

PHENIX WEEKLY PLANNING

TECHNICAL SUPPORT ZONE



3/29/2012
Don Lynch

This Week

- Regular Maintenance access Yesterday
 - AC PM's
 - FVTX thermal interlock testing; ground noise troubleshooting
 - EmCal troubleshooting
 - MuTrig new FPGA code
 - MuTr troubleshooting
 - MuID power supply connection change
 - ERT changed ROC problem solved?
 - RPC1 ?
- 500 GeV run continues
- Next scheduled maintenance: 4/11?
- sPHENIX design and analysis continues
- 2012 Shutdown prep continues
- DOE HSS Hazard Identification "Extent of Condition" Review

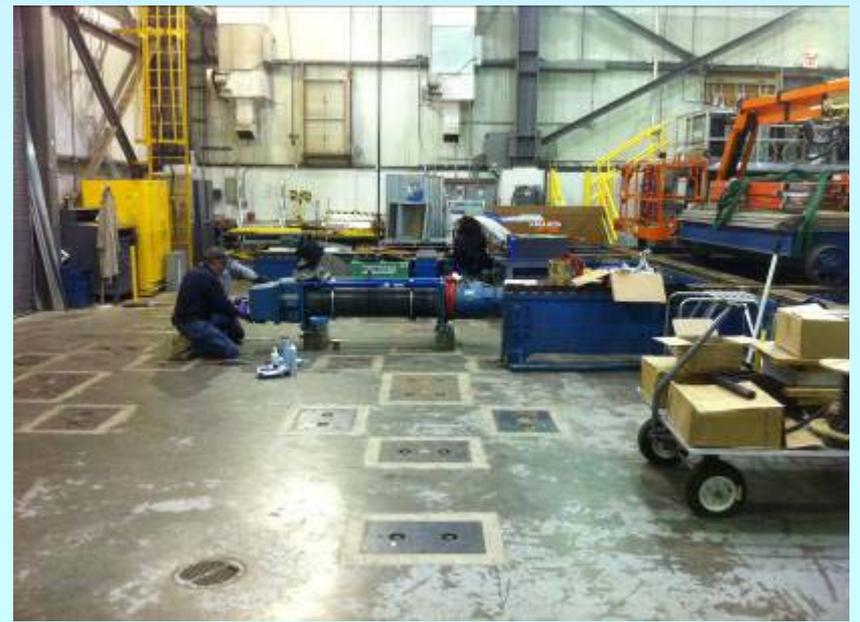
Next Week

- 500 GeV run continues
- No Scheduled maintenance next week (4/11 next ?)
- sPHENIX design and analysis continues
- 2012 Shutdown prep continues
- Other Business

TECHNICAL SUPPORT



AH Crane variable speed drive and wireless remote upgrade ??



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Rough Schedule:

Prep for shutdown	2/1-6/15/2011
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	
Run 12 Ends	6/15/2012
Shutdown Standard Tasks	6/15-7/13/2012
• Open wall, disassemble wall, Remove MuID Collars,	
• Move EC to AH, etc.	
Disassemble VTX/FVTX services	7/2-7/20/2012
Remove VTX/FVTX and transport to Chemistry Lab	7/20/2012
Remove MMS & MMN vertical East lampshades	7/23-7/27/2012
MuTr South Station 1 work	
Install access (Sta. 1work platforms)	7/23-7/27/2012
Disconnect Cables, hoses etc, ID/label all	7/30-8/3/2012
Remove FEE plates and chambers	8/6-8/10/2012
Station 2 Terminators and manifold upgrade through access opened by station 1 removal	8/13/-8/31/2012

Looking Ahead to the 2012 Shutdown (Continued)

TECHNICAL SUPPORT ZONE

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-capacitation and air manifold upgrades

Summer Sunday (RHIC)

Substation breaker upgrade/test (CAD)

AH utility power distribution upgrade

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

8/13/-8/31/2012

9/4-9/7/2012

9/10-9/28/2012

7/23-9/17/2012

7/23-9/30/2012

8/5/12

TBD

TBD

As required

As required

As required

As required

10/1-11/30/2012

11/5-11/9/2012

11/12/2012

11/12-10/17/2010

10/17-11/30/201

12/3/2012



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. Work with Martin Purske on new computer rack replacements/additions for upcoming Run 13. He always has last minute Rack Room computer infrastructure changes involving power distribution circuit (UPS and normal AC power) re-work.

Additional Work for 2012 Shutdown, not yet scheduled

1. Replaced aging magnet hoses
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.
6. Add dusk to dawn light by gas mixing house and R134A shed

