

2008-10-13 Monday Morning Summary

Monday, October 13, 2008
7:11 AM

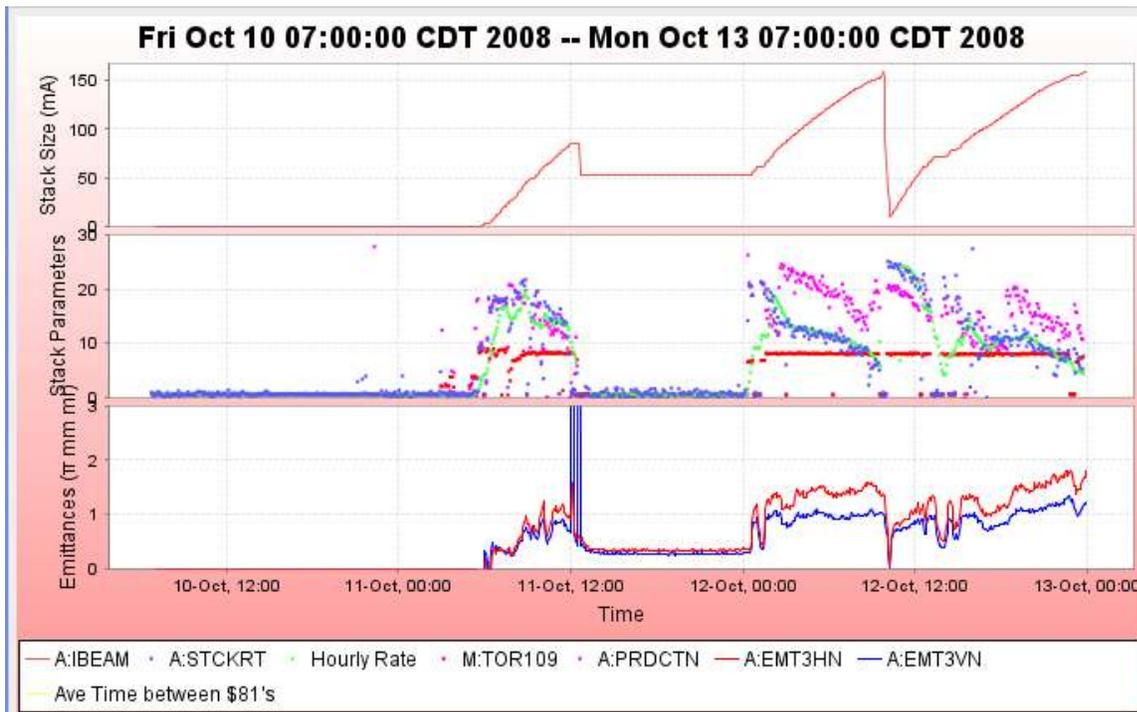
Startup

- Friday Days: Get ready for turn-on.
 - A1S10
 - LCW leak required brazing and new hoses.
 - AP50 AC unit took until the end of day shift to finish up.
 - Experts in place to get DRF back on as quickly as possible after the work was complete.
- Friday evening: Turning-on Pbar.
 - All of the major bus supplies came back with no problems!
 - H926
 - Experts called in. Obie, then EE Support.
 - AP1 trims at F23. New style trims where the bulk supply can appear to be on when the disconnect is off. A configuration control lock was removed and the supply turned on.
 - DRF2 - low level RF parameters were corrupted during the power outage. Needed to be restored. These are non-CAMAC front ends so they would not be covered in a crate restore.
 - Similar restores DRF1 & BPM systems.
 - Vertical damper blow fuse on a low level amp.
- Friday evening: By mid-evening shift we were ready to attempt to establish stacking
 - Li lens tripped off on ground fault indication.
 - Had to pull the blocks.
 - Initial hipot showed a ground fault
 - Separated stripline from the load.
 - Hipot of the load was good
 - Hipot of the stripline was good.
 - Put everything back together and the hipot was good.
- Saturday owl shift
 - Established beam and positioned beam on target for the JASMIN experiment.
 - Resumed stacking.
- Saturday morning
 - Attempted first set of transfers and they failed.
 - Problem was traced to Accumulator RF LLRF VME crate.
 - We had a failure with this crate back on August 19th, and the crate was replaced with a temporary spare from controls.
 - During the shutdown, we swapped this crate to give the temporary crate back.
 - It appears the replacement crate was bad. The +12V power supply had about 10.8 volts of ripple.
 - Replaced the VME crate with another, and all is working again.
 - Greg Vogel points out that the VME crate that we are using is the "hot spare" for the CAMAC front ends, so we will need to find a replacement or buy controls a spare.
- Saturday days
 - Tuned up on stacking.
 - Had to make some big changes to the energy alignment.
 - A:QDF settings were the same, but readbacks came back 0.45A higher. We'll have to look at this closer at some point.
 - D:IKIK failed.

