RHIC Machine/Detector Planning Meeting

30 Mar 05

Agenda

- **Schedule Issues – (Montag)**
- **Polarized Proton Setup Progress (Bai)**
  - **AGS pp development**
  - **AGS Cold Snake**
  - **CNI Polarimeter**
  - **Jet Target**
  - **Other**
- **Report from experiments (STAR,PHOBOS,PHENIX,BRAHMS)**
  - **Final results of 22 GeV Cu-Cu run**
  - **pp preparations**
- **RCF Issues (Throwe)**
- **Other business**

Planning Meeting Web Site: http://www.c-ad.bnl.gov/esfd/RMEM/rhic_planning.htm

Experiment Goals RHIC Run 5, 31.2 x31.2 GeV/n and 11.2x11.2 GeV/n CuCu

(as of 3/29/05)

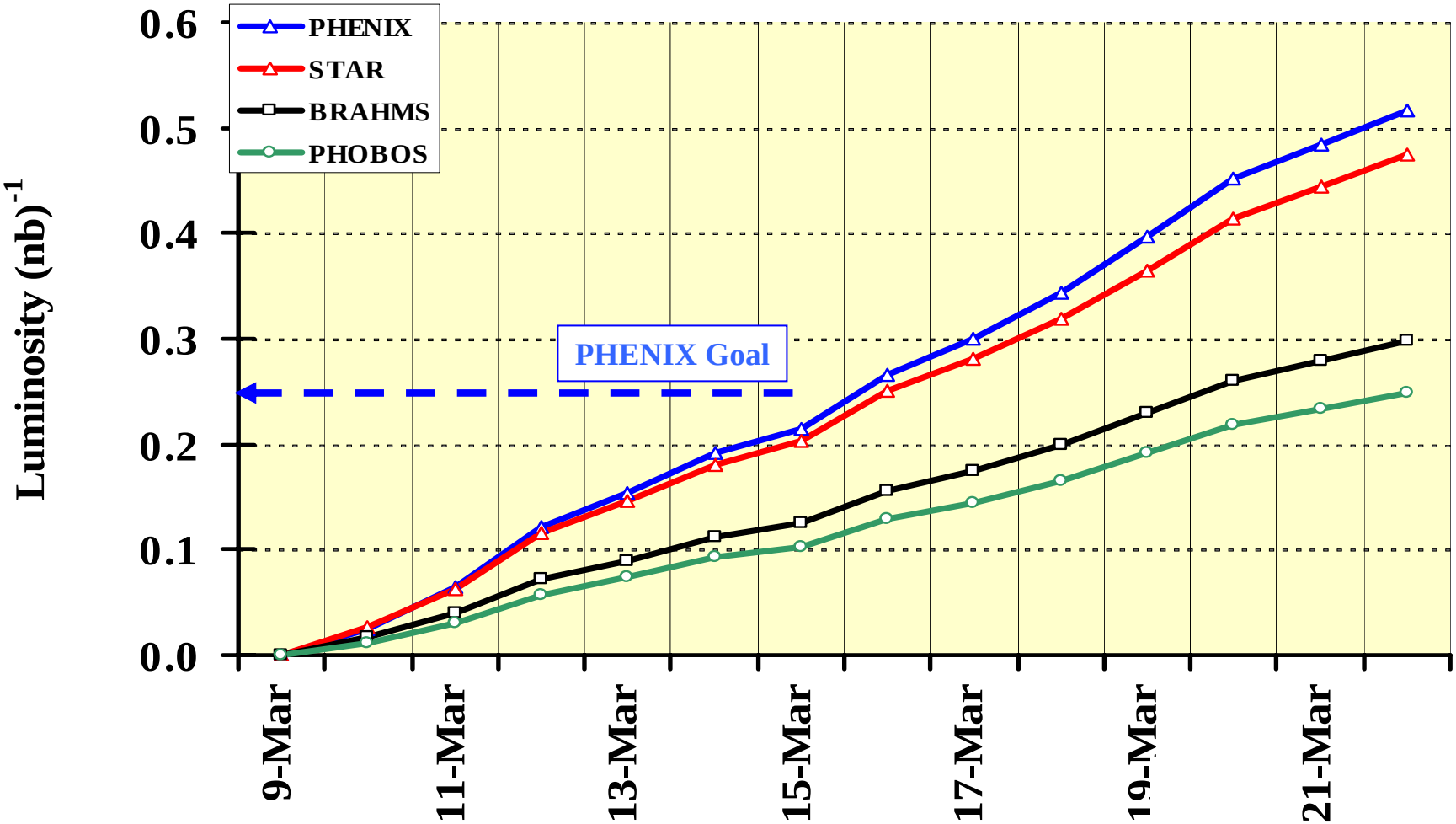
- **BRAHMS**
  - 62 GeV, Integrated Recorded Luminosity Goal 90 μb^{-1}
    Actual recorded luminosity 120 μb^{-1} (133% of goal)
  - 22 GeV, Goals ?

