2011-09-26 Monday Tuning and Operations

Monday, September 26, 2011
7:54 AM

Operational Notes

- D:VS904 too close to 30A on reverse proton tune-up. Had to compensate with D:V901 and D:VS901.
- D:PMWM1 in alarm. Flaky readback, as supply and return pressures normal. Bypassed alaram.
- A:CMTW02 off and supply making thumping sound. Power cycled front panel breaker and all is better
- ARF1 trip (http://www-bd.fnal.gov/cgi-mcr/elog.pl?nb=2011&action=view&page=726&anchor=153151&hilite=15:31:51-)
- F23 service building too hot. No portable available, so door left open
- Sunday owls: A:EKIK clipping bunch #4. Decreased A:EKIKM1 by 10nsec.
- Saturday NuMI turned back on after completing a target change

Numbers

- Stacking
  - Pbars stacked: 1656.93 E10
  - Time stacking: 69.27 Hr
  - Average stacking rate: 23.92 E10/Hr

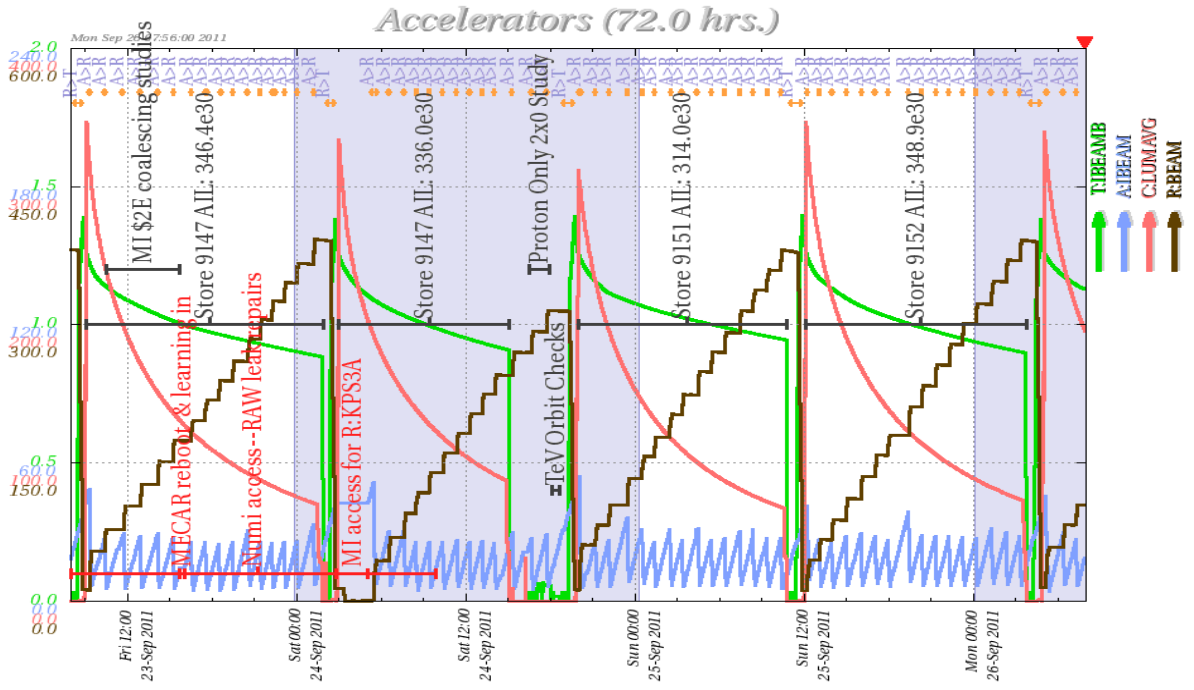
- Uptime
  - Number of pulses while in stacking mode: 104130
  - Number of pulses with beam: 100404
  - Fraction of up pulses was: 96.42%

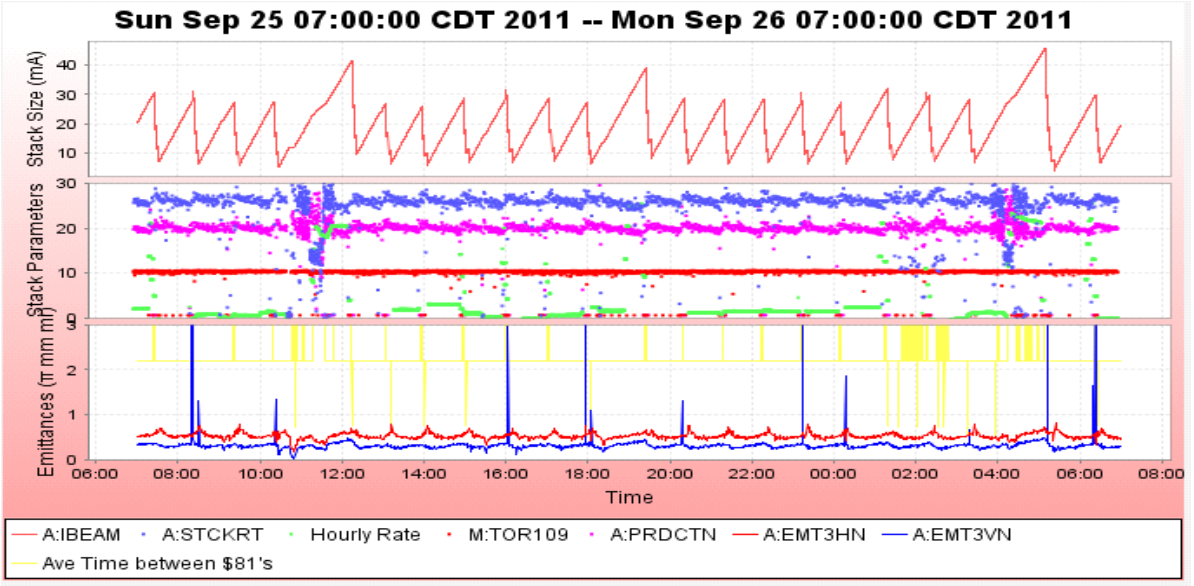
- The uptime's effect on the stacking numbers
  - Corrected time stacking: 66.79 Hr
  - Possible average stacking rate: 24.81 E10/Hr
  - Could have stacked: 1718.42 E10/Hr

