

PHENIX WEEKLY PLANNING

TECHNICAL SUPPORT ZONE



4/19/2012
Don Lynch

This Week

- 510 GeV run completed
- Short Maintenance Access This morning
 - Check out DC West for proposed mylar window replacement
 - Other tasks
- Next Access 4/25 ?
- sPHENIX design and analysis continues, eng'g management meeting this morning
- 2012 Shutdown prep continues
- Other Business

Next Week

- 500 GeV run continues
- Maintenance Access day Wednesday 4/25?
 - No tasks yet scheduled
- sPHENIX design and analysis continues
- 2012 Shutdown prep continues
- Other Business

Looking Ahead to the 2012 Shutdown
(Continued)

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Prep for shutdown	2/1-6/25/2011
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	
AH Crane Upgrade (variable speed & wireless remote)	
Run 12 Ends	6/25/2012
Shutdown Standard Tasks	6/25-7/20/2012
• Open wall, disassemble wall, Remove MuID Collars,	
• Move EC to AH, etc.	
Disassemble VTX/FVTX services	7/2-7/27/2012
Remove VTX/FVTX and transport to Chemistry Lab	7/30/2012
Remove MMS & MMN vertical East lampshades	7/23-7/27/2012
Summer Sunday (8/5) Prep and teardown	8/1-8/7/2012
Summer Sunday (RHIC)	8/5/12
MuTr South Station 1 work	
Install access (Sta. 1work platforms)	7/30-8/3/2012
Disconnect Cables, hoses etc, ID/label all	8/6-8/10/2012
Remove FEE plates and chambers	8/13-8/17/2012
Station 2 Terminators and manifold upgrade through access opened by station 1 removal	8/20/-8/31/2012

Looking Ahead to the 2012 Shutdown (Continued)

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MuTr South Station 1 work (Cont'd)

Clean/install new MuTr Sta. 1 chamber parts and upgrades
(concurrent At RPC Factory)

Re-install chambers and FEE plates

Re-cable, re-hose and test

Repair upgrade, test, reinstall VTX/FVTX

Station 3 North and South (upper half)

re-capacitance and air manifold upgrades

Substation breaker upgrade/test (CAD)

AH utility power distribution upgrade

DC West maintenance (replace window?)

RPC stations 1 and 3, north and south maintenance

Other detector maintenance as required

Infrastructure maintenance as required

TBD prototype tasks

pre-run commissioning and prep for run 13

Prep for EC roll in

Roll in EC

Prep IR for run

Pink/Blue/White sheets

Start run 13

8/20/-9/7/2012

9/10-9/14/2012

9/10-9/28/2012

7/23-10/26/2012

7/23-9/30/2012

8/20-9/30

8/20-9/30

9/15-10/15

As required

As required

As required

As required

11/1-12/31/2012

11/12-11/16/2012

11/19-11/23/2012

11/26-12/3/2010

12/3-12/21/201

1/1/2013



New Electrical Work for 2012 Shutdown, not yet scheduled

- 1. Support CAD replacement of Assembly Hall 480V Fused Switch Panels #8H-1, 8H-2, and 8 EMH1. Coordinate temporary power patch while work is being performed and minimize impact on shutdown work.
- 2. Add the Assembly Hall Crane lockout/contactors/ indicator light key switch circuit - similar to IR Crane.
- 3. Add Transient Surge Suppressor to 3 phase power panel on the Central Magnet Bridge.
- 4. The Gas Mixing House Breaker Panel for the Gas Mixing side is almost out of spare breaker slots and needs to be reviewed for increased capacity panel to replace it.
- 5. New computer rack replacements/additions for upcoming Run 13 & Rack Room computer infrastructure changes involving power distribution circuit (UPS and normal AC power) re-work.

