

TECHNICAL SUPPORT NOTES

PHENIX WEEKLY PLANNING



4/11/2013
Don Lynch

This Week

TECHNICAL SUPPORT NOTES

- Run 13 Continues: run support maintenance
- No scheduled access this week: next maintenance day: 4/17
 - Brief access this morning: swapped mainframe
- Ethane Tube Trailer Upgrade Continues
- mRPC Test Lab (formerly RPC Factory) set up continues
- Continue VTX strip pixel stave re-design
- Continue sPHENIX support
 - HCal prototype design being firmed up
 - EMCal prototype design continuing
 - Solenoid Magnet committee to be formed
- Continue MPC-Ex design
- Future IR evolution modeling
 - Gem Foil Drift Cell

Next Week

TECHNICAL SUPPORT NOTES

- Run 13 Continues: run support maintenance
- Next maintenance day 4/17:
 - Install new Gas Analyzer
 - Other Tasks ???
- Ethane Tube Trailer 1st delivery/Installation/Commissioning
- mRPC Factory Startup and Walkthru
- Continue VTX strip pixel stave re-design
- Continue sPHENIX support
- Continue MPC-Ex design
- Future IR evolution modeling



Ethane Trailer Project:
In progress



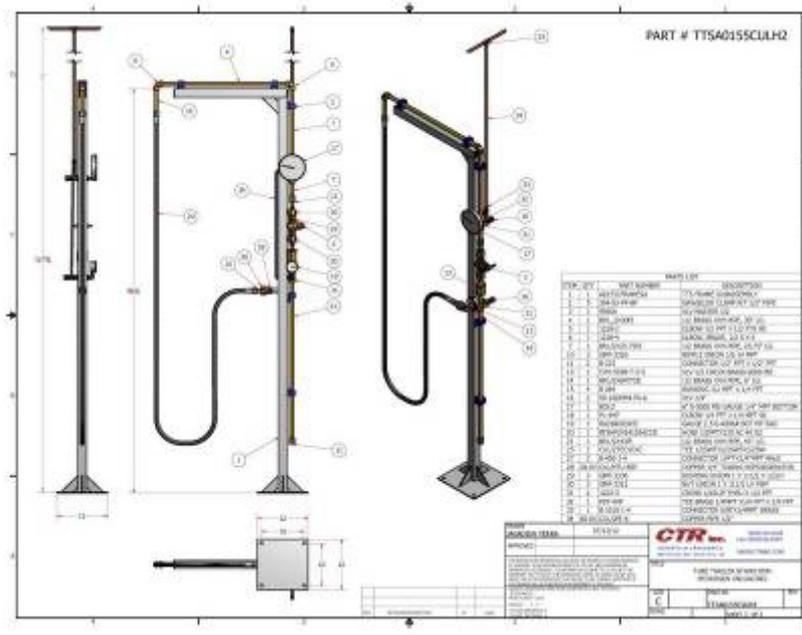
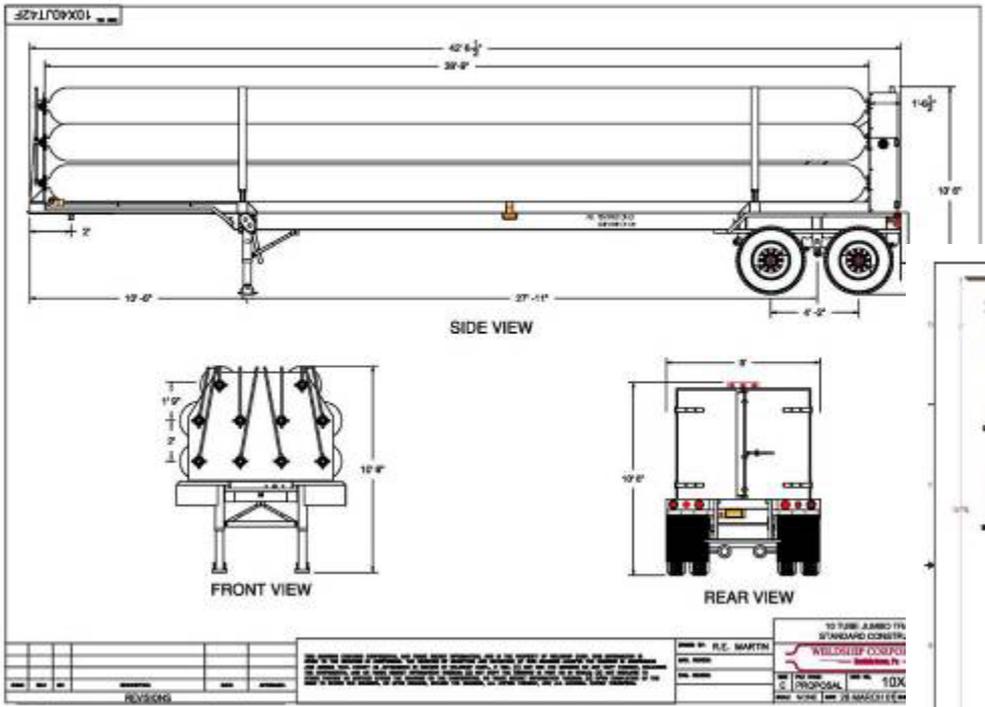
mRPC Test Lab Project

