

# PHENIX WEEKLY PLANNING

TECHNICAL SUPPORT NON



11/1/12  
Don Lynch

## This Week

TECHNICAL SUPPORT ROOM

- Continue Repairs & Upgrades for MuTr Station 3 N
- Continue VTX/FVTX Repairs
- Continue VTX Cooling System Upgrade
- Continue RPC3 Gas Recirculation Upgrade
- Complete MPC North Install
- Complete Thermocouples on RPC1 North Install
- Complete RPC1 North Cooling Upgrade
- Install MMS East Vertical Lampshade (Dave P.)
- Reinstall North beampipe support ?
- Survey Beampipe at North support ?
- Continue working on RPC3 shielding
- sPHENIX design support
- MPC-Ex design support
- Window Washer safety upgrades
- MuID Collar IR staging area support

## Next Week

TECHNICAL SUPPORT ZONE

- Continue Repairs & Upgrades for MuTr Stations 2&3 N
- Continue VTX/FVTX Repairs
- Continue VTX Cooling System Upgrade
- Continue RPC3 Gas Recirculation Upgrade
- Complete MPC North Install ?
- Complete Thermocouples on RPC1 North Install ?
- Complete RPC1 North Cooling Upgrade ?
- Install MMS East Vertical Lampshade (Dave P.) ?
- RPC1 South Cooling Upgrade
- Reinstall North beampipe support
- Survey Beampipe at North support
- Remove station 1 scaffolding
- Move CM to run position
- Substation breaker upgrade/test (CAD) ~Breaker Broke ?
- Continue working on RPC3 shielding
- sPHENIX design support
- MPC-Ex design support
- Window Washer safety upgrades
- MuID Collar IR staging area support

# Substation breaker upgrade/test (CAD)



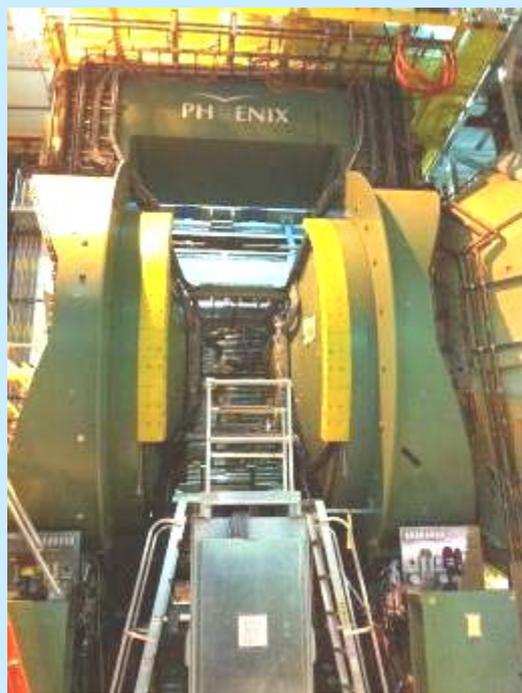
Upgrade & Test to be performed 10/21-22. P. Giannotti to prepare drawings/wiring schemes to CAD for review and config manag. Paul will be present and work with line crew to implement. CAD witness for test?



- Last week: Install Cooling manifolds and TC's, Test B1 west, Mate B0 & B1, Mate West Pixel barrels with strips, Attach and Test bigwheels (finishing this week)
- This week into next week: Install FVTX cages, Test FVTX west, prep for survey
- Next week: Survey get ready to move to 1008
- Week of Nov 12: Install at 1008.
- Week of Nov 19: Survey and services



VTX/FVTX



Repairs and testing  
in Progress at Chemistry Department

### Scaffolding Storage

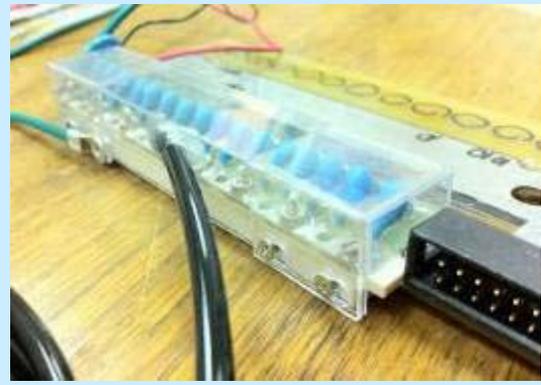


# Clamp-on Terminator Installation on North & South Station-3

TECHNICAL SUPPORT NON

Lower clamp-on terminators already installed for both north and south sta-3 (bottom 4 octants)

With new work platforms that reaches all of sta-3; install remaining (upper) clamp-on terminators. **South Done, North In Progress**



