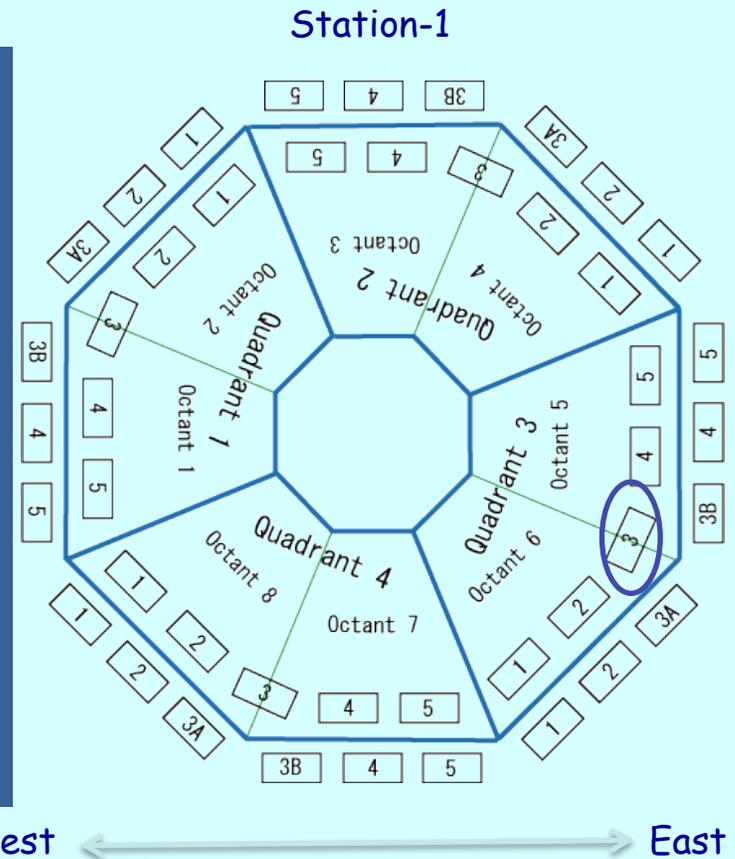
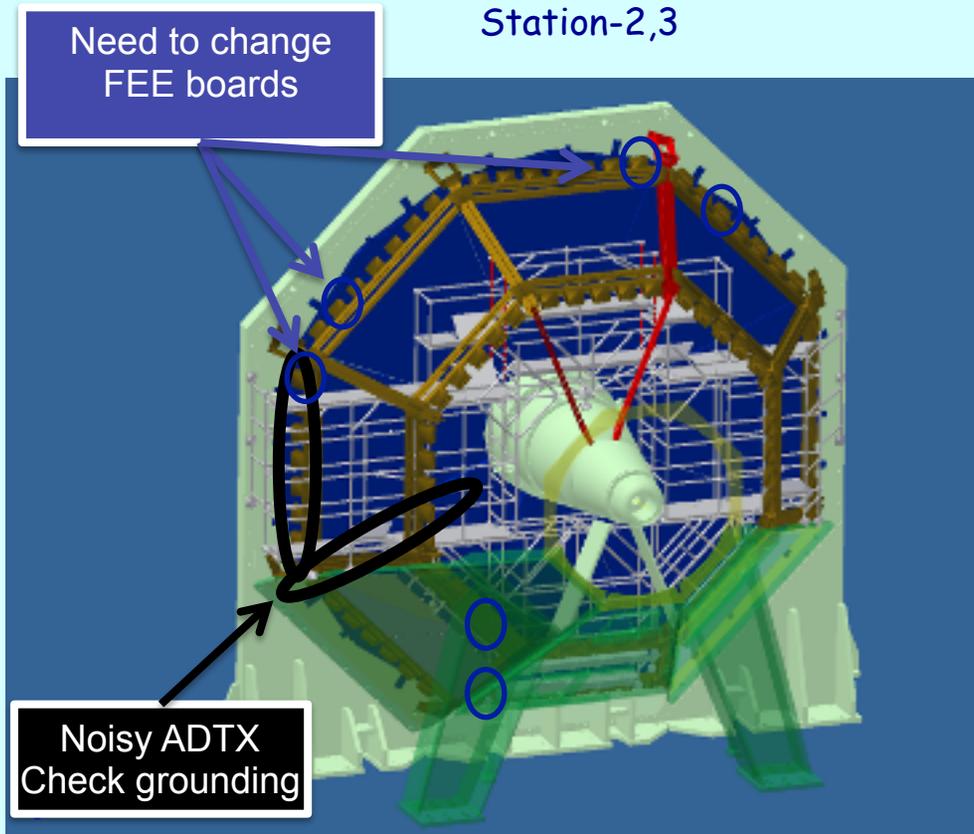