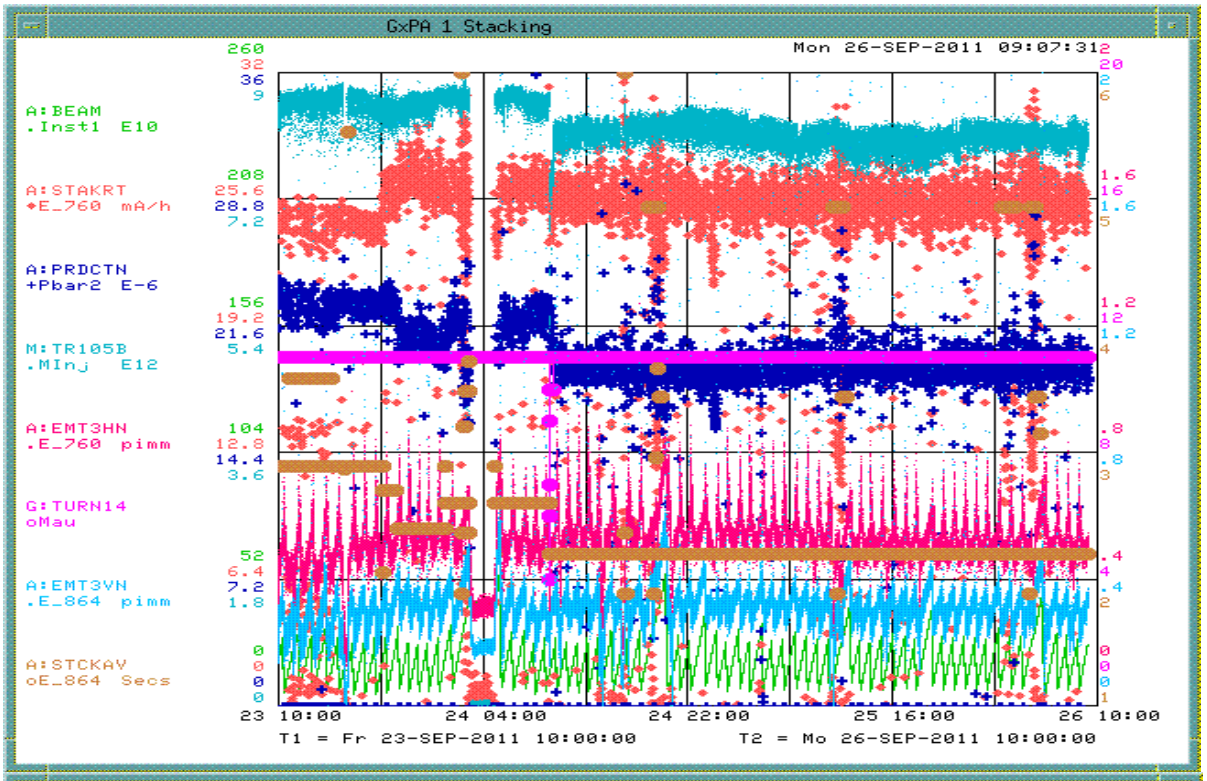
- Recycler Transfers
  - Pbars sent to the Recycler: 1648.35 E10
  - Number of transfers : 194
  - Number of transfer sets: 63
  - Average Number of transfer per set: 3.08
  - Time taken to shoot including reverse proton tuneup: 00.68 Hr
  - Transfer efficiency: 95.07%

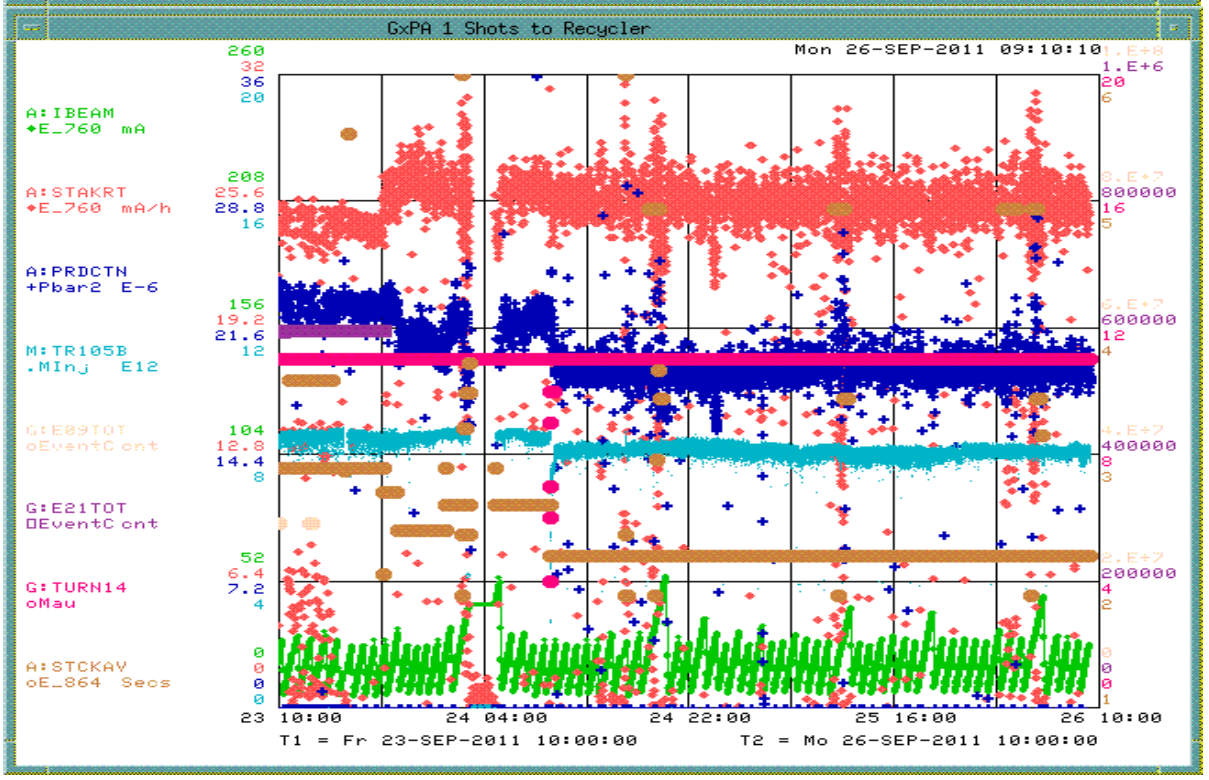
- Other Info
  - Average POT : 8.24 E12
  - Average production: 20.04 pbars/E6 protons

