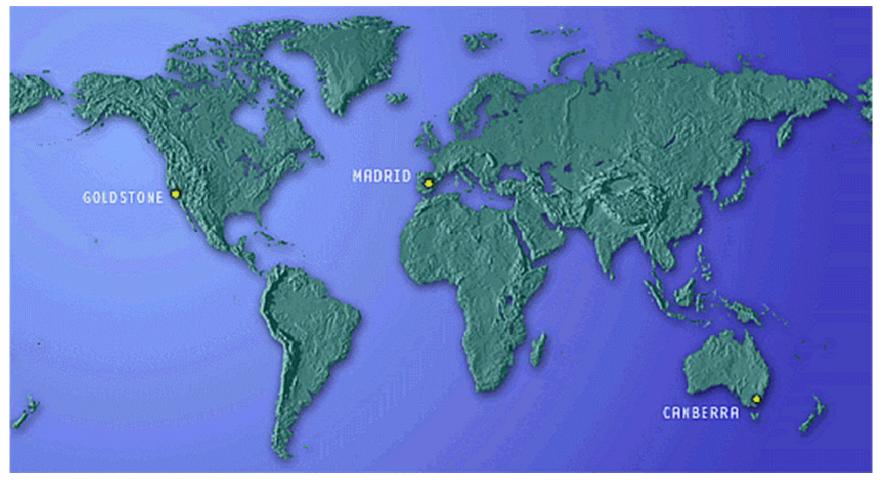
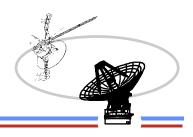




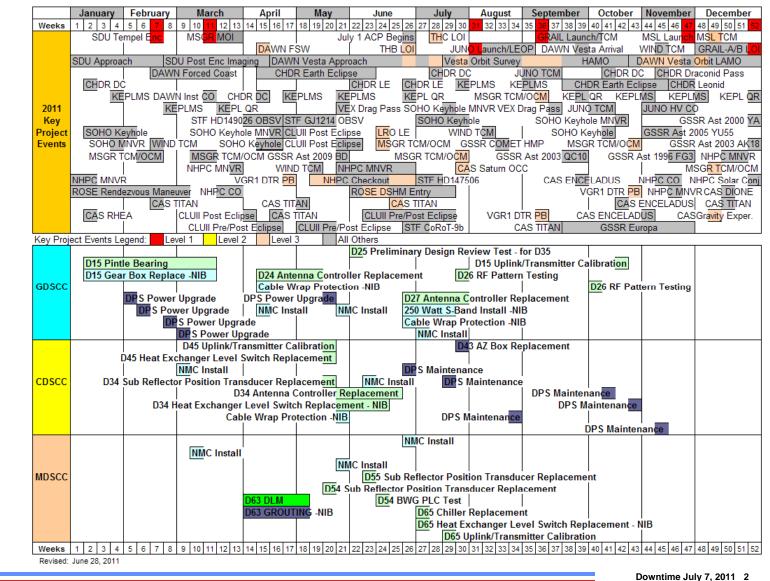
DSN Antenna Downtime Status and Forecast