South Station-1 Chassis

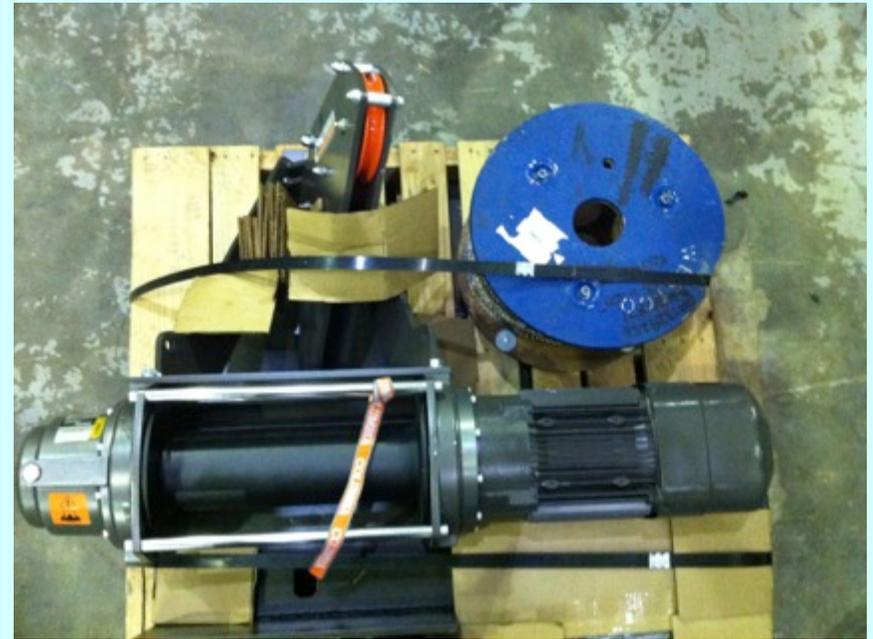
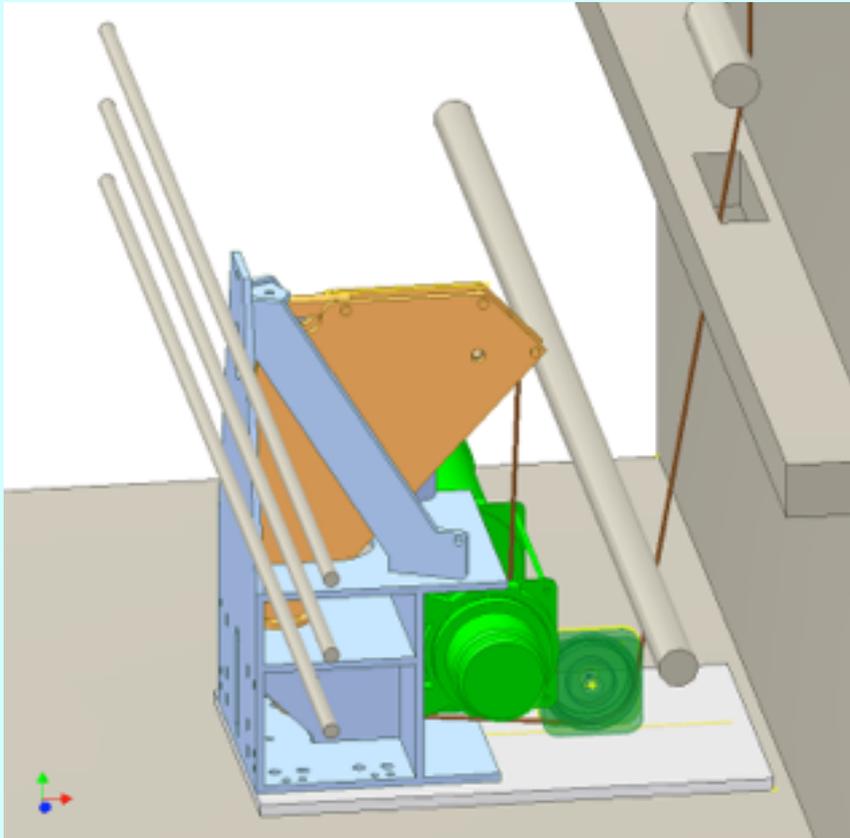


