Listing of Statistics for Run1-2017 (Created Wed Apr 26 07:05:18 CDT 2017)

User periods in this interval

01/31/2017 08:01 To 02/06/2017 08:00 143.98 Hours, Delivered Beam: 140.30 Hours, 3 Fault(s), 46.77 MTBF, 97.44% of Sched. Time 02/07/2017 08:01 To 02/13/2017 08:01 144.00 Hours, Delivered Beam: 138.97 Hours, 2 Fault(s), 69.49 MTBF, 96.51% of Sched. Time 02/14/2017 08:01 To 02/20/2017 08:01 144.00 Hours, Delivered Beam: 137.81 Hours, 2 Fault(s), 68.91 MTBF, 95.70% of Sched. Time 02/21/2017 08:01 To 02/27/2017 08:00 143.98 Hours, Delivered Beam: 143.98 Hours, 0 Fault(s), 143.98 MTBF, 100.00% of Sched. Time 03/01/2017 08:00 To 03/06/2017 08:01 120.02 Hours, Delivered Beam: 120.00 Hours, 0 Fault(s), 143.98 MTBF, 99.98% of Sched. Time 03/07/2017 08:01 To 03/13/2017 08:01 143.00 Hours, Delivered Beam: 141.41 Hours, 1 Fault(s), 141.41 MTBF, 98.88% of Sched. Time 03/21/2017 08:01 To 03/20/2017 08:01 144.00 Hours, Delivered Beam: 143.98 Hours, 0 Fault(s), 143.98 MTBF, 99.99% of Sched. Time 03/21/2017 08:01 To 03/27/2017 08:01 144.00 Hours, Delivered Beam: 143.98 Hours, 0 Fault(s), 143.98 MTBF, 99.99% of Sched. Time 03/21/2017 08:01 To 03/27/2017 08:01 144.00 Hours, Delivered Beam: 143.98 Hours, 0 Fault(s), 143.98 MTBF, 99.99% of Sched. Time 03/28/2017 08:01 To 04/03/2017 08:01 144.00 Hours, Delivered Beam: 143.98 Hours, 0 Fault(s), 143.98 MTBF, 99.99% of Sched. Time 03/28/2017 08:01 To 04/03/2017 08:01 144.00 Hours, Delivered Beam: 143.98 Hours, 0 Fault(s), 143.98 MTBF, 99.99% of Sched. Time 04/04/2017 08:01 To 04/10/2017 08:01 144.00 Hours, Delivered Beam: 143.98 Hours, 0 Fault(s), 143.98 MTBF, 99.99% of Sched. Time 04/04/2017 08:01 To 04/10/2017 08:01 144.00 Hours, Delivered Beam: 143.98 Hours, 0 Fault(s), 143.98 MTBF, 99.99% of Sched. Time 04/04/2017 08:01 To 04/10/2017 08:01 144.00 Hours, Delivered Beam: 143.98 Hours, 0 Fault(s), 143.98 MTBF, 99.99% of Sched. Time 04/04/2017 08:01 To 04/10/2017 08:01 144.00 Hours, Delivered Beam: 143.98 Hours, 0 Fault(s), 143.98 MTBF, 99.99% of Sched. Time 04/04/2017 08:01 To 04/10/2017 08:01 144.00 Hours, Delivered Beam: 143.98 Hours, 0 Fault(s), 143.98 MTBF, 99.99% of Sched. Time

Total Amount of User Time in this interval	1718.92 Hours	Delivered Beam	1697.85 Hours
Percentage of Scheduled Time (*)	98.77 %		
Mean Time Between Faults (MTBF)	141.49 Hours		
Downtime During Period	21.07 Hours		
Total integrated Current During This Period	170.60 A-hr		
Mean Fill Duration in Period	130.60 Hours		
Faults per Day of Delivered Beam	0.17		
Total Number of Faults	12		

Valid fills Beginning in this Time Interval

Fill #	Start		End	Duration (min: 1.0)	Reason for Fill Termination	Length of Downtime	Downtime is associated wi any downt
						0.00	
#1	01/31 08:01	То	02/01 08:42	24.69	Power event {OTH]	0.56	Investigation, P.S. control
#2	02/01 09:15	То	02/03 12:57	51.70	S29/30 PW bypass Vlv[MOM	0.81	Power supplies conditioned
#3	02/03 13:46	То	02/05 01:32	35.77	S27A:Q1 P.S. trip[PS]	2.31	Swapped supply, condition
#4	02/05 03:51	То	02/06 07:59	28.14	Int Dump: End of Period	0.00	
						0.00	
# 5	02/07 08:01	То	02/09 10:25	50.41	Pump Ctrl fault [MOM]	1.47	Investigation, reseated carc
#6	02/09 11:53	То	02/09 14:29	2.59	S2/3 Raw P.S. trip[PS]	3.54	Troubleshoot/repair IEX P
#7	02/09 18:01	То	02/13 07:59	85.97	Int Dump: End of Period	0.02	-

ith the end of a fill. The first fill of a period will have time before the fill on the line above.