- Module #2 was not firing.
- Could not raise the reservoir voltage anymore, so had to replace the thyatron, but that did not fix the problem.
- Experts replaced the Thyatron, a low voltage PS, an open 10-ohm resistor, and resoldiered a loose pulse connector on top of the tank that apparently pulled loose when the tank work was done..
- The tube started firing; however, there were other trigger problems.
- Actually had to lower the reservoir voltage on module #3
- Still had some sparking in the PFN
- Had to tighten some hose clamps on the PFN cables.
- By midnight Sunday, we were stacking again.

Stacking

- Numbers
 - Best stacking hour over the weekend was 23.7mA.
 - Production 14.36 pbars/E6 protons
 - Stacking to large stacks
- SEM806 controls are broken. It appears that the SEM driver was not loaded after the power outage. We will ask controls experts to do this.



Transfers

- Transfer efficiency was about 90.5% from Accumulator to Recycler.
 - This is fairly close to what is expected when transferring from large stacks.
- Last set 4-8GHz Momentum did not come one, didn't take much beam out per transfer. We'll look into this.
- We do have a larger than normal energy error between the Accumulator and Main Injector.
 - We are having to lower our energy to match
 - The magnitude of the required change on our extraction orbit is on the order of 1Hz.

Column 1 Number _0_Pbar	Column 4 Number_3_Transfer Time	Column 21 Number _20_A:IB	Column 22 Number _21_A:IB	Unstacked (mA)	Column 23 Number _22_R:BE	Column 24 Number _23_R:BE	Stashed	Acc to RR Eff	Column 27 Number _26 _MI DCCT	Column 28 Number _27 _MI Befor	Acc to MI Eff	Acc to MI2 Eff	Tran sfer s	Sets	
	Totals =>	7:00:00 AM		299.00			270.43	90.45%	288.81	287.33	96.59%	96.10%	17	4	
9557	Monday, October 13, 2008	1:33:44 AM	153.39	30.15	123.07	33.97	143.42	110.69	89.94%	118.33	117.70	96.15%	95.63%	6	1
9556	Sunday, October 12, 2008	9:51:44 AM	152.47	9.36	143.05	28.89	156.66	129.48	90.51%	138.07	137.39	96.52%	96.05%	8	1
9555	Saturday, October 11, 2008	12:38:41 PM	84.79	51.94	32.85	-0.16	30.12	30.28	92.17%	32.26	32.02	98.20%	97.47%	1	1
9554	Saturday, October 11, 2008	12:08:18 PM	84.51	84.52	-0.01	-0.16	-0.18	-0.02	340.00%	0.02	0.18	-360.00%	#####	1	0
9553	Saturday, October 11, 2008	9:18:12 AM	50.13	50.10	0.03	-0.11	-0.11	0.00	12.12%	0.13	0.04	384.85%	112.12%	1	1

Requests

- Transfer Function measurement of Core Vertical systems (that received a new equalizer). This is only a 15-20 minute interruption in stacking. We normally like to do this with smaller stacks, but actually did the measurement before the shutdown (before the equalizer change) with 90mA.
- Work on stacking and transfers.