MuTr North Arm Areas to be accessed

PHENIX NORTH ARM



Window Washer Winch Upgrade



Winch Received

Window Washer Winch Upgrade Summary of Tasks

Specify and Order Winch & Sheave - Done

Receive and Inspect winch and components - Received Yesterday

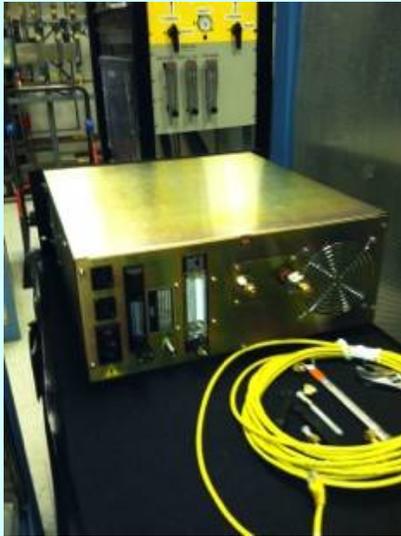
Design and Fabricate Winch & Sheave Base

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

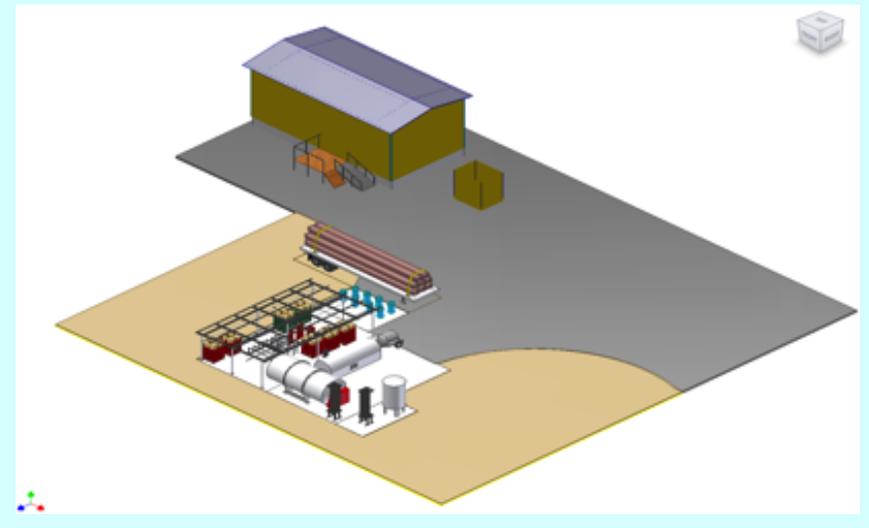
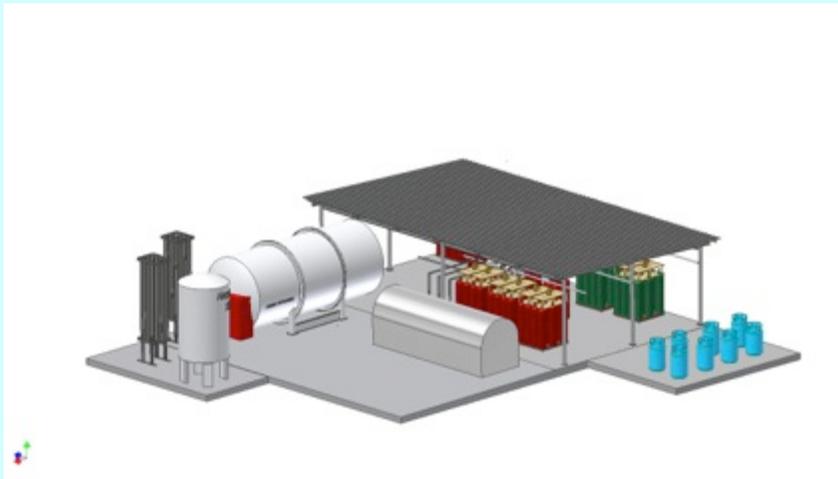
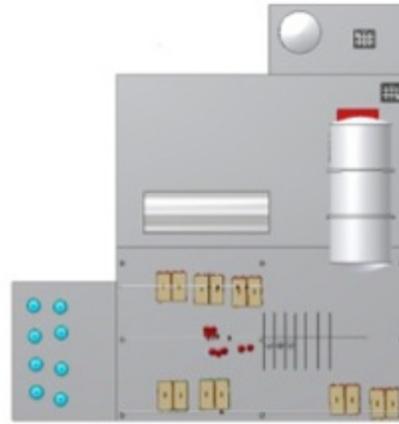
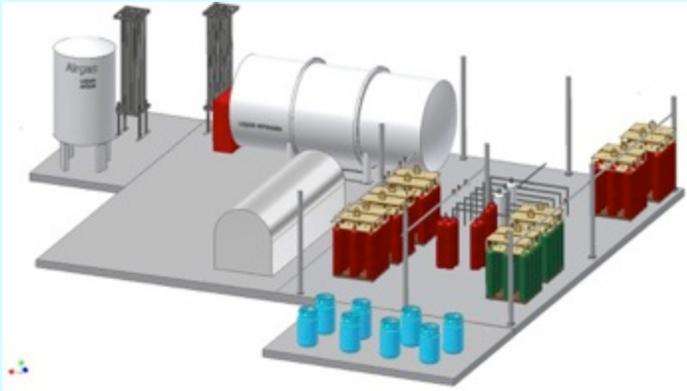
Final Inspection and approval of window washer upgrade

