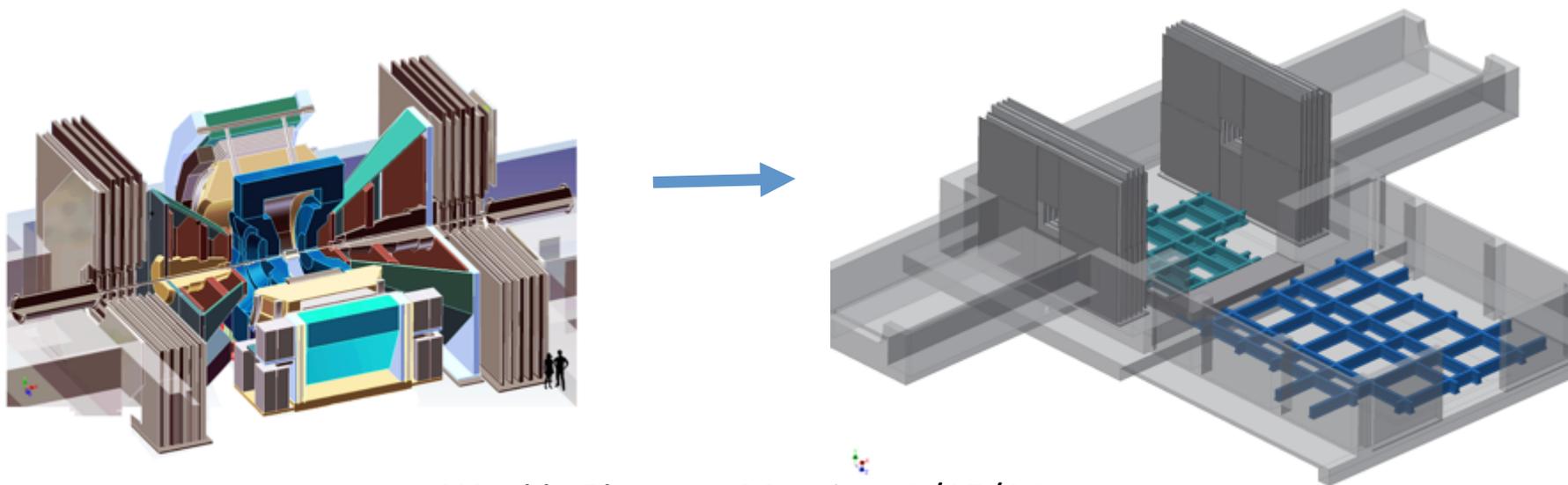


# Removal and Refurbishment (R & R) of the PHENIX Experiment at 1008



Weekly Planning Meeting: 9/15/16

Paul Giannotti

# sPHENIX This Week

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1. Prepping RICH vessel in Bldg. 912 for removal of photomultiplier tubes to go back to Japan
2. Stripping the electronics racks in 912 tent, sorting out reusable equipment and scrap
3. Cleaning up TOF E. removal fixture. Arranging for lift test prior to using it
4. Gathering up hardware needed for EMCAL removal and transportation. Finishing work permit
5. Work permits, procedures for the TEC and TOF E. removal
6. Stripping off VTX cooling lines. Saving useful parts
7. Move Central Magnet north. Prep to start beam pipe work

# Next Week at sPHENIX

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1. Remove top two EMCAL sectors
2. Start removal of TEC sectors
3. Load test TOF E. fixture
4. Continue to strip out racks in 912
5. Start removal of PMT's from RICH East vessel

# Removal & Repurposing Schedule

Major Tasks	Start Date	Finish Date
<b>R&amp;R Engineering, Prep and Planning</b>	<b>In Progress</b>	<b>6/30/16</b>
<b>Initial Tasks Following Run 16</b>	<b>6/27/16</b>	<b>7/29/16</b>
<b>Disassemble East Carriage</b>	<b>8/1/16</b>	<b>10/15/16</b>
<b>Disassemble Muon Magnet South</b>	<b>8/1/16</b>	<b>11/30/16</b>
<b>Disassemble Central Magnet</b>		
<b>Part 1 (things that can be done early)</b>	<b>8/1/16</b>	<b>12/30/16</b>
<b>Part 2 (everything else)</b>	<b>6/30/17</b>	<b>11/10/17</b>
<b>Remove Beampipe/replace with temp pipes</b>	<b>8/1/16</b>	<b>11/30/16</b>
<b>Disassemble West Carriage</b>		
<b>Part 1 (things that can be done early)</b>	<b>8/1/16</b>	<b>12/30/16</b>
<b>Part 2 (everything else)</b>	<b>7/28/17</b>	<b>11/17/17</b>
<b>Disassemble Muon Magnet North</b>		
<b>Part 1 (things that can be done early)</b>	<b>8/1/16</b>	<b>12/30/16</b>
<b>Part 2 (everything else)</b>	<b>9/25/17</b>	<b>3/9/17</b>
<b>R&amp;R Support Structures</b>		
<b>Part 1 (things that can be done early)</b>	<b>8/1/16</b>	<b>12/30/16</b>
<b>Part 2 (everything else)</b>	<b>6/30/17</b>	<b>9/30/17</b>