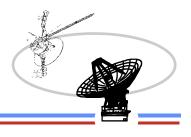




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- 2011 -

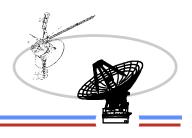




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		20	11				
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 27	250 Watt S-Band Install - NIB	06/27/2011 17:15	07/24/2011 00:00	26	26 - 29	178	205
DSS 27	Antenna Controller Replacement	06/27/2011 17:15	07/26/2011 11:30	29	26 - 30	178	207
DSS 65	Chiller Replacement	07/06/2011 00:00	07/06/2011 15:10	1	27 - 27	187	187
DSS 65	Heat Exchanger - NIB	07/06/2011 00:00	07/06/2011 15:10	1	27 - 27	187	187
DSS 65	Chiller Replacement	07/07/2011 05:00	07/07/2011 17:00	0	27 - 27	188	188
DSS 65	Heat Exchanger - NIB	07/07/2011 05:00	07/07/2011 17:00	0	27 - 27	188	188
SPC 10	NMC Installation	07/10/2011 02:30	07/10/2011 05:30	0	27 - 27	191	191
DSS 65	Uplink/Transmitter Cal	07/20/2011 05:35	07/20/2011 19:35	1	29 - 29	201	201
DSS 65	Uplink/Transmitter Cal	07/21/2011 07:35	07/21/2011 14:35	0	29 - 29	202	202
SPC 40	DPS Maintenance	07/24/2011 22:00	07/25/2011 06:00	0	29 - 30	205	206
DSS 43	AZ Box Replacement	07/25/2011 22:00	07/28/2011 18:25	3	30 - 30	206	209
DSS 26	RF Pattern Testing	07/26/2011 15:15	07/27/2011 03:35	1	30 - 30	207	208
DSS 26	RF Pattern Testing	07/29/2011 13:00	07/29/2011 23:00	0	30 - 30	210	210
SPC 40	DPS Maintenance	08/25/2011 01:00	08/25/2011 13:00	0	34 - 34	237	237
DSS 26	RF Pattern Testing	10/03/2011 02:20	10/06/2011 02:20	3	40 - 40	276	279
SPC 40	DPS Maintenance	10/13/2011 20:00	10/14/2011 06:05	0	41 - 41	286	287
DSS 15	Uplink/Transmitter Cal	10/20/2011 10:00	10/21/2011 22:00	2	42 - 42	293	294
SPC 40	DPS Maintenance	10/24/2011 20:00	10/25/2011 08:00	0	43 - 43	297	298
SPC 40	DPS Maintenance	11/10/2011 20:00	11/11/2011 08:00	0	45 - 45	314	315





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Antenna Downtime Status and Forecast

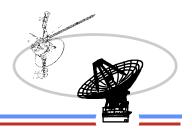
The following are downtimes for 2011

- □ NMC 2 4 hour Complex Wide Downtime
 - Goldstone NMC Task
 - Additional time is scheduled for July 10, week 27, DOY 191/0230-0530 for Automation Assembly
 - Madrid NMC Task
 - □ July 03, week 26 Completed
- □ 34HEF Uplink and Transmitter Calibration downtime is requested on
 - DSS-65 and DSS-15 for 36 hours in 2011
 - DSS-65 is scheduled for week 29 July 20 and 21
 - DOY 201/0535 1935
 - □ DOY 202/0735 1435
 - □ DSS-15 is scheduled for week 42 October 20 21, DOY 293/1000 294/2200
- □ Canberra request six 8 12 hour blocks of Complex Wide DSCC Power Substation
 - (DPS) Maintenance Downtime for April November
 - □ Scheduled/completed for weeks listed
 - □ June 30, week 26, Completed

□ July 24, week 29, DOY 205/2200 – 206/0600 – Changed from week 30 due to JUNO Launch Rehearsal

- □ August 25, week 34, DOY 237/0100 1300
- □ October 13, week 41, DOY 286/2000 287/0605
- □ October 24, week 43, DOY 297/2000 298/0800
- □ November 10, week 45, DOY 314/2000 315/0800
- There is a possibility that downtimes may be affected by GRAIL if the launch slips into week
 40





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Antenna Downtime Status and Forecast

Downtimes for 2011 (continued)

- BWG Antenna Controller Replacement is requested starting in April
 - DSS-34 was completed in week 25
 - □ Heat Exchanger Replacement was scheduled NIB ending in week 24
 - □ DSS-27 is scheduled for June 27 July 25, weeks 26 30, DOY 178/1715 207/1130
 - 250 Watt S-Band Installation is scheduled NIB
 - Downtime will begin after THB LOI support on DOY 178.

Note: Cable wrap protection for each BWG requires 3 days and will be NIB

Additional Antenna Controller Replacements are proposed for 2012 and 2013

- Sub Reflector Position Transducer Replacement was scheduled for May and June
 DSS 55 was completed in week 23
- DSS-54 PLC test was requested in FY 2011
 - DSS-54 was completed in week 24



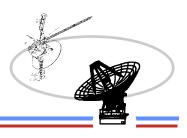


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Antenna Downtime Status and Forecast

