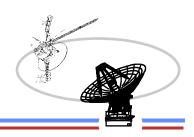


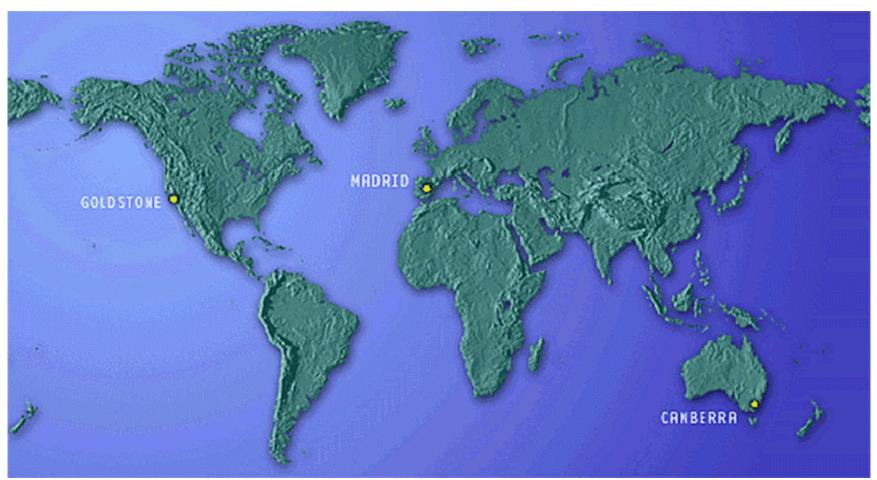
Interplanetary Network Directorate (IND) Deep Space Network (DSN)

Resource Allocation Planning Service



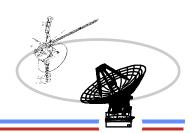
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DSN Antenna Downtime Status and Forecast

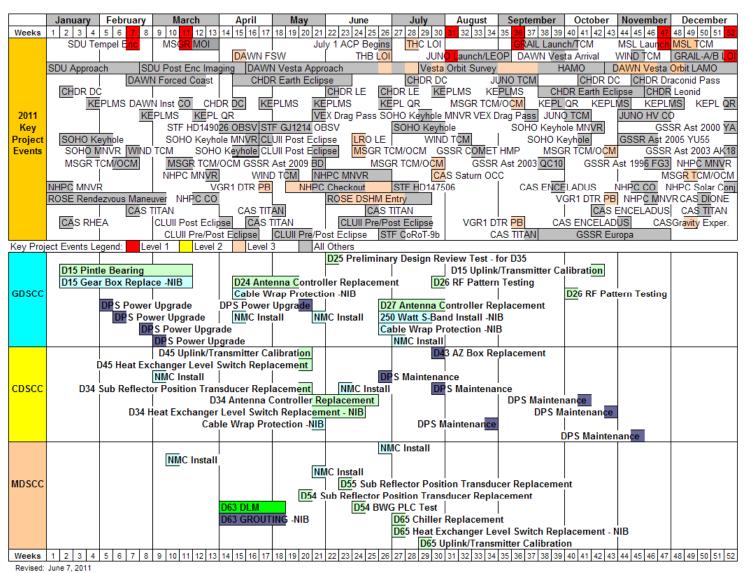


Interplanetary Network Directorate (IND) Deep Space Network (DSN)

Resource Allocation Planning Service

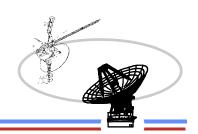


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- 2011 -

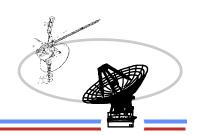




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		2011					
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 34	Heat Exchange Level Switch Replacement - NIB	05/23/2011 03:05	06/19/2011 02:00	27	21 - 24	143	170
DSS 34	Antenna Controller Replacement	05/23/2011 03:05	06/20/2011 17:55	29	21 - 25	143	171
DSS 55	Sub Reflector Position Transducer Replacement	06/07/2011 00:00	06/09/2011 23:59	3	23 - 23	158	160
DSS 54	BWG PLC Test	06/15/2011 16:40	06/16/2011 15:30	1	24 - 24	166	167
DSS 27	Cable Wrap Protection - NIB	06/27/2011 17:15	07/01/2011 00:00	3	26 - 26	178	182
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
SPC 40	DPS Maintenance	06/30/2011 01:00	06/30/2011 10:50	0	26 - 26	181	181
SPC 60	NMC Installation	07/03/2011 21:20	07/04/2011 01:20	0	26 - 26	184	185
DSS 65	Chiller Replacement	07/04/2011 01:20	07/04/2011 00:00	0	27 - 27	185	185
DSS 65	Chiller Replacement	07/05/2011 00:00	07/05/2011 15:25	1	27 - 27	186	186
DSS 65	Heat Exchanger - NIB	07/05/2011 00:00	07/05/2011 15:25	1	27 - 27	186	186
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



