

PHENIX WEEKLY PLANNING



August 28, 2014
Don Lynch

This Week

HERNIMAN
LAKESIDE
REPORT
NO. 4

- Electrical shutdown for transformer maintenance (last Saturday)
- Continue prep for MPC-Ex North installation
- VTX/FVTX repairs continue
- FVTX cooling line and N2 distribution upgrades
- Continue assembly of MPC-Ex North
- Continue sPHENIX support
- MMS magnet cooling water leak troubleshooting

Next Week

- Continue prep for MPC-Ex North installation
- VTX/FVTX repairs continue
- FVTX cooling line (replace Teflon lines with stainless)
- F/VTX N2 distribution upgrades
- FVTX Chiller preventive maintenance
- Continue assembly of MPC-Ex North
- Continue sPHENIX support

2014 planned Technical Support & 2014 Shutdown

TECHNICAL SUPPORT 2014

MuTr Sta 1 South troubleshooting and repairs	Done ?
Maint. & Repairs for MPC South, BBC South, RPC1 South1	Done?
Repair and reinstall FVTX/VTX East & West	in progress -10/15/2014
VTX/FVTX Upgrade cooling lines, chiller preventive maintenance	in progress-10/6/2014
Troubleshoot intermittent water leak in MMS	7/30- 8/8/2014
Other Maint. In MMS	7/30-8/29/2014
Assemble & test MPC-Ex North, ready for installation	in progress-9/5/2014
Electronic Cooling Water High Temp Alarm	8/11-8/29/2014
F/VTX Cooling line upgrades teflon to stainless	8/25-10/31/2014
F/VTX N2 supply manifold upgrade	8/25-10/31/2014
F/VTX Chiller preventative maintenance	8/25-10/31/2014
Prep MPC-Ex North installation area	8/8-8/15/2014
MuTr Sta 1 & Sta. North troubleshooting and repairs	8/11-9/5/2014
MPC North-remove damaged crystals, repair as necessary, re-install	8/11-9/5/2014
Install new MPC-Ex North, thoroughly test before moving CM north	9/8-9/26/2014
Reinstall MMS east vertical lampshade	9/2-9/5/2014
Assemble & test MPC-Ex South, ready for installation	9/2-10/3/2014

2014 planned Technical Support & 2014 Shutdown (cont'd)

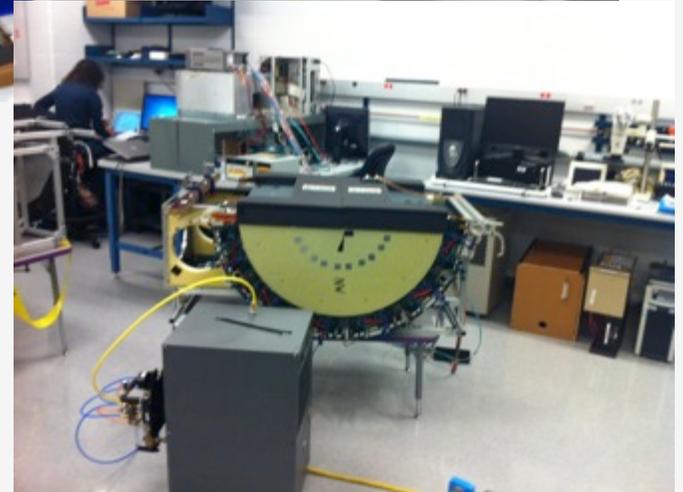
Remove Sta 1 N scaffolds, Move CM North, Install scaffolding in Sta 1 S	10/10-10/13/2014
Install MPC-Ex South	10/13-10/31/2014
Reinstall, reconnect, re-survey and re-commission VTx/FVTX	10/16-11/26/2014
Other detector support	TBD
Infrastructure Maintenance and Improvement	TBD
Decommissioning of obsolete PHENIX detector equipment	TBD
sPHENIX Support	on-going
End of Shutdown Tasks (Move MS north, roll in EC , install collars, remove 10 ton cart, plates and manlifts, build shield wall, etc.)	10/27-11/26/2014
DC East & West maintenance & repairs	10/13-10/21/2014
Pink/White/Blue Sheets	12/1-12/19/2014
End of Shutdown Party	????
Start Flammable gas flow	????
Close shield wall, install radiation interlocks and prepare for run 14	12/31/2014
Start run 15	1/2/2015

Work Permits for 2014 Shutdown

- Start of Shutdown - Done
- VTX/FVTX East - Done
- MPC-Ex - Done
- MuTr Sta 1 N & S - Done (scaffold agreement done)
- MuTr North station 2/3 - Done
- MuTr South station 2/3 & MMS South Water leak - Done
- MPC North - Done
- **DC East/West – need in October**
- End of Shutdown – need in November



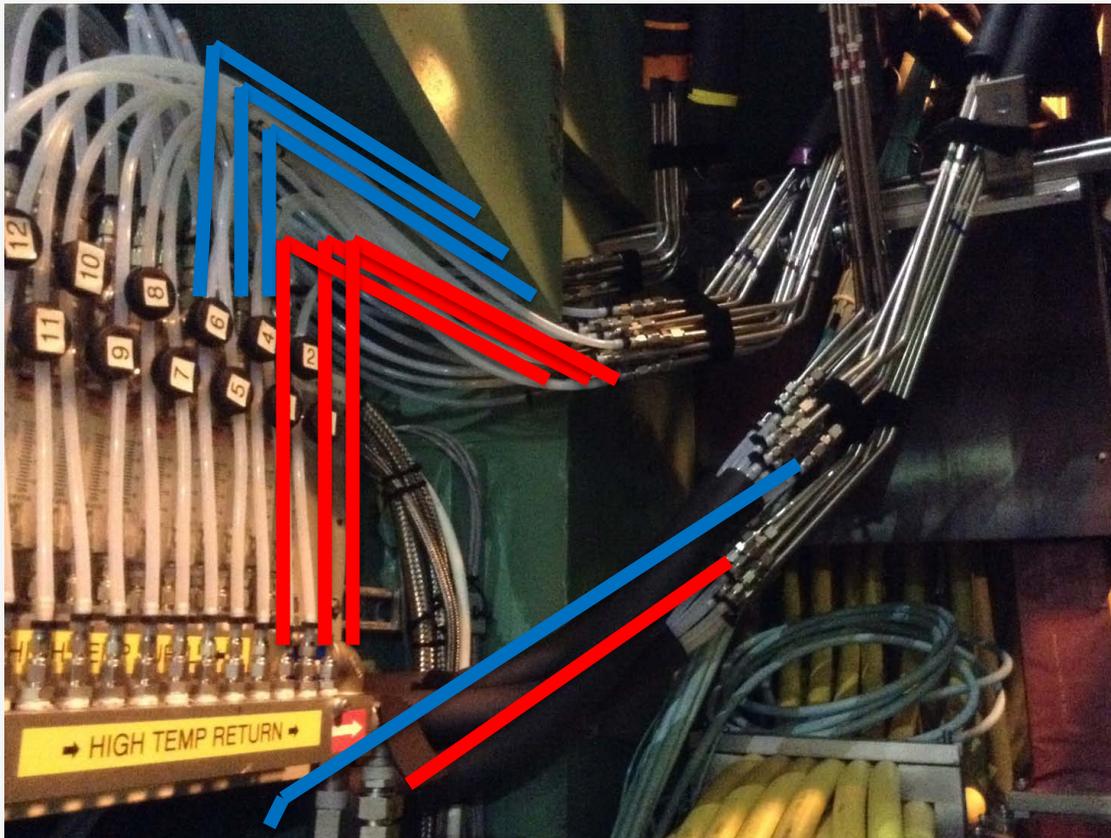
VTX/FVTX east & west repairs/
upgrades under way



Top manifold has 13 Supply and 13 return lines.
Both North and south need to be replaced.

