Operations Manager Report

Arnd Meyer
August 1, 2002

- Store 1583 on Friday with initial luminosity of $2.64 \cdot 10^{31} cm^{-2} s^{-1}$ (average) broke the all-time Tevatron luminosity record ($2.50 \cdot 10^{31} cm^{-2} s^{-1}$)
- Typically stacking to 120mA now, but stack rate below optimal (frequently in the 6mA/hr range) → long stores
- Two stores lost before collisions, one store lost prematurely
- Goal is still $4 \cdot 10^{31} cm^{-2} s^{-1}$ by September 30th

Store		Initial Lum	Duration	$L_{delivered}$/nb	L_{live}/nb	Eff
1580	Thu 7/25	2.3E31	19.9h	814.0	563.9	69.3%
1583	Fri 7/26	2.8E31	4.5h	354.6	256.6	72.4%
1594	Sun 7/28	2.6E31	21.1h	887.2	659.5	74.3%
(1613	Wed 7/31	1.4E31)				
			45.5h	2055.8	1480.0	72.0%

Peak Luminosity

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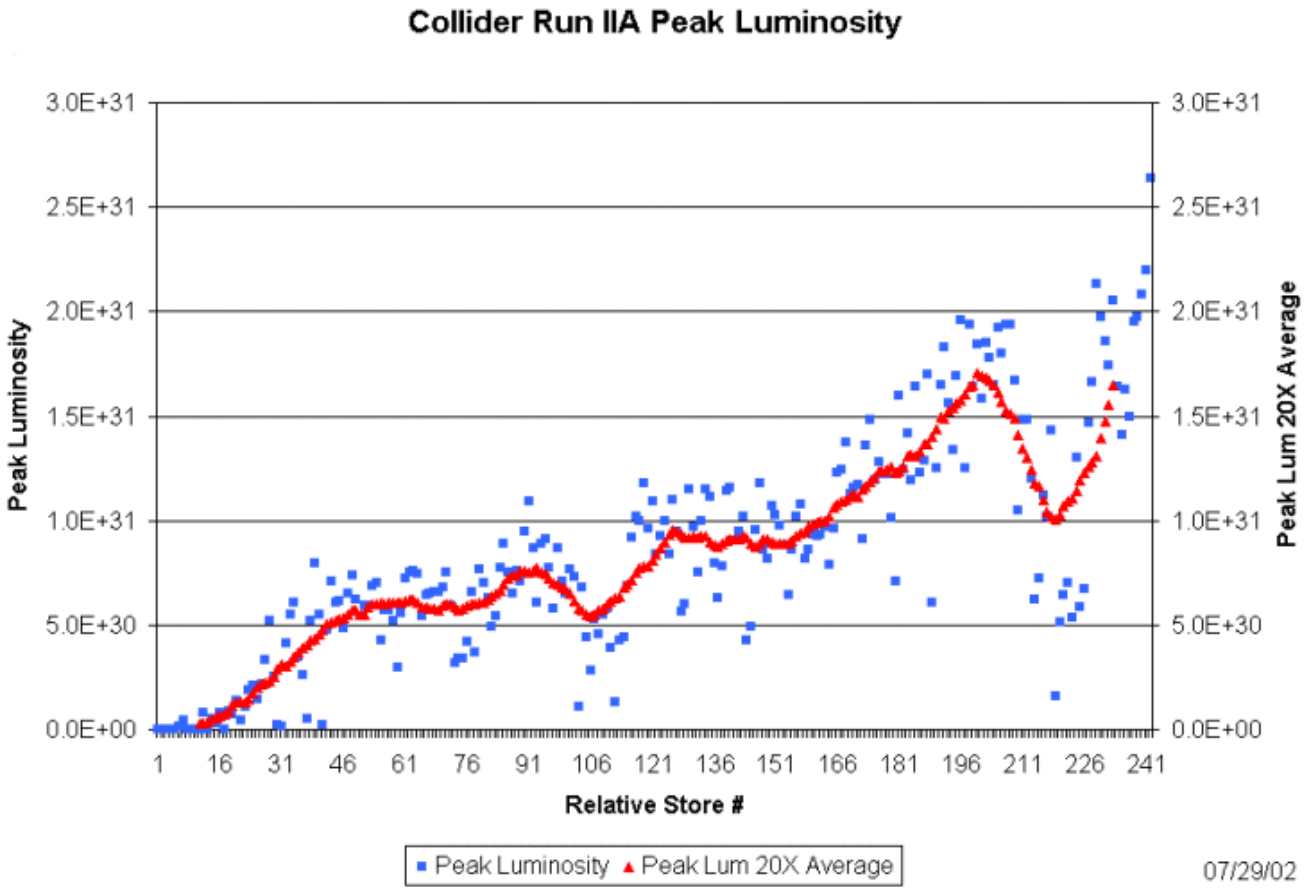

