

# Run 15 RHIC Machine/Experiments Meeting

3 Feb 2015

## Agenda:

- **Run 15 Schedule (Pile)**
- **Other**

**Call in bridge line is 631-344-8383**

# Run 15 plan based on 22 weeks cryo operation

and Fischer et.al. RHIC Collider Projections (FY 2013 – FY 2022), 21 Sep 2014

- 20 Jan, Begin cool-down to 4.5K
- 21 Jan (morning), Blue cold
- 22 Jan (evening), Yellow cold
- 23 Jan (after midnight), Beam in Blue

## today, 3 Feb...

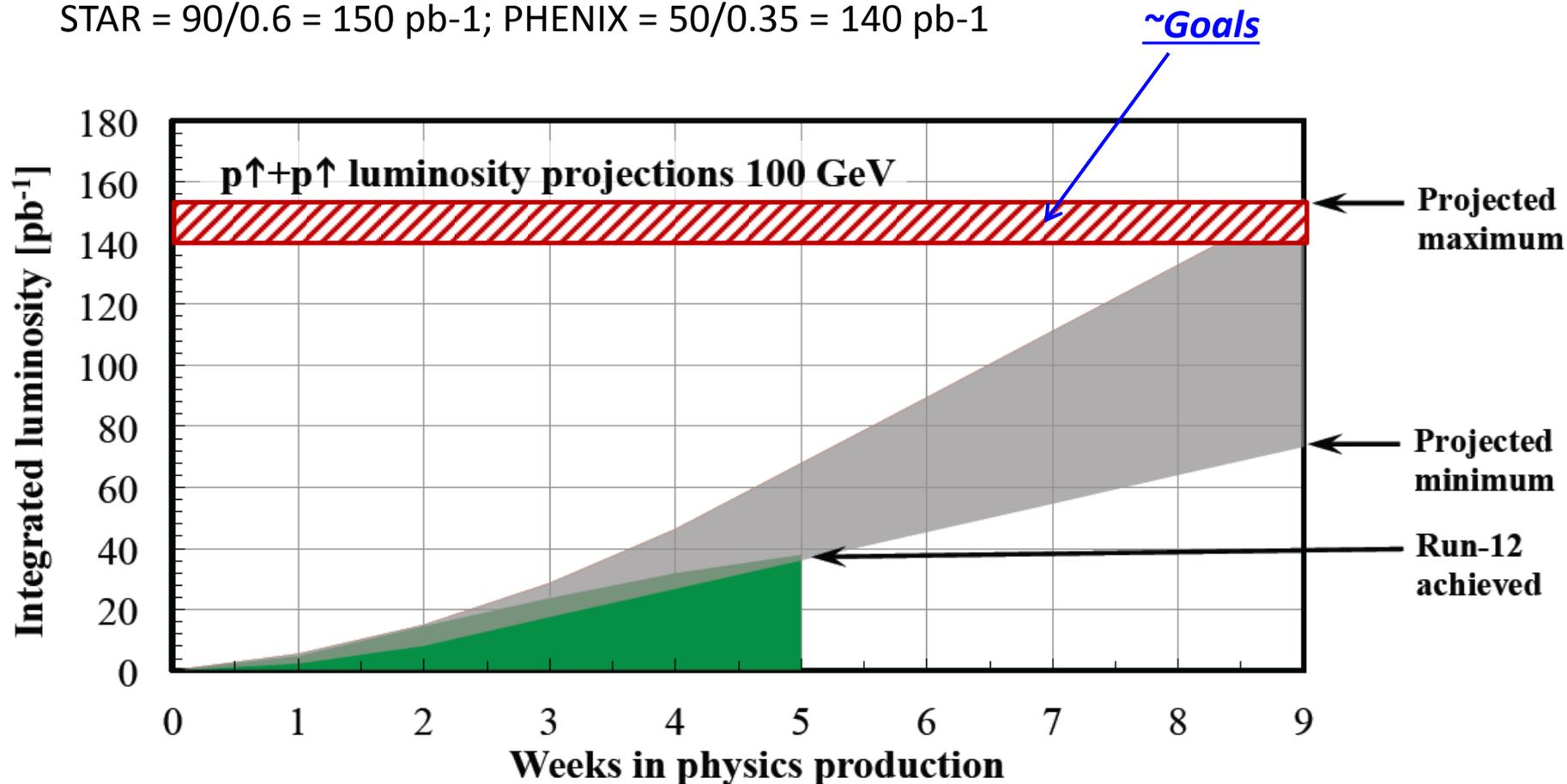
- ? Feb, First overnight stores for experiments
- 13 Feb (Vincent plan is for 9 Feb!), Begin 9 week  **$\sqrt{s}=200$  GeV pp** physics run
- 17 April, End 9 week  $\sqrt{s}=200$  GeV pp physics run
- 28 April, Begin 5 week  **$\sqrt{s}=200$  GeV/n pAu** physics run
- 2 June, End 5 week  $\sqrt{s}=200$  GeV/n pAu physics run
- 5 June, Begin 2 week  **$\sqrt{s}=200$  GeV/n pAl** physics run
- 19 June, End 2 week  $\sqrt{s}=200$  GeV/n pAl physics run
- 19 June, begin cryo warm-up
- 23 June, cryo warm-up complete, **22.0 cryo weeks** of operation

