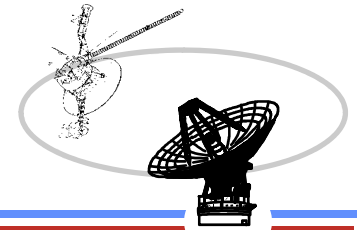


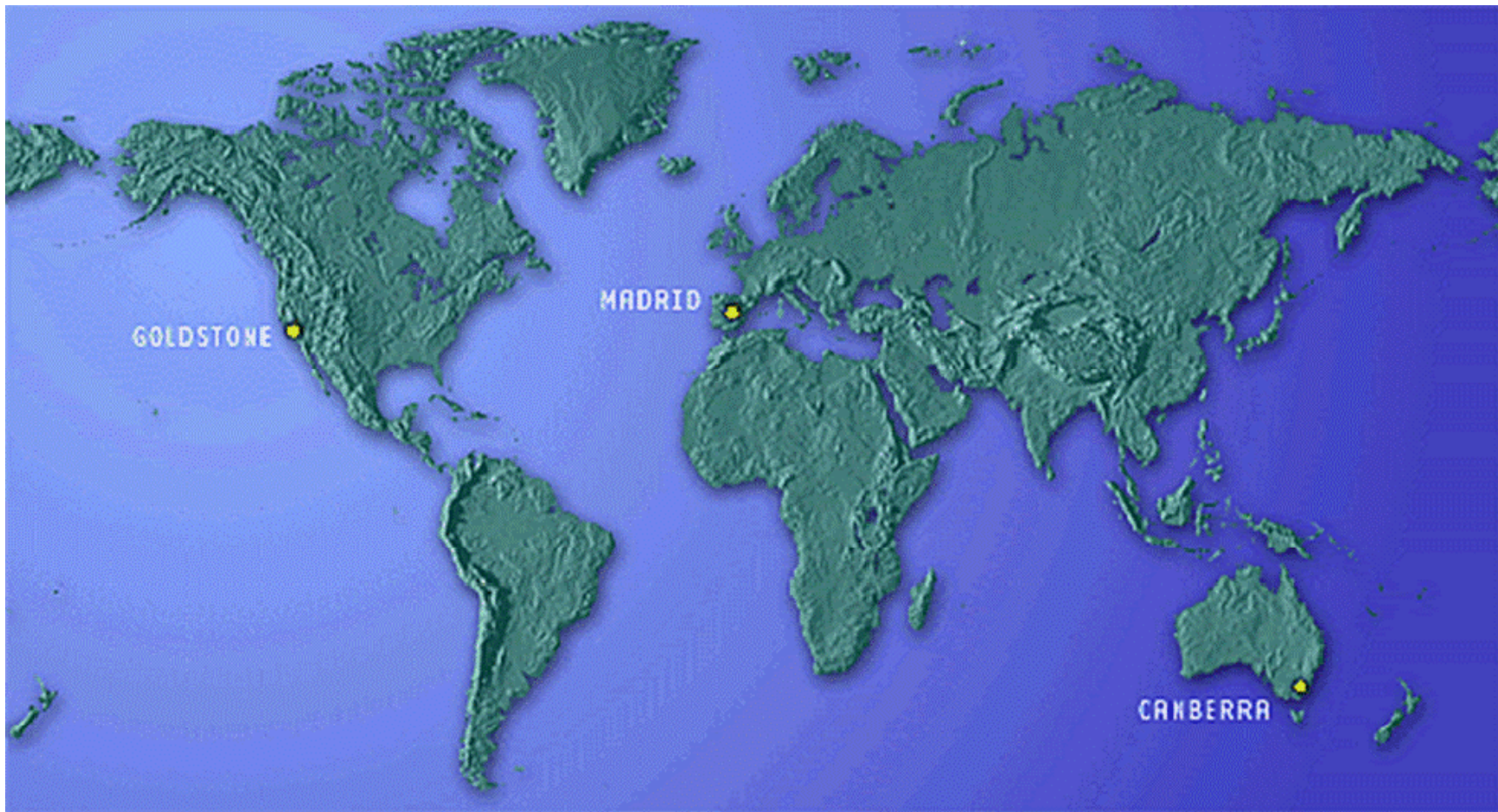


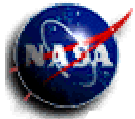
Interplanetary Network Directorate (IND)  
Deep Space Network (DSN)  
Resource Allocation Planning Service