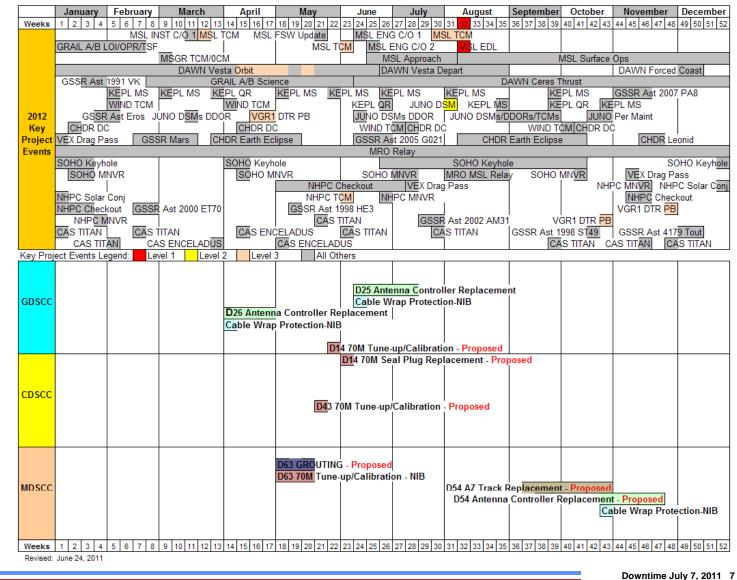
Downtimes for 2011 (continued)

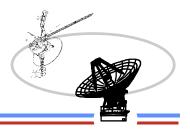
- DSS-65 Chiller replacement was scheduled for July, week 27
 - □ Four blocks for July 04, 05, 06, and 07 were completed
 - □ Heat Exchanger Replacement was scheduled NIB
- DSS-43 Elevation Databox Replacement for 72 hours is scheduled for July
 - $\hfill\square$ This has been scheduled for July 25 29, week 30 DOY 206/2200 209/1825
- □ DSS-26 RF Pattern Testing is requested for July and September
 - □ Two blocks are scheduled for July, week 30.
 - □ DOY 207/1515 208/0335
 - □ DOY 210/1300 2300
 - □ One block is scheduled in October, week 40, DOY 276/0000 279/0220
- DSS-15 Downtime for TXR Manifold Upgrade requested
 - One week of downtime is requested. Tentative dates depend on the arrival of spare parts to the complex,
 - □ Mid October 2011 or Mid February 2012



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- 2012 -

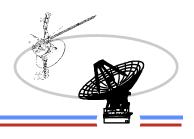




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	2012									
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY			
DSS 26	Cable Wrap Protection - NIB	04/02/2012 13:00	04/05/2012 05:00	3	14 - 14	93	96			
DSS 26	Antenna Controller Replacement	04/02/2012 13:00	04/29/2012 01:00	26	14 - 17	93	120			
DSS 63	70m Tune-up/Calibration - NIB	04/30/2012 06:00	05/20/2012 17:00	20	18 - 20	121	141			
DSS 63	Grouting - Proposed	04/30/2012 06:00	05/20/2012 17:00	20	18 - 20	121	141			
DSS 43	70m Tune-up/Calibration - Proposed	05/21/2012 19:00	05/25/2012 07:00	4	21 - 21	142	146			
DSS 14	70m Tune-up/Calibration - Proposed	05/28/2012 14:00	06/02/2012 01:00	4	22 - 22	149	154			
DSS 14	Plug Seal Replacement	06/04/2012 14:00	06/12/2012 01:00	7	23 - 24	156	164			
DSS 25	Cable Wrap Protection - NIB	06/11/2012 00:00	06/14/2012 00:00	3	24 - 24	163	166			
DSS 25	Antenna Controller Replacement	06/11/2012 00:00	07/15/2012 00:00	34	24 - 28	163	197			
DSS 54	AZ Track Replacement - Proposed	09/10/2012 00:00	10/28/2012 00:00	48	37 - 43	254	302			
DSS 54	Cable Wrap Protection - NIB	10/22/2012 00:00	10/25/2012 00:00	3	43 - 43	296	299			
DSS 54	Antenna Controller Replacement - Proposed	10/22/2012 00:00	11/25/2012 00:00	34	43 - 47	296	330			





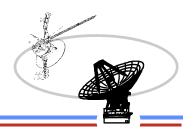
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Antenna Downtime Status and Forecast