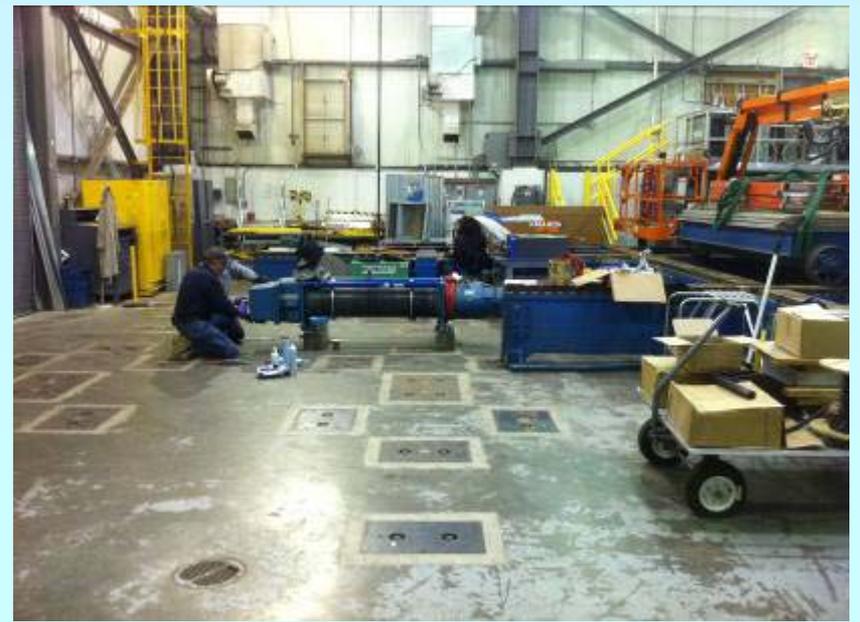
Additional Work for 2012, not yet scheduled

1. Replaced aging magnet hoses (CM only)
2. identify obsolete services passing through sill and remove them.
3. Revisit cover for services coming from IR through sill.
4. Plan for stripping out TEC electronics and services to free up TEC racks.
5. Add limit switch and improved spooling control for window washer cable.

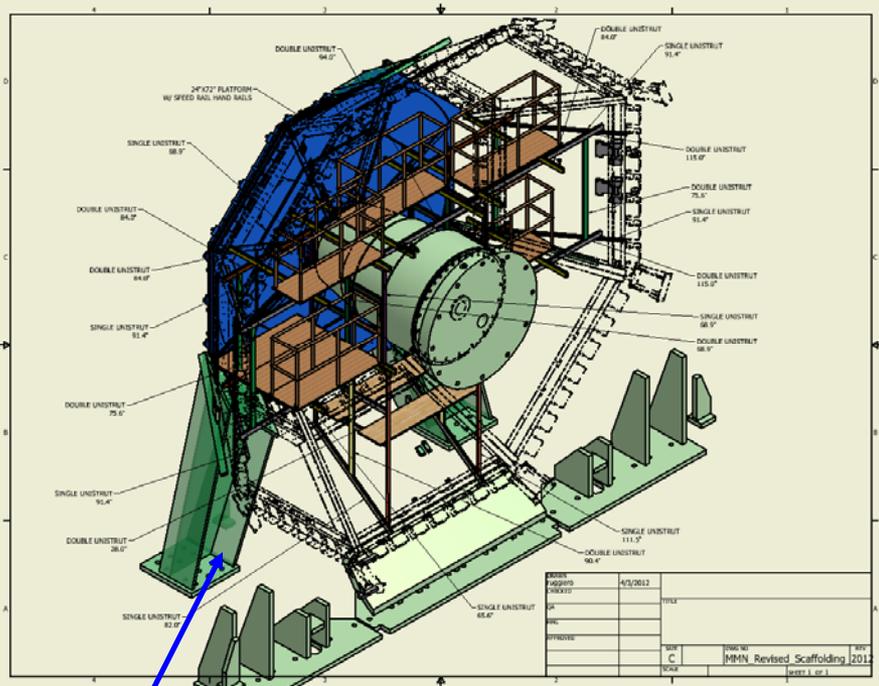
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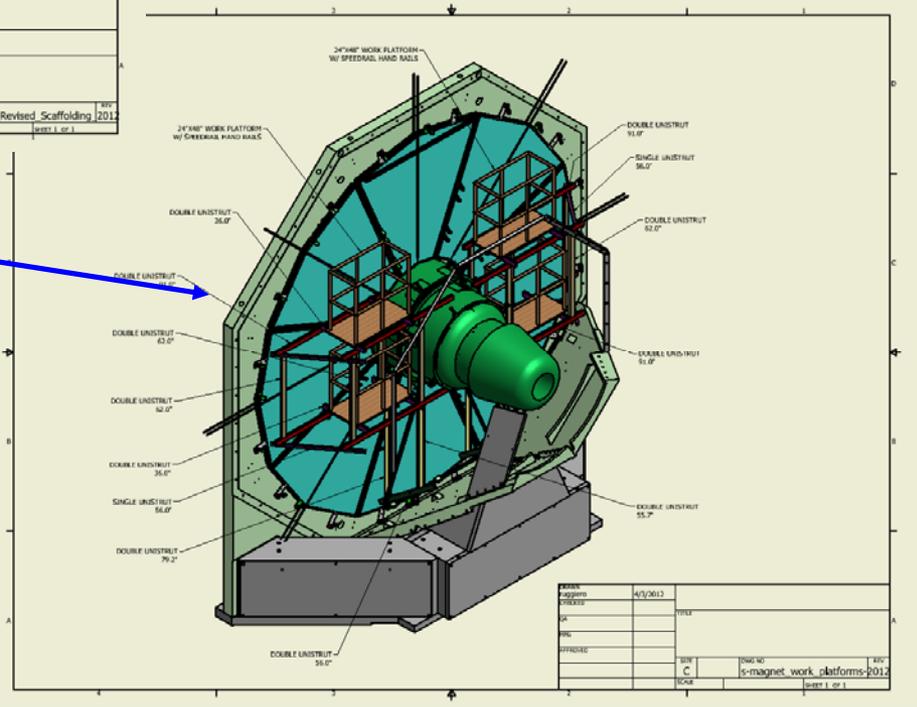
AH Crane variable speed drive and wireless remote upgrade ??