Bottom manifold has 9 Supply and 9 Return lines
Both North and South need to be replaced

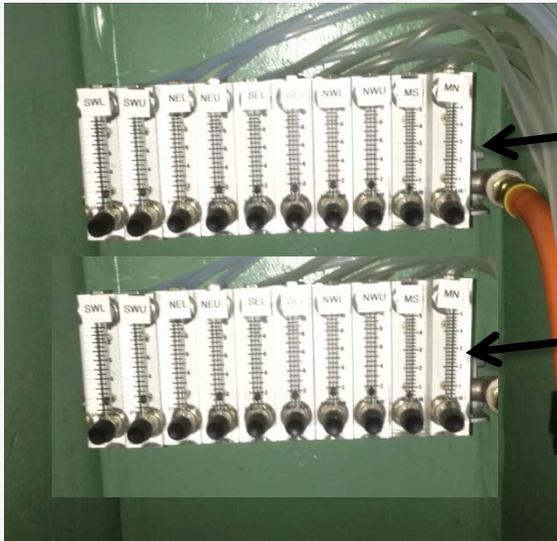
Current labeling on tubes needs to be maintained and copied to new lines



Bends need to be done carefully so not to restrict flow. Swage elbows can also be used for sharp bends

Replace All Teflon lines with 1/4" ID 316 thin walled Stainless
McMaster
Coil: 89995K82
Or Rigid with Min ID 0.21" (89995K288)

VTX/FVTX N2 Supply Manifold.
 Located on south side of central
 magnet



Original N2 Distribution Panel

New N2 Distribution Panel

- 10 flowmeters
- 0-10lpm
- Output ¼" I.D barb
- Leave about 10" space between manifolds.

Shutdown work on chillers to help with reliability

1. Change pump seals on chillers 1 and 3
 - Chris replaced chiller 2's pump seal. There was some trial and error to get it right.
 - We have these parts
2. Replace both control solenoids and Filter on chiller 1 and 2
 - We have these parts
 - BNL HVAC guys. Schedule for Beginning of OCT
3. General annual maintenance on all 3 units listed in manual
 - HVAC guys/ Phenix Tech



Modifications to Water lines to make switchover less time consuming.

Permanently connect water lines to all 3 chiller through a new 3 channel manifold. Currently the manifold only has 2 channels. It needs to have a 3rd channel added for the spare chiller. We should also replace the flowmeter s with ones that have a smaller scale.



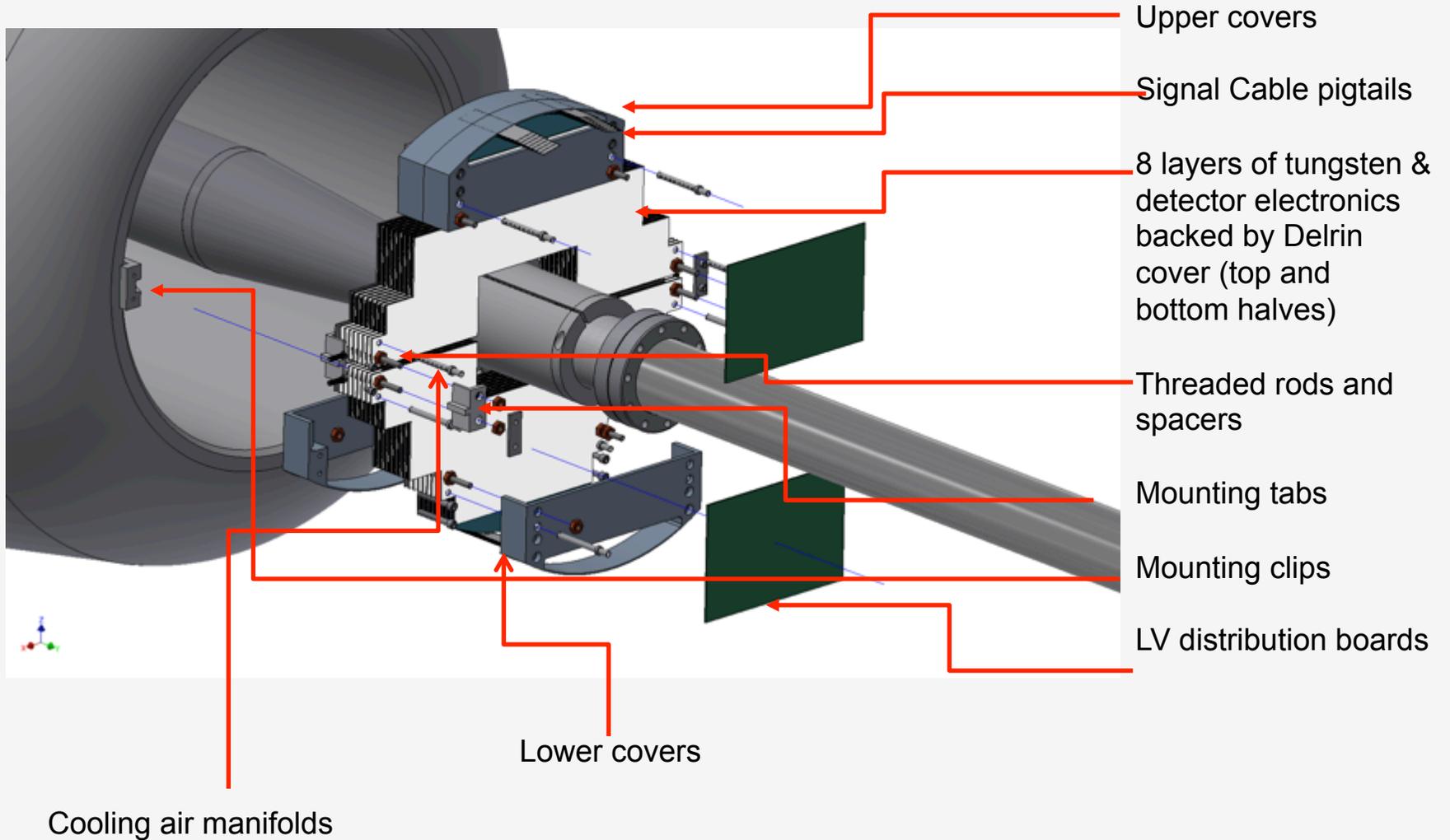
Manifold Location

Instrument spare chiller with alarms similar to other two chillers.

1. Need to add float switch to lid. (I have parts)
2. A third strobe and audible alarm added to rail. (Frank did this last time)