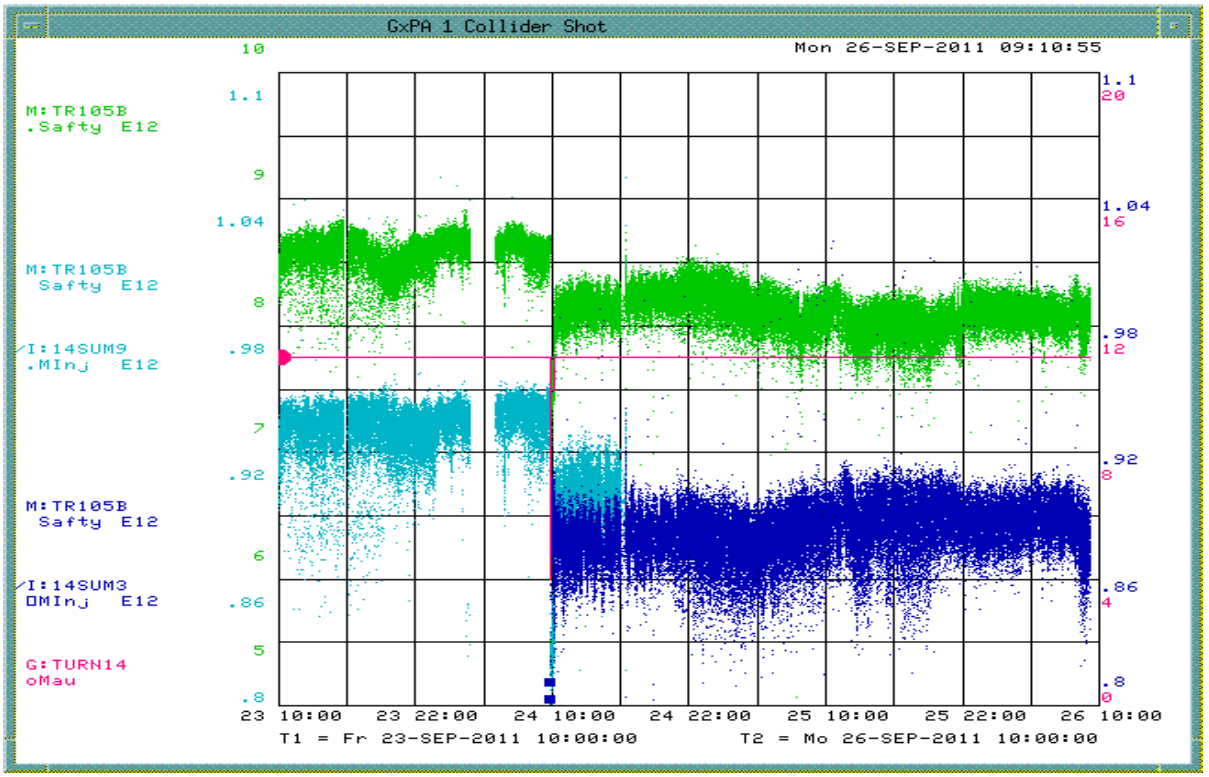
Plots


Accelerators (72.0 hrs.)
MI $2E coalescing studies
Store 9147 AIL: 346.4e30
MECAR reboot & learning in
Numi access--RAW lead repairs
Store 9147 AIL: 336.0e30
MI access for R:KP83A
Proton Only 2x0 Study
TeV Orbit Checks
Store 9151 AIL: 314.0e30
Store 9152 AIL: 348.9e30
T:IBEAMB
A:IBEAM
CLUMAVG
R:BEAM
Fri 12:00 23-Sep 2011
Sat 00:00 24-Sep 2011
Sat 12:00 24-Sep 2011
Sun 00:00 25-Sep 2011
Sun 12:00 25-Sep 2011
Mon 00:00 26-Sep 2011

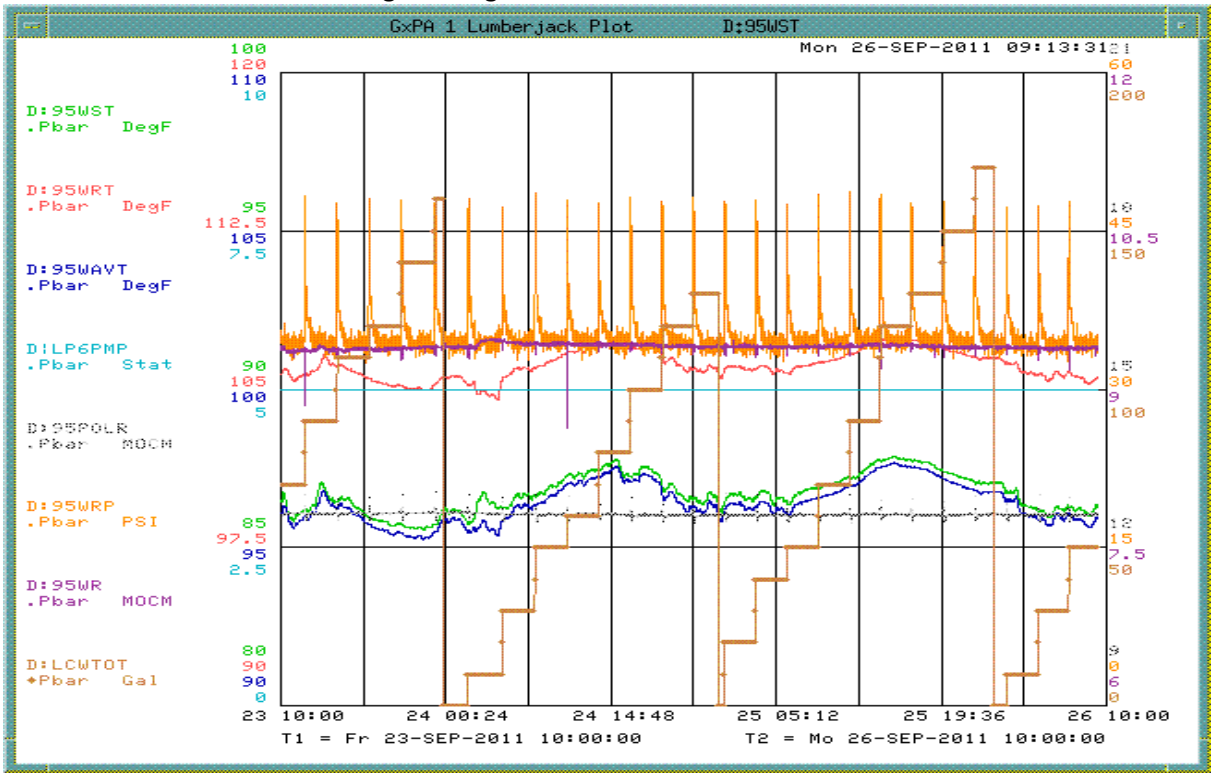

Sun Sep 25 07:00:00 CDT 2011 -- Mon Sep 26 07:00:00 CDT 2011
Stack Size (mA)
Stack Parameters
Emittances (π mm mr)
Time
A:IBEAM
A:STCKRT
Hourly Rate
M:TOR109
A:PRDCTN
A:EMT3HN
A:EMT3VN
Ave Time between $81's


GxPA 1 Stacking
Mon 26-SEP-2011 09:07:31
A:BEAM
.Inst1 E10
A:STAKRT
+E_760 mA/h
A:PRDCTN
+Pbar2 E-6
M:TR105B
.MInj E12
A:EMT3HN
.E_760 pimm
G:TURN14
oMau
A:EMT3VN
.E_864 pimm
A:STCKAV
oE_864 Secs
23 10:00
24 04:00
24 22:00
25 16:00
26 10:00
T1 = Fr 23-SEP-2011 10:00:00
T2 = Mo 26-SEP-2011 10:00:00