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

Work Permit at CAD for Approval



New Gas Analyzer Project (RPC recirculation and more)



Gas System CM and Model Updates

Alcohol Chiller Work For Shutdown 2013



Merlin Chiller

➤Chiller supplied about ½ the flow as in the past.

- Pressure on chiller says ~70-80psi
- Install gauge on supply line and measure actual output pressure.
- Replace chiller with spare if needed.
- Send old chiller out for maintenance or replace.

Re-Insulate Glycol lines



❖Remove old polyethylene insulation and wrap and replace with foam rubber insulation.

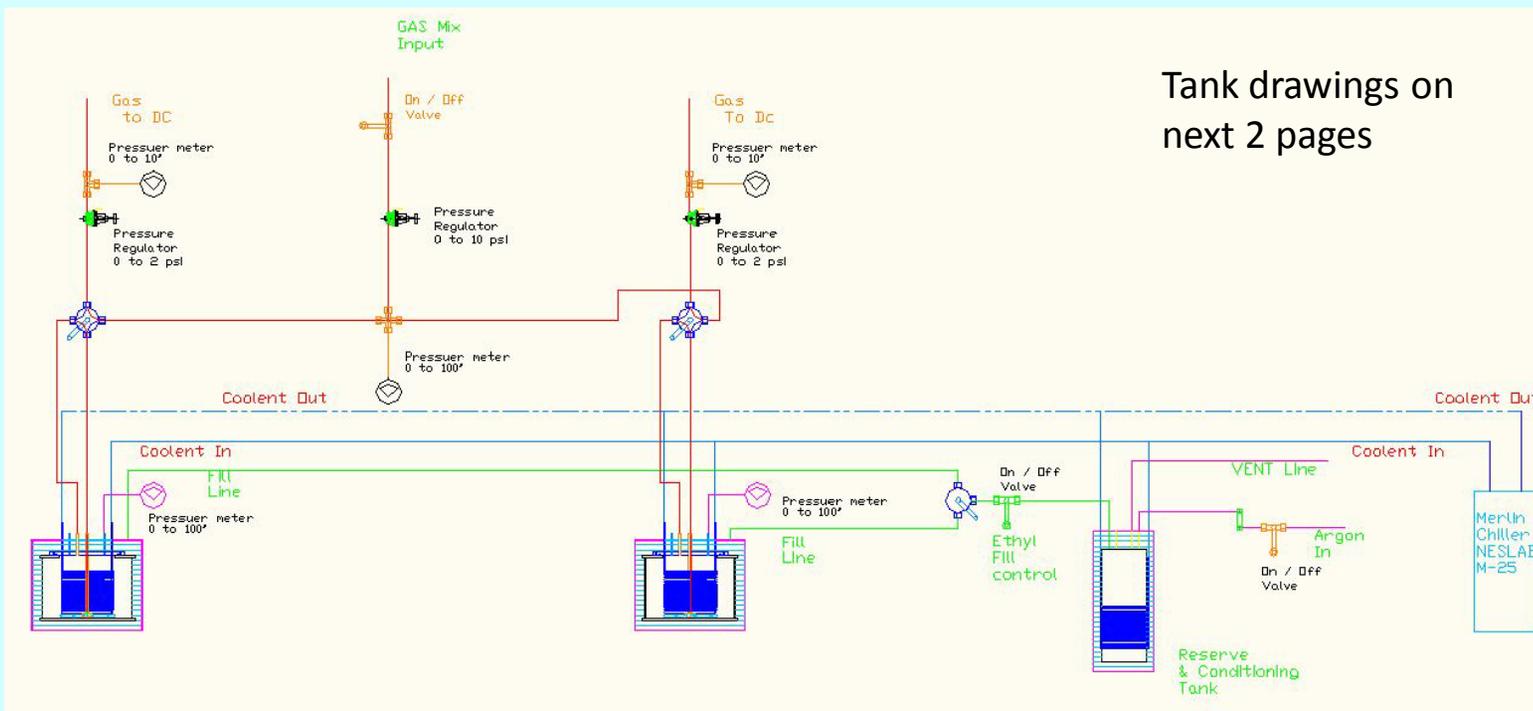
- Temp of fluid is affected too much by temp change in the gas house.
- Lines are condensing and dripping because of gaps in insulation.