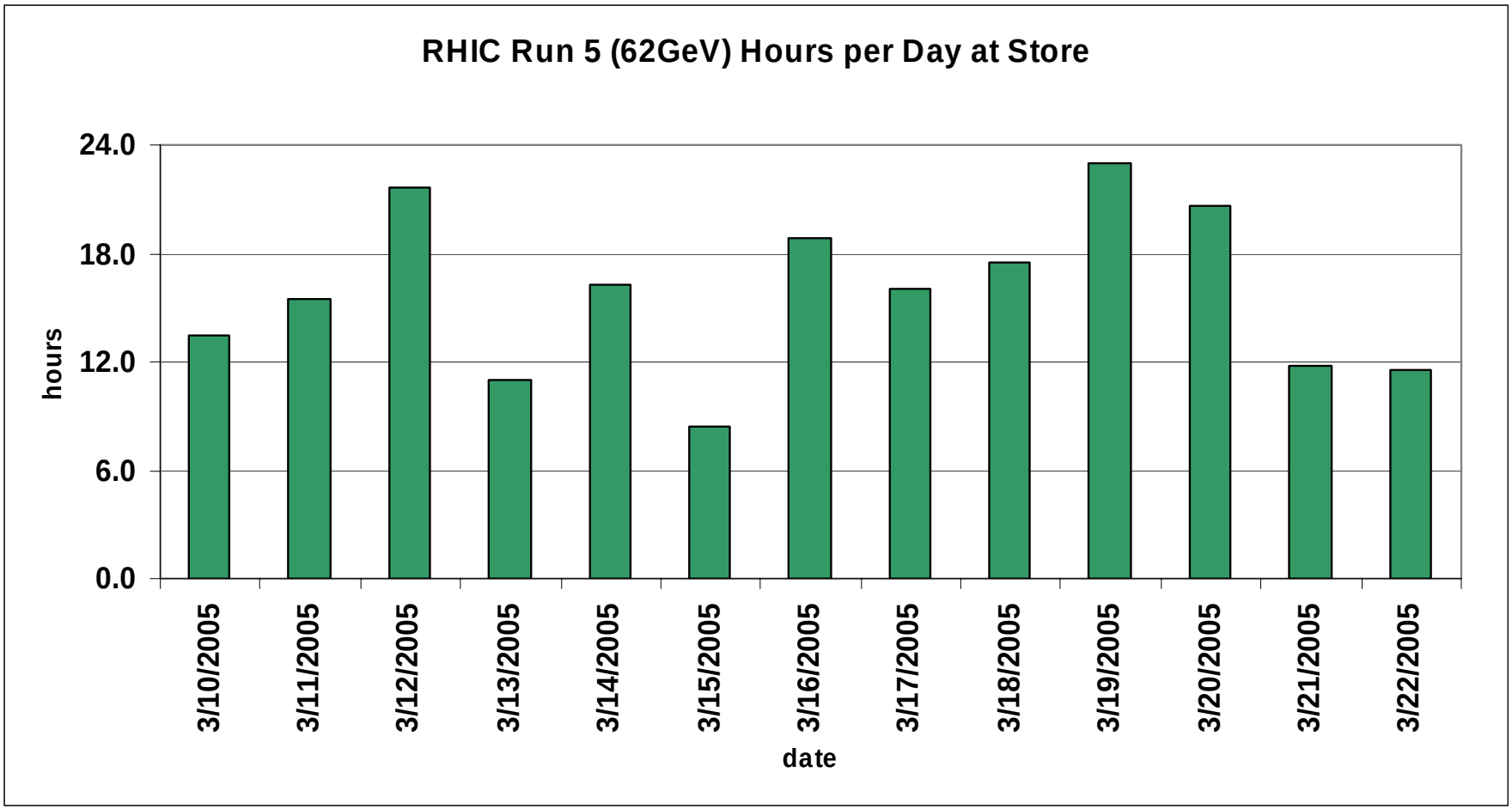
- **PHENIX**
  - 62 GeV, Integrated Delivered Luminosity Goal = 250 μb^{-1}
    Integrated Recorded Luminosity Goal 92 μb^{-1}
    Actual recorded luminosity 190 μb^{-1} (206% of goal)
  - 22 GeV, ~20M recorded events
    Actual recorded 23.8M events (119% of goal)

- **PHOBOS**
  - 62 GeV, Goal 250 M events to tape, minimum Goal 100M events
    Actual recorded 115M events (115% of minimum goal)
  - 22 GeV, Goal 8M events to tape