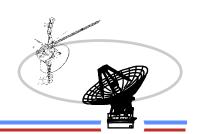


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DSN Downtime 2011 (Continued)

		2011					
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	07/25/2011 19:00	07/26/2011 03:00	0	30 - 30	206	207
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 00:00	10/06/2011 00:00	3	40 - 40	276	279
SPC 40	DPS Maintenance	10/13/2011 20:00	10/14/2011 08:00	0	41 - 41	286	287
DSS 15	Uplink/Transmitter Cal	10/17/2011 05:00	10/19/2011 17:00	2	42 - 42	290	292
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



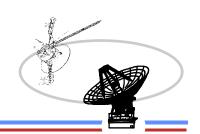


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Antenna Downtime Status and Forecast

The following are downtimes for 2011

Goldstone Complex Wide DPS Power Upgrade Downtime Completed May 17 week 20
□ Additional downtimes needed will be worked in with DSS maintenance
NMC 2 – 4 hour Complex Wide Downtime
 Additional time has been scheduled at all complexes
□ Goldstone NMC Task
□ Additional time is scheduled for July 10, week 27, DOY 191/0230-0530 for
Automation Assembly
□ Canberra NMC Task
Completed May 29, week 21
□ Completed June 07, week 23
☐ Madrid NMC Task
□ Completed May 28, week 21
□ Scheduled July 03, week 26, DOY 185/2120 – 0120
DSS-63 downtime for Depot Level Maintenance was completed May 08, week 18 Grouting was scheduled NIB



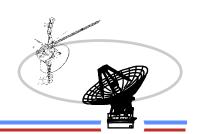
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Antenna Downtime Status and Forecast

Downtimes for 2011 (continued)

- □ HEF Uplink and Transmitter Calibration downtime is requested on each antenna for 36 hours in 2011
 □ DSS-45 was completed in week 20.
 □ Downtime for Heat Exchanger Replacement was completed in week 20
 □ 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 17 19, DOY 290/0500 292/1700
 □ Canberra request six 8 12 hour blocks of Complex Wide DSCC Power Substation (DPS) Maintenance Downtime for April November
 - □ Scheduled for weeks listed
 - □ June 30, week 26, DOY 181/0100 1050
 - □ July 25, week 30, DOY 206/1900 207/0300
 - □ August 25, week 34, DOY 237/0100 1300
 - □ October 13, week 41, DOY 286/2000 287/0800
 - □ 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.



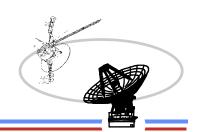


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Antenna Downtime Status and Forecast

Downtimes for 2011 (continued)

Ш	BWG Antenna Controller Replacement is requested starting in April
	□ DSS-24 was completed in week 19
	□ DSS-34 is scheduled for completion June 20, week 25, DOY 171/1755
	Heat Exchanger Replacement is scheduled NIB ending in week 24
	□ DSS-27 is scheduled for June 27 – July 25, weeks 26 – 30, DOY 177/1715 –
	207/1130
	250 Watt S-Band Installation is scheduled NIB
	Downtime will begin after THB LOI support on DOY 178. Additional time has
	been added, but more time is being requested to complete the task
	Note: Cable wrap protection for each BWG requires 3 days and will be NIB
	Additional Antenna Controller Replacements are proposed for 2012
_	
Ч	Sub Reflector Position Transducer Replacement is scheduled for May and
	June
	□ DSS-34 was completed, week 20
	□ DSS 54 was completed, week 20
	 DSS 55 is scheduled for completion June 09, week 23, DOY 160/0000



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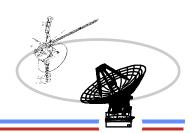
Downtimes for 2011 (continued)

