Run 14 RHIC Machine/Experiments Meeting

4 Feb 2014

Agenda:

- **Run 14 Schedule** (Pile)
- **Machine Status** (Montag/Fischer)
- **STAR and PHENIX Status, expectations for low energy AuAu run** (Experiments)
- **Other**

Call in bridge line is 631-344-8383

http://www.bnl.gov/cad/esfd

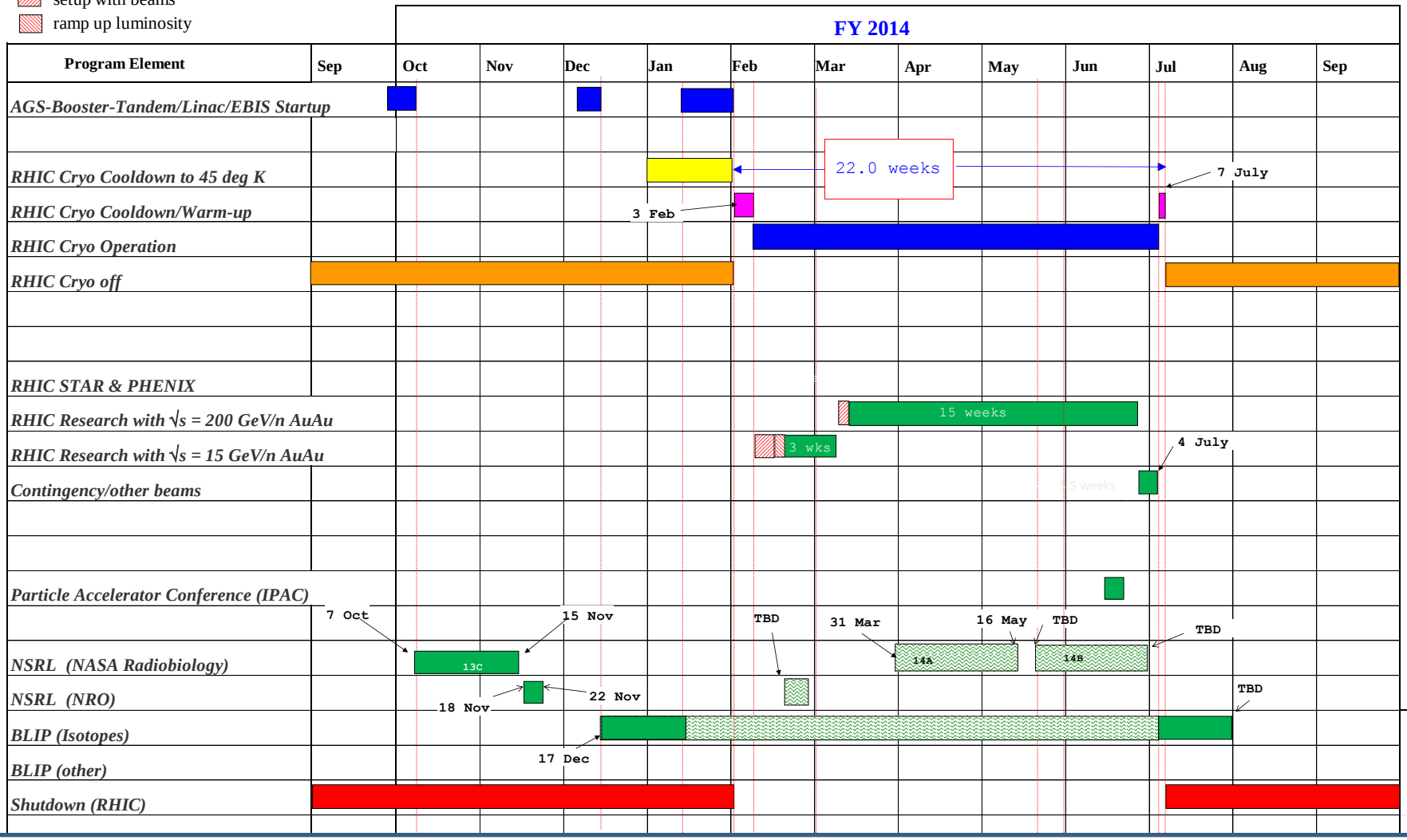
Scheduling Physicist: Chuyu Liu

C-A Operations-FY14

4 Feb 14

concurrent with RHIC
setup with beams
ramp up luminosity

planned, budget permitting



Run 14 plan based on 22 weeks cryo operation

and Fischer et.al. RHIC Collider Projections (FY 2013 – FY 2017), 4 Jun 2013