Jet Propulsion Laboratory  
California Institute of Technology

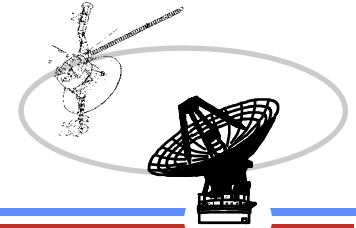
## DSN Antenna Downtime Status and Forecast





Jet Propulsion Laboratory  
California Institute of Technology

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



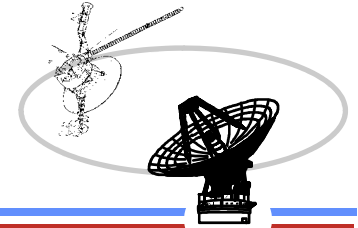
- 2012 -

	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 44 45 46 47 48 49 50 51 52										
2012 Key Project Events	MSL TCM		MSL TCM		MSL FSW Update		MSL ENG C/O 1		MSL TCM/EDL/SOL					
	GRAIL A/B PRM			MSL INST C/O 1			MSL TCM/EDL			MSL ENG C/O 2				
	VEX Drag Pass			GRAIL A/B Science				MSL Approach			MSL Surface Ops			
	DAWN Vesta Orbit						DAWN Vesta Depart			DAWN Forced Coast				
	GSSR Ast 1991 VK		GSSR Venus/Mercury GBT			GRAIL A/B OCM		GSSR Ast 2004 EW9		Dawn Ceres Thrust				
	KEPL MS		KEPL QR/MS		KEPL MS		KEPL MS		KEPL QR/MS		KEPL MS		KEPL QR/MS	
	JUNO TCM		JUNO DSMs DDOR		WIND TCM		GSSR Merc GBT		M010 OTM-7		JUNO DSM		KEPL MS/WIND TCM	
	GSSR Ast Eros		GSSR Ast 2011 CP4		MSGR OCM		GSSR Ast 2007 LE		WIND TCM		JUNO TCM		JUNO Per Maint	
	CHDR DC		MSGR TCM/OCM		CHDR DC		GSSR Ast 2001		CQ36		CHDR DC		CHDR Leonid	
	SOHO MNVR		GSSR Ast 2000 ET70		CHDR Earth Eclipse		GSSR Ast 2005 G021		CHDR Earth Eclipse		VEX Drag Pass			
	MRO and M010 Relay													
	SOHO KH		WIND TCM		SOHO KH		GSSR Ast 1998 HE3		SOHO KH		SOHO KH		SOHO KH	
	NHPC Enter Hibernation		SOHO MNVR		SOHO MNVR		SOHO MNVR		CAS Saturn Rings Occ		SOHO MNVR		GSSR Ast 1998 ST49	
	NHPC Exit Hibernation		VGR1 DTR PB		NHPC Checkout		GSSR Ast 2002 AM31		NHPC Solar Conj		NHPC Solar Conj		NHPC Solar Conj	
	NHPC Solar Conj		NHPC Exit Hibernation		NHPC MNVR		NHPC Enter Hibernation		CAS Atmospheric Occ		GSSR Ast 1994 XD		GSSR Ast 1994 XD	
NHPC C/O		GSSR Ast 2006 CJ		NHPC S/W Load		NHPC 2TWTA		CAS USO Recovery Attempt		DIF TCM		VGR1 DTR PB		
NHPC Radio Occultation		CAS TITAN		CAS TITAN		CAS Saturn Rings Occ		CAS Saturn Rings Occ		VGR1 DTR PB		CAS Saturn Rings Occ		
NHPC MNVR		CAS TITAN		CAS ENCELADUS		CAS TITAN		CAS Saturn Rings Occ		GSSR Ast 1998 ST49		GSSR Ast 1998 ST49		
CAS TITAN		CAS TITAN		CAS ENCELADUS		CAS ENCELADUS Gravity Experiment		CAS TITAN		CAS TITAN		CAS TITAN		
Key Project Events Legend: Level 1 (Red), Level 2 (Yellow), Level 3 (Orange), All Others (Grey)														
GDSCC	D15 TXR Manifold Upgrade		D15 Chiller Replacement		D14,15,24,25,26,27 Antenna Inspection		Complex NMC Acceptance Test		D25 Antenna Controller Replacement					
	D26 Antenna Controller Replacement		D26 APCA OP-C		NIB		Complex NMC Soak Test		D25 Lightning Survey - NIB					
	Complex NMC Test		70M Tune-up/Cal		D24 S-Band Tuner Replacement		D24 APCA OP-C - NIB		D15 Baldor Amplifier Expansion Board Installation					
	D14 Plug Seal Replacement - NIB													
CDSCC	D43 70M Tune-up/Cal		DPS Power Upgrade		D45 XTXR Manifold/Waterload Replacement		D45 AMP/CW Installation - NIB		Complex NMC Soak Test		Complex Powerhouse Commission			
					D45 XTXR Manifold/Waterload Replacement		D45 AMP/CW Installation - NIB		DCD - NIB		D43 HBA Upgrade			
MDSCC	D63 GROUTING		D63 70M Tune-up/Cal - NIB		D65 XTXR Manifold/Waterload Replacement		D65 AMP/CW Installation - NIB		D34 Baldor Amplifier Expansion Board Installation		D34 X/Ka Cooldown - NIB			
					D65 Critical Power Reconfiguration		D63 Emergency GROUTING		D54 AZ Track Replacement/ACR		D54 Lightning Survey - NIB			
			D55 Chiller Flush						D54 AMP Implementation - NIB					
							Complex NMC Soak Test							
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										

