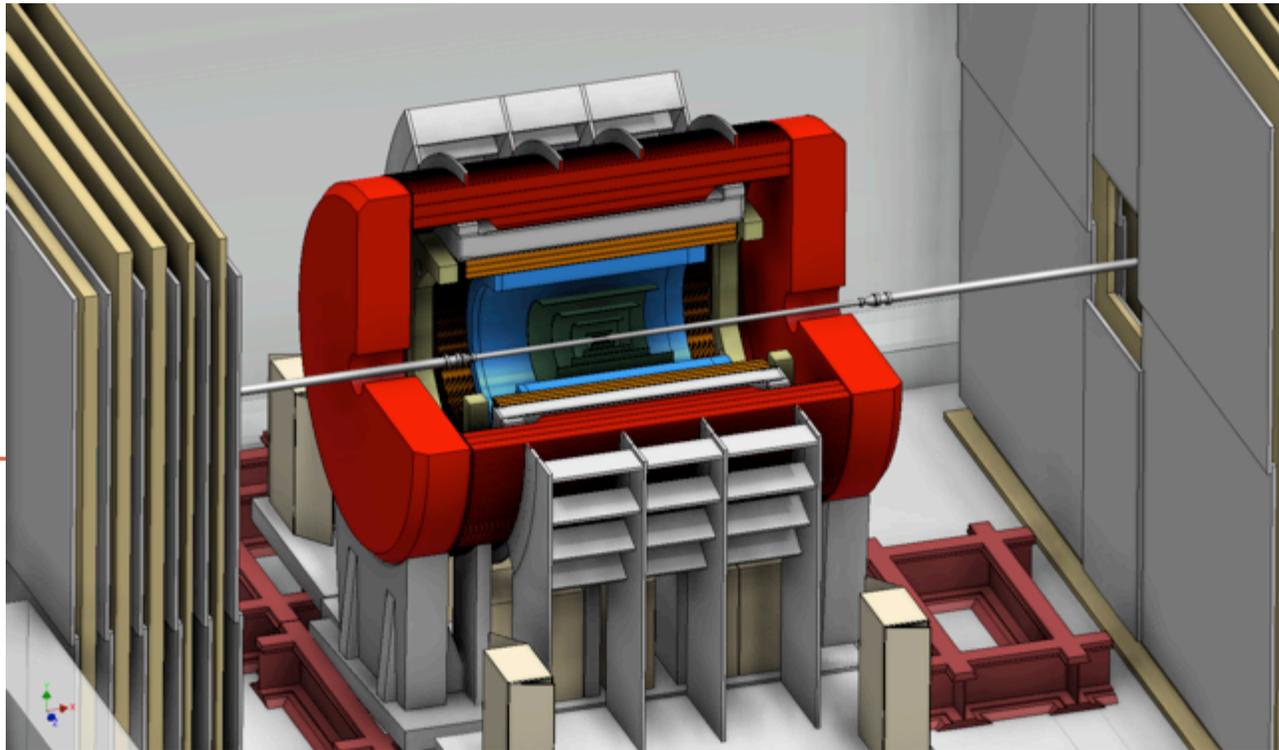


SPHENIX MECHANICAL



D. Lynch
August 21, 2014

AGENDA:

1. Magnet update
2. sPHENIX Design Update
3. sPHENIX Installation Plan Update
4. sPHENIX near term Project Schedule
5. AOB

Magnet Update

Notes from yesterday's bi-weekly magnet meeting:

Shipping fixtures are done or will be by the end of the week. Crate to be received this week and sent on to SLAC.

Work planning at SLAC. Paul K. will email SLAC outlining our filtering and shipping prep plans, and request that SLAC work permits and any other planning required at SLAC be ready for Paul K. and Mike Racine visit next week when shipping fixtures (agent & stack) will be installed. Expect to contact shipper next Friday (8/29) to schedule pick up of all magnet parts 1 working week later (9/8, labor day in that week).

