

Listing of Statistics for Run4-1999

Total Amount of User Time in this interval 1320.02 Hours

User periods in this interval

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07/29/1999 08:00 To 08/03/1999 07:59 119.98 Hours
08/03/1999 16:00 To 08/10/1999 08:00 159.99 Hours
08/10/1999 16:01 To 08/16/1999 08:00 135.99 Hours
08/18/1999 08:00 To 08/24/1999 08:00 144.00 Hours
08/24/1999 16:01 To 08/30/1999 08:01 135.99 Hours
09/01/1999 08:01 To 09/07/1999 08:00 144.00 Hours
09/07/1999 15:55 To 09/13/1999 08:00 136.09 Hours
09/15/1999 08:01 To 09/21/1999 08:00 143.98 Hours
09/21/1999 16:00 To 09/30/1999 00:00 200.00 Hours
    
```

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Delivered Beam                1256.19 Hours
Percentage of Scheduled Time    95.16 %
Downtime During Period         63.83 Hours
Percentage of scheduled time SR current > 10 ma 96.18 %
Average Delivered Current During This Period    81.57 ma
Total integrated Current During This Period    102.46 A-hr
    
```

Data from an on going fill (if one exists) is not used in Fill length calculations.

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Mean Fill Duration in Period    29.21 Hours
Mean Fill Duration from Poisson Fit 41.28 Hours
Mean Time Between Faults (MTBF) 29.91 Hours
Faults per Day of Delivered Beam 0.80
    