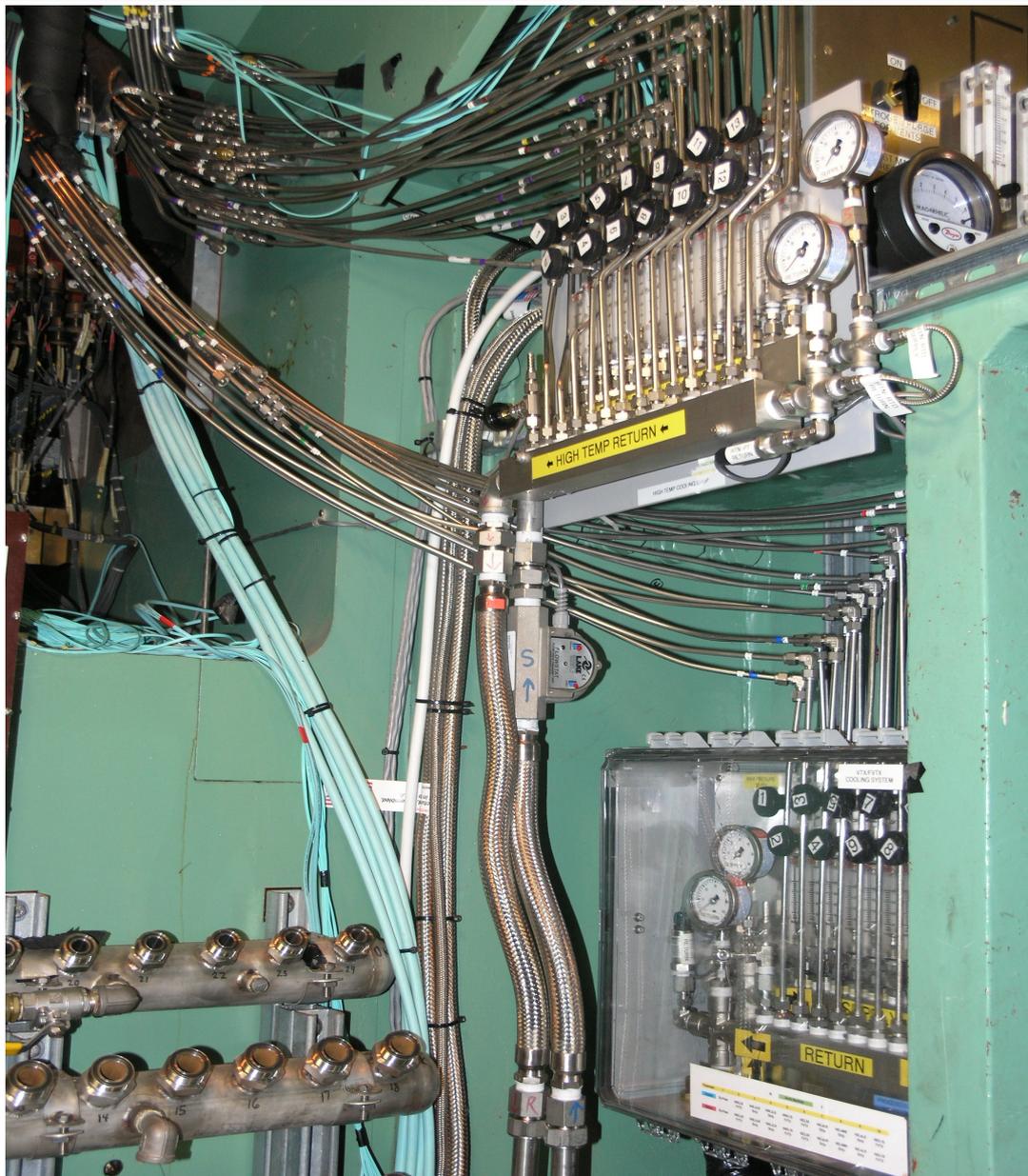
Rigging Plan or Worker Planned Work?  
Lift Central Magnet Bridge off to floor