# MPC Repairs -

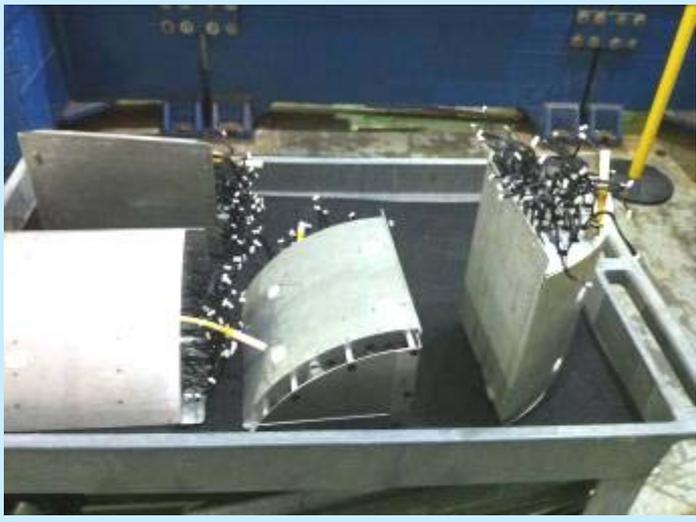


North MPC: At PHYSICS for repairs  
To be reinstalled by 10/26

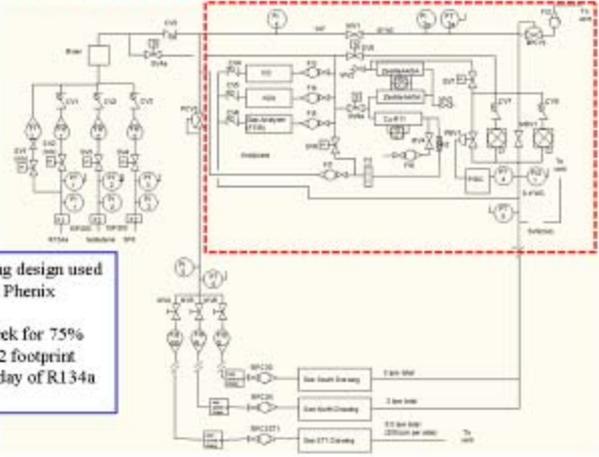
South MPC: Repairs completed,  
reinstalled, testing and new cables in  
progress



**Completed**



### Run 12 Shutdown Work Overview Gas/Cooling Systems Recirculating Upgrade to RPC Gas System



•Based on working design used for many years at Phenix  
 •Save money  
 •\$3k per week for 75%  
 •Reduces lab CO2 footprint  
 •60 lbs per day of R134a

June 20, 2012

15

RPC Recirculation Upgrade

Recirculation Piping installation - In Progress

GMH rack moving along Purification system controls assembly, installation and testing - November

PC upgrade - November

Analyzer procurement not yet approved

### VTX/FVTX Cooling Upgrade

- Piping 90% done
- New filtration system in place, neds to be connected
- Big Wheel manifolds assembled ready for installation
- Chiller 1 repair parts here, need AC tech to Distribution upgrade



# RPC Station 1 North and South Cooling Upgrade & Monitoring



South



North

South to be completed after North

# RPC Background Attenuation Project

TECHNICAL SUPPORT ZONE



Looking towards RPC3 North  
← East                      West →

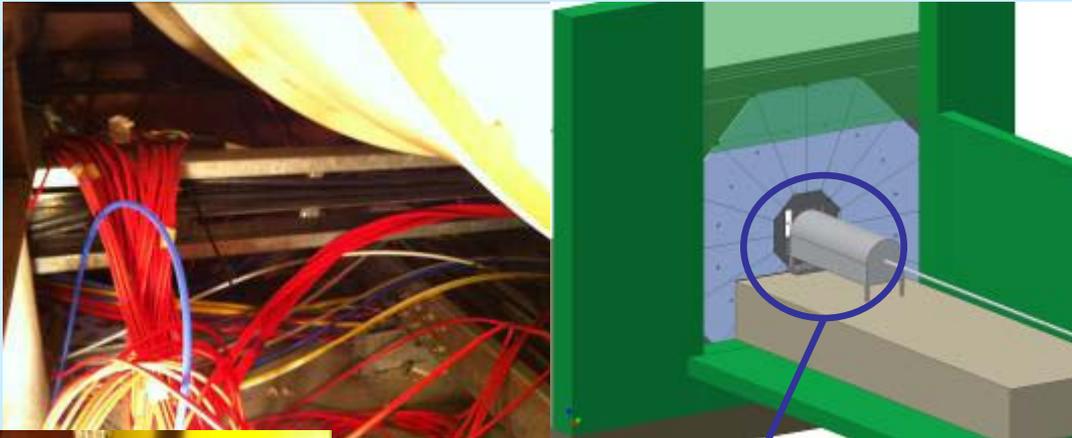
Looking towards RPC3 South  
← West                      East →

Large shielding modifications at Q2 upstream north and south to be planned and installed by CA-D (Dave Phillips) by 12/14/2012

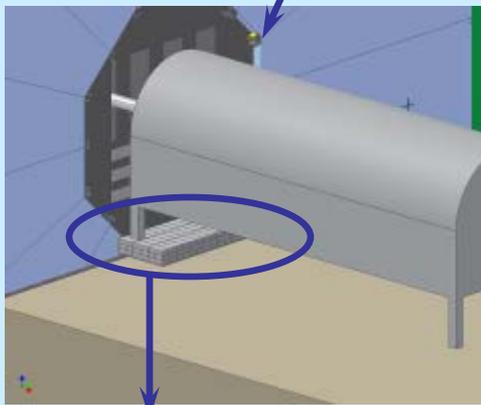
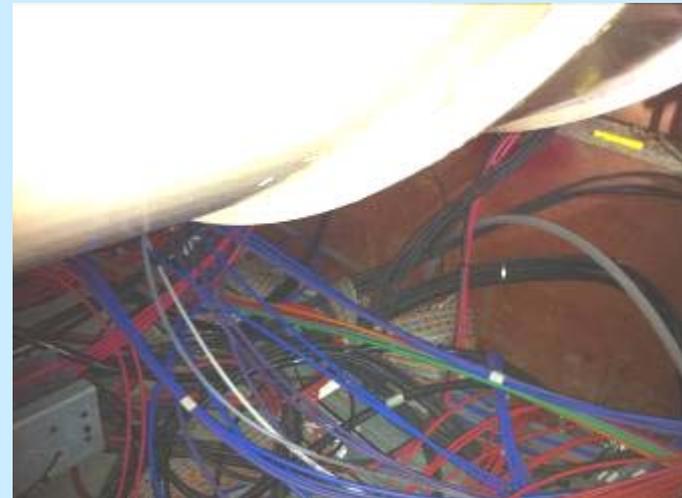
# RPC Background Attenuation Project