Muon Trigger Maintenance Plan for the Post Run12 Shutdown

RIKEN/RBRC

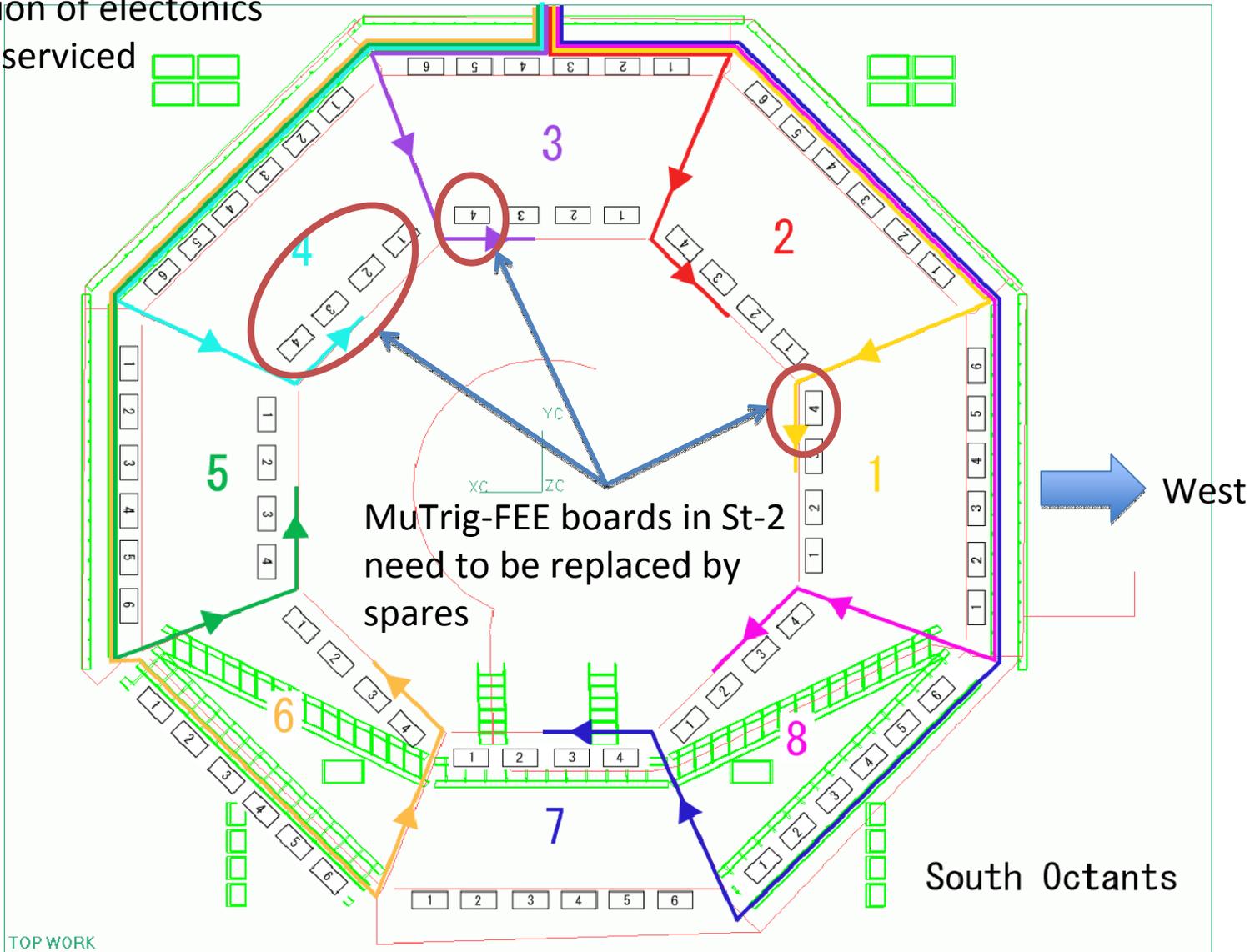
Itaru Nakagawa

Maintenance Plan

- In addition to anode repair of MuTr chambers, we need to access some electronics boards attached to the cathode side of the chambers.
- They are not necessarily distributed to all octants. North is in Station-3, South is in Station-2.
- Plat form need to be designed to allow us to access these spots.
- The work is trivial (except for noise hunting north station-3 octant-1), just to change broken boards with spares and takes about 15 min. per board.

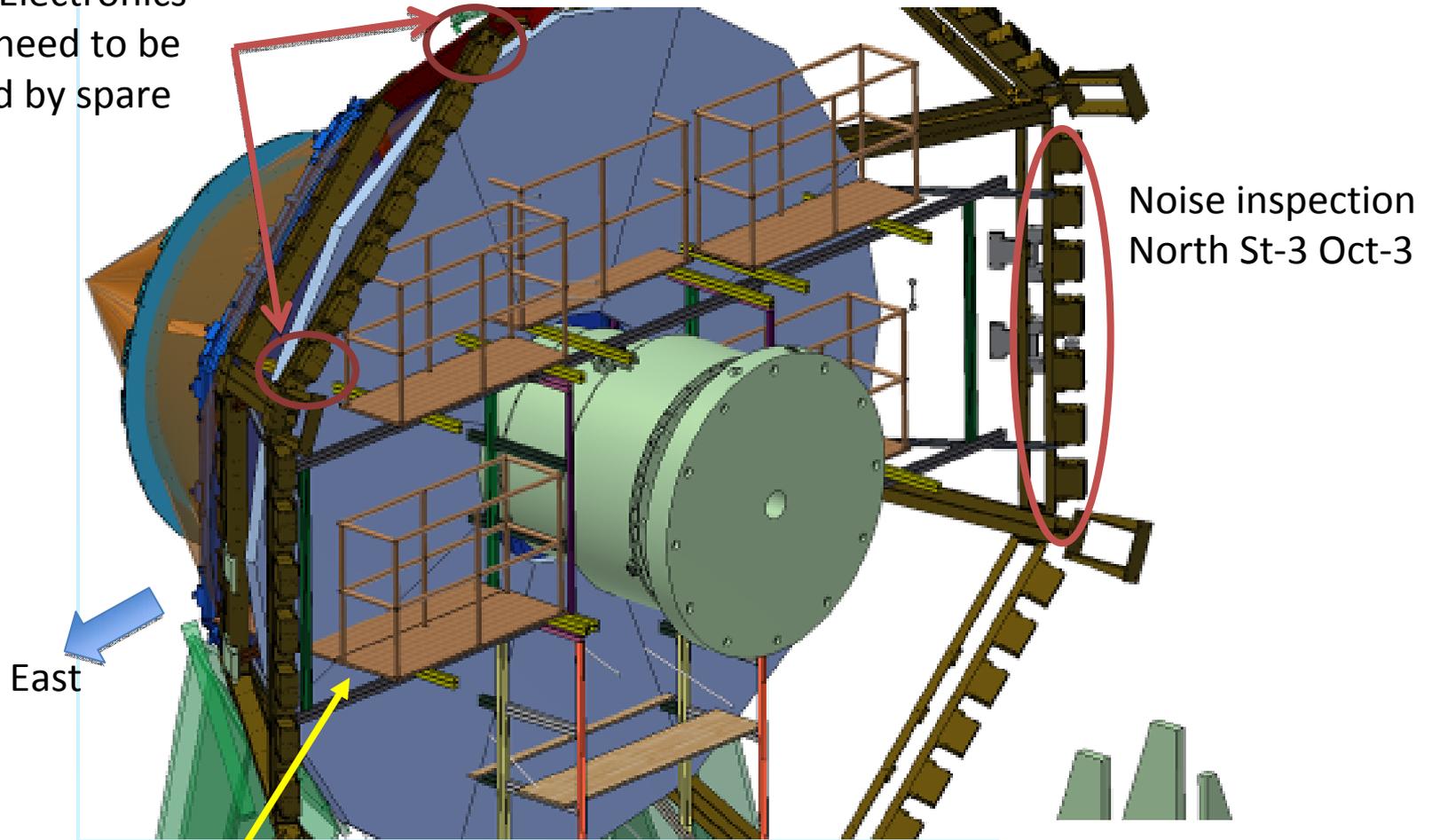
South Station-2

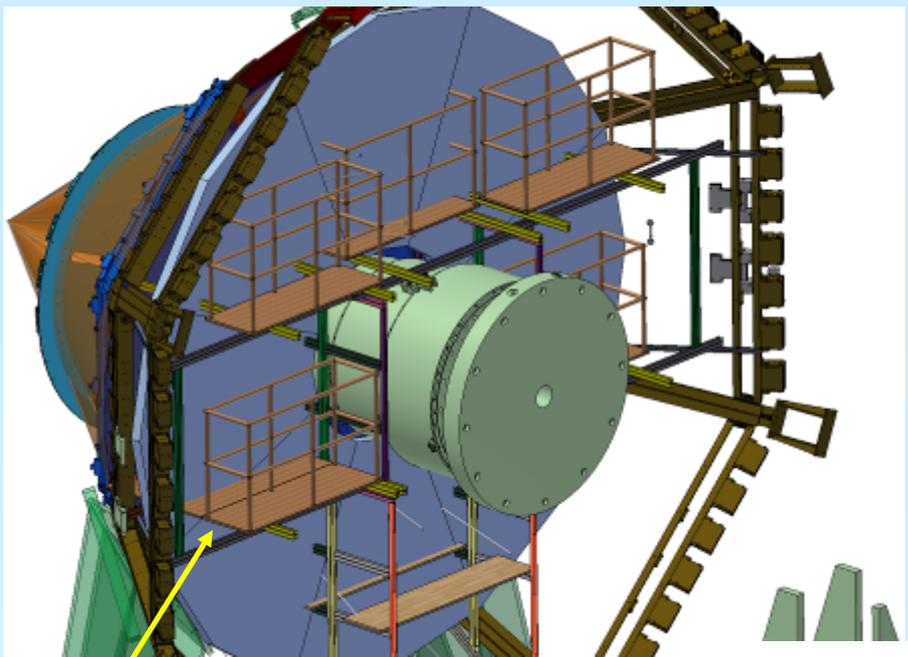
○ Location of electronics to be serviced