PASS has authorized removal of this Crash Button

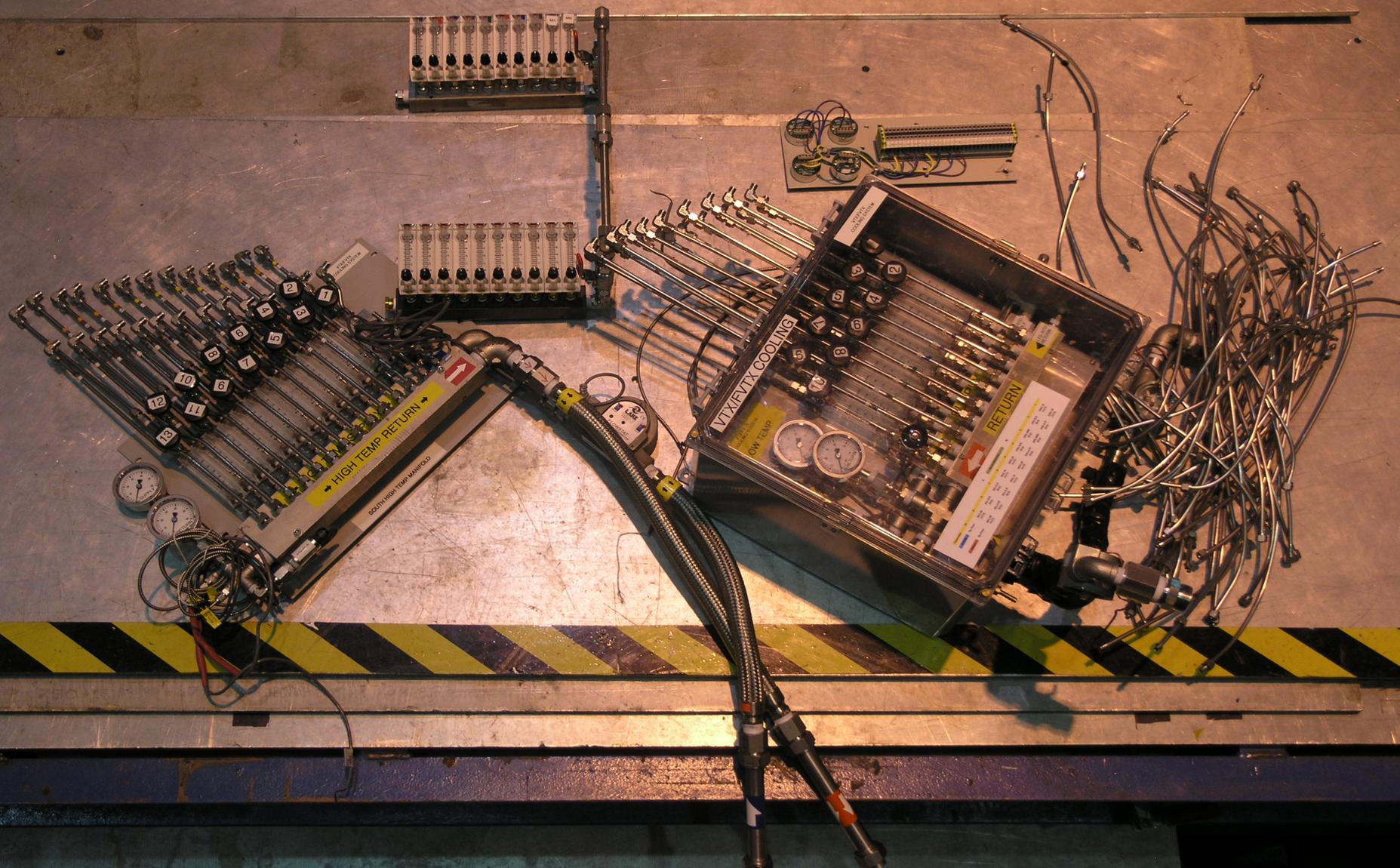


# Removal of VTX cooling lines/manifolds



North Side removal in progress

# VTX cooling south side removed



# RICH East - North Side (in building 912)

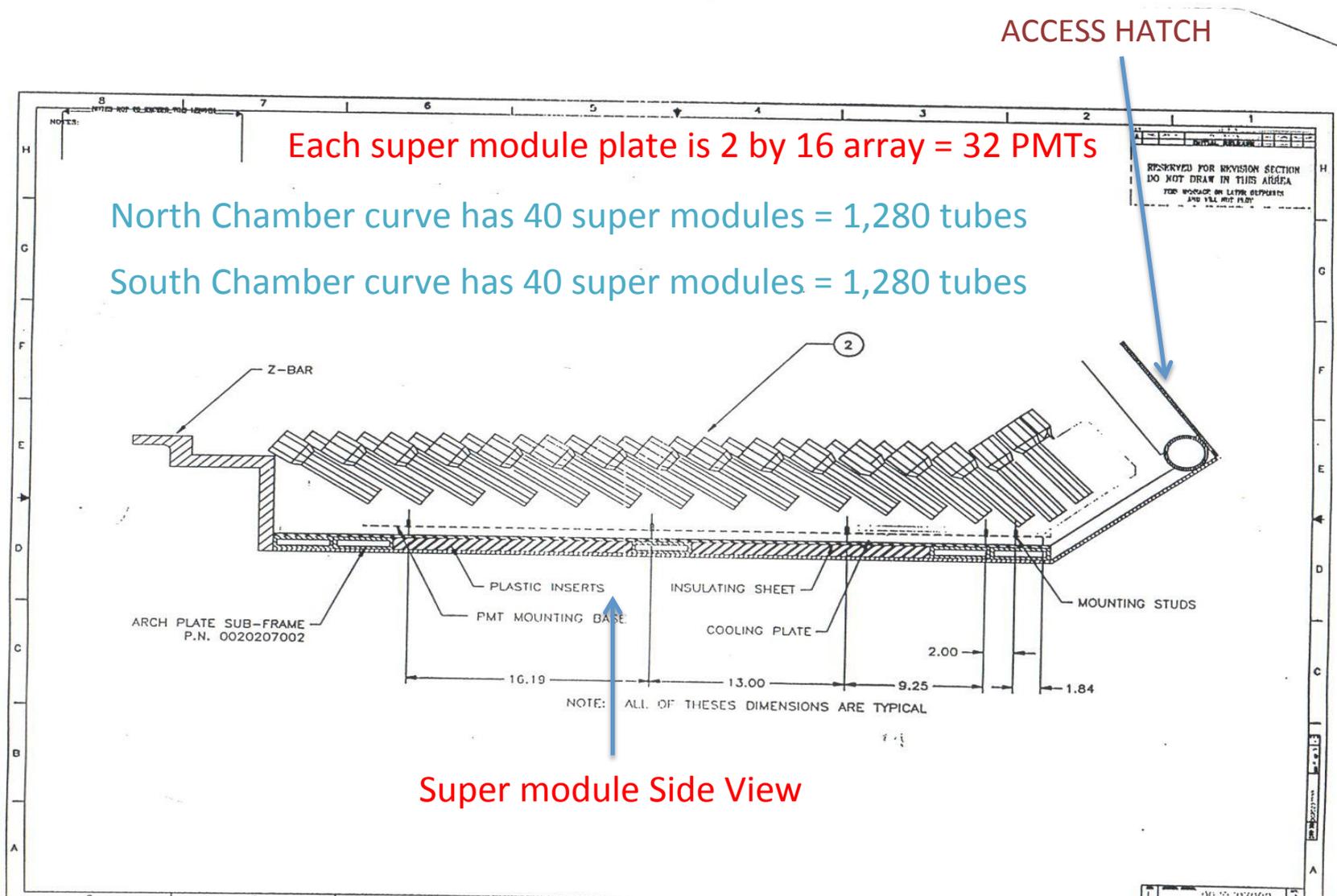


PMT Super Module access hatches

