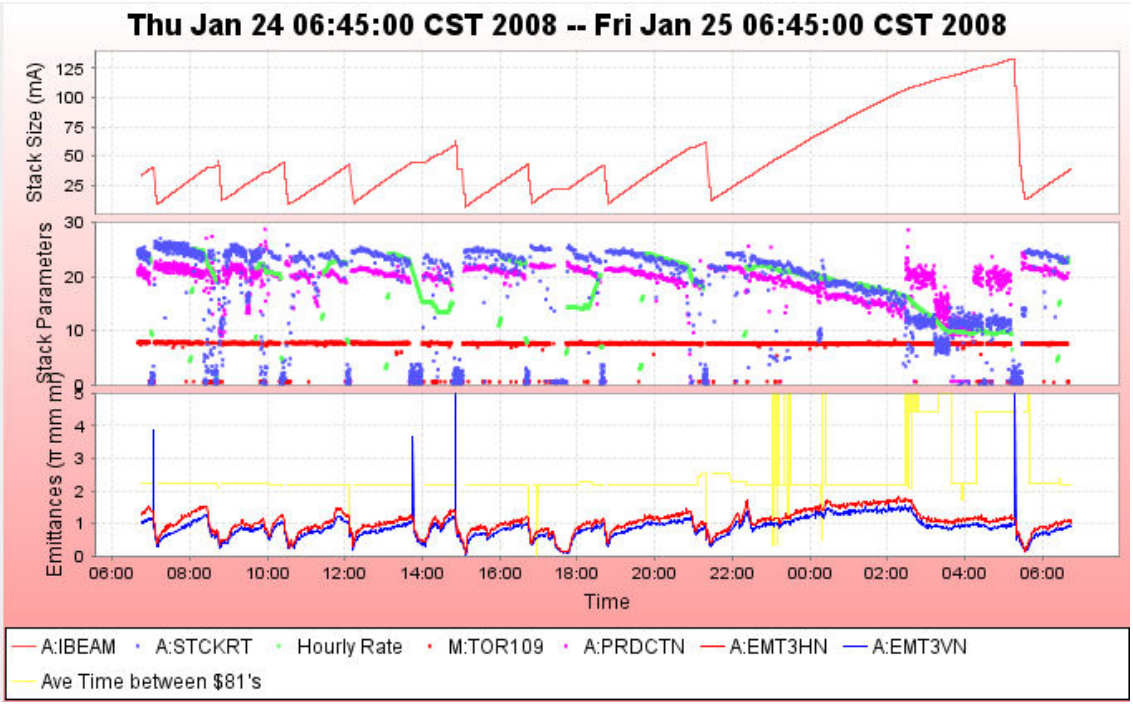
2008-01-25 Friday Morning Summary

Friday, January 25, 2008
7:00 AM

Stacking

- We ran ten turns and beam on target slowly drifted downward from 7.15e12 to 7.05e12 in the last 24 hours. Slip stacking efficiency was 90 to 91% throughout.
- Our best stacking hour was 24.57mA, which is our second best. (Best was January 9th with 24.69mA). A reminder that the number reported yesterday 24.9mA was artificially high.
- We stacked a total of 420.38mA.
- Our average production efficiency was 15.64e-6/proton, brought down a little by the 133mA stack on the owl shift.
- We had further difficulties with DRF1-7.
  - The ENI blew a fuse.
  - Recall, we had recently replaced the ENI because it was blowing fuses.
  - Two suspect problems.
    - Underrated fuse (12 instead of 15).
    - Capacitors were going bad and running hot. They can replace the capacitors with new ones that run cooler.
  - May also have to do the same thing to the new ENI.
- 

Transfers

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- 13:35:23- Recycler shot setup. - DJC
  -- Thu Jan 24 14:23:13 comment by...DJC -- Recycler shots were abandoned due to the damper issues experienced.
  Pasted from <http://www-bd.fnal.gov/cgi-mcr/elog.pl?nb=2008&action=view&page=last&frame=2&scroll=true>
- We unstacked a total of 416mA from the Accumulator and 404e10 made it to the recycler in 30 transfers in nine sets.
- Total Accumulator to Main Injector efficiency was 97%, and Accumulator to Recycler efficiency was 95%. Overall efficiency numbers were brought down by the 7 transfer set from 132mA (transfer 6962) as well as the transfer with the MI collimator study (6958).

(6958).

