

RHIC Run 7 Summary

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P. Pile 31 July 07

RHIC Run 7 as run/planned

Updated 23 Jan 08

- 12 Feb – cool-down begins
- 17 Feb – blue cold
- 20 Feb – 1st beam in blue ring
- 23 Feb – Initial cold wave through yellow ring, not ready for beam
- 24 Feb – cryo problems, cool-down interrupted
- 26 Feb – cryo problems persist, begin warming up cryo plant
- 4 Mar – cryo back on (cryo off 6 days)
- 8 Mar – Blue cold again, ready for power supply setup/beam
- 12 Mar – Yellow cold, ready for power supply setup (lost 2.0 weeks)
- 13 Mar – Beam in Yellow, begin 10 day setup with beams
- 20 Mar – Begin ramp-up mode, overnight stores for experiments
- **26 Mar (20:35 hrs) – 100 x 100 GeV/n AuAu Physics declared (Machine)**
- **27 Mar – PHENIX Physics declared**
- 28 Mar – 1st Maintenance day
- **3 Apr - STAR Physics declared**
- 6-7 Jun – 24 hour low energy development run
- 26 Jun (11:00 hrs) –end physics (13.1 weeks), begin warm-up to LN2
- 28 Jun – RHIC Cryo switch to LN2 complete, end 19.4 weeks RHIC Operations, 18.6 weeks of cryo operation

Experiments goals/achieved luminosity for Run7

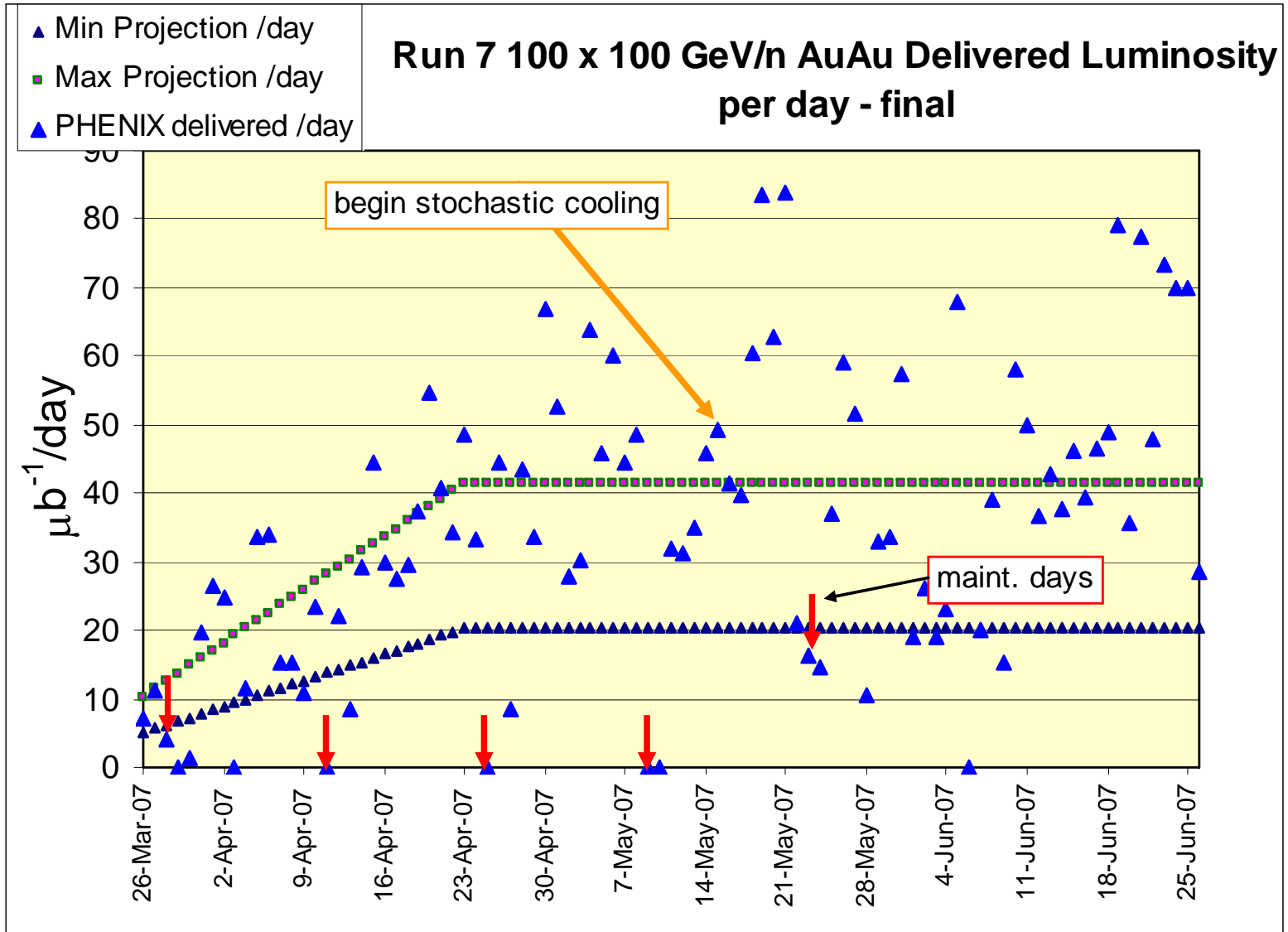
- **PHENIX goals for 100 x 100 GeV/n Au-Au (as on 10 May)**
 - **Delivered Luminosity = 4000 μb^{-1}**
 - **Sampled Luminosity = 1100 μb^{-1}**

- **PHENIX Achieved for 100 x 100 GeV/n Au-Au**
 - **Delivered Luminosity = 3260 μb^{-1} (81.5 %)**
 - **Sampled Luminosity = 812 μb^{-1} (73.8 %)**
 - **Overall sampling efficiency = 24.9 % (based on all physics stores)**
 - **Sampling efficiency based on last week of run = 28.5 %**

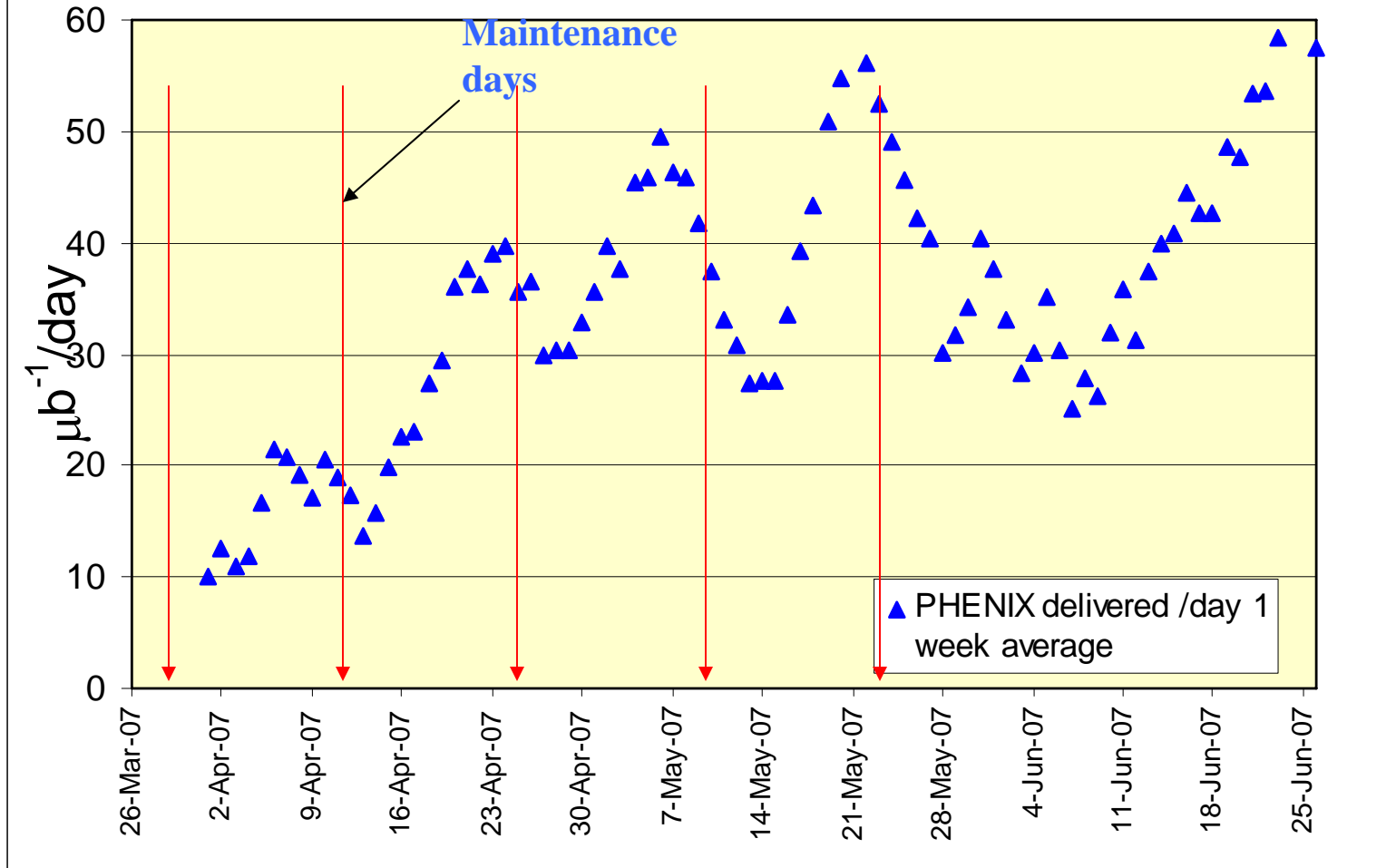
Experiments goals/achieved luminosity for Run7

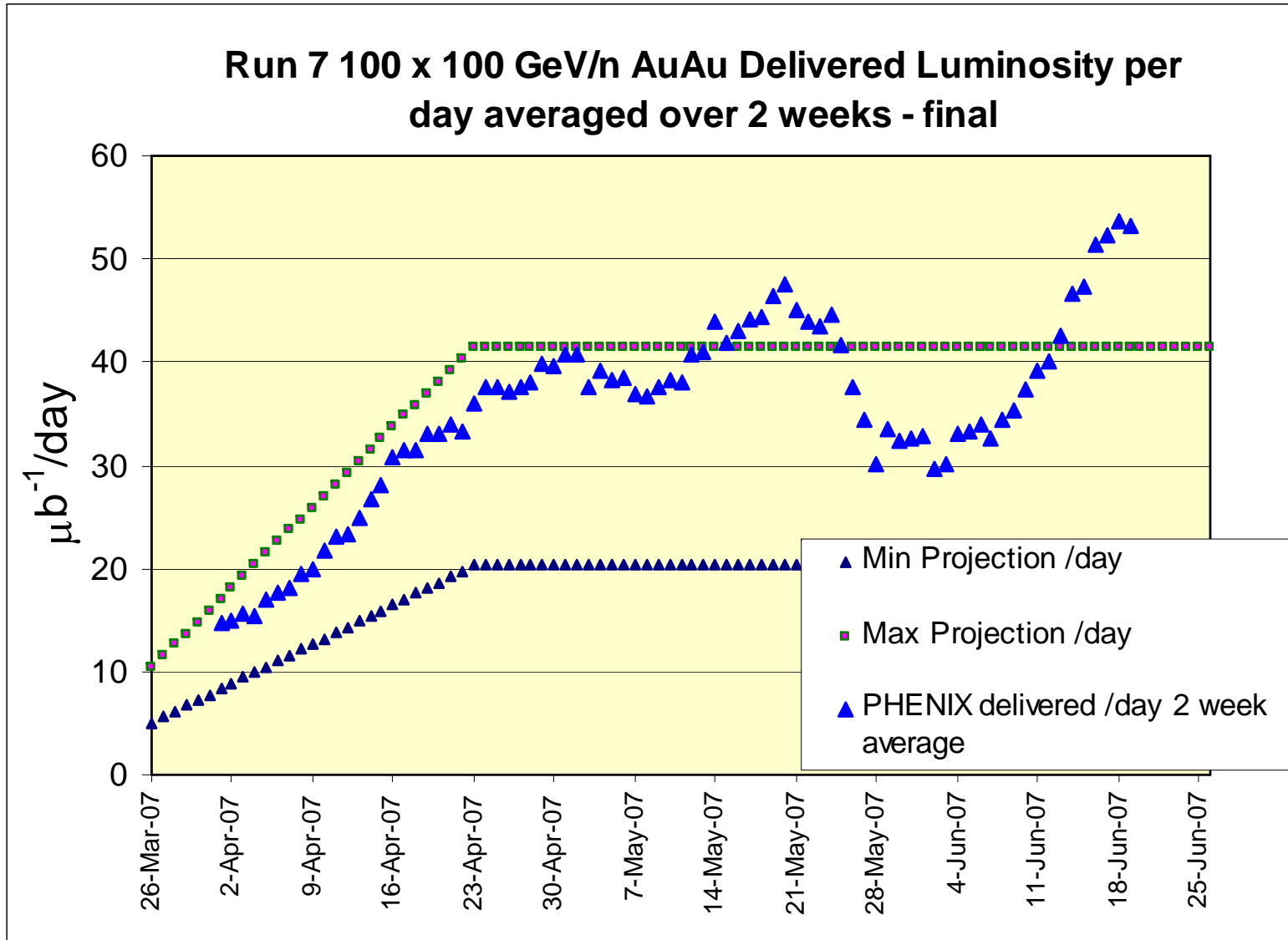
- **STAR goals for 100 x 100 GeV/n Au-Au (as of 10 May)**
 - **Delivered Luminosity = 2800 μb^{-1}**
 - **Rare Trigger Sampled Luminosity = 600 μb^{-1}**
 - **Minimum Bias Triggers (recorded) = 75 M**

