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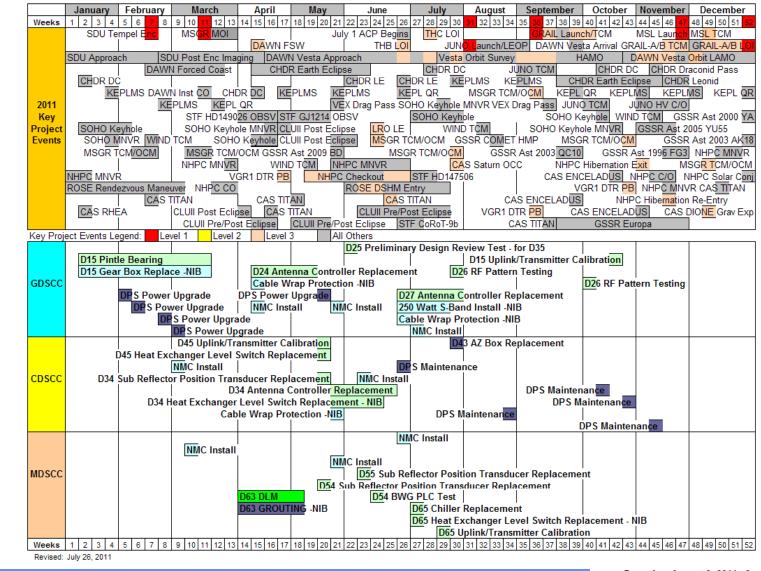
DSN Antenna Downtime Status and Forecast

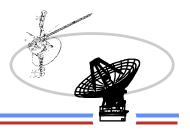




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- 2011 -

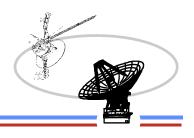




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	2011										
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY				
SPC 40	DPS Maintenance	08/25/2011 01:00	08/25/2011 13:00	0	34 - 34	237	237				
DSS 26	RF Pattern Testing	10/03/2011 00:00	10/06/2011 02:20	3	40 - 40	276	279				
SPC 40	DPS Maintenance	10/13/2011 16:50	10/14/2011 06:05	1	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 17:00	10/25/2011 03:00	0	43 - 43	297	298				
SPC 40	DPS Maintenance	11/10/2011 20:00	11/11/2011 08:00	0	45 - 45	314	315				





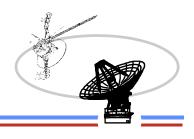
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Antenna Downtime Status and Forecast

The following are downtimes for 2011

- □ NMC 2 4 hour Complex Wide downtime
 - Goldstone NMC Task
 - Additional time was scheduled for Automation Assembly in week 27 This was cancelled by the Engineers
- □ 34HEF Uplink and Transmitter Calibration downtime is requested on
 - DSS-65 and DSS-15 for 36 hours in 2011
 - DSS-65 was scheduled for week 29 Completed
 - □ DSS-15 is scheduled for week 42 October 20 21, DOY 293/1000 294/2200
- Canberra requested six 8 12 hour blocks of Complex Wide DSCC Power Substation (DPS) Maintenance Downtime for April – November
 - □ Scheduled/completed for weeks listed
 - □ July 24, week 29 This was cancelled due to delay in obtaining specific equipment required for the allotted task.
 - □ 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-27 was scheduled for weeks 26 30 Completed
 - 250 Watt S-Band Installation was scheduled NIB
 - Downtime began after THB LOI support on DOY 178.

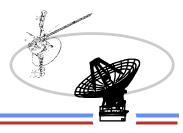
Additional Antenna Controller Replacements are proposed for 2012 and 2013

□ DSS-65 Chiller replacement was scheduled for July, week 27

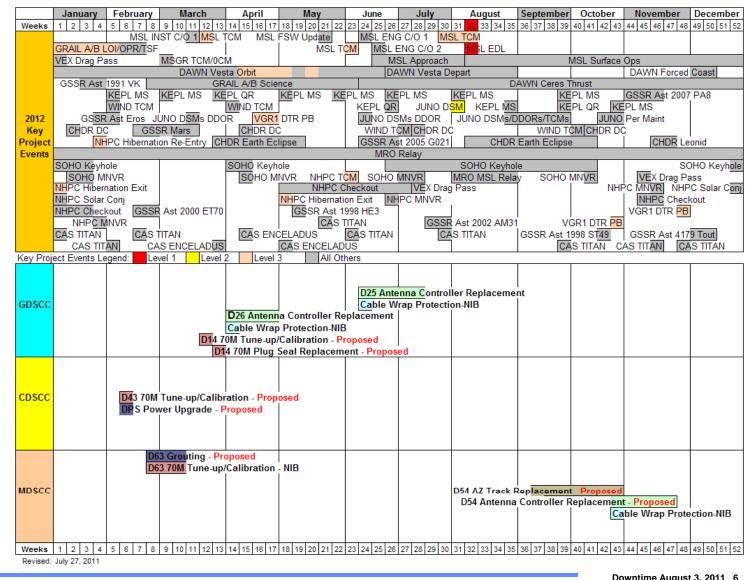
- □ Four blocks for July 4, 5, 6, and 7 were scheduled
 - Parts arrived on July 6. Time was re-scheduled with regular maintenance and is now completed
- Heat Exchanger Replacement was scheduled NIB
- DSS-43 Elevation Databox Replacement for 72 hours was scheduled for July
 - □ This was scheduled for week 30 Completed