Revised: June 27, 2012



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



Jet Propulsion Laboratory  
 California Institute of Technology

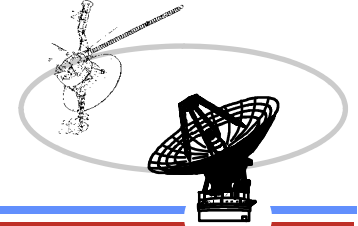
## DSN Downtime 2012

2012							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 25	Antenna Controller Replacement	06/11/2012 13:00	07/15/2012 01:00	34	24 - 28	163	197
DSS 25	Lightning Survey - NIB	06/11/2012 13:00	07/15/2012 01:00	34	24 - 28	163	197
DSS 54	AMP Installation - NIB	09/10/2012 05:00	11/29/2012 00:00	80	37 - 48	254	334
DSS 54	AZ TRK/ACR Replacement	09/10/2012 05:00	11/29/2012 00:00	80	37 - 48	254	334
DSS 54	Lightning Survey - NIB	09/10/2012 05:00	11/29/2012 00:00	80	37 - 48	254	334
DSS 43	HBA Upgrade and Life Extension	11/12/2012 19:00	06/10/2013 07:00	210	46 - 24	317	161
SPC 40	Powerhouse Commission	12/04/2012 04:15	12/04/2012 07:15	0	49 - 49	339	339
SPC 40	Powerhouse Commission	12/04/2012 21:00	12/05/2012 00:00	0	49 - 49	339	340
SPC 40	Powerhouse Commission	12/05/2012 21:00	12/06/2012 00:00	0	49 - 49	340	341
SPC 40	Powerhouse Commission	12/06/2012 21:00	12/07/2012 00:00	0	49 - 49	341	342