reset [OTH] d, refilled ring ned p.s., refilled

d, standardized P.S., refilled

						0.00	
#8	02/14 08:01	То	02/18 04:49	92.81	Pump switch [MOM]	0.60	Intentional dump for pump
#9	02/18 05:26	То	02/19 02:05	20.65	S20A:Q3 P.S. failed[PS]	5.57	Swapped supply[1.42hr PS
# 10	02/19 07:39	То	02/20 07:59	24.34	Int Dump: End of Period	0.02	
						0.00	
# 11	02/21 08:01	То	02/27 07:59	143.98	Int Dump: End of Period	0.00	
						0.00	
# 12	03/01 08:00	То	03/06 07:59	120.00	Int Dump: End of Period	0.02	
						0.88	Trouble injecting, changed
#13	03/07 08:53	То	03/10 08:37	71.73	S2A:V3 P.S. glitch [PS]	0.70	Investigation, refill
# 14	03/10 09:19	То	03/13 07:59	69.67	Int Dump: End of Period	0.02	
						0.00	
# 15	03/14 08:01	То	03/20 07:59	143.98	Int Dump: End of Period	0.02	
						0.00	
# 16	03/21 08:01	То	03/27 08:00	143.98	Int Dump: End of Period	0.02	
						0.00	
# 17	03/28 08:01	То	03/28 11:37	3.61	Unknown P.S. glitch[PS]	0.40	Investigation and refill
#18	03/28 12:01	То	04/01 05:29	89.46	Failed absorber card[MOM	2.67	Investigation, call in for re
# 19	04/01 08:09	То	04/03 02:50	42.70	25A:H3 p.s. glitch[PS]	0.74	Investigation, refill
# 20	04/03 03:35	То	04/03 08:00	4.41	Int Dump: End of Period	0.02	
						0.00	
# 21	04/04 08:01	То	04/10 07:59	143.98	Int Dump: End of Period	0.02	
						0.00	
# 22	04/11 08:01	То	04/13 11:13	51.21	Human error [MOM]	0.69	Restored correct valve pos
# 23	04/13 11:55	То	04/17 07:59	92.07	Int Dump: End of Period	0.00	
						0.00	
#24	04/18 08:01	То	04/25 00:00	159.98	Int Dump: End of Period	0.02	

Top-Up Mode Statistics

Target Current Range +/- 2.0, Minimum Injector Downtime = 8.0 minutes

p switch, conditioned P.S. PS], power event[4.31hr Other]

l tunes [AOP]

epair, refilled

s., recovered, refilled

Total				
Current in Range during Scheduled Topup Time			97.38 %	
Current in Range during Delivered Beam Time			98.84 %	
Injector Availability			98.75 %	
Period Beginning 01/31/2	2017 08:01			
Current in Range			91.77 %	
Injector Availability			91.48 %	
Out of Range at:	01/31/2017 21:47:12	to	01/31/2017 23:59:52 :	132.67 minutes
Injector downtime:	01/31/2017 21:42:16	to	01/31/2017 23:59:48 :	137.53 minutes
Out of Range at:	02/01/2017 00:03:52	to	02/01/2017 04:48:00 :	284.13 minutes
Injector downtime:	02/01/2017 00:03:56	to	02/01/2017 04:47:04 :	283.13 minutes
Out of Range at:	02/01/2017 09:31:20	to	02/01/2017 10:56:48 :	85.47 minutes
Injector downtime:	02/01/2017 09:26:24	to	02/01/2017 10:54:24 :	88.00 minutes
Out of Range at:	02/01/2017 14:41:28	to	02/01/2017 16:25:28 :	104.00 minutes
Injector downtime:	02/01/2017 14:36:32	to	02/01/2017 16:25:24 :	108.87 minutes
Out of Range at:	02/02/2017 19:57:44	to	02/02/2017 21:07:28 :	69.73 minutes
Injector downtime:	02/02/2017 19:52:48	to	02/02/2017 21:07:24 :	74.60 minutes
Out of Range at:	02/02/2017 22:22:56	to	02/02/2017 22:27:28 :	4.53 minutes
Injector downtime:	02/02/2017 22:14:56	to	02/02/2017 22:22:56 :	~ 8.00 minutes
Out of Range at:	02/03/2017 15:01:52	to	02/03/2017 15:14:16 :	12.40 minutes
Injector downtime:	02/03/2017 14:56:56	to	02/03/2017 15:14:12 :	17.27 minutes
Period Beginning 02/07/2	2017 08:01			
Current in Range			98.78 %	
Injector Availability			98.69 %	
Out of Range at:	02/07/2017 08:38:40	to	02/07/2017 09:13:52 :	35.20 minutes
Injector downtime:	02/07/2017 08:33:44	to	02/07/2017 09:13:48 :	40.07 minutes
Out of Range at:	02/09/2017 01:14:00	to	02/09/2017 01:24:08 :	10.13 minutes
Injector downtime:	02/09/2017 01:06:00	to	02/09/2017 01:14:00 :	~ 8.00 minutes
Out of Range at:	02/09/2017 09:29:20	to	02/09/2017 10:25:36 :	56.27 minutes
Injector downtime:	02/09/2017 09:24:24	to	02/09/2017 10:25:32 :	61.13 minutes