Locate and fix Glycol Leak.

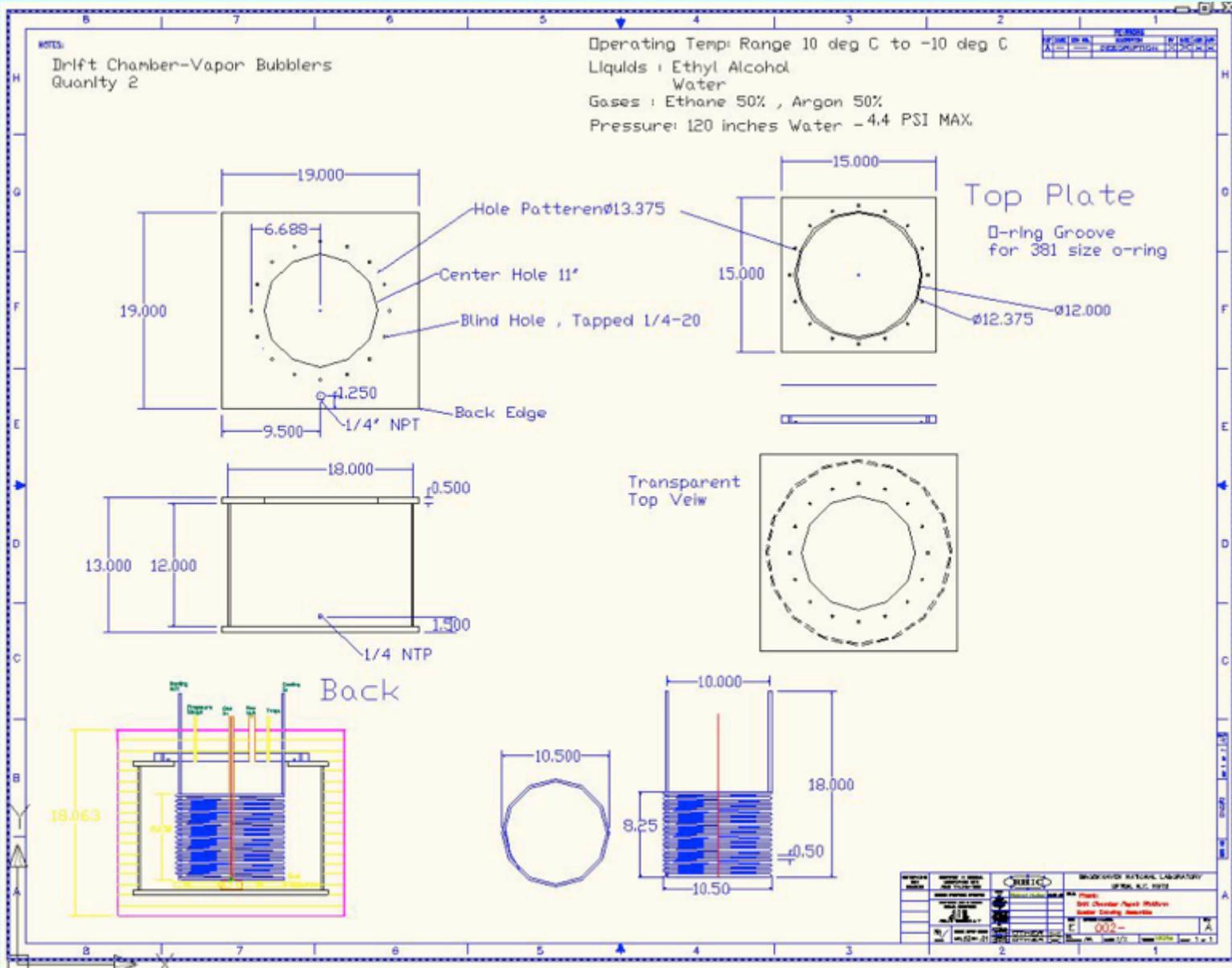


- Replace all three flow meters (compatible with Propylene Glycol)
 - switch to Visi-Float (VFA) for better compatibility
- Redo connections (replace fittings) behind flow meters
 - Re-insulate all cold lines with foam rubber insulation.

Go over Alcohol fill procedure to locate source of argon pressure drop.



Tank drawings on next 2 pages



Drift Chamber-Vapor Bubblers - Cooling Coils
 Quantity 2
 Operating Temp: Range 10 deg C to -10 deg C
 Immersion Liquids : Ethyl Alcohol or Water
 Gases : Ethane 50% , Argon 50%
 Exterior Pressure: 120 inches Water - 4.4 PSI MAX.

Chiller - NESLAB -Merlin Series M-25
 Cooling Fluid- Propylene Glycol / Water

Bubbler Unit coil is to be used in Container 304 Stainless steel

Cooling Coil

Request For Quotes- Qty. 3 coils
 Tubing 1/4" dia.
 1: 304 ss 0.035 Wall
 2: Copper Alloy 122 0.030 wall

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 Relativistic Heavy Ion Group
 Department of Physics/Astronomy
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 E-mail - hutter@skipper.physics.sunysb.edu

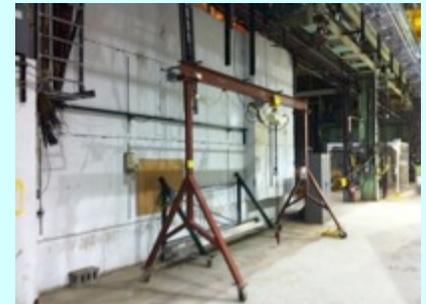
DATE	DESCRIPTION	BY
07/18/13	REVISED	RWH
07/18/13	ISSUED	RWH

Additional Shutdown Work

- ZDC Remove, Test, Recalibrate



- RPC Factory Decommissioning



PHENIX FRONT-ON

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 st article stave assembly	Done
VTX Strippixel 1 st article qualification/performance tests	Done
VTX strippixel stave production	5/20-9/20/2013