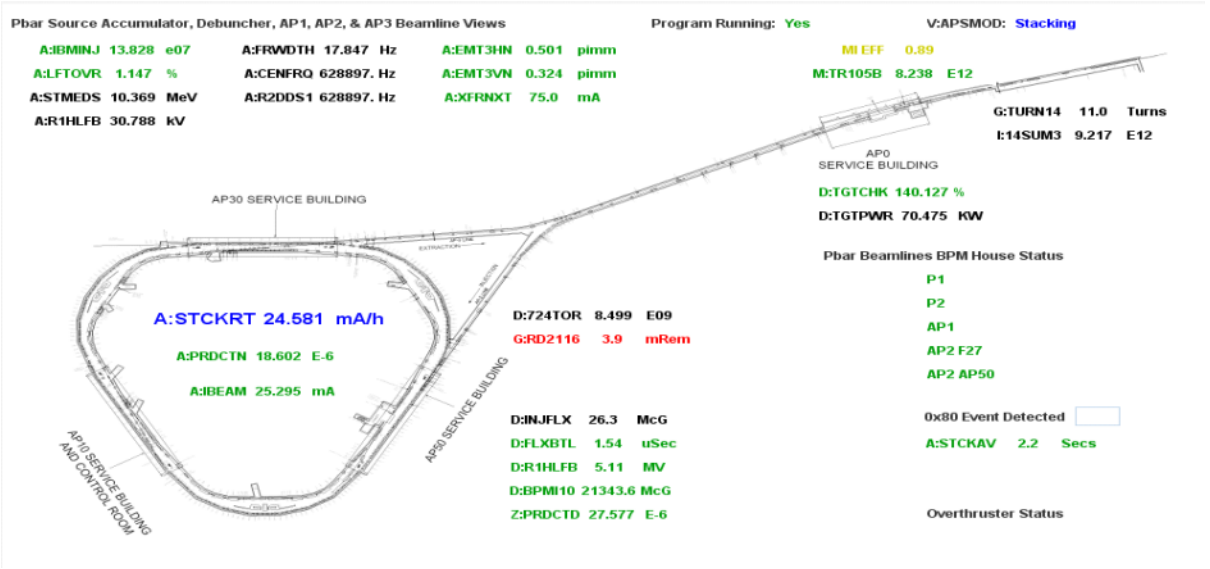

GxPA 1 Shots to Recycler
Mon 26-SEP-2011 09:10:10
A:IBEAM
+E_760 mA
A:STAKRT
+E_760 mA/h
A:PRDCTN
+Pbar2 E-6
M:TR105B
.MInj E12
G:E09TOT
oEventC ont
G:E21TOT
□EventC ont
G:TURN14
oMau
A:STCKAV
oE_864 Secs
23 10:00
24 04:00
24 22:00
25 16:00
26 10:00
T1 = Fr 23-SEP-2011 10:00:00
T2 = Mo 26-SEP-2011 10:00:00



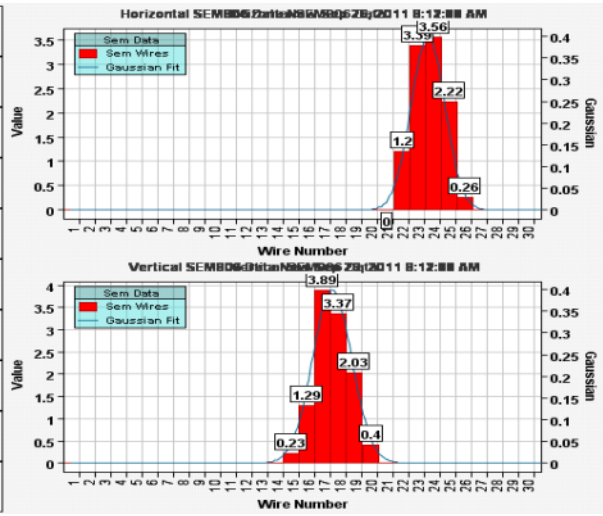
NuMI turned back on after a target change

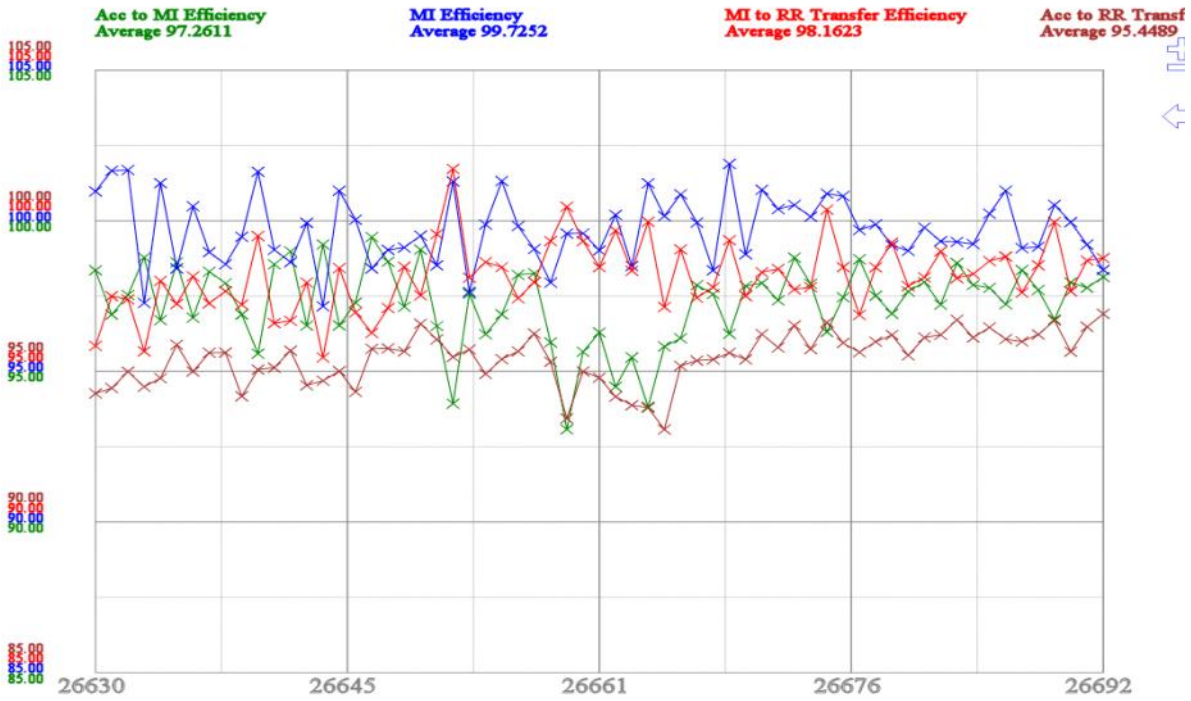


LCW leak continues

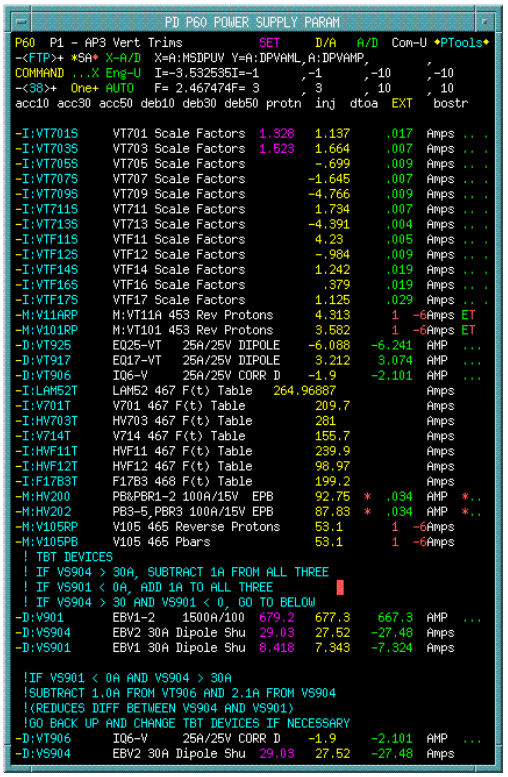


Horizontal Area New	10.64	Intensity
Horizontal Area Calc	188.72	Intensity
Horizontal Sigma New	2.99	mm
Horizontal Sigma Calc	2.83	mm
Horizontal Mean	26.14	mm
Vertical Area New	11.21	Intensity
Vertical Area Calc	193.94	Intensity
Vertical Sigma New	3.24	mm
Vertical Sigma Calc	3.04	mm
Vertical Mean	7.84	mm