The following are downtimes for 2012 – 2014

- □ BWG Antenna Controller Replacement for 2012 2013
 - □ DSS-26 is Scheduled for April 02 29, weeks 14 17, 2012, DOY 093/1300 120/0100
 - □ DSS-25 is Scheduled for June 11 July 15, weeks 24 28, 2012
 - □ DSS-54 is proposed for October 22 November 25, weeks 43 47, 2012
 - □ DSS-55 is proposed for January 14 February 17, 2013, weeks 03 07, 2013
 - Note: Cable Wrap Protection for each BWG ACR requires 3 days and will be NIB
- DSS-63 downtime for Grouting is requested once per year
 - Proposed for May 7 27, weeks 18 20, 2012, DOY 121/0600 141/1700 Analysis is completed NHPC has issues with this downtime placement
 - □ Tune-up/Calibration is requested NIB to grouting
 - Downtime was backed up 1 week due to Cassini requirements
 - □ Grouting is also proposed for September 2 17, weeks 36 38, 2013 Note: Stand alone Grouting requires 15 days
- DSS-43 downtime for Tune-up/Calibration is requested for 2012
 - □ Tune-up/Calibration is proposed for May 21 25, week 21
 - Downtime was reevaluated and moved to week 21 due to a Cassini Ring Occultation in week 26,DOY 180
- DSS-14 downtime for Tune-up/Calibration is requested for 2012
 - □ Tune-up/Calibration is proposed for May 28 June 01, week 22
- □ DSS-14 downtime for Plug Seal Replacement is requested for 2012
 - □ Plug Seal Replacement is proposed for June 4 12, weeks 23 24
 - Complex could potentially perform task in increments prior to June 2012





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Antenna Downtime Status and Forecast

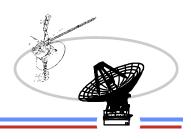
The following are downtimes for 2012 – 2014 (continued)

□ AZ Track Replacement is requested for DSS-54, 24 and 26 beginning in the fall of 2012. The following sequence is proposed

- □ DSS-54 is proposed for September 10 October 28, weeks 37 43, 2012,
- □ DSS-24 is proposed for April 22 June 30, weeks 17 26, 2013
- □ DSS-26 is proposed for March 31 June 8, weeks 14 23, 2014
 - 80 kW Facility Preparation will be scheduled NIB March 31 May 18, weeks14 – 20

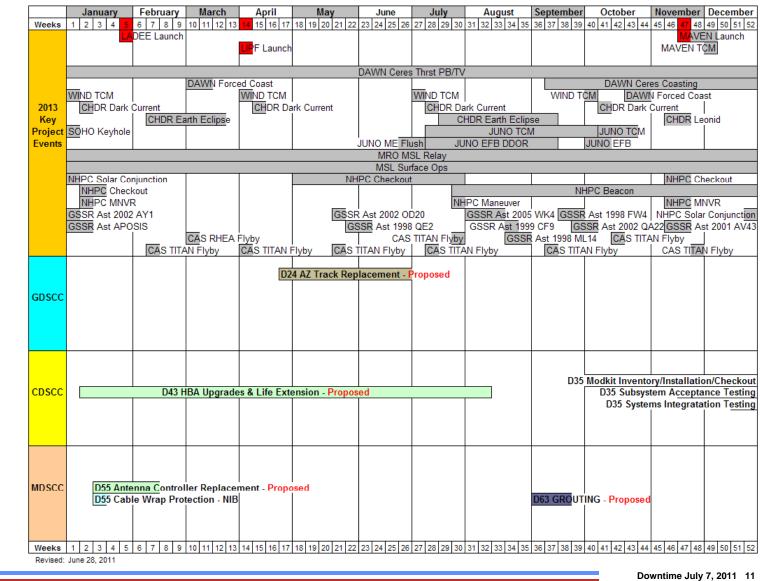
□ DSS-43 HBA Upgrade Downtime is proposed for 2013

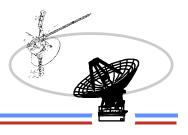
- □ Proposed for January 7 August 11, weeks 02 32
 - □ ZDD will be scheduled prior to return to service
- NOTE: This downtime is currently under review
- DSS-63 HBA Upgrade Downtime is proposed for 2014
 - \Box Proposed for March 10 October 5, weeks 11– 40
 - □ ZDD will be scheduled prior to return to service