See <http://www.rhichome.bnl.gov/AP/Spin2015/> for the Run Coordinator's detailed plan

PHENIX goals 9 weeks, 50pb-1 recorded within 40 cm vertex with 60% pol  
STAR goals 12 weeks, 90 pb-1 recorded and 500M MB events, 60 % pol

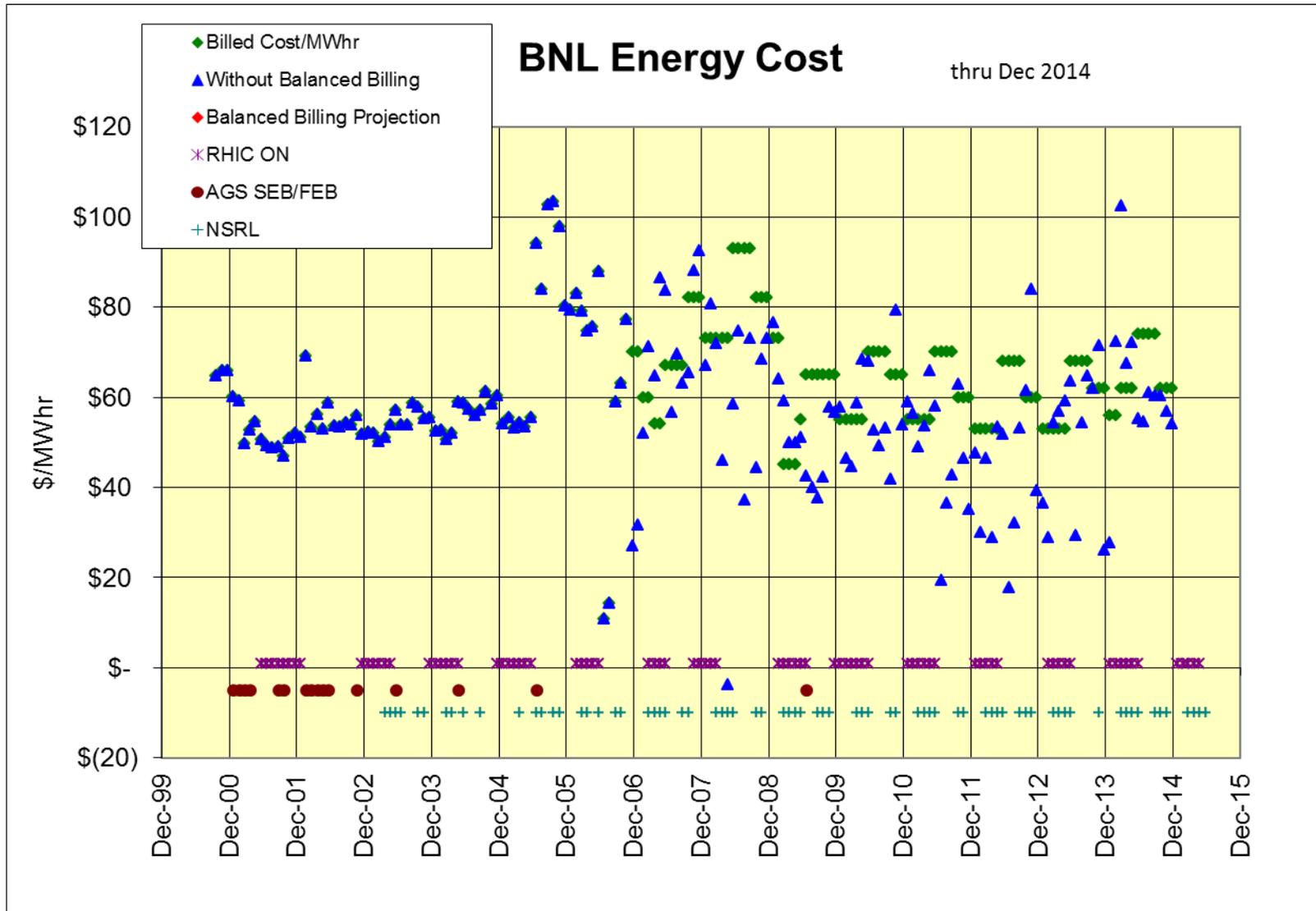
Estimate of required lumi (based on Run 12 efficiencies):