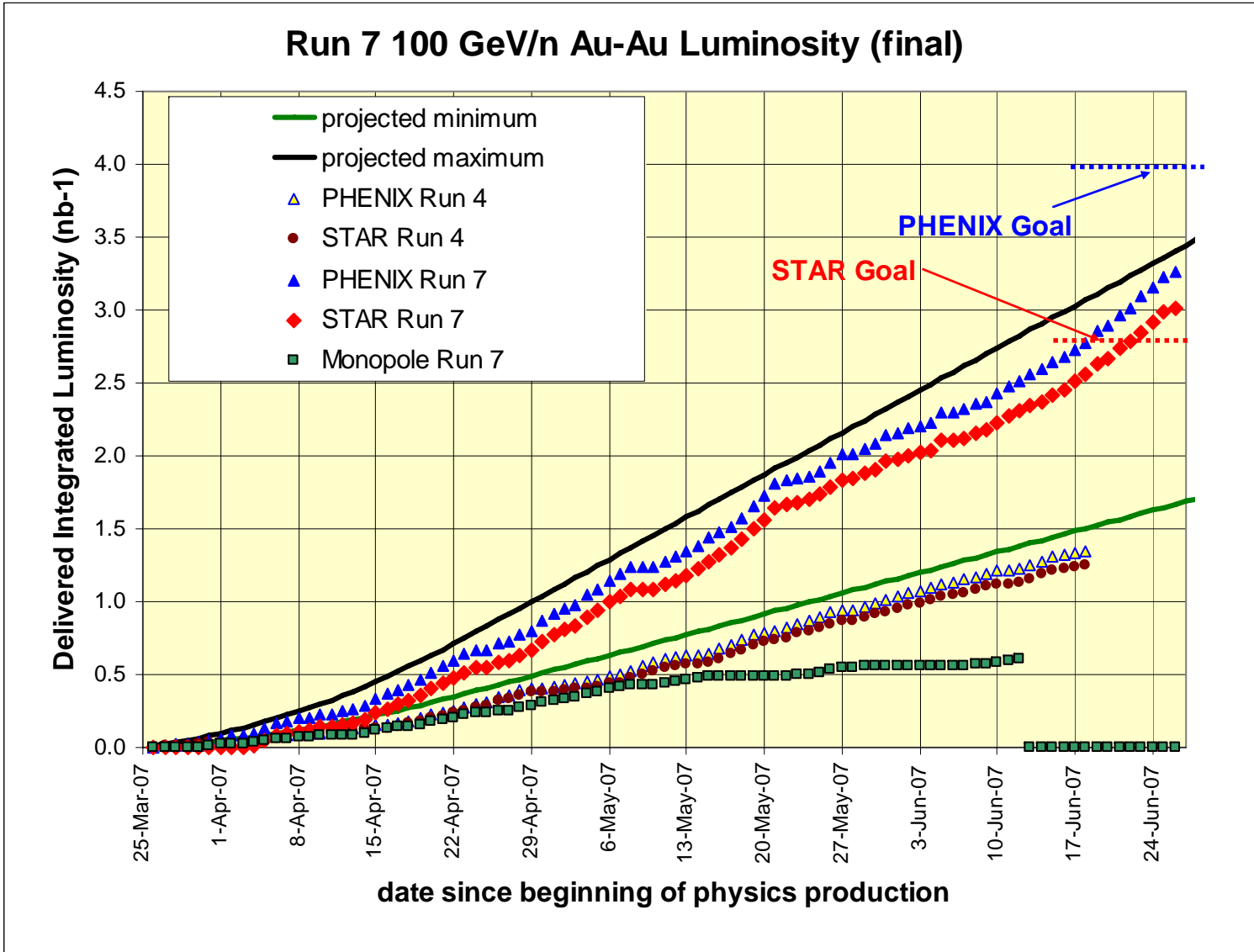
- **STAR Achieved for 100 x 100 GeV/n Au-Au (on-line)**
 - **Delivered Luminosity = 3010 μb^{-1} (108 %)**
 - **Rare Trigger Sampled Luminosity = 606 μb^{-1} (101 %)**
 - **Minimum Bias Triggers (recorded) = 76 M (101 %)**
 - **Overall sampling efficiency for rare triggers = 20 %**



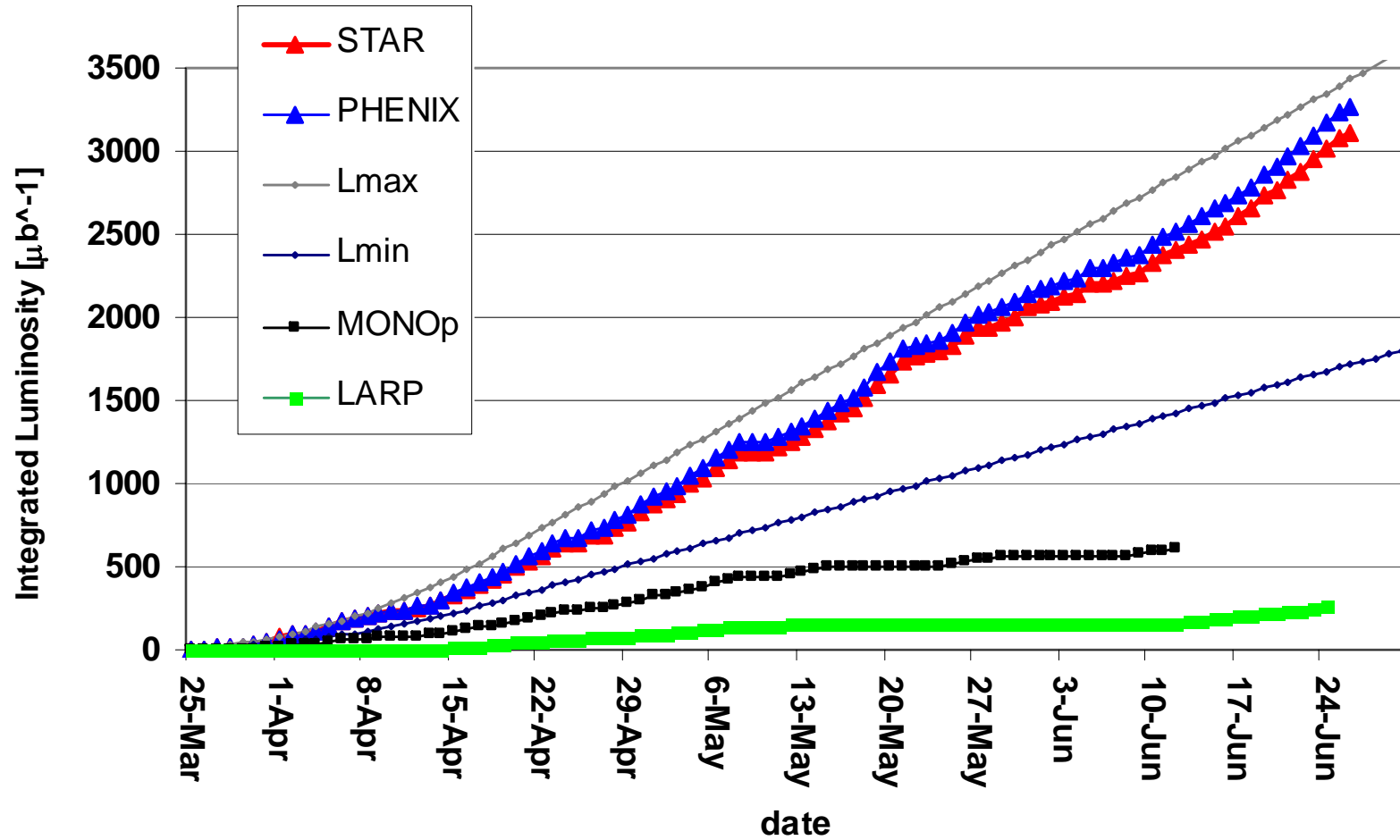
Run 7 100 x 100 GeV/n AuAu Delivered Luminosity per day averaged over past 1 week - final