MPC-Ex Exploded view

PHENIX
EXPERIMENT
MPC-EX

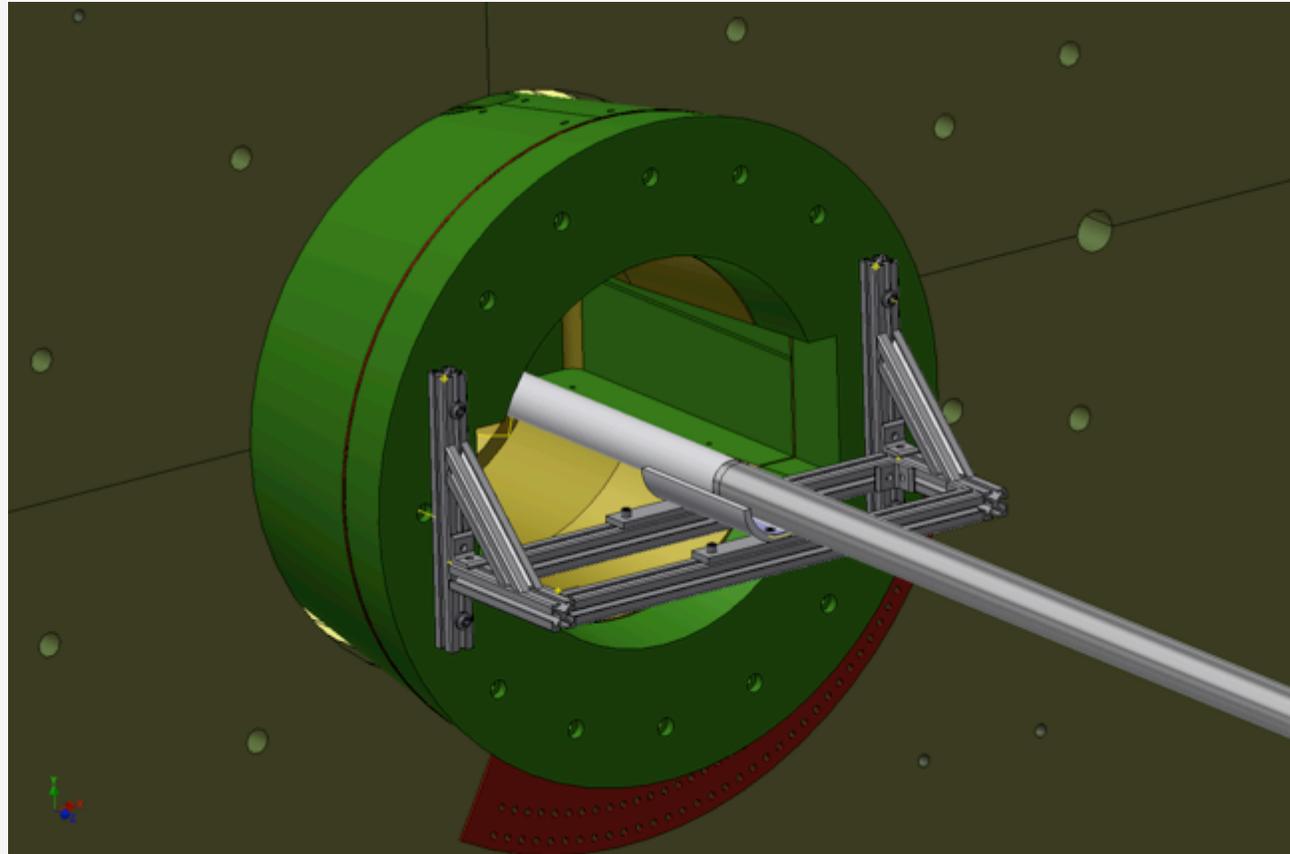


MPC-Ex North and South

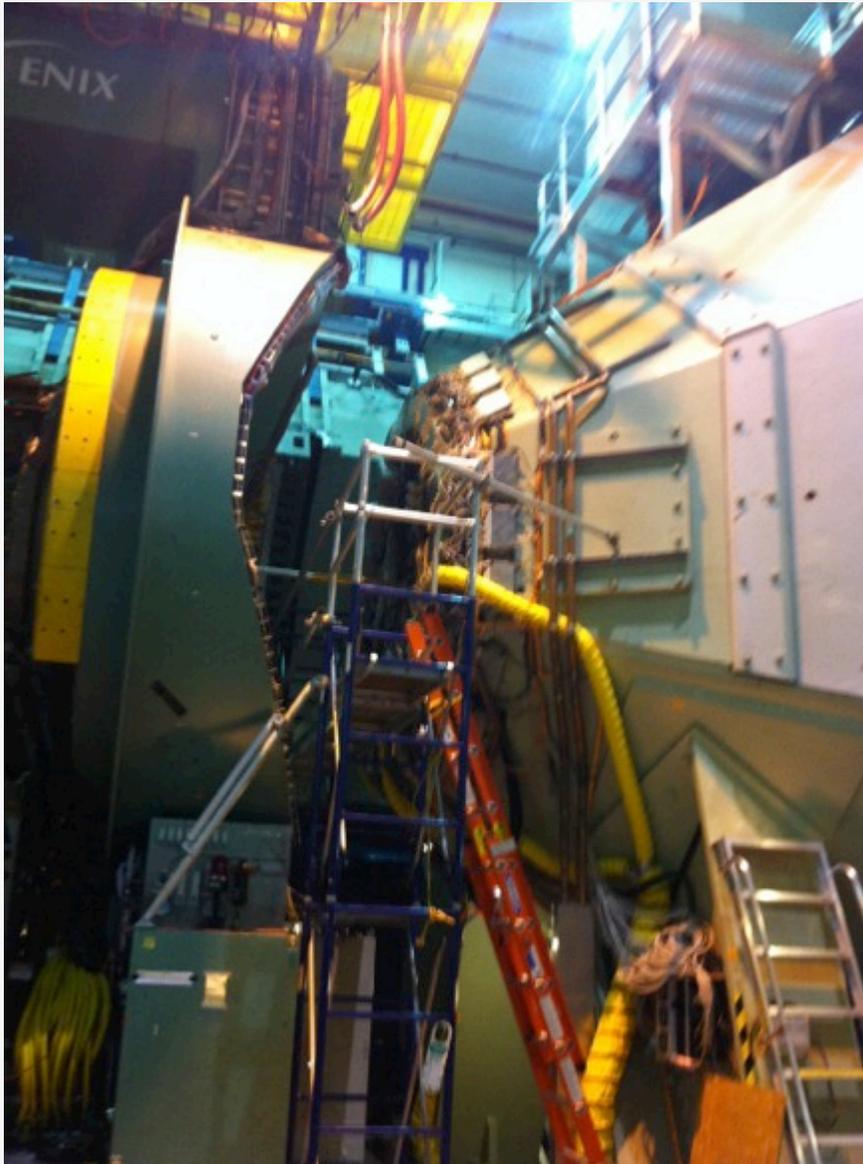
Work at 1008 summary:

- We should be ready to install MPC-Ex North by ~9/15
- We expect to be ready to run some commissioning tests by 9/30 (with North station 1 open)
- Need to remove scaffolding by 10/10 to accommodate window for Vlad to work on DC West
- We should be ready to install MPC-Ex South by 10/20
- Any delays in receiving either North or south (including FEM's) will jeopardize schedule for start of run 15
- Frank to go to Stony Brook to evaluate assembly next week and again before assembly is sent to BNL for installation.
- Need to have a Installation/Safety review with CAD ESRC. John LaJoie suggests 9/16 or 9/17 when he will be at BNL

MPC-Ex North & South



MPC-Ex North Beam pipe temporary support



Scaffolding moved
to north station 1

MPC-Ex North Prep
is underway

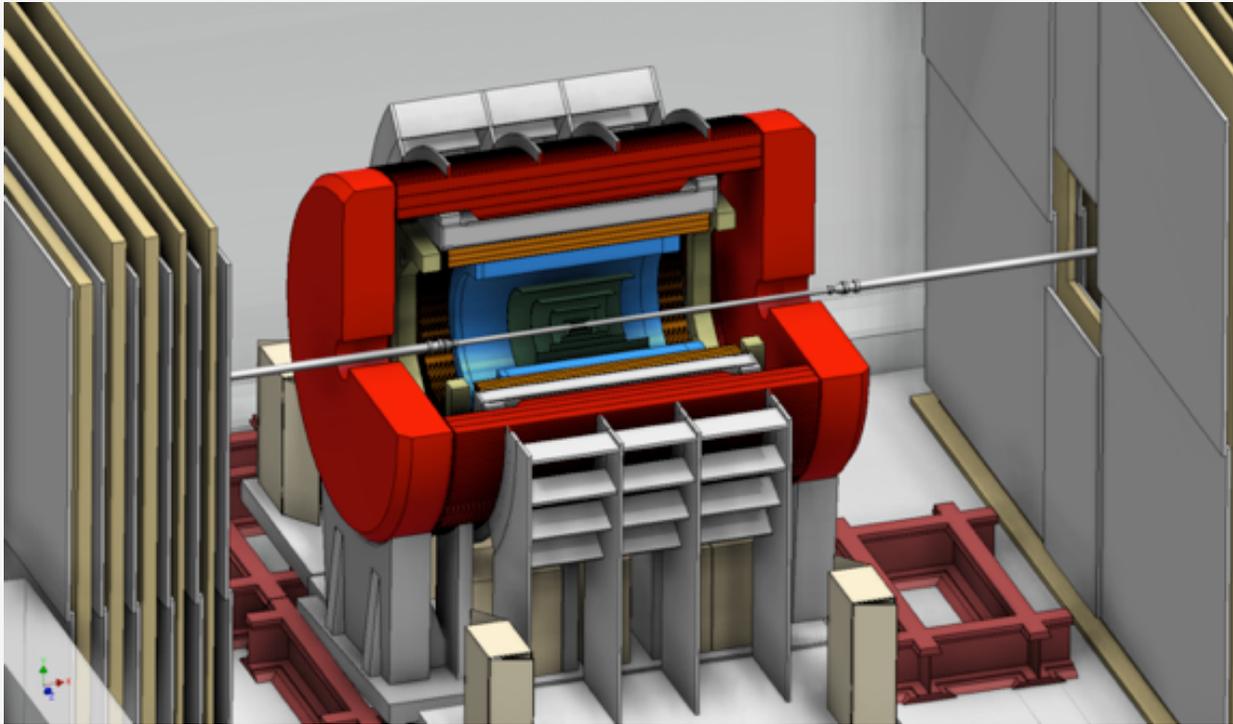
Electronics Cooling Water High Temperature Alarm