TECHNICAL SUPPORT NOTES



4/11/2013

TECHNICAL SUPPORT 2013

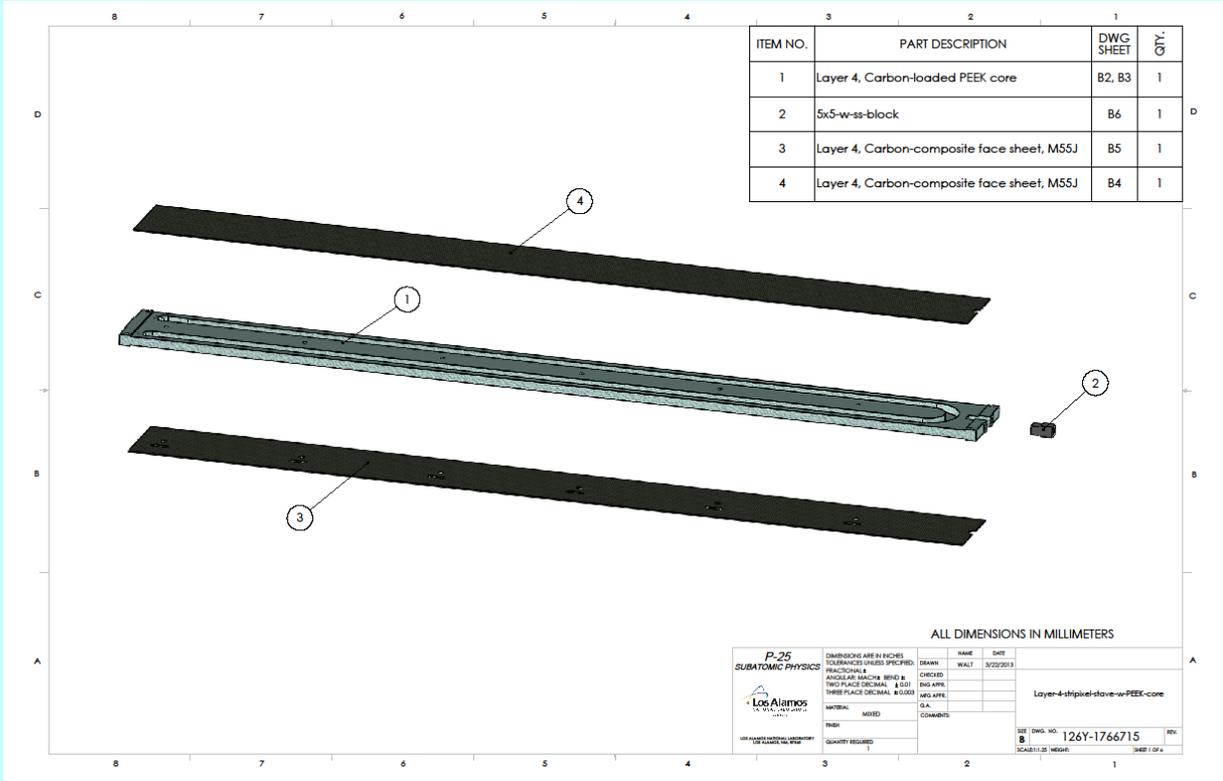
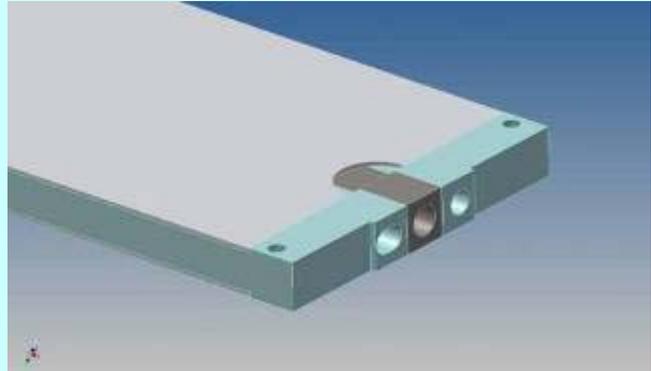
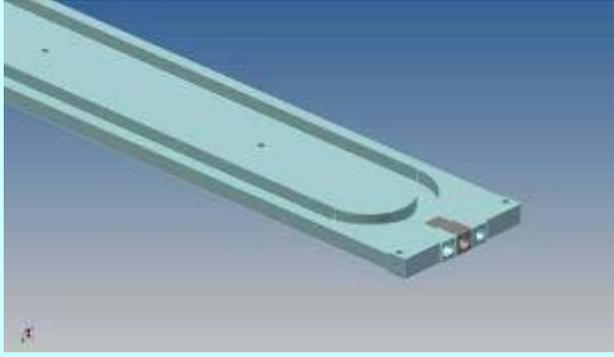


- Pressure in the tanks = 540 psig
- Total Volume by weight = 12,000 lbs.
- Total Volume in cu. ft. = 154,8000
- We will use about 1/3 of this volume this run, about 1/2 next year.
- The cost savings are significant (~14%). About \$4,000.00 this year, more next year.
- The obvious safety benefit over cylinder packs.
- The trailer goes back to Airgas at the end of run.

VTX Repair Project Progress

TECHNICAL SUPPORT NOTES

Prototypes of updated stave design are in progress expect to be fabricated by end of April