TECHNICALS

Under DX at RPC3 North  
← East                      West →



Under DX at RPC3 South  
← West                      East →



144 Steel bricks, 2x4x8,  
stacked in 3 high, 16 wide, 3  
rows, respectively by 11/21



TECHNICAL SUPPORT NON



# MuID Collar IR Holding Area Support

- Structural support improvements designed
- Parts to be ordered
- Installation this fall prior to EC roll in

# Window Washer Remote Pin Removal and Winch/spooler safety upgrades

Space available:  
16.5" x 27" x 28" h



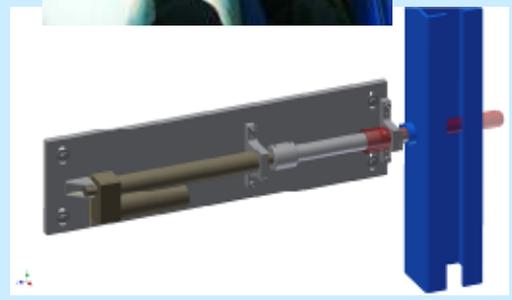
**COLUMBIA** WINCH & HOIST  
Manufactured by Allied Power Products, Inc.

**AutoAdvance LINE SPOOLER**  
ALL FRAME SIZES

**Create perfect line spooling for any winch or hoist.**

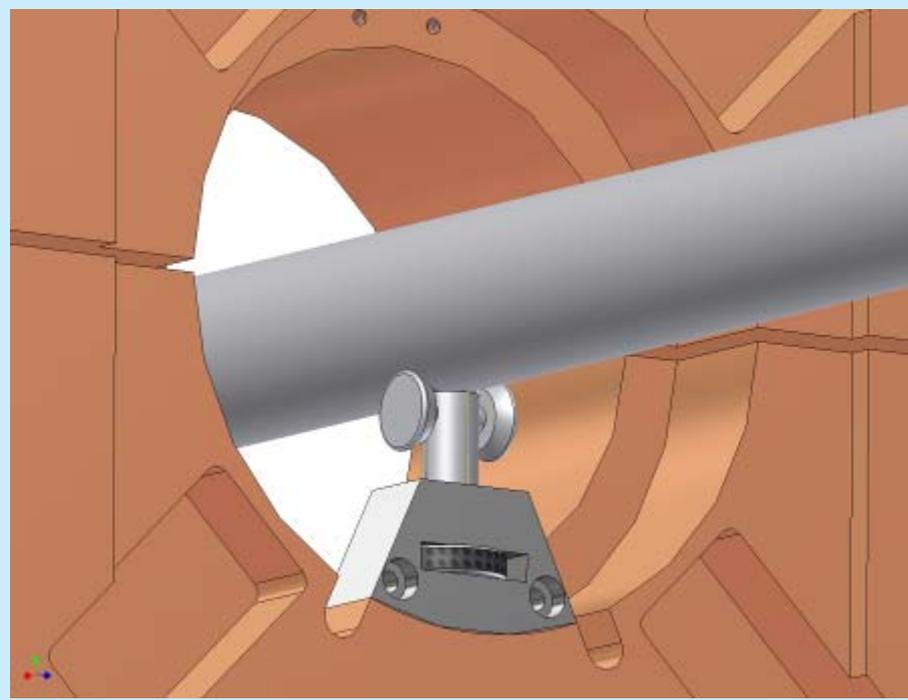
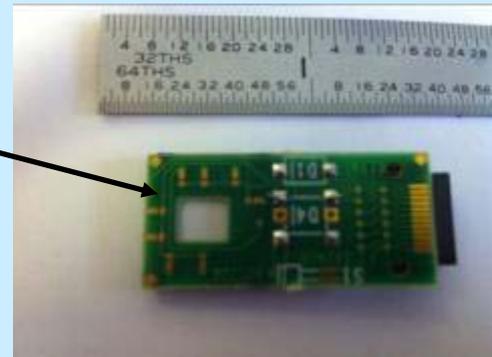
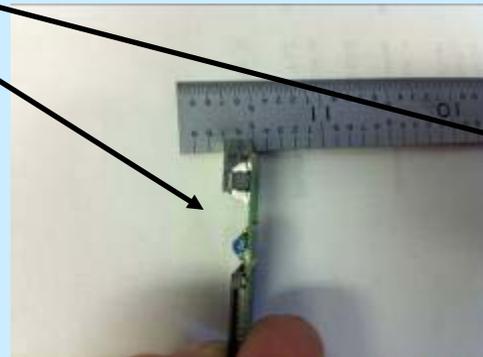
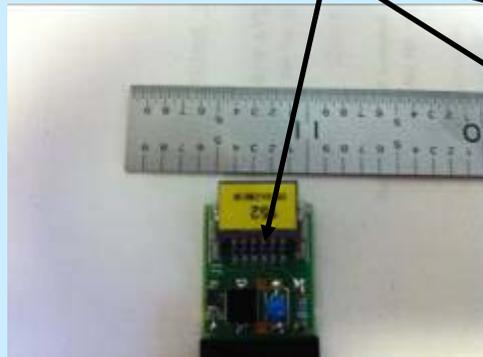
**Auto Advance Line Spoolers eliminate the need for a fixed sheave precisely located in relationship to the drum to achieve proper line spooling.**