STAR =  $90/0.6 = 150 \text{ pb-1}$ ; PHENIX =  $50/0.35 = 140 \text{ pb-1}$

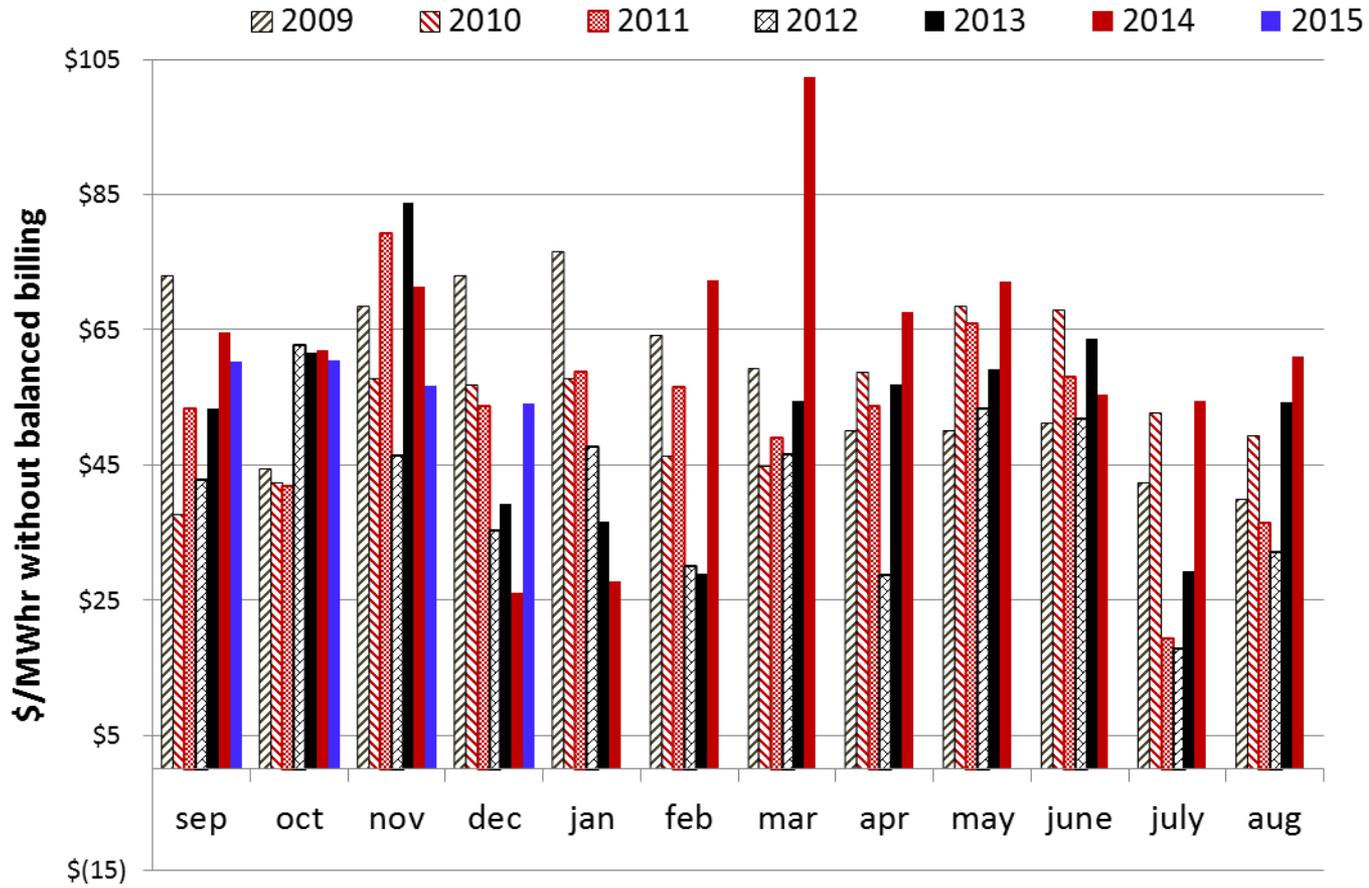


**Figure 3: Projected minimum and maximum integrated luminosities for polarized proton collisions at 100 GeV beam energy, assuming linear weekly luminosity ramp-up in 5 weeks. An average store polarization between 59% and up to 63% is expected.**