- Fine-tuning of pbar shot lattice progresses well. Sunday's shot was done without experts present

Thursday, Store 1580

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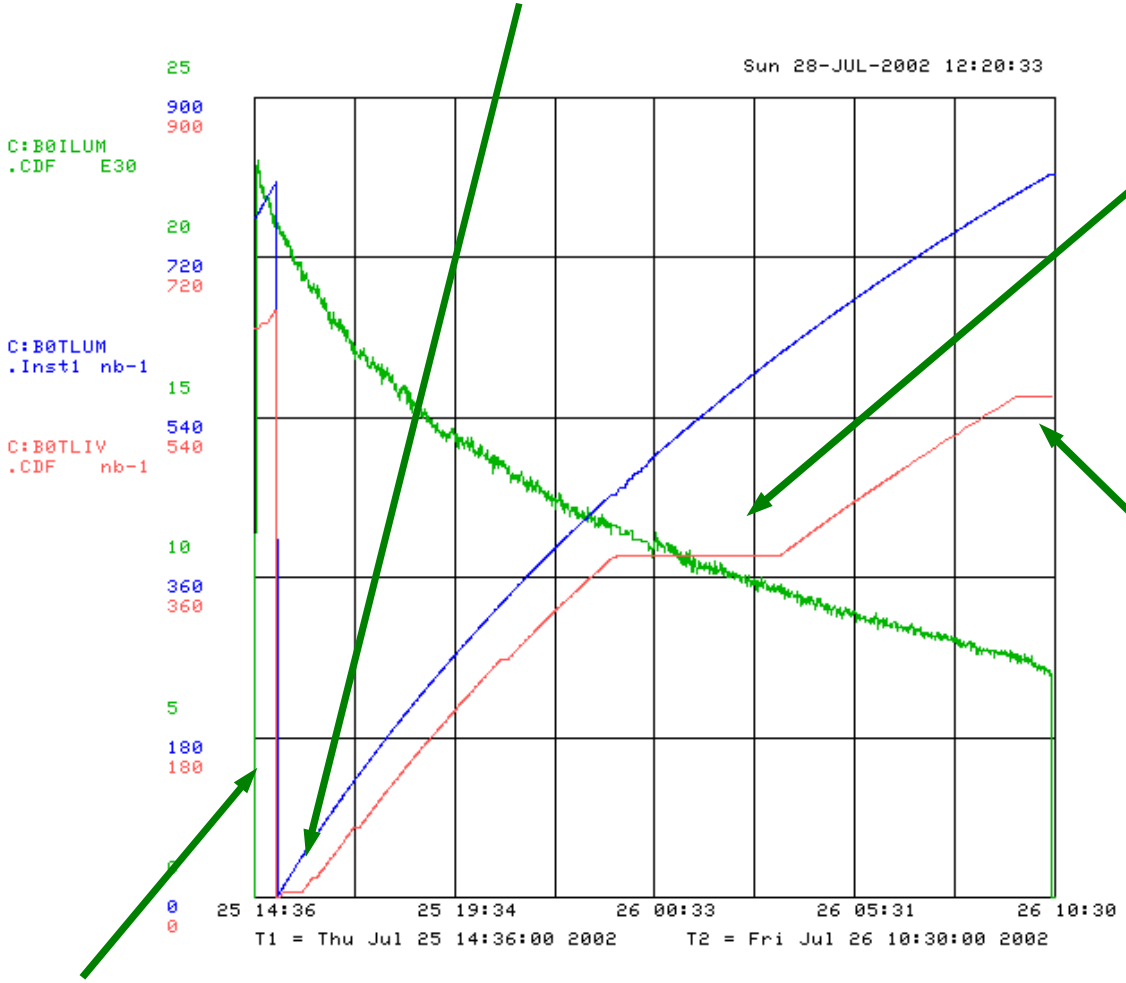
Short access before shot setup to fix Plug power supply. Because of DB problems, no opportunity to recalibrate → had to perform a calibration during store