**Auto Advance Line Spoolers work with any size of line and even with differing sizes of line on the same drum to create optimal line spooling. Large diameter sheaves in the Auto Advance Line Spooler ensure the line is not damaged by small radius bends.**



Rad monitor sensors

VTX/FVTX Radiation Monitoring Test



Mount 6 Rad monitor sensors in the south nosecone cavity, 2 sets of 3 at different z, at 3.5, 8.5 and 16.2 mm radially from nominal beam axis

Other Subsystem Work and Future Upgrades related Work

TECHNICAL SUPPORT ZONE

New Electrical Work for 2012 Shutdown, to be accomplished as time is available

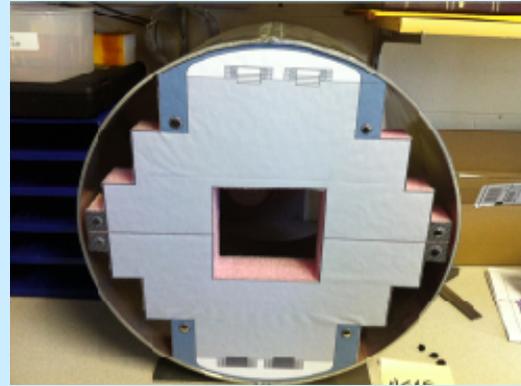
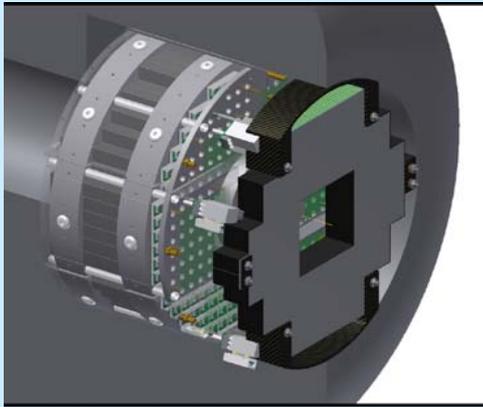
- 1. Remote breaker switch - parts ready install partially completed. Repaired broken breaker installation and blue sheet test of breaker to be re-scheduled

PHENIX Electronics Upgrades

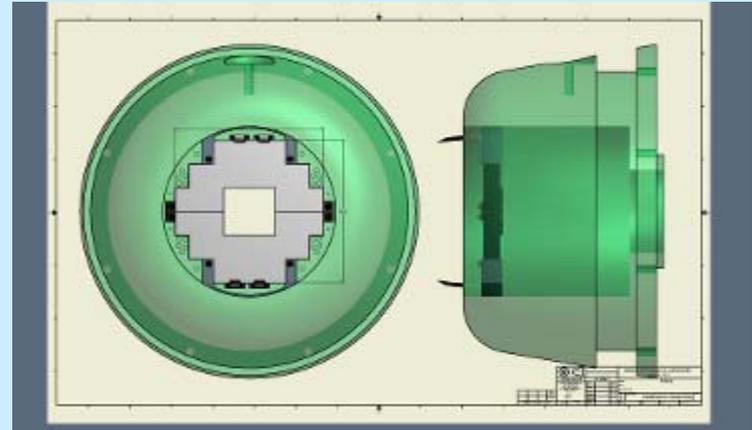
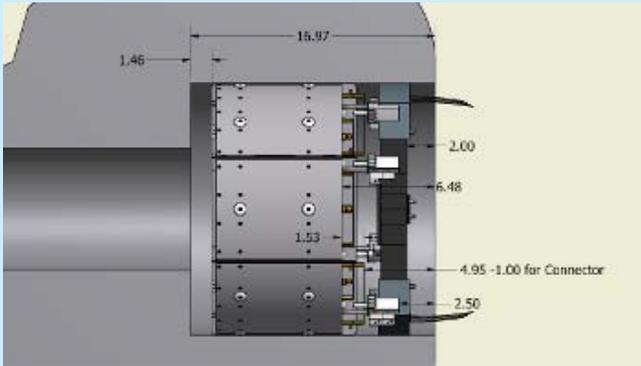
- 1. Install second MODBUS server in counting house. - TBD
- 2. Install MTP patch bay and jumpers for FVTX in counting house. - November
- 3. Add several backup MTP fibers from CH to IR - November

Additional Work for 2012, not yet scheduled, to be fit in as available

- 1. Replaced aging magnet hoses (CM only) - In Progress
- 2. identify obsolete services passing through sill and remove them. - As time is available
- 3. Cover for services coming from IR through sill. - After Shutdown
- 4. Plan for stripping out TEC electronics and services to free up TEC racks. - As time is available