Column 1 Number_0_Pbar Transfer Shot #	Column 4 Number_3_Transfer Time		Column 21 Number_20_A:I BEAMB sampled on $91 (A:BEAM7), E10	Column 22 Number_21_A:I BEAMB sampled on $94 (A:BEAM9), E10	Unstacked (mA)	Column 23 Number_22_R:BEAMS (R:BEAME0[0]) pre xfer E10	Column 24 Number_23_R:BEAM (R:BEAME0[1]) post xfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Acc to MI * Acc to MI2 Efficiency	Transfers	Sets	Column 5 Number_4_Acc Horizontal Emittance	Column 6 Number_5_Acc Vertical Emittance	Column 8 Number_7_Acc Longitudinal Emittance
	Totals =>				1657.49			1579.67	95.30%	97.26%	97.11%	94.46%	195	63	5.3282	3.1023	1.9703
	Daily Average =>				552.50			526.56					65	21			
26692	Monday, September 26, 2011	7:17	27.07	6.65	22.94	82.61	104.64	22.21	96.81%	97.78%	97.14%	94.98%	3	1	5.263	2.99	2.063
26691	Monday, September 26, 2011	6:23	29.97	6.88	25.60	58.33	82.85	24.69	96.46%	97.99%	97.62%	95.65%	3	1	5.186	3.115	1.997
26690	Monday, September 26, 2011	5:09	45.92	4.29	45.89	15.15	58.52	43.76	95.34%	98.17%	98.43%	96.63%	5	1	5.544	3.226	1.985
26689	Monday, September 26, 2011	3:18	28.59	6.99	24.17	369.47	392.37	23.41	96.84%	96.93%	97.61%	94.61%	3	1	5.278	2.881	1.981
26688	Monday, September 26, 2011	2:19	29.82	7.13	25.26	346.66	370.53	24.30	96.20%	98.24%	97.66%	95.94%	3	1	5.211	3.266	1.983
26687	Monday, September 26, 2011	1:18	32.27	7.60	27.20	322.16	347.77	26.08	95.89%	97.97%	97.53%	95.55%	3	1	5.574	3.41	1.968
26686	Monday, September 26, 2011	0:10	27.47	6.54	23.53	300.78	323.14	22.59	96.03%	97.36%	98.01%	95.43%	3	1	5.149	2.96	1.985
26685	Sunday, September 25, 2011	23:14	28.00	6.43	24.06	278.73	301.67	23.18	96.34%	97.83%	97.90%	95.78%	3	1	5.009	2.9	1.973
26684	Sunday, September 25, 2011	22:17	28.59	6.99	24.16	256.18	279.14	23.25	96.21%	98.36%	97.77%	96.16%	3	1	5.247	3.136	1.984
26683	Sunday, September 25, 2011	21:18	28.30	6.55	24.27	233.48	256.70	23.44	96.59%	98.14%	97.82%	96.01%	3	1	5.214	2.926	1.983
26682	Sunday, September 25, 2011	20:20	28.65	6.60	24.27	210.86	234.04	23.39	96.38%	97.75%	96.92%	94.74%	3	1	5.088	2.916	1.973
26681	Sunday, September 25, 2011	19:25	39.28	8.20	33.19	179.90	211.42	31.83	95.89%	97.79%	97.88%	95.72%	3	1	5.442	3.36	1.948
26680	Sunday, September 25, 2011	17:57	27.28	6.60	23.24	158.37	180.51	22.27	95.82%	97.81%	96.54%	94.43%	3	1	5.14	2.759	2.014
26679	Sunday, September 25, 2011	17:03	28.97	7.18	24.42	135.27	158.56	23.48	96.17%	97.10%	97.08%	94.27%	3	1	5.262	3.125	2.008
26678	Sunday, September 25, 2011	16:02	29.66	6.67	25.48	111.20	135.44	24.50	96.17%	98.08%	97.50%	95.62%	3	1	5.161	3.013	2.037
26677	Sunday, September 25, 2011	14:58	28.70	6.62	24.61	87.97	111.40	23.56	95.72%	98.78%	98.44%	97.24%	3	1	5.324	3.039	1.979
26676	Sunday, September 25, 2011	13:57	25.97	5.90	22.60	66.63	88.17	21.65	95.80%	97.82%	98.61%	96.46%	3	1	4.865	2.931	1.972
26675	Sunday, September 25, 2011	13:04	27.20	6.41	23.38	44.50	66.81	22.57	96.54%	96.91%	97.54%	94.53%	3	1	5.19	2.86	1.987
26674	Sunday, September 25, 2011	12:14	41.67	9.45	34.62	12.01	44.71	33.04	95.46%	97.96%	98.09%	96.09%	3	1	5.658	3.744	1.94
26673	Sunday, September 25, 2011	10:19	27.35	5.49	24.01	358.71	381.44	23.15	96.41%	98.86%	99.34%	98.21%	3	1	4.976	2.836	1.955
26672	Sunday, September 25, 2011	9:22	27.57	5.97	23.97	337.30	359.82	22.95	95.75%	97.43%	97.57%	95.06%	3	1	5.05	3.019	1.983
26671	Sunday, September 25, 2011	8:23	28.83	6.47	24.87	314.73	338.25	23.91	96.15%	98.25%	99.23%	97.49%	3	1	5.396	3.189	1.975
26670	Sunday, September 25, 2011	7:25	30.67	7.18	25.97	291.14	315.52	24.76	95.34%	97.68%	96.92%	94.67%	3	1	5.421	3.163	1.984
26669	Sunday, September 25, 2011	6:21	27.67	6.56	23.65	269.80	291.98	22.56	95.38%	96.48%	97.79%	94.35%	3	1	5.53	3.125	1.98
26668	Sunday, September 25, 2011	5:23	27.12	6.42	23.26	248.73	270.60	22.17	95.30%	97.10%	96.24%	93.45%	3	1	5.24	3.14	1.966
26667	Sunday, September 25, 2011	4:29	31.58	6.86	27.25	223.87	249.52	25.91	95.07%	98.09%	97.24%	95.38%	3	1	5.514	3.378	1.954
26666	Sunday, September 25, 2011	3:21	26.55	6.17	22.95	202.71	224.43	21.85	95.17%	96.05%	96.78%	92.96%	3	1	5.534	3.099	1.953
26665	Sunday, September 25, 2011	2:28	31.36	7.17	26.72	178.27	203.03	24.73	92.56%	95.87%	95.77%	91.81%	3	1	5.479	3.206	1.953
26664	Sunday, September 25, 2011	1:22	26.23	6.16	22.67	157.07	178.39	21.26	93.82%	93.98%	94.98%	89.26%	3	1	5.207	3.055	1.979
26663	Sunday, September 25, 2011	0:30	31.23	7.70	26.03	132.85	157.20	24.46	93.98%	95.53%	94.53%	90.30%	3	1	5.253	3.05	1.968
26662	Saturday, September 24, 2011	23:28	36.99	8.44	30.98	104.10	133.03	29.14	94.07%	94.87%	95.12%	90.24%	3	1	5.723	3.438	1.959
26661	Saturday, September 24, 2011	22:08	27.07	6.40	23.22	82.71	104.34	21.97	94.61%	95.87%	95.71%	91.76%	3	1	5.769	3.24	1.97
26660	Saturday, September 24, 2011	21:12	26.83	6.29	23.08	60.86	82.74	21.93	95.02%	95.59%	95.49%	91.27%	3	1	5.612	3.111	2
26659	Saturday, September 24, 2011	20:03	54.26	5.71	53.45	12.30	61.27	49.55	92.71%	93.92%	93.17%	87.50%	5	1	6.282	3.866	1.968
26658	Saturday, September 24, 2011	17:43	29.08	6.46	25.12	292.26	315.91	23.88	95.06%	95.73%	94.70%	90.65%	3	1	5.657	3.016	1.979
26657	Saturday, September 24, 2011	16:38	27.55	5.08	24.39	269.80	292.89	23.42	96.03%	97.97%	97.06%	95.09%	3	1	5.114	2.766	1.959
26656	Saturday, September 24, 2011	15:20	30.22	5.25	26.87	245.21	270.58	25.60	95.28%	97.71%	97.59%	95.36%	3	1	4.977	2.987	1.918
26655	Saturday, September 24, 2011	14:02	25.59	5.68	22.44	224.55	245.75	21.44	95.51%	96.90%	97.87%	94.84%	3	1	5.505	3.148	1.988
26654	Saturday, September 24, 2011	13:09	26.02	5.84	22.79	203.46	224.98	21.72	95.32%	96.46%	97.12%	93.69%	3	1	5.454	2.961	1.968
26653	Saturday, September 24, 2011	12:15	25.79	5.71	22.62	182.47	203.93	21.60	95.50%	97.63%	95.74%	93.47%	3	1	5.667	3.211	1.97
26652	Saturday, September 24, 2011	11:21	26.57	6.12	23.02	160.83	182.67	21.96	95.41%	94.84%	96.29%	91.33%	3	1	5.404	3.023	1.988
26651	Saturday, September 24, 2011	10:22	26.13	5.70	23.02	139.33	161.11	22.11	96.04%	96.53%	95.53%	92.22%	3	1	5.171	2.99	1.971
26650	Saturday, September 24, 2011	9:24	25.79	5.87	22.99	117.82	139.48	22.16	96.38%	98.55%	98.68%	97.25%	3	1	4.782	2.862	1.964
26649	Saturday, September 24, 2011	8:28	25.96	4.87	23.64	95.30	117.82	22.61	95.65%	97.21%	96.66%	93.96%	3	1	4.614	2.715	1.94
26648	Saturday, September 24, 2011	7:37	31.22	6.99	27.34	69.42	95.40	26.22	95.91%	98.37%	97.63%	96.04%	3	1	5.351	3.051	1.998
26647	Saturday, September 24, 2011	6:32	30.61	6.76	26.89	43.90	69.67	25.77	95.83%	99.29%	98.22%	97.52%	3	1	5.401	3.226	1.965
26646	Saturday, September 24, 2011	5:28	51.88	7.66	47.87	0.64	44.49	45.06	94.13%	97.38%	97.28%	94.73%	4	1	6.431	4.201	1.938
26645	Saturday, September 24, 2011	1:11	33.64	7.27	29.45	365.69	393.07	27.93	94.86%	96.45%	97.18%	93.73%	3	1	5.346	3.377	1.953
26644	Saturday, September 24, 2011	0:00	26.44	5.93	23.05	345.47	367.06	21.89	94.95%	98.91%	96.49%	95.44%	3	1	5.527	3.031	1.982
26643	Friday, September 23, 2011	23:07	26.01	5.88	22.71	325.31	346.51	21.52	94.74%	96.83%	96.85%	93.78%	3	1	5.228	3.148	1.99
26642	Friday, September 23, 2011	22:15	25.50	5.94	22.17	305.27	326.17	21.19	95.57%	98.57%	97.47%	96.08%	3	1	5.128	3.013	1.984
26641	Friday, September 23, 2011	21:23	25.99	5.72	22.82	284.55	306.08	21.76	95.36%	97.81%	97.50%	95.37%	3	1	5.451	3.333	1.986
26640	Friday, September 23, 2011	20:33	30.98	6.92	26.63	260.35	285.20	25.26	94.86%	96.03%	97.27%	93.41%	3	1	5.812	3.364	1.936
26639	Friday, September 23, 2011	19:27	25.82	5.33	22.98	239.32	260.86	21.69	94.35%	97.08%	96.81%	93.98%	3	1	5.329	2.897	1.928
26638	Friday, September 23, 2011	18:29	25.11	4.91	22.66	218.39	239.65	21.66	95.55%	97.54%	96.44%	94.07%	3	1	5.421	2.743	1.949
26637	Friday, September 23, 2011	17:31	25.88	4.89	23.47	196.34	218.61	22.43	95.56%	98.43%	97.70%	96.16%	3	1	5.299	2.857	1.95
26636	Friday, September 23, 2011	16:31	25.91	4.66	23.51	174.36	196.51	22.37	95.16%	96.90%	97.14%	94.13%	3	1	4.797	2.802	1.929
26635	Friday, September 23, 2011	15:14	27.85	5.52	24.81	151.43	175.06	23.79	95.92%	98.39%	97.81%	96.23%	3	1	4.856	2.957	1.918
26634	Friday, September 23, 2011	14:09	29.74	5.74	26.56	126.75	151.71	25.14	94.63%	96.74%	97.52%	94.34%	3	1	5.349	3.088	1.952
26633	Friday, September 23, 2011	12:55	28.81	5.66	25.66	103.11	127.01	24.27	94.60%	98.42%	96.48%	94.96%	3	1	4.851	3.047	1.962
26632	Friday, September 23, 2011	11:44	29.72	5.63	26.61	78.02	103.17	25.24	94.84%	97.65%	98.41%	96.09%	3	1	5.159	2.95	1.926
26631	Friday, September 23, 2011	10:23	27.88	5.38	25.03	54.54	78.10	23.72	94.75%	97.22%	97.62%	94.91%	3	1	5.002	2.621	1.967
26630	Friday, September 23, 2011	9:18	48.89	6.59	45.44	12.35	54.72	42.80	94.19%	97.90%	98.59%	96.52%	4	1	5.802	3.59	1.967