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North & South internal work platforms for next summer's shutdown

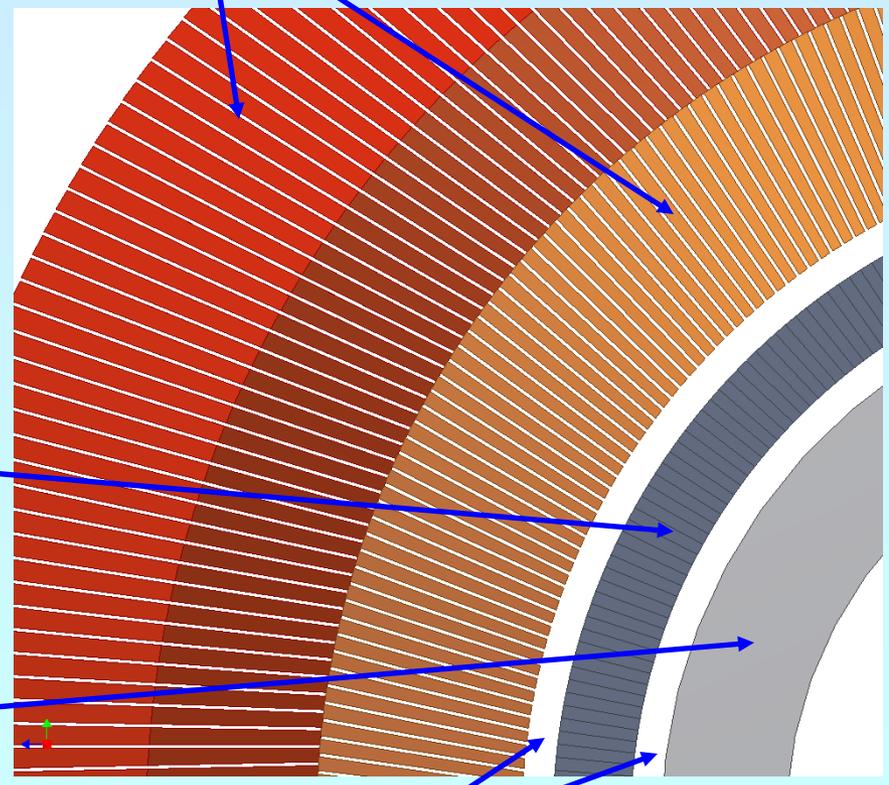


TECHNICAL SUPPORT ZONE

Inner and outer Hadronic Calorimeters
320 segments each, steel and scintillator
0.9 meter total thickness, ~4.6 meters
long. Note how the outer and inner steel
segments are angled with respect to
radial lines (by 5 degrees, with the inner
HCal steel angled in the opposite
direction of the outer HCal steel). The
inner and outer steel plates are also
offset by a 1/2 period.