4/11/2013

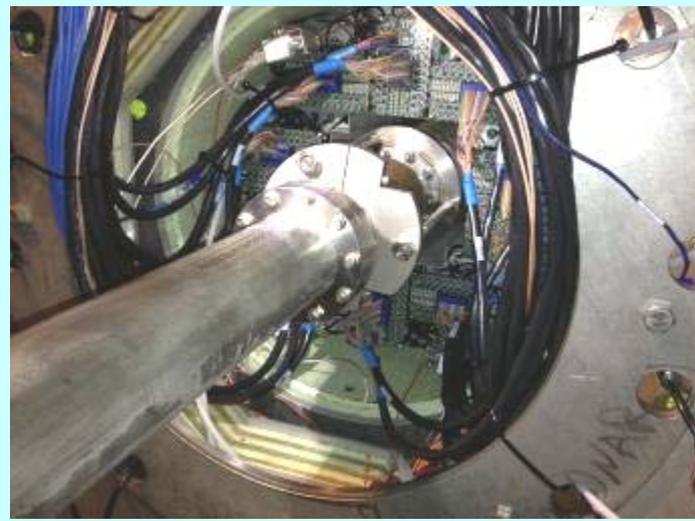
TECHNICAL SUPPORT NOTES



Existing vacuum bellows anti-squirm
In MPC S Cavity

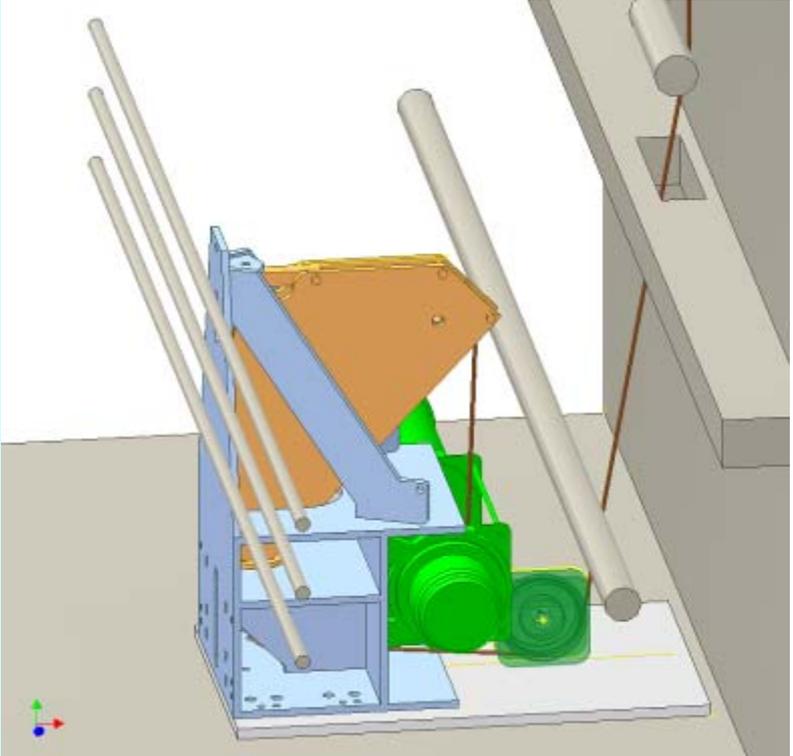


Proposed vacuum bellows anti-squirm
In MPC S Cavity to accommodate MPC-Ex



Window Washer Winch Upgrade

TECHNICAL SUPPORT



Attention: Donald Lynch
 Company: Brookhaven National Lab
 Phone: 631-344-2253

Based on the information provided to us for an AC hoist to be used for lifting, we are pleased to propose the following:

| Line | Qty. | Product: | Net Each | Extended |
|------|------|---|------------|------------|
| 1 | 1 | Columbia HF2100-2A17-L-03 AC Electric Hoist <ul style="list-style-type: none"> • 2.0 HP TEFC UL-listed brakemotor • 230/3/60 Input power • Automatic, load-suspending braking system • Permanently lubricated, high-efficiency planetary gear reduction • Argent gray enamel paint finish • Includes single speed low voltage controls <ul style="list-style-type: none"> ◦ Reversing motor starter in a NEMA 4X fiberglass enclosure ◦ UL-listed ◦ Includes NEMA 4X hand-held pendant control with UP/DOWN momentary contacts and up to 15' lead Does not include wire rope | \$5,022.00 | \$5,022.00 |

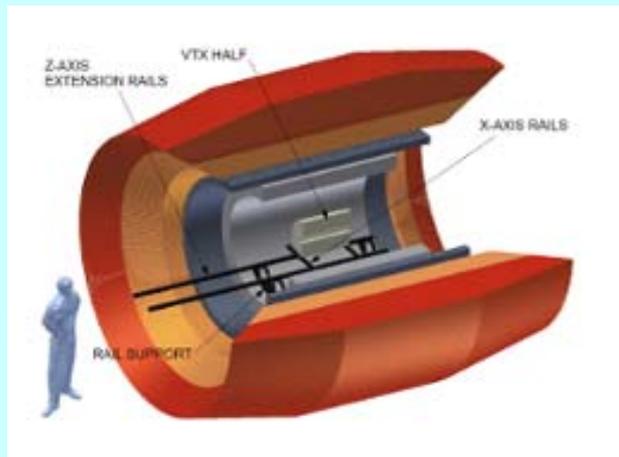
Options:

| Line | Qty. | Product: | Net Each | Extended |
|------|------|---|------------|------------|
| 2 | 1 | AutoAdvance Line Spooler <ul style="list-style-type: none"> • Designed and built for Columbia HF2100-2A17-L-03 • Incoming line from front of spooler • Fabricated steel frame • Sheaves are steel construction, grooved for 5/16" line • Ensures proper line spooling regardless of fleet angle • Rope tension must be maintained for proper operation | \$3,298.00 | \$3,298.00 |

| Line | Qty. | Product: | Net Each | Extended |
|------|------|---|----------|----------|
| 3 | 1 | VLS-6 Vertical Lead Sheave <ul style="list-style-type: none"> • 6,000 lbs load limit • Can be bolted down or welded for installation • Fabricated steel construction • Offset design allows for simple installation at any angle • Bronze bushed steel sheave grooved for 5/16" wire rope | \$458.00 | \$458.00 |

| Line | Qty. | Product: | Net Each | Extended |
|------|------|--|----------|----------|
| 4 | 1 | Wire Rope <ul style="list-style-type: none"> • 200' of 5/16" galvanized aircraft cable with latching hoo • Supplied loose | \$158.00 | \$158.00 |