Display showing temperature of cooling water

Add Alarm to Panel

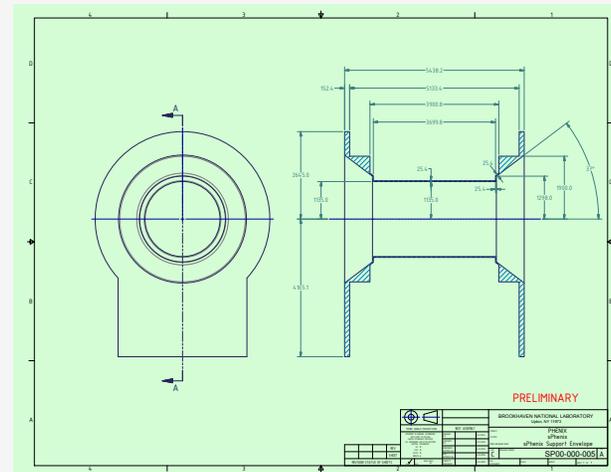
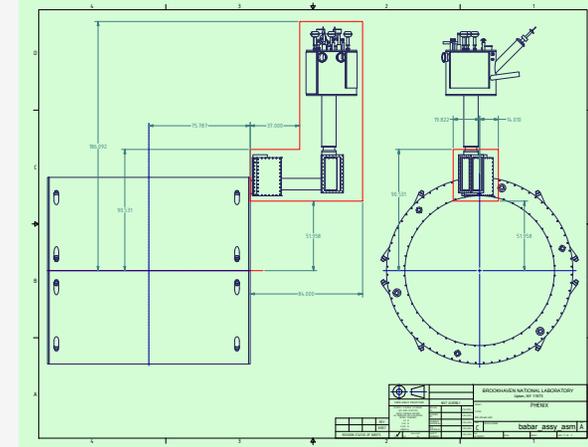
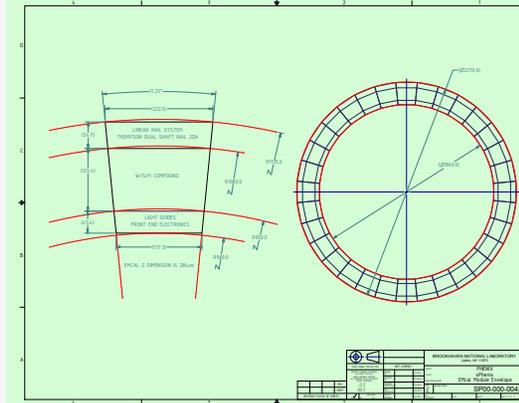
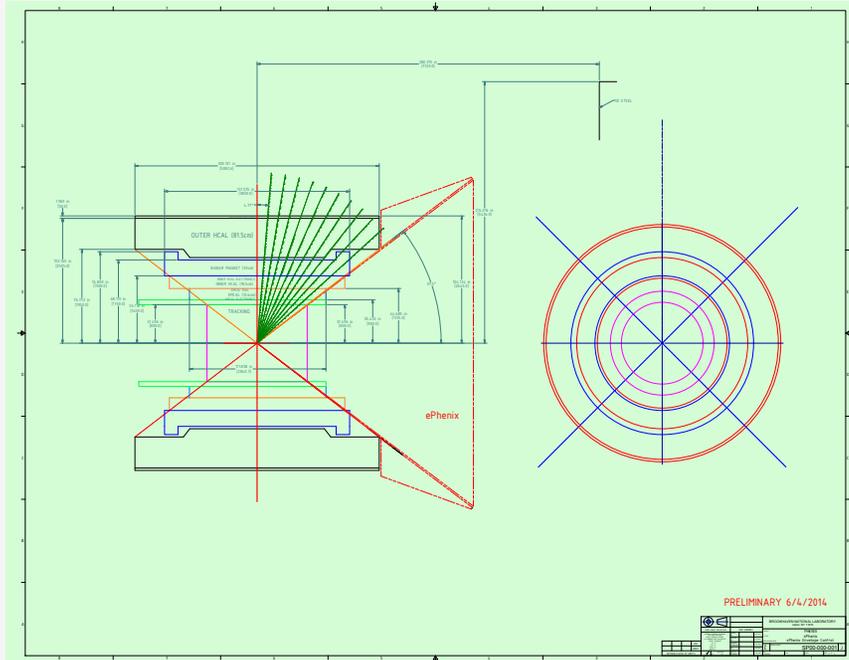


PHENIX NORTH



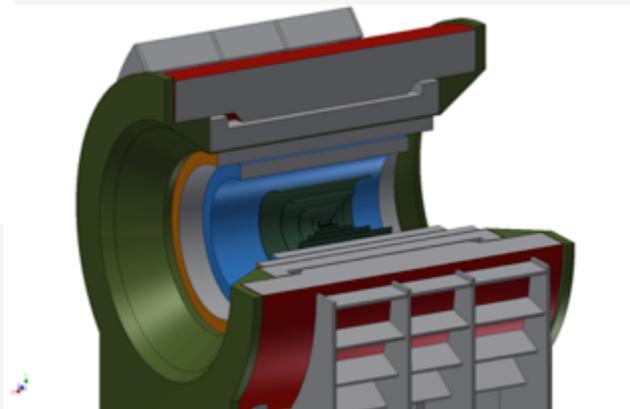
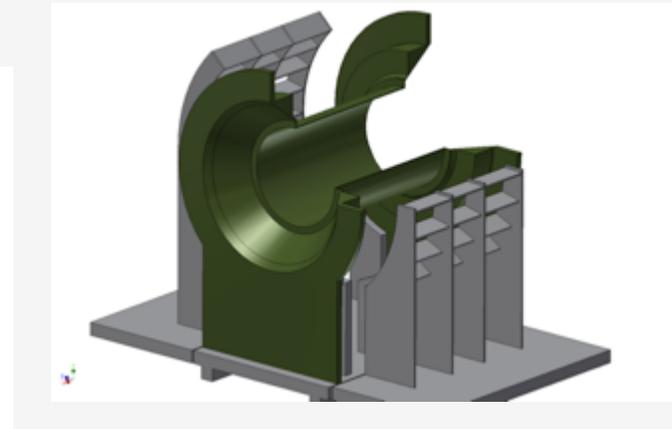
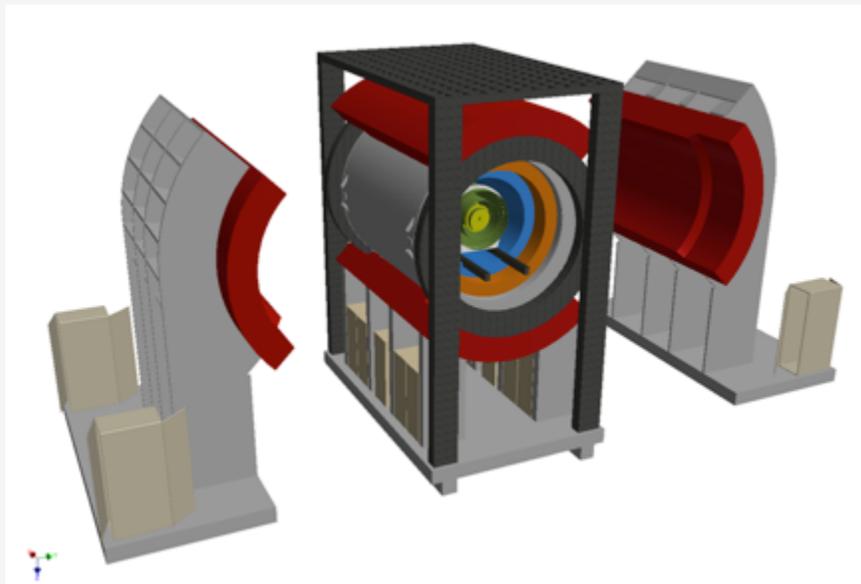
sPHENIX Global Design Concept