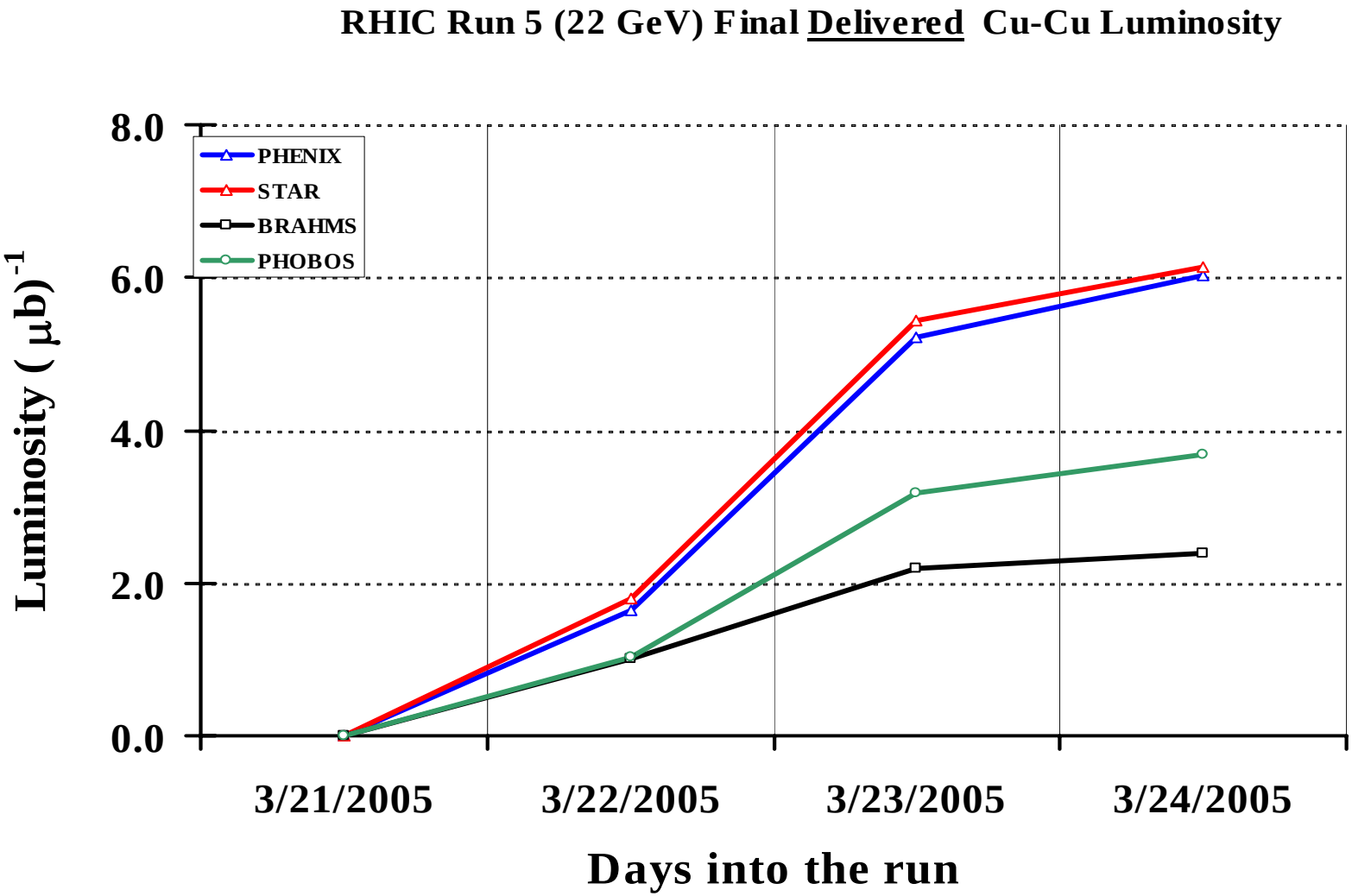
- **STAR**
  - 62 GeV, Min bias, Goal >20M events to tape
    Actual recorded 27.3M events (136% of goal)
  - 22 GeV, Min bias, Goal >1M events to tape

RHIC Run 5 (62 GeV) Final Delivered Cu-Cu Luminosity





Total = 205.5 hours
0130 10 Mar – 1330 22 Mar = 300 clock hours
68.5% or 115 hrs/week average


RHIC Run 5 (22 GeV) Final Delivered Cu-Cu Luminosity
PHENIX
STAR
BRAHMS
PHOBOS
Luminosity (μb)-1
8.0
6.0
4.0
2.0
0.0
3/21/2005
3/22/2005
3/23/2005
3/24/2005
Days into the run