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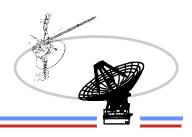
- 2013 -





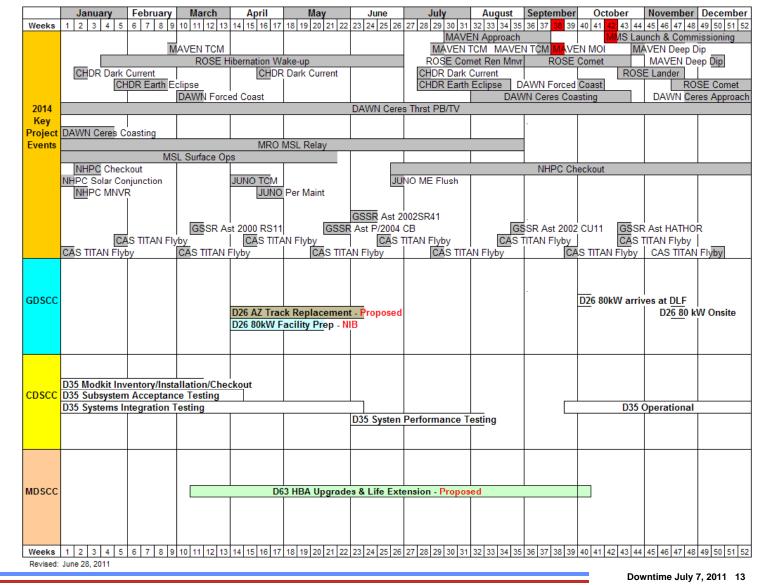
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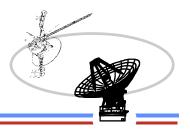
		2013					
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 43	HBA Upgrades and Life Extension - Proposed	01/07/2013 00:00	08/11/2013 00:00	216	02 - 32	7	223
DSS 55	Cable Wrap Protection - NIB	01/14/2013 00:00	01/17/2013 00:00	3	03 - 03	14	17
DSS 55	Antenna Controller Replacement - Proposed	01/14/2013 00:00	02/17/2013 00:00	34	03 - 07	14	48
DSS 24	AZ Track Replacement - Proposed	04/22/2013 00:00	06/30/2013 00:00	69	17 - 26	112	181
DSS 63	Grouting - Proposed	09/02/2013 00:00	09/17/2013 00:00	15	36 - 38	245	260



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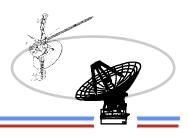
- 2014 -



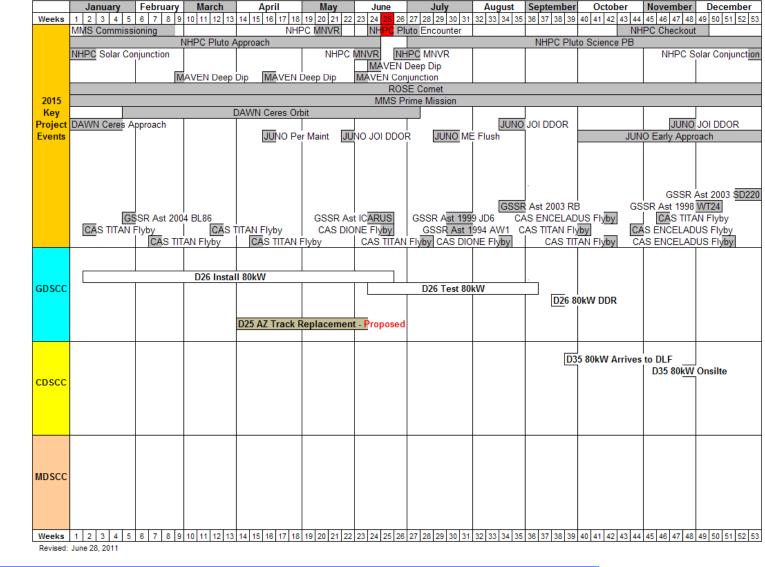


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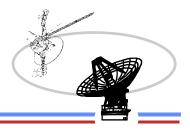
	2014								
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY		
DSS 63	HBA Upgrades and Life Extension - Proposed	03/10/2014 00:00	10/05/2014 00:00	209	11 - 40	69	278		
DSS 26	80 kW Facility Prep - NIB	03/31/2014 00:00	05/18/2014 00:00	48	14 - 20	90	138		
DSS 26	AZ Track Replacement - Proposed	03/31/2014 00:00	06/08/2014 00:00	69	14 - 23	90	159		