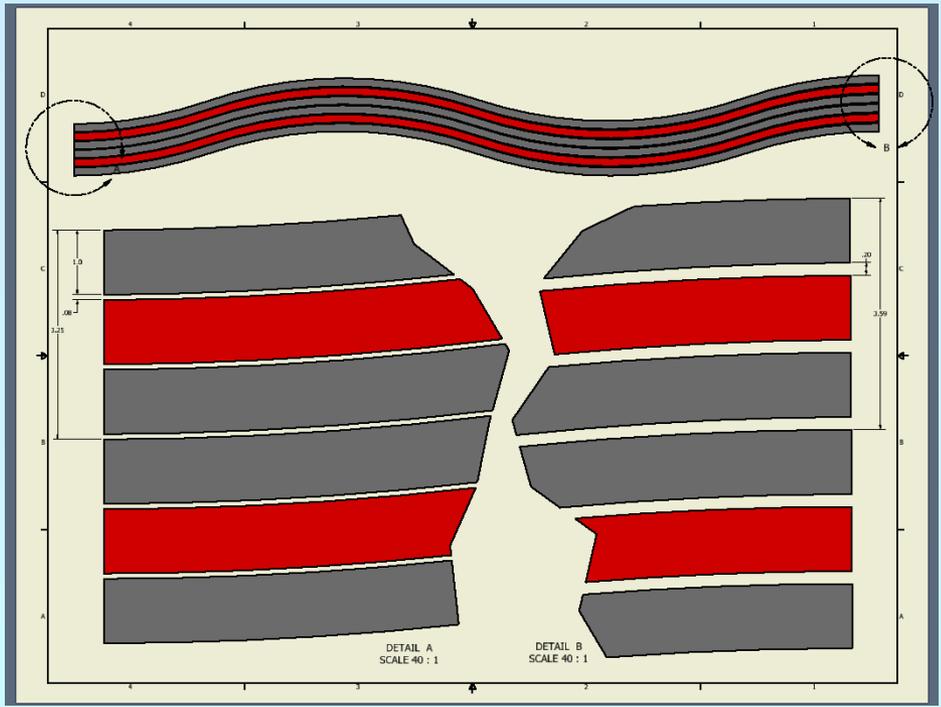
ElectroMagnetic Calorimeter
314 segments, Tungsten
and scintillator 0.1 m th
~2.8 m long

Superconducting solenoid
2 Tesla Magnet and cryostat
.70 m inner radius, .20 m th
~2 m long