- sPHENIX Detector Design Envelopes
 - Magnet
 - HCal Outer
 - HCal Inner
 - EMCal
 - Tracking (VTX)
 - Future Upgrades
 - Support Structure Envelope



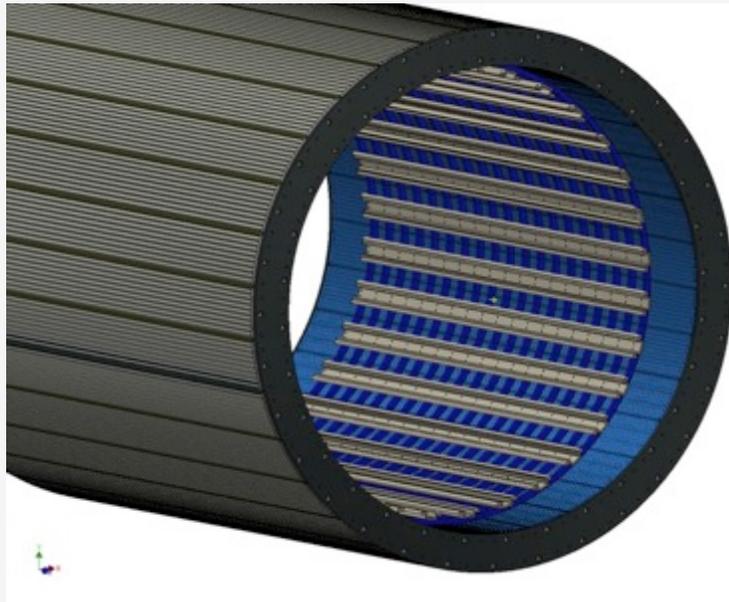
sPHENIX Global Design Concept: Detector Structural Support

- External and Internal Support Structures
 - EC, WC, CP, $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{2}$ Outer HCal
 - CP lower supports $\frac{1}{4}$ Outer HCal lower and Magnet
 - HCal Inner supported by HCal Outer
 - EMCal supported by HCal Inner
 - Tracking (VTX) supported by <TBD>
 - Load transfer from CP to HCal Outer/Upper <TBD>
 - Bridge Platform above HCal Outer Upper supported from CP lower

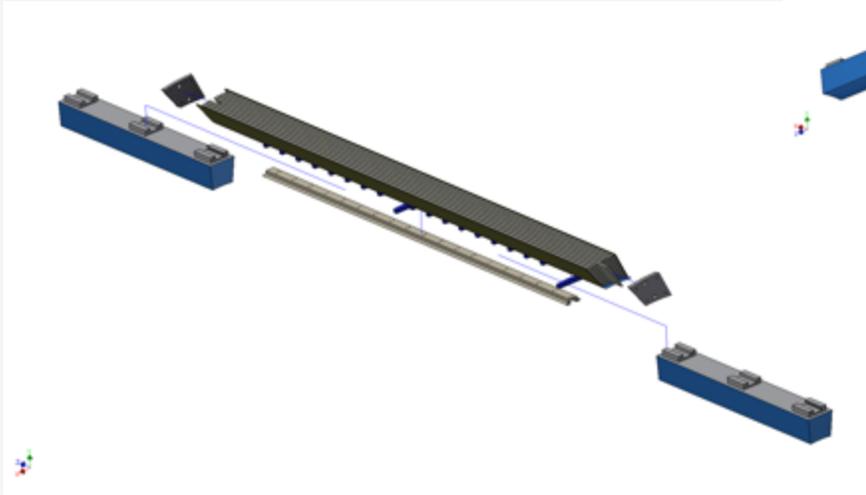
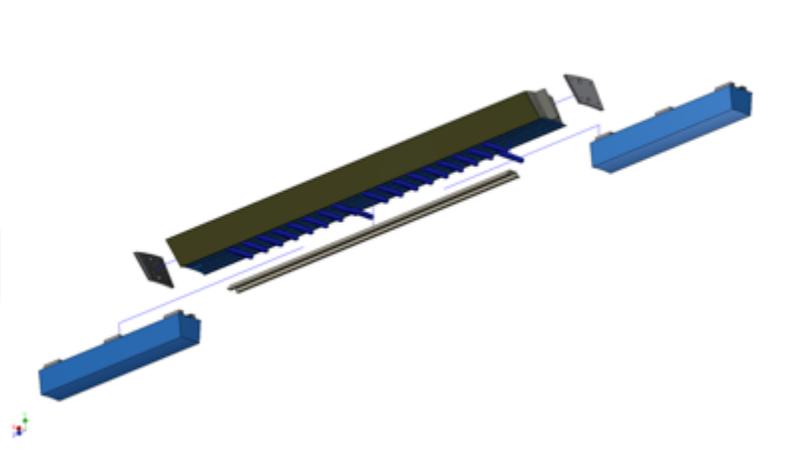
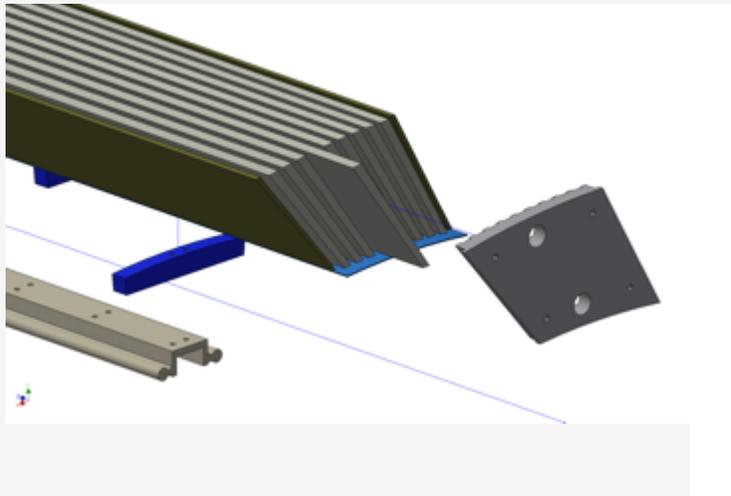