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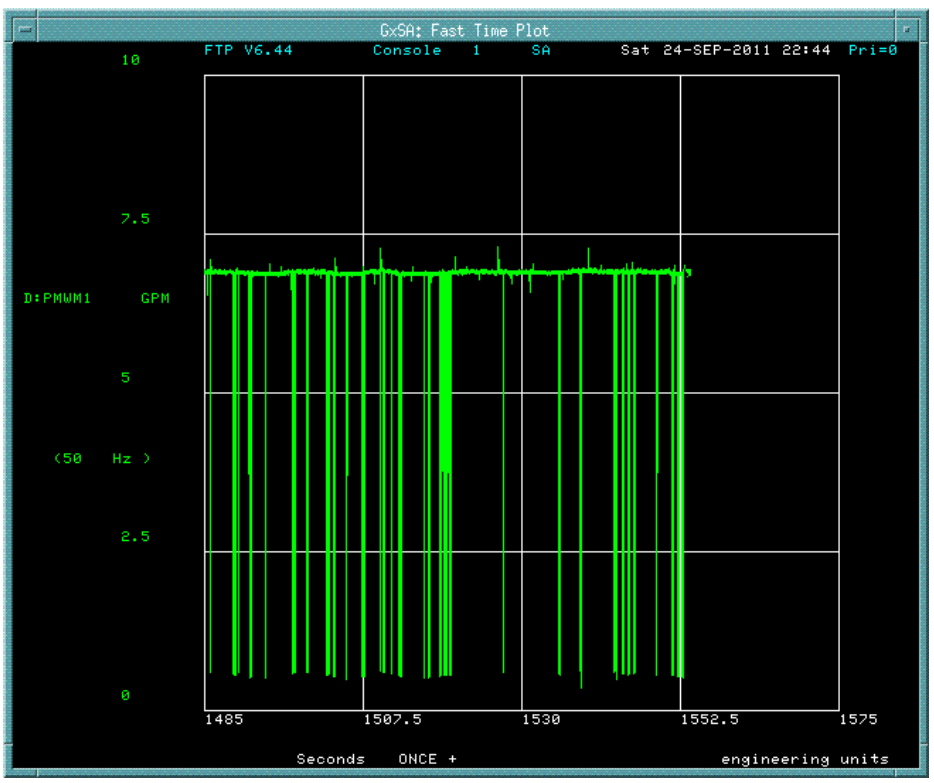
PD P60 POWER SUPPLY PARAM
P60  P1 - AP3 Vert Trims          SET     D/A   A/D  Com-U ♦PTools♦
-<FTP>+ *SA♦ X-A/D  X=A:MSDPUV Y=A:DPVAML,A:DPVAMP,
COMMAND ...X Eng-U  I=-3.532535I=-1      ,-1      ,-10     ,-10
-<38>+  One+ AUTO   F= 2.467474F= 3      ,3       ,10      ,10
acc10 acc30 acc50 deb10 deb30 deb50 protn  inj  dtoa  EXT  bostr