Work planning at BNL for receipt of magnet and parts. Dave P. will coordinate. Biggest item is critical lift, Paul K. is doing FEA to support that and determine whether extra wide lifting slings are needed as were used at SLAC. After Paul finishes his analyses he will pass them on to Dave to procure the appropriate slings (if necessary) and submit the critical lift analyses to Mike Gaffney next week.

Magnet Testing

- Safety Review – Don L. will prepare an outline of magnet testing plans. Yousef will coordinate with lab safety committee and cryo safety committee what items will need to be reviewed in depth based on outline plan. Some discussion of what safety committee will need to review for ASME pressure vessel compliance of valve box. Paul K. will ask SLAC if they have any relevant ASME compliance documentation.
- More details for magnet testing will be decided after parts are received.
- Schedule – Roberto indicated that he would have a 6 month window 1/1/15 – 6/30/15 to work on magnet testing during which time the refrigerant system is available while ERL is shut down. It was agreed that we should schedule the magnet testing during this time period. sPHENIX management will come up with a more detailed schedule by the next bi-weekly meeting (9/3). Schedule will include receipt of magnet, design of modified stack, Design and safety reviews, assembly and fabrication of cryo, and electrical and monitoring components and fixtures , cool down (~1 month) and any other relevant tasks.

Magnet Update (cont'd)

Stack modifications – It was agreed that Paul K.'s design for the modification is essentially what we want to do, but Roberto pointed out that the 2 phase He exhaust line would create a vapor trap as currently proposed. It was agreed that we would wait until we received the equipment and examined the feasibility of bending/ or otherwise modifying the existing outlet tube for the stack modifications.