```

| Valid fills Beginning in this Time Interval |             |                |          | Reason for              | Length   | Downtime is associated with the end of a fill.     |
|---|-------------|----------------|----------|-------------------------|----------|--|
| Fill#                                       | Start       | End            | Duration | Fill Termination        | of       | The first fill of a period will have any           |
|   |             |                |          |                         | Downtime | downtime before the fill on the line above.        |
|   |             |                |          |                         | 0.00     |  |
| # 2   | 07/29 08:00 | To 07/30 10:17 | 26.27    | IOCS6BPM Reboot [CTL]   | 0.56     | Switch back to SR mode in Linac                    |
| # 5   | 07/30 10:51 | To 07/31 19:15 | 32.40    | S30B:Q2 trip [PS]       | 0.95     | S30B:Q2 replacement                                |
| # 7   | 07/31 20:12 | To 07/31 23:09 | 2.95     | 549 Power Outage [OTH]  | 22.42    |  |
| # 8   | 08/01 21:35 | To 08/02 07:34 | 10.00    | S31 MPS trip [H2O]      | 1.95     | S31 Section 2 griswold replacement                 |
| # 9   | 08/02 09:31 | To 08/02 17:57 | 8.43     | S36 MPS [H2O]           | 1.44     | Additional H2O trip and griswold cartridge replace |
| # 11  | 08/02 19:23 | To 08/03 07:59 | 12.60    | Int Dump: End of Period | 0.00     |  |
|   |             |                |          |                         | 0.02     |  |
| # 15  | 08/03 16:01 | To 08/04 01:13 | 9.20     | S16B:Q3 trip [PS]       | 1.57     | replacement  |
| # 18  | 08/04 02:47 | To 08/05 22:09 | 43.37    | S6B:Q5 output [PS]      | 1.46     | converter replacement                              |
| # 21  | 08/05 23:37 | To 08/06 07:10 | 7.55     | 32ID EPS Trip [BL]      | 0.32     | recovery   |
| # 24  | 08/06 07:29 | To 08/08 10:49 | 51.34    | 12ID BPLD Trip [CTL]    | 0.54     | recovery   |
| # 27  | 08/08 11:21 | To 08/08 20:11 | 8.82     | VM:11:VVO2 closed [CTL] | 0.33     | recovery   |

|       |             |                |        |                          |   |
|-------|-------------|----------------|--------|--------------------------|---|
| # 29  | 08/08 20:30 | To 08/09 05:20 | 8.82   | S31A/BS3 IGBT flt [H2O]  | 1.57 troubleshooting, recovery                        |
| # 30  | 08/09 06:54 | To 08/09 20:40 | 13.75  | rf1, S40cav3 IG [RF]     | 0.34 recovery   |
| # 32  | 08/09 21:00 | To 08/10 08:00 | 10.99  | Int Dump: End of Period  | 0.00 .....  |
| ----- |             |                |        |                          |   |
| # 33  | 08/10 19:15 | To 08/11 08:54 | 13.65  | iocs17vp reboot [CTL]    | 3.24 Recovery from early power outage, 4ID problems   |
| # 35  | 08/11 09:21 | To 08/11 14:08 | 4.79   | iocs17vp problems [CTL]  | 0.44 recovery   |
| # 37  | 08/11 14:51 | To 08/12 19:19 | 28.46  | 32ID EPS trip [BL]       | 0.72 recovery   |
| # 41  | 08/12 20:20 | To 08/16 08:00 | 83.67  | Int Dump: End of Period  | 1.02 Recovery   |
| ----- |             |                |        |                          |   |
| # 54  | 08/18 08:04 | To 08/20 10:35 | 50.52  | S3:BQ1 DAC to zero [PS]  | 0.07  |
| # 57  | 08/20 10:54 | To 08/20 14:09 | 3.25   | S5:AQ2 DAC to zero [PS]  | 0.31 recovery   |
| # 58  | 08/20 14:24 | To 08/20 15:44 | 1.32   | rf#2 problems [RF]       | 0.26 recovery   |
| # 62  | 08/20 16:53 | To 08/24 03:13 | 82.32  | comm prblm IOCS1VP [CTL] | 1.16 troubleshooting, waveguide switch                |
| # 66  | 08/24 03:29 | To 08/24 08:00 | 4.51   | Int Dump: End of Period  | 0.28 recovery   |
| ----- |             |                |        |                          |   |
| # 70  | 08/24 16:01 | To 08/27 10:07 | 66.10  | Comm prblm IOCS1VP [CTL] | 0.01  |
| # 75  | 08/27 10:21 | To 08/28 08:07 | 21.77  | rf3 pm trip IG flt [RF]  | 0.23 recovery   |
| # 77  | 08/28 08:28 | To 08/28 22:07 | 13.65  | comm prblm IOCS3BPM[CTL] | 0.34 recovery   |
| # 79  | 08/28 22:36 | To 08/29 09:43 | 11.11  | SR Dipole OI trip [PS]   | 0.48 recovery   |
| # 81  | 08/29 10:56 | To 08/29 19:47 | 8.85   | loss during inj [OTH]    | 1.22 recovery   |
| # 82  | 08/29 20:05 | To 08/30 00:19 | 4.24   | SR Dipole OI trip [PS]   | 0.30 refill   |
| # 83  | 08/30 02:47 | To 08/30 08:00 | 5.21   | Int Dump: End of Period  | 2.46 repair and recovery                              |
| ----- |             |                |        |                          |   |
| # 90  | 09/01 08:18 | To 09/07 08:00 | 143.70 | Int Dump: End of Period  | 0.02 .....  |
| ----- |             |                |        |                          |   |
| #100  | 09/07 15:55 | To 09/09 19:45 | 51.83  | Dump, bunch purity [OTH] | 0.28 rf1 vacuum glitch                                |
| #103  | 09/09 19:59 | To 09/10 10:51 | 14.86  | 8ID trip [BL]            | 0.00  |
| #105  | 09/10 13:35 | To 09/10 23:03 | 9.47   | sec5, vv2 trip [CTL]     | 0.24 refill   |
| #107  | 09/10 23:17 | To 09/11 02:49 | 3.53   | 4ID EPS trip [BL]        | 2.73 injector down because of access, booster AA trip |
| #108  | 09/11 03:07 | To 09/11 03:56 | 0.81   | Sec 1 Raw 1 PS trip [PS] | 0.24 recovery   |
| #110  | 09/11 06:02 | To 09/13 08:00 | 49.97  | Int Dump: End of Period  | 0.30 recovery   |
| ----- |             |                |        |                          |   |
| #113  | 09/15 08:04 | To 09/15 20:58 | 12.91  | S39 MPS trip [H2O]       | 2.09 repair, recovery                                 |
| #115  | 09/15 21:27 | To 09/16 07:37 | 10.18  | 4ID BPLD trip [RF]       | 0.01 .....  |
| #118  | 09/16 08:05 | To 09/18 17:27 | 57.38  | IOCS7BPM comm [CTL]      | 0.05 .....  |
| #122  | 09/18 18:00 | To 09/19 18:14 | 24.23  | S39B:V3 lost setting[PS] | 0.47 recovery   |
| #125  | 09/19 18:36 | To 09/21 08:00 | 37.39  | Int Dump: End of Period  | 0.46 recovery   |
| ----- |             |                |        |                          |   |
| #128  | 09/21 16:01 | To 09/23 17:34 | 49.56  | S16B:Q1 trip [PS]        | 0.55 recovery, problems during refill                 |
| #132  | 09/23 19:19 | To 09/24 10:02 | 14.73  | IOCSRMON reboot [CTL]    | 0.37 recovery   |
| ----- |             |                |        |                          |   |
| #128  | 09/21 16:01 | To 09/23 17:34 | 49.56  | S16B:Q1 trip [PS]        | 0.00  |
| #132  | 09/23 19:19 | To 09/24 10:02 | 14.73  | IOCSRMON reboot [CTL]    | 1.74 converter swap, recovery                         |
| ----- |             |                |        |                          |   |
| #132  | 09/23 19:19 | To 09/24 10:02 | 14.73  | IOCSRMON reboot [CTL]    | 1.00 subsequent reboot of rf IOC, recovery            |

|      |             |    |             |       |  |                         |       |  |   |
|------|-------------|----|-------------|-------|--|-------------------------|-------|--|---|
| #135 | 09/24 11:02 | To | 09/25 07:45 | 20.71 |  | lost during inj         | [PS]  |  | 0.38 recovery                                       |
| #137 | 09/25 08:08 | To | 09/26 11:02 | 26.91 |  | VM14:VV02 closed        | [CTL] |  | 0.43 recovery                                       |
| #140 | 09/26 11:28 | To | 09/27 08:24 | 20.93 |  | 9ID EPS Trip            | [BL]  |  | 1.65 troubleshooting, repair, recovery              |
| #142 | 09/27 10:03 | To | 09/27 21:09 | 11.11 |  | fire alarm              | [OTH] |  | 2.49 access to booster, problems starting rf5       |
| #145 | 09/27 23:38 | To | 09/28 19:44 | 20.10 |  | S2/S3 PSCU reset        | [PS]  |  | 0.34 recovery                                       |
| #146 | 09/28 20:05 | To | 09/29 06:40 | 10.58 |  | 4ID EPS trip            | [BL]  |  | 1.97 wating for EPS reset, rf3 trip, kicker problem |
| #148 | 09/29 08:38 | To | 09/30 00:01 | 15.38 |  | Int Dump: End of Period |       |  | 0.00 .....  |