

# Downtime for Run 2020-1

Fill #	Start	End	Length	Loss Reason	DIN #	Audit	Start	End	User Length	System Length	Cause	System	Group	Type	Description
1	02/04/20 08:00	2/9/2020 21:42	133.70	S16A:Q3 fault [PS]	107124		2/9/2020 21:42	02/09/20 23:38	1.93	1.93	PS	PS	PS	Store Lost	
2	02/09/20 23:38	02/10/20 08:00	8.37	Int Dump: End of Period					0.00	0.00				Scheduled	
			142.07						1.93	1.93					
3	02/11/20 08:00	02/14/20 12:43	76.72	Rad Mon @10ID door [OTH]	107128		02/14/20 12:43	02/14/20 13:24	0.68	0.68	HP	HP	HP	Store Lost	
4	02/14/20 13:24	2/15/2020 5:14	15.83	ComEd Power Sag [FAC]	107129		2/15/2020 5:14	2/15/2020 13:50	8.60	8.60	ComEd	ComEd	ComEd	Store Lost	
5	02/15/20 13:50	02/17/20 08:00	42.17	Int Dump: End of Period					0.00	0.00				Scheduled	
			134.72						9.28	9.28					
6	02/18/20 08:00	02/24/20 08:00	144.00	Int Dump: End of Period					0.00	0.00				Scheduled	
			144.00						0.00	0.00					
7	02/25/20 08:00	03/02/20 08:00	144.00	Int Dump: End of Period					0.00	0.00				Scheduled	
			144.00						0.00	0.00					
8	03/03/20 08:00	3/7/2020 12:38	100.63	RTFB incorrectly started [MCR]	107155		3/7/2020 12:38	3/7/2020 15:31	2.88	2.88	MCR	MCR	MCR	Store Lost	
10	03/07/20 15:31	03/09/20 08:00	39.48	Int Dump: End of Period					0.00	0.00				Scheduled	
			140.12						2.88	2.88					
11	03/10/20 08:00	3/13/2020 12:37	76.62	Rf-4 tripped on cav vac [RF]	107156		3/13/2020 12:37	3/13/2020 18:00	5.38						
							3/13/2020 12:37	3/13/2020 13:07		0.50	RF	RF	RF	Store Lost	RF-4 tripped on ion gauge fault
							3/13/2020 13:07	3/13/2020 18:00		4.88	MOM	MOM	MOM	Inhibits Beam to User	S21ID SS shutter stuck open
12	03/13/20 18:00	03/16/20 08:00	62.00	Int Dump: End of Period					0.00	0.00				Scheduled	
			138.62						5.38	5.38					
			0.00	Injection problems [AOP]	107157		03/18/20 08:00	03/18/20 09:24	1.40	1.40	AOP	AOP	AOP	Inhibits Beam to User	SR injection issues adjusted tunes and TFB system
13	03/18/20 09:24	3/21/2020 5:18	67.90	RF-4 T/R N2 pressure [RF]	107158		3/21/2020 5:18	3/21/2020 7:07	1.82	1.82	RF	RF	RF	Store Lost	
14	03/21/20 07:07	03/23/20 08:00	48.88	Int Dump: End of Period					0.00	0.00				Scheduled	
			116.78						3.22	3.22					
15	03/24/20 08:00	03/24/20 12:15	4.25	S26A:V3 PS fit [PS]	107160		03/24/20 12:15	03/24/20 13:05	0.83	0.83	PS	PS	PS	Store Lost	
16	03/24/20 13:05	03/25/20 16:00	26.92	Intentional Dump [OTH]	107163		03/25/20 16:00	03/25/20 18:04	2.07	2.07	OTH	OTH	OTH	Store Lost	
17	03/25/20 18:04	3/26/2020 8:25	14.35	H2O Flow Fault [FAC]	107162		3/26/2020 8:25	3/26/2020 10:54	2.48	2.48	FAC	FAC	FAC	Store Lost	
18	03/26/20 10:54	03/30/20 08:00	93.10	Int Dump: End of Period					0.00	0.00				Scheduled	
			138.62						5.38	5.38					
19	03/31/20 08:00	4/2/2020 20:21	60.35	IOCS35FB Error [CTL]	107164		4/2/2020 20:21	04/02/20 22:27	2.10	2.10	CTL	CTL	CTL	Store Lost	
20	04/02/20 22:27	04/06/20 08:00	81.55	Int Dump: End of Period					0.00	0.00				Scheduled	
			141.90						2.10	2.10					
21	04/07/20 08:00	4/7/2020 22:48	14.80	RF-4 crowbar trip [RF]	107168		4/7/2020 22:48	04/07/20 23:37	0.82	0.82	RF	RF	RF	Store Lost	
22	04/07/20 23:37	04/13/20 08:00	128.38	Int Dump: End of Period					0.00	0.00				Scheduled	
			143.18						0.82	0.82					
23	04/14/20 08:00	4/16/2020 4:40	44.67	Rf-4 mod anode glitch [RF]	107176		4/16/2020 4:40	04/16/20 05:21	0.68	0.68	RF	RF	RF	Store Lost	
24	04/16/20 05:21	04/20/20 08:00	98.65	Int Dump: End of Period					0.00	0.00				Scheduled	
			143.32						0.68	0.68					
25	04/22/20 08:00	4/25/2020 3:14	67.23	Multiple FEEPS trips [OTH]	107178		4/25/2020 3:14	04/25/20 04:18	1.07	1.07	OTH	OTH	OTH	Store Lost	
26	04/25/20 04:18	04/27/20 08:00	51.70	Int Dump: End of Period					0.00	0.00				Scheduled	
			118.93						1.07	1.07					
				Injection problems [AOP]	107179		4/28/2020 8:00	04/28/20 08:10	0.17	0.17	AOP	AOP	AOP	Inhibits Beam to User	
27	04/28/20 08:10	05/04/20 08:00	143.83	Int Dump: End of Period					0.00	0.00				Scheduled	
			143.83						0.17	0.17					
28	05/05/20 08:00	05/07/20 09:00	49.00	S38 H2O fit [RF]	107182		05/07/20 09:00	05/07/20 09:36	0.60	0.60	RF	RF	RF	Store Lost	
29	05/07/20 09:36	5/9/2020 19:24	57.80	S1 RTFB heartbeat [CTL]	107183		5/9/2020 19:24	5/9/2020 20:18	0.90	0.90	CTL	CTL	CTL	Store Lost	
30	05/09/20 20:18	05/11/20 08:00	35.70	Int Dump: End of Period					0.00	0.00				Scheduled	
			142.50						1.50	1.50					
31	05/12/20 08:00	5/14/2020 23:45	63.75	Lightning strike [OTH]	107184		5/14/2020 23:45	05/15/20 00:31	0.77	0.77	OTH	OTH	OTH	Store Lost	
32	05/15/20 00:31	05/18/20 08:00	79.48	Int Dump: End of Period					0.00	0.00				Scheduled	
			143.23						0.77	0.77					
33	05/20/20 08:00	05/25/20 08:00	120.00	Int Dump: End of Period					0.00	0.00				Scheduled	
			120.00						0.00	0.00					
34	05/26/20 08:00	05/26/20 11:23	3.38	RF3 circ load trip [RF]	107185		05/26/20 11:23	05/26/20 11:58	0.58	0.58	RF	RF	RF	Store Lost	
35	05/26/20 11:58	05/27/20 22:13	34.25	S37 load trip [RF]	107186		05/27/20 22:13	05/27/20 23:02	0.82	0.82	RF	RF	RF	Store Lost	
36	05/27/20 23:02	05/28/20 14:31	15.48	RF3 circ load trip [RF]			05/28/20 14:31	05/28/20 18:04	3.55						
					107187		05/28/20 14:31	05/28/20 15:43		1.20	RF	RF	RF	Store Lost	
					107188		05/28/20 15:43	05/28/20 18:04		2.35	RF	RF	RF	Inhibits Beam to User	Fill <1 hour RF waveguide switch