Foam Mockup



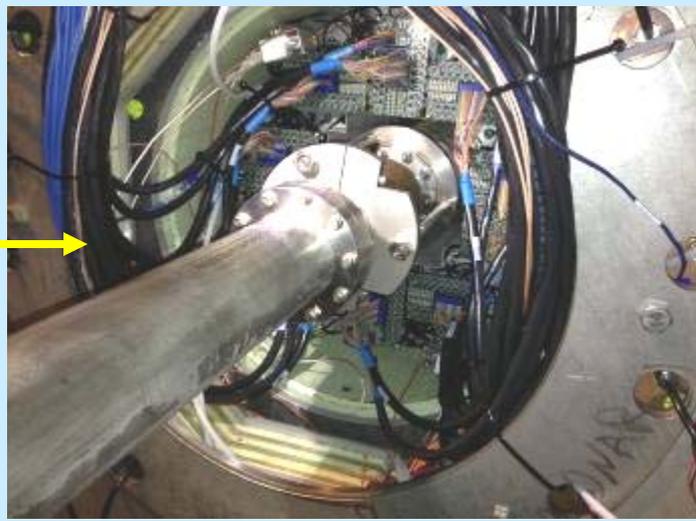
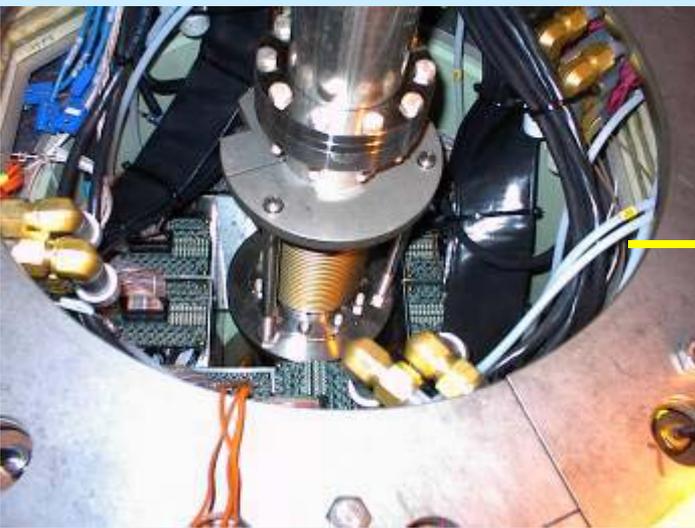
MPC-Ex approved, design work in progress, new cables for MPC South installed

TECHNICAL SUPPORT NON

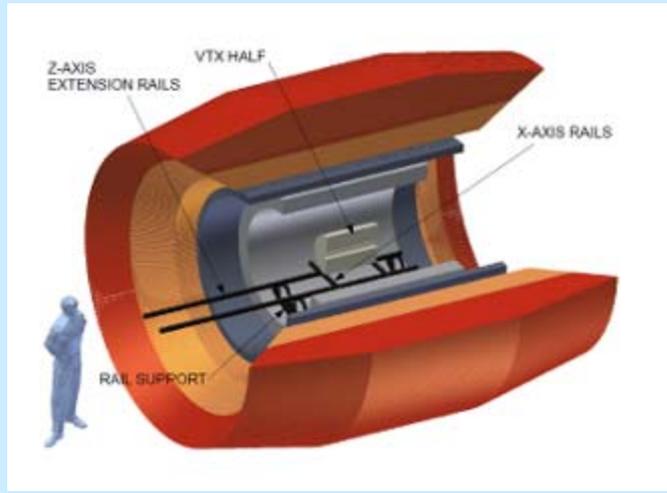


Existing vacuum bellows anti-squirm  
In MPC S Cavity

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



MPCS Flat cables replaced with round cables.

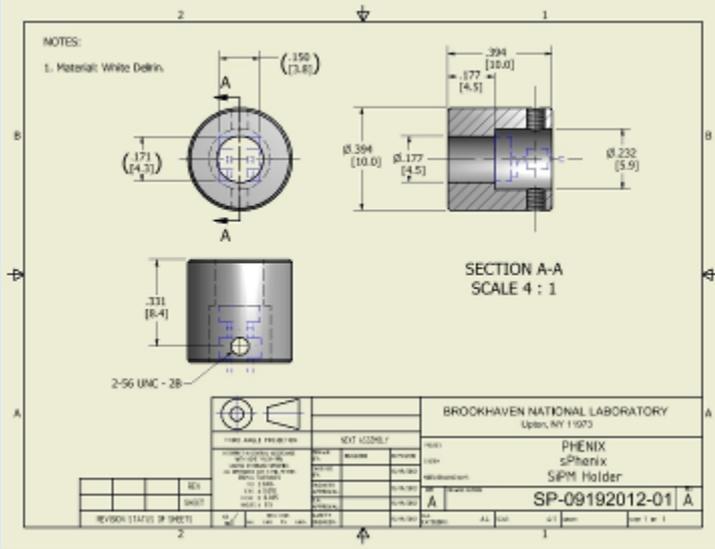
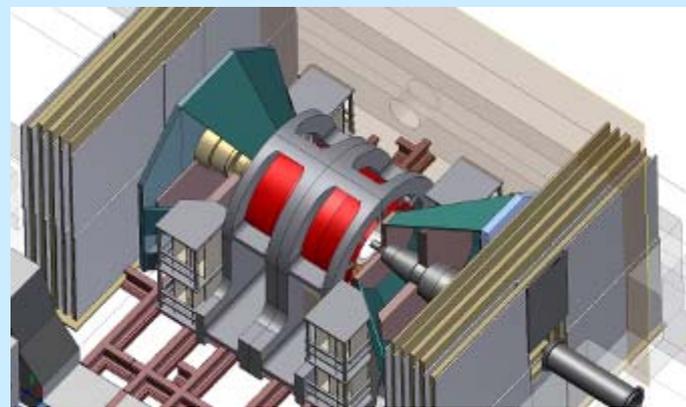


## sPHENIX Proposed Upgrade

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

BNL Review last week

Prototype HCal and EMCal in progress



Silicon Photo Multiplier Holder

## Remaining Work Permits/Procedures for Shutdown 2012

- RPC Background Attenuation Shielding @ DX Magnets - In Progress
- Window Washer autospool and remote pin removal upgrade
- MuID Collar IR Holding Area Support
- End of Shutdown (PHENIX)