□ DSS-26 RF Pattern Testing is requested for July and September

- □ Two blocks were scheduled for week 30 Completed
- □ One block is scheduled in October, week 40, DOY 276/0000 279/0220

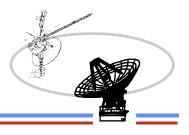


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- 2012 -

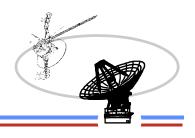
Downtime August 3, 2011 6



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	2012										
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY				
DSS 43	70m Tune-up/Calibration - Proposed	02/06/2012 19:00	02/10/2012 07:00	4	06 - 06	37	41				
SPC 40	DPS Maintenance - Proposed	02/08/2012 22:00	02/09/2012 20:00	1	06 - 06	39	40				
DSS 63	70m Tune-up/Calibration - NIB	02/20/2012 06:00	03/11/2012 17:00	20	08 - 10	51	71				
DSS 63	Grouting - Proposed	02/20/2012 06:00	03/11/2012 17:00	20	08 - 10	51	71				
DSS 14	70m Tune-up/Calibration - Proposed	03/19/2012 14:00	03/25/2012 00:00	5	12 - 12	79	85				
DSS 14	Plug Seal Replacement - Proposed	03/26/2012 00:00	04/01/2012 01:00	6	13 - 13	86	92				
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 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

DSS-15 Downtime for TXR Manifold Upgrade requested
One week of downtime is requested for January – May time frame

□ BWG Antenna Controller Replacement for 2012 – 2013

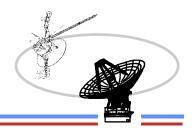
- □ DSS-26 is Scheduled for April 2 29, 2012, weeks 14 17, DOY 093/1300 120/0100
- DSS-25 is Scheduled for June 11 July 15, 2012, weeks 24 28, DOY 163/0000 – 197/0000
- DSS-54 is proposed for October 22 November 25, 2012, weeks 43 47, DOY 296/0000 – 330/0000
- DSS-55 is proposed for January 14 February 17, 2013, weeks 03 07, DOY 014/0000 – 048/0000
- 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 February 20 – March 11, 2012, weeks 08 – 10, DOY 051/0600 – 071/1700

- Tune-up/Calibration is requested NIB to grouting
- Note: Stand alone Grouting requires 15 days
- □ DSS-43 downtime for Tune-up/Calibration is requested for 2012
 - □ Tune-up/Calibration is proposed for February 6 10, week 06, DOY 037/1900 041/0700
 - □ An additional SPC-40 DPS 8-12 hour power task is proposed for week 06,
 - DOY 039/2000 040/1000
 - Initially requested for December 2011, but due to contention/high level activities, it is proposed for February 2012



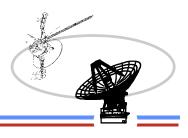


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Antenna Downtime Status and Forecast

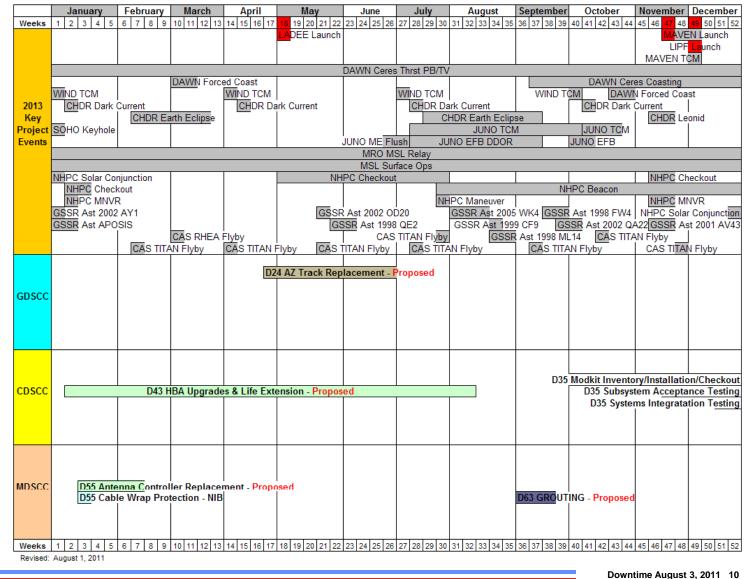
The following are downtimes for 2012 – 2014 (continued)