Total Estimated Material Cost: \$8396

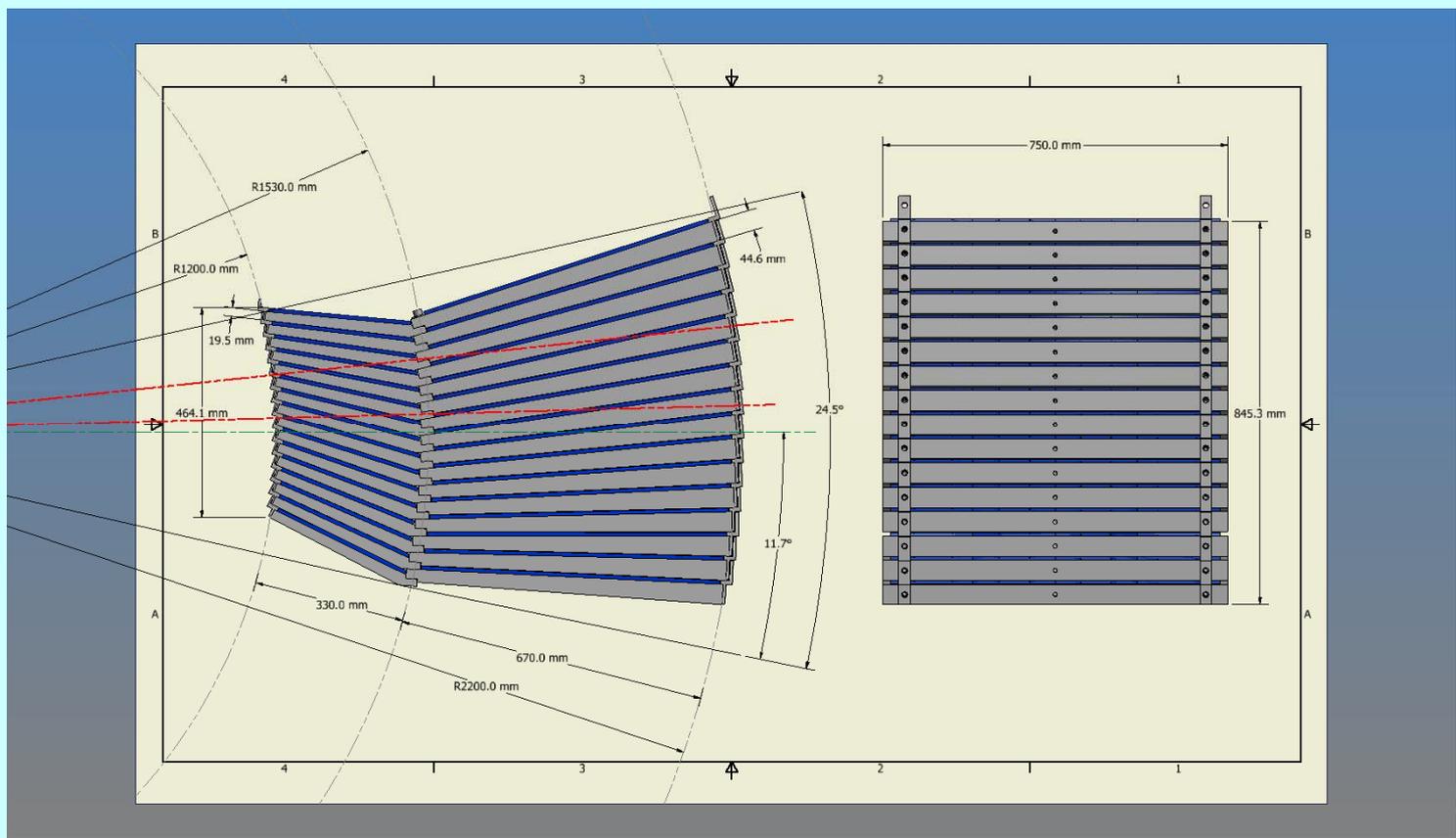


sPHENIX Proposed Upgrade

Work continues evaluating engineering tradeoffs for EMCal and HCal design, materials, etc.