Internal Support Concept

PHENIX
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SUPPORT
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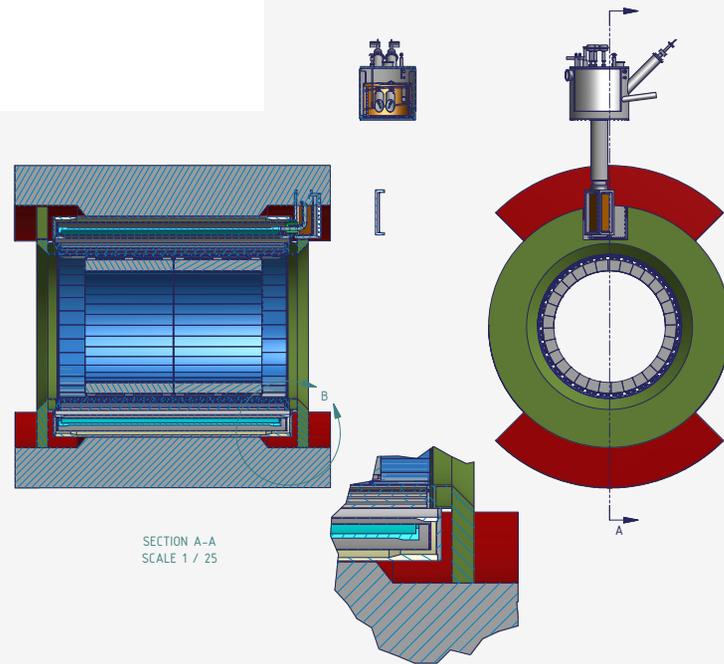
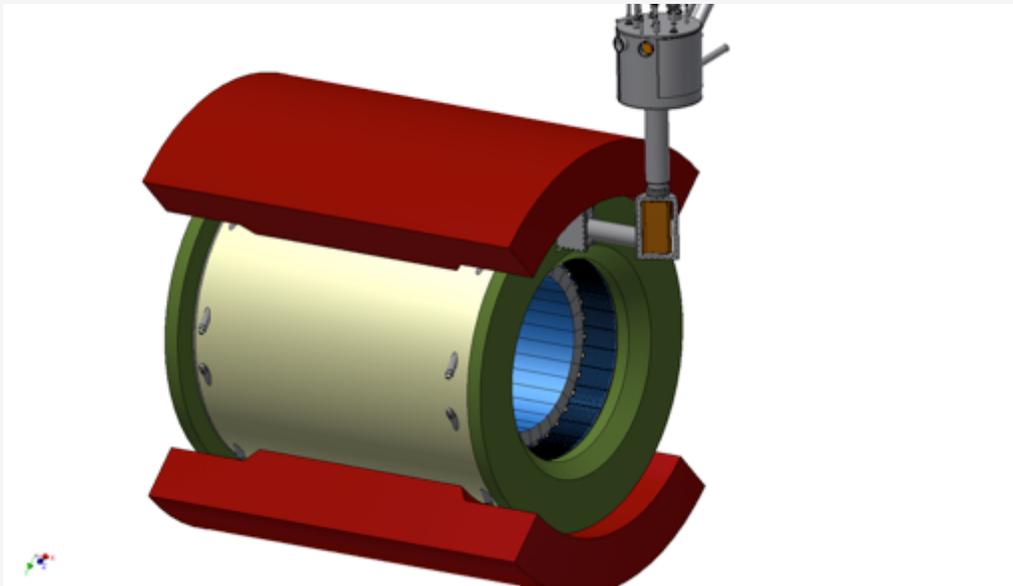


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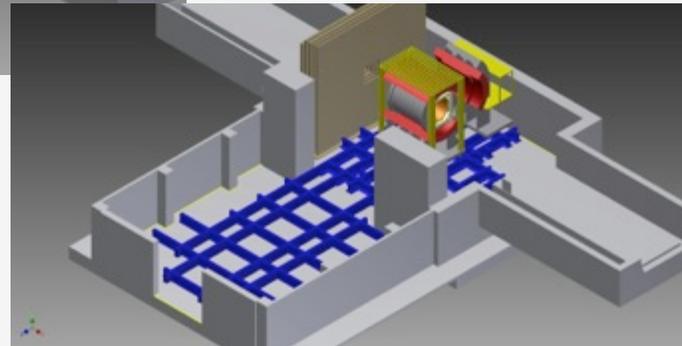
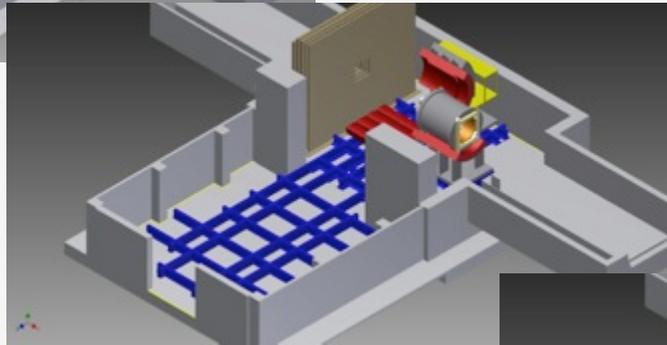
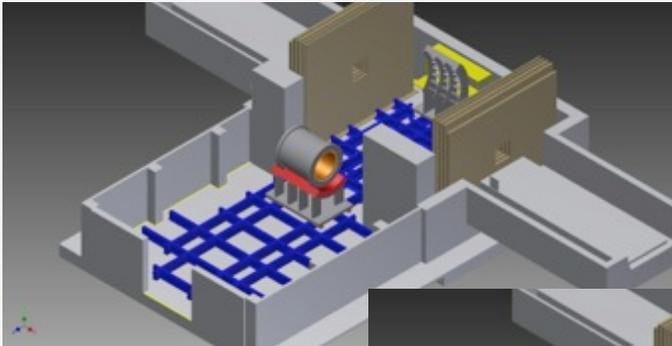
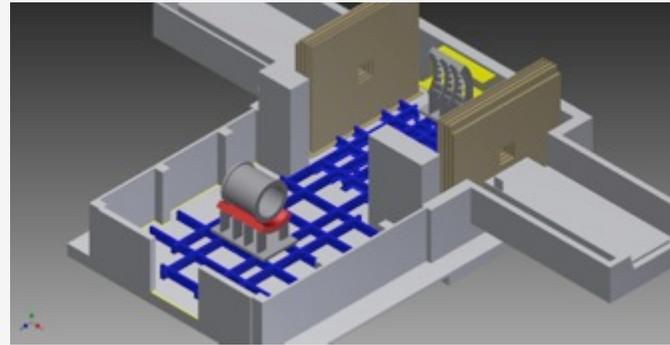
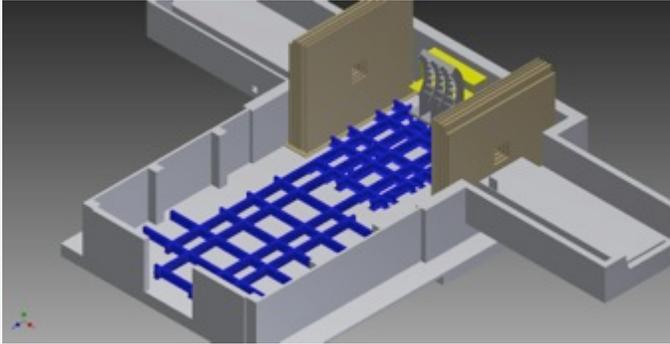