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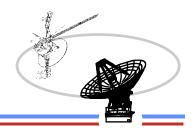
- 2015 -



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			2015					
S	ite	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DS	S 25	AZ Track Replacement - Proposed	03/31/2015 00:00	06/07/2015 00:00	68	14 - 23	90	158



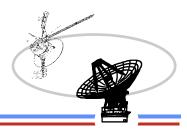


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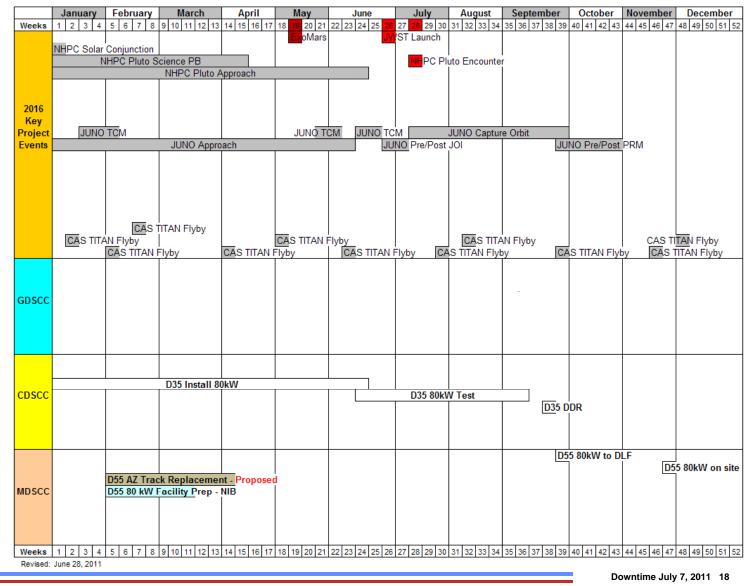
Antenna Downtime Status and Forecast

The following are downtimes for 2015 – 2016

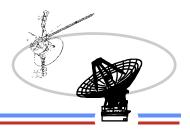
- □ AZ Track Replacement is requested for DSS-25 and 55
 - □ DSS-25 is proposed for March 31 June 7, weeks 14 23, 2015
 - □ DSS-55 is proposed for February 1 April 10, weeks 05 14, 2016
 - □ 80 kW Facility Preparation is scheduled NIB for February 1 March 20, weeks 05 11



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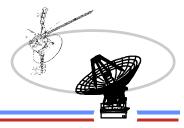
- 2016 -



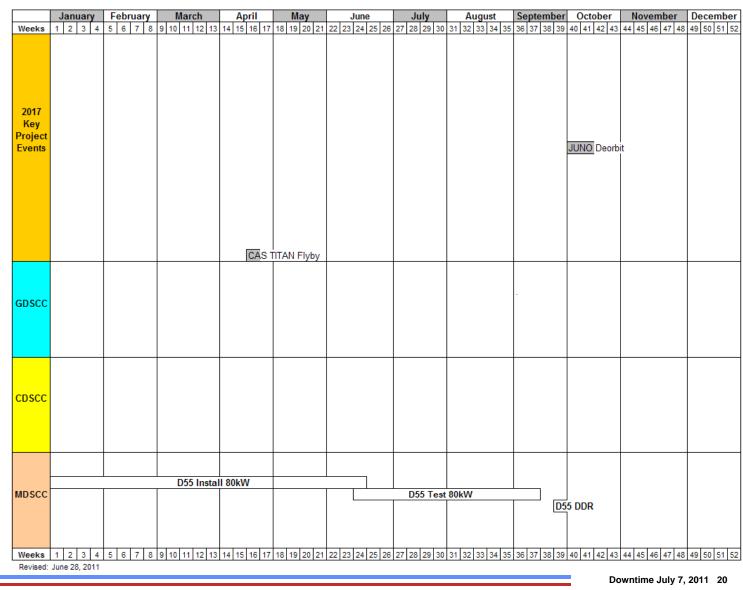
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		2016					
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 55	80 kW Facility Prep - NIB	02/01/2016 00:00	03/20/2016 00:00	48	05 - 11	32	80
DSS 55	AZ Track Replacement - Proposed	02/01/2016 00:00	04/10/2016 00:00	69	05 - 14	32	101