□ DSS-25 downtime for DSS-35 design review baseline testing was completed in week	22
 DSS-54 PLC test is requested in FY 2011 DSS-54 is scheduled for June 15 – 16, week 24, DOY 166/ 1640 – 167/1530 	
 □ DSS-65 Chiller replacement is scheduled for July, week 27 □ Four blocks are scheduled for July 04 – 07 □ July 04, DOY 185/0120 – 0000 □ July 05, DOY 186/0000 – 1525 □ July 06, DOY 187/0000 – 1510 □ July 07, DOY 188/0500 – 1700 □ Additional time is being requested by MDSCC to ensure the task is completed properly. □ Heat Exchanger Replacement is scheduled NIB 	
 □ DSS-43 Elevation Databox Replacement for 72 hours is scheduled for July, week 30 □ This has been scheduled for July 25 – 29, 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 72 block is scheduled in October, week 40, DOY 276/0000 – 279/0000 	

- 2012 -

Interplanetary Network Directorate (IND) Deep Space Network (DSN)

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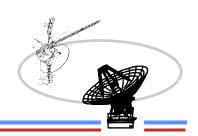


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Revised: June 3, 2011

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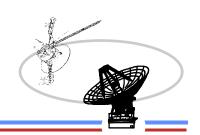




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		2012					
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 26	Cable Wrap Protection - NIB	04/02/2012 13:00	04/05/2012 05:00	3	14 - 14	93	96
DSS 26	Antenna Controller Replacement - Proposed	04/02/2012 13:00	04/29/2012 01:00	26	14 - 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 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 - Proposed	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





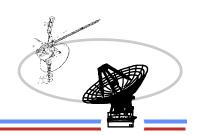
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Antenna Downtime Status and Forecast

The following are downtimes for 2012 – 2014

BWG Antenna Controller Replacement for 2012 – 2013 □ DSS-26 is proposed for April 02 – 29, weeks 14 – 17, 2012, DOY 093/1300 – 120/0100 - Analysis is completed
 □ DSS-25 is proposed 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 □ 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





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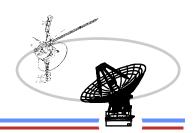
Antenna Downtime Status and Forecast

The following are downtimes for 2012 – 2014 (continued)

□ AZ Track Replacement is requested for DSS-54, 24 and 26 beginning in the fa 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
Proposed for March 10 – October 5, weeks 11–40ZDD will be scheduled prior to return to service

Interplanetary Network Directorate (IND) Deep Space Network (DSN)

Resource Allocation Planning Service

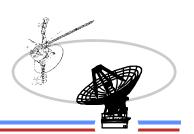


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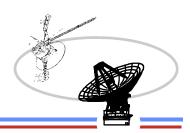
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		2013					
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 43	HBA Upgrades and Life Extension - Proposed	01/07/2013 00:00	08/11/2013 00:00	216	02 - 32	7	223
DSS 55	Cable Wrap Protection - NIB	01/14/2013 00:00	01/17/2013 00:00	3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

Resource Allocation Planning Service

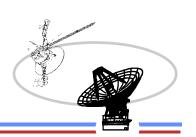


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- 2014 -





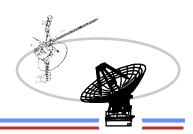
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	2014											
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY					
DSS 63	HBA Upgrades and Life Extension - Proposed	03/10/2014 00:00	10/05/2014 00:00	209	11 - 40	69	278					
DSS 26	80 kW Facility Prep - NIB	03/31/2014 00:00	05/18/2014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

- 2015 -

Interplanetary Network Directorate (IND) Deep Space Network (DSN)

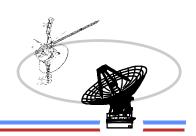
Resource Allocation Planning Service



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Revised:	Ap	ril 26	, 2011																											

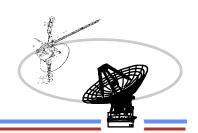




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		2015					
Sit	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS	25 AZ Track Replacement - Proposed	03/31/2015 00:00	06/07/2015 00:00	68	14 - 23	90	158





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Antenna Downtime Status and Forecast

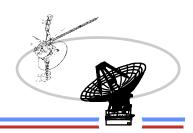
The following are downtimes for 2015 – 2016

- □ AZ Track Replacement is requested for DSS-25 and 55
 - \square 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