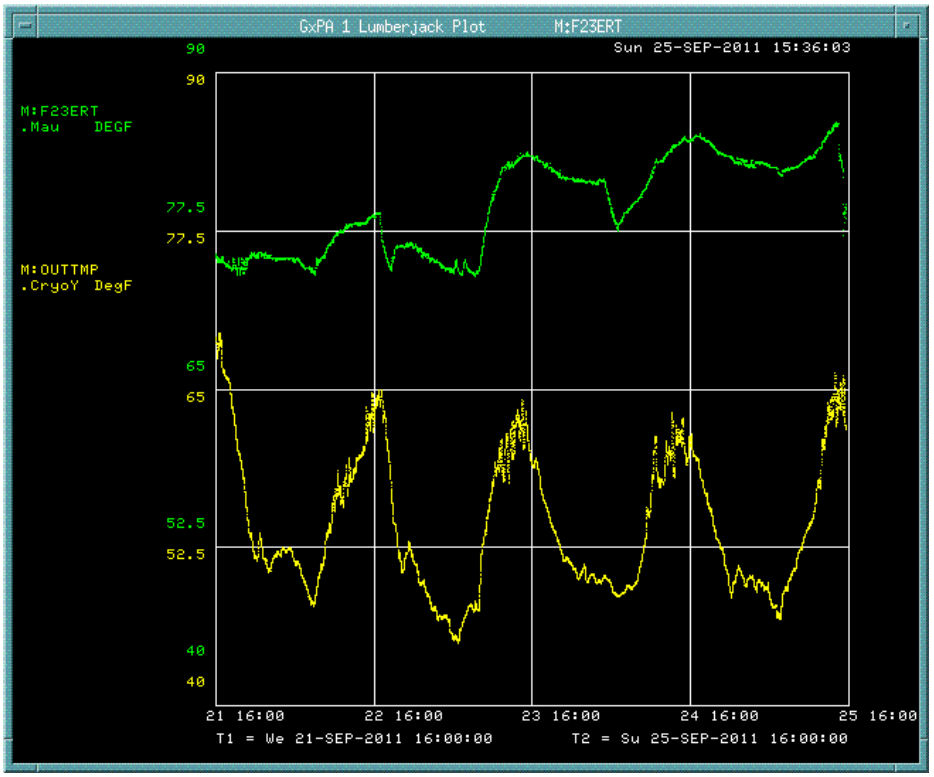
-I:VT701S     VT701 Scale Factors  1.328   1.137     .017  Amps .. .
-I:VT703S     VT703 Scale Factors  1.523   1.664     .007  Amps .. .
-I:VT705S     VT705 Scale Factors          -.699     .009  Amps .. .
-I:VT707S     VT707 Scale Factors         -1.645     .007  Amps .. .
-I:VT709S     VT709 Scale Factors         -4.766     .009  Amps .. .
-I:VT711S     VT711 Scale Factors          1.734     .007  Amps .. .
-I:VT713S     VT713 Scale Factors         -4.391     .004  Amps .. .
-I:VTF11S     VTF11 Scale Factors          4.23      .005  Amps .. .
-I:VTF12S     VTF12 Scale Factors          -.984     .009  Amps .. .
-I:VTF14S     VTF14 Scale Factors          1.242     .019  Amps .. .
-I:VTF16S     VTF16 Scale Factors           .379     .019  Amps .. .
-I:VTF17S     VTF17 Scale Factors          1.125     .029  Amps .. .
-M:V11ARP     M:VT11A 453 Rev Protons      4.313      1  -6Amps ET
-M:V101RP     M:VT101 453 Rev Protons      3.582      1  -6Amps ET
-D:VT925      EQ25-VT   25A/25V DIPOLE    -6.088   -6.241  AMP  ...
-D:VT917      EQ17-VT   25A/25V DIPOLE     3.212    3.074  AMP  ...
-D:VT906      IQ6-V     25A/25V CORR D    -1.9     -2.101  AMP  ...
-I:LAM52T     LAM52 467 F(t) Table   264.96887            Amps
-I:V701T      V701 467 F(t) Table         209.7            Amps
-I:HV703T     HV703 467 F(t) Table        281              Amps
-I:V714T      V714 467 F(t) Table         155.7            Amps
-I:HVF11T     HVF11 467 F(t) Table        239.9            Amps
-I:HVF12T     HVF12 467 F(t) Table        98.97            Amps
-I:F17B3T     F17B3 468 F(t) Table        199.2            Amps
-M:HV200      PB&PBR1-2 100A/15V  EPB     92.75  *  .034  AMP  *..
-M:HV202      PB3-5,PBR3 100A/15V EPB     87.83  *  .034  AMP  *..
-M:V105RP     V105 465 Reverse Protons    53.1       1  -6Amps
-M:V105PB     V105 465 Pbars              53.1       1  -6Amps
 ! TBT DEVICES
 ! IF VS904 > 30A, SUBTRACT 1A FROM ALL THREE
 ! IF VS901 < 0A, ADD 1A TO ALL THREE
 ! IF VS904 > 30 AND VS901 < 0, GO TO BELOW
-D:V901       EBV1-2    1500A/100  679.2   677.3    667.3  AMP  ...
-D:VS904      EBV2 30A Dipole Shu  29.03   27.52   -27.48  Amps
-D:VS901      EBV1 30A Dipole Shu  8.418   7.343   -7.324  Amps