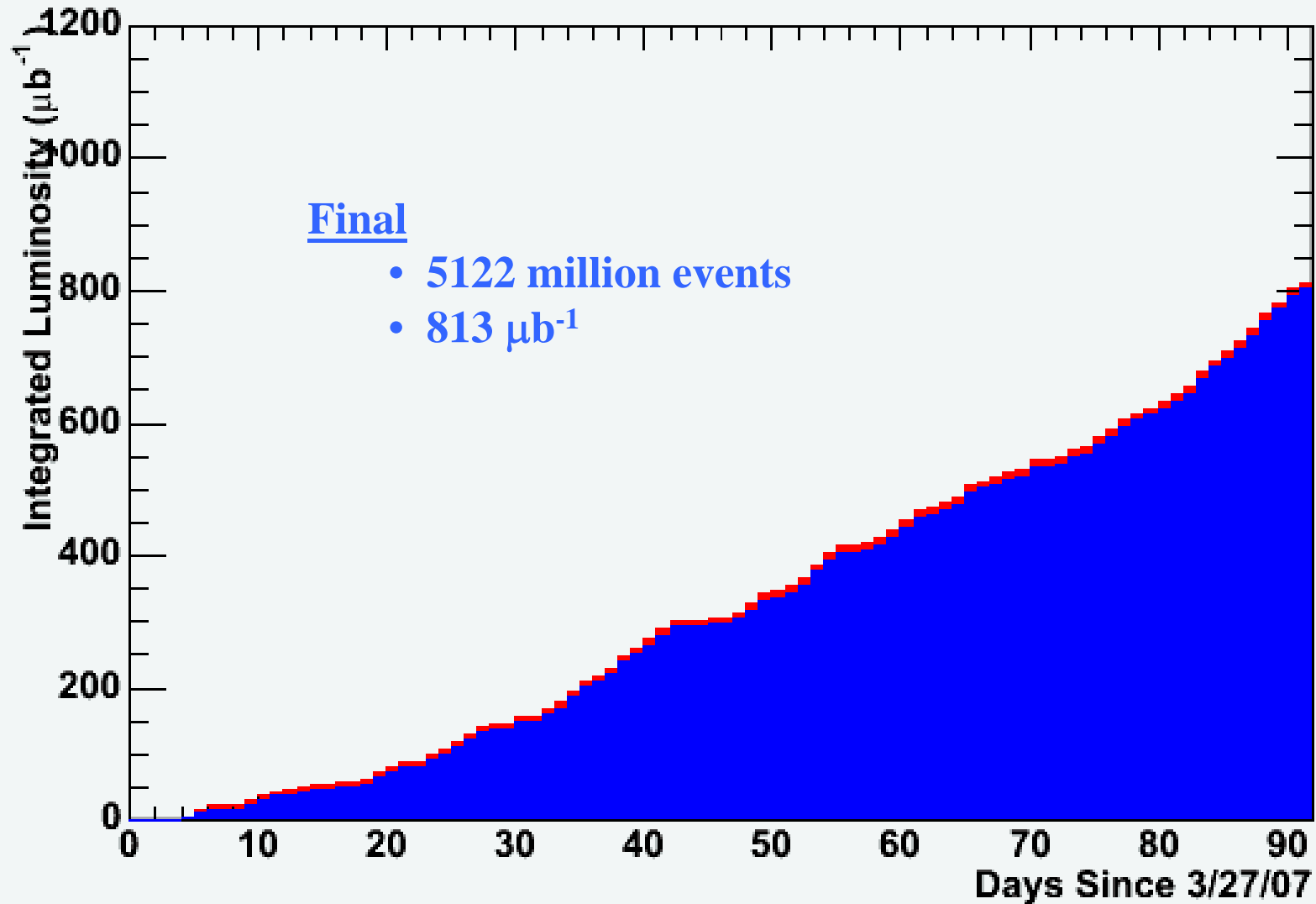






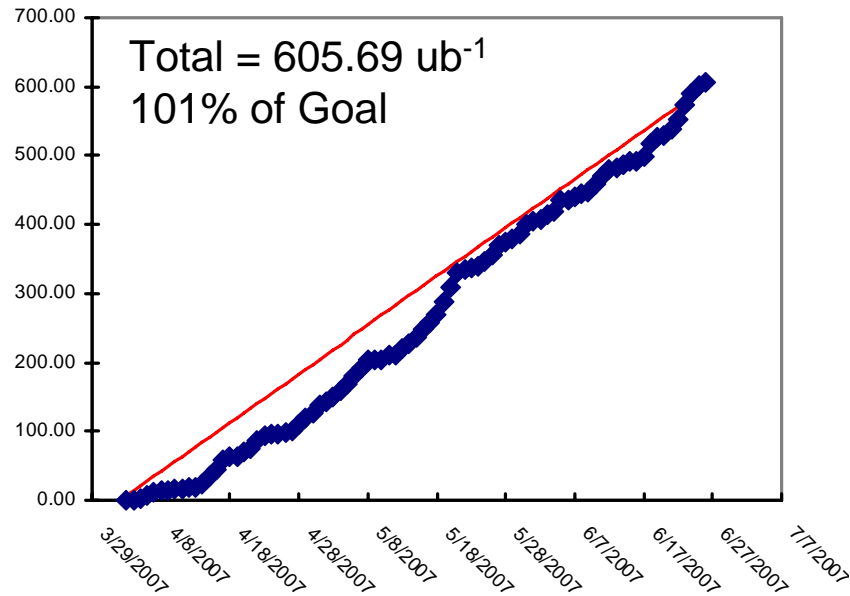
Run7 RHIC AuAu Integrated Luminosity for Physics (singles corrected)



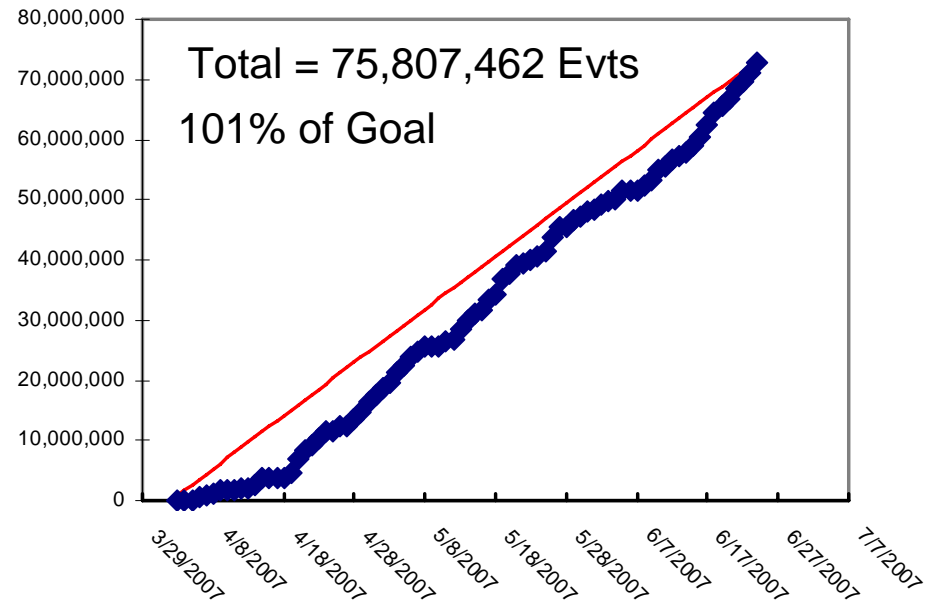


Final STAR FY07 “Online” Data Summary

Rare Trig Int Lumi Goal=600ub⁻¹



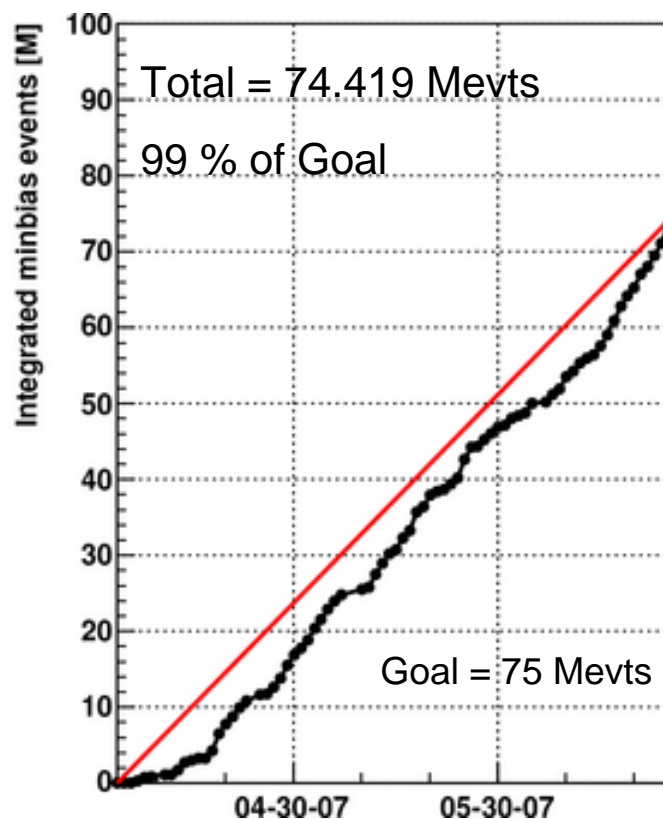
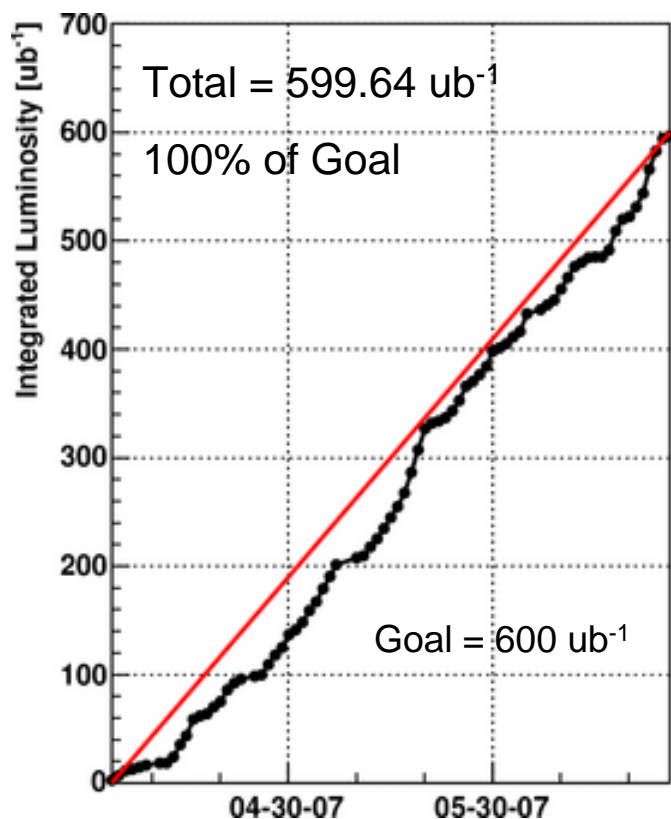
MinBias Luminosity
Goal = 75 Mevts



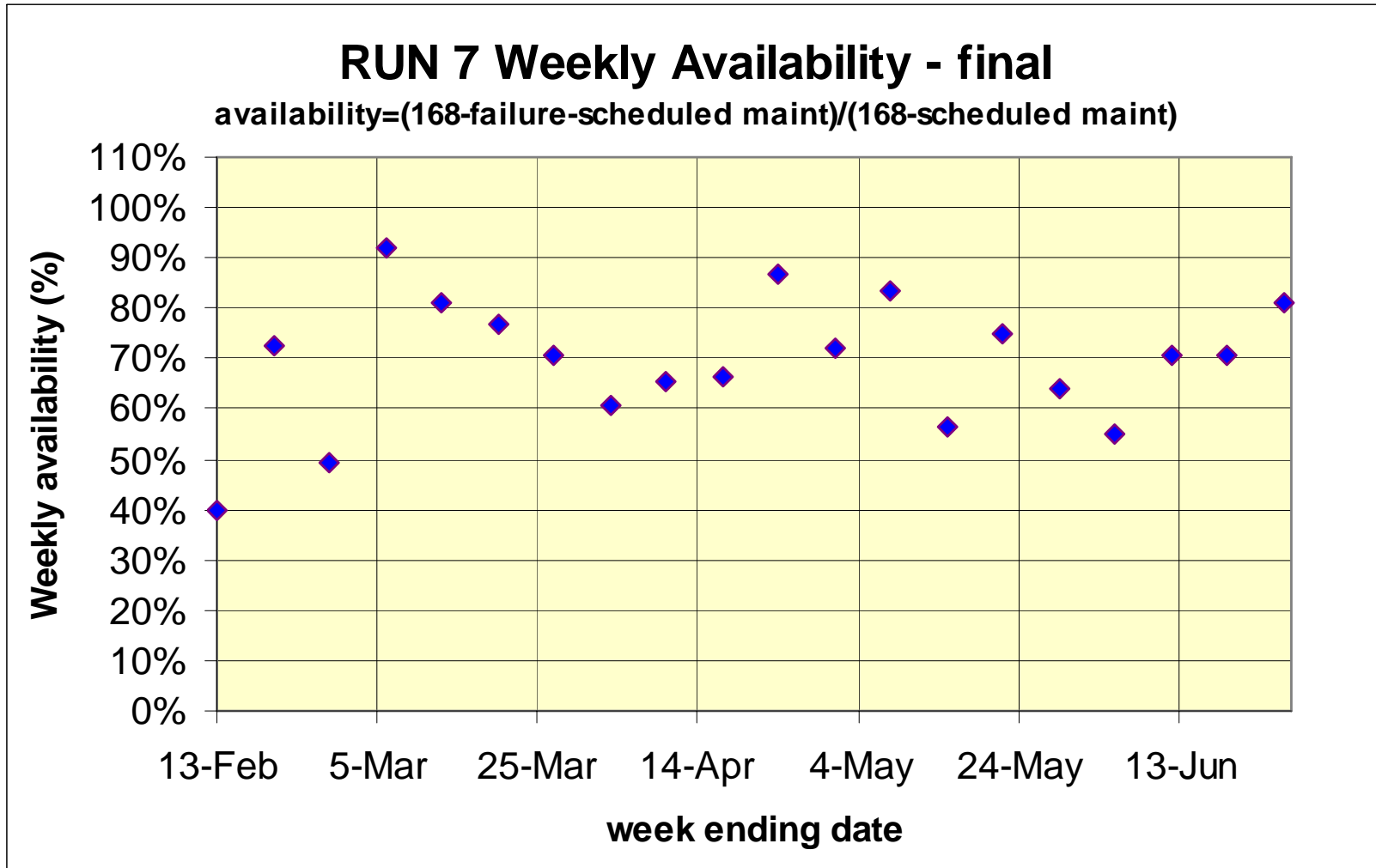
Tally of final Data set numbers for the FY07 Run. This is the “online” tally kept by the Period Coordinators.