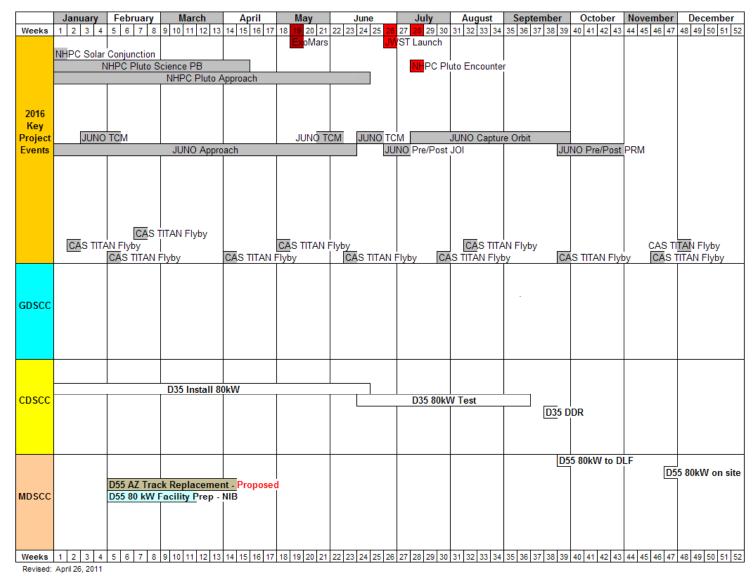
- 2016 -

Interplanetary Network Directorate (IND) Deep Space Network (DSN)

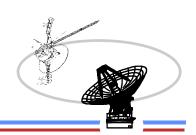
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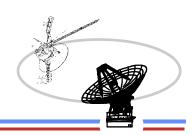
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		2016					
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 55	80 kW Facility Prep - NIB	02/01/2016 00:00	03/20/2016 00:00	48	05 - 11	32	80
DSS 55	AZ Track Replacement - Proposed	02/01/2016 00:00	04/10/2016 00:00	69	05 - 14	32	101

- 2017 -

Interplanetary Network Directorate (IND) Deep Space Network (DSN)

Resource Allocation Planning Service



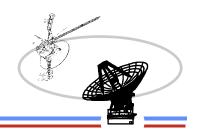
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	January	February	March	April	May	June	July	August	September	October	November	December
Weeks	1 2 3 4	5 6 7 8	9 10 11 12 13	14 15 16 17	18 19 20 21	22 23 24 25 26	27 28 29 30	31 32 33 34 35	36 37 38 39	40 41 42 43	November 44 45 46 47 48	49 50 51 52
2017 Key Project Events					TTAN Flyby					JUNO Deorb		
GDSCC				UAS I	TIAN FIYDY							
CDSCC												
MDSCC Weeks	1 2 3 4	5 6 7 2	D55 Instal		18 19 20 20	22 23 24 25 26	D55 Test			5 DDR	44 45 46 47 48	49 50 51 52

Revised: April 26, 2011

Interplanetary Network Directorate (IND) Deep Space Network (DSN)



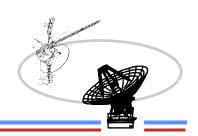


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Future assets new/upgrades

	S-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
	Operational September 26, 2014
DS3	S-26 80kW Installation 2014 – 2015 80kW arrive at DLF October, 2014, week 40 80kW 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	S-35 80kW Installation 2016 – A placeholder has been set awaiting dates
DSS date	S-36 Installation and Operational 2016 – A placeholder has been set awaiting s
DS3	S-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





Jet Propulsion Laboratory California Institute of Technology

Antenna Downtime Status and Forecast

			S-B	Sand X-Ba		and Ka-B		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	<	>	✓	~	N/A	N/A	~	✓	N/A
40	DSS-34	34B1	~	>	~	~	~	N/A	~	✓	N/A
60	DSS-54	34B1	~	>	~	~	>	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	Y	N/A	~	~	N/A	N/A	N/A	N/A	N/A
40	DSS-45	34HEF	Y	>	~	~	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	✓	>	✓	V	N/A	N/A	N/A	N/A	N/A

N/A = Capability Not Planned

xx/xx/xx = Capability Date Recently Changed

* = To Be Commissioned

As of:

6/28/2010

✓ ✓ = Capability Recently Exists

y = Capability Exists