Main online file server crash

Silicon calibration L2 problems

Automatic reset of luminosity failed

Friday, Store 1583

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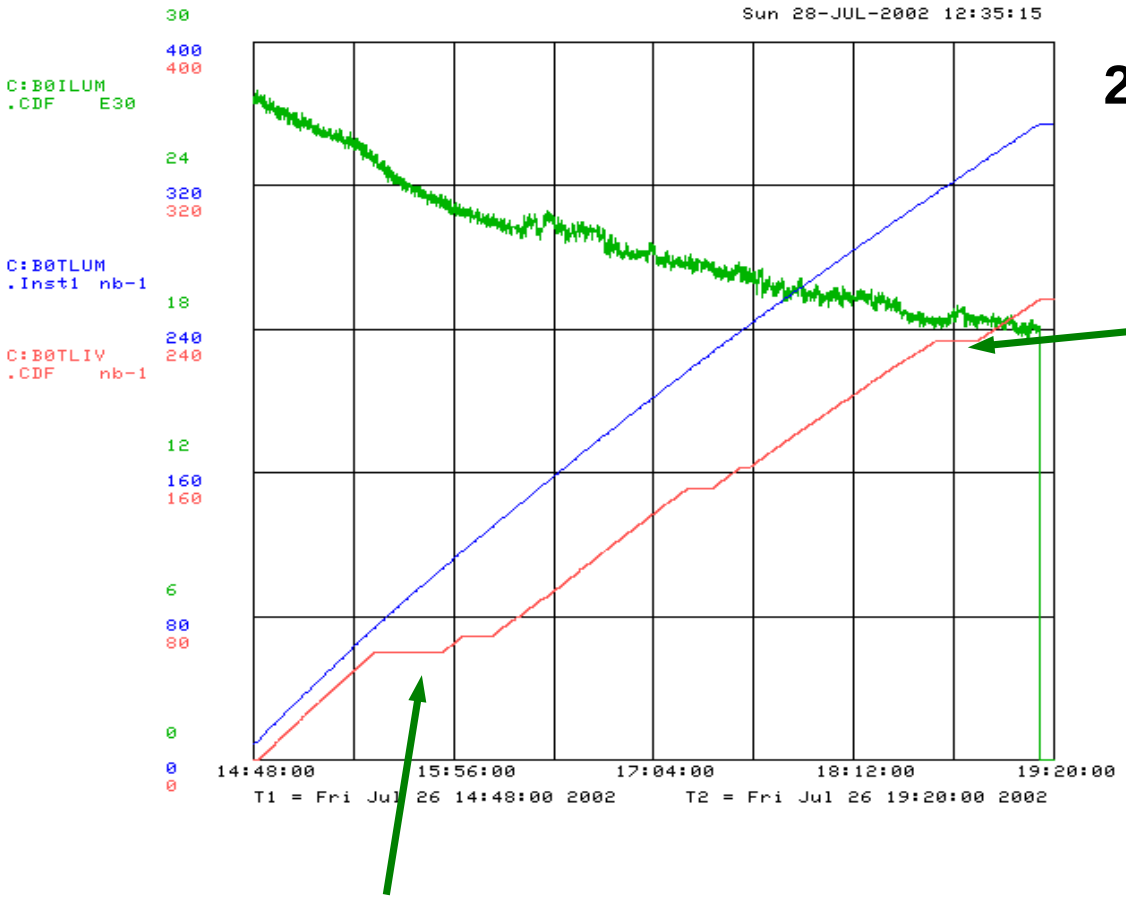