Final STAR FY07 “Offline” Data Summary

Last revised June 28, 2007.

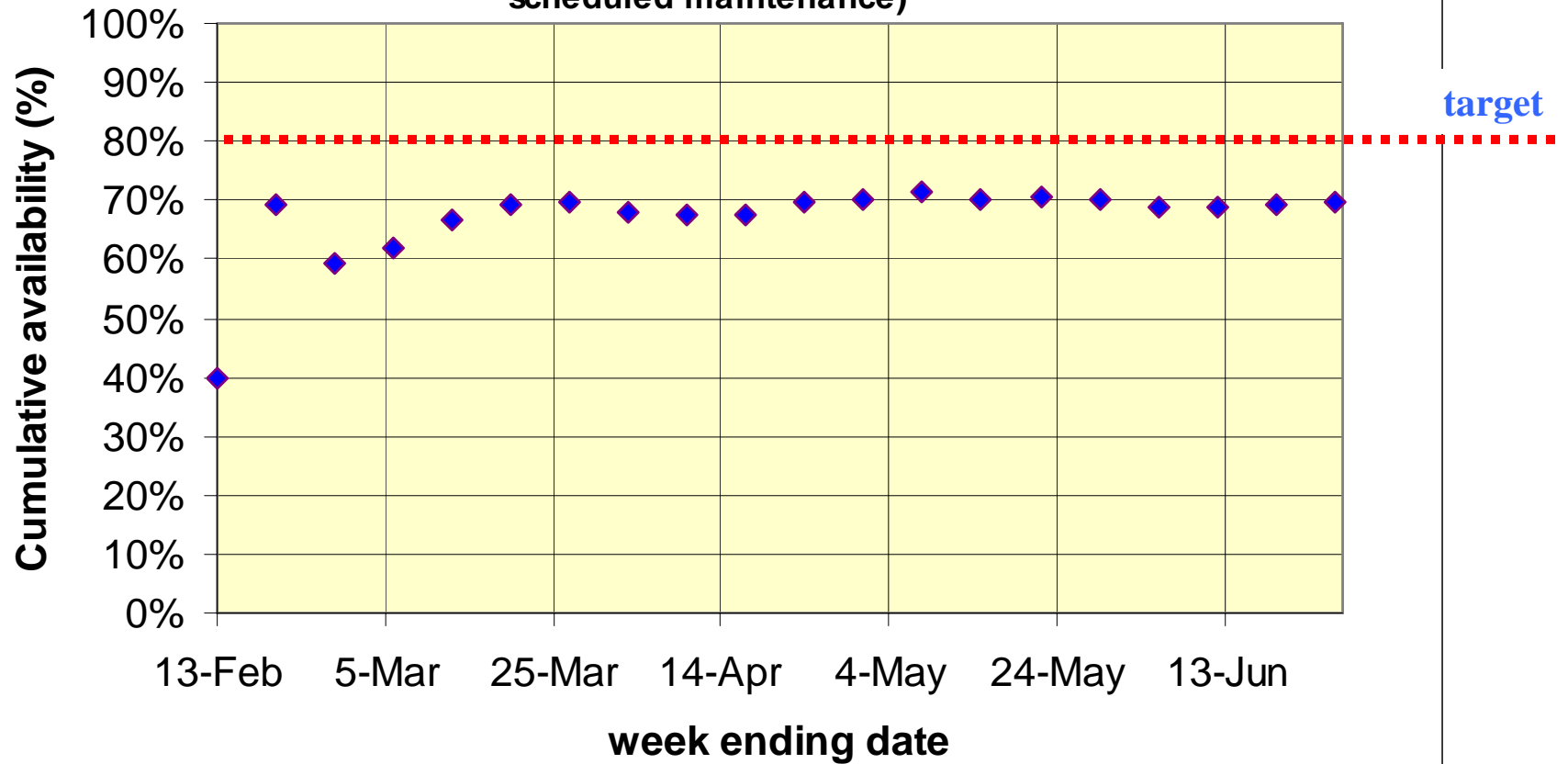


Tally of Data set numbers for the FY07 Run. This is the “offline” tally which removes all “questionable” runs from the raw data totals.



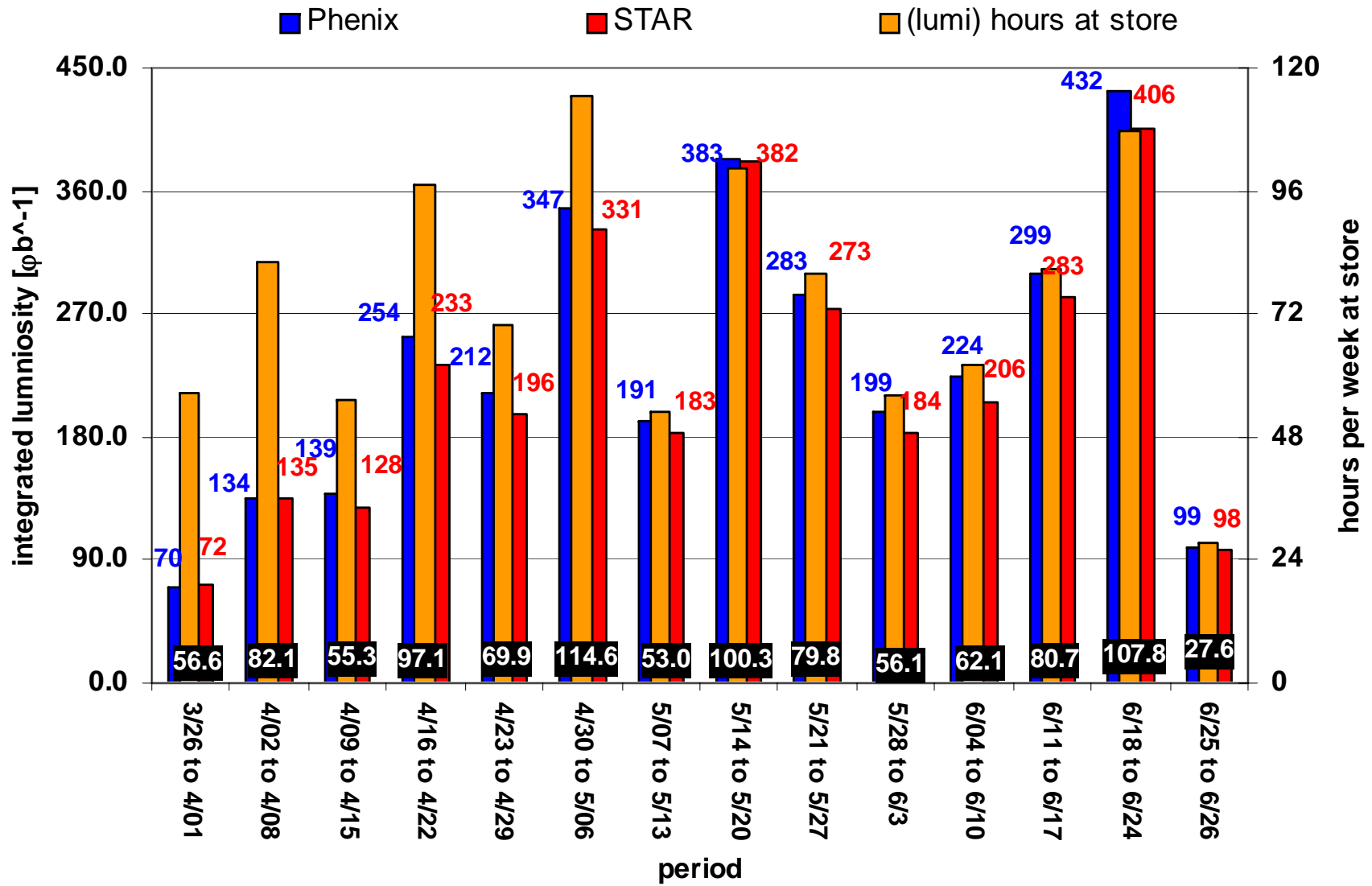
RUN 7 Cumulative Availability - final

availability=(calendar hrs-failure-scheduled maint)/(calendar hrs-scheduled maintenance)

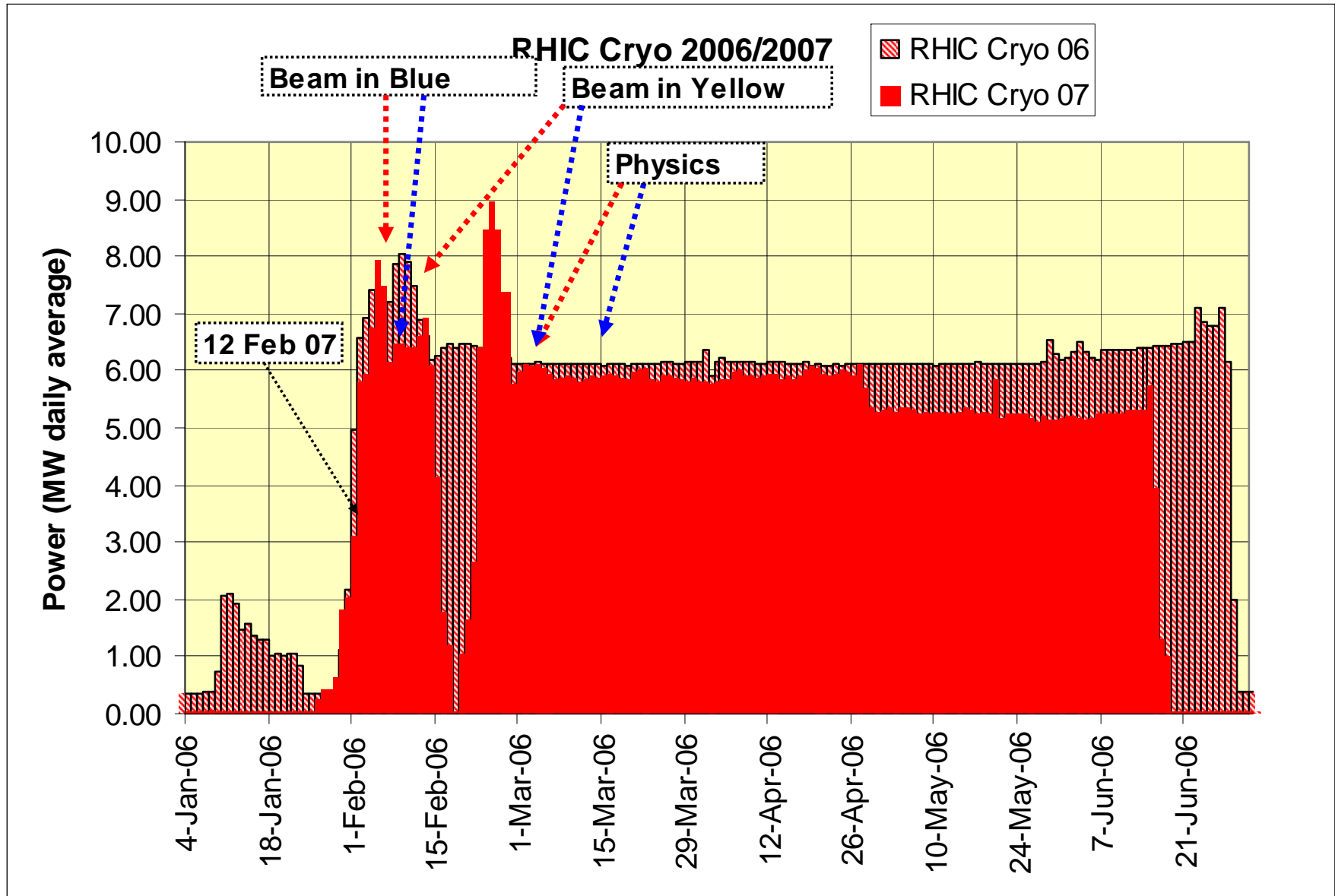


	Calendar	Phenix	STAR	hours per week
	Hours	[μb^{-1}]	[μb^{-1}]	(lumi) hours at store
Physics declared 20:35 hrs 26 March				
3/26 to 4/01	147.4	70.2	72.1	56.6
4/02 to 4/08	168	134.4	134.7	82.1
4/09 to 4/15	168	138.6	127.8	55.3
4/16 to 4/22	168	254.0	233.4	97.1
4/23 to 4/29	168	211.9	196.3	69.9
4/30 to 5/06	168	346.9	331.4	114.6
5/07 to 5/13	168	191.2	183.1	53.0
5/14 to 5/20	168	383.2	382.0	100.3
5/21 to 5/27	168	283.4	273.3	79.8
5/28 to 6/3	168	198.8	183.8	56.1
6/04 to 6/10	168	223.6	206.2	62.1
6/11 to 6/17	168	299.1	282.7	80.7
6/18 to 6/24	168	432.5	406.2	107.8
6/25 to 6/26	35	98.5	97.5	27.6
End of Physics 11:00 hrs 26 June				
Total	2198.4			1043.0
	<u>Average hours per week at store</u>			79.7
31 July 07	per cent of calendar time at store			47.4%