TECHNICAL SUPPORT ZONE

Re-capacitation and air manifold upgrades	
Re-install MMS lampshade	10/31/12
St 3 North Capacitor Clamps and air manifolds	11/9/2012
Remove station 2/3 North scaffolding	11/16/2012
Reinstall MPC North	Done
RPC 1 North cooling upgrade	11/1/2012
RPC1 North Thermocouple monitoring upgrade	11/1/12
Remove Station 1 North scaffolding	11/5/12
Move CM To run position, Open station 1 South	11/6/12
RPC 1 South cooling upgrade	11/16/2012
VTX Cooling System Upgrades	11/15/2012
RPC Recirculation Upgrade	11/15/2012
Repair upgrade, reassemble VTX/FVTX	In Progress - 10/31
Test, survey (at Chemistry and IR) and re-install VTX/FVTX	10/26-11/12/2012
VTX/FVTX and final beampipe Survey at 1008	10/21/2012
Substation breaker upgrade/test (CAD)	11/??/2012
RPC Shielding under DX magnets	11/21/2012
RPC tunnel Shielding (Dave Phillips)	12/14/2012

## TECHNICAL SUPPORT ZONE

Window Washer pin & spool upgrades	11/21/2012
MuID IR storage support	11/21/2012
Veterans Day Holiday	11/12/2012
Re-install MMN access panel on lampshade	11/21/2012
Pre-run commissioning and prep for run 13	11/1-12/31/2012
Prep for EC roll in	11/12-11/21/2012
Thanksgiving Holidays	11/22-23/2012
Roll in EC	11/26-11/30/2012
Prep IR for run	12/3-12/7/2012
Pink/Blue/White sheets	12/7-12/21/2012
Christmas Holidays	12/24-25/2012
Start run 13	1/1/2013

TECHNICAL SUPPORT ZONE

From Ray Karol: CYBER SECURITY - Since Phishing continues to be a very real threat to BNL and the attempts are looking more realistic, ITD launched a Phishing campaign on Wed. Oct. 17, at 1:00 PM. The results were that more than 60 people in C-AD actually clicked on the bogus link and entered credentials into the next screen, which mimicked our OWA email window. This exact example is shown as part of our annual Cyber Security training, but many fell for it anyway.

Here are some things you should have noticed:

The email was sent from "BNL Mail Supervisor [itsupport@bnl.gov.us]" with a subject of: "Your webmail account to be suspended."

First - BNL Mail Supervisor is not a real sender and the email address is [itsupport@bnl.gov.us](mailto:itsupport@bnl.gov.us) - The .us portion should be a trigger that this did not come from BNL. It is either a test or a real phishing email. Either way - DO NOT click on the embedded link.

Second - if you hover the mouse over the link, you would notice the location it will take you to. The address is not a bnl.gov location. It showed bnl.webaccess-email.com<blah blah>. This is another indicator that it is not legitimate. Please fight the temptation to see what the linked page looks like.

If your email program does not show mail header or allow you to see the link when you hold your mouse over it, DO NOT click on it.

What to do: Call the HelpDesk (5522) and ask why you received this warning email and if there is anything wrong that you need to address. Send any suspicious email to [security@bnl.gov](mailto:security@bnl.gov) and call Nick Franco (5467) if you have a question BEFORE you click and enter any information.





# Portable Generator Hazards

A Factsheet on Portable Generator Safety

**P**ortable generators are useful when temporary or remote electric power is needed, but they can be hazardous. The primary hazards to avoid when using them are carbon monoxide poisoning, electric shock or electrocution, and fire.

The U. S. Fire Administration (USFA) would like you to know that there are simple steps you can take to prevent the loss of life and property resulting from improper use of portable generators.

## TO AVOID CARBON MONOXIDE HAZARDS:

- Always use generators outdoors, away from doors, windows and vents.
- NEVER use generators in homes, garages, basements, crawl spaces, or other enclosed or partially enclosed areas, even with ventilation.
- Follow manufacturer's instructions.
- Install battery-operated or plug-in (with battery backup) carbon monoxide (CO) alarms in your home, following manufacturer's instructions.
- Test CO alarms often and replace batteries when needed.

## TO AVOID ELECTRICAL HAZARDS:

- Keep the generator dry. Operate on a dry surface under an open, canopy-like structure.
- Dry your hands before touching the generator.
- Plug appliances directly into generator or use a heavy-duty outdoor-rated extension cord. Make sure entire extension cord is free of cuts or tears and the plug has all 3 prongs, especially a grounding pin.
- NEVER plug the generator into a wall outlet. This practice, known as backfeeding, can cause an electrocution risk to utility workers and others served by the same utility transformer.
- If necessary to connect generator to house wiring to power appliances, have a qualified electrician install appropriate equipment. Or, your utility company may be able to install an appropriate transfer switch.

## TO AVOID FIRE HAZARDS:

- Before refueling the generator, turn it off and let it cool. Fuel spilled on hot engine parts could ignite.
- Always store fuel outside of living areas in properly labeled, non-glass containers.
- Store fuel away from any fuel-burning appliance.