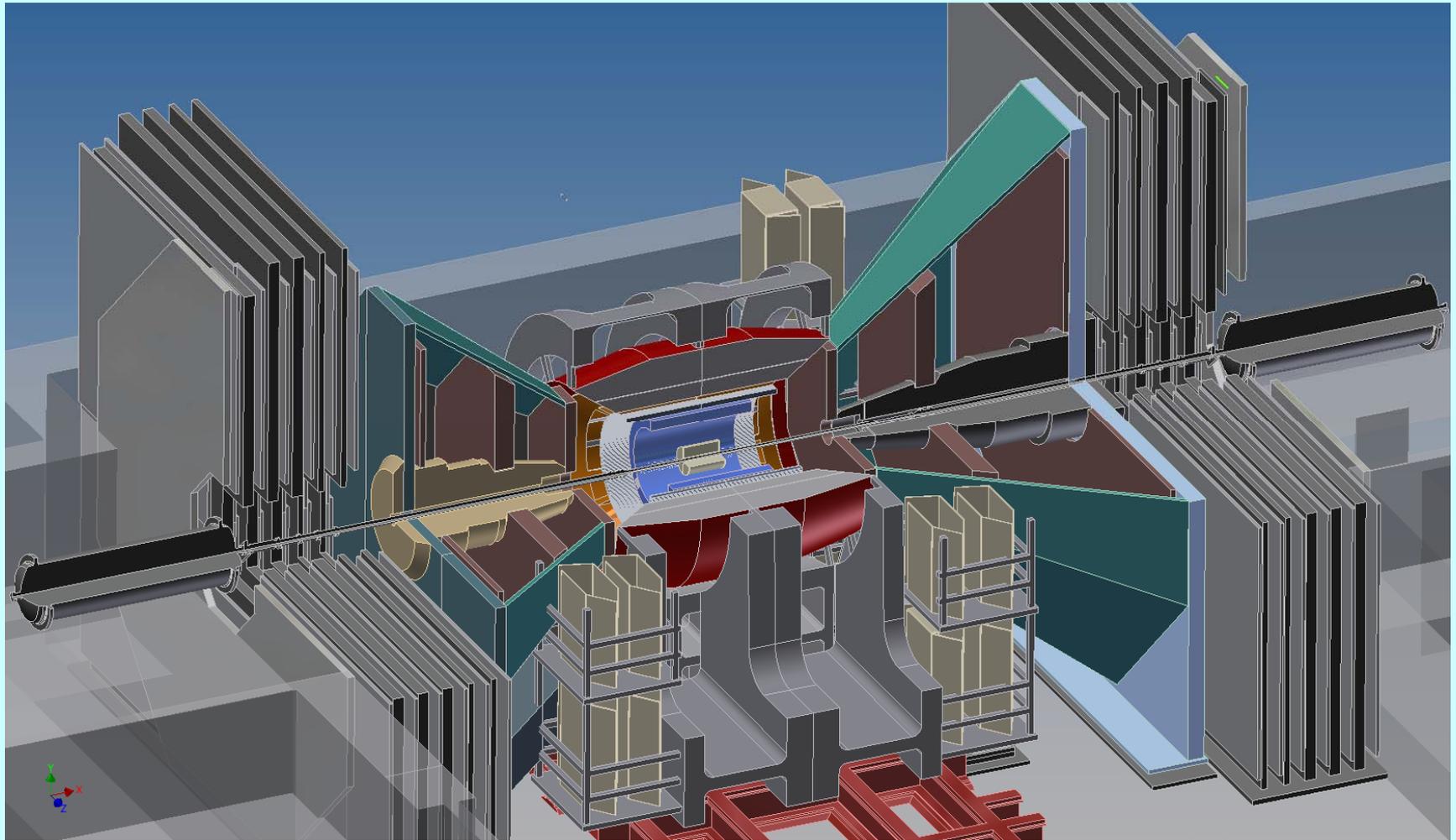
Prototype HCal and EMCal in progress

Bid packages for Hcal steel and scintillators in progress



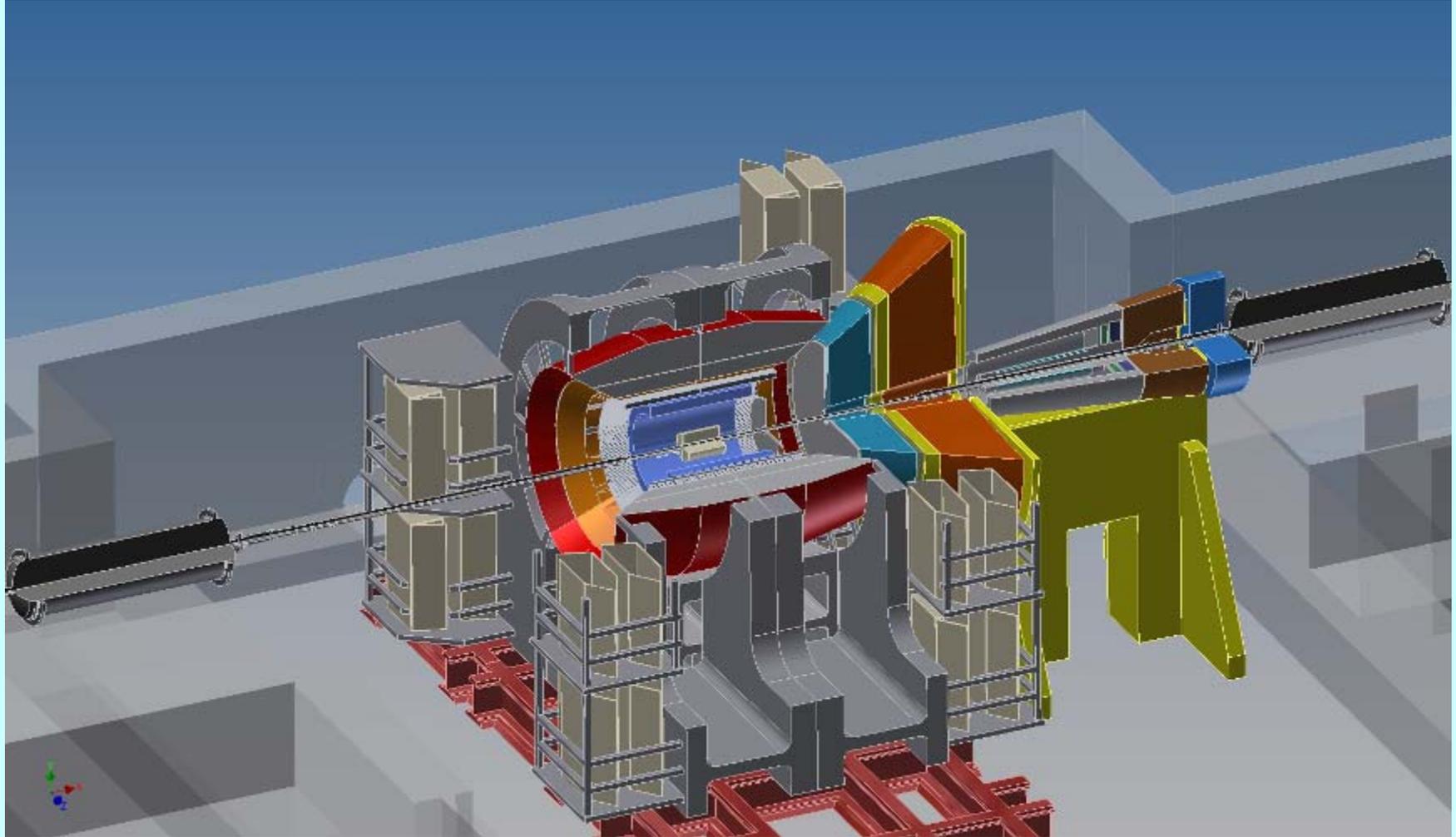
TECHNICAL SUPPORT

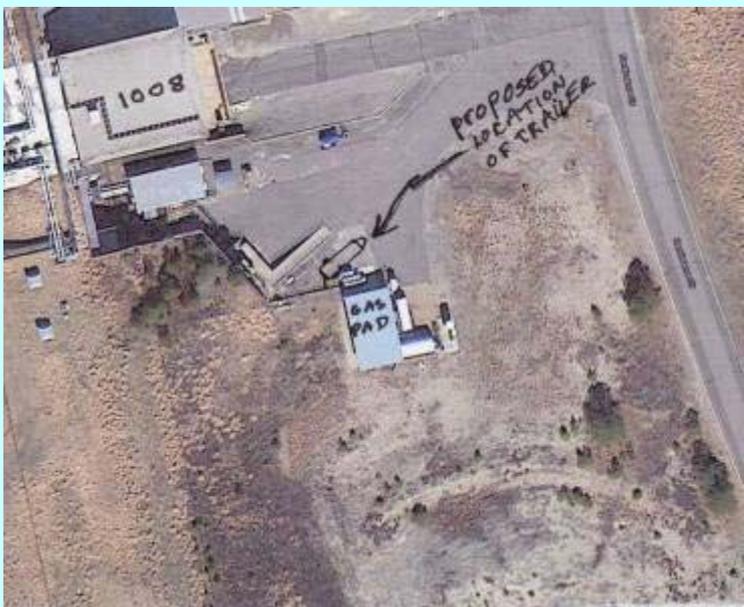
sPHENIX



fsPHENIX

TECHNICAL SUPPORT - 2013





Ethane Trailer Project:
In progress



Major Projects This Summer:

- VTX repairs/upgrades/general maintenance
- DC East Window Replacement
- MPC-Ex Initial (partial) Installation, North Side First
- mRPC Tests in mRPC Test Lab (formerly RPC Factory)
- sPHENIX Prototypes assembly & tests
- MuTr troubleshooting and Repairs
- Window Washer Winch upgrade

Other Mechanical (TBD)

Other Electrical Projects (TBD)

Other Electronics Projects (TBD)

Other Gas System Projects (TBD)