Jet Propulsion Laboratory  
California Institute of Technology

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



## Antenna Downtime Status and Forecast

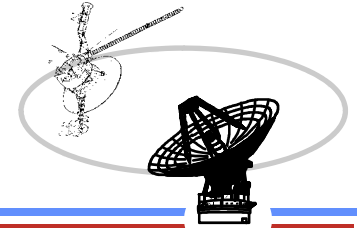
The following are downtimes for 2012

- SPC- 40 and 60 requested 4 – 6 hour complex wide downtime for NMC D2.2  
SOAK - **Completed**
  - SPC-60 SOAK is scheduled for week 25
    - Data Capture and Delivery (DCD 229) was scheduled NIB
  - SPC-40 SOAK was scheduled for week 26
    - Data Capture and Delivery (DCD 229) will be scheduled NIB
  
- DSS-65 Critical Power Reconfiguration downtime requested - **Completed**
  - Scheduled for June 7 and 8, week 23
  
- DSS-34 and DSS-15 ECR 11.0070 Baldor amplifier expansion board installation - **Completed**
  - DSS-34 Scheduled for June 13 – 16, week 24
    - X/Ka Cool down scheduled NIB
  - DSS-15 is scheduled for June 21 and 22, week 25
  
- BWG Antenna Controller Replacement
  - DSS-25 is scheduled for June 11 – July 15, 2012, weeks 24 – 28
    - Lightning Survey will be NIB
  - DSS-54 ACR and AZ Track Replacement is scheduled for September 10 – November 28, 2012, weeks 37 – 48, **requested 3 additional days**
    - Lightning Survey will be NIB
    - ECR 11.0070 (Baldor amplifier expansion board installation) will be NIB



Jet Propulsion Laboratory  
California Institute of Technology

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



## Antenna Downtime Status and Forecast

The following are downtimes for 2012 (continued)

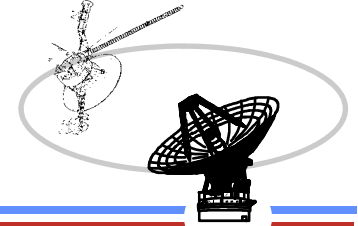
Note: DSS-63 grouting was moved from 2013 to weeks 29 – 30 of 2012 on an emergency basis.

- SPC-40 requests 4 blocks of 3 hour complex wide downtime for Power House Commission
  - Week 49 is scheduled, Four days for 3 hours
  
- DSS-43 HBA Upgrade and Life Extension downtime is scheduled
  - DSS-43 HBA Upgrade downtime is scheduled as one continuous downtime for week 46 of 2012 to week 23 of 2013
  - S-Band Maser Replacement will be NIB
  - Power ECO will be scheduled NIB



Jet Propulsion Laboratory  
California Institute of Technology

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



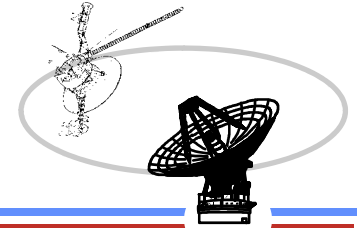
## Antenna Downtime Status and Forecast

The following are downtimes for 2013 – 2014

- SPC-60 requests six 10 hour blocks of Complex Wide Downtime for Power Cutover from January – June of 2013
  - Downtimes are proposed for the following weeks – prime shift hours are requested.
  - Weeks 04, 09,13,17,22 and 26
  
- BWG Antenna Controller Replacement for 2013
  - DSS-55 is proposed for February 18 – March 25, weeks 08 – 13
  - ECR 11.0070 (Baldor amplifier expansion board installation) will be NIB
  
- SPC-10 requests four 10-hour blocks of Complex Wide downtime for G86 Power Cutover and **one** 12-hour block of downtime for Power Robustness in 2013
  - G86 Power cutover downtimes are proposed for the following weeks – night hours are acceptable.
    - Weeks 14, 19, 24 and 31
  - Power Robustness is proposed for the following week – daylight hours only
    - Week **21**
  