RHIC Machine/Detector Planning Meeting

- ***RHIC Run5 Plan (estimate based on present understanding of budget)***

  - **18 Nov 04 – Cool down begins**
  - **23 Nov 04 – Blue Ring Cold**
  - **28 Nov 04 – Yellow Cold**
  - **29 Nov 04 – Short in D6-D8 dipoles Yellow Ring, schedule delay**
  - **3 Dec 04 – quad bus-bus short in sector 12, shutdown to repair**
  - **27 Dec 04 – short problem resolved, rings at 4 degrees again**
  - **27 Dec 04 - "2 week" RHIC setup with beam began**
  - **28-29 Dec 04 – found & fixed aperture problem in Yellow Ring (Al foil)**
  - ***5 Jan 05 – "2 week" ramp-up with colliding beams began***

As of 15 Mar 05

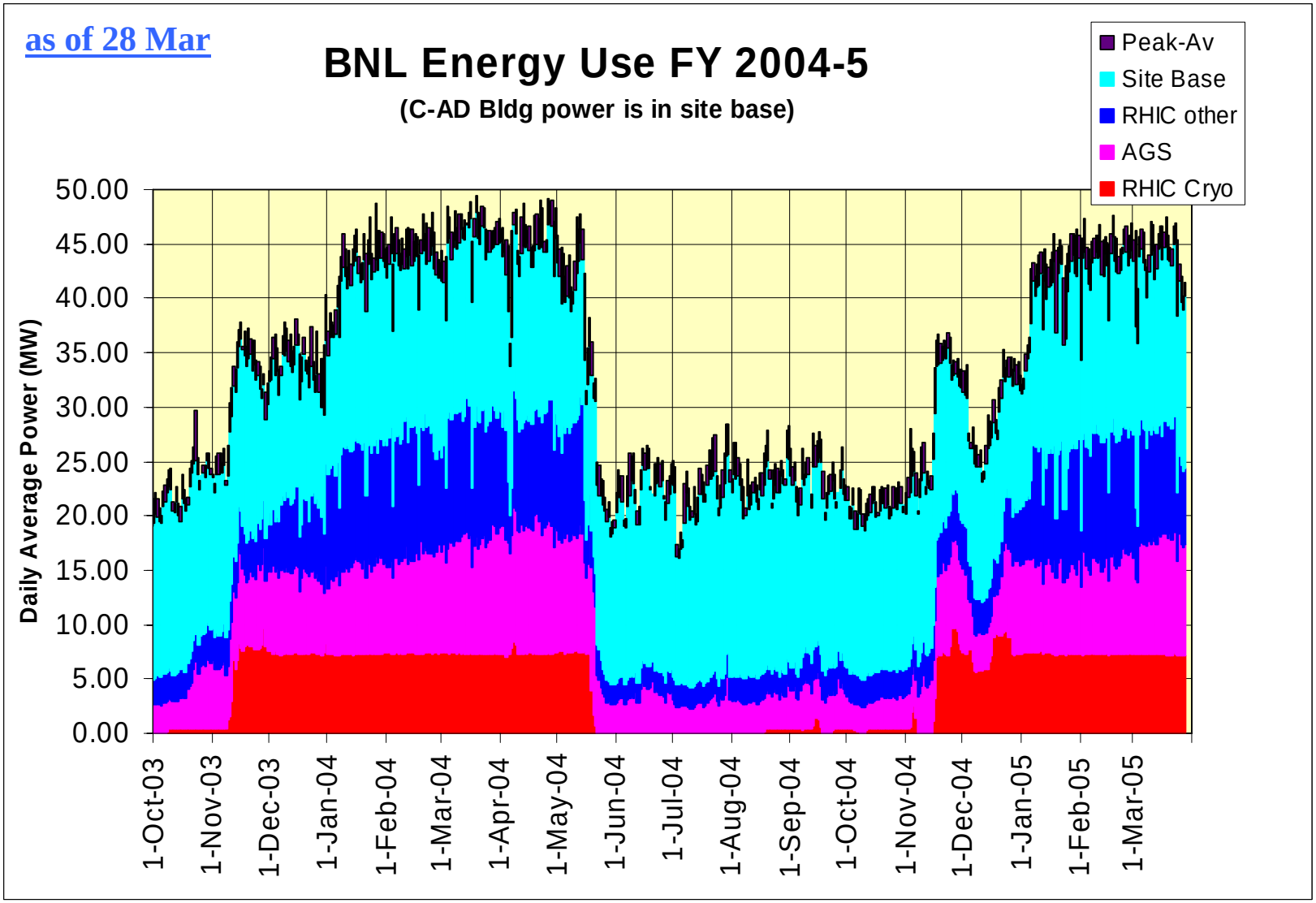
RHIC Machine/Detector Planning Meeting

- **Details – as run/planned**

- ***11 Jan – Physics with Cu-Cu began***
- ***7 Mar (0800) – end 200 GeV/n Cu-Cu***
- ***7-9 Mar – Setup 62.4 GeV/n Cu-Cu***
- ***9-15 Mar - 62.4 GeV/n Cu-Cu Physics***
- ***10 March – Physics begins***
- ***15 Mar – 8 hours at injection energy 10 March – Physics begins***
- ***15-22 (1400) Mar - 62.4 GeV/n Cu-Cu Physics***
- ***22 (1400)-24 (0800) March Cu-Cu Physics at RHIC Injection***
- **24 Mar (0800) – End of 10.3 week Cu-Cu run, 8 hr maintenance**
- ***24-30 Mar – begin 3 week pp setup***
- **30 Mar - 1 Apr 05 Cold Snake/Jet Installation/CNI etc**
- ***1-16 Apr – complete 3 week pp setup***
- ***16 Apr – Begin 10.0 week pp Physics run***
- **25 Jun – end pp run, RHIC Run 5 ends**
- **30 Jun – Cryo switch to LN_2 complete, *32.0* weeks of RHIC cryo operation ends**

~ final

as of 28 Mar


BNL Energy Use FY 2004-5
(C-AD Bldg power is in site base)
Peak-Av
Site Base
RHIC other
AGS
RHIC Cryo
Daily Average Power (MW)
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1-Oct-03
1-Nov-03
1-Dec-03
1-Jan-04
1-Feb-04
1-Mar-04
1-Apr-04
1-May-04
1-Jun-04
1-Jul-04
1-Aug-04
1-Sep-04
1-Oct-04
1-Nov-04
1-Dec-04
1-Jan-05
1-Feb-05
1-Mar-05