# Balanced Billing for the lab - +489.8K through Dec 2014



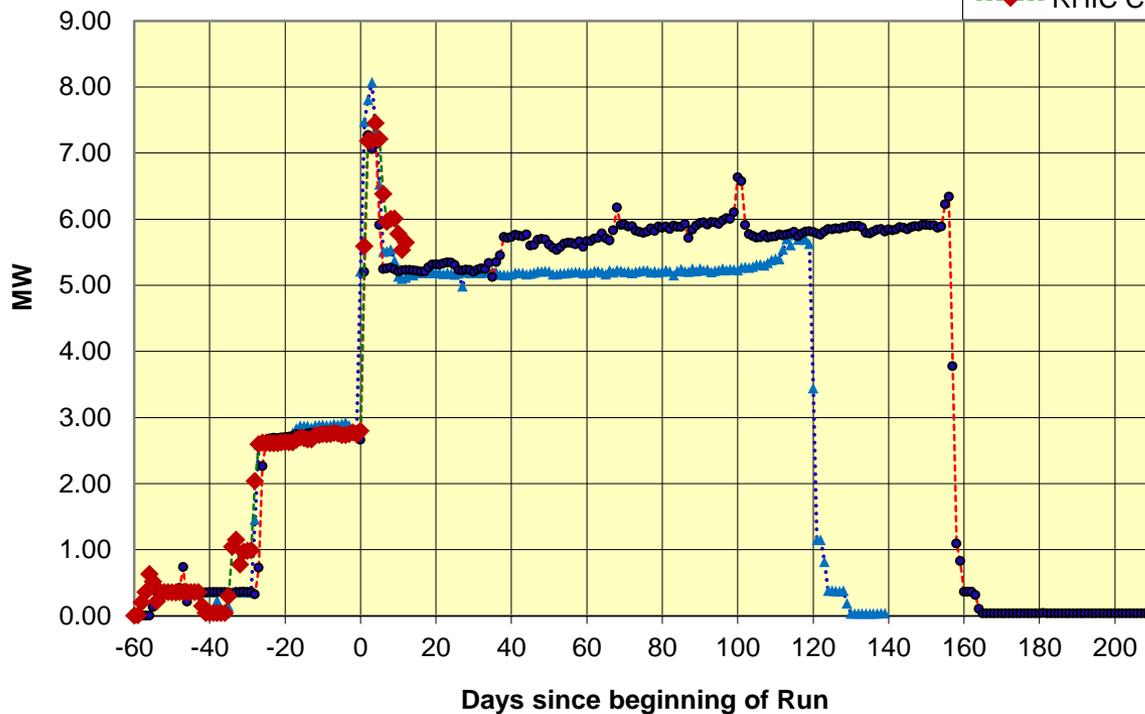
# BNL Electricity Cost



as of 31 Jan

# RHIC Cryo Operations FY13-15

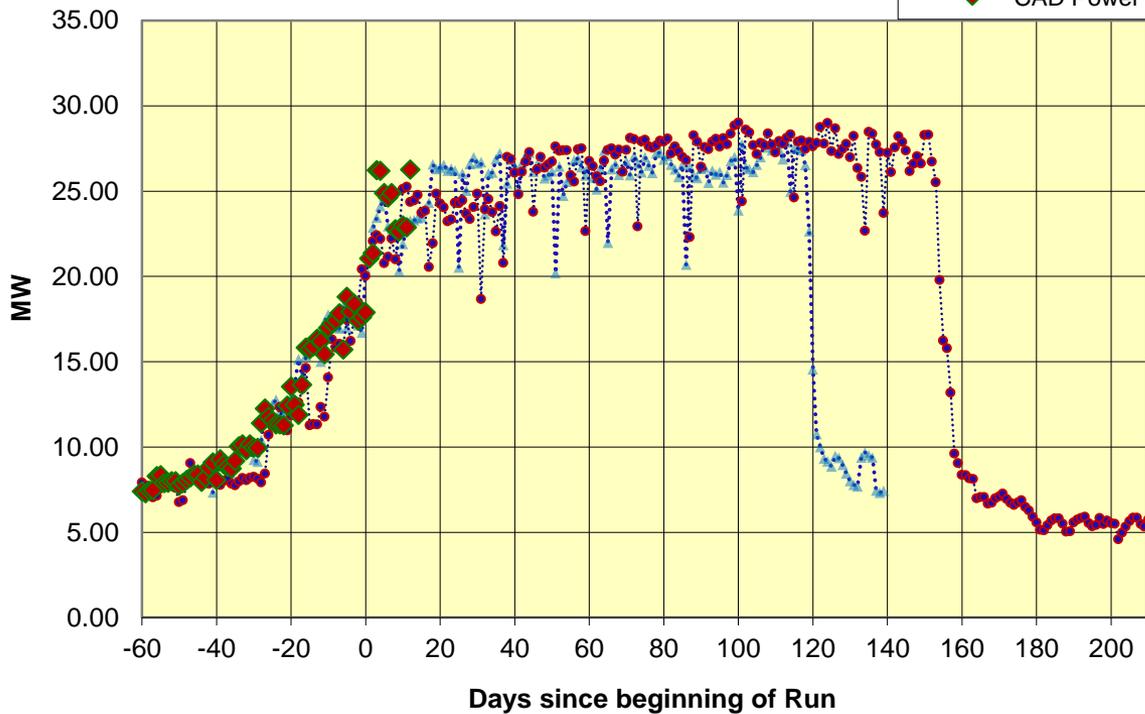