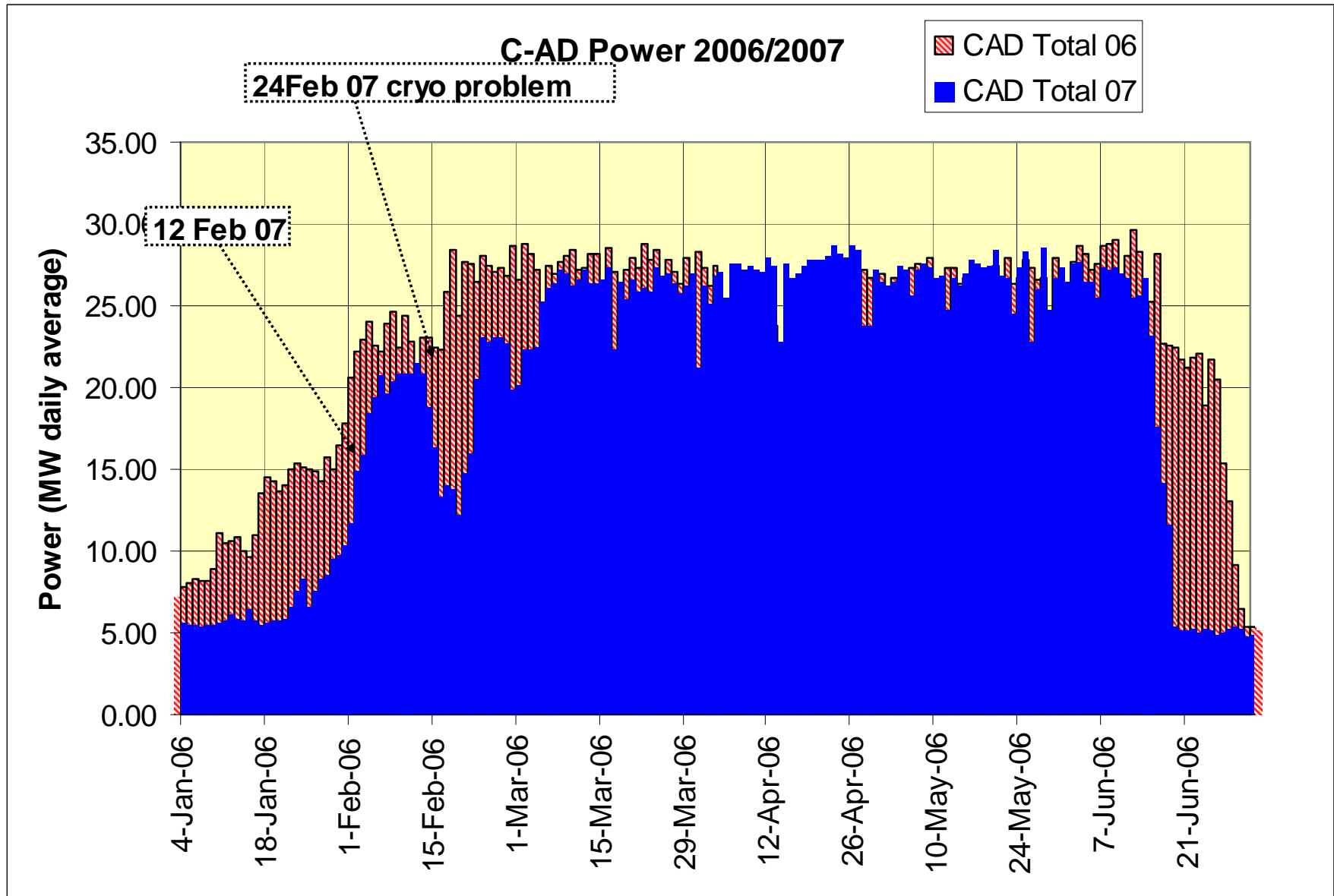
Run 7 (AuAu) -- Integrated Luminosity (singles corrected)



As of 30 July

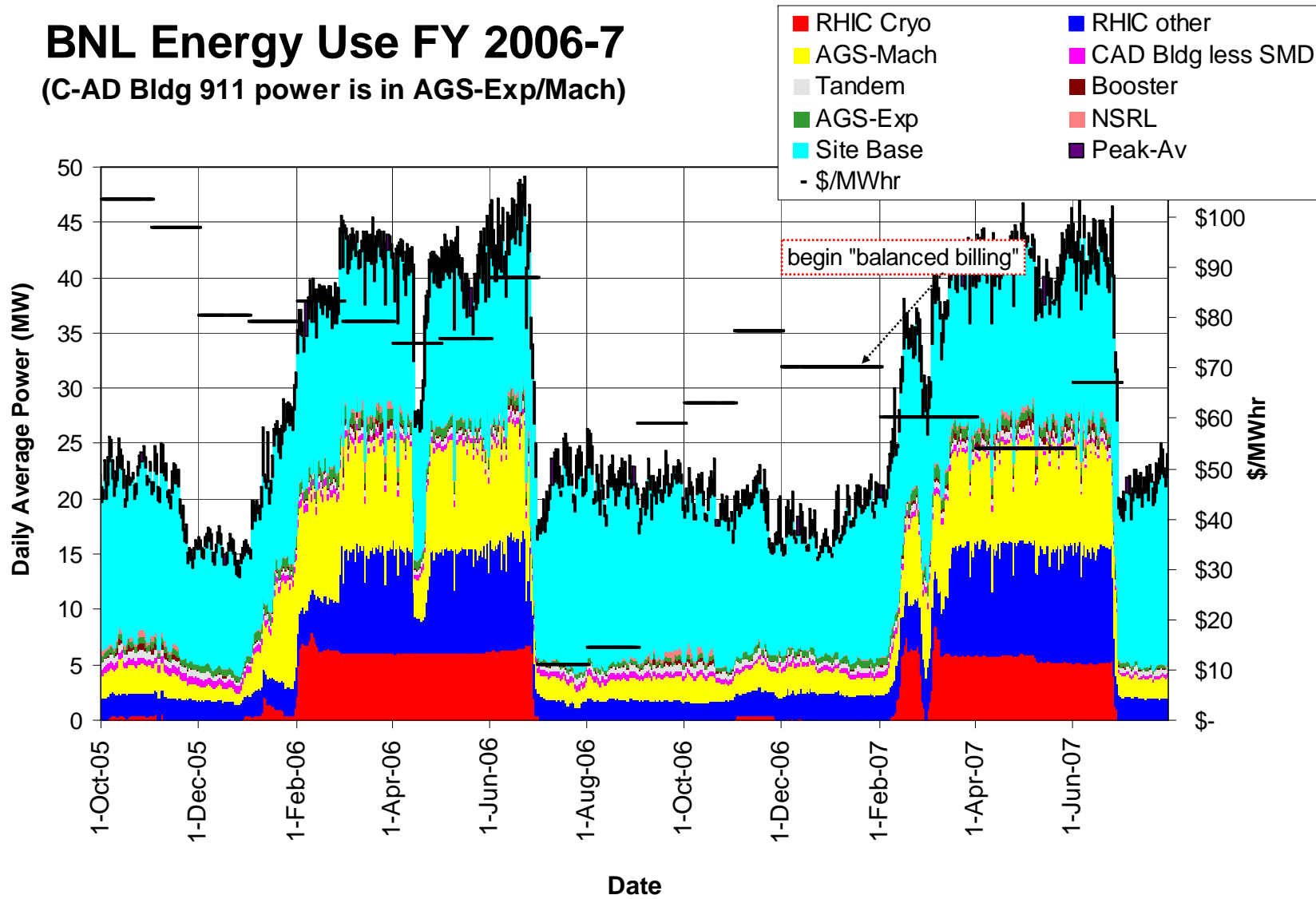


As of 30 July



BNL Energy Use FY 2006-7

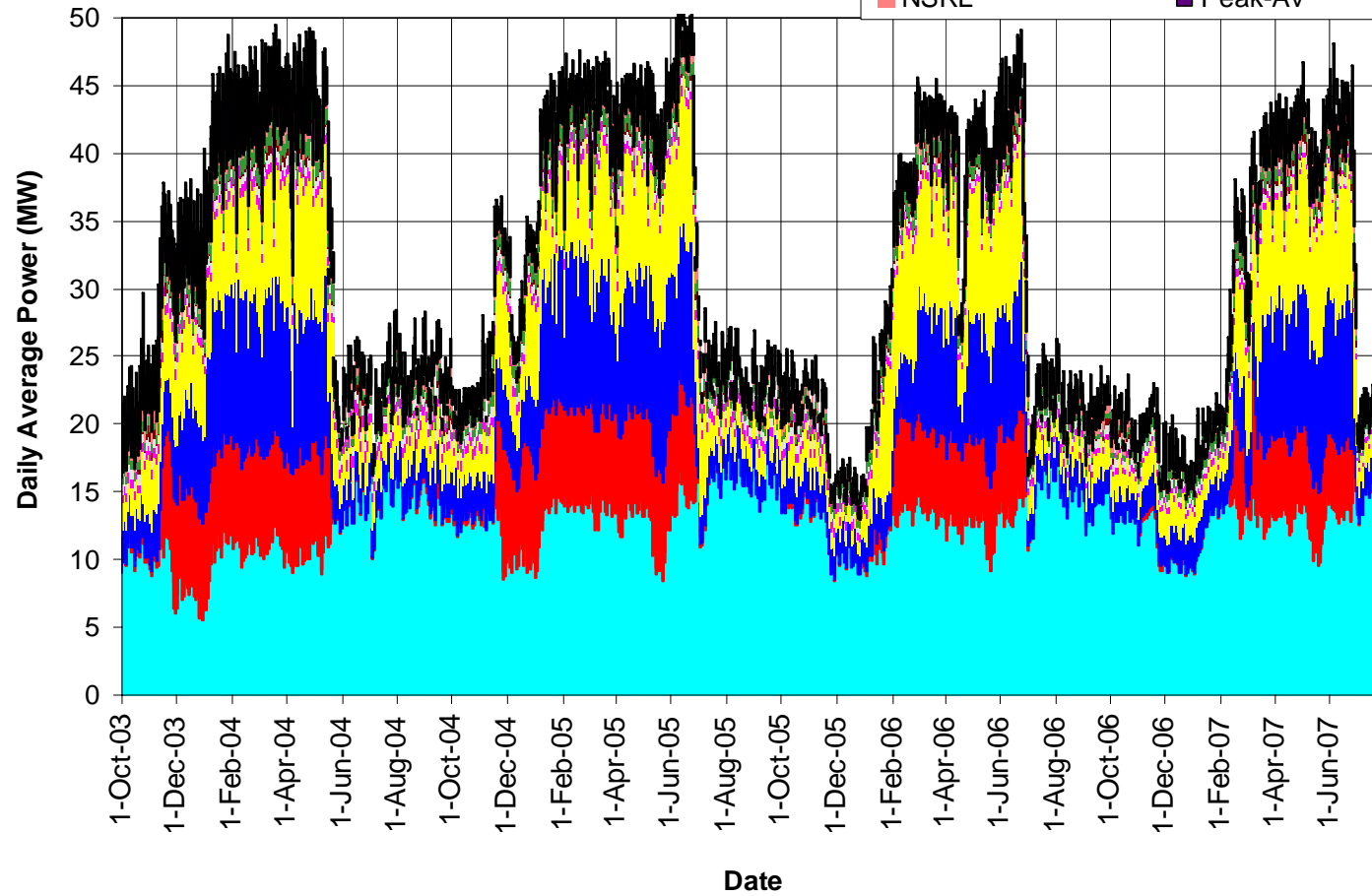
(C-AD Bldg 911 power is in AGS-Exp/Mach)