- SPC-10 requests one 6 – 8 hour complex wide downtime for NMC Automated Link Build (ALB)
  - Proposed for March 21, 2013, week 12



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



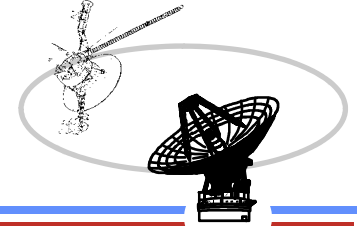
## 2013 – 2014 Downtimes (continued)

- ❑ SPC-40 request 8 blocks of 3 hour complex downtime for Power House Commission in 2013. The following weeks are proposed
  - ❑ Five blocks, 3 hours in April, week 16
  - ❑ Three blocks, 3 hours in April/May, week 18
  
- ❑ AZ Track Replacement downtime is requested for DSS-24 and DSS-26
  - ❑ DSS-24 is proposed for March 25 – June 3, 2013, weeks 13 – 22
  - ❑ DSS-26 is proposed for March 31 – June 8, 2014, weeks 14 – 23
    - ❑ Reconfiguration Prep is proposed for March 10 – June 30, weeks 11 - 26
    - ❑ 80 kW Facility Preparation will be scheduled NIB March 31 – May 18, weeks 14 – 20
  
- ❑ SPC-40 request a total of 24 hours of downtime on each antenna for inspection in 2013
  - ❑ Antennas include DSS- 34, 43 and 45
  - ❑ Week 19 inspection times are proposed for 8 hours NIB to maintenance plus 8 hours swing shift – Except DSS-43 which will be done during HBA downtime
  - ❑ Week 20 inspection times are proposed for 8 hours NIB to maintenance



Jet Propulsion Laboratory  
California Institute of Technology

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



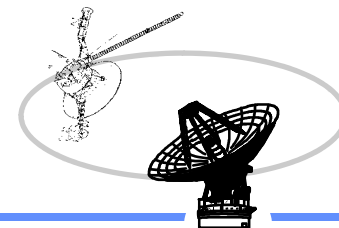
## 2013 – 2014 Downtimes (continued)

- DSS-63 downtime for Grouting 2013
  - Proposed for July 15 – August 2, weeks 29 – 31
    - Note: Stand alone Grouting typically requires 15 days, however, 3 additional days have been requested
  
- DSS-15 Maser Replacement is requested for 2013
  - Seventy seven days are proposed for August 12, – November 4, weeks 33– 44
  
- DCD 4.1 downtime requested for software installation for 2014
  - GDSCC and NOCC proposed for January 8, week 02
  - CDSCC is proposed for February 20, week 08
  - MDSCC is proposed for March 6, week 10
  
- DSS-63 HBA Upgrade and Life Extension downtime is proposed for 2014
  - Proposed for March 10 – October 5, weeks 11– 40
    - Maser replacement will be NIB
  
- SPC-60 request a total of 24 hours of downtime on each antenna for inspection in 2014
  - Antennas include DSS-54, 55, 63 and 65
  - Week 30 inspection times are proposed for 8 hours NIB to maintenance plus 8 hours swing shift – Except DSS-63 which will be done during HBA downtime
  - Week 31 inspection times are proposed for 8 hours NIB to maintenance