# RICH East – south side (in building 912)



# RICH East Photomultiplier Tube Details (slide 1)



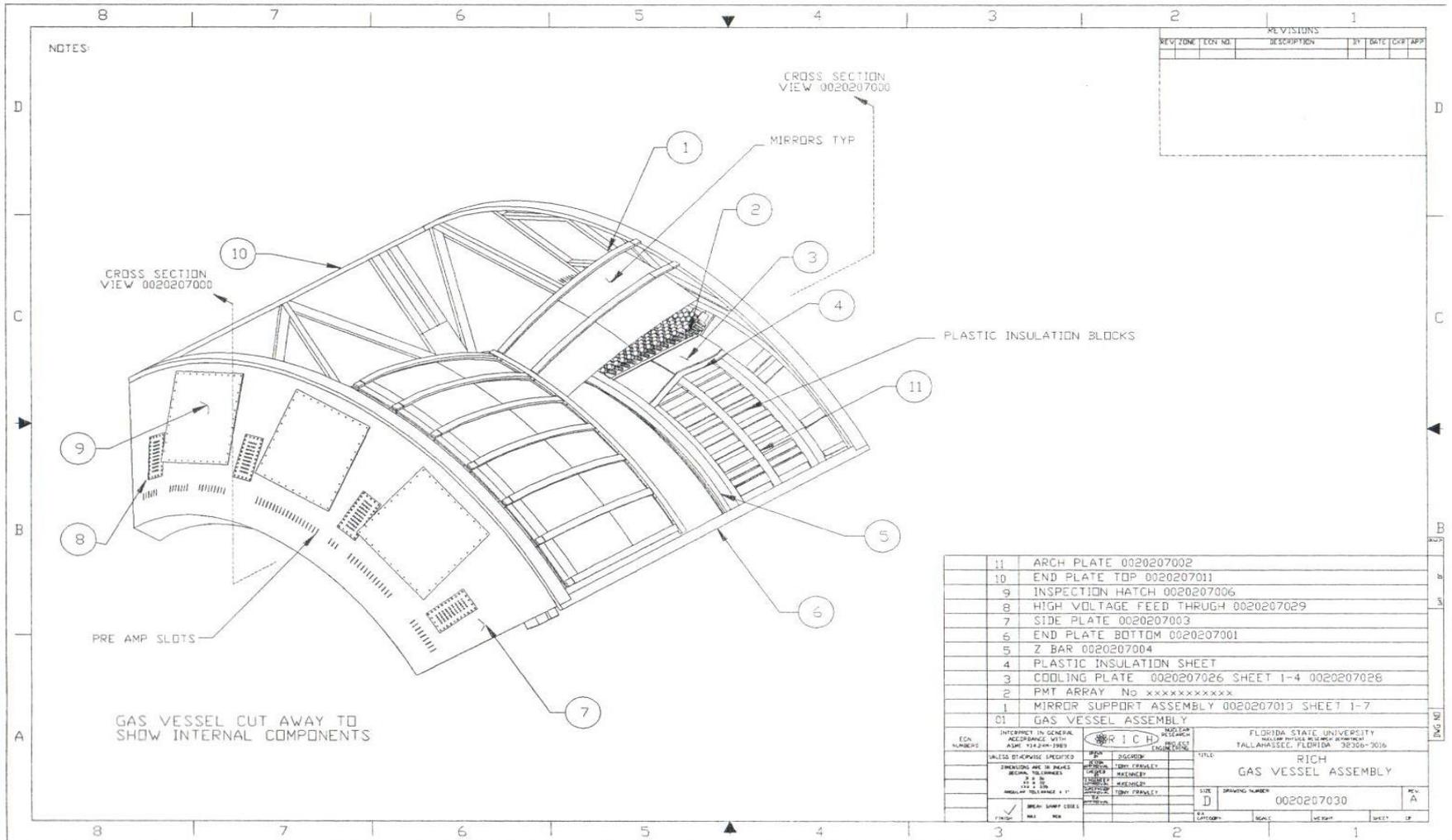
Super module Side View

# RICH East PMT Details (slide 2)

Total Tubes = 2,560

Wasn't module installation done before mirrors were installed?

Access hatches too small to allow unbolting & removal of super modules?