 !IF VS901 < 0A AND VS904 > 30A
 !SUBTRACT 1.0A FROM VT906 AND 2.1A FROM VS904
 !(REDUCES DIFF BETWEEN VS904 AND VS901)
 !GO BACK UP AND CHANGE TBT DEVICES IF NECESSARY
-D:VT906      IQ6-V     25A/25V CORR D    -1.9     -2.101  AMP  ...
-D:VS904      EBV2 30A Dipole Shu  29.03   27.52   -27.48  Amps
```

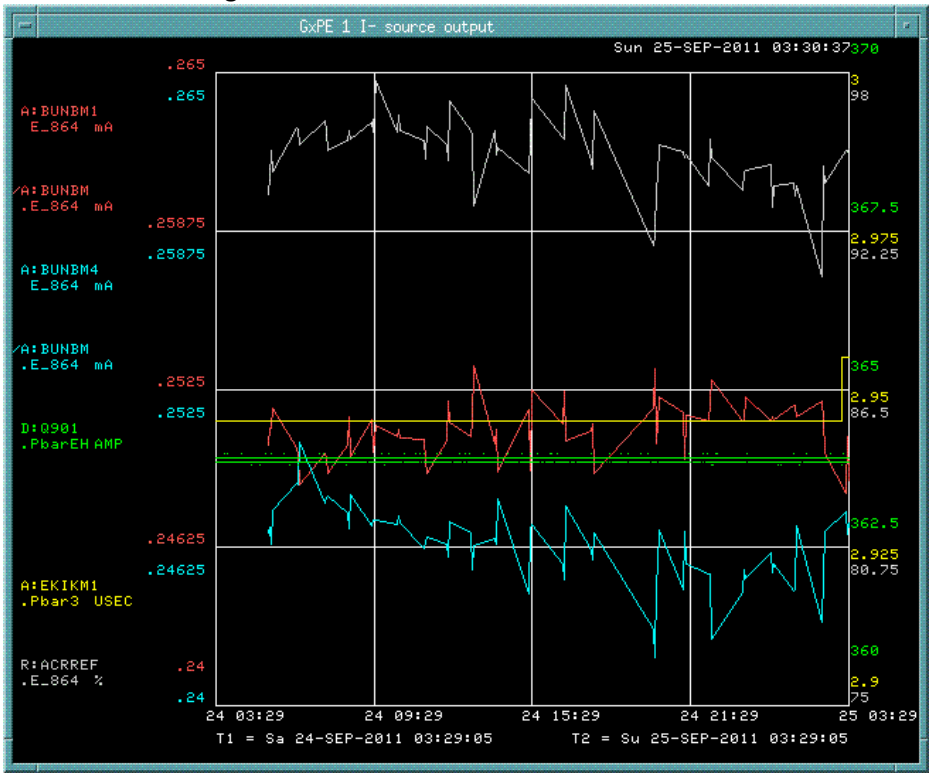
Saturday owls: D:VS904 too close to 30A on reverse proton tune-up. Had to make adjustment with V901 and VS901.



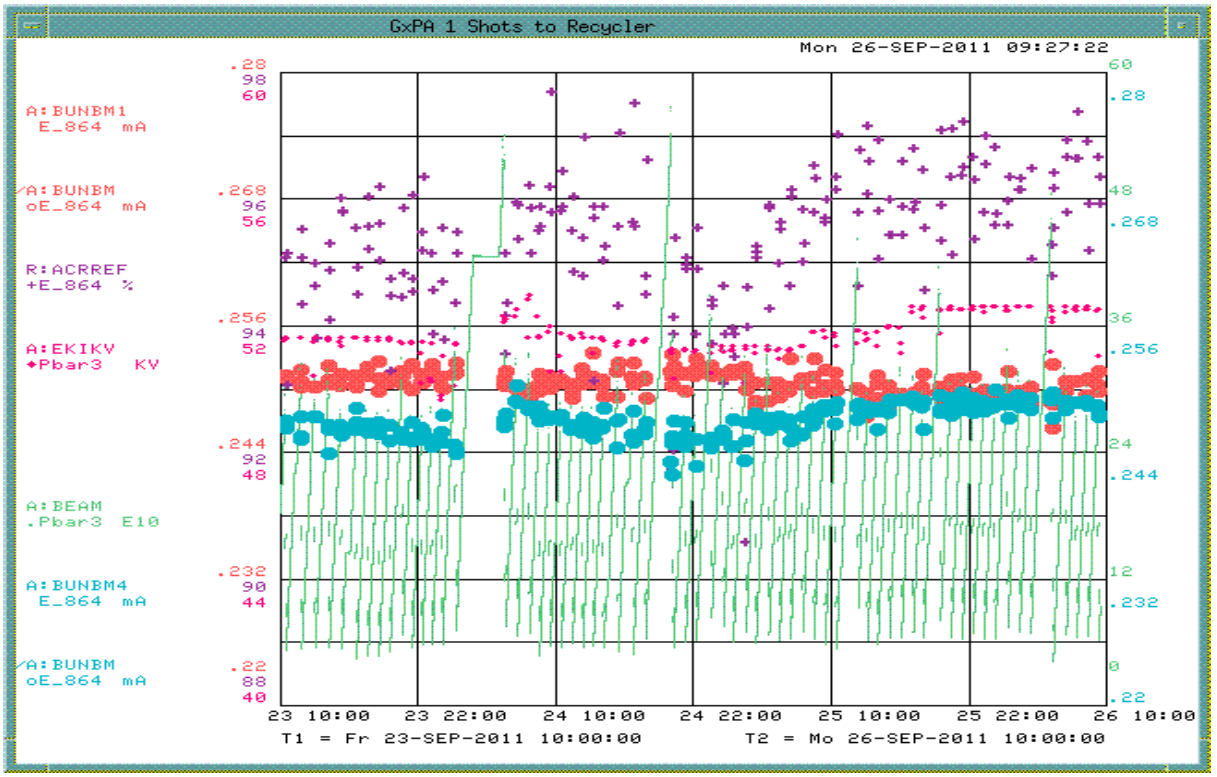
D:PMWM1 - Pulsed Magnet water return flow - was togglign. Supply and return pressures look normal. Opsy bypassed the alarm and removed it from alarm list.



F23 service building AC



Clipping bunch 4.


GxPA 1 Shots to Recycler
Mon 26-SEP-2011 09:27:22
A:BUNBM1
E_864 mA
A:BUNBM
oE_864 mA
R:ACRREF
+E_864 %
A:EKIKV
+Pbar3 KV
A:BEAM
.Pbar3 E10
A:BUNBM4
E_864 mA
A:BUNBM
oE_864 mA
.28
98
60
.268
96
56
.256
94
52
.244
92
48
.232
90
44
.22
88
40
60
.28
48
.268
36
.256
24
.244
12
.232
0
.22
23 10:00
23 22:00
24 10:00
24 22:00
25 10:00
25 22:00
26 10:00
T1 = Fr 23-SEP-2011 10:00:00
T2 = Mo 26-SEP-2011 10:00:00