Period Beginning 02/14/2017 08:01

Current in Range

100.00 %

Injector Availability

100.00 %

Period Beginning 02/21/2	<u>2017 08:01</u>					
Current in Range			99.81 %			
Injector Availability			99.75 %			
Out of Range at:	02/24/2017 23:57:20	to	02/25/2017 00:13:52 :	16.53 minutes		
Injector downtime:	02/24/2017 23:52:24	to	02/25/2017 00:13:48 :	21.40 minutes		
Period Beginning 03/01/2	2017 08:00					
Current in Range			99.67 %			
Injector Availability			99.61 %			
Out of Range at:	03/02/2017 02:39:44	to	03/02/2017 02:46:32 :	6.80 minutes		
Injector downtime:	03/02/2017 02:31:44	to	03/02/2017 02:39:44 :	~ 8.00 minutes		
Out of Range at:	03/02/2017 06:15:36	to	03/02/2017 06:32:16 :	16.67 minutes		
Injector downtime:	03/02/2017 06:10:40	to	03/02/2017 06:31:04 :	20.40 minutes		
Period Beginning 03/07/2	2017 08:01					
Current in Range			98.77 %			
Injector Availability			98.72 %			
Out of Range at:	03/09/2017 05:51:52	to	03/09/2017 07:35:52 :	104.00 minutes		
Injector downtime:	03/09/2017 05:46:56	to	03/09/2017 07:35:48 :	108.87 minutes		
Period Beginning 03/28/2	2017 08:01					
Current in Range		100.00 %				
Injector Availability	99.90 %					
Out of Range at:	03/28/2017 20:20:00	to	03/28/2017 20:20:16 :	0.27 minutes		
Injector downtime:	03/28/2017 20:12:00	to	03/28/2017 20:20:00 :	~ 8.00 minutes		
Period Beginning 04/04/2	2017 08:01					
Current in Range			99.76 %			
Injector Availability			99.59 %			

Out of Range at:	04/06/2017 03:05:52	to	04/06/2017 03:17:12 :	11.33 minutes	
Injector downtime:	04/06/2017 03:00:56	to	04/06/2017 03:14:56 :	14.00 minutes	
Out of Range at:	04/06/2017 10:08:48	to	04/06/2017 10:17:36 :	8.80 minutes	
Injector downtime:	04/06/2017 10:03:52	to	04/06/2017 10:17:32 :	13.67 minutes	
Out of Range at:	04/08/2017 20:51:44	to	04/08/2017 20:52:16 :	0.53 minutes	
Injector downtime:	04/08/2017 20:43:44	to	04/08/2017 20:51:44 :	~ 8.00 minutes	
Period Beginning 04/11/2	<u>017 08:01</u>				
Current in Range			99.74 %		
Injector Availability			99.68 %		
Out of Range at:	04/13/2017 10:51:20	to	04/13/2017 11:13:52 :	22.53 minutes	
Injector downtime:	04/13/2017 10:46:24	to	04/13/2017 11:13:48 :	27.40 minutes	
Period Beginning 04/18/2	017 08:01				
Current in Range			100.00 %		
Injector Availability		1	100.00 %		

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