- ✓ 3 Feb, Begin cool-down to 4.5K
- ✓ 4 Feb, Cool-down to 6K in Blue

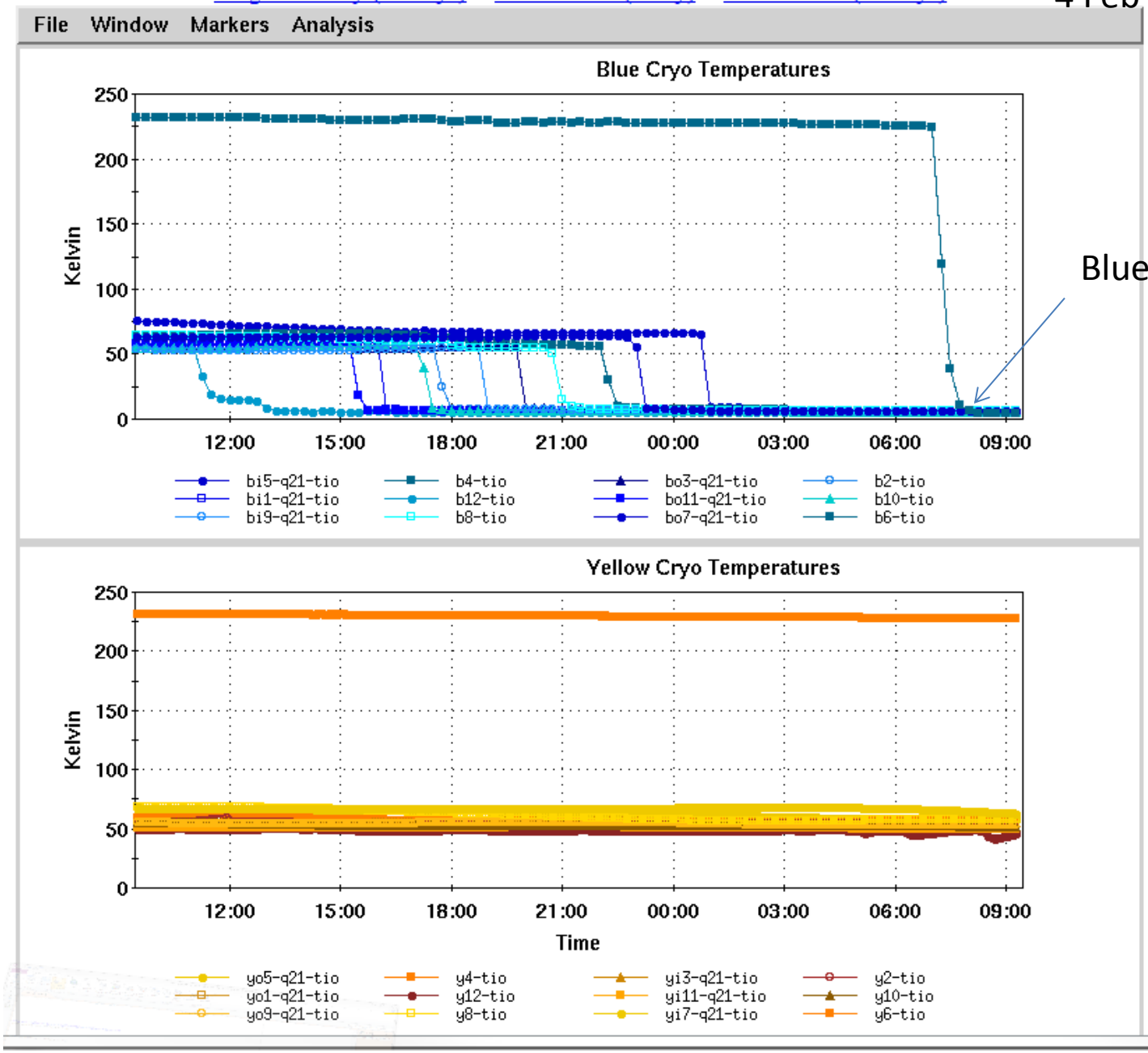
today, 4 Feb…

- 6-Feb, Beam in Blue
- 10 Feb, Blue and Yellow cool-down complete
- 15-Feb, First Collisions, begin √s = 14.6 GeV/n AuAu physics
- 8-Mar, End √s = 14.6 GeV/n AuAu physics run begin setup for √s = 200 GeV/n AuAu
- 12-Mar, Begin √s = 200 GeV/n AuAu run
- 25-Jun, End 15 week √s = 200 GeV/n AuAu run
- 25-June through 4 July , 9 days contingency/TBD
- 4-July, begin cryo warm-up
- 7- July, warm-up complete, 22.0 cryo weeks of operation