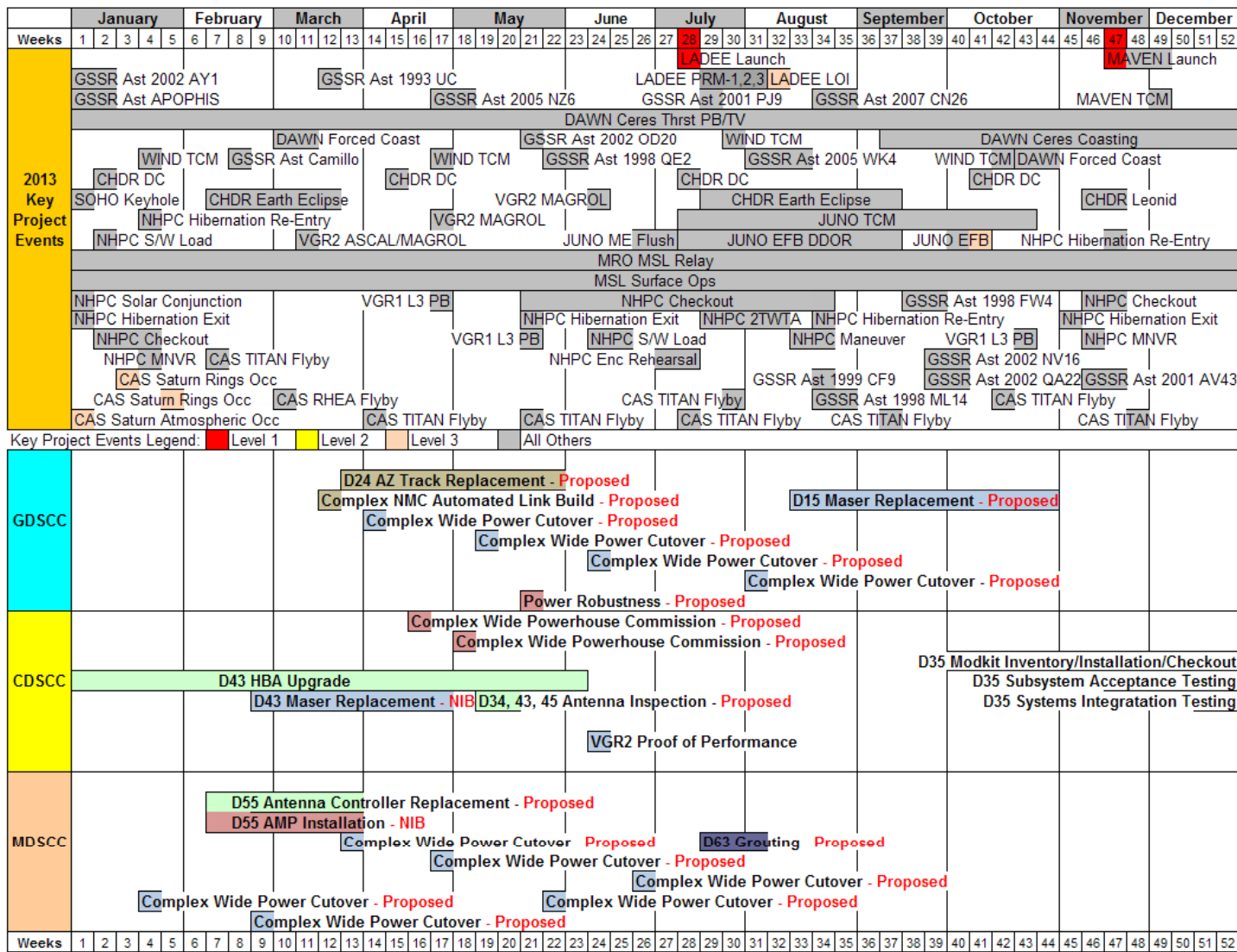


# Interplanetary Network Directorate (IND) Deep Space Network (DSN) Resource Allocation Planning Service



Jet Propulsion Laboratory  
California Institute of Technology

- 2013 -

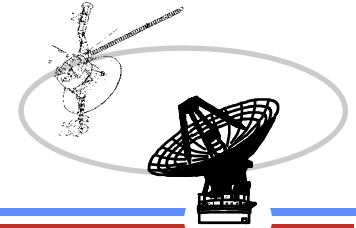


Revised: July 6, 2012



Jet Propulsion Laboratory  
California Institute of Technology

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



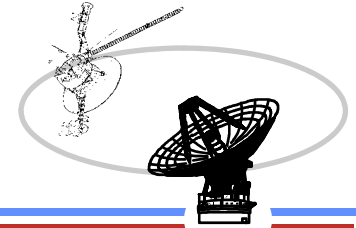
## DSN Downtime 2013

2013							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 54	Complex Power Cutover - Proposed	01/23/2013 05:00	01/23/2013 17:00	0	04 - 04	23	23
DSS 55	Complex Power Cutover - Proposed	01/23/2013 05:00	01/23/2013 17:00	0	04 - 04	23	23
DSS 63	Complex Power Cutover - Proposed	01/23/2013 05:00	01/23/2013 17:00	0	04 - 04	23	23
DSS 65	Complex Power Cutover - Proposed	01/23/2013 05:00	01/23/2013 17:00	0	04 - 04	23	23
DSS 55	AMP Installation - NIB	02/13/2013 00:00	03/25/2013 00:00	40	07 - 13	44	84
DSS 55	Antenna Controller Replacement - Proposed	02/13/2013 00:00	03/25/2013 00:00	40	07 - 13	44	84
DSS 43	Maser Replacement - NIB	02/25/2013 05:00	04/25/2013 17:00	60	09 - 17	56	115
DSS 54	Complex Power Cutover - Proposed	02/27/2013 05:00	02/27/2013 17:00	0	09 - 09	58	58
DSS 55	Complex Power Cutover - Proposed	02/27/2013 05:00	02/27/2013 17:00	0	09 - 09	58	58