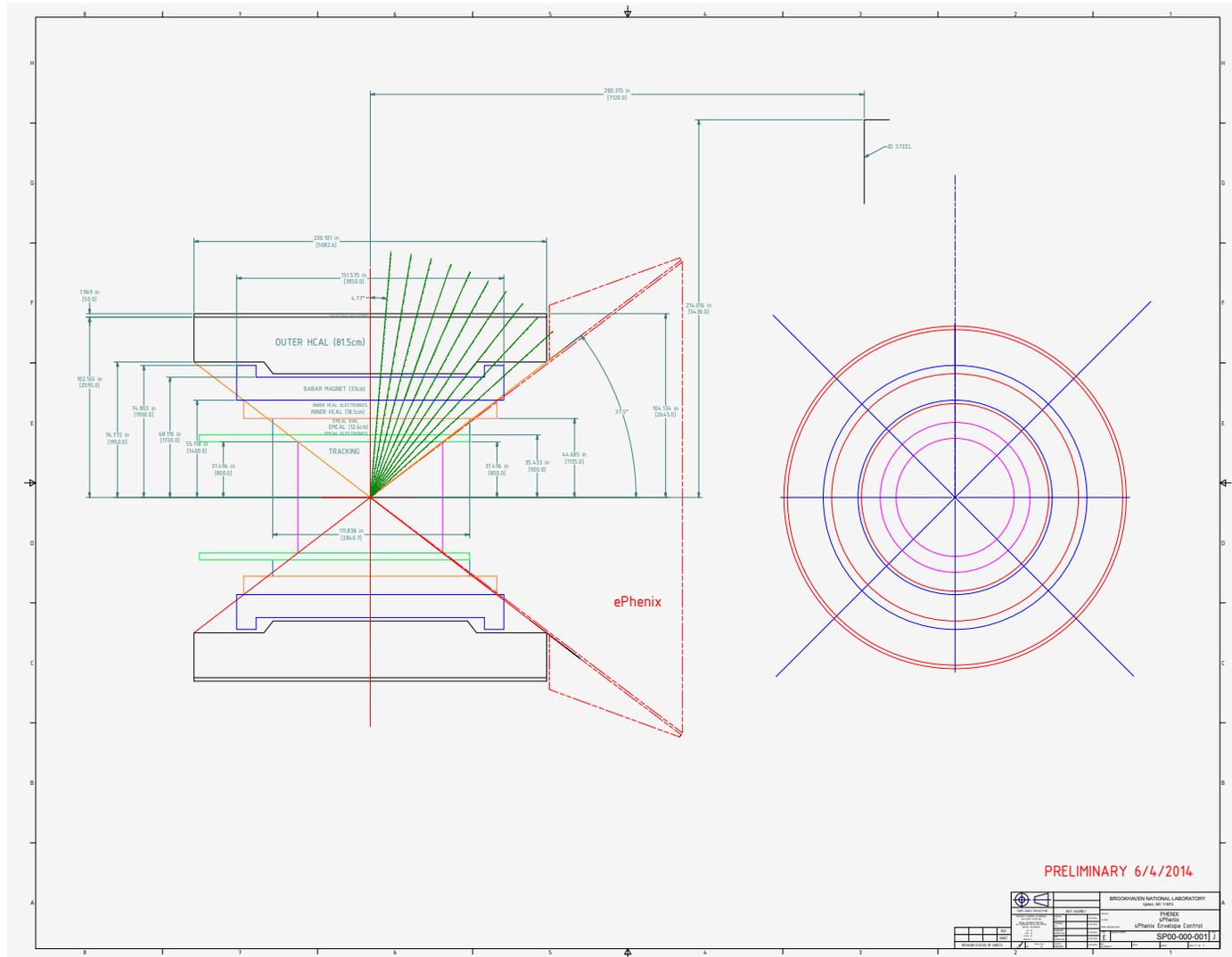
Other relevant issues-

- It was discussed whether to rotate the magnet to its final orientation after moving it to its test location. It was agreed to leave it in the “stack down” orientation to facilitate examining and possible modification, and rotate it to the operating position at a later time.
- Paul G. requested info concerning monitoring and control of the electrical and cryogen supplies to the magnet both in the testing area and later when installed at PHENIX. Paul will coordinate with Roberto Than (cryo) and CAD power supply group (electrical) to gather the info he will need.