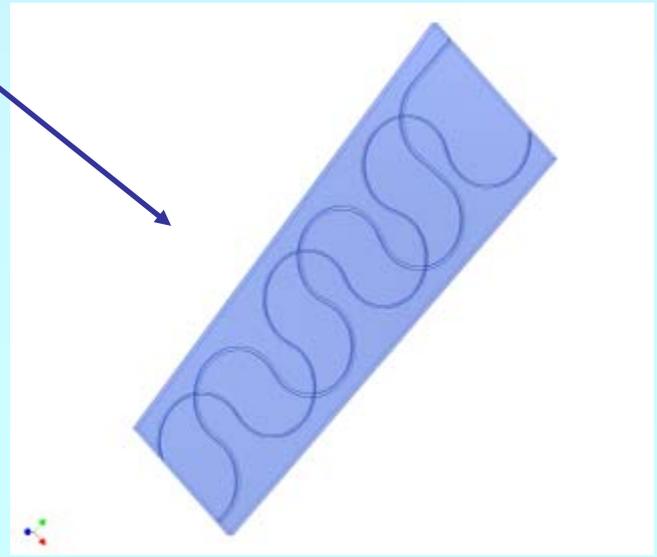
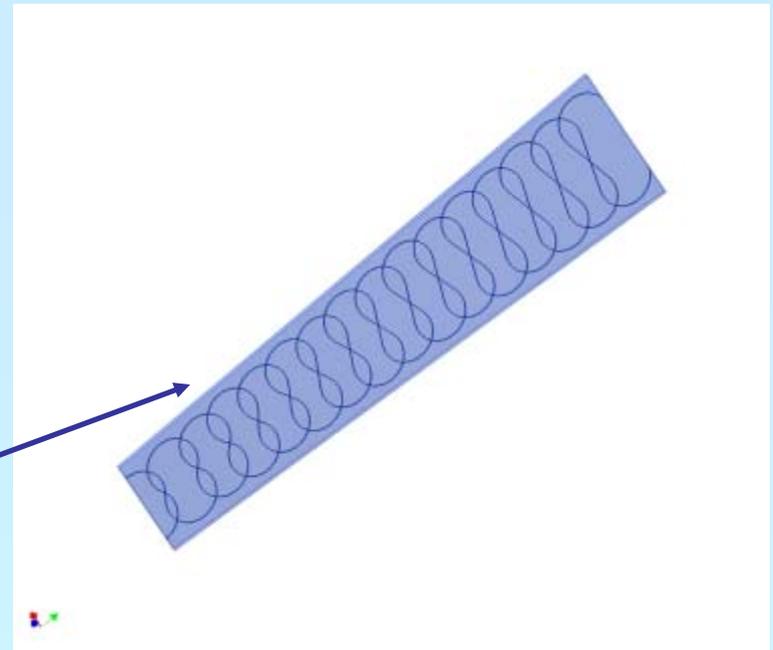
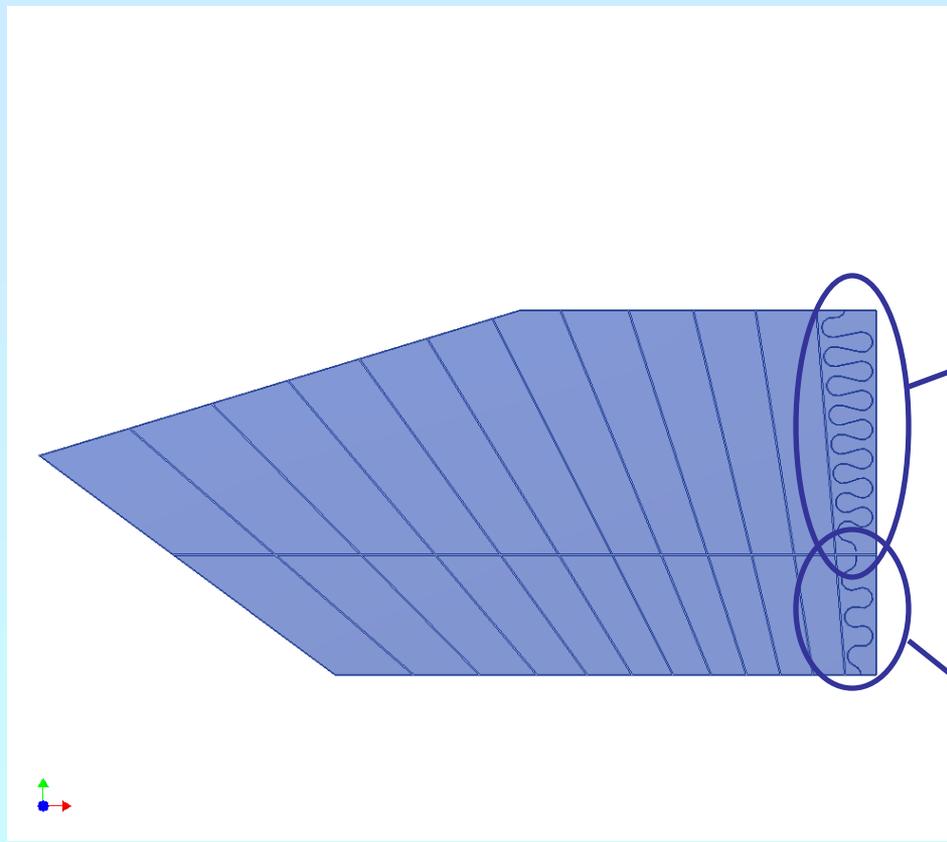


*Note: All dimensions
are current estimates
and subject to change*

Envelope allowance for electronics,
support structure and detector services



Electromagnetic calorimeter segments using "accordion" shaped scintillators and tungsten plates to optimize detector sampling

