```
Total Amount of User Time in this interval 1600.96 Hours
User periods in this interval
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10/01/2019 08:00 To 10/07/2019 08:00 144.00 Hours, Delivered Beam: 144.00 Hours, 0 Fault(s), 144.00 MTBF, 100.00% of Sched. Time
10/08/2019 08:00 To 10/14/2019 08:00 144.00 Hours, Delivered Beam: 68.48 Hours, 1 Fault(s), 68.48 MTBF, 47.55% of Sched. Time
10/15/2019 08:00 To 10/21/2019 08:00 144.00 Hours, Delivered Beam: 143.40 Hours, 1 Fault(s), 143.40 MTBF, 99.58% of Sched. Time
10/22/2019 08:00 To 10/28/2019 08:00 144.00 Hours, Delivered Beam: 142.59 Hours, 1 Fault(s), 142.59 MTBF, 99.02% of Sched. Time
10/29/2019 08:00 To 11/04/2019 08:00 145.00 Hours, Delivered Beam: 144.99 Hours, 0 Fault(s), 144.99 MTBF, 100.00% of Sched. Time
11/06/2019 08:00 To 11/11/2019 08:00 120.00 Hours, Delivered Beam: 116.71 Hours, O Fault(s), 116.71 MTBF, 97.26% of Sched. Time
11/12/2019 08:00 To 11/18/2019 08:00 144.00 Hours, Delivered Beam: 142.70 Hours, 1 Fault(s), 142.70 MTBF, 99.09% of Sched. Time
11/19/2019 08:00 To 11/27/2019 08:00 192.00 Hours, Delivered Beam: 191.42 Hours, 1 Fault(s), 191.42 MTBF, 99.70% of Sched. Time
11/29/2019 08:00 To 12/09/2019 08:00 240.00 Hours, Delivered Beam: 238.43 Hours, 2 Fault(s), 119.22 MTBF, 99.35% of Sched. Time
12/10/2019 08:00 To 12/17/2019 24:00 184.00 Hours, Delivered Beam: 183.44 Hours, 1 Fault(s), 183.44 MTBF, 99.70% of Sched. Time
Delivered Beam
                                    1516.15 Hours
Percentage of Scheduled Time
                                     94.70 %
Downtime During Period
                                     84.80 Hours
Percentage of scheduled time SR current > 10 ma 95.96 %
Average Delivered Current During This Period 100.09 mA
Total integrated Current During This Period 151.76 A-hr
Mean Fill Duration in Period
                                    168.46 Hours
Mean Fill Duration from Poisson Fit
                                    175.64 Hours
Mean Time Between Faults (MTBF)
                                    189.52 Hours
Faults per Day of Delivered Beam
                                   0.13
Total Number of Faults
                                     8
Scheduled Topup Time
                                    1312.00 Hours
                                                                  Downtime is associated with the end of a fill.
                                                       Length
                                                               The first fill of a period will have any
Valid fills Beginning in this Time Interval
                                        Reason for
                                                      l of
                                      Fill Termination
                                                                   downtime before the fill on the line above.
Fill# Start End Duration |
                                                      l Downtime
                         (min: 1.0) |
# 1 10/01 08:00 To 10/07 07:59 144.00 | Int Dump: End of Period | 0.00
_______
                         | 72.00 S:IS1 magnet failure [MOM]
# 2 10/11 08:00 To 10/13 21:50 61.84 | S13A:V3 P.S. DAC flt[PS] | 3.52 Trblsht, shut off PS, BPMs removed, [0.5hr-PS, 3hr-CT
# 3 10/14 01:21 To 10/14 07:59 6.64 | Int Dump: End of Period | 0.00
# 4 10/15 08:00 To 10/19 14:36 102.60 | RF rflctd pwr fault[RF] | 0.60 Recovered the RF system and refilled
# 5 10/19 15:12 To 10/21 07:59 40.79 | Int Dump: End of Period | 0.00
______
                      | 0.00
# 6 10/22 08:00 To 10/22 15:32 7.55 | S19A:S1 P.S. I out=0[PS] | 1.41 Swapped supply, conditioned, filled
# 7 10/22 16:57 To 10/28 07:59 135.04 | Int Dump: End of Period | 0.00
# 8 10/29 08:00 To 11/04 07:59 144.99 | Int Dump: End of Period | 0.00
______
                      | 3.28 BESOCM trips[1.78hr,RF];High coupling[1.5hr,AOP]