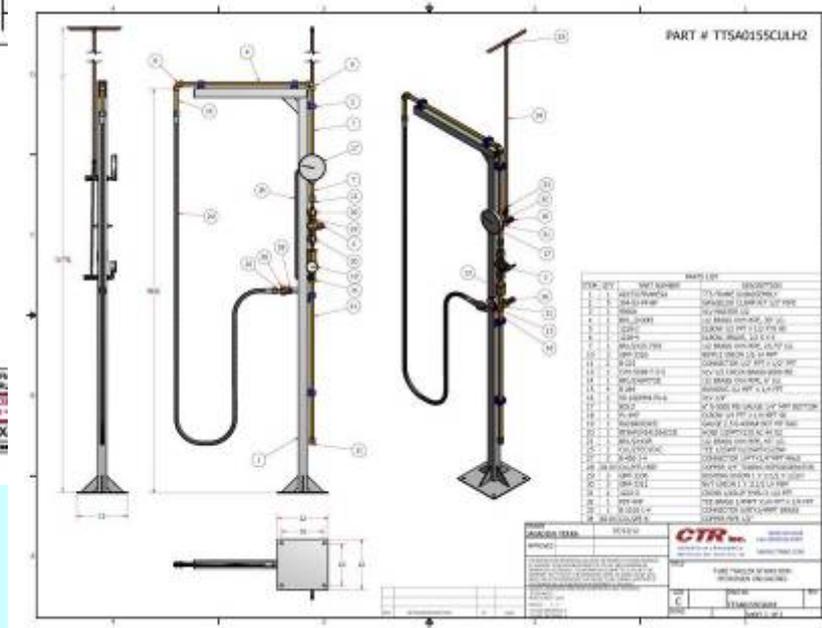
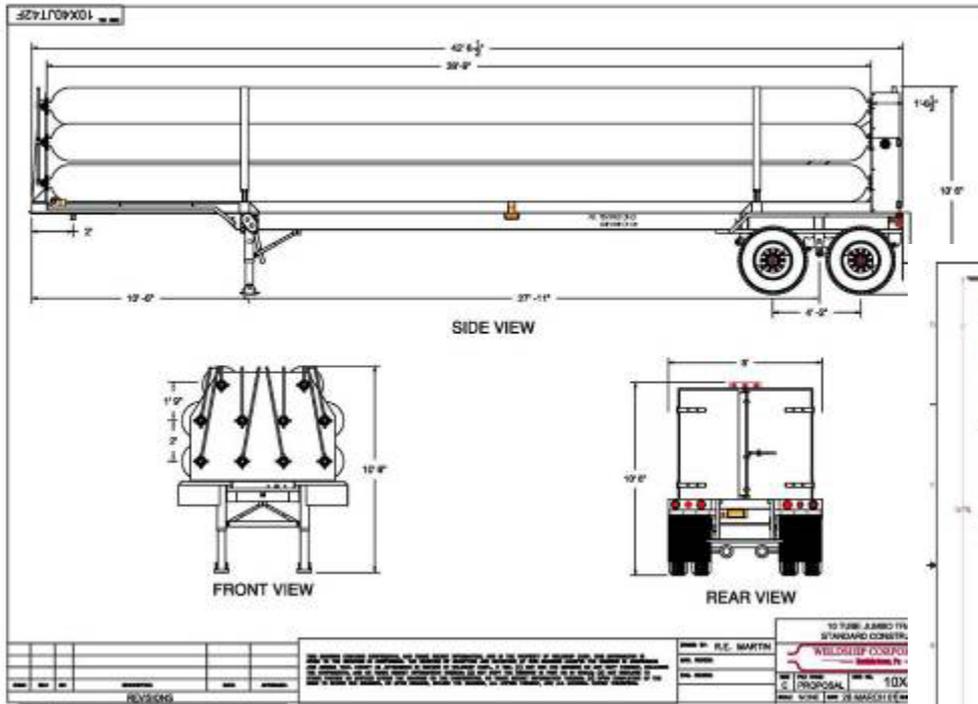
Other Infrastructure Projects (TBD)

TECHNICAL SUPPORT - 2013

| | |
|--|----------------|
| Prep for 2013 shutdown | 2/11-6/30/2013 |
| Design, Fabricate MPC-Ex | |
| 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 | |
| VTX Strippixel redesign | In-progress |
| VTX Strippixel 1 st article stave assembly | 5/3/2013 |
| VTX Strippixel 1 st article qualification/performance tests | 5/17/2013 |
| VTX strippixel stave production | 5/20-8/30/2013 |
| VTX Strippixel sensor reclamation | 4/1-8/30/2013 |
| VTX Strippixel ladder assembly | 6/1-9/27/2013 |
| Pixel Ladder repairs | in progress |
| End of Run Party | 6/28/2013 |
| Run 12 Ends | 6/30/2013 |
| Shutdown Standard Tasks | 6/30-7/19/2013 |
| • Open wall, disassemble wall, Remove MuID Collars, | |
| • Move EC to AH, etc. | |
| Disassemble VTX/FVTX services | 7/1-7/19/2013 |
| July 4 th Holiday | 7/4/2013 |
| Remove VTX/FVTX and transport to Chemistry Lab | 7/22/2013 |
| Assemble, Test and Install MPC-Ex (North only?) | 7/22-10/1/2013 |

TECHNICAL SUPPORT ZONE

| | |
|--|------------------------|
| MuTR Troubleshooting, maintenance and repairs | 7/22-9/27/2013 |
| Summer Sunday (8/11) Prep and teardown | 8/7-8/13/2013 |
| Summer Sunday (RHIC) | 8/11/13 |
| DC East Window Upgrade and Related Repairs | 8/19-9/27/2013 |
| sPHENIX HCal Prototype Assembly/test | 8/19-10/15/2013 |
| Labor Day Holiday | 9/2/2013 |
| Repair upgrade, reassemble VTX/FVTX (pixels and strip-pixels) | 7/23-10/13/2013 |
| Test, survey (at Chemistry and IR) and re-install VTX/FVTX | 10/16-10/27/2013 |
| Other detector maintenance as required | As required |
| Infrastructure maintenance as required | As required |
| TBD prototype tasks | As required |
| Pre-run commissioning and prep for run 14 | 11/1-12/31/2012 |
| Prep for EC roll in | 11/1-11/9/2013 |
| Roll in EC | 11/10-11/12/2013 |
| Prep IR for run | 11/1-11/30/2013 |
| Pink/Blue/White sheets | 12/14-12/31/13 |
| Start run 14 | 1/1/2014 |