2,560 PMTs like these



# TEC Exposed (front)



# TEC Exposed (side)



# Emcal – East (backside)



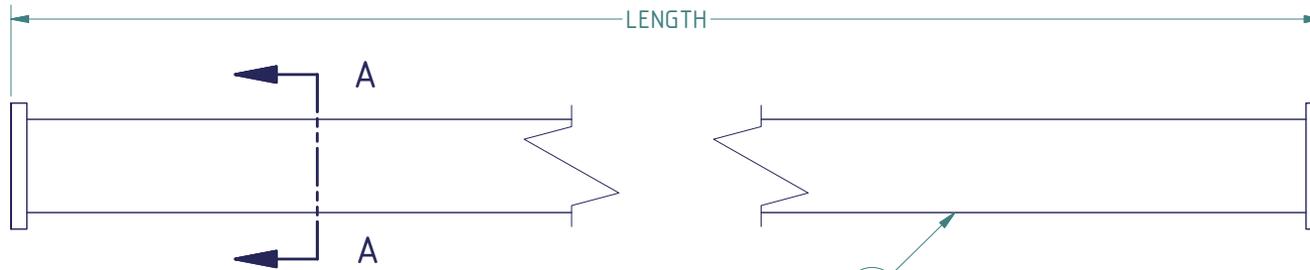


# Beam Pipe Fabrication Drawing for Dan Weiss

**NOTES:**

1. CLEAN PART BEFORE WELDING, NO CLEANING AFTER WELDING. INTERNAL ARGON PURGE REQUIRED DURING WELDING
2. WELD SHALL BE LEAK TIGHT TO EQUAL TO OR LESS THAN  $1 \times (10)^{-11}$  STD. cc He/Sec. WHEN CHECKED WITH A HELIUM MASS SPECTROMETER WITH A SENSITIVITY OF  $5 \times (10)^{-12}$  STD. cc He/Sec.
3. TAG IN ACCORDANCE WITH MIL-STD-130

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE		



PARTS LIST	
PT#	LENGTH
01	196.10
02	183.18

QTY	ITEM	PART NUMBER	DESCRIPTION	REMARKS
1	2		BEAM PIPE	5" STAINLESS, WALL THICKNESS .109"
6	1	130029	FLANGE, TAPPED	6.75" x 5", STAINLESS, MDC VACUUM

**BILL OF MATERIALS**

		<b>Stainless Steel</b>	<b>BROOKHAVEN NATIONAL LABORATORY</b> Upton, NY 11973	
THIRD ANGLE PROJECTION INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.5M-1994 UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES DECIMAL TOLERANCES .XX ± 0.06 .XXX ± 0.015 .XXX ± 0.005 ANGLES ± 0.5		DRAWN BY: H. GIESE CHECKED BY: R. RUGGIERO ENGINEER APPROVAL: D. LYNCH 9/12/2016 Q.A. APPROVAL:	PROJECT: PHENIX SYSTEM: SYSTEMS ENGINEERING AND INTEGRATION MODEL/DRAWING NAME: TEMPORARY BEAMPIPE	
REVISION STATUS OF SHEETS		SAFETY ENGINEER:	SIZE: B D.W. CATEGORY:	DRAWING NUMBER: 105-0500-118 SCALE: 1 / 6 WEIGHT:

**SECTION B-B**  
SCALE 1 / 2

**SECTION A-A**  
SCALE 1 / 4

REV	SHEET

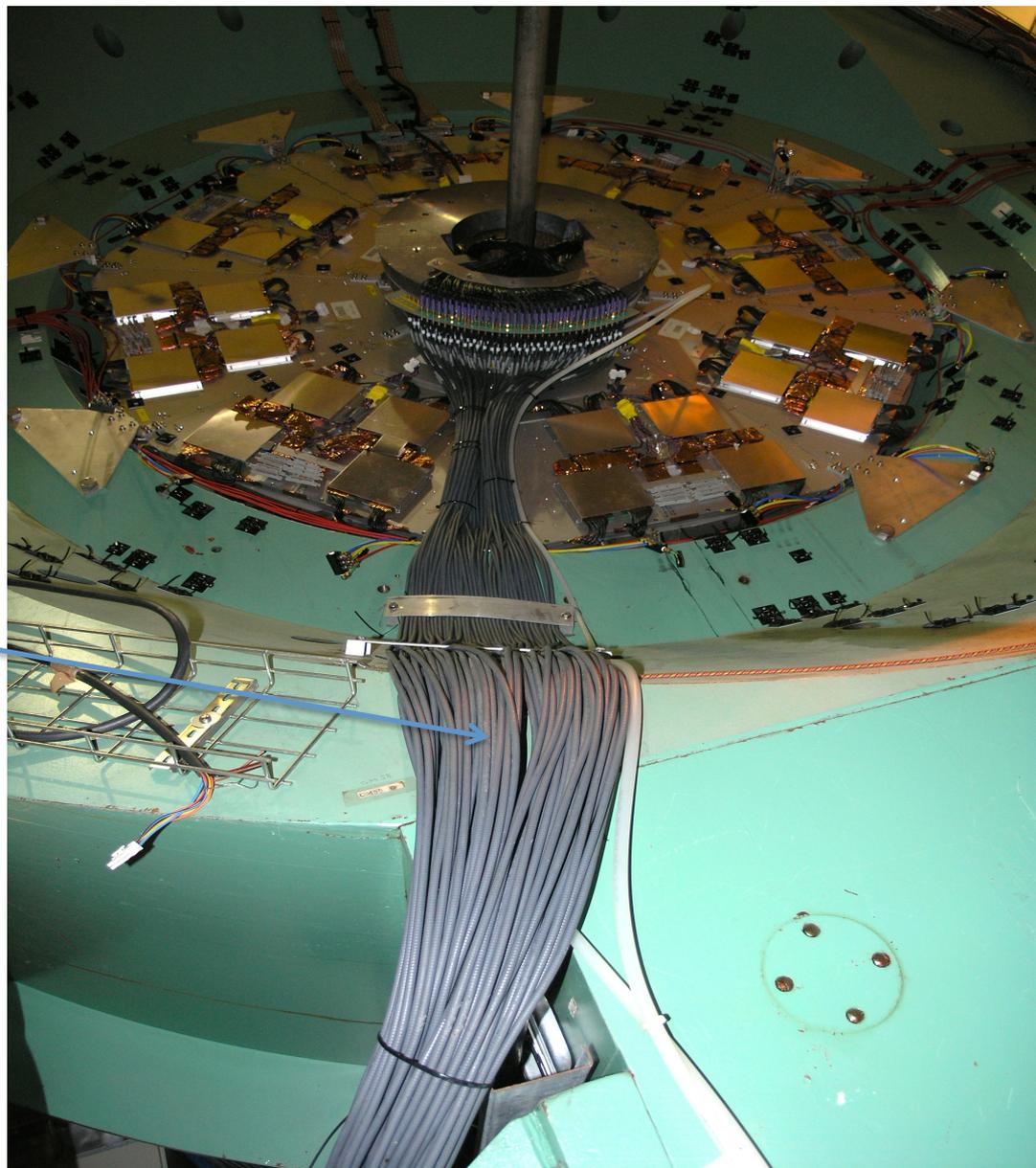


## Beam-Beam Coax Cables (slide 1)

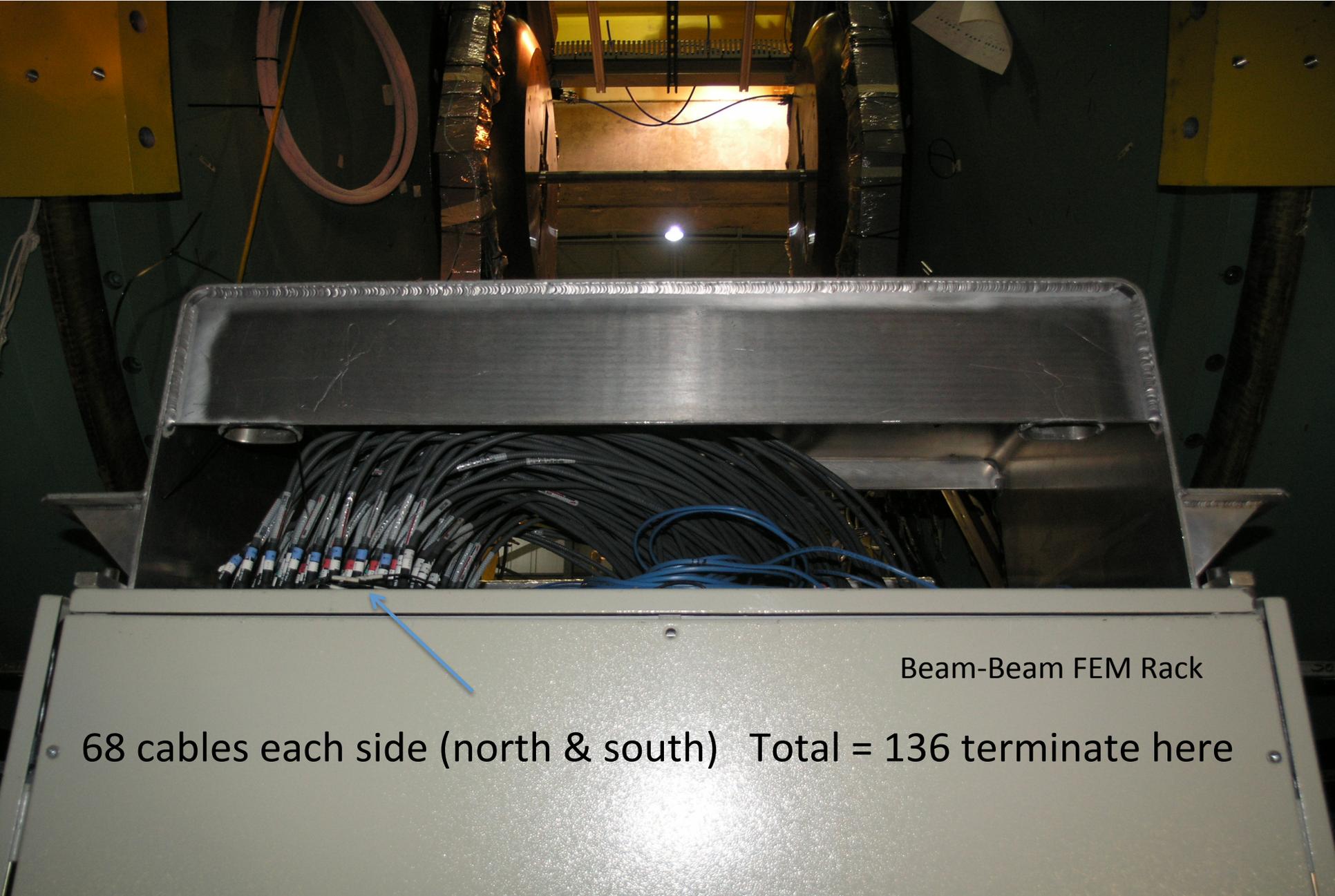
68 cables to  
FEM Rack

(B-B South shown)

Save these?