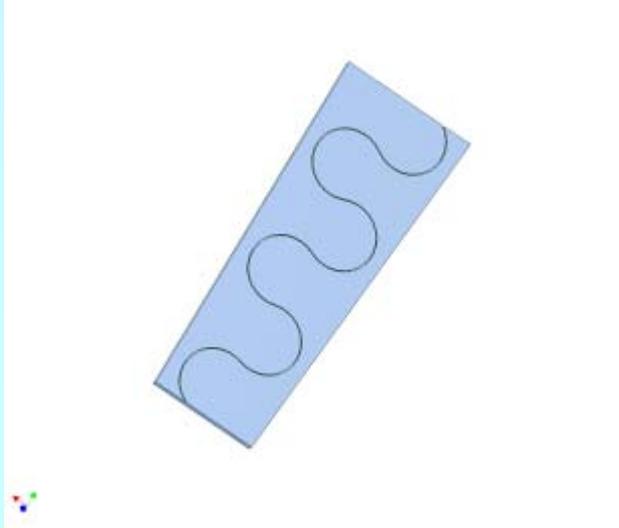
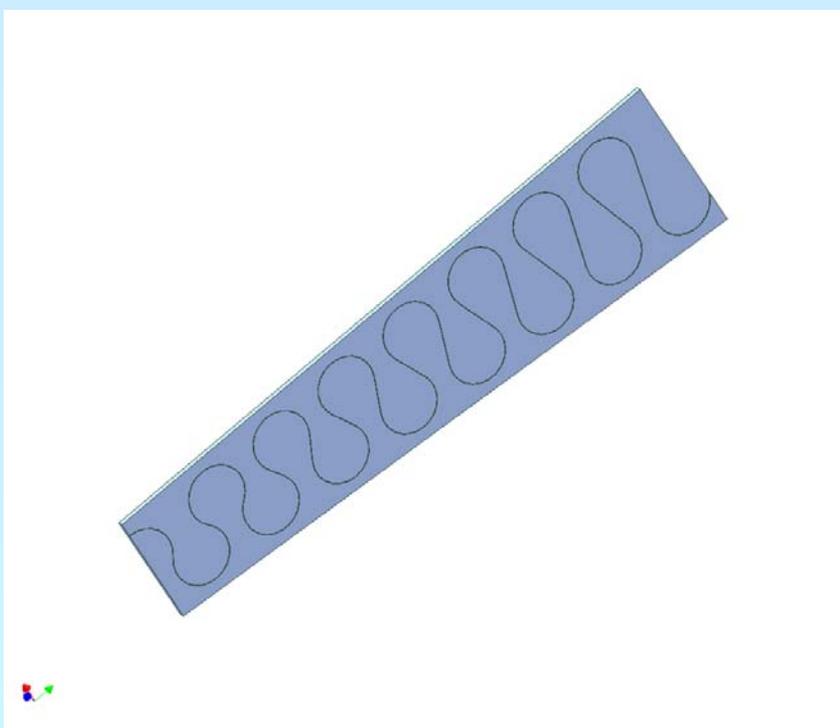


Typical Optic Fiber serpentine patterns on 1 inner and 1 outer scintillator sections. Opposing pattern on opposite side. Outer and Inner single piece blowups are made translucent so that the opposite side fibers pattern can be seen with the near side pattern