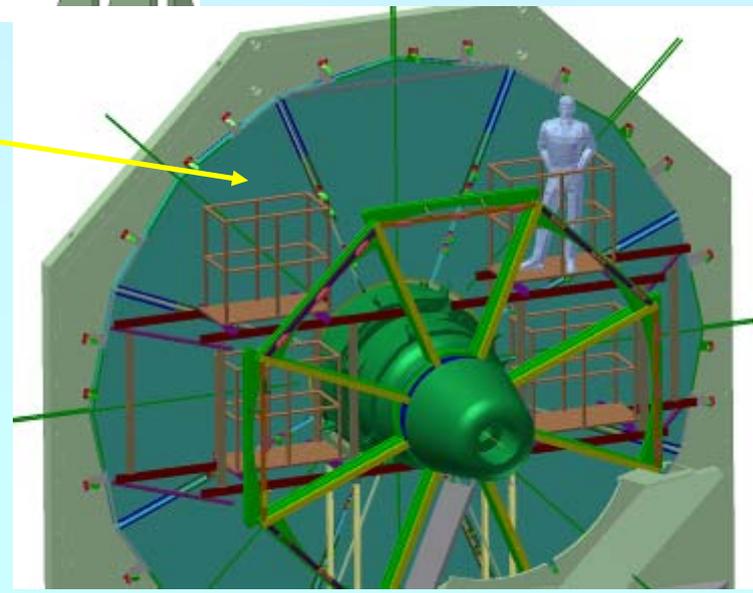
North Station-3

Octant-4
MuTrig Electronics
boards need to be
replaced by spare





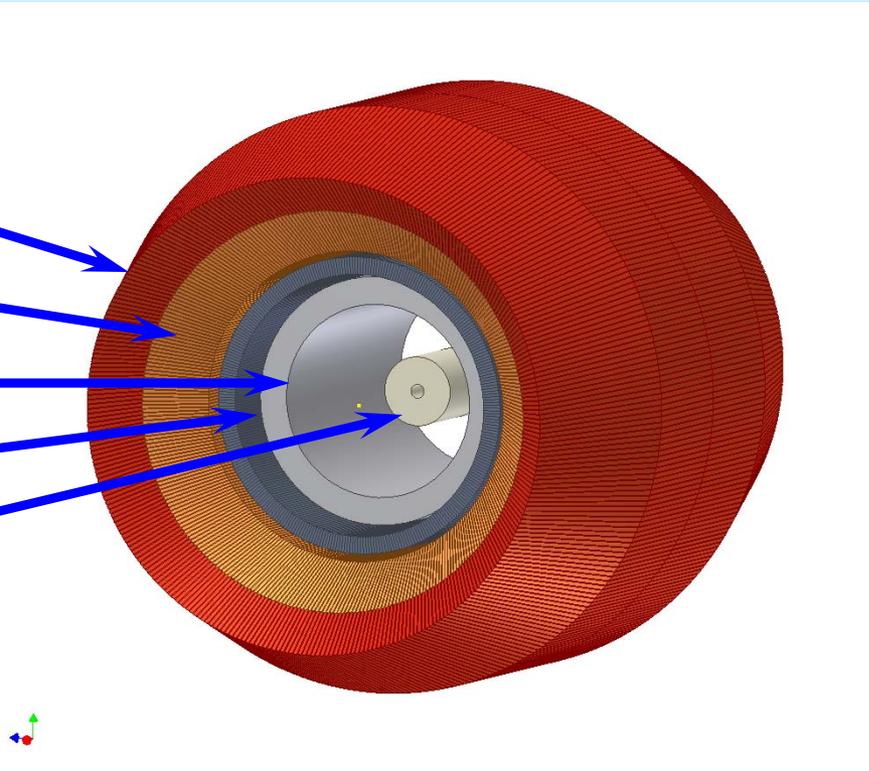
North & South internal work platforms for next summer's shutdown



sPHENIX Upgrades

PHENIX engineering and design are providing support for overall structural and spacial design and modeling, cost estimation and prototype design/fabrication

- Outer Hadronic Calorimeter
- Inner Hadronic Calorimeter
- Superconducting Solenoid
- EMCalorimeter
- VTX3.0