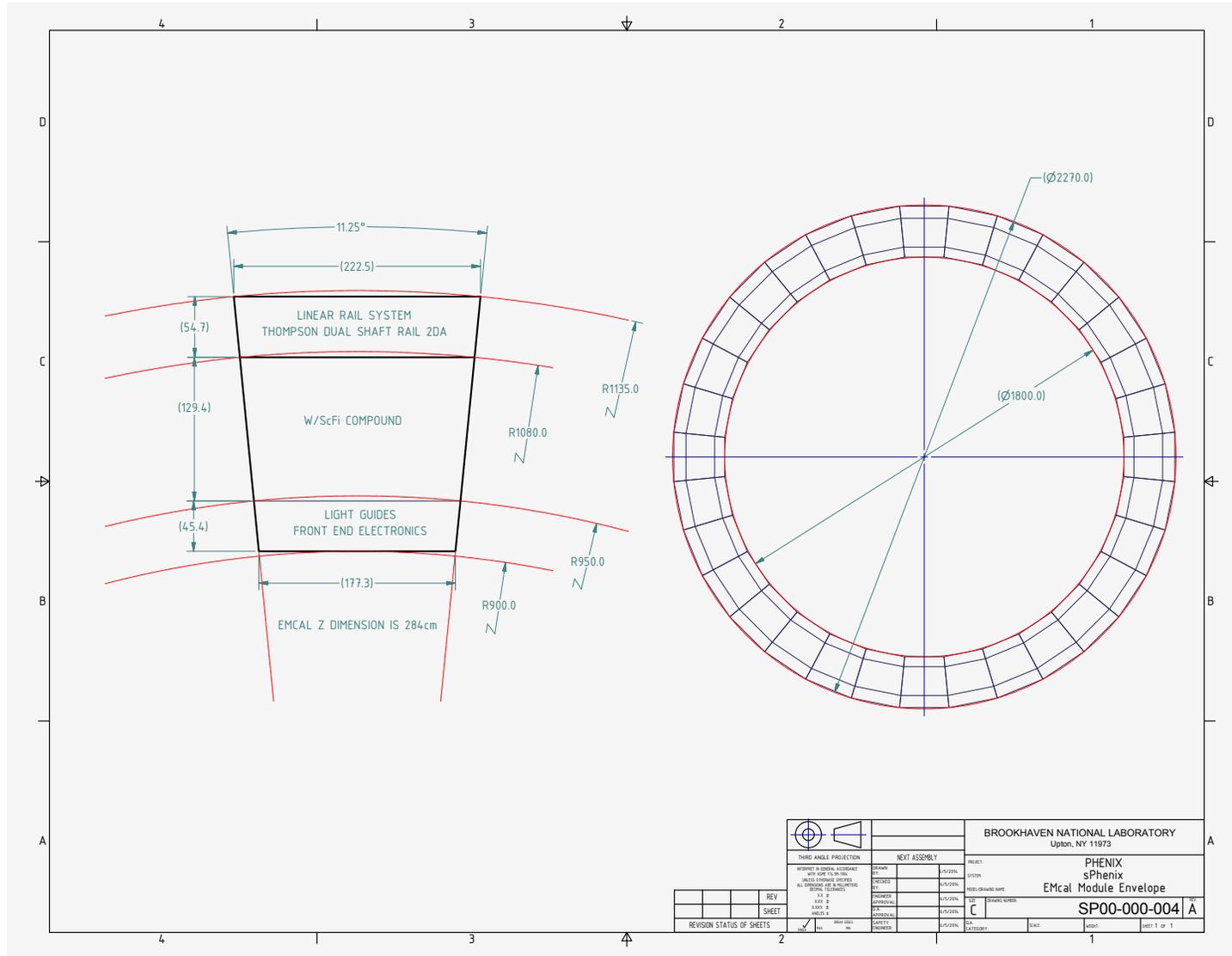
sPHENIX Design

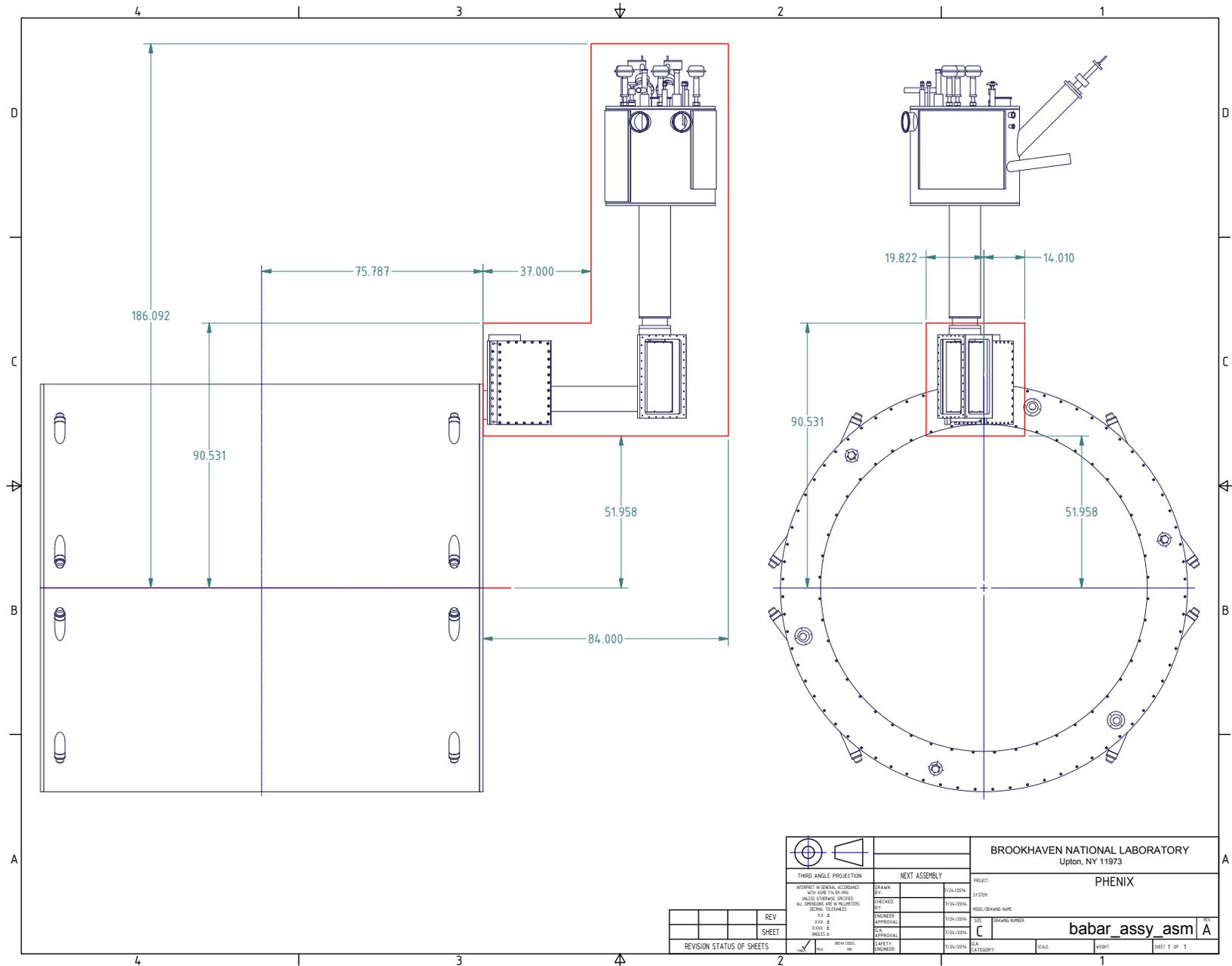
- No recent changes to envelope drawings
 - Expect to add support structure envelop
 - Inner support structure plan is evolving
- sPHENIX Assembly Plan in development
- Design Specification Documents being prepared for:
 - 1) **Global system (includes decommissioning, infrastructure & installation)**
 - 2) **HCal Outer**
 - 3) **HCal Inner**
 - 4) **EMCal**
 - 5) **Calorimeter Electronics**
 - 6) **DAQ/Trigger**
 - 7) **Tracker**
 - 8) **Magnet**