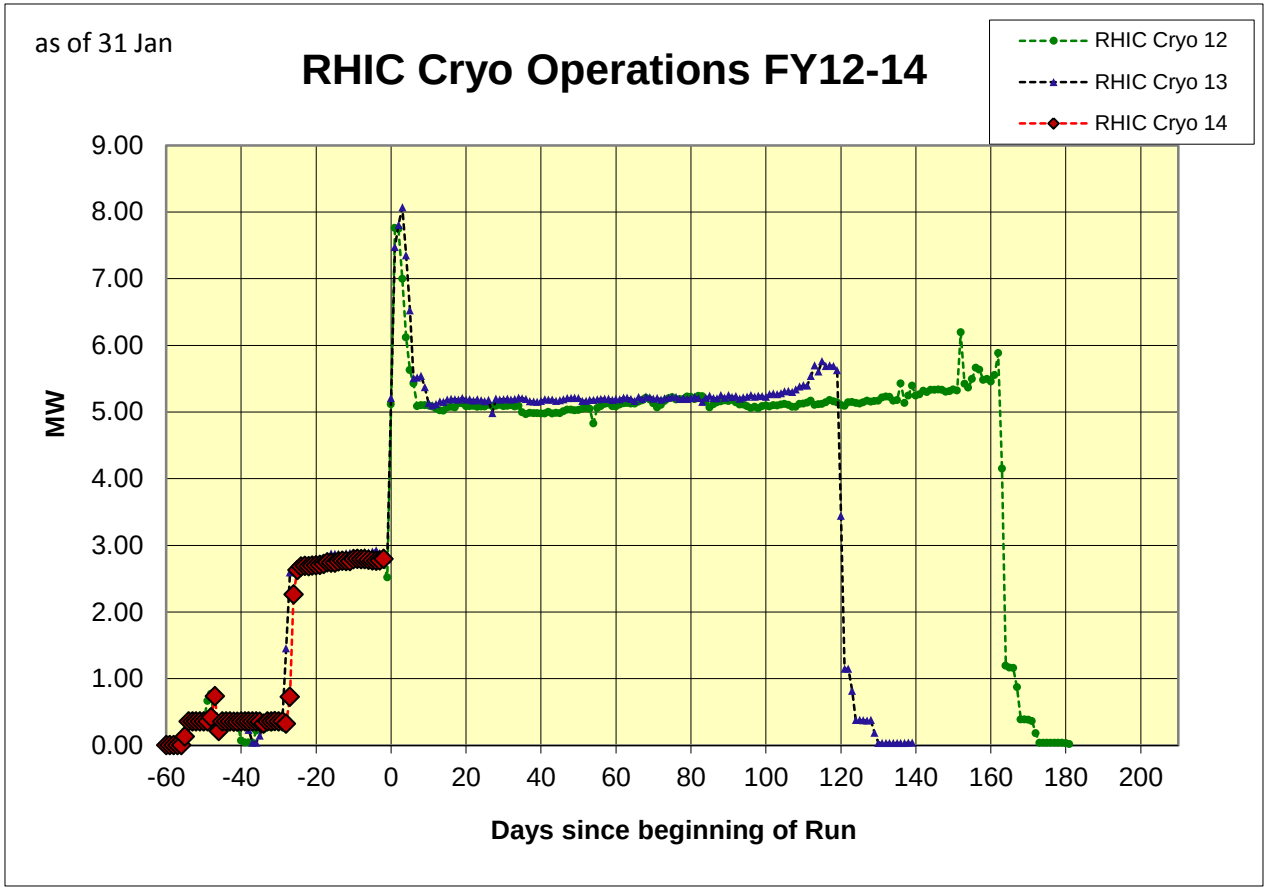
See http://www.rhichome.bnl.gov/AP/RHIC2014/ for the Run Coordinator's detailed plan