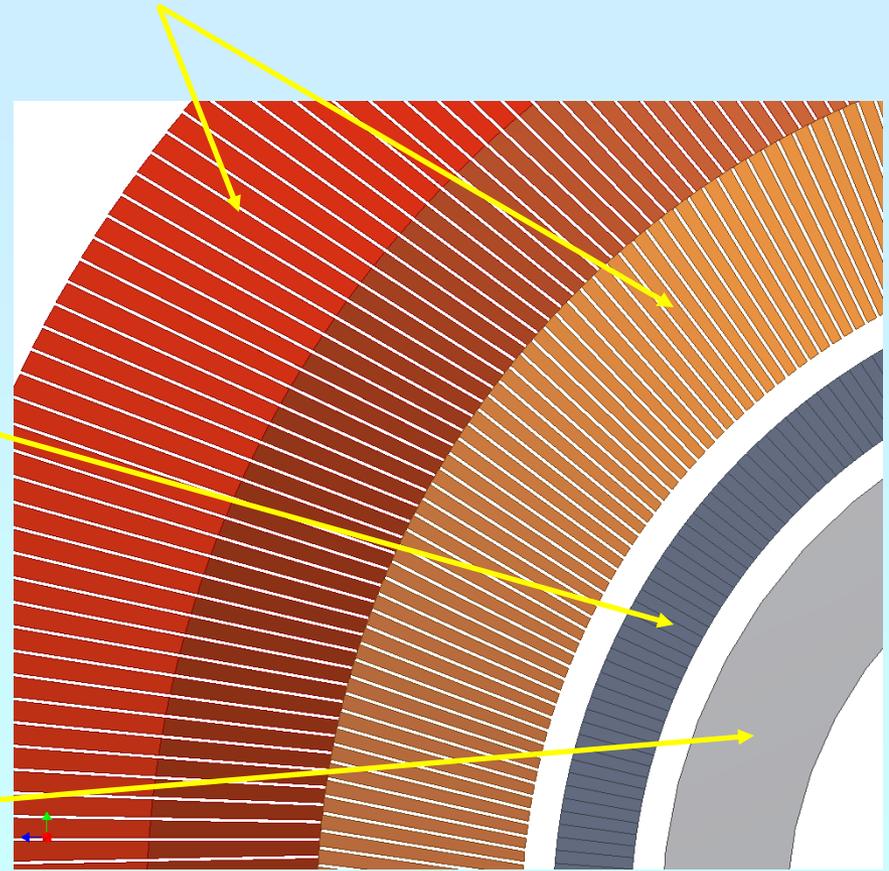
TECHNICAL SUPPORT ZONE

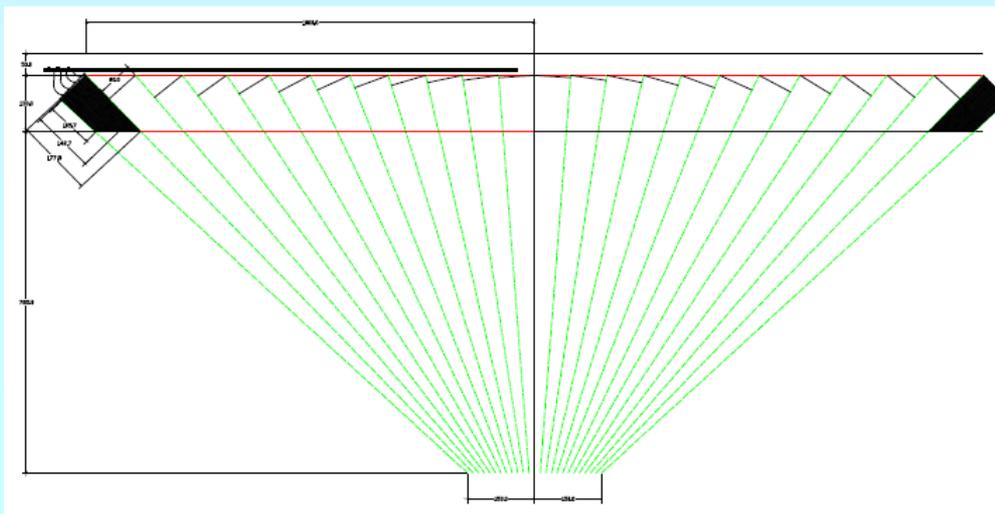
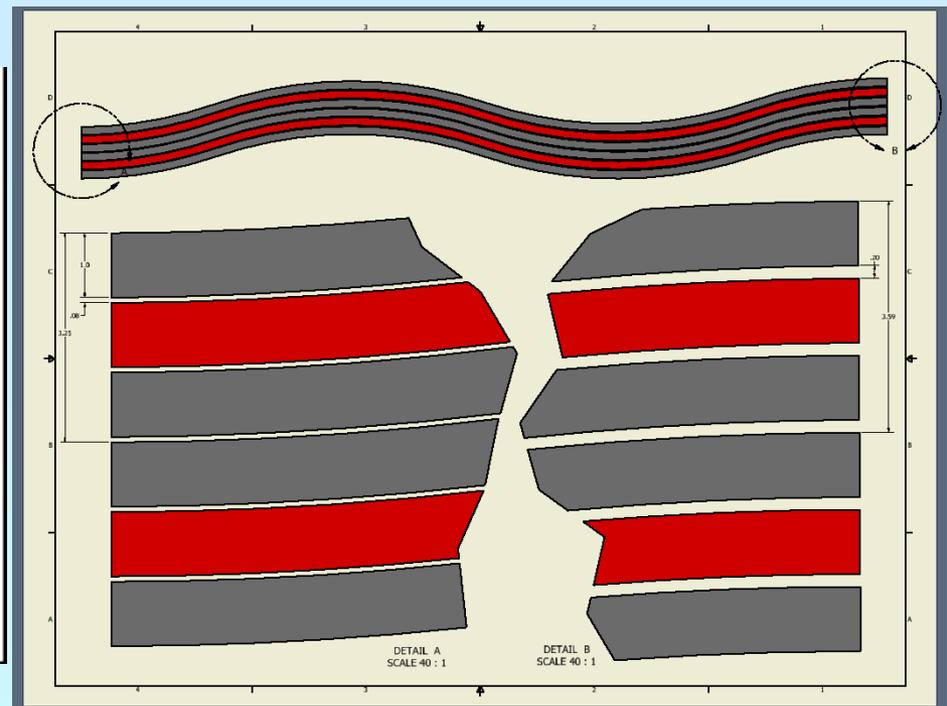
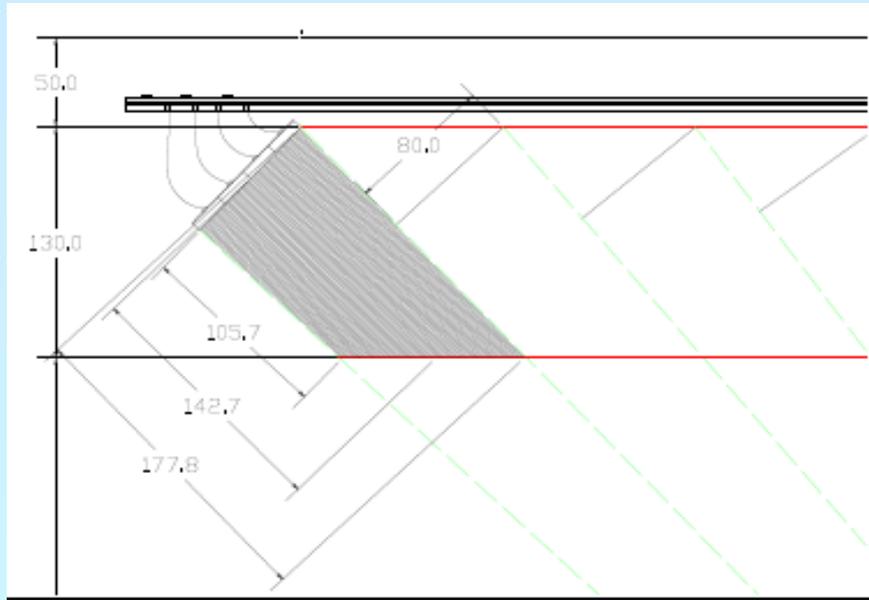
Inner and outer Hadronic Calorimeters
320 segments each, steel and scintillator
.9 meter total thickness, ~4.6 meters long

VTX 3.0 vertex detector
(upgraded from present VTX)
[not in picture]

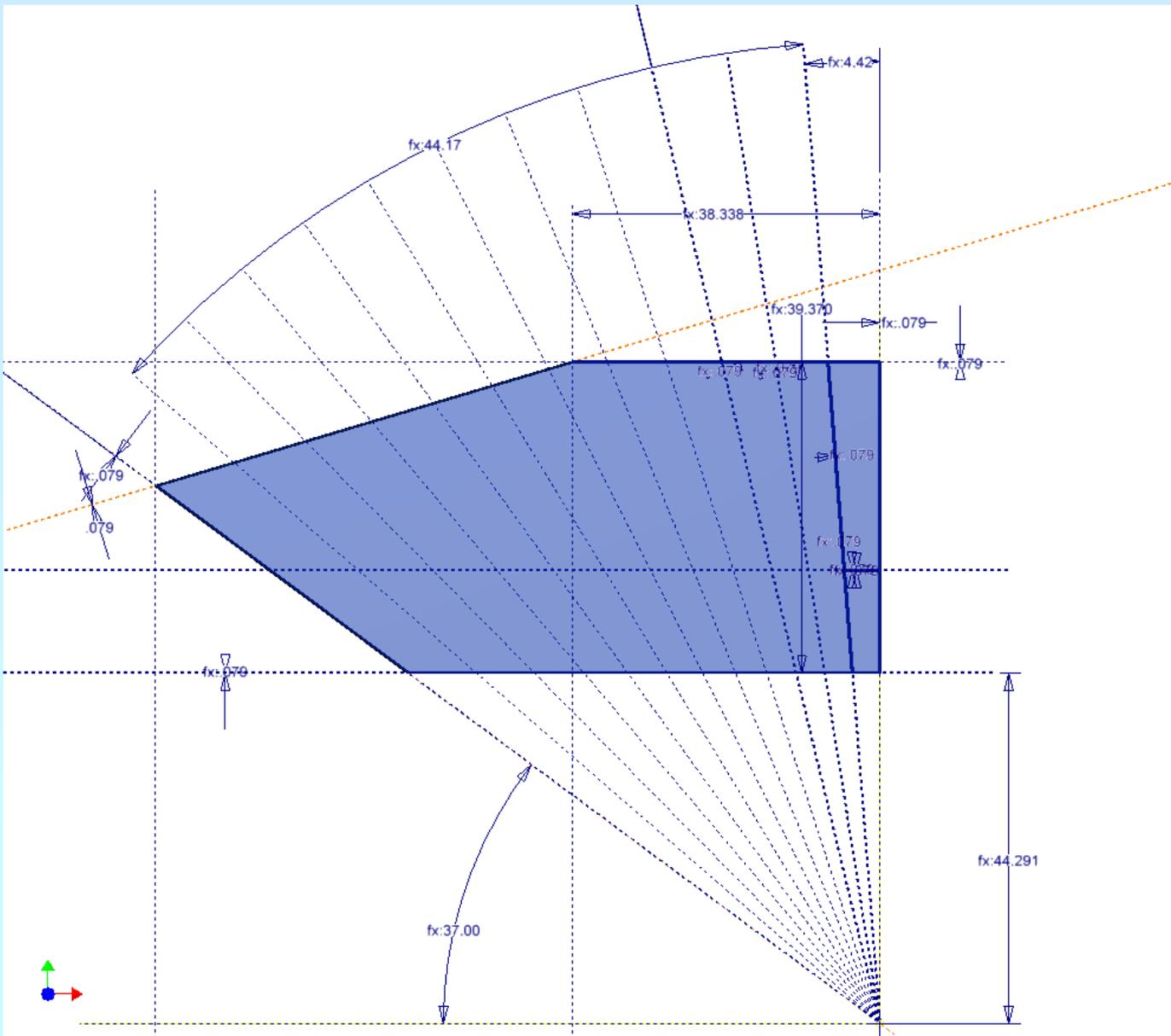
ElectroMagnetic Calorimeter
314 segments, Tungsten
and scintillator 0.1 m th
~2.8 m long