- .....▲..... RHIC Cryo 13
- RHIC Cryo 14
- ◆----- RHIC Cryo 15



as of 31 Jan

# RHIC Operations FY13-15

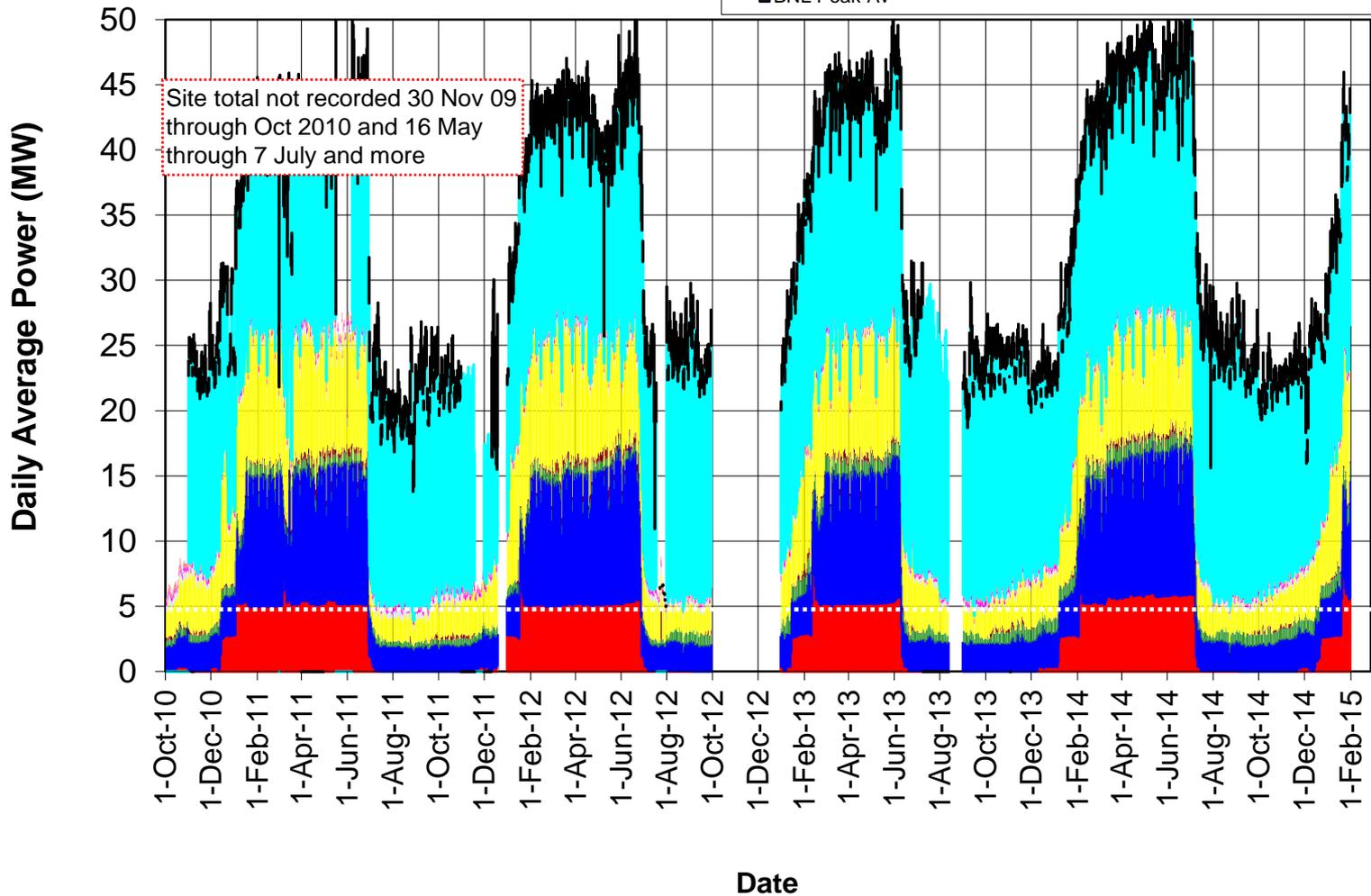
- CAD Power 13
- CAD Power 14
- ◆ CAD Power 15