$2.8 \cdot 10^{31} cm^{-2} s^{-1}$ initial luminosity

SVT problem

Aborted after 4.5 hrs because of a fast (one line cycle) power glitch affecting TeV RF

Initial L1A rates at / above limits set by Silicon group (12kHz)

Integrating Silicon

Next store (Saturday): quench at A11 after ramp, caused by abort kicker pre-fire. Water leak in Booster and other problems delay shot setup

Losses in Store 1583

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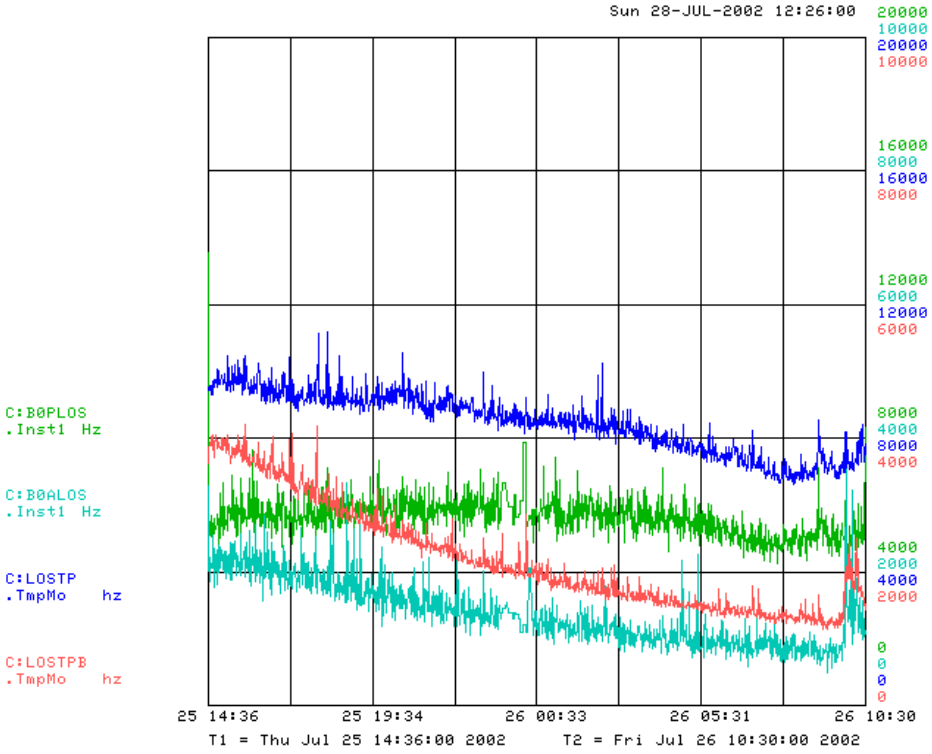
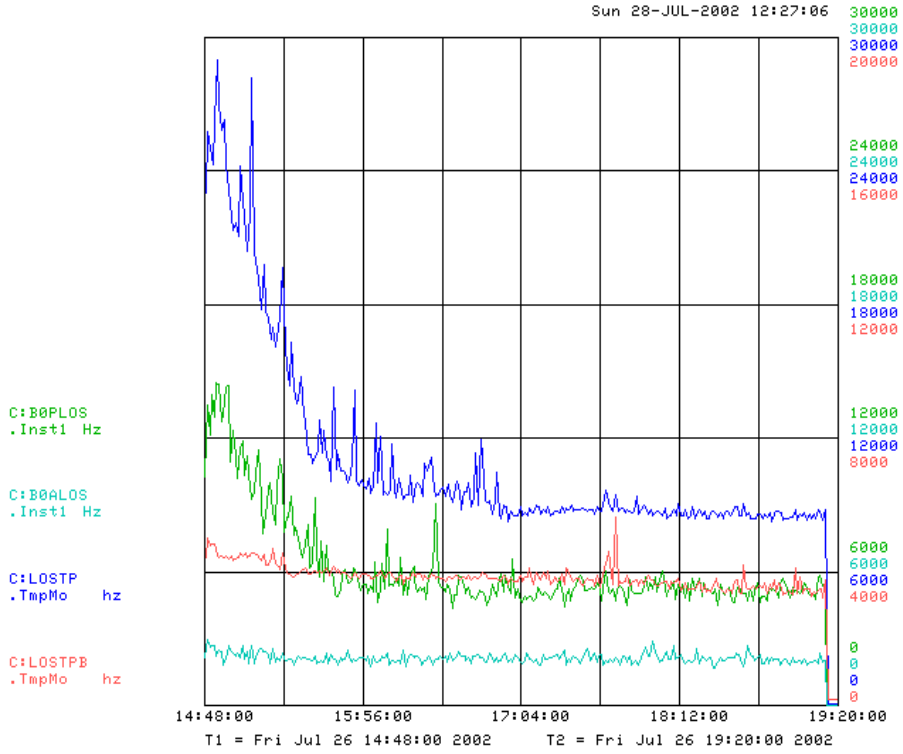
Store 1580