Internal Support Concept: detector integrated support

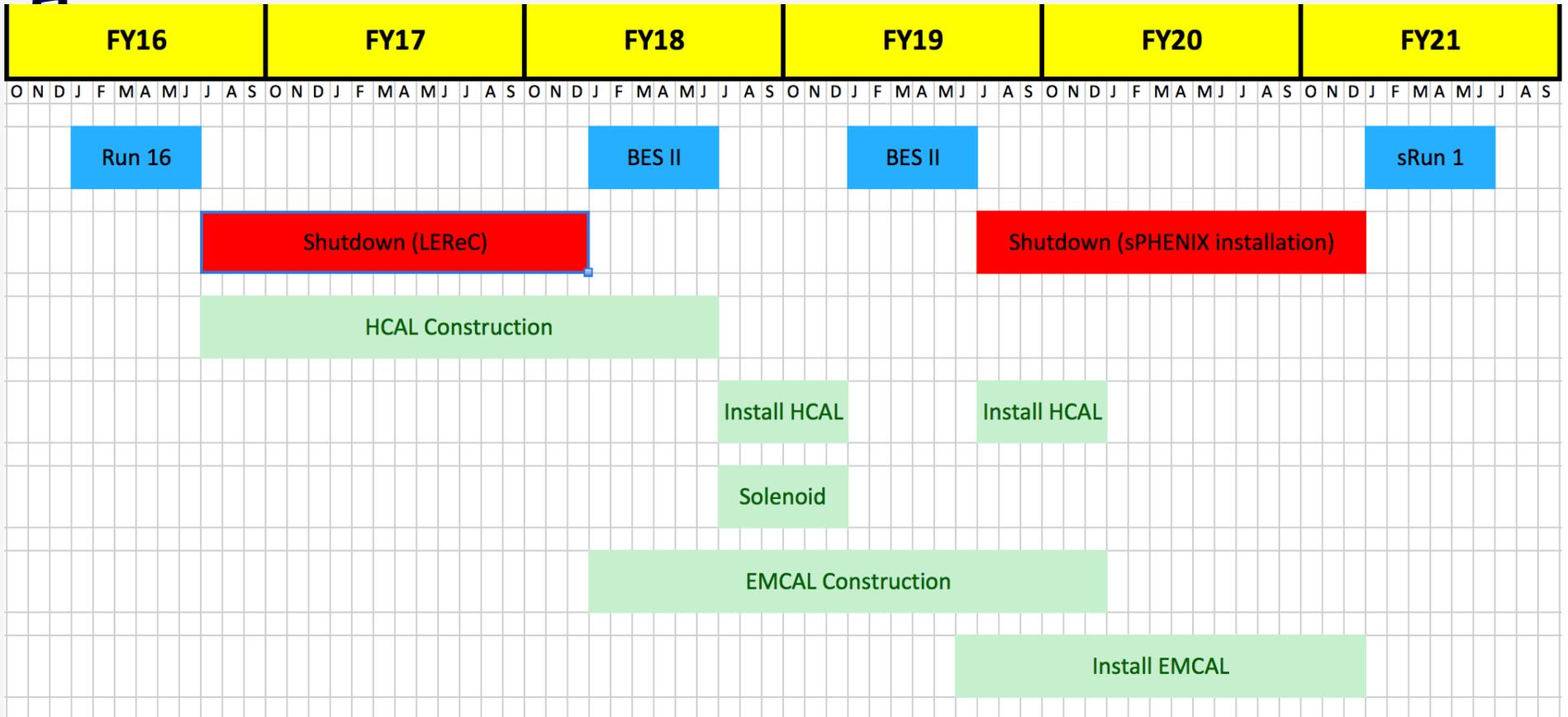
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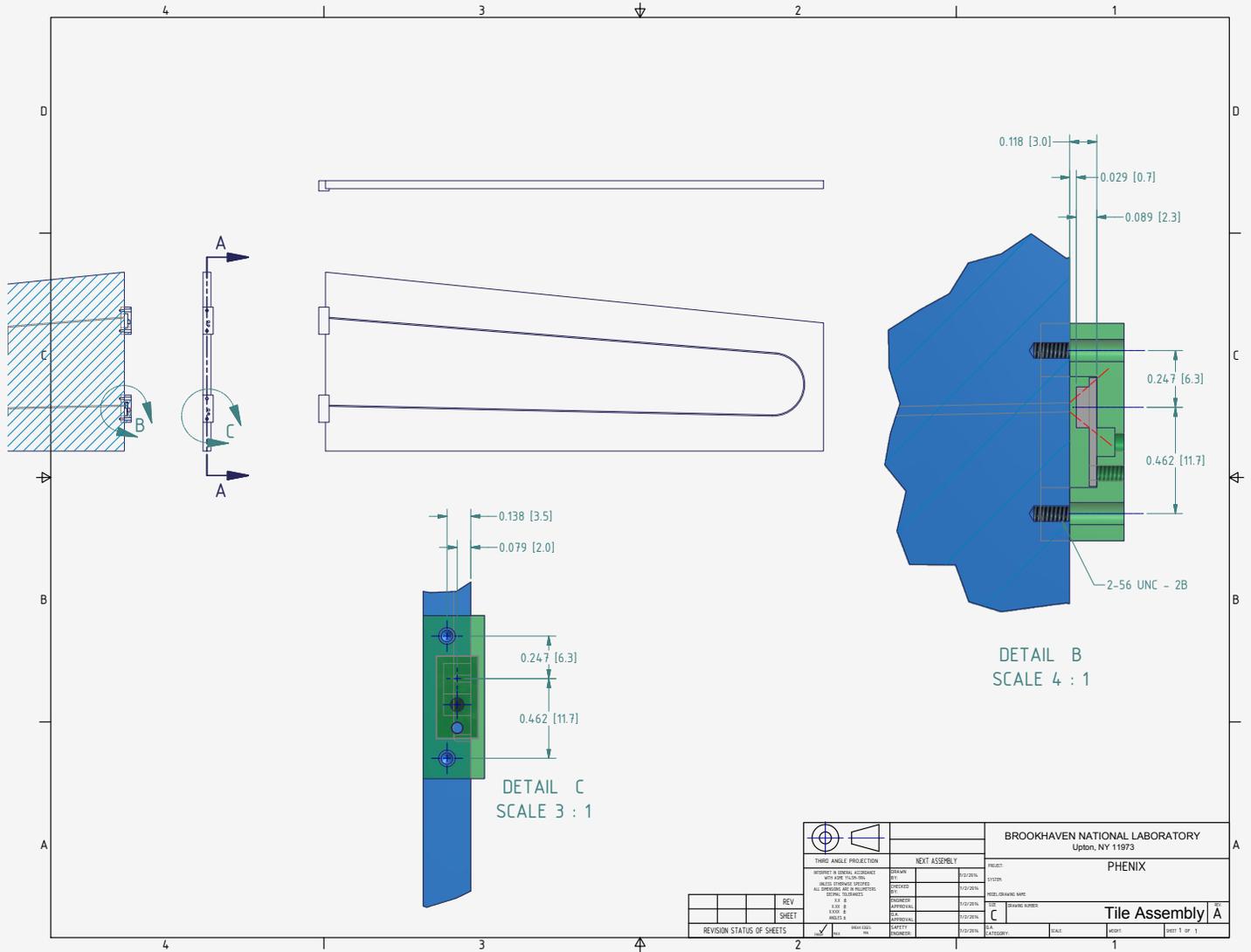