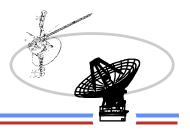
- DSS-14 downtime for Tune-up/Calibration and Plug Seal Replacement is requested for 2012
 - □ Tune-up/Calibration and Plug Seal Replacement is proposed for March 19 April 1 weeks 12 and 13, DOY 079/1400 085/0000
 - 14 days of downtime is requested to complete the task
- □ AZ Track Replacement is requested 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, 2012, weeks 37 43
 - □ DSS-24 is proposed for April 22 June 30, 2013, weeks 17 26
 - □ DSS-26 is proposed for March 31 June 8, 2014, weeks 14 23
 - 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
 - □ Proposed for March 10 October 5, weeks 11–40
 - □ ZDD will be scheduled prior to return to service



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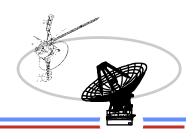
- 2013 -



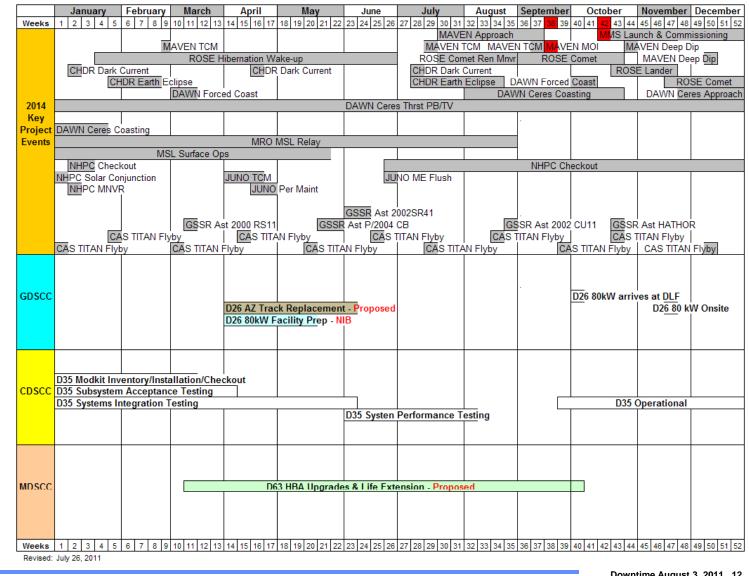


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		2013					
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 43	HBA Upgrades and Life Extension - Proposed	01/07/2013 00:00	08/11/2013 00:00	216	02 - 32	7	223
DSS 55	Cable Wrap Protection - NIB	01/14/2013 00:00	01/17/2013 00:00	3	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

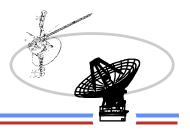


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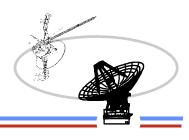
- 2014 -

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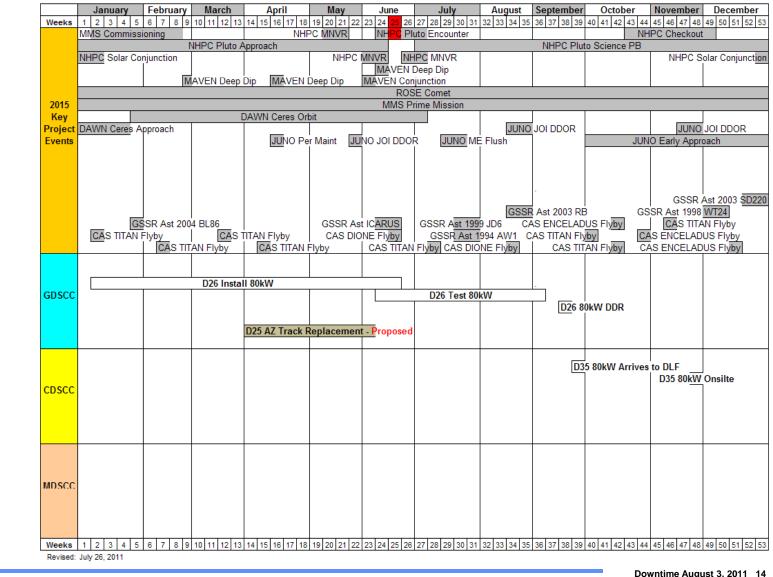


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	2014									
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY			
DSS 63	HBA Upgrades and Life Extension - Proposed	03/10/2014 00:00	10/05/2014 00:00	209	11 - 40	69	278			
DSS 26	80 kW Facility Prep - NIB	03/31/2014 00:00	05/18/2014 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			