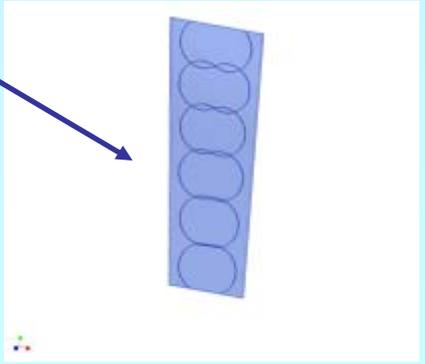
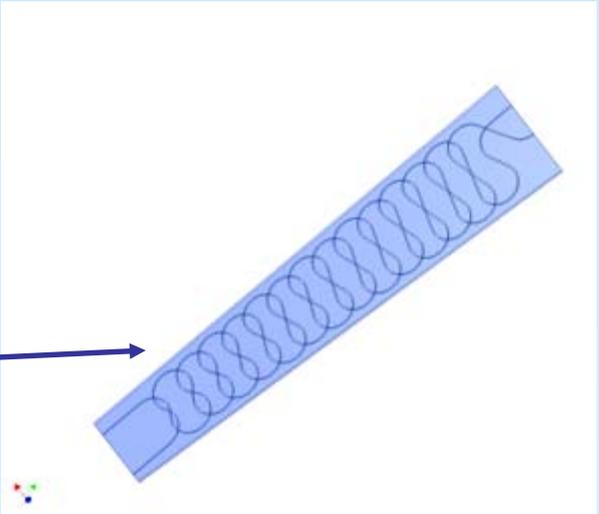
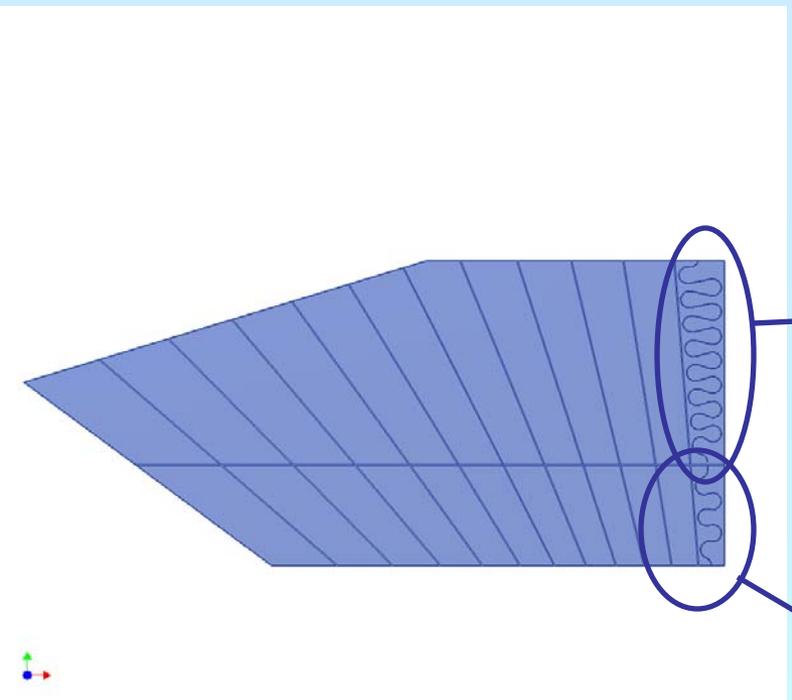
Superconducting solenoid
2 Tesla Magnet and cryostat
.70 m inner radius, .20 m th
~2 m long



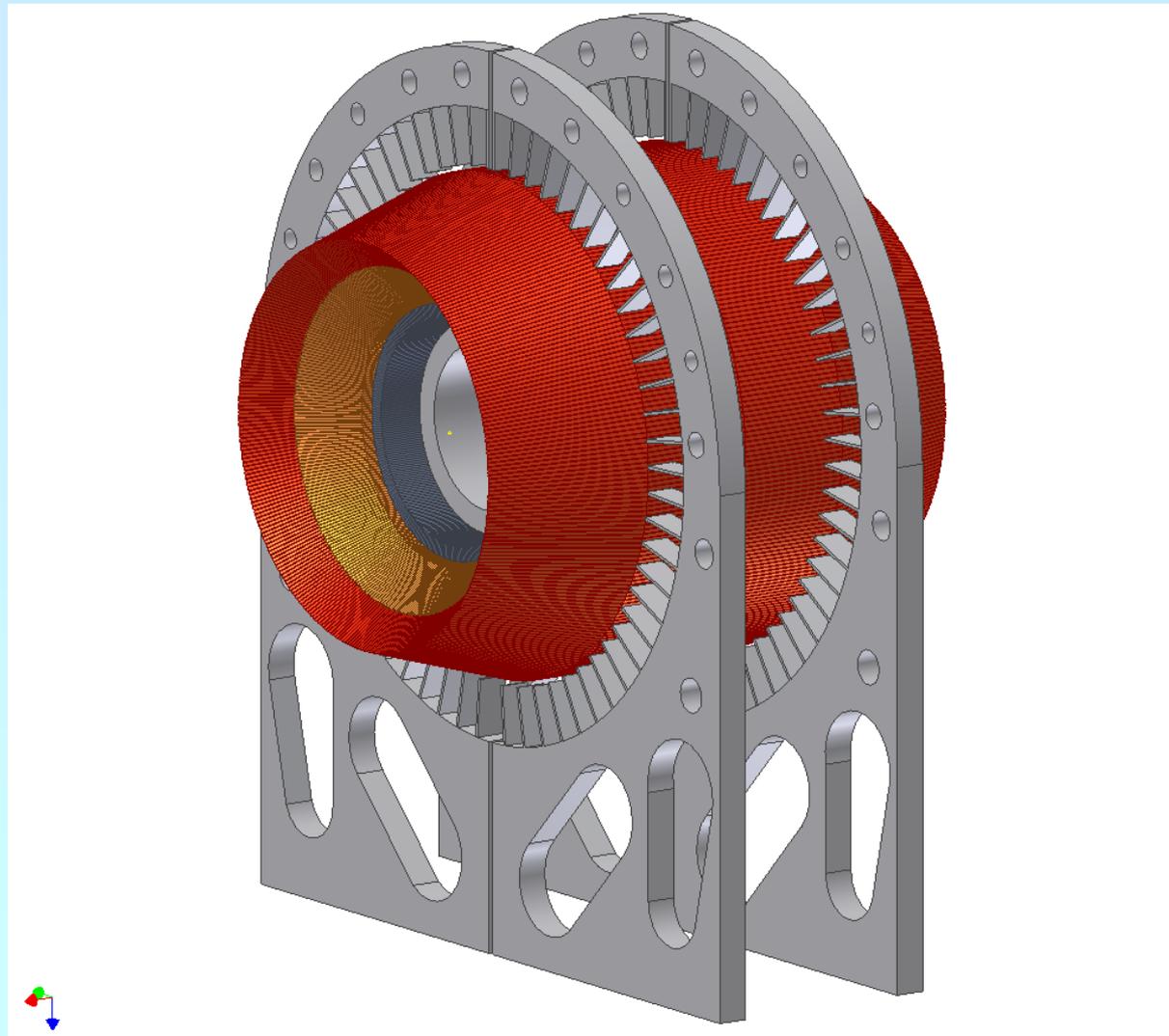


Electromagnetic calorimeter segments using "accordian" shaped scintillators and tungsten plates to optimize detector sampling