Assembly Concept

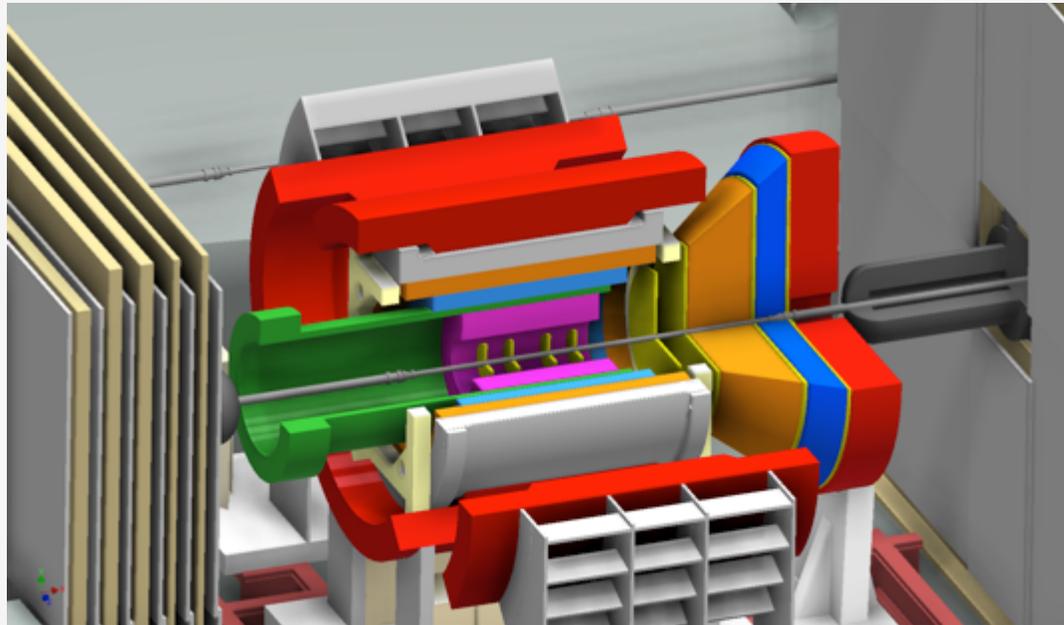


sPHENIX schedule

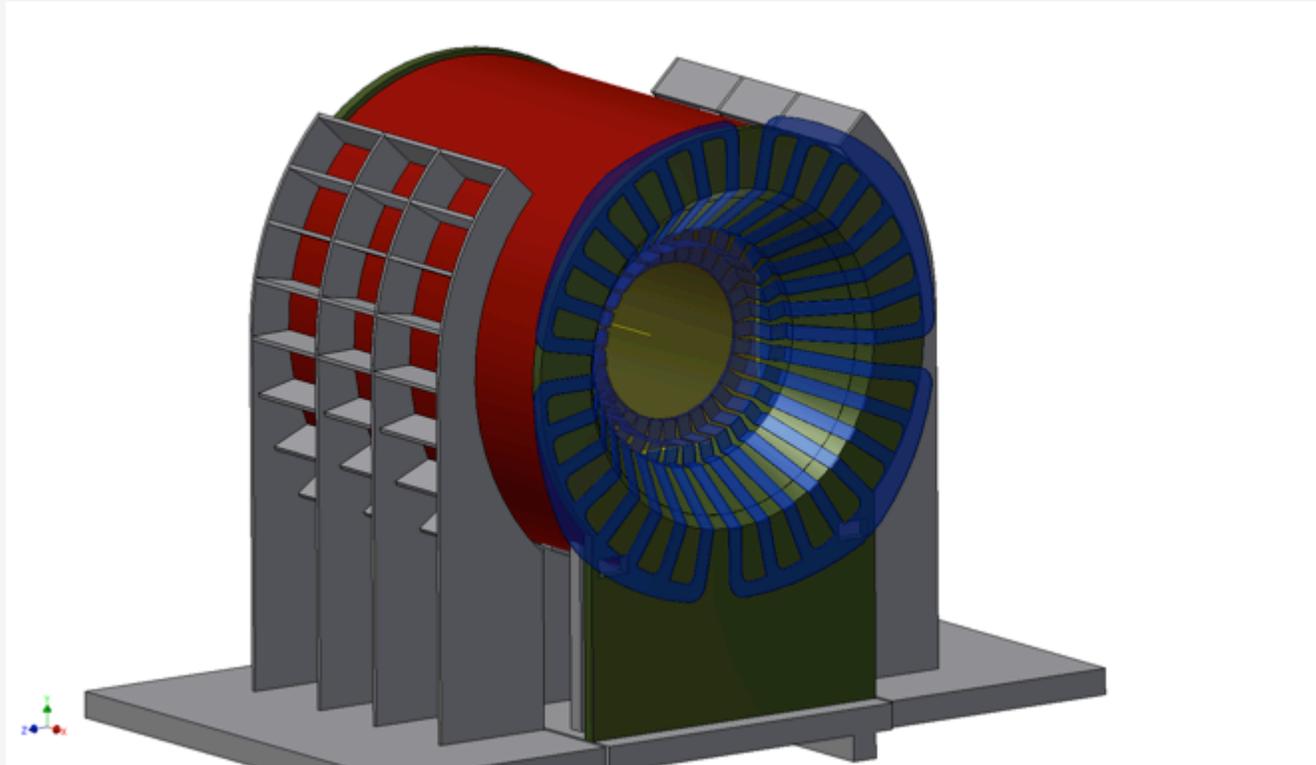




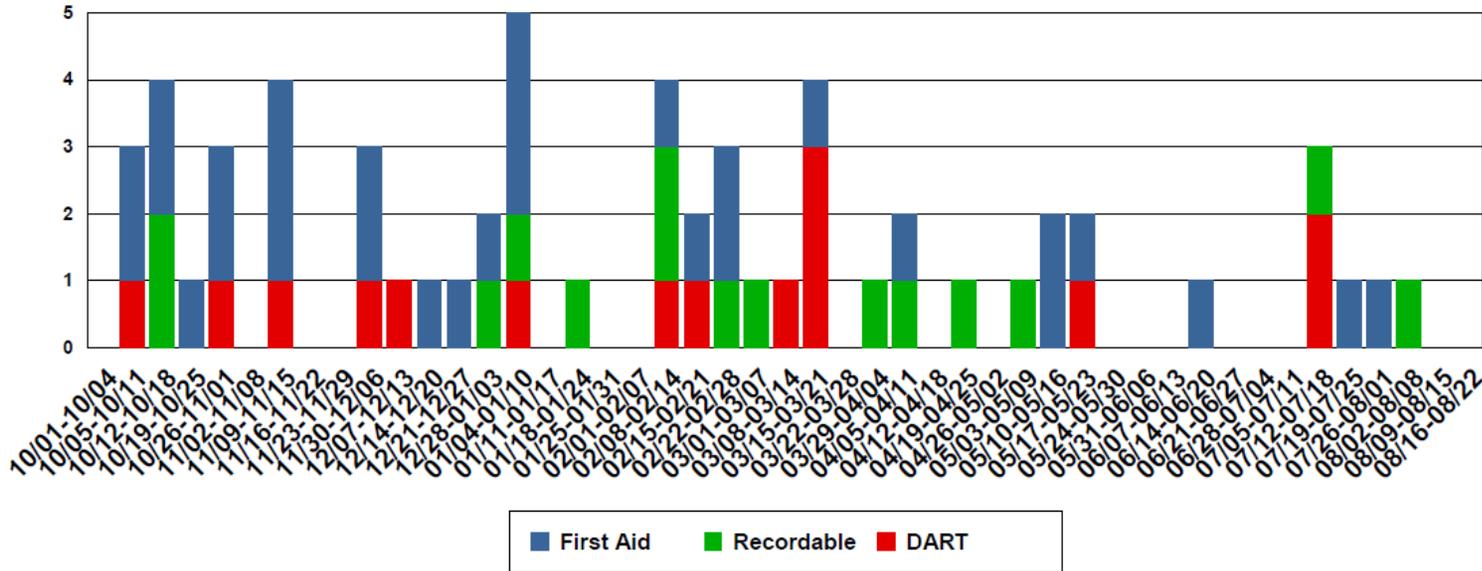
ePHENIX



sPHENIX Cable routing Concept



Injuries Per Week (FY)
As of 8/22/2014



Injury Status:

FY14 YTD: DART – 15, TRC – 30, First Aid – 30
 FY13: DART – 16, TRC – 38, First Aid – 53
 FY12: DART – 19, TRC – 36, First Aid – 69

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

Recent Injuries	
	None



Recent Events		
8/22/14	Non-Reportable	Three ceiling tiles fell to the floor in Building 490, room 9-56C. The room was occupied at the time; there were no injuries or equipment damage. The area has been cordoned off. An inspection of the ceiling to determine cause(s) is in progress. Corrective action(s) will follow. (Event Link)
8/21/14	Non-Reportable	While sanding titanium, an employee observed sparks and smoke around the belt sander. The employee used a fire extinguisher to stop the smoke generation, and notified Fire/Rescue. The sander was shut down and tagged out of service. There were no flames generated, no injuries, and no evacuation. (Event Link)
8/19/14	Non-Reportable	Fire/Rescue responded to a report of an unusual odor. Upon investigation, an overheated battery in an uninterruptable power supply was discovered. It has been removed from service. There were no injuries, and no environmental release or fire associated with this event. (Event Link)
8/18/14	SC-3	On August 18, 2014, a lower tier contractor employee, who was performing work directly for the DOE Brookhaven Site Office (BHSO) under the Utility Energy Service Contract (UESC), was descending from a mobile scaffold when the scaffold began to tip and fall in his direction. The worker jumped onto a table as the scaffold continued to fall. The scaffold struck a chair and wedged itself between cubical partitions. The worker did not indicate any injury or trauma associated with this event. The worker was immediately transported to and evaluated at the BNL Occupational Medicine Clinic (OMC) and released for work without restriction. There was no property damage associated with this near miss event. An investigation has been initiated. (Event Link)
8/9/14	Non-Reportable	The exterior glass of a double pane window was cracked while a string trimmer was being operated in the vicinity. During the investigation, another cracked window was discovered. Site Resources will be conducting an investigation into the operation of the string trimmer and will evaluate actions that can be taken to minimize the risk of recurrence. (Event Link)



Where To Find PHENIX Engineering Info

2014 Shutdown Continues !

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