- sPHENIX Design Update: No change to envelope since last meeting



sPHENIX EMCal Envelope





REV	DATE	DESCRIPTION

				BROOKHAVEN NATIONAL LABORATORY Upton, NY 11973	
THIRD ANGLE PROJECTION INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.3-2003 UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MILLIMETERS DECIMAL TOLERANCES XXX ± XXX & ANGLES ±		DRAWN BY: P/24/PJG CHECKED BY: P/24/PJG ENGINEER APPROVAL: P/24/PJG DATE: P/24/PJG SAFETY ENGINEER: P/24/PJG		PROJECT: PHENIX SYSTEM: MODEL/DRAWING NAME: SEE DRAWING NUMBER: babar_assy_asm A	
REVISION STATUS OF SHEETS		SHEET		SCALE: SHEET 1 OF 1	

sPHENIX Assembly Plan

1. BABAR magnet transported to PHENIX possession in bldg 912 test area. BABAR Magnet becomes sPHENIX magnet
2. sPHENIX magnet tested at 912
3. Stack modifications designed and built (location TBD)
4. HCal outer, HCal Inner, EMCal, Tracking detector, global support structure, global infrastructure and assembly/installation fixtures design and procurement
5. HCal outer, HCal Inner, EMCal and Tracking detector assembled into modules and tested at assembly areas (TBD) away from 1008

(End of run 16)
6. PHENIX Decommissioning
7. Global support structure and global infrastructure components assembled and installed at 1008 AH and IR as appropriate

(End of BES 1)
8. West Carriage (WC) assembled at 1008 AH then moved to IR
9. 1/4 of HCal outer transported to 1008 AH
10. Central Pedestal (CP) and 1/4 of HCal Outer assembled at 1008 AH
11. sPHENIX Magnet Transported to 1008 and mounted on CP
12. All Inner HCal modules transported to 1008 AH