# BNL Energy Use FY 2011-15

as of 31 Jan 2015

- RHIC Cryo
- RHIC other
- AGS-Exp
- Booster
- AGS-Mach
- Tandem
- CAD Bldg less SMD
- NSRL
- BNL Peak-Av
- Site Base

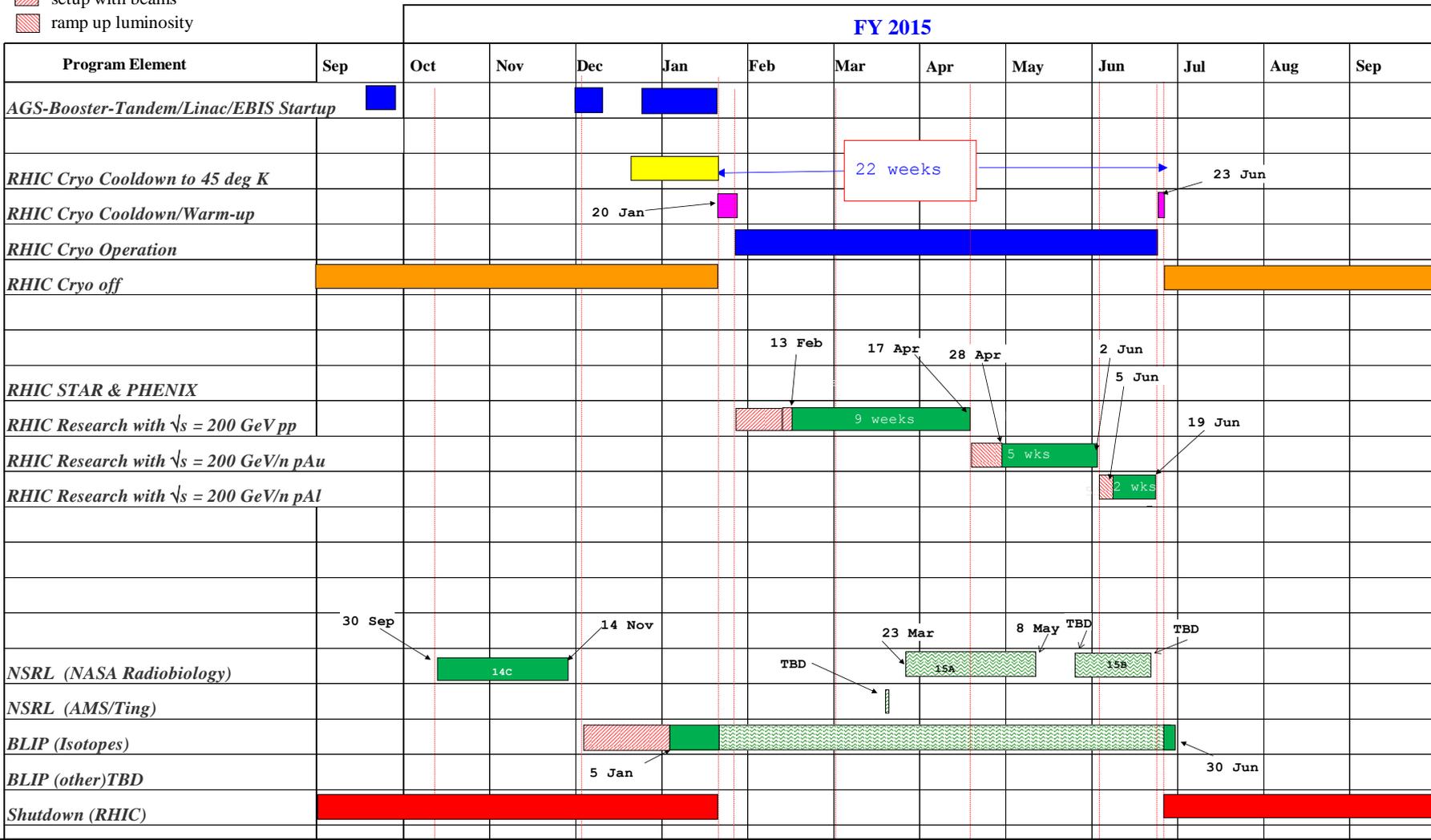




# C-A Operations-FY15

*Plan, subject to change*

-  concurrent with RHIC
