

APS Reliability, FY2000

Reliability Budget per
memo of 2/22/1998

System	Unavailability Allotment	Number of Faults	Mean Time to Beam Loss	Faults Per Day
RF	1.0%		200	0.12
Diagnostics	0.2%		800	0.03
PS	1.0%		200	0.12
Controls	0.2%		800	0.03
Water/ME	0.8%		320	0.08
Vacuum	0.3%		1600	0.02
S&A	0.0%		10000	0.00
Operations	0.1%		1600	0.02
OAG	0.1%		1600	0.02
Physics	0.0%		10000	0.00
Beamlines	0.1%		800	0.03
ISI				
Other	0.2%		800	0.03
Intentional Refill	1.0%			
Total	5.0%		49.8	0.48

Data through Run 2000-3

FY 2000 Actual	Unavailability Percent	Unavailability Hours	Number of Faults	Mean Time to Beam Loss	Faults Per Day		
RF	0.87%	43.99	26	181.7	0.13	User Downtime Hours	323.24
Diagnostics	0.07%	3.45	6	787.3	0.03		
PS	1.07%	53.90	55	85.9	0.28	Scheduled Hours	5047.00
Controls	0.49%	24.55	19	248.6	0.10		
Water/ME	0.13%	6.57	3	1574.6	0.02	Delivered Hours	4723.76
Vacuum	2.30%	116.18	5	944.8	0.03		
S&A	0.00%	0.00	0	0.0	0.00	User Availability	93.6%
Operations	0.10%	4.83	3	1574.6	0.02		
OAG	0.06%	3.18	1	4723.8	0.01		
Physics	0.07%	3.45	0	0.0	0.00		
Beamlines	0.01%	0.46	1	4723.8	0.01		
ISI	0.40%	20.33	13	363.4	0.07		
Other	0.86%	43.54	28	168.7	0.14		
Intentional Refill	0.00%	0.00					
Total	6.43%	324.43	160	29.5	0.81		

Run 1999-5	Unavailability Percent	Unavailability Hours	Number of Faults	Mean Time to Beam Loss	Faults Per Day		
RF	0.48%	4.88	2	485.4	0.05	User Downtime Hours	53.20
Diagnostics	0.10%	1.07	3	323.6	0.07		
PS	1.66%	17.03	18	53.9	0.44	Scheduled Hours	1024.0
Controls	0.94%	9.58	8	121.4	0.20		
Water/ME	0.23%	2.40	1	970.8	0.02	Delivered Hours	970.8
Vacuum	0.03%	0.32	1	970.8	0.02		
S&A	0.00%	0.00	0	0.0		User Availability	94.8%
Operations	0.00%	0.00	0	0.0			
OAG	0.00%	0.00	0	0.0			
Physics	0.21%	2.17	0	0.0			
Beamlines	0.00%	0.00	0	0.0			
ISI	0.73%	7.43	3	323.6	0.07		
Other	0.81%	8.32	8	121.4	0.20		
Intentional Refill	0.00%	0.00		0.0	0.0		
Total	5.20%	53.20	44	22.1	1.09		

Run 2000-1	Unavailability Percent	Unavailability Hours	Number of Faults	Mean Time to Beam Loss	Faults Per Day		
RF	0.70%	10.52	5	292.4	0.08	User Downtime Hours	49.24
Diagnostics	0.02%	0.28	1	1461.8	0.02		
PS	0.69%	10.42	6	243.6	0.10	Scheduled Hours	1511.00
Controls	0.38%	5.68	5	292.4	0.08		
Water/ME	0.11%	1.67	0	0.0		Delivered Hours	1461.76
Vacuum	0.21%	3.14	2	730.9	0.03		
S&A	0.00%	0.00	0	0.0		User Availability	96.7%
Operations	0.02%	0.28	1	1461.8	0.02		
OAG	0.17%	2.56	1	1461.8	0.02		
Physics	0.00%	0.00	0	0.0			
Beamlines	0.00%	0.00	0	0.0			
ISI	0.29%	4.33	4	365.4	0.07		
Other	0.73%	11.05	10	146.2	0.16		
Intentional Refill	0.00%	0.00					
Total	3.30%	49.93	35	41.8	0.57		

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	Unavailability Percent	Unavailability Hours				Number of Faults	Mean Time to Beam Loss	Faults Per Day
Run 2000-2								
RF	0.93%	11.60	10	118.2	0.20	User Downtime Hours	66.3	
Diagnostics	0.17%	2.10	2	590.9	0.04			
PS	1.23%	15.40	22	53.7	0.45	Scheduled Hours	1248.00	
Controls	0.18%	2.30	1	1181.7	0.02			
Water/ME	0.20%	2.50	2	590.9	0.04	Delivered Hours	1181.70	
Vacuum	0.00%	0.00	0	0.0				
S&A	0.00%	0.00	0	0.0		User Availability	94.7%	
Operations	0.34%	4.20	1	1181.7	0.02			
OAG	0.05%	0.62	0	0.0				
Physics	0.10%	1.28	0	0.0				
Beamlines	0.04%	0.46	1	1181.7	0.02			
ISI	0.44%	5.44	3	393.9	0.06			
Other	1.67%	20.90	5	236.3	0.10			
Intentional Refill	0.00%	0.00						
Total	5.35%	66.80	47	25.1	0.95			

System	Unavailability Allotment		Number of Faults	Mean Time to Beam Loss	Faults Per Day			
	Unavailability Percent	Unavailability Hours				Number of Faults	Mean Time to Beam Loss	Faults Per Day
Run 2000-3								
RF	1.34%	16.99	9	123.28	0.19	User Downtime Hours	154.50	
Diagnostics	0.00%	0.00	0					
PS	0.87%	11.05	9	123.28	0.19	Scheduled Hours	1264.00	
Controls	0.55%	6.99	5	221.90	0.11			
Water/ME	0.00%	0.00	0			Delivered Hours	1109.50	
Vacuum	8.92%	112.72	2	554.75	0.04			
S&A	0.00%	0.00	0			User Availability	87.8%	
Operations	0.03%	0.35	1	1109.50	0.02			
OAG	0.00%	0.00	0					
Physics	0.00%	0.00	0					
Beamlines	0.00%	0.00	0					
ISI	0.25%	3.13	3	323.60	0.07			
Other	0.26%	3.27	5	221.90	0.11			
Intentional Refill	0.00%	0.00	0					
Total	12.22%	154.50	34	32.23	0.74			