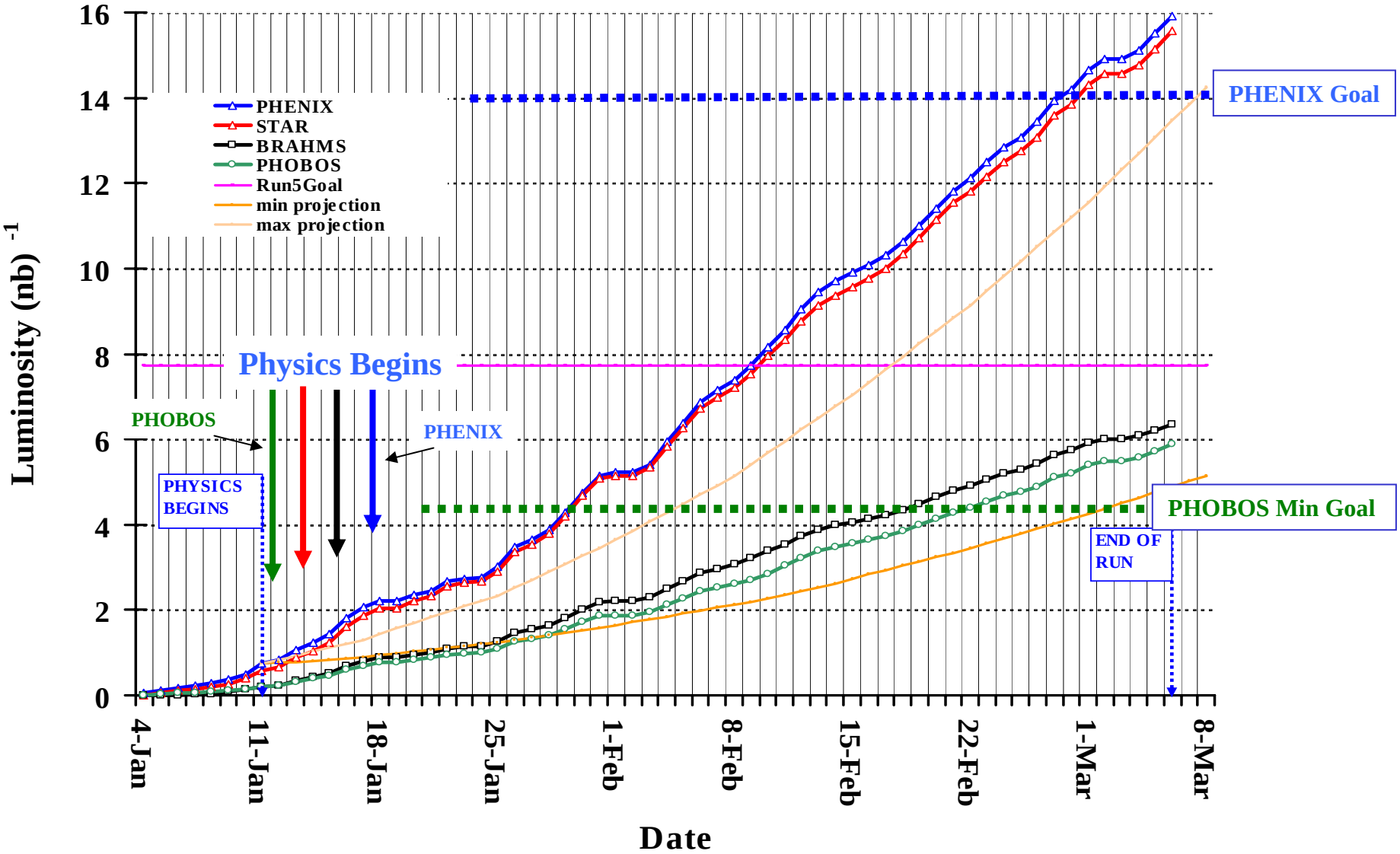
RHIC Machine/Detector Planning Meeting

Archive