### For more information contact:

The U. S. Fire Administration  
16825 South Seton Avenue  
Emmitsburg, MD 21727  
or  
Visit the USFA Web site:  
[www.usfa.fema.gov](http://www.usfa.fema.gov)



Homeland  
Security

# Safe Handling & Operations Checklist

Before operation, perform an equipment inspection of the following:

- Handles and guards, to assure that they are not damaged or altered in any way.
- Controls, to assure proper function.
- Chain saw chains, to assure proper chain tension adjustment.
- Chain saw muffler, to assure that they are operational and in place.
- Always wear protective clothing; work gloves, eye and ear protection, chain saw protective pants or chaps, helmet and boots.
- All other safety devices - throttle lock, chain catcher & chain brake, to assure that they are in place and functioning properly.
- Make sure air filter is clean.
- Check starter rope for any frays, tears or improper adjustment.

**Other Tips:**

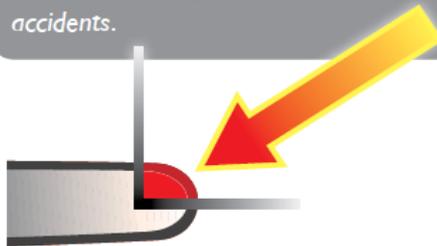
- Make sure each tool is used only for purposes for which they are designed.
- The cutting chain should be sharpened in accordance with manufacturer's specifications whenever it becomes dull during the workshift.
- Each tool should be stored in the proper location when not being used at a work site.

October is...



# Safety Pays!

Take precautions to avoid kickback... one of the leading causes of chain saw accidents.



**Kickback danger zone!**

The kickback zone is the upper part of the nose of the bar. This part of the bar has a high kickback risk. Be conscious of where the nose of the bar is at all times to lessen the likelihood of kickback. Accidental contact with this part of the bar with any surface can cause kickback.



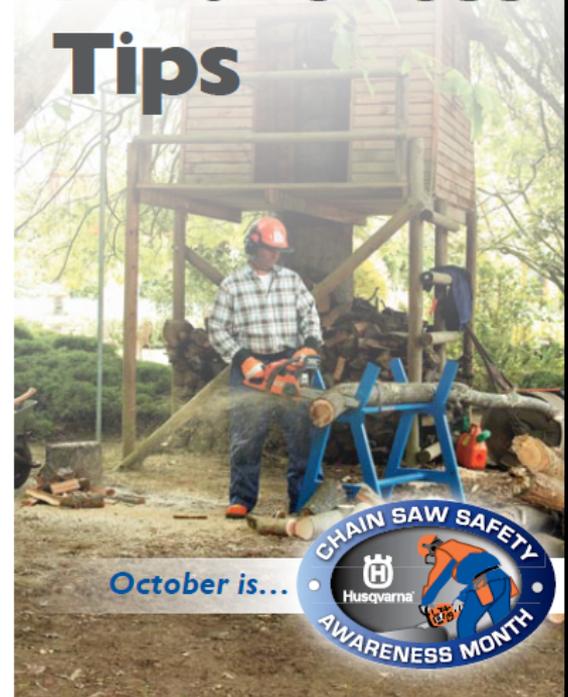
Husqvarna®

www.husqvarna.com

531 03 04-17



# Chain Saw Safety Awareness Tips



October is...



Whether you're using a chain saw to fell trees, cut firewood or clean up around the yard, here are some basic tips and techniques that can make your cutting experience more productive.

Read your Operator's Manual for detailed operating & safety instructions.

## Starting

- Place starting switch in "on" position, engage choke if cold starting.
- Activate (engage) the chain brake before starting. Grip the front handle with your left hand and hold the saw down by putting your right foot in the rear handle. Place your right hand on the starter handle and pull out the starter cord slowly until the starter pawls engage. Then pull sharply.
- If choke is engaged, disengage the choke control immediately when the engine first ignites. The saw should start with the next sharp pull. When the engine starts, rapidly give full throttle. Release the trigger to return the saw to idle. Release (disengage) the chain brake before cutting.
- **CAUTION:** Do not release the starter handle from fully pulled out position as this can cause damage to the saw.



## Stopping

- The engine is stopped by switching off the ignition.



## Use Safety Sense Before You Start Sawing

- 1) Always wear protective clothing: work gloves, eye and ear protection, chain saw protective pants or chaps, helmet and boots.
- 2) When cutting, stand on firm ground to the side of the saw furthest from the chain. Keep an escape route open, in case the tree unexpectedly shifts or rolls. Never stand on a log pile while cutting.
- 3) When cutting a pile of wood, make sure the chain saw tip does not come in contact with any logs behind the one you are cutting. Such contact may cause the saw to "kickback".



UL-listed Husqvarna chain saws meet ANSI B 175.1-2000 standards including kickback, noise, and vibration and comply with new OSHA regulation 1910.266-LOGGING OPERATION