BNL Energy Use FY 2004-7

(C-AD Bldg 911 power is in AGS-Exp/Mach)

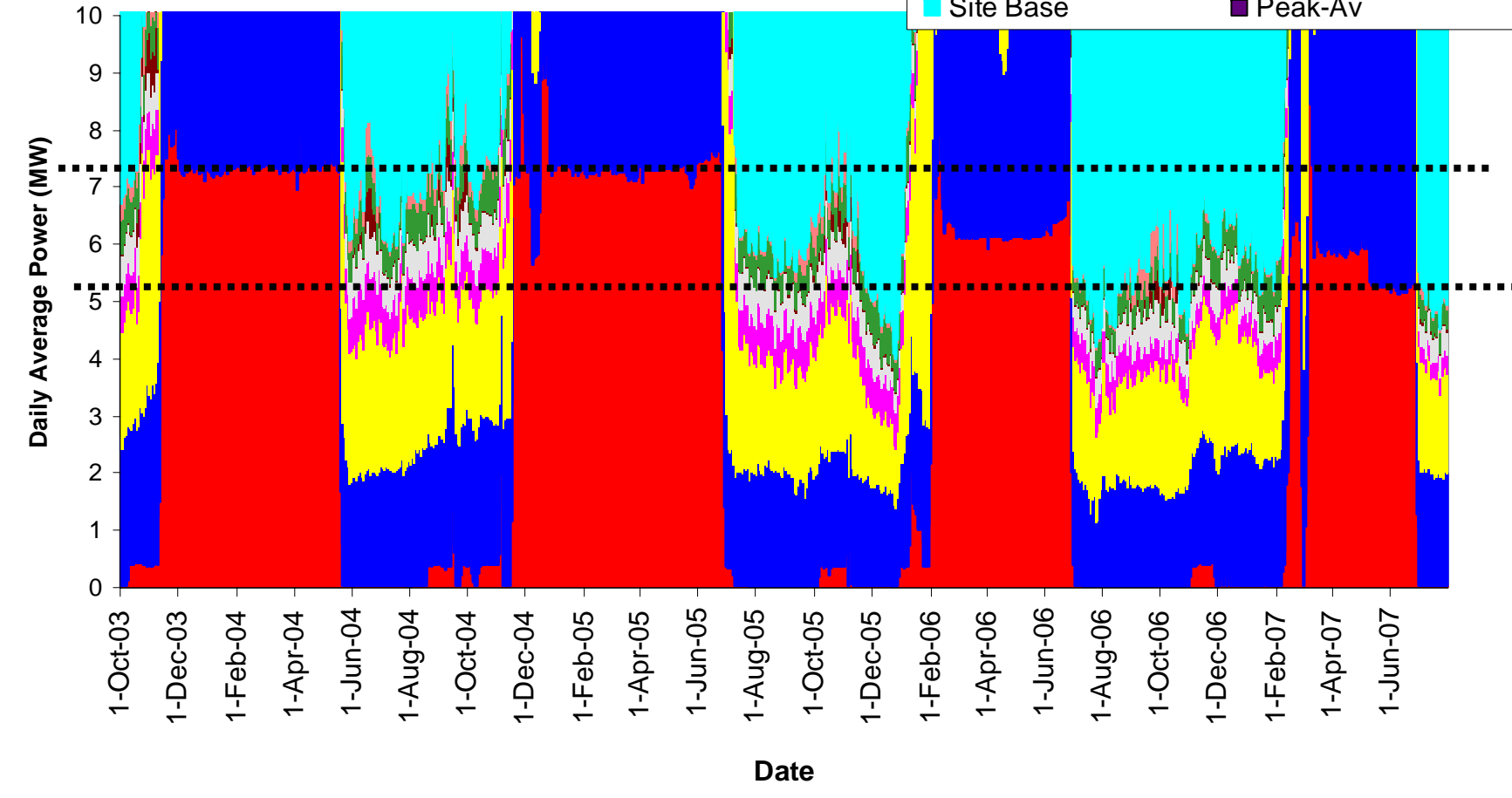
- Site Base
■ RHIC other
■ CAD Bldg less SMD
■ Booster
■ NSRL
- RHIC Cryo
■ AGS-Mach
■ Tandem
■ AGS-Exp
■ Peak-Av



BNL Energy Use FY 2004-7

(C-AD Bldg 911 power is in AGS-Exp/Mach)