# 10 11/12 08:00 To 11/17 08:49 120.81 | Rad. Monitor trip [OTH] | 1.30 Recovery and refilled ring
# 11 11/17 10:07 To 11/18 07:59 21.88 | Int Dump: End of Period | 0.00
______
# 12 11/19 08:00 To 11/21 06:02 46.03 | P0 feedback problem[AOP] | 0.57 Investigation, adjusted chromaticity, refill
# 13 11/21 06:36 To 11/27 07:59 145.39 | Int Dump: End of Period | 0.00
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# 15 11/30 02:14 To 12/06 22:22 164.12	0.00   RF3 Crowbar fired[RF]   0.58 Recovery and refilled.   Stuck mixing valve [MOM]   0.98   Int Dump: End of Period   0.00
# 17 12/10 08:00 To 12/16 06:07 142.12 # 18 12/16 06:40 To 12/17 23:59 41.32	0.00   RF2 trip S37 hybrid[RF]   0.55   Int Dump: End of Period   0.00
Top-Up Mode Statistics	
Target Current Range +/- 2.0, Minimum Injector Downtime = 8.0 minutes	
Total Current in Range during Scheduled Topup Time 92.65 % Current in Range during Delivered Beam Time 98.95 % Injector Availability 98.84 %	
Period Beginning 10/01/2019 08:00 Current in Range Injector Availability Out of Range at: 10/03/2019 07:27:44 to Injector downtime: 10/03/2019 07:22:48 to	99.53 % 99.47 % o 10/03/2019 08:08:16 : 40.53 minutes o 10/03/2019 08:08:12 : 45.40 minutes
Period Beginning 10/08/2019 08:00 Current in Range Injector Availability	99.76 % 99.61 %
Out of Range at: 10/13/2019 01:10:00 to Injector downtime: 10/13/2019 01:02:00 to Out of Range at: 10/13/2019 21:44:08 to	o 10/13/2019 01:13:36 :   3.60 minutes o 10/13/2019 01:10:00 :   8.00 minutes (est) o 10/13/2019 21:50:16 :   6.13 minutes
Injector downtime: 10/15/2019 14:55:52 to	99.11 % 99.05 % 0 10/15/2019 15:32:16 : 31.47 minutes 0 10/15/2019 15:30:08 : 34.27 minutes 0 10/16/2019 01:16:48 : 45.07 minutes
Injector downtime: 11/06/2019 13:14:40 to Out of Range at: 11/06/2019 14:48:56 to Injector downtime: 11/06/2019 14:44:00 to Out of Range at: 11/08/2019 02:47:44 to Injector downtime: 11/08/2019 02:42:48 to Out of Range at: 11/08/2019 05:40:32 to	o 11/06/2019 15:04:32 : 15.60 minutes o 11/06/2019 15:04:28 : 20.47 minutes o 11/08/2019 04:42:56 : 115.20 minutes
Injector downtime: 11/12/2019 10:53:36 to Out of Range at: 11/14/2019 18:00:00 to Injector downtime: 11/14/2019 17:55:04 to Out of Range at: 11/15/2019 13:56:24 to Injector downtime: 11/15/2019 13:51:28 to	o 11/14/2019 18:15:36 : 15.60 minutes o 11/14/2019 18:14:16 : 19.20 minutes o 11/15/2019 14:08:00 : 11.60 minutes
Period Beginning 11/19/2019 08:00	

```
Injector Availability
                                                99.10 %
  Out of Range at:
                      11/19/2019 08:00:56 to 11/19/2019 08:04:00 : 3.07 minutes
    Injector downtime: 11/19/2019 07:52:56 to 11/19/2019 08:00:56 : 8.00 minutes (est)
  Out of Range at:
                      11/19/2019 10:58:24 to 11/19/2019 11:06:16 : 7.87 minutes
   Injector downtime: 11/19/2019 10:50:24 to 11/19/2019 10:58:24 : 8.00 minutes (est)
  Out of Range at:
                      11/21/2019 04:57:52 to 11/21/2019 05:06:40 : 8.80 minutes
   Injector downtime: 11/21/2019 04:52:56 to 11/21/2019 05:06:36 : 13.67 minutes
  Out of Range at:
                      11/23/2019 06:05:12 to 11/23/2019 06:43:12 : 38.00 minutes
    Injector downtime: 11/23/2019 06:00:16 to 11/23/2019 06:40:56 : 40.67 minutes
  Out of Range at:
                      11/25/2019 11:38:48 to 11/25/2019 12:06:32 : 27.73 minutes
   Injector downtime: 11/25/2019 11:33:52 to 11/25/2019 12:06:28 : 32.60 minutes
Period Beginning 11/29/2019 08:00
Current in Range
                                                97.70 %
Injector Availability
                                                97.65 %
  Out of Range at:
                      11/29/2019 08:00:16 to 11/29/2019 12:45:44 : 285.47 minutes
    Injector downtime: 11/29/2019 07:55:20 to 11/29/2019 12:44:56 : 289.60 minutes
                      12/01/2019 02:49:04 to 12/01/2019 03:32:00 : 42.93 minutes
    Injector downtime: 12/01/2019 02:44:08 to 12/01/2019 03:31:00 : 46.87 minutes
Period Beginning 12/10/2019 08:00
Current in Range
                                                99.81 %
Injector Availability
                                                99.77 %
  Out of Range at:
                      12/15/2019 13:13:12 to 12/15/2019 13:33:52 : 20.67 minutes
    Injector downtime: 12/15/2019 13:08:16 to 12/15/2019 13:33:48 : 25.53 minutes
```