Column 1 Pbar Transfer Shot #	Column 2 Recycler Shot #	Column 4 Transfer Time		Column 21 A:IBEAMB sampled on $91 (A:IBEAM1), E10	Column 22 A:IBEAMB sampled on $94 (A:IBEAM2), E10	Unstacked (mA)	Column 23 R:BEAMS (R:BEAM E0[0]) pre xfer E10	Column 24 R:BEAM (R:BEAM E0[1]) post xfer, E10	Stashed	Acc to RR Eff	Column 27 MI DCCT SMALL BEAM (I:BEAMS), E10	Column 28 MI Before Extraction (I:BEAM6), E10	Acc to MI Eff	Acc to MI2 Eff	Transfers	Sets
		1/24/2008	7:00:00 AM			415.998			396.23	0.95	403.665	403.415	97.04%	96.98%	30	9
6962	4421	Friday, January 25, 2008	5:17:02 AM	132.788	13.188	119.600	20.029	128.912	108.88	0.91	115.168	114.820	96.29%	96.00%	7	1
6961	4418	Thursday, January 24, 2008	9:19:55 PM	62.188	11.988	50.200	383.598	433.308	49.71	0.99	48.612	47.473	96.84%	94.57%	3	1
6960	4417	Thursday, January 24, 2008	6:41:14 PM	42.188	9.188	33.000	361.790	395.031	33.24	1.01	31.849	32.899	96.51%	99.69%	3	1
6959	4416	Thursday, January 24, 2008	4:44:25 PM	42.787	9.988	32.799	334.990	367.861	32.87	1.00	31.950	32.413	97.41%	98.82%	3	1
6958	4415	Thursday, January 24, 2008	2:52:44 PM	59.387	7.188	52.199	291.161	339.322	48.16	0.92	51.368	51.053	98.41%	97.80%	3	1
6956	4413	Thursday, January 24, 2008	12:07:50 PM	42.588	9.988	32.600	264.064	296.015	31.95	0.98	31.615	31.181	96.98%	95.65%	3	1
6955	4412	Thursday, January 24, 2008	10:26:15 AM	44.588	9.788	34.800	233.499	267.088	33.59	0.97	33.793	33.820	97.11%	97.18%	3	1
6954	4411	Thursday, January 24, 2008	8:45:33 AM	41.988	12.588	29.400	206.854	235.198	28.34	0.96	28.742	29.906	97.76%	101.72%	2	1
6953	4410	Thursday, January 24, 2008	7:05:01 AM	40.388	8.988	31.400	179.077	208.554	29.48	0.94	30.568	29.850	97.35%	95.06%	3	1

- **Studies Requests**: Since we are low on Pbars today, we don't expect to get study time, but we have a couple studies waiting in the queue...
  - Debuncher Tune exploration. This is about a 15 minute interruption in stacking. Experts are ready today. If no study time is available, experts could come in on Sunday. Jim Morgan will be doing this study.
  - Characterize Debuncher cooling systems: This is a one hour study with 4 second or longer cycle time. Experts will look at one band at a time, so there would be very little stacking during this time. We would like to get this study done in about one weeks' time. Experts could complete this study today or early next week. Ralph Pasquinelli and Steve Werkema will be doing this study.
  - Continued one shot reverse proton studies during stacking. This is a minimal impact to stacking and the expert wants to work on this over the weekend. Dave Vander Meulen will be doing this study.
- Other
  - Paul's Numbers
    - Most in an hour: 24.57 mA at Thu Jan 24 08:10:23 CST 2008
    - Best: 24.90 mA on 24-Jan-08
    - Average Production 15.64 e-6/proton Best: 23.53 e-6/proton on 11/11/2007
    - Average Protons on Target 6.87 e12 Best: 8.77 e12 on 07/24/2007
    - Largest Stack 133.11 mA Best: 271.01 mA on 11/14/2007
  - Al's Numbers
    - Stacking
      - Pbars stacked: 420.38 E10
      - Time stacking: 22.07 Hr
      - Average stacking rate: 19.05 E10/Hr
    - Uptime
      - Number of pulses while in stacking mode: 33803
      - Number of pulses with beam: 31766
      - Fraction of up pulses was: 93.97%
    - The uptime's effect on the stacking numbers
      - Corrected time stacking: 20.74 Hr
      - Possible average stacking rate: 20.27 E10/Hr
    - Recycler Transfers
      - Pbars sent to the Recycler: 415.53 E10
      - Number of transfers : 31
      - Number of transfer sets: 10
      - Average Number of transfer per set: 3.10
      - Time taken to shoot: 01.83 Hr
      - Time per set of transfers: 10.99 min

- Transfer efficiency: 114.36%
- Other Info
  - Average POT : 7.08 E12
  - Average production: 18.70 pbars/E6 protons