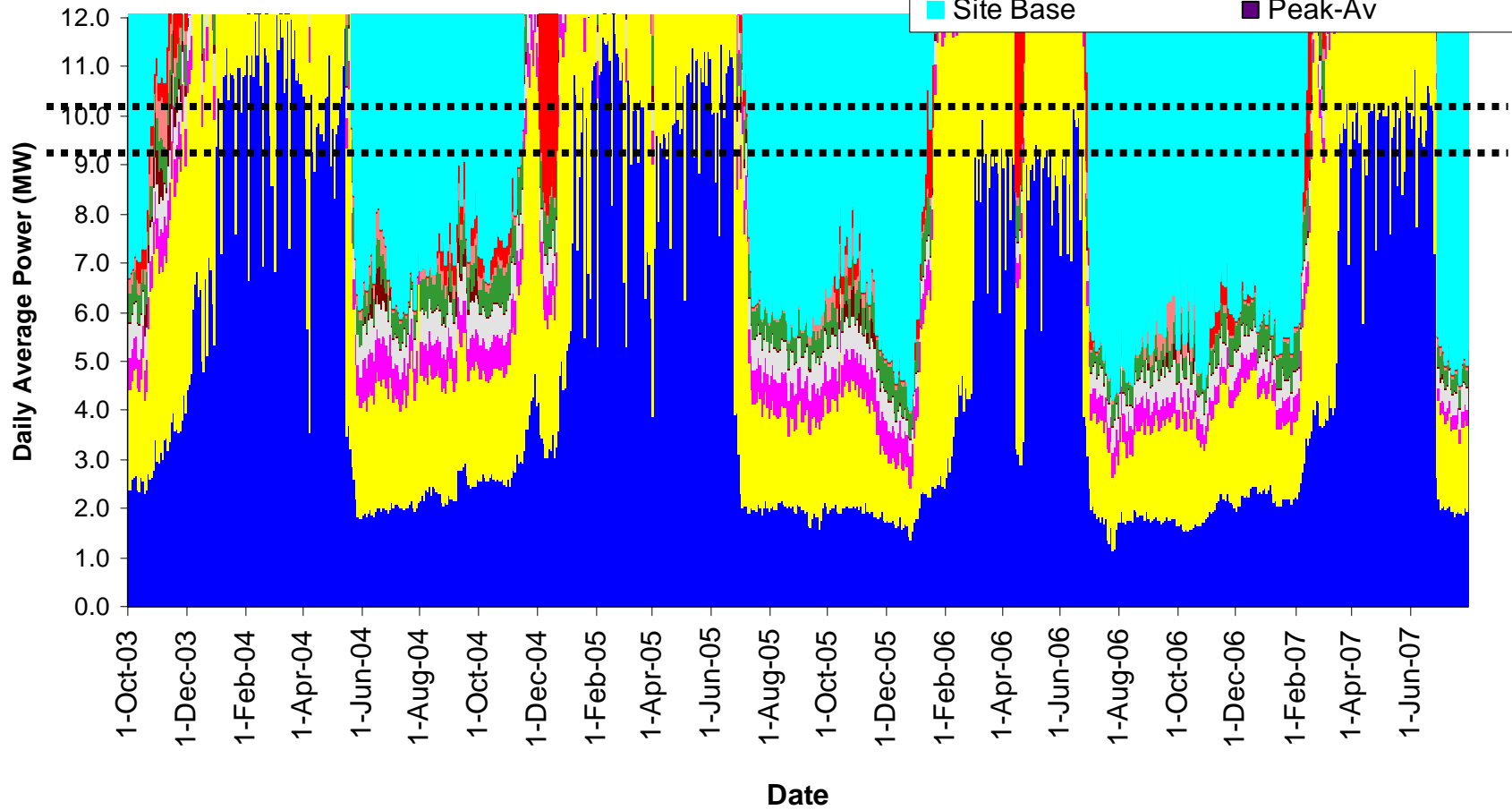
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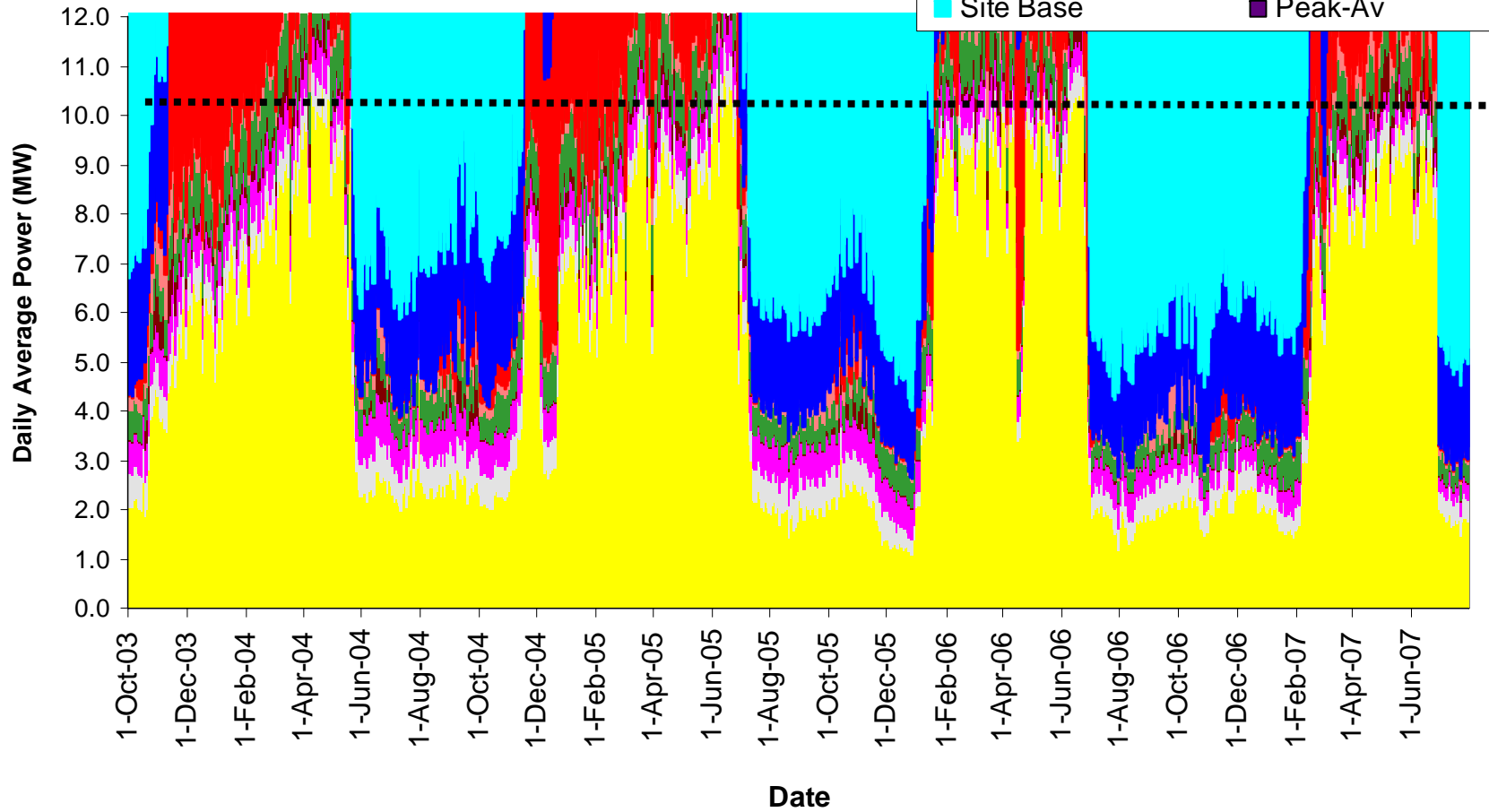
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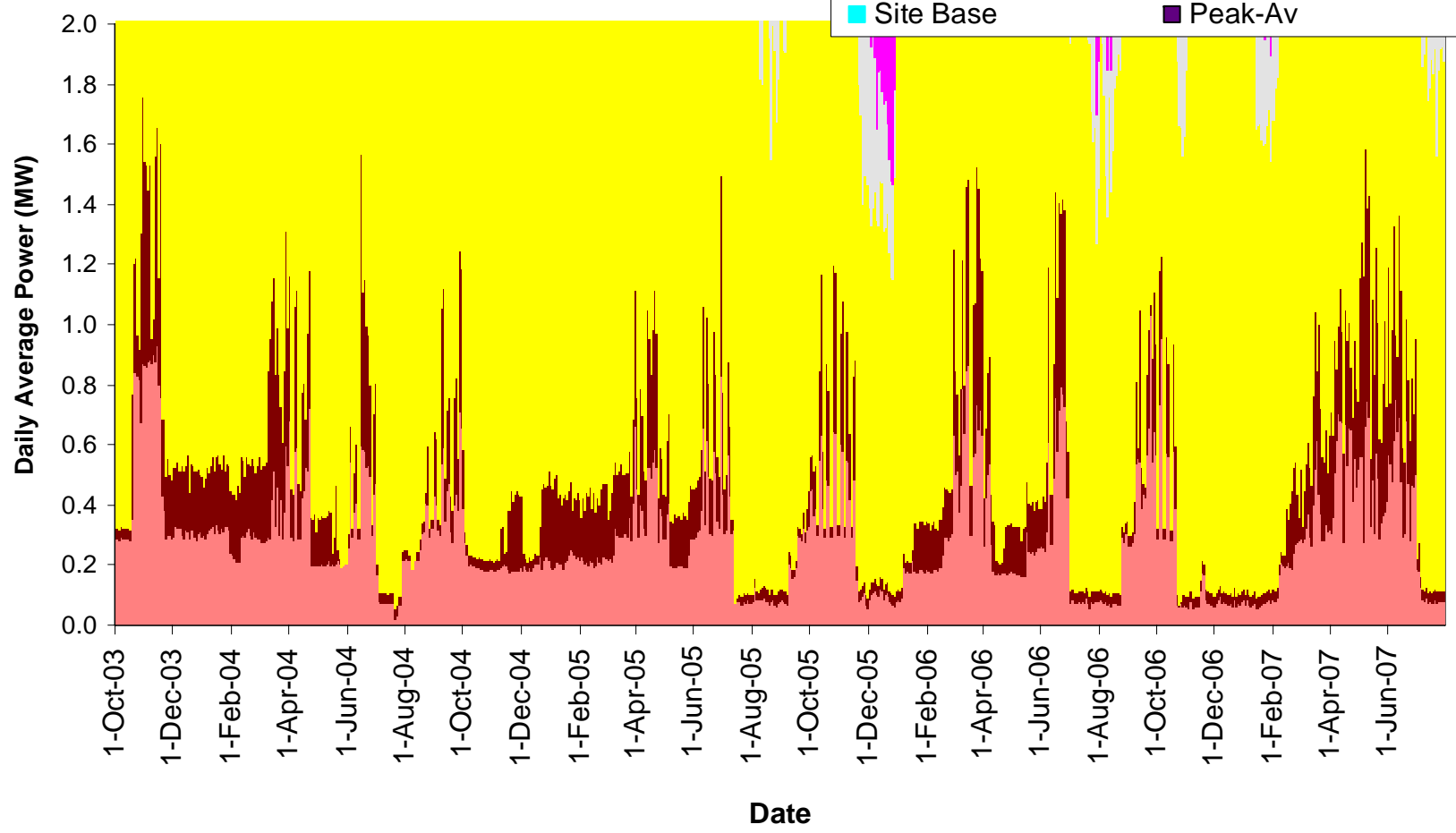
- AGS-Mach
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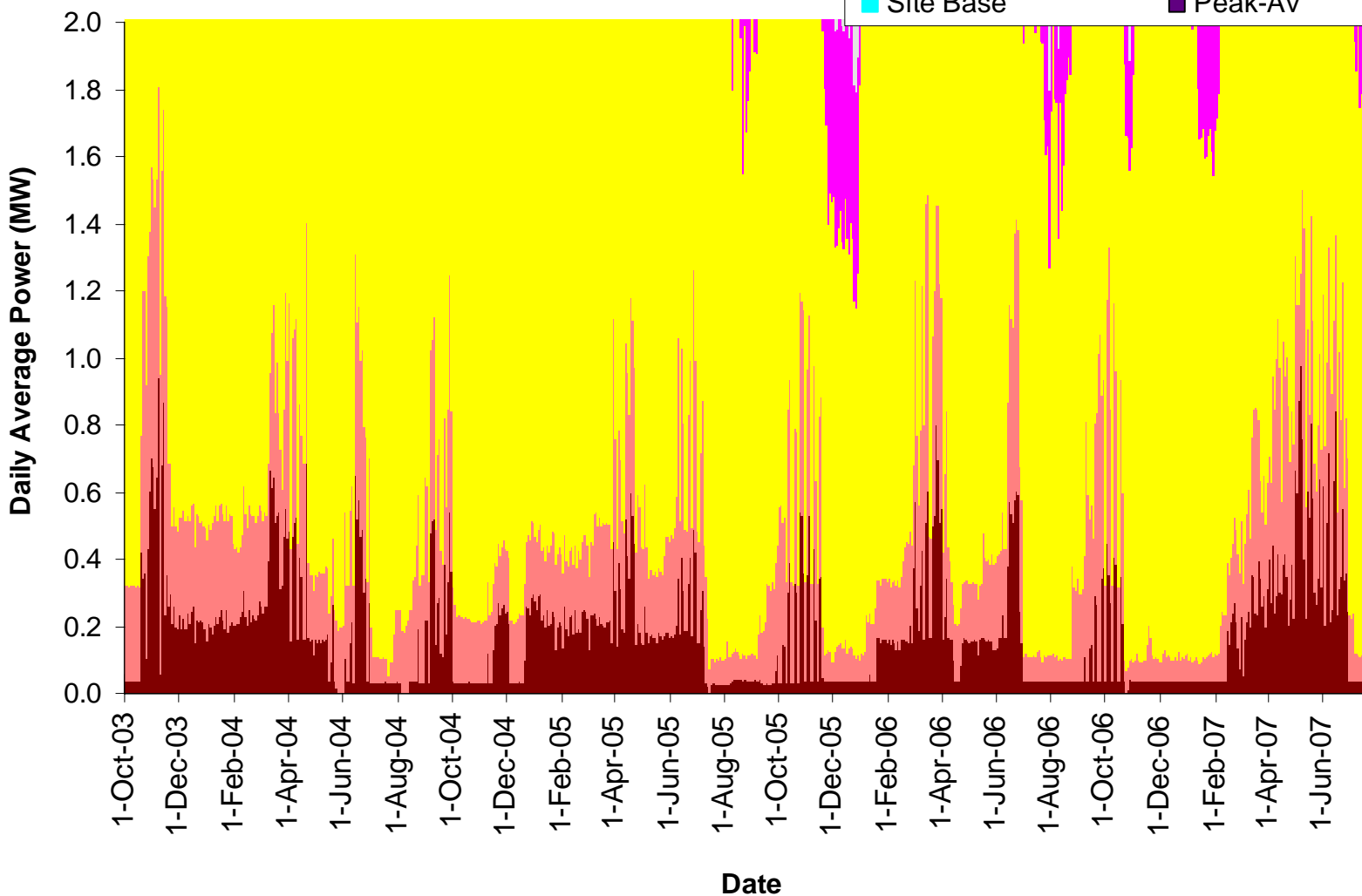
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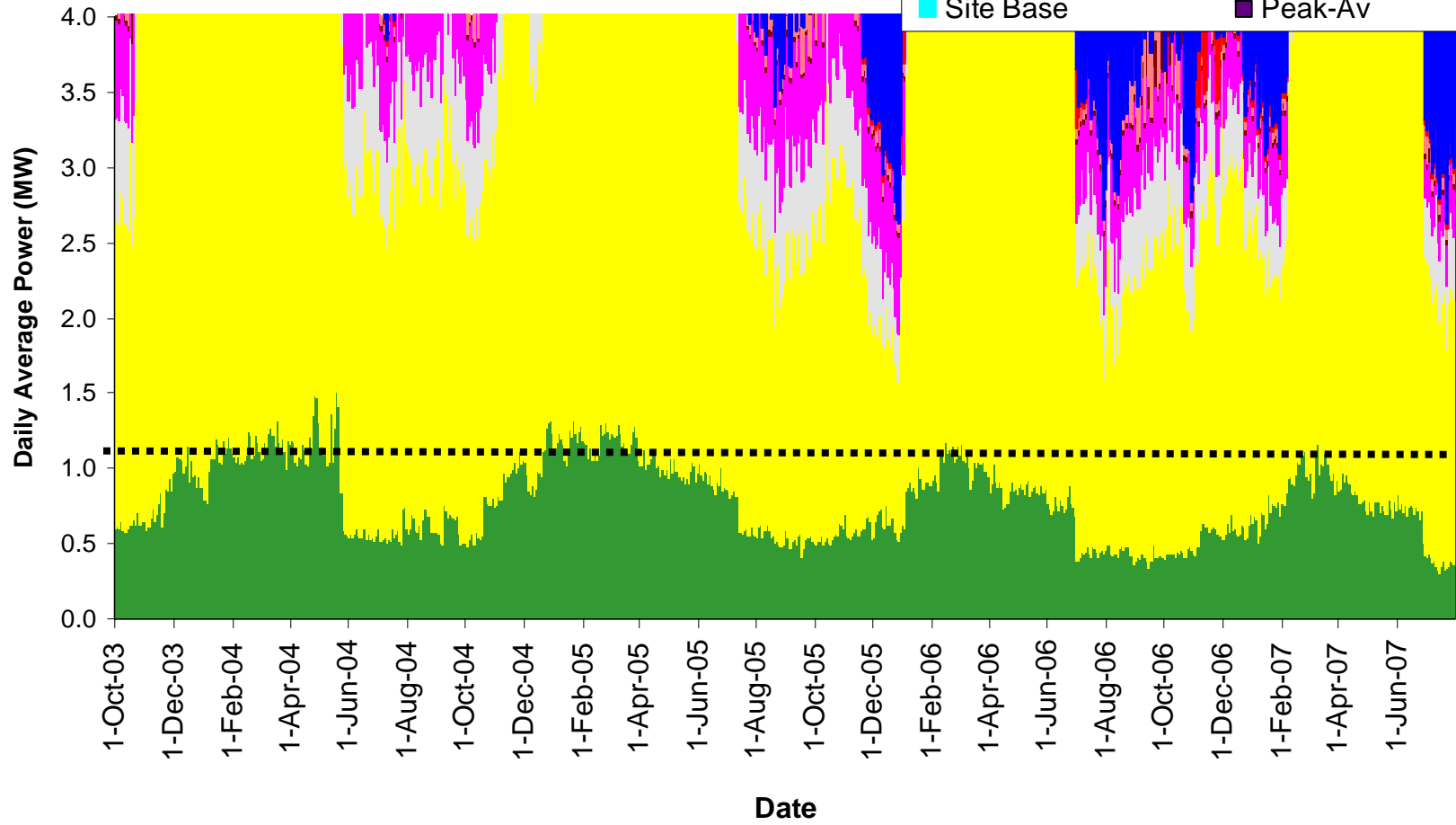
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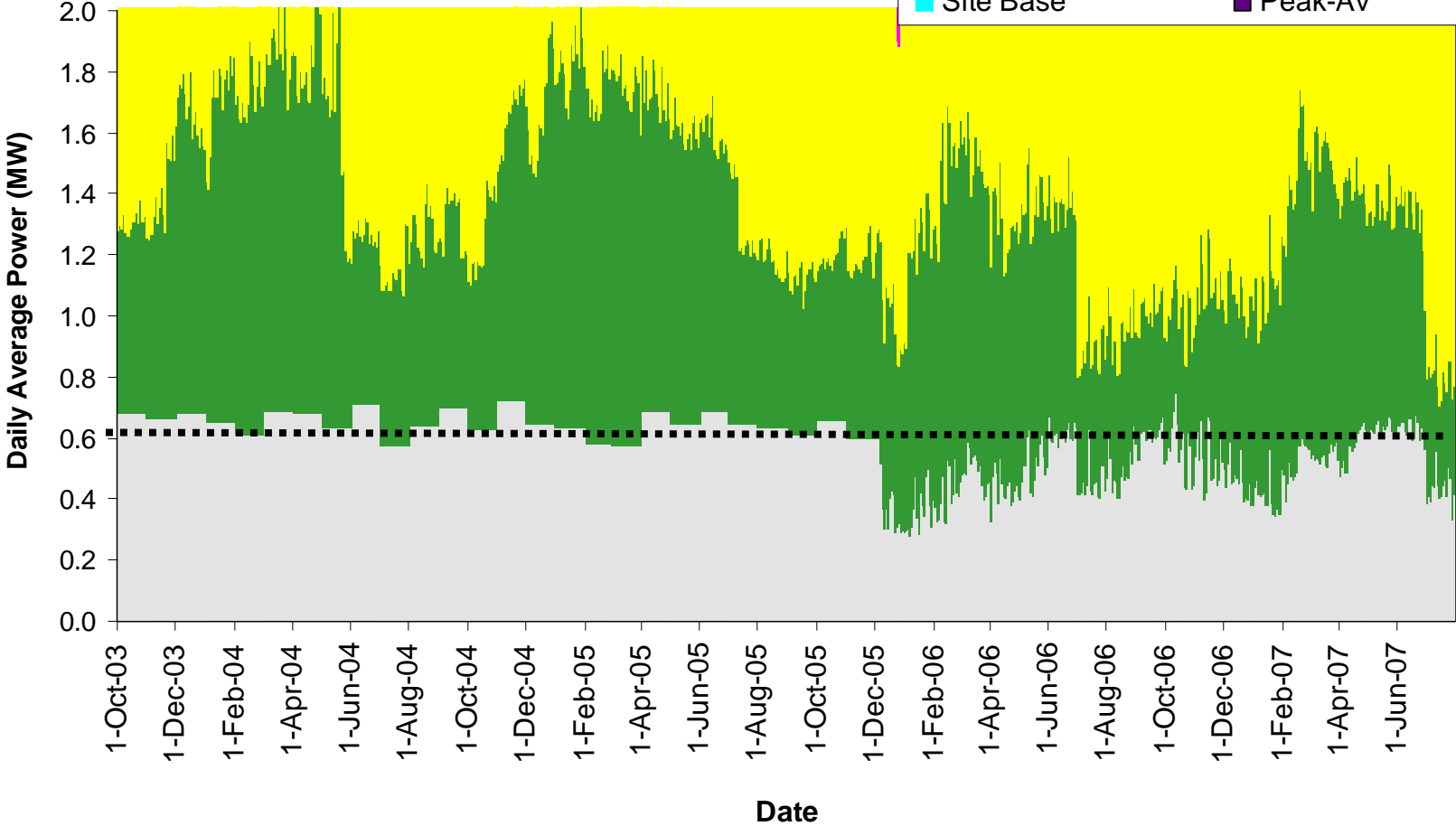
- AGS-Exp
- Tandem
- Booster
- RHC Cryo
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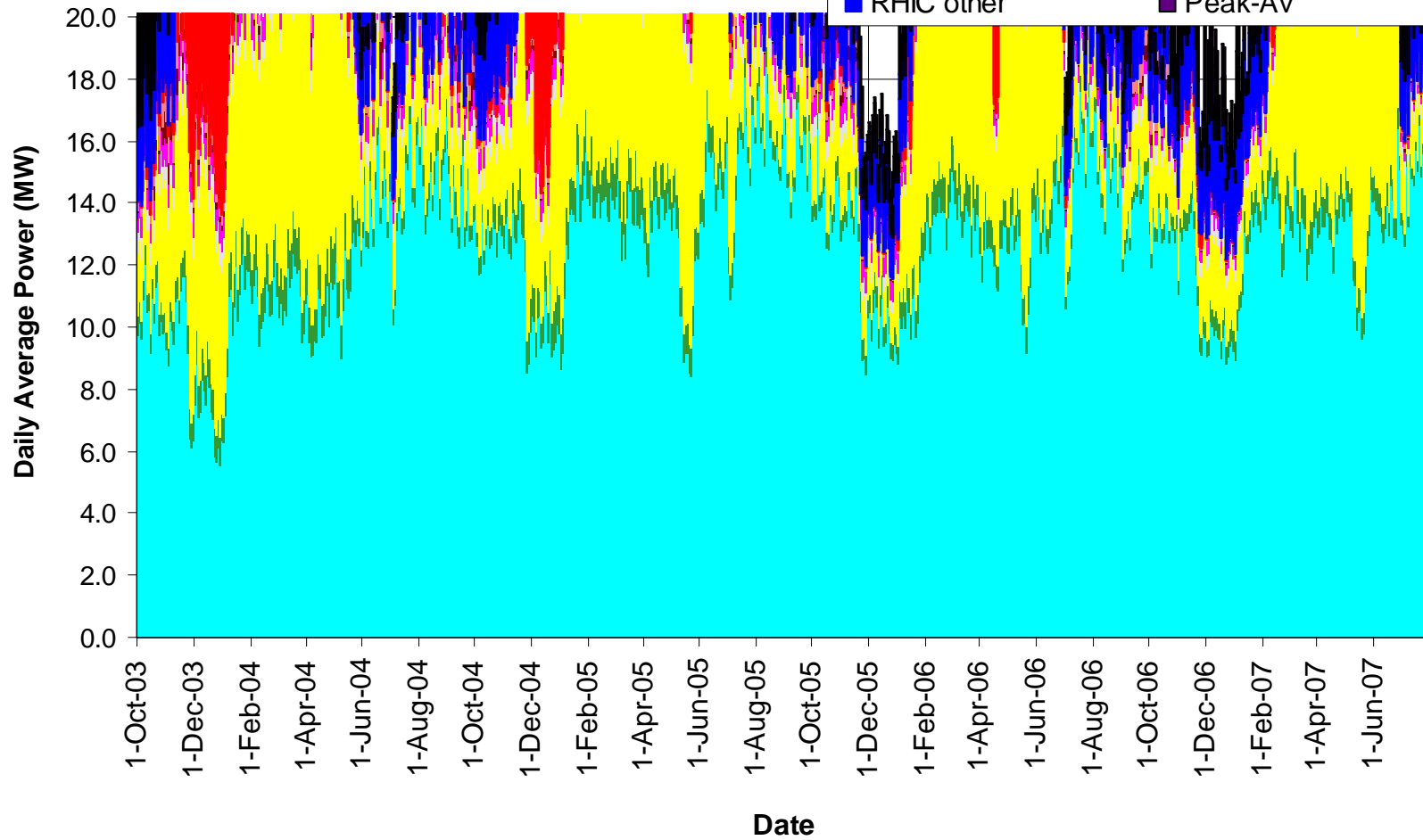
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BNL Energy Use FY 2004-7