VTX Strippixel sensor reclamation	4/1-8/20/2013
VTX Strippixel ladder assembly & Test	7/15-9/27/2013
Pixel Ladder repairs	4/1-9/20/2013
Run 12 Ends	Done
Shutdown Standard Tasks	Done
• Open wall, disassemble wall, Remove MuID Collars	
• Move EC to AH, etc.	
VTX/FVTX Post run tests	Done
Disassemble VTX/FVTX services	Done
July 4 th Holiday	Done
Remove VTX/FVTX and transport to Chemistry Lab	Done
Remove Lampshade MMS, East Vertical	Done
Assemble, Test and Install MPC-Ex (Partial, location TBD)	7/22-10/1/2013

PHENIX
 PRODUCTION

MuTR Troubleshooting, maintenance and repairs	7/22-9/27/2013
Summer Sunday (8/4) Prep and teardown	7/29-8/6/2013
Summer Sunday (RHIC)	8/4/2013
DC East Window Upgrade and Related Repairs	8/10-9/27/2013
sPHENIX HCal Prototype Assembly/test	8/19-10/15/2013
Labor Day Holiday	9/2/2013
Re-assemble VTX/FVTX halves	8/19-10/14/2013
Test, survey (at Chemistry and IR) and re-install VTX/FVTX	10/14-10/21/2013
Install & Survey VTX/FVTX in 1008 IR	10/21-11/18/2013
VTX Commissioning	11/18-12/9/2013
Other detector maintenance as required	As required
Infrastructure maintenance as required	As required
TBD prototype tasks	As required
Pre-run commissioning and prep for run 14	11/1-12/31/2012
Veterans Day, Lab Holiday	11/11/2013
Prep for EC roll in	11/1-11/9/2013
Roll in EC	11/10-11/12/2013
Prep IR for run	11/1-11/30/2013
Thanksgiving Holidays	11/28-29/2013
Pink/Blue/White sheets	12/14-12/31/2013
Christmas Holiday	12/24-25/2013
New Year's Day Holiday	1/1/2014
Start run 14	1/2/2014