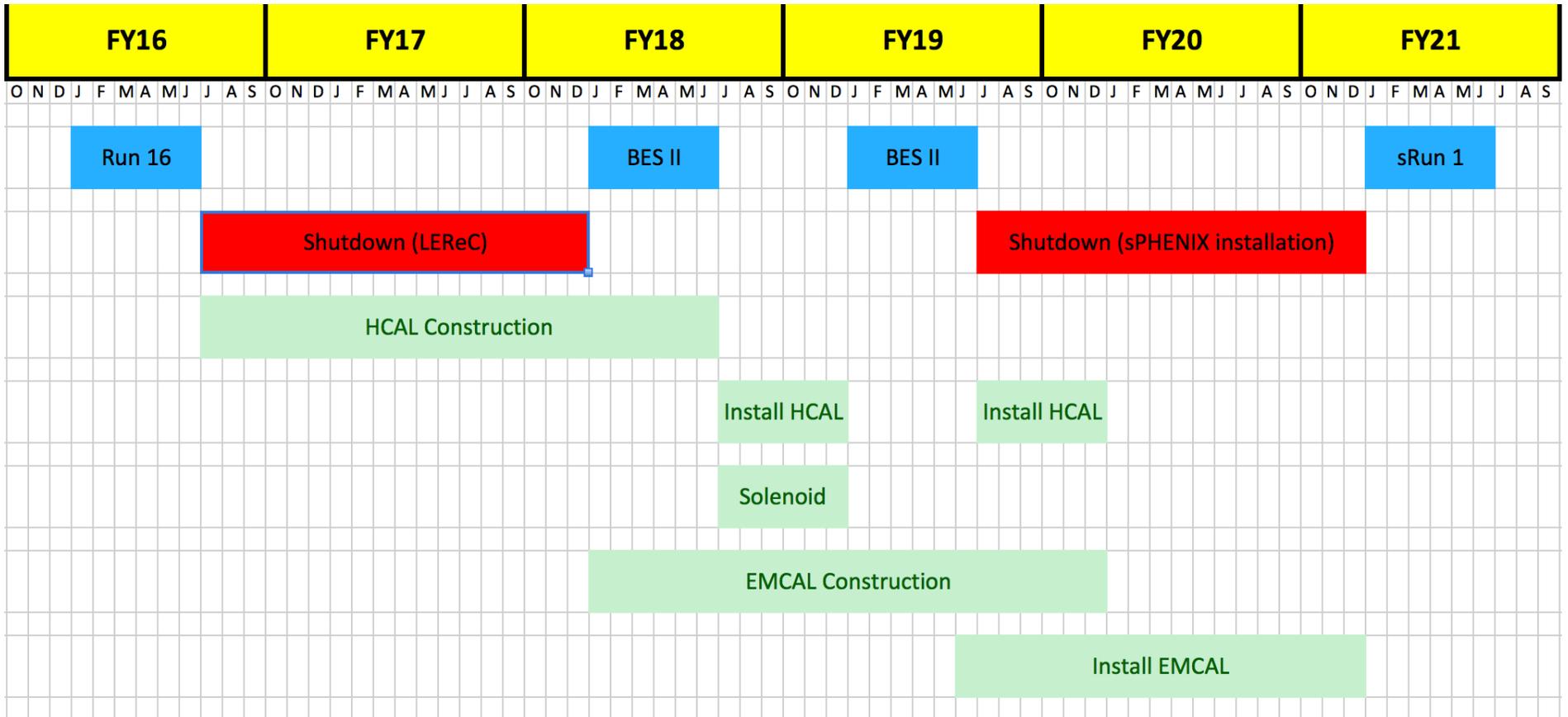
sPHENIX Assembly Plan cont'd)