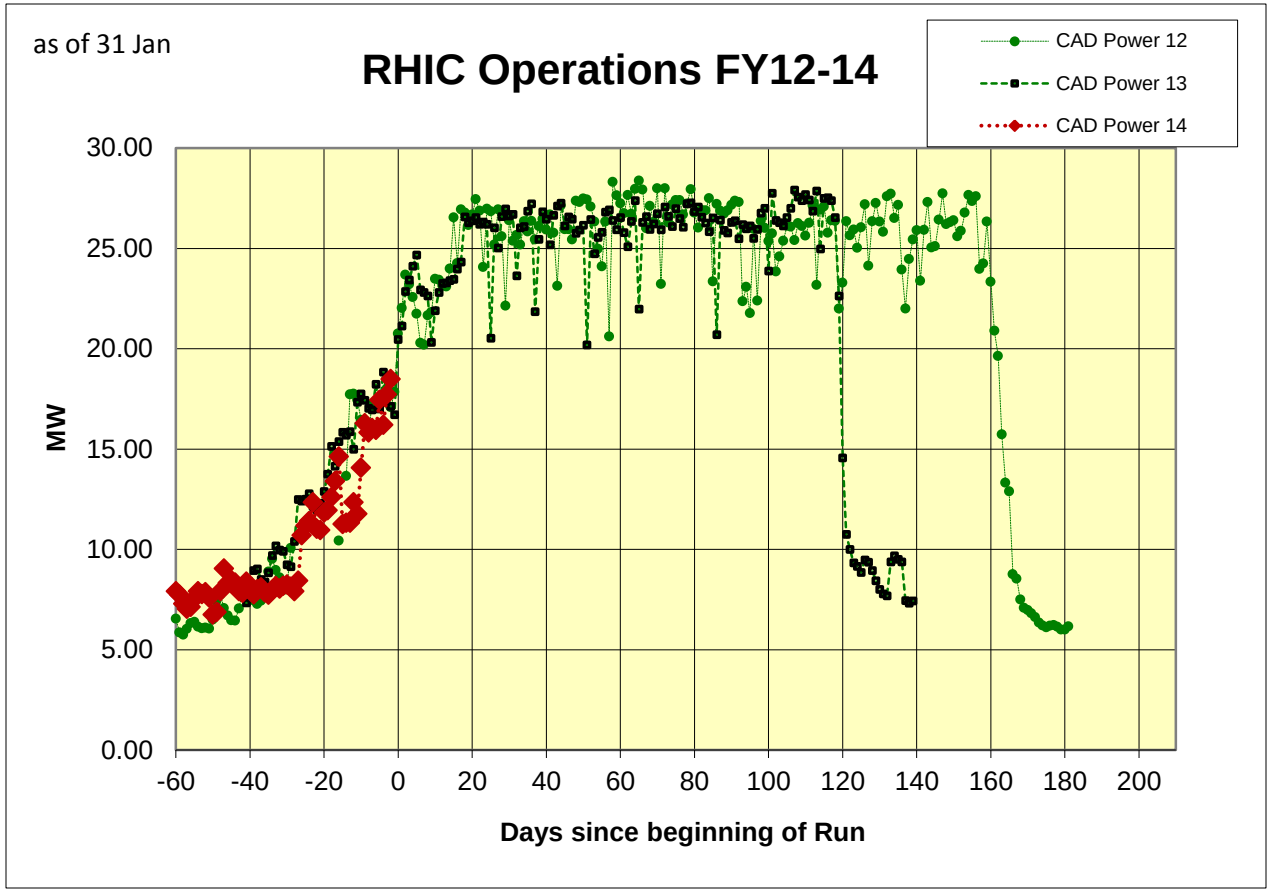
Ring Summary (14 days) Sector Plots (1 day) Sector Plots (14 days)

4 Feb 2014



Blue at 4.5 deg


as of 31 Jan
RHIC Cryo Operations FY12-14
RHIC Cryo 12
RHIC Cryo 13
RHIC Cryo 14
MW
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-60
-40
-20
0
20
40
60
80
100
120
140
160
180
200
Days since beginning of Run


as of 31 Jan
RHIC Operations FY12-14
CAD Power 12
CAD Power 13
CAD Power 14
30.00
25.00
20.00
15.00
10.00
5.00
0.00
MW
-60
-40
-20
0
20
40
60
80
100
120
140
160
180
200
Days since beginning of Run

Archive

CAD POWER

	Building	Cubicle	Feeder	Transformer	Equipment	Demand (kW)
Machine Power:						
	603	23	911-13	3	B2500, W	115
	603	24	911-14	3	A2500, 911N, C(1,2), D2(914)	1382
	603	25	911-15	3	AMMPS (SIEMENS)	2160
	603	26	911-16	3	R, MG, ARF, AMMPS(LP)	2016
	603	27	911-17	3	3J, B925, 913R(HITL), Q	144
	631	6	930-1	4	SUB643, B926, 936, 924, 930-5(ALT)	2419
	631	8	930-5	5	1-2-3L, D2, 930-1(ALT)	173
	631	18		6	RHIC 4B.4C MMPS	173
	631	14	I-5F	6	He Compressor	1382
	631	19	I-5F	6	He Compressor	5530
	631	20		6	1-6A, 8A, 8B, 10A , 1101	1382
	631	21		6	I-5D, 5H, 6B	691
	631	22		6	I-2A, 4A, 12A	0
	638	B4		8	RHIC Overhead Line, RF4D.6C.STAR, MMPS T1 T2	1320
	638	A4		8	Future Overhead Line	0
					MACHINE TOTAL:	**18715**
Experimental Power:						
	631	3	912-3	4	1-2-3K, 1-2P	0
	631	4	919-1	4	E, 1-2-3F	518
	631	5	919-2	4	MPS, G, H1-2-3, B919, 975	346
	631	9	H10-6	5	5, 6M	0
	631	10	912-4	5	1, 2, 3M, 1SB, 2SB	173
	631	11	H10-11	5	5N, 4N, 1000P, 1MW1-2	346
					EXPERIMENTAL TOTAL:	**1382**
Booster MMPS Power:						
	631	1B		7	Booster Out	0
					BOOSTER TOTAL:	**0**
					CAD DEPARTMENT TOTAL:	**20098**