The Numbers

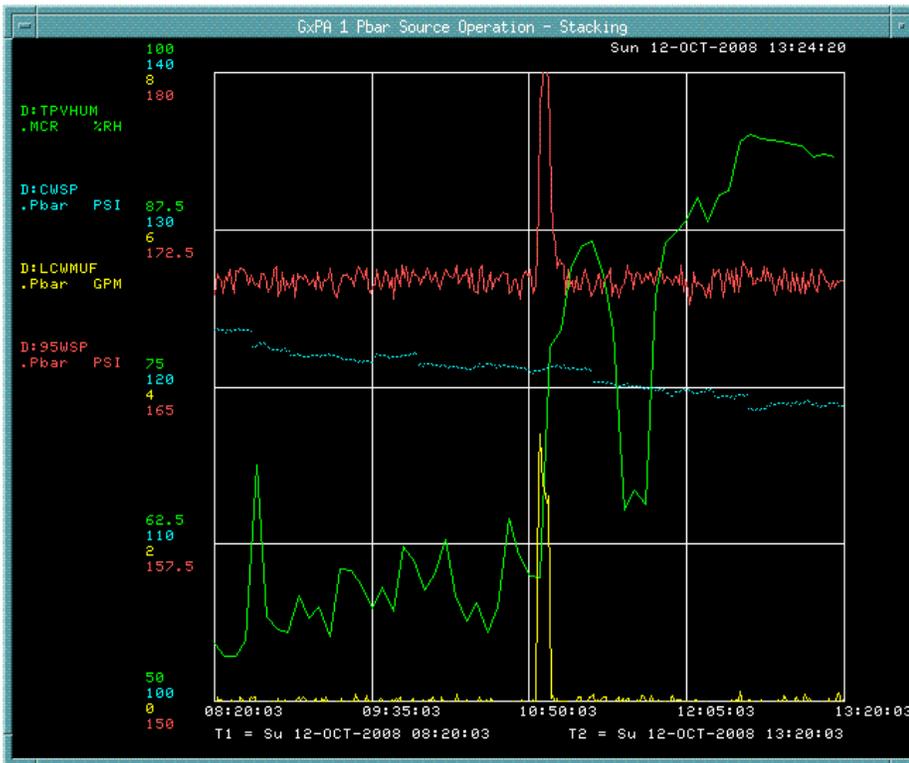
- Al's Numbers
 - Stacking
 - Pbars stacked: 395.82 E10
 - Time stacking: 40.94 Hr
 - Average stacking rate: 09.67 E10/Hr
 - Uptime
 - Number of pulses while in stacking mode: 46074
 - Number of pulses with beam: 38094
 - Fraction of up pulses was: 82.68%
 - The uptime's effect on the stacking numbers
 - Corrected time stacking: 33.85 Hr
 - Possible average stacking rate: 11.69 E10/Hr
 - Could have stacked: 478.74 E10/Hr
 - Recycler Transfers
 - Pbars sent to the Recycler: 299.01 E10
 - Number of transfers : 17
 - Number of transfer sets: 5
 - Average Number of transfer per set: 3.40
 - Time taken to shoot including reverse proton tuneup: 00.12 Hr
 - Transfer efficiency: 86.87%
 - Other Info
 - Average POT : 7.24 E12
 - Average production: 14.36 pbars/E6 protons
- Paul's Numbers
 - Friday
 - Stacking in last 24 hours
 - Most in an hour: 10.43 mA at Sat Oct 11 06:52:48 CDT 2008
 - Best: 27.01 mA on 03-Jun-08
 - Average Production 12.02 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
 - Average Protons on Target 7.46 e12 Best: 8.77 e12 on 07/24/2007
 - Largest Stack .00 mA Best: 313.58 mA on 02/18/2008

- Largest Stack .00 mA Best: 313.58 mA on 02/18/2008
- Saturday
 - Stacking in last 24 hours
 - Most in an hour: 18.66 mA at Sat Oct 11 09:03:39 CDT 2008
 - Best: 27.01 mA on 03-Jun-08
 - Average Production 16.57 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
 - Average Protons on Target 7.19 e12 Best: 8.77 e12 on 07/24/2007
 - Largest Stack 131.15 mA Best: 313.58 mA on 02/18/2008
- Sunday
 - Most in an hour: 23.70 mA at Sun Oct 12 11:17:39 CDT 2008
 - Best: 27.01 mA on 03-Jun-08
 - Average Production 13.58 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
 - Average Protons on Target 7.27 e12 Best: 8.77 e12 on 07/24/2007
 - Largest Stack 159.35 mA Best: 313.58 mA on 02/18/2008

○ **MISC**

Humidities near IB1 in transport jumped quite a bit at about 1100.

Pasted from <<http://www-bd.fnal.gov/cgi-mcr/elog.pl?nb=2008&action=view&page=776&frame=2&anchor=&hilit=>>>



Pasted from <[http://www-bd.fnal.gov/cgi-mcr/elog.pl?nb=2008&action=view&page=-6039&button=yes">](http://www-bd.fnal.gov/cgi-mcr/elog.pl?nb=2008&action=view&page=-6039&button=yes)>