

# CeC PoP Maintenance Day Installations



Scientific Goals: V. Litvinenko's RHIC retreat talk

Commissioning Goals: I. Pinayev presentation last week

Run 14 Goals: Complete assembly of 112 MHz SCRF Gun System and Commission low energy e beam



“Summer” Shutdown Priorities:

1. Stochastic Cooling New Longitudinal Kickers
2. eLens Magnet Measurement – Complete Installation
3. EBIS Laser Ion Source
4. 56 MHz SCRF Cavity Installation
5. **ERL installations/VTF testing**
6. **CeC PoP Installation**
7. RHIC New Transverse Dampers

Coherent electron *Cooling* PoP

# RHIC 02:00 CeC PoP Maintenance Day Installations

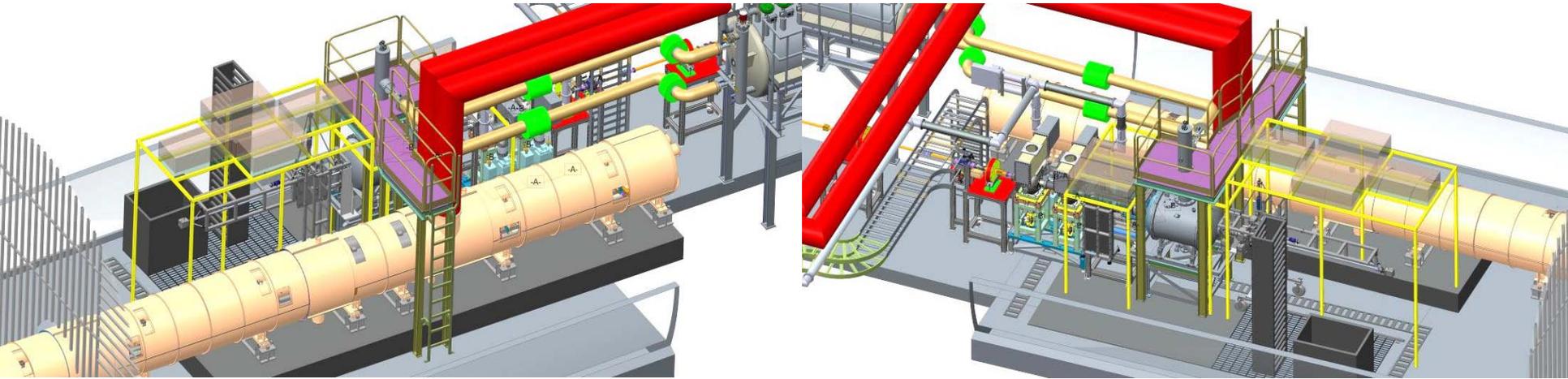


RHIC 02:00 IP



Coherent electron *Cooling* PoP

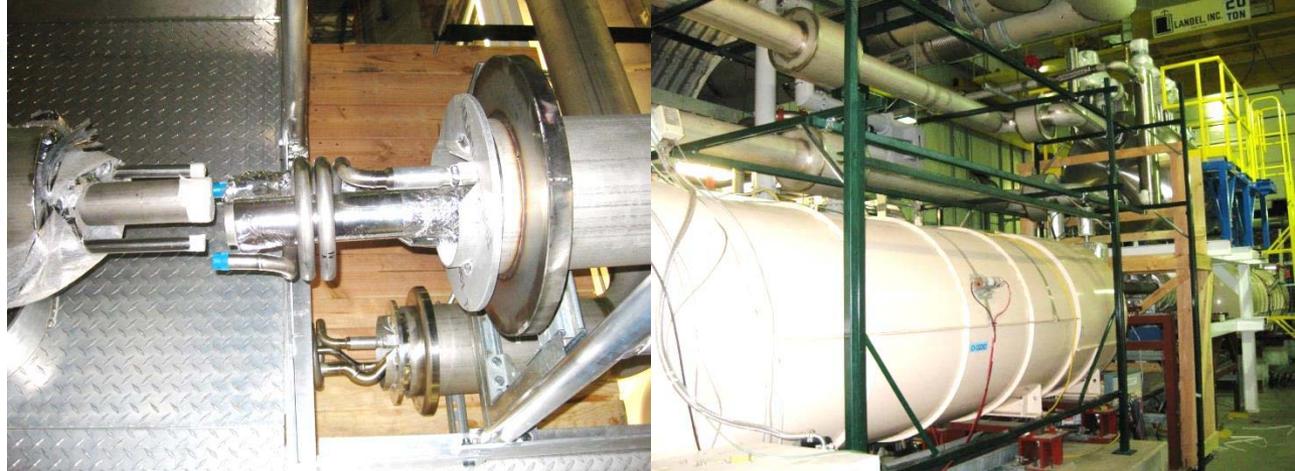
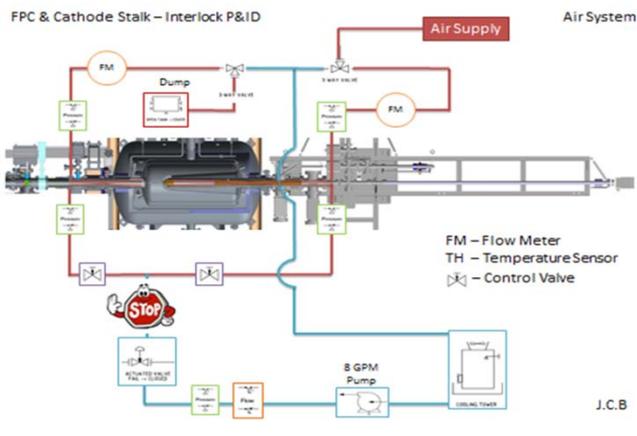
# Phase I