DSS 63	Complex Power Cutover - Proposed	02/27/2013 05:00	02/27/2013 17:00	0	09 - 09	58	58
DSS 65	Complex Power Cutover - Proposed	02/27/2013 05:00	02/27/2013 17:00	0	09 - 09	58	58
SPC 10	NMC Automated Link Build - Proposed	03/21/2013 00:00	03/21/2013 06:00	0	12 - 12	80	80
DSS 24	AZ Track Replacement - Proposed	03/25/2013 00:00	06/03/2013 00:00	70	13 - 23	84	154
DSS 54	Complex Power Cutover - Proposed	03/27/2013 05:00	03/27/2013 17:00	0	13 - 13	86	86
DSS 55	Complex Power Cutover - Proposed	03/27/2013 05:00	03/27/2013 17:00	0	13 - 13	86	86
DSS 63	Complex Power Cutover - Proposed	03/27/2013 05:00	03/27/2013 17:00	0	13 - 13	86	86
DSS 65	Complex Power Cutover - Proposed	03/27/2013 05:00	03/27/2013 17:00	0	13 - 13	86	86
SPC 10	Complex Power Cutover - Proposed	04/01/2013 15:00	04/02/2013 01:00	0	14 - 14	91	92
SPC 40	Powerhouse Commission - Proposed	04/15/2013 21:00	04/16/2013 00:00	0	16 - 16	105	106
SPC 40	Powerhouse Commission - Proposed	04/16/2013 21:00	04/17/2013 00:00	0	16 - 16	106	107
SPC 40	Powerhouse Commission - Proposed	04/17/2013 21:00	04/18/2013 00:00	0	16 - 16	107	108
SPC 40	Powerhouse Commission - Proposed	04/18/2013 21:00	04/19/2013 00:00	0	16 - 16	108	109
SPC 40	Powerhouse Commission - Proposed	04/19/2013 21:00	04/20/2013 00:00	0	16 - 16	109	110