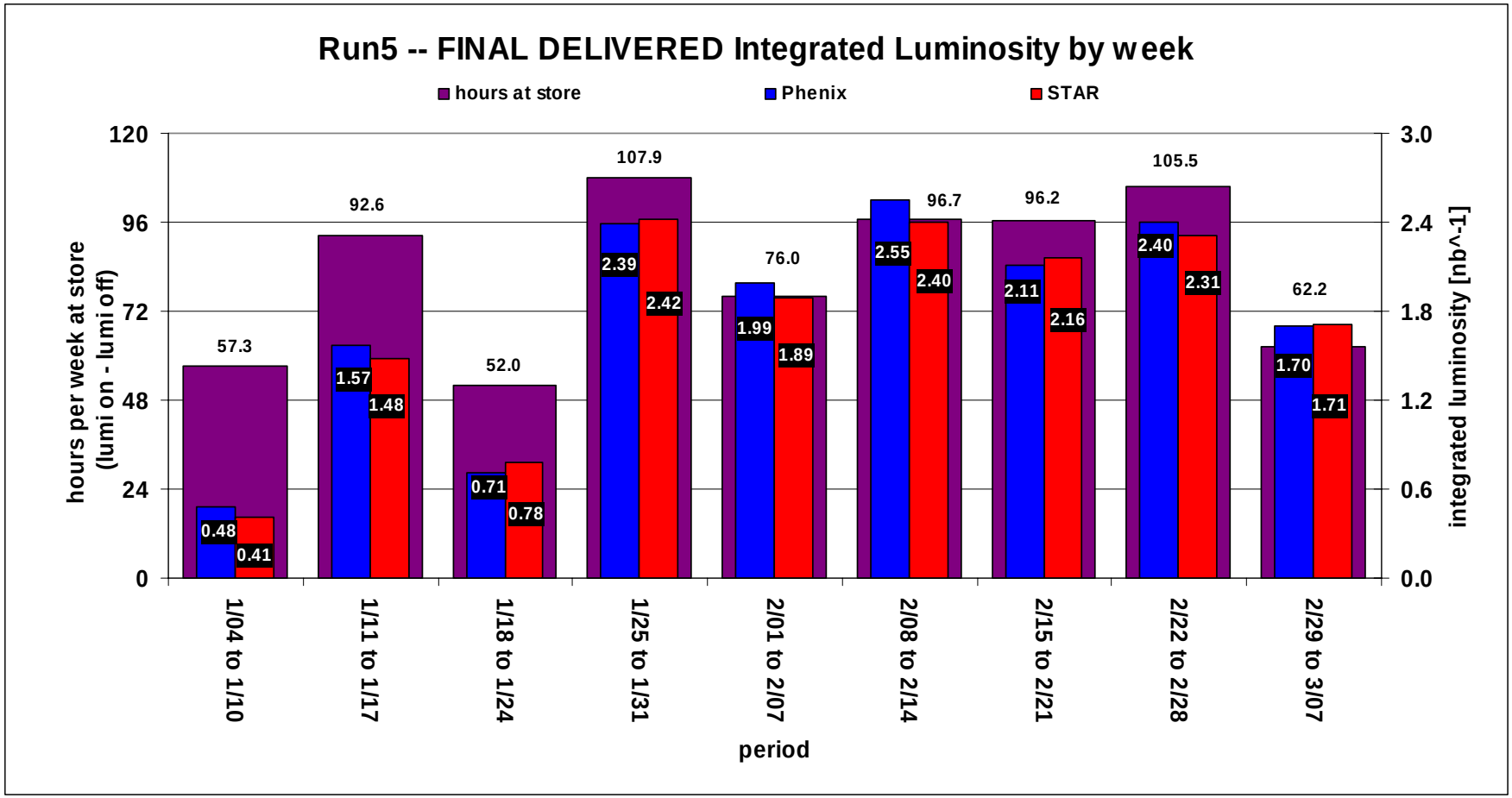
Experiment Goals RHIC Run 5, 100x100 GeV/n CuCu, Summary of Results (3/23/05 update)