## Major Operating systems needed for e beam commissioning.

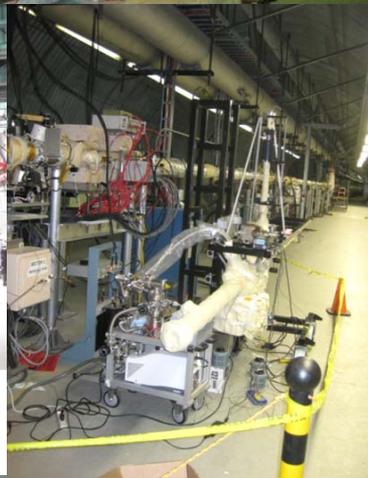
- (4.5K cold) SCRF 112 MHz cavity for 2.5 MeV electron beam
- 112 MHz cavity support systems: cryogenic system, insulating vacuum, beamline vacuum and water cooling system for cathode, FPC, buncher cavity
- Laser system: laser, laser transport fiberoptic, laser alignment, window and mirror.
- Cathode insertion system
- Fundamental Power Coupler (FPC) system with RF and moveable tuner controls
- 500 MHz buncher cavities with tuners and support systems
- Beam line magnets and power supplies
- Beam line instrumentation components
- Controls and MPS for electron beam line components
- Access controls and approval to operate





## Maintenance Day Installations

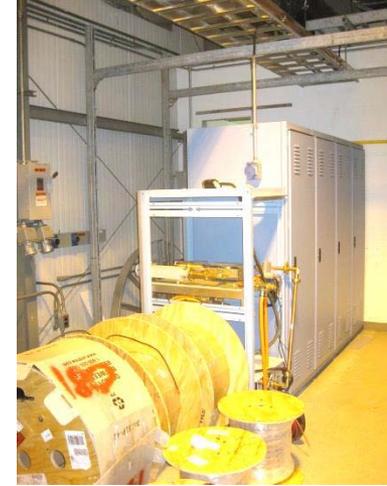
- VJP for cryogenic system welding
- The 500 MHz cavity water systems
- Cathode Cart prep and installation
- 112 MHz Cavity clean room survey
- 112 MHz Cavity Fundamental Power Coupler installation
- 112 MHz Cavity beam line and insulating vacuum, cryo controls
- 112 MHz Cavity water cooling system
- 112 MHz Laser cross and fiber optic install
- Cryogenic system QHS instrut./vacuum
- Install beam instrumentation components
- Install beam line vacuum
- Survey magnets, instrumentation, chambers
- Cable pulling for all (when the snow melts)
- Cable terminations for all



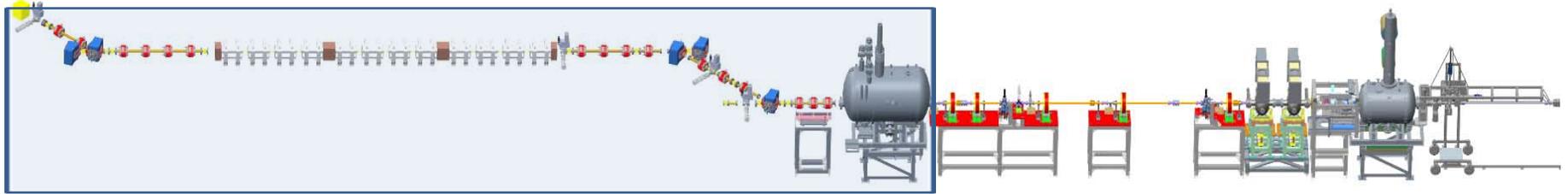
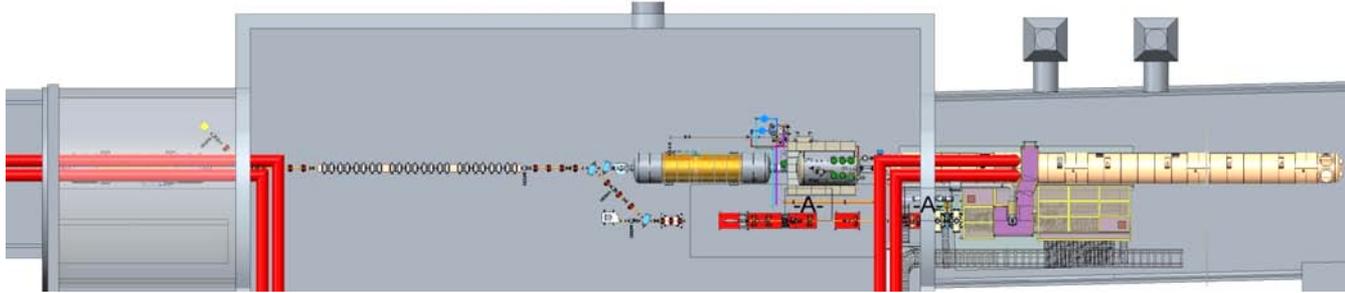
# CeC PoP Outside Installations

## Systems Installation & Commissioning

- Laser Trailer: Power, laser, cable tray, fiber optic conduit, installation
- Cryogenic warm return compressor power and test
- 1002A ODH System
- Access controls interlocks for RF Systems testing
- PS, RF, Instrumentation, Cryogenic, etc. rack installation 1002A and 1002B
- Cable pulling and terminations for all
- Communications and programming for Controls and MPS
- Component system commissioning



# Phase II Summer 2014 Installation



- 5 Cell SCRF (2 K) accelerating cavity (22 MeV electrons)
- RHIC interaction beamlines: 45° dipole magnets, quadrupoles, correctors, vacuum, PS, etc. designed for pA!
- FEL Wiggler Magnets – In fabrication at BINP
- Beam line instrumentation for electron and RHIC beams.
- 8 MW beam dump