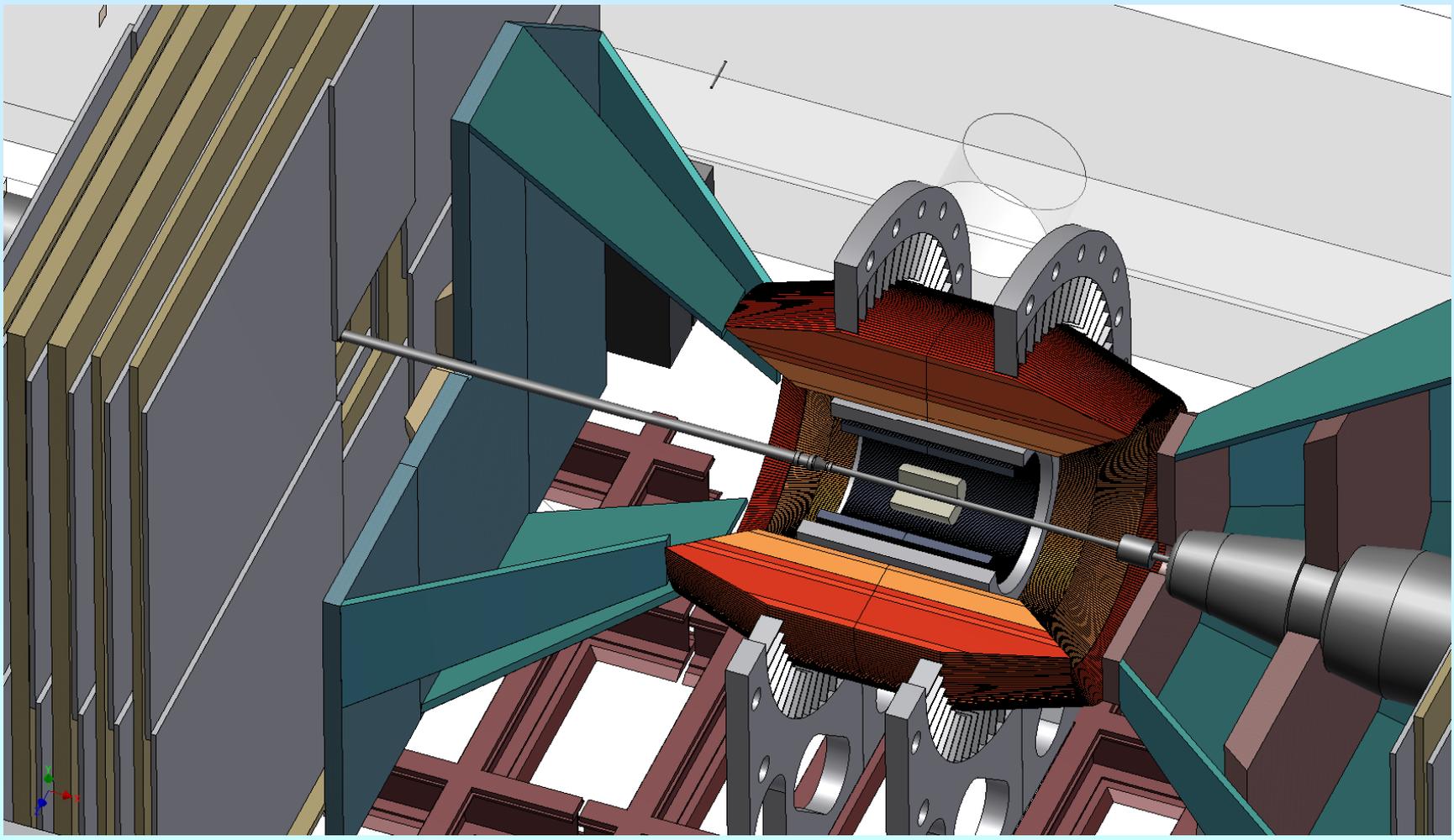
Design Concepts for each scintillator plate detail:

- Each plate has an optic fiber imbedded on both sides (illustrations at right are semitransparent so that the opposing patten can be seen)
- Minimum fiber bend radius is 2.75 cm
- Fiber is serpentine so as to come no closer than 2 cm to itself at any point and no closer than 1 cm to scintillator edges.
- Crossing of fibers in plane view is as close as possible to 90 degrees to minimize overlap.

(Note scintillator sections shown are not transparent..Opposite side fiber is not visible)