- **BRAHMS**
  - Soft physics goal 0.8 nb^{-1} recorded, achieved 0.8 nb^{-1} → 100% of goal
  - High-Pt goal 2.4 nb^{-1} recorded, achieved 1.75 nb^{-1} → 73% of goal
- **PHENIX**
  - Integrated recorded luminosity goal (live BBCLL1) 2.9 nb^{-1}, achieved 3.06 nb^{-1} → 105% of goal
- **PHOBOS**
  - Goal 1000M events to tape, achieved 500M → 50% of minimum goal
  - Minimum Goal 400M events to tape, achieved 500M → 125% of minimum goal
- **STAR**
  - Min bias, Goal 80M events, recorded 64.5M events → 80% of goal
  - High Pt Trigger (BEMC HT18), Goal to sample 1-2 nb^{-1}, recorded >1 nb^{-1} → 100% of goal

RHIC Run 5 Final Delivered 100x100 GeV/n Cu-Cu Luminosity



RHIC Machine/Detector Planning Meeting



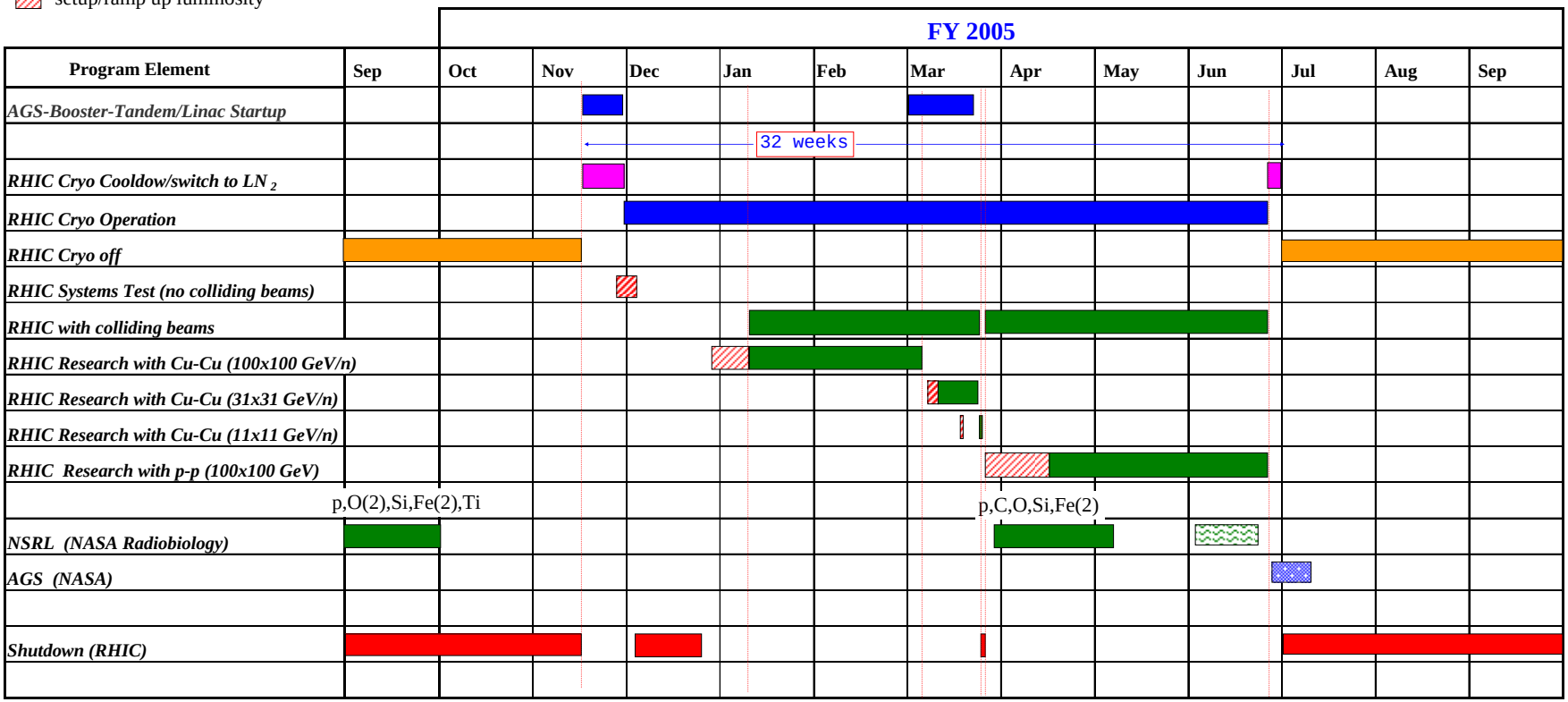
http://www.c-ad.bnl.gov/estd

C-A Operations-FY05

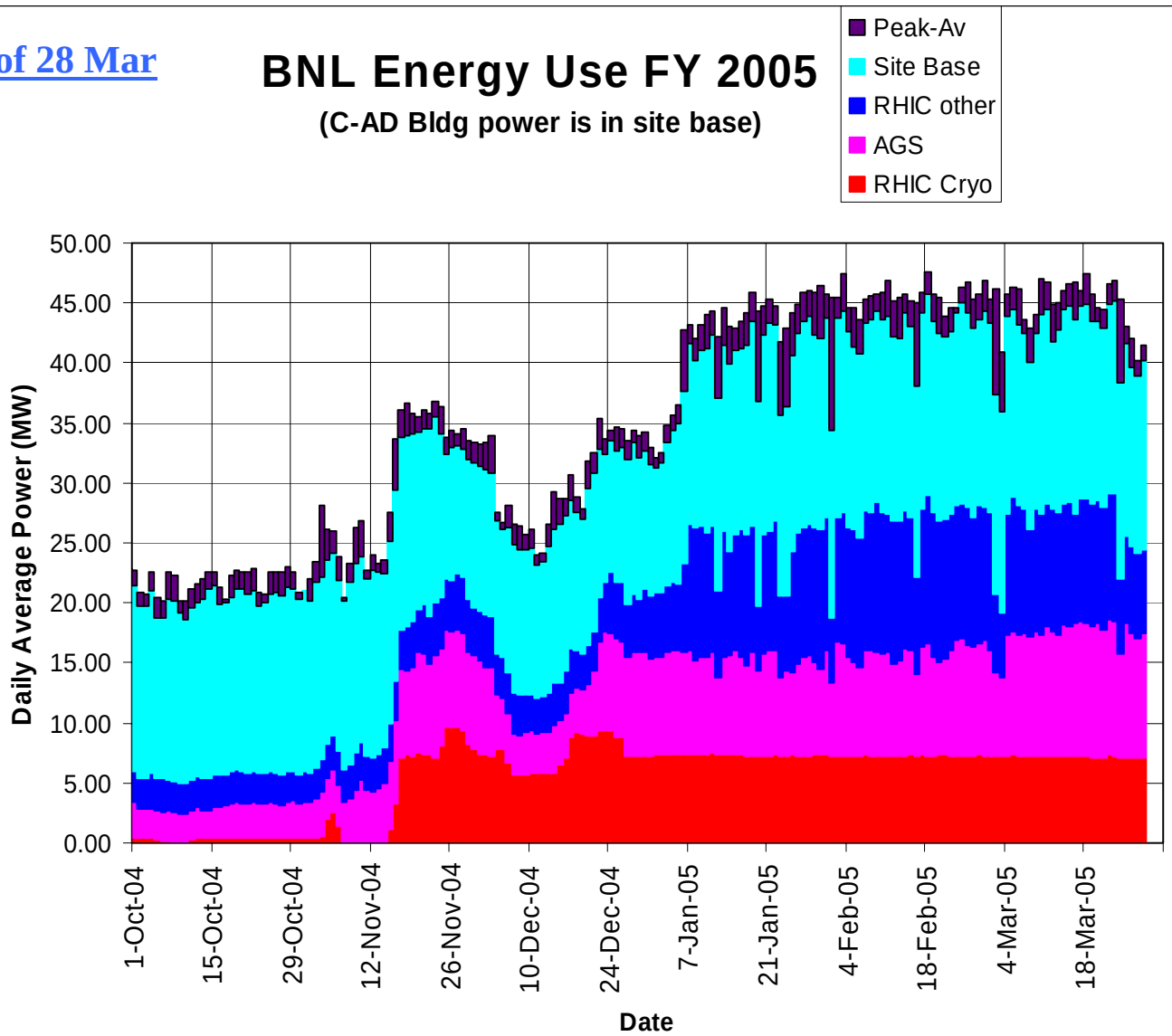
22 Feb 05

pending approval/funding
schedule to be determined
setup/ramp up luminosity

Schedule - subject to change



as of 28 Mar


BNL Energy Use FY 2005
(C-AD Bldg power is in site base)
Peak-Av
Site Base
RHIC other
AGS
RHIC Cryo
Daily Average Power (MW)
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1-Oct-04
15-Oct-04
29-Oct-04
12-Nov-04
26-Nov-04
10-Dec-04
24-Dec-04
7-Jan-05
21-Jan-05
4-Feb-05
18-Feb-05
4-Mar-05
18-Mar-05
Date

RHIC Machine/Detector Planning Meeting

17 November 2004

Purpose of this meeting:

- To address issues and priorities relating to the optimization of physics output from RHIC experiments.

- To discuss and promulgate policy (when needed).

RHIC Machine/Detector Planning Meeting

17 November 2004

PAC Recommendations (very short summary):

- 8-10 week pp run should have highest priority
- Cu-Cu run should accumulate an integrated delivered luminosity of at least 7 nb^{-1} at $\sqrt{s}$ = 200 GeV
- Cu-Cu at $\sqrt{s}$ = 62.4 GeV and 1 day at injection is advisable if above goals are met
- 1-2 day pp (unpolarized) run at $\sqrt{s}$ = 400-500 GeV desirable