From Ray Karol:

IMPORTANT: DOE Fire Protection Program Review:

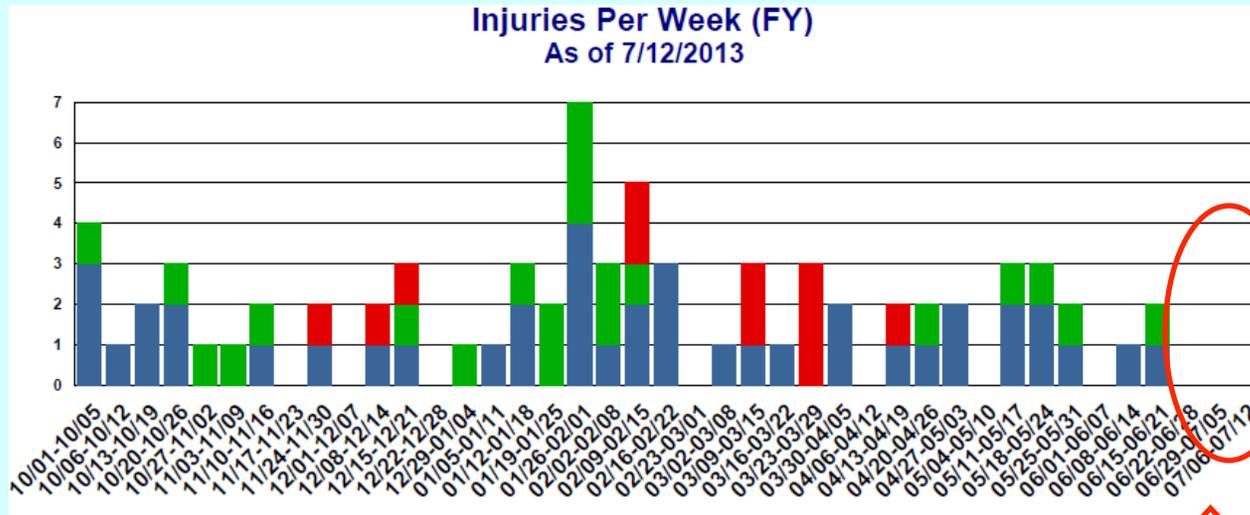
DOE will be onsite to conduct their triennial review of the Fire Protection Program during the **weeks of July 29 and August 5.**

During this time, as a part of their assessment, they will be surveying a sampling of buildings to assess the condition of fire protection and life safety systems.

In preparation for the visit **Managers, Group Leaders, Technical Supervisors, Research Space Managers and all staff must all review our spaces to make sure that all:**

- Egress paths are free and clear of obstacles (such as furniture, carts and cylinders not in use)
- Fire doors are not chocked in an open position to prevent them from closing
- Fire loading is minimized by removing combustible materials from all areas. (for example cardboard, waste paper, etc.)
- Gas cylinders are properly segregated by type (for example oxidizers, toxics, flammables)
- Fire extinguishers are unobstructed
- Flammable liquids not in use are stored in flammable cabinets.
- Hazardous materials are properly represented in placards
- Butt stops are cleared of combustible material (such as leaves or pine needles)





Injury Status:

FY13 YTD: DART – 11, TRC – 32, First Aid – 41
 FY12: DART – 17, TRC – 35, First Aid – 70
 FY11: DART – 30, TRC – 44, First Aid – 45



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

Recent Injuries	
	None

No new injuries 3 weeks in a row !
 No new DARTS since April !