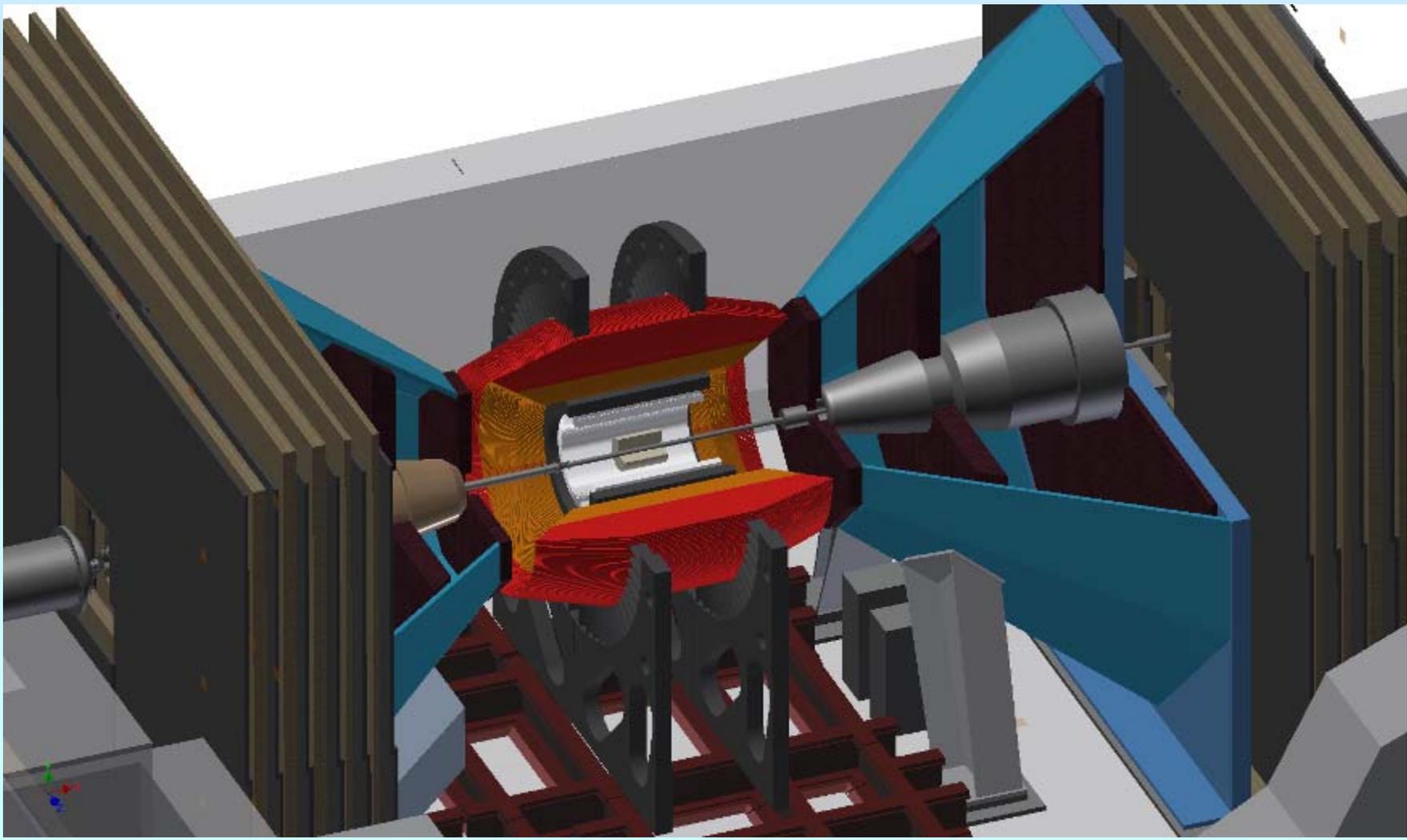




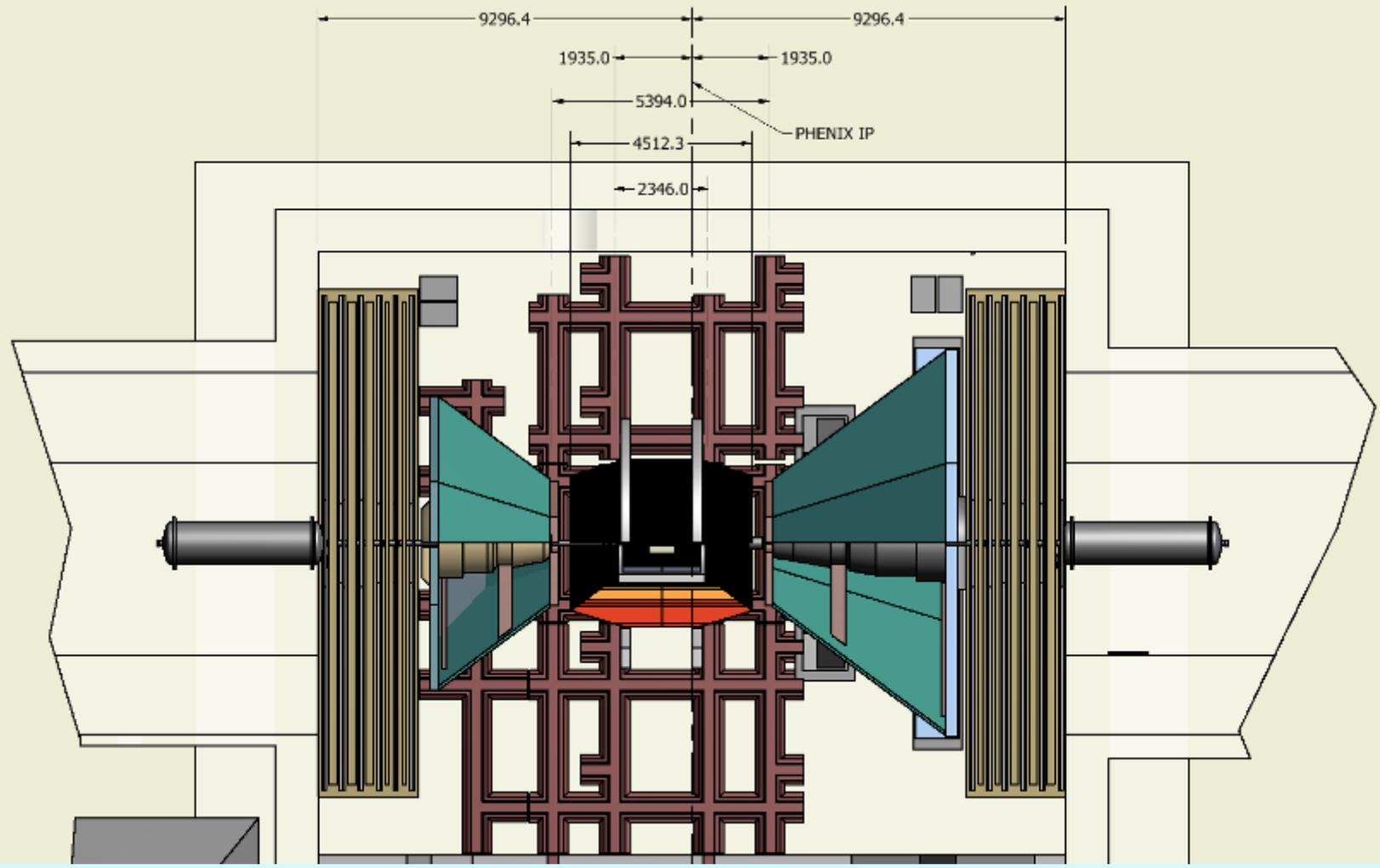
Typical Optic Fiber serpentine pattern on 1 scintillator section
Opposing pattern on opposite side