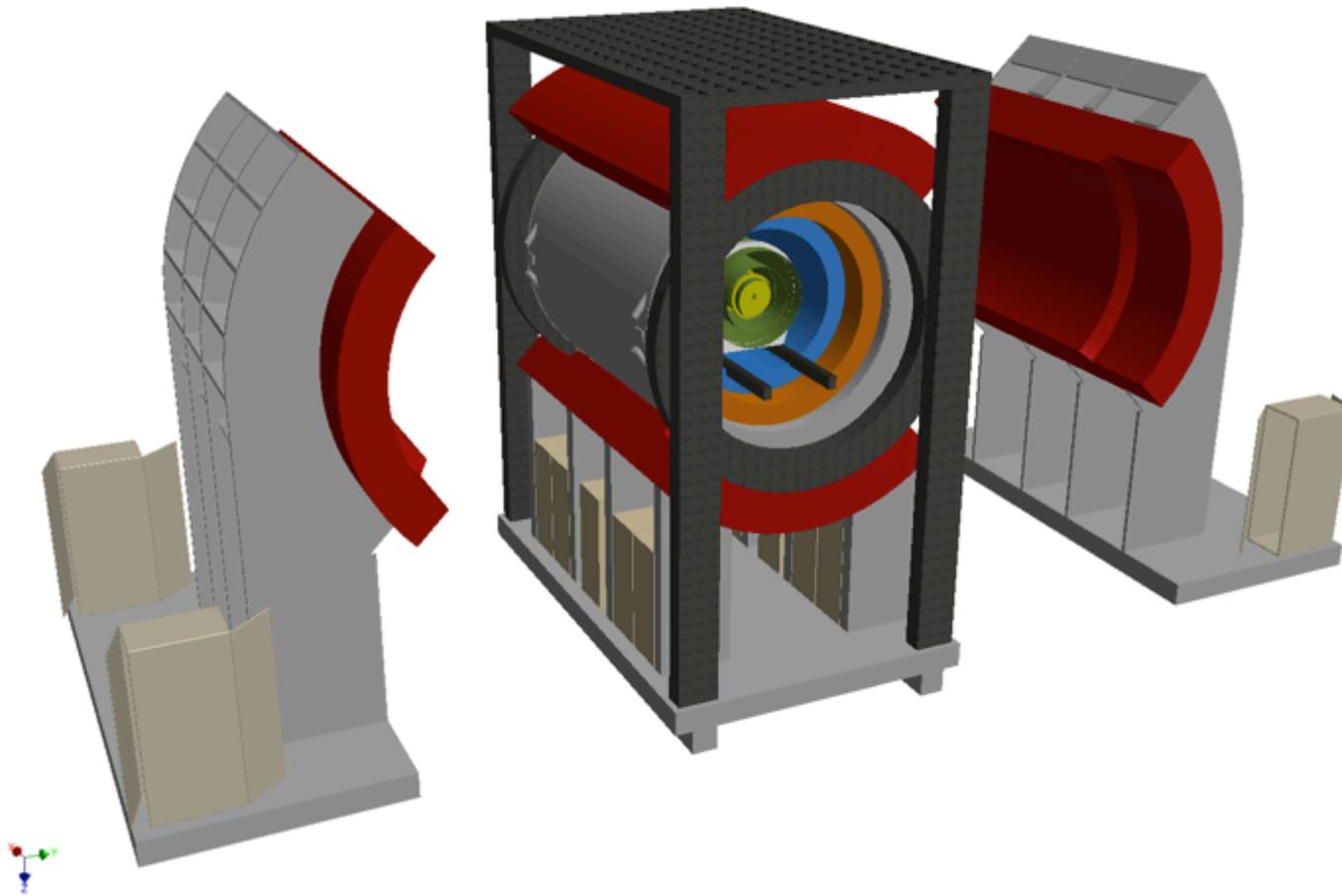
13. Inner support structure assembled with installation fixture, all Inner HCal mounted on Inner support structure then this assembly inserted into Magnet and Inner support structure mounting hardware (connecting Inner support structure to lower Outer HCal and/or CP)
14. Upper Outer HCal support connected to inner support and lower HCal support/CP
15. Move step 13 structure to IR, Install Beam pipe
(End of BES 2)
16. WC Outer HCal modules and Upper Outer HCal modules (1/4 of total each) transported to 1008
17. Outer HCal modules assembled on WC and CP
18. CP upper rack platform installed on CP above Outer HCal
19. Racks and Cables installed and routed for Inner and Outer HCal modules on CP and WC
20. Infrastructure services connected to sPHENIX Magnet, CP, WC, Inner and Outer HCal on CP and WC
21. All EMCAL modules installed inside Magnet in IR

sPHENIX Assembly Plan cont'd)