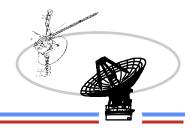


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- 2017 -



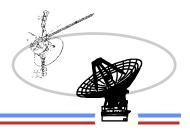


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Future assets new/upgrades

- □ DSS-35 Installation and Operational 2013 2014
 - □ Modkit Installation October 1, 2013 March 14, 2014 weeks 40 11
 - □ Acceptance Testing November 22, 2013 April 4, 2014, weeks 47 14
 - □ System Integration Testing December 17, 2013 June 2, 2014 weeks 51 23
 - Operations Systems Performance Testing June 2, 2014 August 15, 2014, weeks 23 – 33
 - Department Operational September 26, 2014
- □ DSS-26 80kW Installation 2014 2015
 - □ 80kW arrive at DLF October, 2014, week 40
 - BokW arrive on-site November, 2014, week 47
 - □ 80kW install January June, 2015, weeks 02 25
 - □ 80 kW test June September, 2015, weeks 24 36
 - DDR September, 2015, week 38
- □ DSS-35 80kW Installation 2016 A placeholder has been set awaiting dates
- DSS-36 Installation and Operational 2016 A placeholder has been set awaiting dates
- □ DSS-55 80kW Installation 2016 2017
 - □ 80kW Facility Prep February 2016, weeks 05 10
 - □ 80kW at DLF September, 2016, week 39
 - □ 80kW on-site November, 2016, week 47
 - □ 80kW install January June, 2017, weeks 01 24
 - □ 80kW test June September, 2017, weeks 24 37
 - DDR September, 2017, week 39





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Antenna Downtime Status and Forecast

			S-B	and	Х-В	and	Ka-E	Band	Ka 2	X-Band	
Complex	Station	Subnet	Down	Up	Down	Up	Down	Up	na z	ACQ AID	80kW
10	DSS-27	34HSB	•	>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	DSS-24	34B1	<	v	>	>	N/A	N/A	<	✓	N/A
40	DSS-34	34B1	•	v	~	>	<	N/A	•	✓	N/A
60	DSS-54	34B1	•	v	~	~	 	N/A	<	✓	N/A
10	DSS-25	34B2	N/A	N/A	~	~	<	12/12/10	N/A	N/A	N/A
10	DSS-26	34B2	N/A	N/A	~	~	<	N/A	N/A	N/A	10/01/15
40	DSS-35*	34B2	N/A	N/A	11/01/14	11/01/14	11/01/14	N/A	N/A	N/A	11/01/16
40	DSS-36*	34B2	N/A	N/A	11/01/16	11/01/16	11/01/16	N/A	N/A	N/A	N/A
60	DSS-55	34B2	N/A	N/A	>	>	<	N/A	N/A	N/A	10/01/17
10	DSS-15	34HEF	<	N/A	>	>	N/A	N/A	N/A	N/A	N/A
40	DSS-45	34HEF	٨	>	>	*	N/A	N/A	N/A	N/A	N/A
60	DSS-65	34HEF	<	>	>	>	N/A	N/A	N/A	N/A	N/A
10	DSS-14	70M	~	~	~	~	N/A	N/A	N/A	N/A	N/A
40	DSS-43	70M	~	~	~	~	N/A	N/A	N/A	N/A	N/A
60	DSS-63	70M	~	>	~	>	N/A	N/A	N/A	N/A	N/A
N/A = Capa	bility Not P	lanned		xx/xx/xx =	Capability	Date Recent	ly Changed		As of:	6/28/2010	
✓ ✓ ✓ = Ca	pability Re	cently Exis	sts		✓ = Capab	ility Exists			* = To Be	Commissioned	