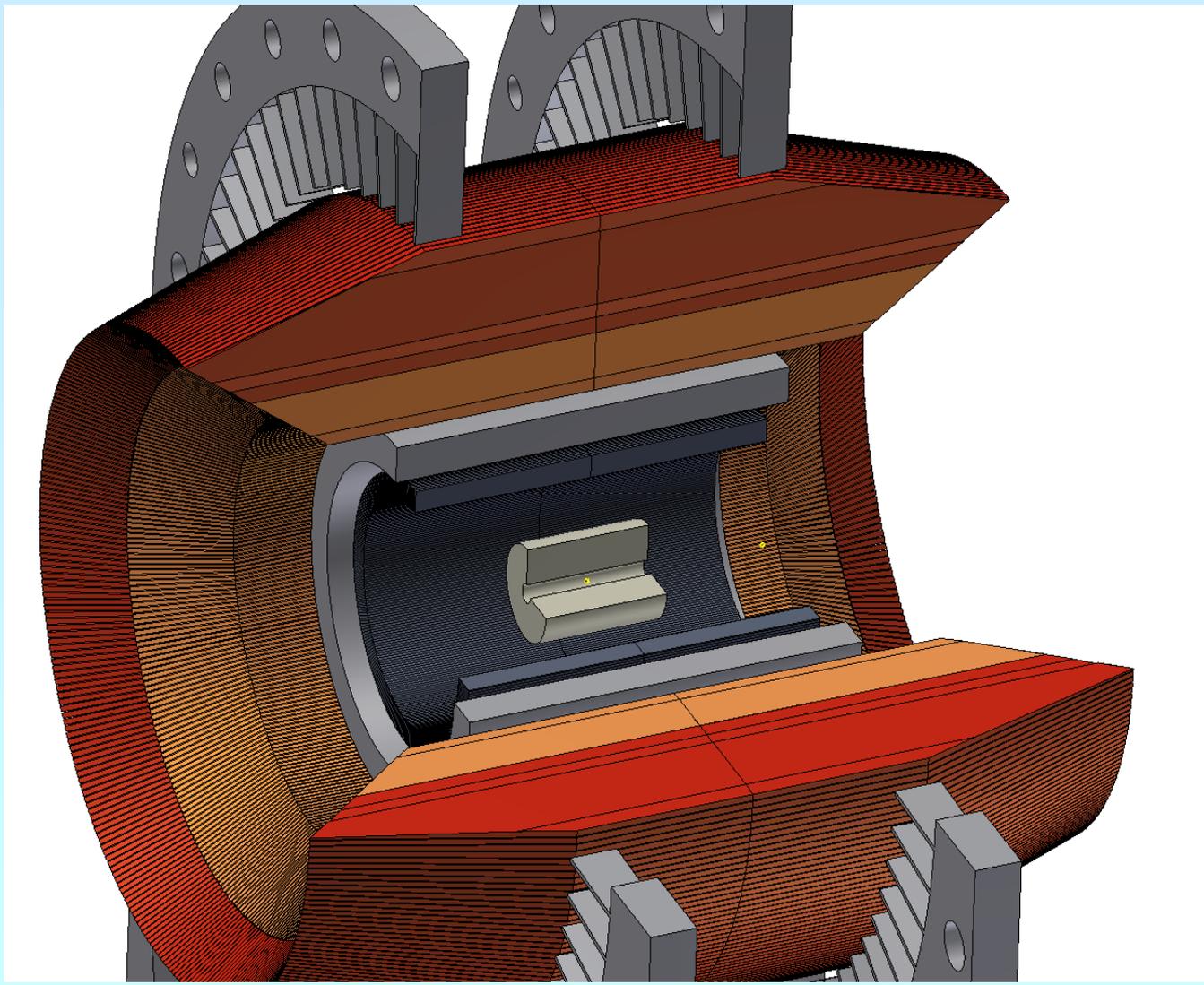
TECHNICAL SUPPORT NON



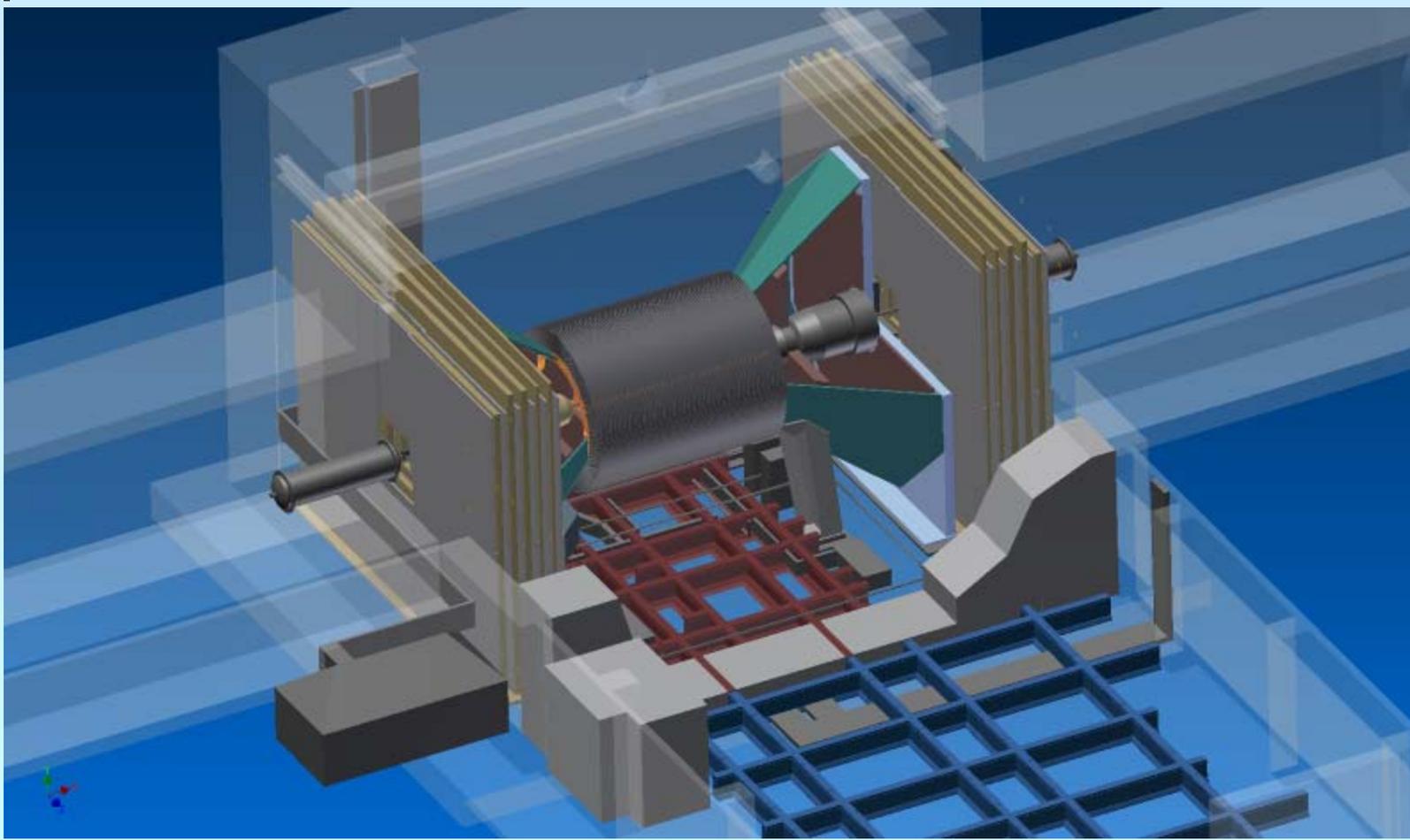
TECHNICAL SUPPORT



TECHNICAL SUPPORT ZONE



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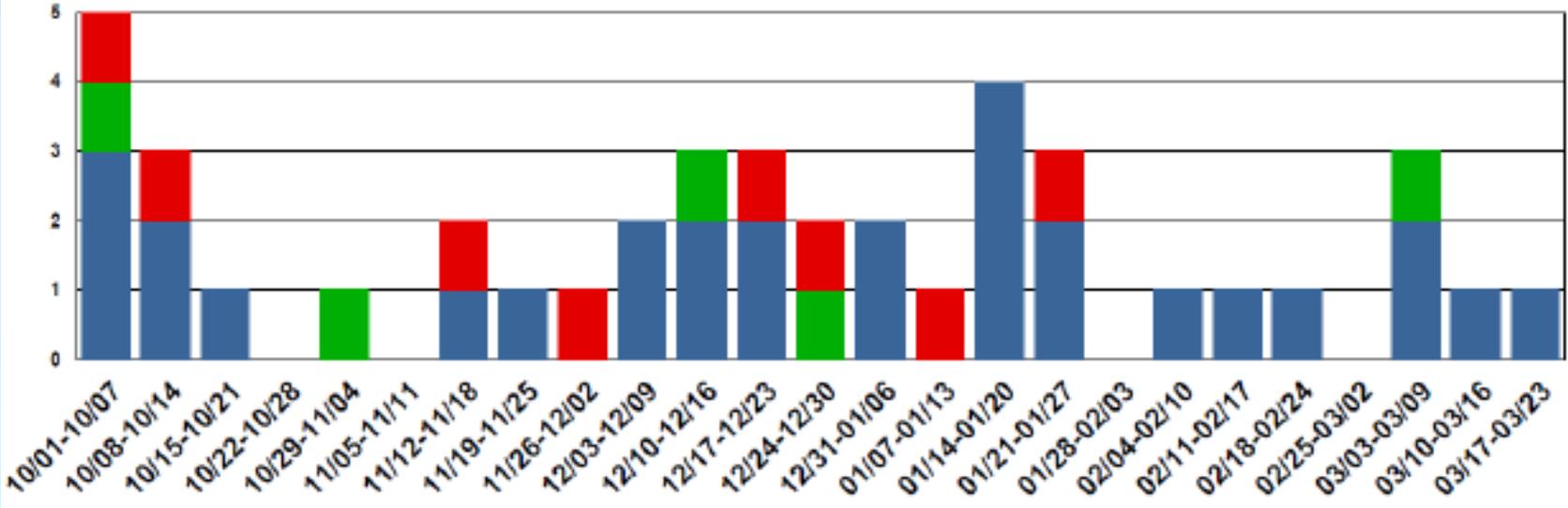
TECHNICAL SUPPORT ZONE

1. Configuration Management - we are reviewing our Config. Management policies and will develop a controlled procedure to assure that we are within Lab guidelines. Using HBMS, CAD and STAR documentation as appropriate. Most important areas are Gas systems, Electrical and safety systems, experimental structures and equipment and Infrastructure.
2. DOE Health, Safety and Security (HSS) is here this week at BNL's request to observe how BNL plans and conducts work. They will be observing work at C-AD including experiments, work planning meetings, and reviewing our work planning procedures and program. Please be prepared to be observed or questioned by this team.



NON-PROCESSED INJURIES

Injuries Per Week (FY) As of 3/23/2012



Injury Status:

FY12 YTD: DART – 8, TRC – 13, First Aid – 29
 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/seg/OccInj/BNLInjuries.aspx>

Recent Injuries		
3/22/12	First Aid	An employee was injured while riding in a vehicle on bumpy terrain. At the OMC, first aid was given.

Recent Events		
3/22/12	Non-Reportable	An A/C Mechanic was driving to a work location onsite in a BNL Pick-up truck when the small portable refrigerant cylinder [Material-of-Trade] in the truck came undone from its rope restraint and fell/rolled from the truck near the 7 o'clock position on the RHIC Ring road. The driver stopped shortly thereafter but could not locate where the cylinder had rolled. It was a 30# cylinder of R-22 refrigerant and was half-full. BNL Security had been called by others who saw what happened. They responded and located the cylinder which was undamaged by the fall and did not show any signs of leakage or releases. Fire/Rescue was called to take control of the chemical cylinder and F/R was able to return the cylinder to the mechanic, as it was undamaged and not leaking. (Event Link)