	Trnx -3	Trnx -4	Trnx -5	Trnx -6	Trnx -7	Trnx -8	Site
AGS Demand:	**5818**	**4493**	**691**	**7776**	**0**	**1320**	**20098**
Equipment Total:	**7862**	**5530**	**1037**	**7603**	**0**	**1728**	**39060**
AGS %:	**75**	**81**	**67**	**102**	**0**	**76**	**51**

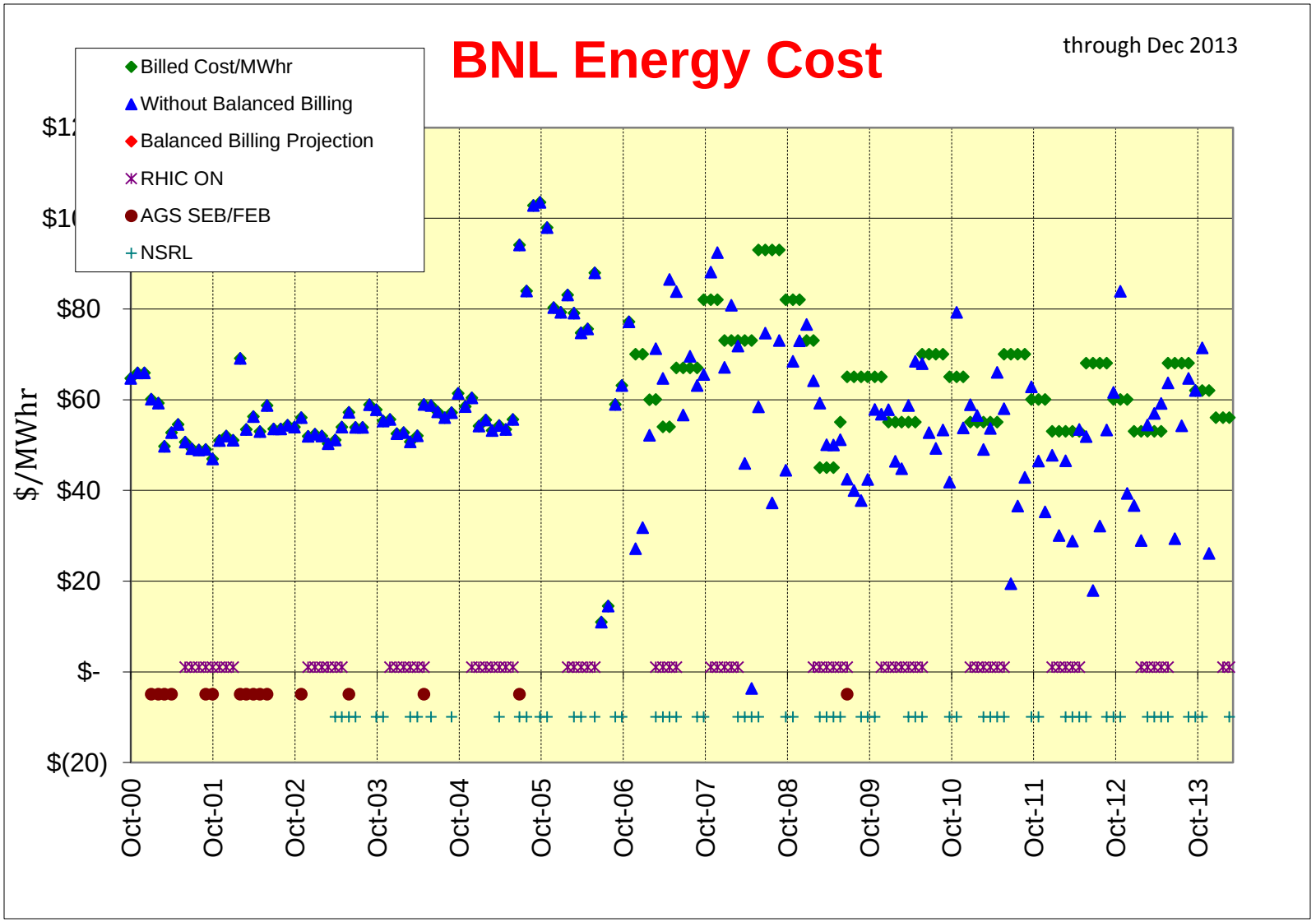
Who's Who for 2014

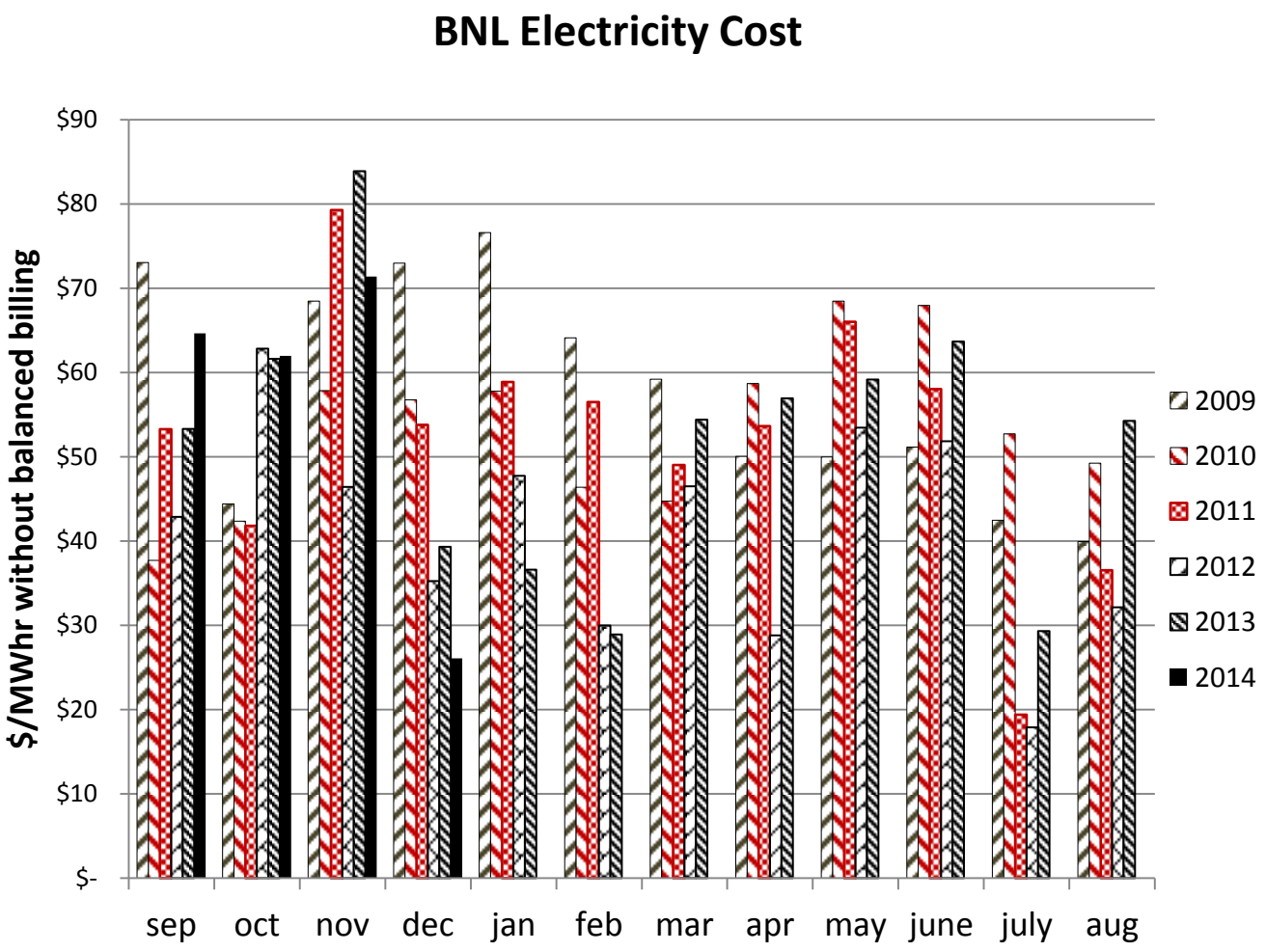
RHIC Au-Au Run Coordinator Operations:	**Gregory Marr**	**gmarr@bnl.gov**	**631-344-7810 (office)**
	Vincent Schoefer	**schoefer@bnl.gov**	**631-344-8453 (office)**
	Travis Shrey	**shrey@bnl.gov**	**631-344-7451 (office)**
RHIC 7.3 GeV Au-Au Run Coordinator planning:	**Christoph Montag**	**montagc@bnl.gov**	**631-344-4820 (office)**
RHIC 100 GeV Au-Au Run Coordinator planning:	**Guillaume Robert-Demolaize**	**grd@bnl.gov**	**631-344-8215 (office)**
Scheduling Physicist:	**Chuyu Liu**	**cliu1@bnl.gov**	**631-344-4431 (office)**
AGS liaison:	**Haixin Huang**	**huanghai@bnl.gov**	**631-344-5446 (office)**