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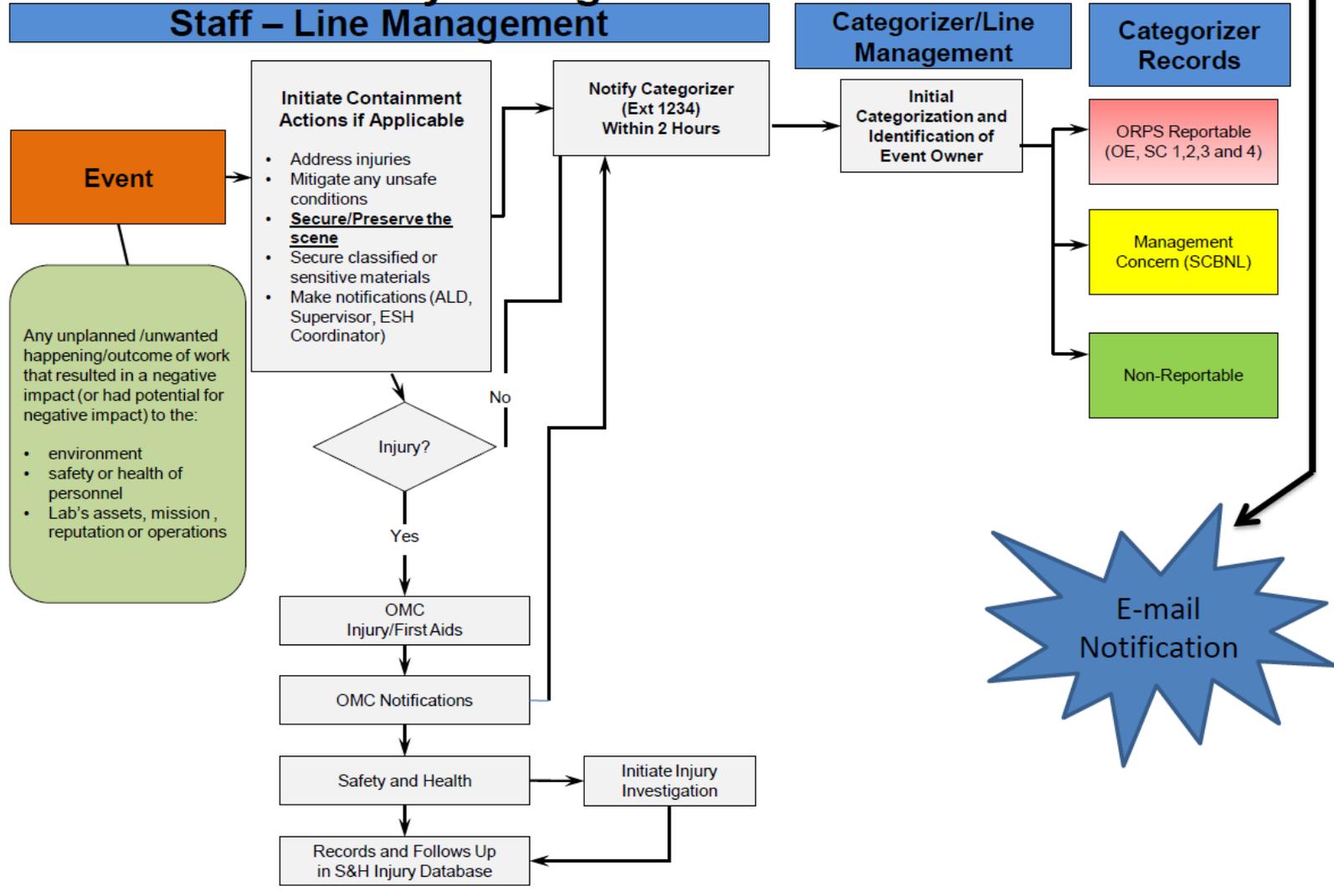
mRPC Test Lab Project

TECHNICAL SUPPORT NOTES



4/11/2013

Early Management of an Event





BNL Occupational Injuries and Illnesses

Employee Responsibilities

- If the event is an **emergency**, immediately contact Laboratory Protection by calling ext. 2222 or 911, (344-2222 from a cell phone) or activating an alarm.
- Report all occupational injuries and illnesses immediately, no matter how minor, to your supervisor (if unavailable, to the next level of management).
- Go to the Occupational Medicine Clinic (OMC) (Building 490). If the OMC is closed, call ext. 2222 or proceed to Fire-Rescue (Building 599) for medical assistance. Do not leave site without following this step.
- If the event occurs while on official travel or assignment offsite, seek medical attention at a local facility as needed. Notify supervisor when able, and report to the OMC upon return.
- Participate in the analysis of your injury/illness and provide an Injured Worker's Statement.
- Return to OMC, as requested, for any follow-up evaluations.
- Do not take days off from work due to the occupational injury or illness without medical authorization for the absence. Make sure you bring a Return to Work Slip for any lost time and give it to your supervisor.

Supervisor Responsibilities

- If the event is an **emergency**, immediately contact Laboratory Protection by calling ext. 2222 or 911 or activating an alarm.
 - ◆ Provide aid to injured personnel within your abilities;
 - ◆ Ensure the accident scene is preserved until released by Safety and Health Services (SHSD) and hazards are addressed.
- Accompany employee to OMC for prompt medical evaluation/treatment.
- Notify your line management and ESH Coordinator for assistance.
- Contact SHSD to begin the analysis at ext. 3750 – required if the incident is OSHA-Recordable* .
- Conduct an analysis using a graded approach for non-recordable injuries.
- Assemble an investigation team for recordable cases.
 - ◆ Participate in causal analysis.
 - ◆ Help Develop and implement corrective actions.
- Complete an Injury/Illness Analysis Report within 5-7 days. http://www.bnl.gov/esh/shsd/Programs/Program_Area_IncidentInvestigation.asp
- Ensure employee returns to OMC for any scheduled follow-up evaluations.

ESH Coordinator/Line Responsibilities

- Participate in the analysis of the event and provide assistance as necessary.
- Assist with the development and follow-up of corrective actions.
- Email within 24 hours a brief description of event to required contacts ("First Day Email Distribution" in Outlook).
- Complete a One Pager Safety Alert Bulletin (required for Recordable cases, or cases with lessons learned).