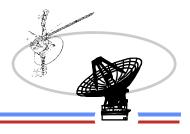


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- 2015 -

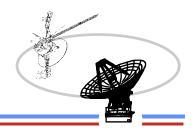
Downtime August 3, 2011 14



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			2015					
	Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
D	SS 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

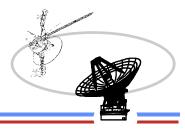
The following are downtimes for 2015 – 2016

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

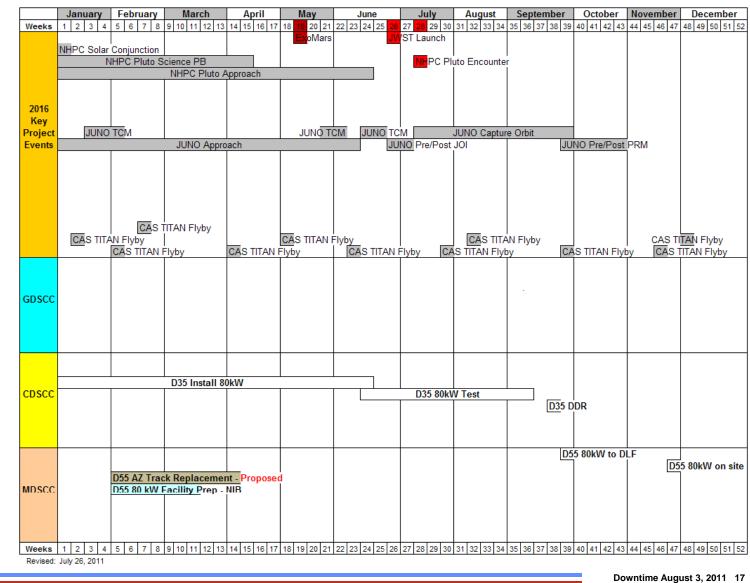


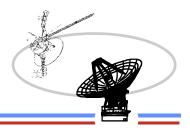
- 2016 -

Interplanetary Network Directorate (IND) Deep Space Network (DSN) Resource Allocation Planning Service



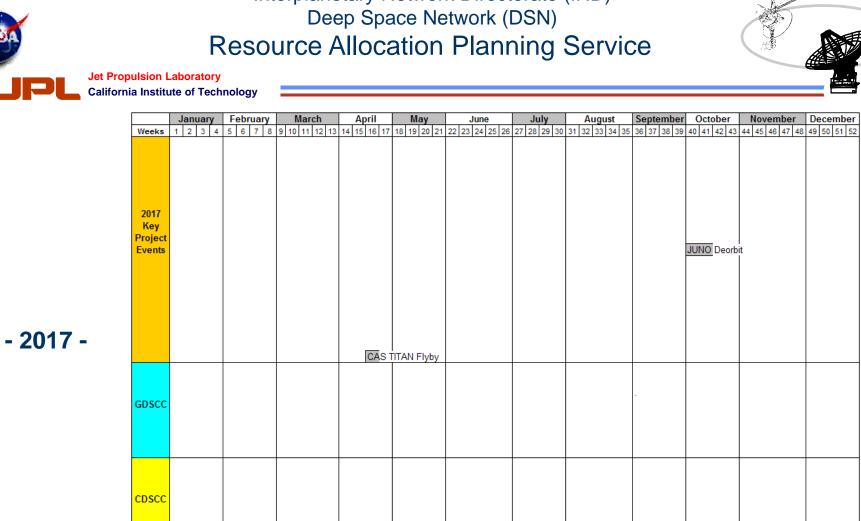
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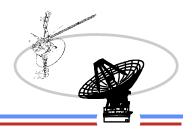
		2016					
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 55	80 kW Facility Prep - NIB	02/01/2016 00:00	03/20/2016 00:00	48	05 - 11	32	80
DSS 55	AZ Track Replacement - Proposed	02/01/2016 00:00	04/10/2016 00:00	69	05 - 14	32	101



D55 Install 80kW

D55 Test 80kW

Weeks 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52



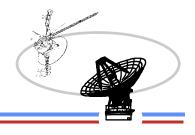
MDSCC

Revised: July 26, 2011

Downtime August 3, 2011 19

D55 DDR



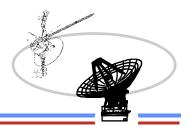


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Future assets new/upgrades

- □ 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	ra 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	۲	v	~	~	N/A	N/A	~	✓	N/A
40	DSS-34	34B1	•	>	>	>	>	N/A	>	>	N/A
60	DSS-54	34B1	٨	v	~	~	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	<	>	~	~	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 Exi	sts		✓ = Capab	oility Exists			* = To Be	Commissioned	