TECHNICAL SUPPORT

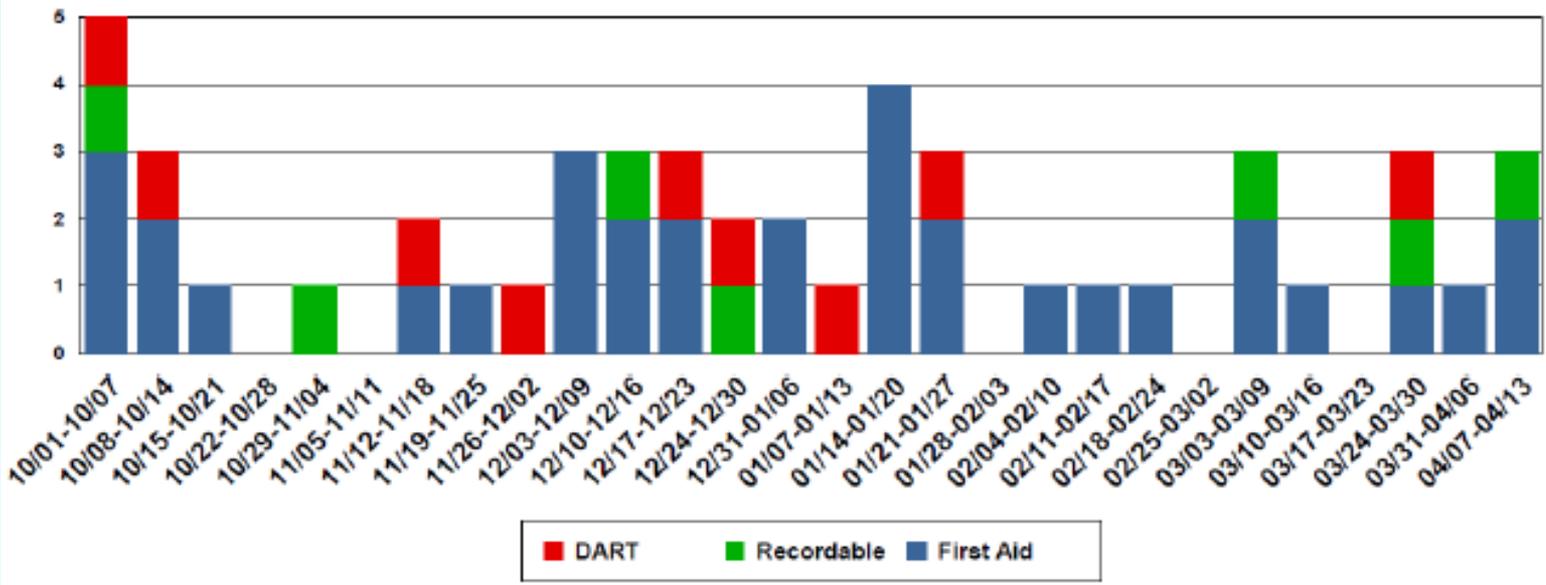


TECHNICAL SUPPORT ZONE

1. Configuration Management - We are working to document our configuration management process at PHENIX. This will involve creating a few new procedures which together will fully define how we assure appropriate level of configuration management for the PHENIX experiment and where each element of this (drawings, procedures, work planning, web distribution of information, document conformity and security, etc.) fits in the BNL SBMS scheme, CAD & PHYSICS department requirements and PHENIX reality. The effort is to document what we do, not change what we do.
2. Red Flag alert still in effect. Be careful with open fires, cigarettes, etc.
3. Tier 1 Inspection Today in PHYSICS 2nd floor labs
4. Electrical Shutdown this weekend in PHYSICS for ongoing construction. PHENIX design room is affected and some office areas.



Injuries Per Week (FY) As of 4/13/2012



Injury Status:

FY12 YTD: DART – 9, TRC – 16, First Aid – 33
 FY11: DART – 27, TRC – 42, First Aid – 45
 FY10: DART – 19, TRC – 33, First Aid – 52

FY12 Injury Listing: <https://intranet.bnl.gov/esh/shsd/seq/Occlnj/BNLInjuries.aspx>

Recent Injuries		
4/12/12	First Aid	An employee received a puncture wound in the hand while grabbing a fiberglass-handled hammer. At the OMC, first aid was given.
4/10/12	First Aid	A Job Shopper was injured when trying to widen the opening in a copper tube. At the OMC, first aid was given.
4/9/12	Recordable	An employee riding in a brush truck was struck in the face by a branch and reported to the ER. Treatment was received for a corneal abrasion and the worker reported back to work. This is recordable due to prescription medication.

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4/9/12	Operational Emergency	As of 3:15 p.m.: The Laboratory Protection Division's Emergency Services is working to extinguish a brush fire on site, which was reported at approximately 2:30 p.m. today. The fire is not yet under control. No injuries have been reported. The Sewage Treatment Plant has been evacuated as a precaution. Neighboring fire departments will provide mutual aid assistance. (Event Link)
4/6/12	Non- Reportable	UPDATED 4/8/12: The fire group responded to an alarm in the AGS ring. Entry by HP found that AGS main magnet water hoses by the south plug door had a failed fitting, there was overheating and other hoses nearby also failed. The spraying water apparently caused the fire alarm. CAD personnel isolated the main magnet cooling water system to stop the leak. Main Control Room called in appropriate people to respond to affect repairs. Some tens of gallons of main magnet water leaked (estimated) and was captured in the AGS sump. None was released to the environment. The water is about 60,000 pCi/L Tritium (3x drinking water standard) but no hazard to workers. The area where repairs were made was reading only about 2 mrem/hr so there is not a dose issue for the repair work. There was no evacuation, no injuries and no environmental impact. The store at RHIC was lost for other reasons so the program is down until this is repaired. BLIP is still running. (Event Link)

Where To Find PHENIX Engineering Info

April 18th in History:

1775: Paul revere's ride

1906: San Francisco Earthquake

1923: First Ballgame at Yankee Stadium

1956: Grace Kelly married Prince Ranier of Monaco

1968: London Bridge sold to an American, Later rebuilt in Arizona.

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