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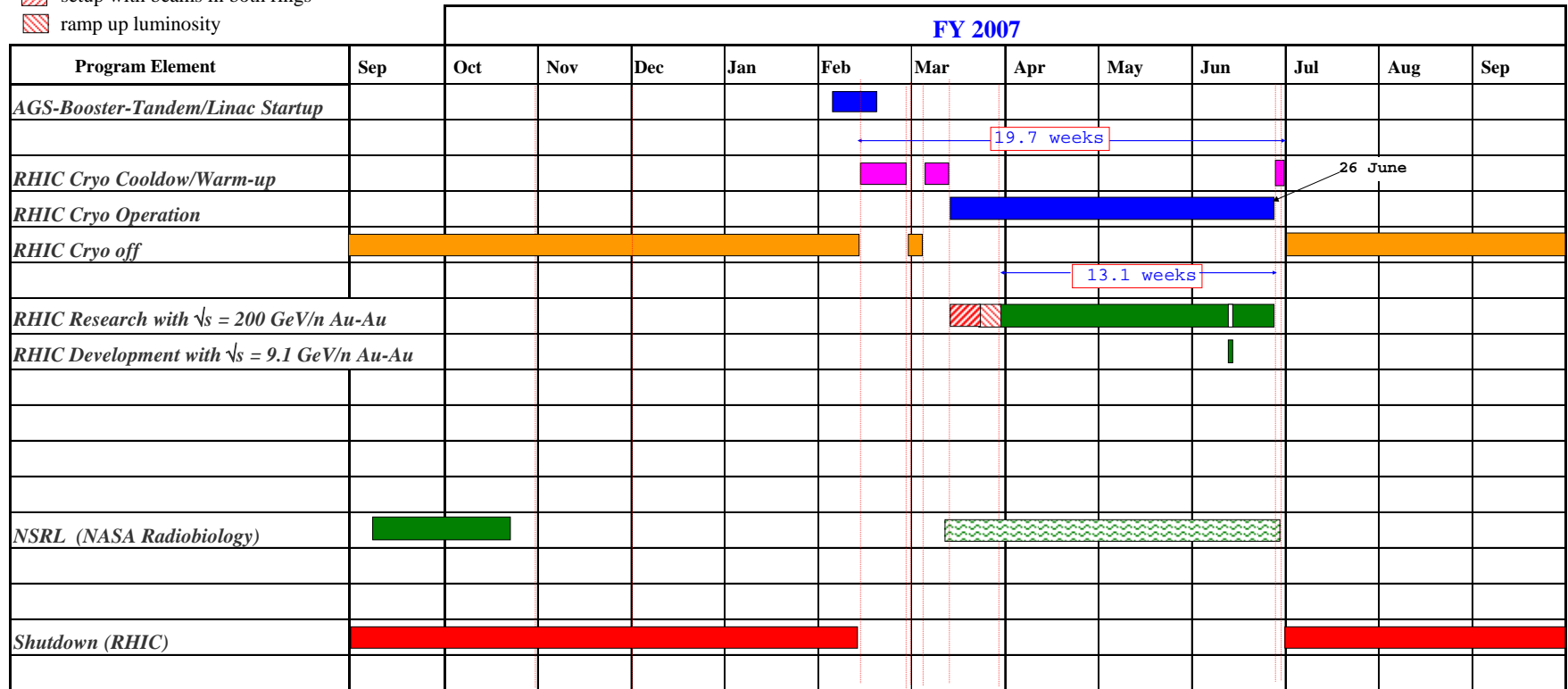


C-A Operations-FY07

27 Jun 07

As Run




-  concurrent with RHIC
-  setup with beams in both rings
-  ramp up luminosity



C-A Operations-FY08

28 Jun 07

Planned, subject to change

-  concurrent with RHIC
-  setup with beams in both rings
-  ramp up luminosity