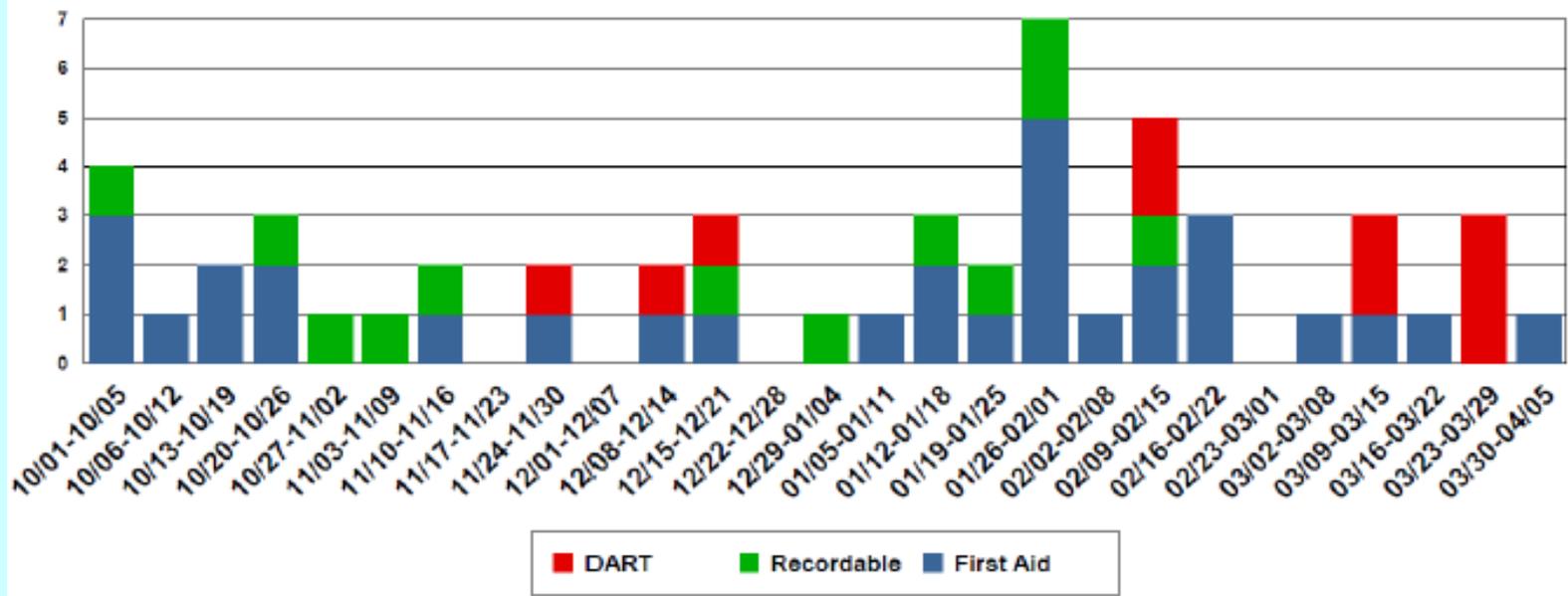
** An occupational injury or illness that requires medical treatment beyond simple first aid (e.g., injuries resulting in: prescriptions, loss of consciousness, fractures, work restrictions, days away from work, significant exacerbation of old injury).*

For further assistance, please contact Jack Ellerkamp at ext. 7493 or SHSD at ext. 4056.

TECHNICAL SUPPORT ZONE

1. Revised Ladder Training not posted yet
2. Revised LOTO subject area due soon
3. Warm weather coming- Watch out for Motorcycles !!!

Injuries Per Week (FY) As of 4/5/2013



Injury Status:

FY13 YTD: DART – 10, TRC – 22, First Aid – 31

FY12: DART – 17, TRC – 35, First Aid – 70

FY11: DART – 30, TRC – 44, First Aid – 45

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

| Recent Injuries | | |
|-----------------|-----------|--|
| 4/2/13 | First Aid | An employee tripped over the sidewalk and fell, injuring multiple body parts. At the OMC, first aid was given. |
| 3/28/13 | DART | An employee cut his left index finger while sanding wood. He was on restricted duty for one day and given antibiotics. |
| 3/25/13 | DART | An employee banged his teeth while installing insulation with a staple gun, breaking an upper tooth which required medical attention. Update: This case was previously a Recordable and is now a DART due to one lost workday. |



TECHNICAL SUPPORT ROOM

| Recent Events | | |
|---------------|----------------|---|
| 4/4/13 | SC-3 | During the packaging and moving of contents from an office at the National Synchrotron Light Source this morning, an employee found a box with a U.S. Department of Transportation, "Explosive C" label. The employee notified Laboratory Protection Division staff, who immediately removed the device to an outdoor location and then contacted the Suffolk County Police Department (SCPD) to request assistance. Officers from the SCPD responded and safely removed the box to an off-site police firing range for further evaluation. The box contained commercially manufactured small industrial detonators. Detonators of this type are used in a variety of industrial applications. An investigation has begun. (Event Link) |
| 4/3/13 | SC-3 | A worker was assigned the job of replacing a feedback transformer in an AGS RF power amplifier in the AGS ring this morning during a planned maintenance day. At about 11:15, the worker's supervisor found that the correct breakers had been opened in Bldg 929 to de-energize the RF power amplifier and do the work, but the opened breakers were not locked out. There was no injury and no contact with any hazardous energy. C-AD management has initiated an investigation. (Event Link) |
| 4/2/13 | Non-Reportable | An investigation is on-going at BLIP to determine the cause of a brief (seconds) dose-rate anomaly. The investigation involves the sand shielding surrounding the BLIP water tank, where the sand may have settled. Until the cause is understood, target irradiations of BLIP targets have been stopped by the C-AD Department Chair. (Event Link) |
| 3/29/13 | SC-BNL | A small fire, located on the 488 stove top was reported. It was extinguished with a portable extinguisher by Fire/Rescue. There was no building evacuation and no fire suppression system was activated. The facility was closed at the time. The trouble was noted by employees. Fire protection engineers are investigating the cause. (Event Link) |



Where To Find PHENIX Engineering Info

TECHNICAL SUPPORT 2013



Next Monday is Income Tax Deadline ☹

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