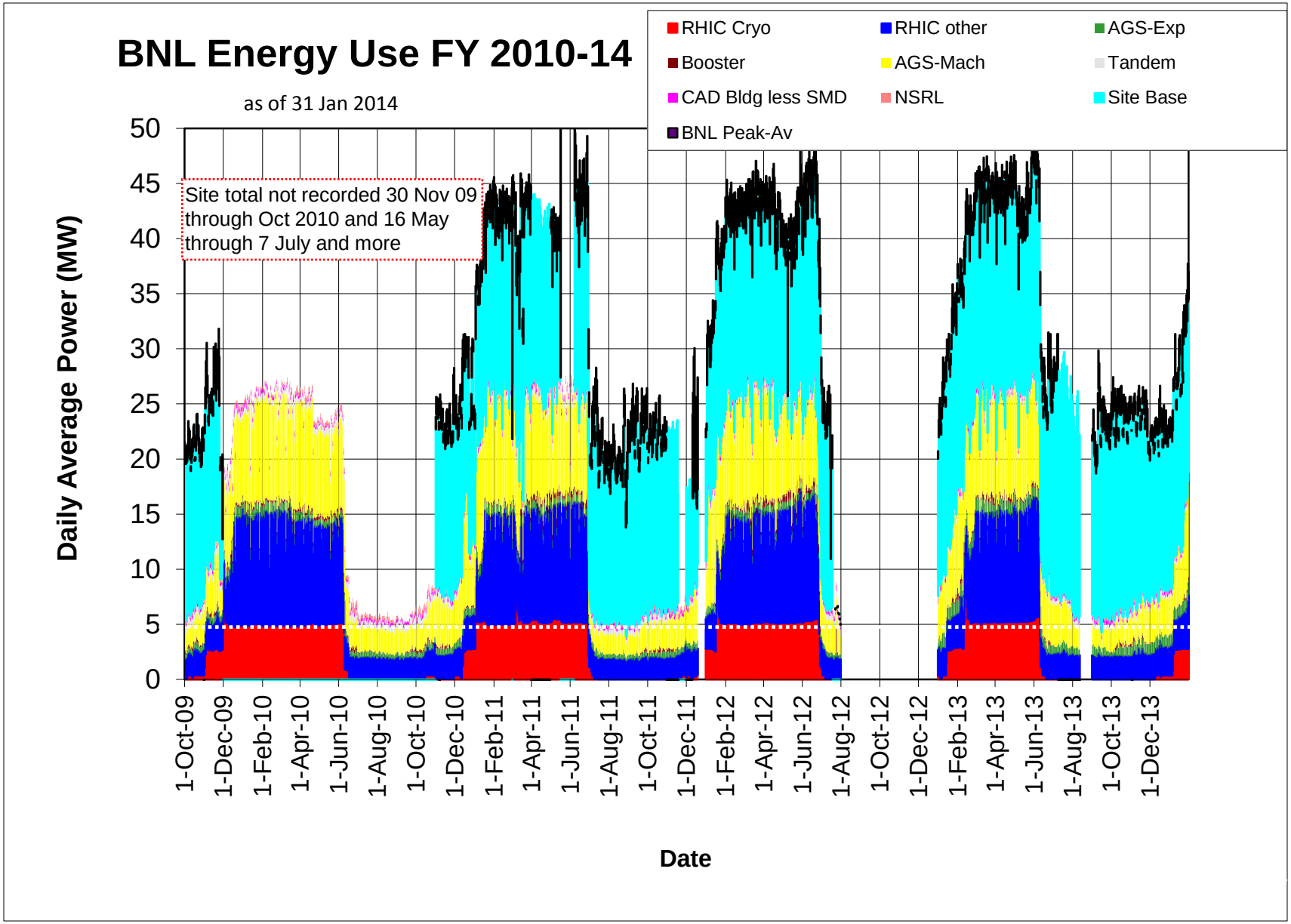
For example, 20 weeks of RHIC refrigerator operation in FY 2014 could be scheduled in the following way:

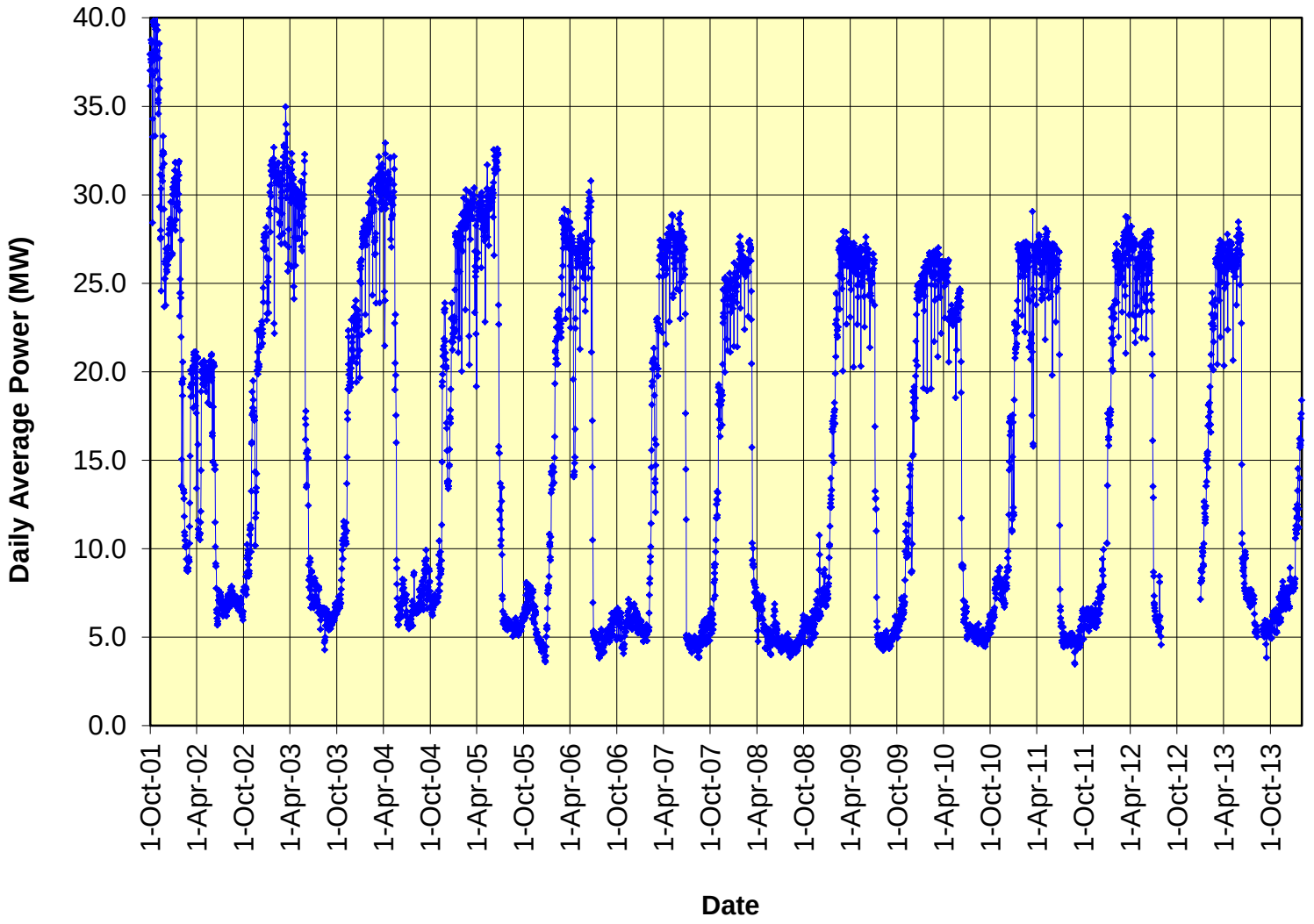
Cool-down from 50 K to 4 K	1 week	
Set-up mode 1 (Au-Au at 7.5 GeV/nucleon)	1 week	(no dedicated time for experiments)
Ramp-up mode 1	½ weeks	(8 h/night for experiments)
Data taking mode 1	2 ½ weeks	
Set-up mode 2 (Au-Au at 100 GeV/nucleon)	½ week	(no dedicated time for experiments)
Data taking mode 2 with further ramp-up	10 weeks	
Set-up mode 3 (p↑-p↑ at 100 GeV)	1 week	(no dedicated time for experiments)
Ramp-up mode 3	½ weeks	(8 h/night for experiments)
Data taking mode 3+1 with further ramp-up	2 ½ weeks	
Warm-up	½ week	

From Fischer et. al., RHIC Collider Projections (FY 2014 – FY 2018), 4 June 2013


BNL Energy Cost
through Dec 2013
Billed Cost/MWhr
Without Balanced Billing
Balanced Billing Projection
RHIC ON
AGS SEB/FEB
NSRL
$/MWhr
$80
$60
$40
$20
$-
$(20)
Oct-00
Oct-01
Oct-02
Oct-03
Oct-04
Oct-05
Oct-06
Oct-07
Oct-08
Oct-09
Oct-10
Oct-11
Oct-12
Oct-13


BNL Electricity Cost
$/MWhr without balanced billing
$90
$80
$70
$60
$50
$40
$30
$20
$10
$-
sep
oct
nov
dec
jan
feb
mar
apr
may
june
july
aug
2009
2010
2011
2012
2013
2014


BNL Energy Use FY 2010-14
as of 31 Jan 2014
RHIC Cryo
RHIC other
AGS-Exp
Booster
AGS-Mach
Tandem
CAD Bldg less SMD
NSRL
Site Base
BNL Peak-Av
Site total not recorded 30 Nov 09 through Oct 2010 and 16 May through 7 July and more
Daily Average Power (MW)
0
5
10
15
20
25
30
35
40
45
50
1-Oct-09
1-Dec-09
1-Feb-10
1-Apr-10
1-Jun-10
1-Aug-10
1-Oct-10
1-Dec-10
1-Feb-11
1-Apr-11
1-Jun-11
1-Aug-11
1-Oct-11
1-Dec-11
1-Feb-12
1-Apr-12
1-Jun-12
1-Aug-12
1-Oct-12
1-Dec-12
1-Feb-13
1-Apr-13
1-Jun-13
1-Aug-13
1-Oct-13
1-Dec-13
Date

as of 31 Jan 2013

C-AD Energy Use FY 2002-14