-  setup with beams
-  ramp up luminosity



Archive

# Cryogenic Blue & Yellow Rings (14 days)

[Ring Summary \(1 day\)](#) [Sector Plots \(1 day\)](#) [Sector Plots \(14 days\)](#)

File Window Markers Analysis

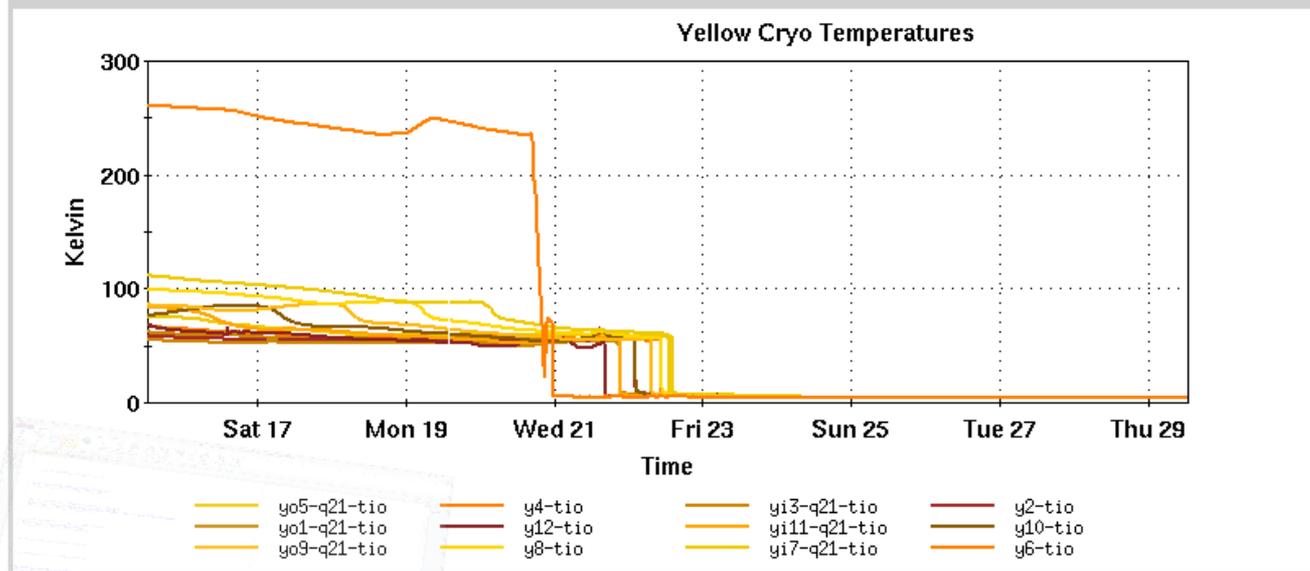
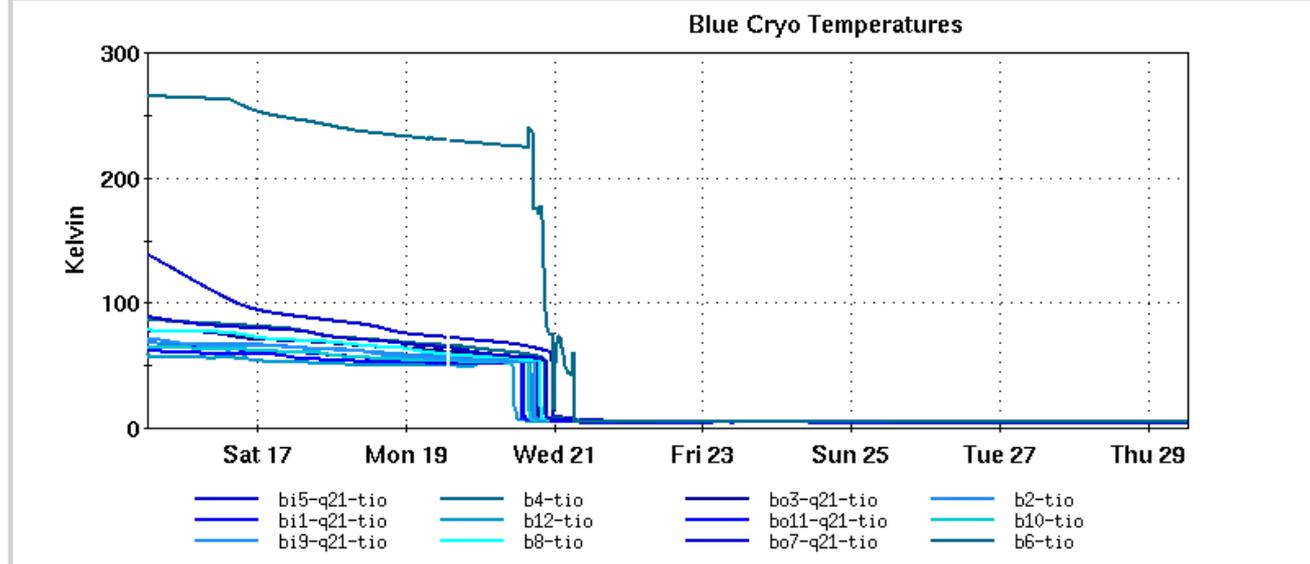