3/21/12	SC-BNL	While Fire/Rescue was opening the hydrant outside Bldg 348 and directing the water flow into the woods (to clean out the pipes and check on the flow), the fire alarm went off in Bldg 348, causing the evacuation of the 3 staff members inside at the time. The triggering of the fire alarm is currently thought to have been caused by some kind of water hammer effect transmitted from the sudden initiation of hydrant flow. There was no fire of any kind at Bldg 348. (Event Link)
3/21/12	SC-3	During this morning's walk-thru/inspection of equipment for NSLS - Bldg 725, it was found that the Freon-11 Refrigerant Compressor was leaking/losing Freon-11 [was not leaking during previous day's inspection]. Freon-11 [Trichlorofluoromethane] is a CERCLA Hazardous Substance with a Reportable discharge threshold of 5000 lbs. The container holds no more than 600 lbs capacity. The OSHA PEL is 1000 ppm. The ACGIH TLV is also 1000 ppm. While the Freon-11 is being transferred from the leaking tank, enhanced local ventilation is directing the leaking Freon-11 mixed air flow out of the room through relief vents to outside the building, keeping the breathing air in the room below the PEL/TLV. Fire/Rescue was called and are on-scene, no evacuation required or called. (Event Link)

Where To Find PHENIX Engineering Info

March 29: This Day in History

- 1848: for the first time in recorded history, Niagara Falls stopped flowing due to an ice jam in the Niagara River
- 1867: the British North America Act was passed creating the dominion of Canada
- 1951: Julius and Ethel Rosenberg found guilty of passing atomic secrets and were sentenced to death
- 1973: last US troops leave South Vietnam
- 1999: Dow Jones closes above 10,000 for the first time
- 2012: Major Revision to BNL SBMS "Configuration Management"

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