Fill #	Start	End	Length	Loss Reason	DIN #	Audit	Start	End	User Length	System Length	Cause	System	Group	Type	Description
38	05/28/20 18:04	05/29/20 16:47	22.72	RF4 HV glitch [RF]	107190		05/29/20 16:47	05/29/20 17:23	0.60	0.60	RF	RF	RF	Store Lost	
39	05/29/20 17:23	5/31/2020 11:56	42.55	RF2 circ load arc trip [RF]	107191		5/31/2020 11:56	5/31/2020 12:37	0.68	0.68	RF	RF	RF	Store Lost	
40	05/31/20 12:37	06/01/20 00:00	11.38	Int Dump: End of Period					0.00	0.00				Scheduled	
			126.38						6.23	6.23					

	Scheduled	Supplemental	
<b>Number of Lost Fills</b>	15		6
<b>Number of Intentional Dumps</b>	14		3
<b>Number of Fills</b>	29		9
<b>Total User Beam</b>	1932.58		80.5 User Beam days
<b>Total User Downtime</b>	34.42	← This downtime includes Gaps Open	
<b>Total Schedule Run Length</b>	1967		
<b>Mean Time Between Faults</b>	128.84		
<b>Faults/Day of Delivered Beam</b>	0.19		
<b>X-ray Availability</b>	98.25%		

<b>Downtime</b>	
User System	
34.42	34.42
7.00	7.00

<b>Total User Beam Supplemental</b>	463.31
<b>Total User Supplemental Downtime</b>	7.00
<b>Total Supplemental Run Length</b>	470

<b>Mean Time Between Faults</b>	77.22
<b>Faults/Day of Delivered Beam</b>	0.31
<b>X-ray Availability</b>	98.51%