Recent Events		
7/12/13	SC-BNL	An experimenter was boiling water in a glass beaker containing a plastic plate inside. They left the lab for about 15 minutes to mentor a student, and the water boiled away. The glass beaker broke and the plastic plate melted, causing smoke and activating a smoke detector. The building was evacuated and fire/rescue responded and requested IH evaluation. There were no contaminants found above detection limits. There was no fire. (Event Link)
7/10/13	Non-Reportable	While performing the inspection of a waste package, 5 needles (2 unsheathed) were found by the Bioscience's Waste Management Rep. in a B490 waste package. The wastes were related to a program which involves injection of radioisotopes in plants for plant imaging studies. Biosciences is currently evaluating ways to prevent the introduction of these problems during the day-to-day use of the waste collection containers. Biosciences is also planning to conduct supplemental training for the students currently working in that lab. (Event Link)
7/10/13	Non-Reportable	Fire/Police responded to <1 gallon spill of private vehicle antifreeze in parking lot by B452. Spill contained and in the process of being cleaned up. No impact to environment. (Event Link)
7/9/13	Non-Reportable	A personal vehicle window was discovered broken while parked in the parking lot. BNL police were notified. It is suspected that area lawn mowing caused the damage. (Event Link)
7/9/13	SC-BNL	A shipment receipt at Building 98 it was discovered to include radiological material. The truck was not placarded according to DOT requirements, and the driver did not have a Commercial Drivers License and hazardous material endorsement as required for this load. PPM segregated the packages and immediately called the Packaging and Transportation Group. The packages were surveyed, and no contamination or violation of exposure limits were found. There was no violation of shipping requirements by BNL, as the shipment was incoming. There was no contamination or radiation exposure, and the package was delivered to the intended recipient. The shipper was contacted and an investigation is underway. (Event Link)
7/9/13	Non-Reportable	Computational Sciences and Modernization Project Office sponsored a joint furniture upgrade for Building 421. The furniture was purchased from an outside vendor and scheduled for delivery by Computational Sciences, which determined the work to be worker planned work from the hazard analysis, and did not require a work permit. After the furniture had been unloaded, it was discovered that F&O requires a work permit for all vendor installations. A work permit was generated prior to installation. (Event Link)
7/3/13	SC-BNL	On June 28, 2013 C-AD's TPL facility in B801 prepared a sample of Sr-82 for shipment to GE for radiopharmaceutical preparation and distribution. When the sample was tested at GE on July 1, the color was incorrect, and on July 3 a small sample of the shipment was returned to BNL for chemical analysis, which confirmed the incorrect pH. The pH was less than 0 when it should be between 0.9 and 1.1. The incorrect pH caused the shipment to be temporarily unusable. If the sample cannot be returned for re-processing, the loss is approximately \$300K. C-AD TPL staff performed an investigation of the cause of the incorrect pH. They determined how to have the product returned to BNL for re-processing, and determined corrective actions, as per FDA requirements, to prevent recurrence. The temporary loss of this shipment does not significantly impact GE operations. (Event Link)

Where To Find PHENIX Engineering Info

Stupid, Dumb, Useless, Fascinating Facts That May Or May Not Be True

- A bowling pin need only tilt 7.5 degrees in order to fall down.
- The right side of a boat was called the starboard side due to the that the astronavigators used to stand out on the plank (which was on the right side) to get an unobstructed view of the stars. The left side was called the port side because that was the side you put in on at the port. This was so that they didn't knock off the starboard!
- Four people played Darth Vader: David Prowse was his body, James Earl Jones did the voice, Sebastian Shaw was his face and a fourth person did the breathing.
- A hamlet is a village without a church and a town is not a city until it has a cathedral.
- Texas is also the only state that is allowed to fly its state flag at the same height as the U.S. flag.
- Tommy Lee Jones and Al Gore were freshman roommates at Harvard.
- A duck's quack doesn't echo, and no one knows why.
- The ashes of the average cremated person weigh nine pounds.
- Croatia was the first country to recognize the United States in 1776.
- If you stretch a standard Slinky out flat it measures 87 feet long.
- Isaac Asimov is the only author to have a book in every Dewey-decimal category.
- Parker Brothers prints about 50 billion dollars worth of Monopoly money in one year.
- On average, there are 333 squares of toilet paper on a roll.
- Every citizen of Kentucky is required by law to take a bath at least once a year.
- It is against the law to whale hunt in Oklahoma. (Think about it...)
- Dooley Wilson appeared as Sam in the movie Casablanca. Dooley was a drummer - not a pianist in real life. The man who really played the piano in Casablanca was a Warner Brothers staff musician who was at a piano off camera during the filming.

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