## Beam-Beam Coax Cables (slide 2)



Beam-Beam FEM Rack

68 cables each side (north & south) Total = 136 terminate here

# VTX Fiber Trunk Cables (slide 1)



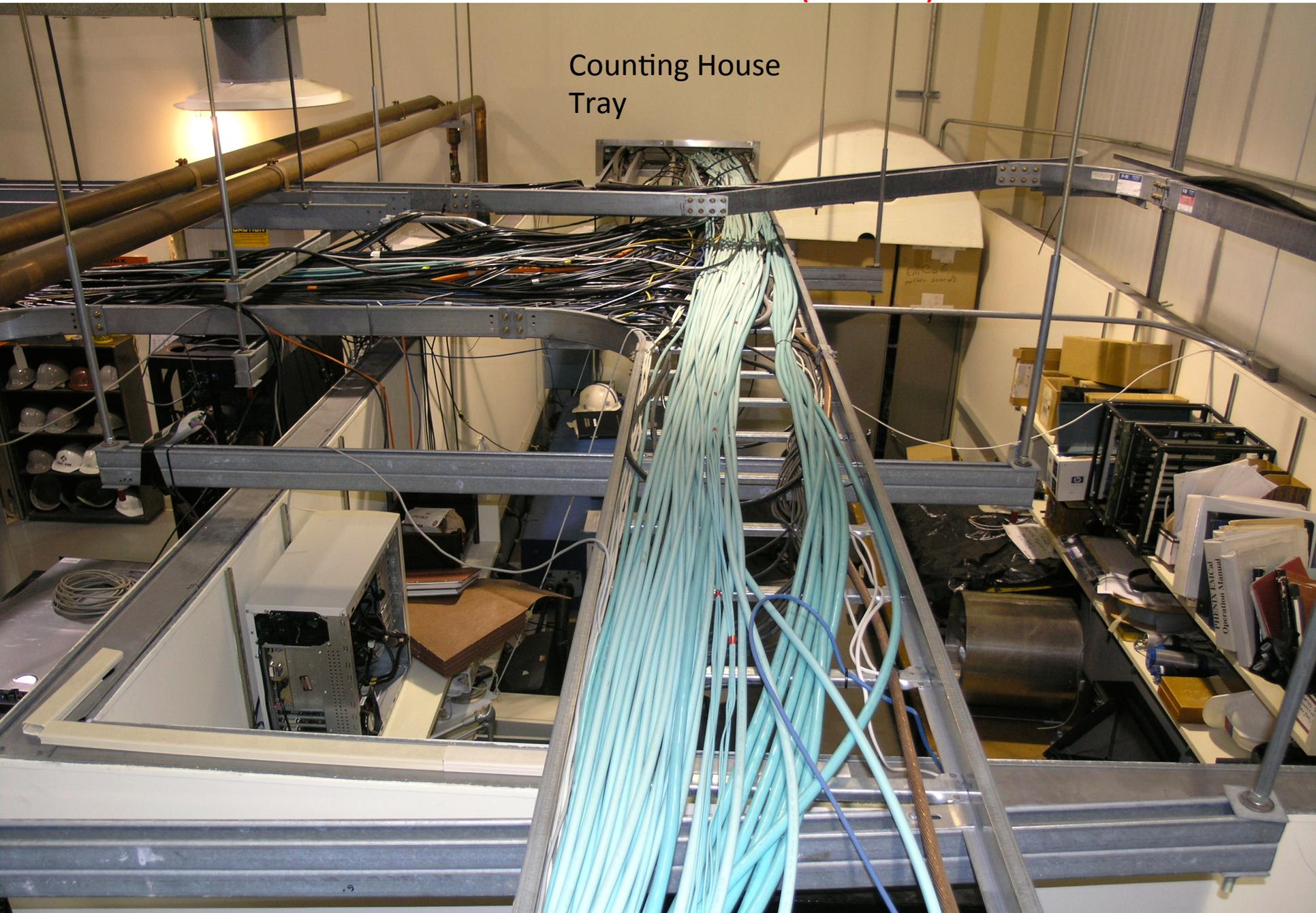
# VTX Fiber Trunk Cables (slide 2)

Assy. Hall to Counting House Tray



# VTX Fiber Trunk Cables (slide 3)

Counting House  
Tray



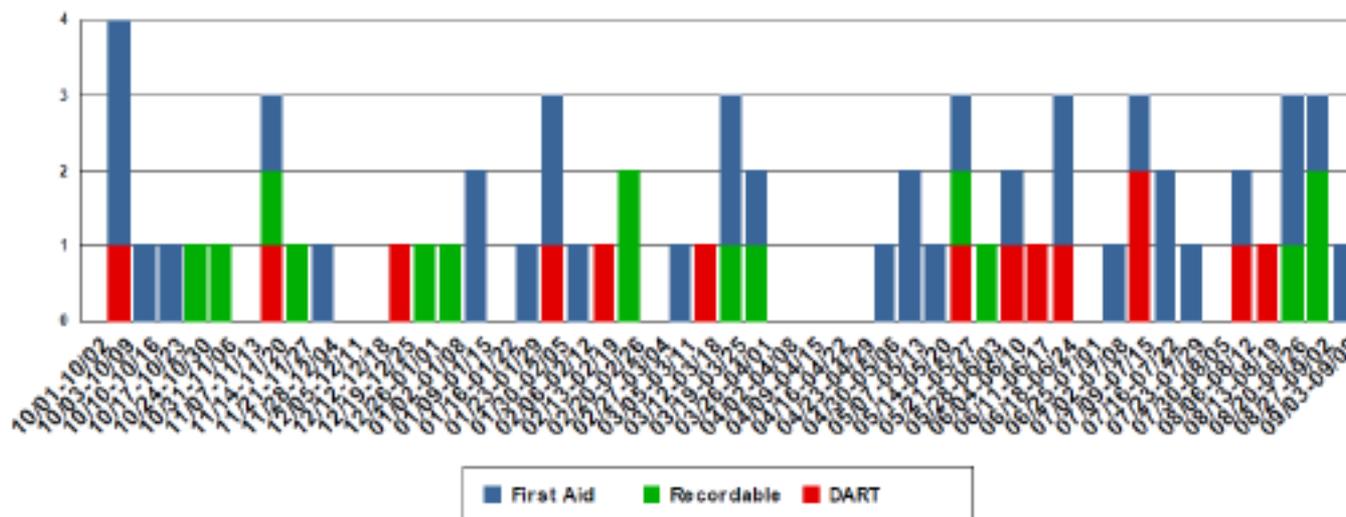
## VTX Fiber Trunk Cables (slide 4)