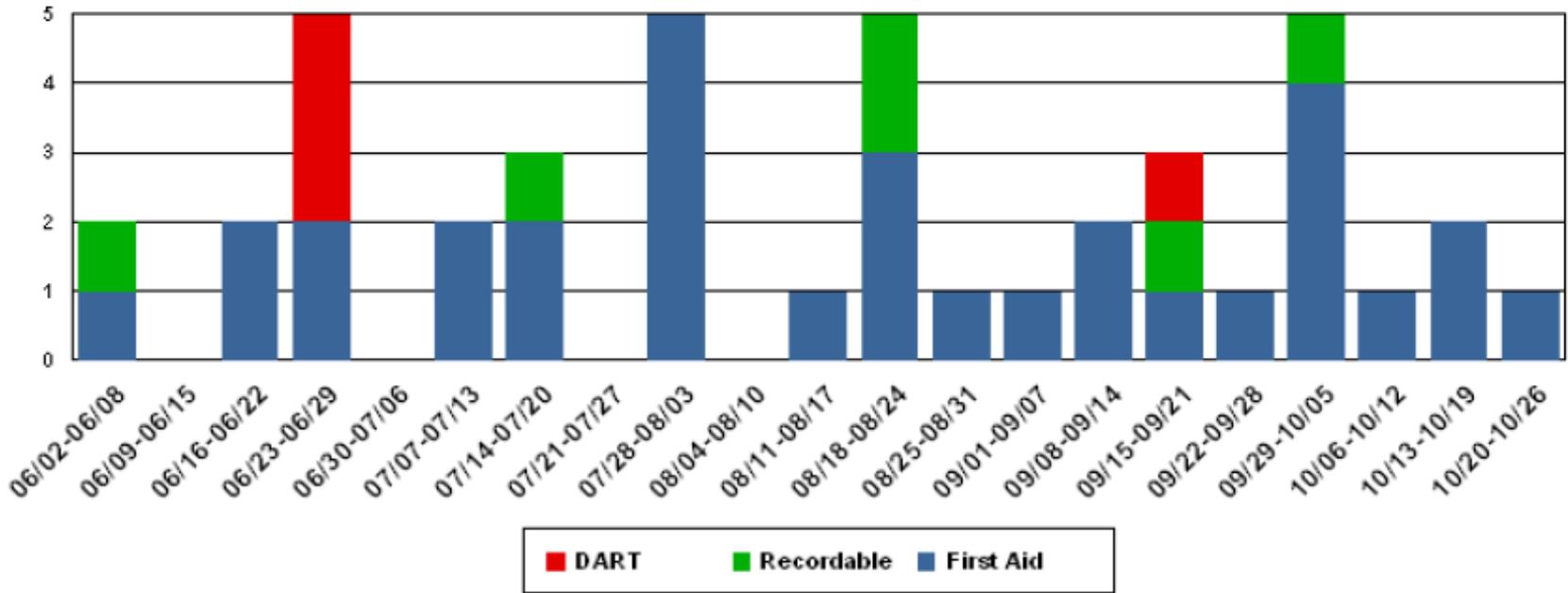
October is...



## Guidelines For Safe Use

- **Anti-Kickback Devices:** Chain saws are labeled when in compliance with ANSI B175.2000. All saws put into service prior to February 9, 1995 must be equipped with a protective device to minimize chain saw kickback, even if a retrofit is required. Note that removing or disabling anti-kickback device is prohibited.
- **Throttle System:** Each gasoline-powered chain saw shall be equipped with a continuous pressure throttle-control system which will stop the chain when pressure on the throttle is removed.
- **The Manufacturer's Instructions:** The chain saw shall be operated and adjusted in accordance with the manufacturer's instructions.
- **Starting & Fueling Area:** The chain saw shall be started at least 10 feet (3m) from the fueling area. The chain saw shall be fueled at least 20 feet (6m) from any open flame or other source of ignition.
- **Starting Support:** The primary approved method for starting a saw is on the ground.
- **Starting, Chain Brake:** The chain saw shall be started with the chain brake engaged.
- **Grip:** The chain saw shall be held with the thumbs and fingers of both hands encircling the handles during operation.
- **Footing, Balance:** The chain saw operator shall be of certain footing before starting the cut. The chain saw shall not be used in a position or at a distance that could cause the operator to become off-balance, to have insecure footing, or to relinquish a firm grip on the saw.
- **Clearing Prior to Felling:** Prior to felling any tree, the chain saw operator shall clear away brush or other potential obstacles which might interfere with cutting the tree or using the retreat path.
- **Overhead Cutting Prohibition:** The chain saw shall not be used to cut above shoulder height.
- **Carrying:** The chain saw shall be carried in a manner that will prevent operator contact with the cutting chain or muffler.
- **Saw Chain Stopped Before Starting Retreat:** The chain saw shall be shut off or at idle with the chain brake on before the feller starts his retreat.
- **Saw Chain Stopped While Saw is Carried:** The chain saw shall be shut down or the chain saw brake engaged whenever a saw is not being used.

### Injuries Per Week As of 10/26/2012



**Injury Status:**

FY13 YTD: DART – 0, TRC – 1, First Aid – 8

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

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

FY12 Injury Listing: <https://intranet.bnl.gov/esh/shsd/seg/OccInj/BNLInjuries.aspx>

**Recent Injuries**

10/25/12	First Aid	An employee reported a stomach strain after lifting trash containers. Following treatment, the employee was released for work and advised not to perform strenuous activity for the remainder of the day. ( <a href="#">Event Link</a> )
10/19/12	First Aid	An employee was exiting their car and the wind blew the door into the employee’s head. First aid was given at the OMC.

TECHNICAL SUPPORT ZONE

## Recent Events

10/26/12	SC-BNL	At approximately 6PM, Friday, October 26, BNL Fire Rescue issued an OEM notification that it had extinguished a car fire. No other details are known at this time. ( <a href="#">Event Link</a> )
10/20/12	SC-3	At approximately 6:30PM a small (1/2") steam line on a heating unit separated from the shutoff valve causing steam to be released into the unoccupied office space. BNL Fire Rescue responded and isolated the steam leak by closing the shutoff valve. No personnel were injured and the extent of damage appears to be minor, limited to office computer equipment and some ceiling tiles. ( <a href="#">Event Link</a> )

# Where To Find PHENIX Engineering Info

TECHNICAL SUPPORT ZONE



Barring any further natural or man made disasters, we can expect to remain on or close to schedule for run 13

[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)