Photo by Andy Freeberg, SLAC National Accelerator Laboratory

breaking

January 16, 2015

## 20-ton magnet heads to New York

A superconducting magnet begins its journey from SLAC laboratory in California to Brookhaven Lab in New York.

By Justin Eure



PDF download

Imagine an MRI magnet with a central chamber spanning some 9 feet—massive enough to accommodate a standing African elephant. Physicists at the US Department of Energy’s Brookhaven National Laboratory need just such an extraordinary piece of equipment for an upcoming experiment. And, as luck would have it, physicists at SLAC

### most popular

January 16, 2015

#### 20-ton magnet heads to New York

A superconducting magnet begins its journey from SLAC laboratory in California to Brookhaven Lab in New York.

January 13, 2015

#### Dark horse of the dark matter hunt

Dark matter might be made up of a type of particle not many scientists are looking for: the axion.

January 12, 2015

#### Mirror, mirror

After more than six years of grinding and polishing, the first-ever dual-surface mirror for a major telescope is complete.

### symmetry tweets

January 19, 2015

ICYMI: Accelerator-driven carbon dating advances everything from archaeology to medicine: <http://t.co/hqMcZnCCw4>

## Who's Who for 2015

RHIC 100 x 100 GeV polarized protons:

**Run Coordinator:** Vincent Schoefer, [schoefer@bnl.gov](mailto:schoefer@bnl.gov) , 631-344-8453 (office)

RHIC 100 x 100 GeV/n polarized protons on gold and polarized protons on aluminum:

**Run Coordinator:** Chuyu Liu, [cliu1@bnl.gov](mailto:cliu1@bnl.gov) , 631-344-4431 (office)

### **Scheduling Physicists:**

Yousef Makdisi, [makdisi@bnl.gov](mailto:makdisi@bnl.gov), 631-344-4932(office) 631-??

Phil Pile, [pile@bnl.gov](mailto:pile@bnl.gov), 631-344-4643 (office), 631-834-2005 (cell)

### **AGS Liaison:**

Haixin Huang, [huanghai@bnl.gov](mailto:huanghai@bnl.gov) , 631-344-5446 (office)

## The Plan for Run 15: 22 weeks of cryo operations

Cool-down from 50 K to 4 K	0.5 weeks	
Set-up mode 1 (p↑+p↑ at 100 GeV)	2.5 weeks	(no dedicated time for experiments)
Ramp-up mode 1	0.5 weeks	(8 h/night for experiments)
Data taking mode 1	9 weeks	
Set-up mode 2 (p↑+Au at 100 GeV/nucleon)	1.5 weeks	(no dedicated time for experiments)
Data taking mode 2 with further ramp-up	5 weeks	
Set-up mode 3 (p↑+Al at 100 GeV/nucleon)	0.5 weeks	(no dedicated time for experiments)
Data taking mode 3+1 with further ramp-up	2 weeks	
Warm-up	0.5 week	

**From Fischer et. al., RHIC Collider Projections (FY 2014 – FY 2022), 21 Sep 2014**