Store 1583



- Losses unusually high, but reduced quickly by MCR
- Same observed in following store 1594 (Sunday)

Sunday, Store 1594

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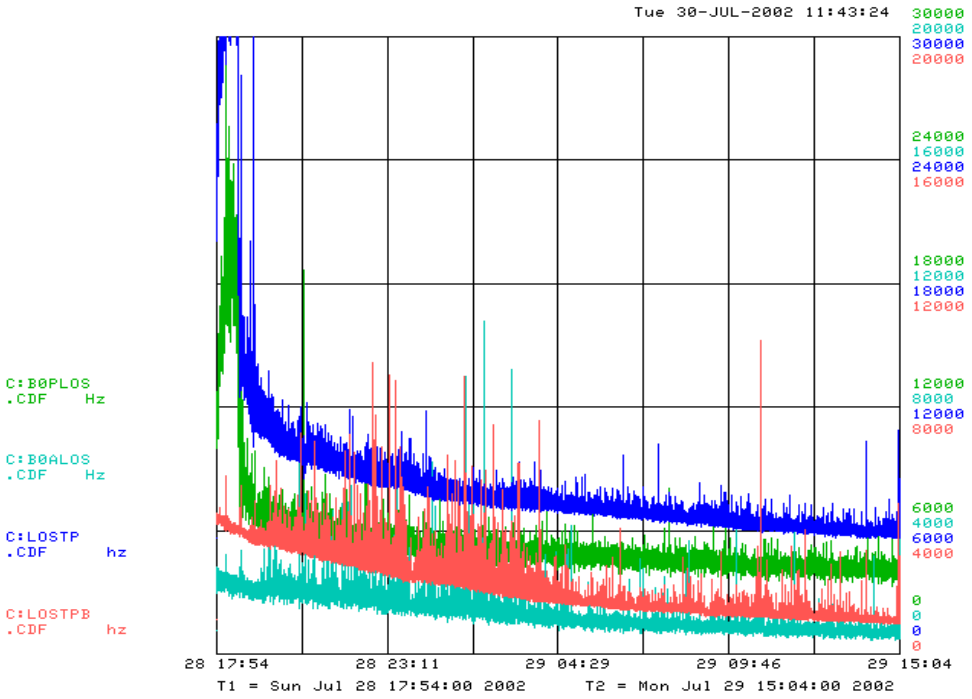
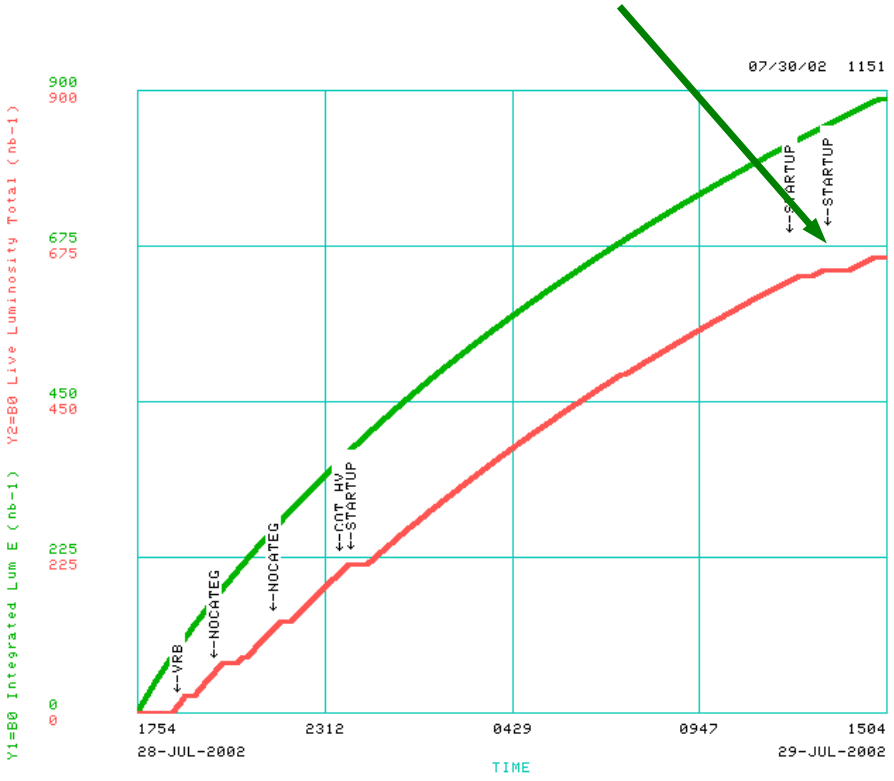


$2.6 \cdot 10^{31} cm^{-2} s^{-1}$ initial luminosity

Special runs (MinBias, trigger table test, XTRP firmware test)



Terminated as planned Monday afternoon

Next store quenched during ramp, suspicion is bad coupling because of excessive time spent sitting at 150GeV
→ studies all night

Access Tuesday

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- 5 hours controlled access
- Silicon
  - Swapped two power supplies to work around a LV short
  - Swapped two FIB's
  - Gained 6 ladders
- Miniplugs
  - Will be able to read out all 84+84 tower channels of the Miniplugs now
  - Replaced transition boards
  - Installed roman pot cable extensions with correct cable wiring
- CMX
  - Work on HV problems in wedges 21,22,23 (north west)
- Rest of the day spent with experts working on a variety of systems
  - CHA/WHA laser, dynamic prescaling tests, TOF trigger commissioning, Silicon torturing, ...

Wednesday, Store 1613

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- After continued studies on Wednesday, shot setup started late afternoon
- Store 1613 in before midnight, with low initial luminosity $1.4 \cdot 10^{31} cm^{-2} s^{-1}$ (pbar extraction and transfer problems)
- Again high losses in the beginning, needed to rescrape this time
  - Three stores in a row with high initial losses, not understood
- Lost one RF station around 5:30
  - Take out Silicon
  - Use opportunity for roman pot / beam halo study
  - Sit, wait, and ask MCR to shorten our suffering
  - Beams is currently in 4hrs access to fix a water leak, and install sextupoles and fix a vacuum leak in the Recycler