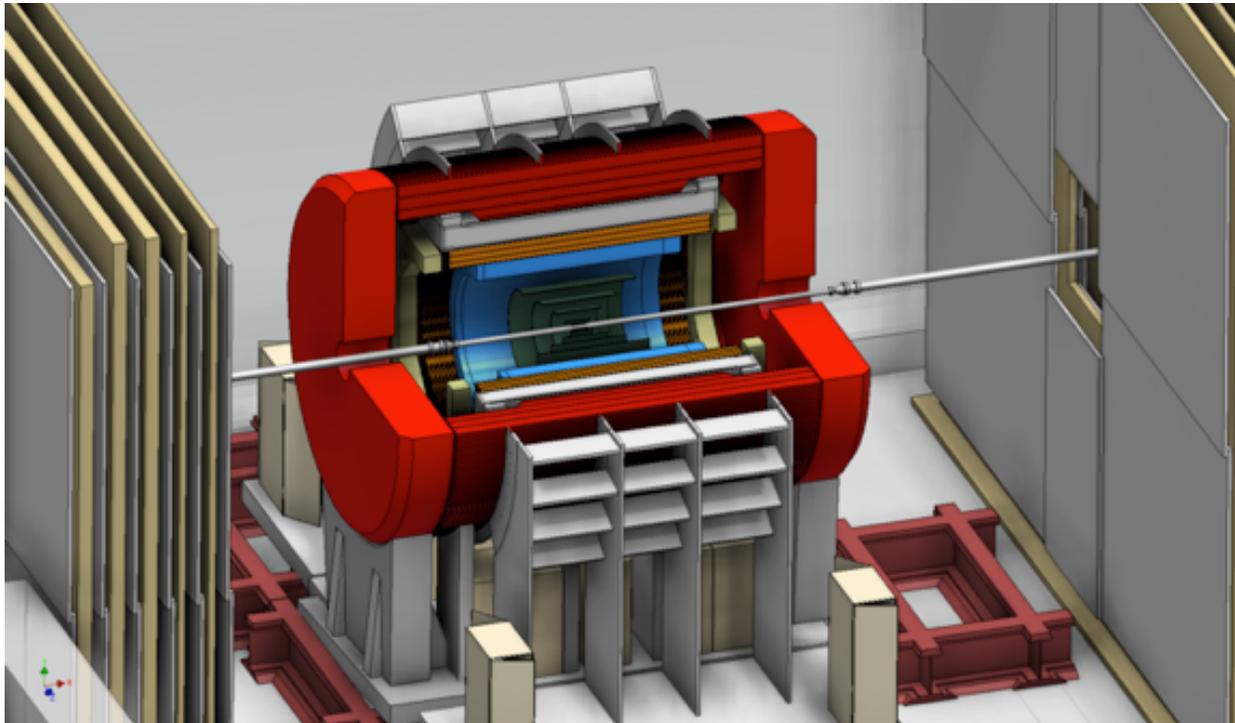
22. EMCal racks, cables and infrastructure services installed on CP
23. Tracking modules installed inside Magnet in IR
24. Tracking module racks, cables and infrastructure services installed on CP
25. East Carriage (EC) assembled in IR
26. Remaining 1/4 of Outer HCal modules installed on EC
27. EC Outer HCal racks, cables and infrastructure services installed on EC.
28. EC moved to IR
29. sPHENIX Commissioning

sPHENIX schedule





Initial concept for external support,
racks and upper bridge platform



Basic sPHENIX model cutaway