## VTX Fiber Trunk Cable (slide 5)



### Injuries Per Week (FY) As of 9/9/2016



**Injury Status:**

FY16 YTD: DART – 14, TRC – 29, First Aid – 35

FY15: DART – 15, TRC – 25, First Aid – 50

FY14: DART – 18, TRC – 34, First Aid – 37

FY16 Injury Listing:

<https://shsd.bnl.gov/occinj/BNLInjuries.aspx>

### Recent Injuries

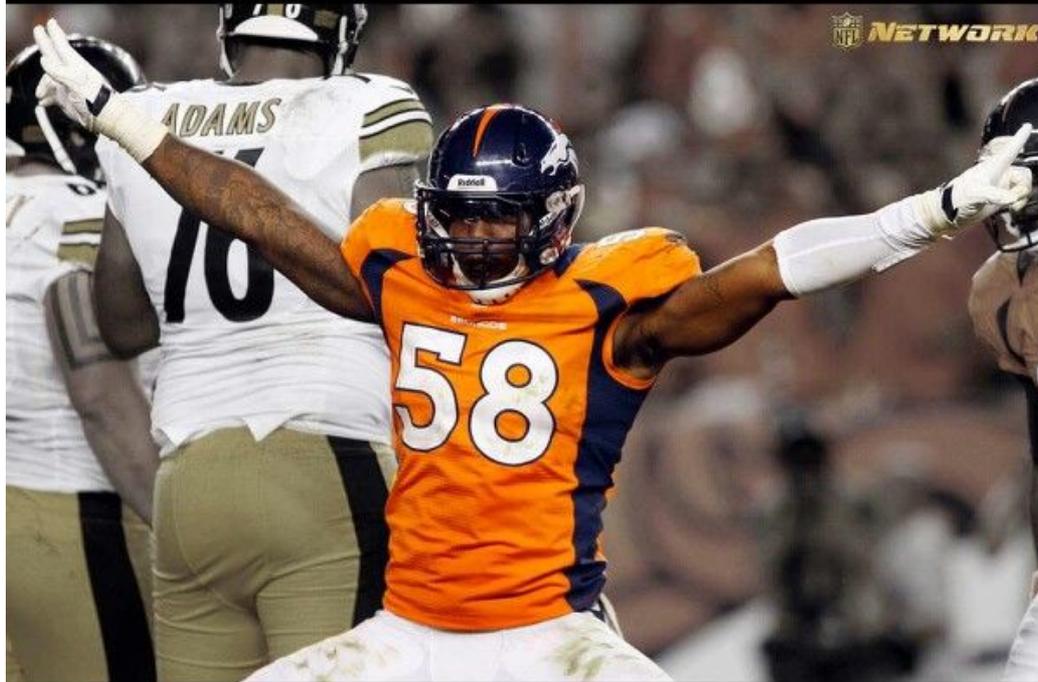
9/9/16	First Aid	An employee was stung on the leg by a yellow jacket. At the OMC, first aid was given.
9/6/16	Info Only	A contractor employee injured the left lower leg when struck by a cart used to move materials. The contractor refused medical treatment and stayed home the following day. This is not recordable because the injury meets the DOE reporting exception criteria.
9/1/16	First Aid	An employee was wiring equipment and pinched the base of the left thumb with pliers. At the OMC, first aid was given and the employee returned to work.
8/30/16	Recordable	An employee injured a finger while moving a pump at the base of a stairway. At the OMC, an examination was made and the worker was sent to a local ER for sutures.
8/30/16	Recordable	An employee was stung on the upper thigh by a bee and went to the OMC for first aid. A couple of days later, the bite had reddened, and became hot. At a local medical clinic, prescription medication was prescribed. This is now recordable.
8/26/16	First Aid	An employee walked into a piece of equipment, injuring the lower leg. At the OMC, first aid was given.

### Recent Events

9/1/16	Non-Reportable	Warehouse personnel discovered an unsecured gas cylinder (16 cu ft) on the loading dock. The cylinder had been delivered off hours by a vendor. The cylinder did not contain a hazardous gas. The warehouse personnel are investigating the incident with the vendor.
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# WHERE TO FIND PHENIX ENGINEERING INFO

**WHEN YOU WAKE UP ON A SUNDAY**



**AND THERE'S FOOTBALL FOR THE FIRST TIME IN 6 MONTHS**

[http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL\\_SSint-page.htm](http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm)