Jet Propulsion Laboratory  
California Institute of Technology

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

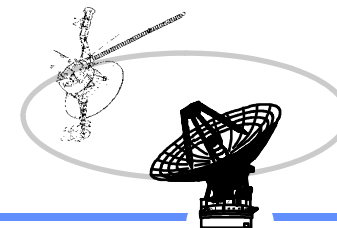


## DSN Downtime 2013

2013							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
SPC 40	Powerhouse Commission - Proposed	04/19/2013 21:00	04/20/2013 00:00	0	16 - 16	109	110
DSS 54	Complex Power Cutover - Proposed	04/24/2013 05:00	04/24/2013 17:00	0	17 - 17	114	114
DSS 55	Complex Power Cutover - Proposed	04/24/2013 05:00	04/24/2013 17:00	0	17 - 17	114	114
DSS 63	Complex Power Cutover - Proposed	04/24/2013 05:00	04/24/2013 17:00	0	17 - 17	114	114
DSS 65	Complex Power Cutover - Proposed	04/24/2013 05:00	04/24/2013 17:00	0	17 - 17	114	114
SPC 40	Powerhouse Commission - Proposed	04/29/2013 21:00	04/30/2013 00:00	0	18 - 18	119	120
SPC 40	Powerhouse Commission - Proposed	04/30/2013 21:00	05/01/2013 00:00	0	18 - 18	120	121
SPC 40	Powerhouse Commission - Proposed	05/01/2013 21:00	05/02/2013 00:00	0	18 - 18	121	122
SPC 10	Complex Power Cutover - Proposed	05/06/2013 15:00	05/07/2013 01:00	0	19 - 19	126	127
DSS 43	Antenna Inspection - Proposed	05/06/2013 22:00	05/07/2013 14:00	1	19 - 19	126	127
DSS 34	Antenna Inspection - Proposed	05/07/2013 22:00	05/08/2013 14:00	1	19 - 19	127	128
DSS 45	Antenna Inspection - Proposed	05/08/2013 22:00	05/09/2013 14:00	1	19 - 19	128	129
DSS 34	Antenna Inspection - Proposed	05/14/2013 22:00	05/15/2013 06:00	0	20 - 20	134	135
DSS 45	Antenna Inspection - Proposed	05/15/2013 22:00	05/16/2013 06:00	0	20 - 20	135	136
SPC 10	Power Robustness - Proposed	05/23/2013 15:00	05/24/2013 03:00	0	21 - 21	143	144
DSS 54	Complex Power Cutover - Proposed	05/29/2013 05:00	05/29/2013 17:00	0	22 - 22	149	149
DSS 55	Complex Power Cutover - Proposed	05/29/2013 05:00	05/29/2013 17:00	0	22 - 22	149	149
DSS 63	Complex Power Cutover - Proposed	05/29/2013 05:00	05/29/2013 17:00	0	22 - 22	149	149
DSS 65	Complex Power Cutover - Proposed	05/29/2013 05:00	05/29/2013 17:00	0	22 - 22	149	149
SPC 10	Complex Power Cutover - Proposed	06/10/2013 15:00	06/11/2013 01:00	0	24 - 24	161	162
DSS 54	Complex Power Cutover - Proposed	06/27/2013 05:00	06/27/2013 17:00	0	26 - 26	178	178
DSS 55	Complex Power Cutover - Proposed	06/27/2013 05:00	06/27/2013 17:00	0	26 - 26	178	178
DSS 63	Complex Power Cutover - Proposed	06/27/2013 05:00	06/27/2013 17:00	0	26 - 26	178	178



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



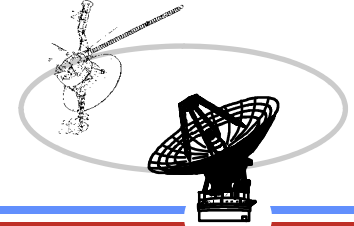
Jet Propulsion Laboratory  
California Institute of Technology

## DSN Downtime 2013

2013							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 65	Complex Power Cutover - Proposed	06/27/2013 05:00	06/27/2013 17:00	0	26 - 26	178	178
DSS 63	Grouting - Proposed	07/15/2013 00:00	08/02/2013 00:00	18	29 - 31	196	214
SPC 10	Complex Power Cutover	07/29/2013 15:00	07/30/2013 01:00	0	31 - 31	210	211
DSS 15	Maser Replacement - Proposed	08/12/2013 14:00	11/04/2013 01:00	83	33 - 45	224	308

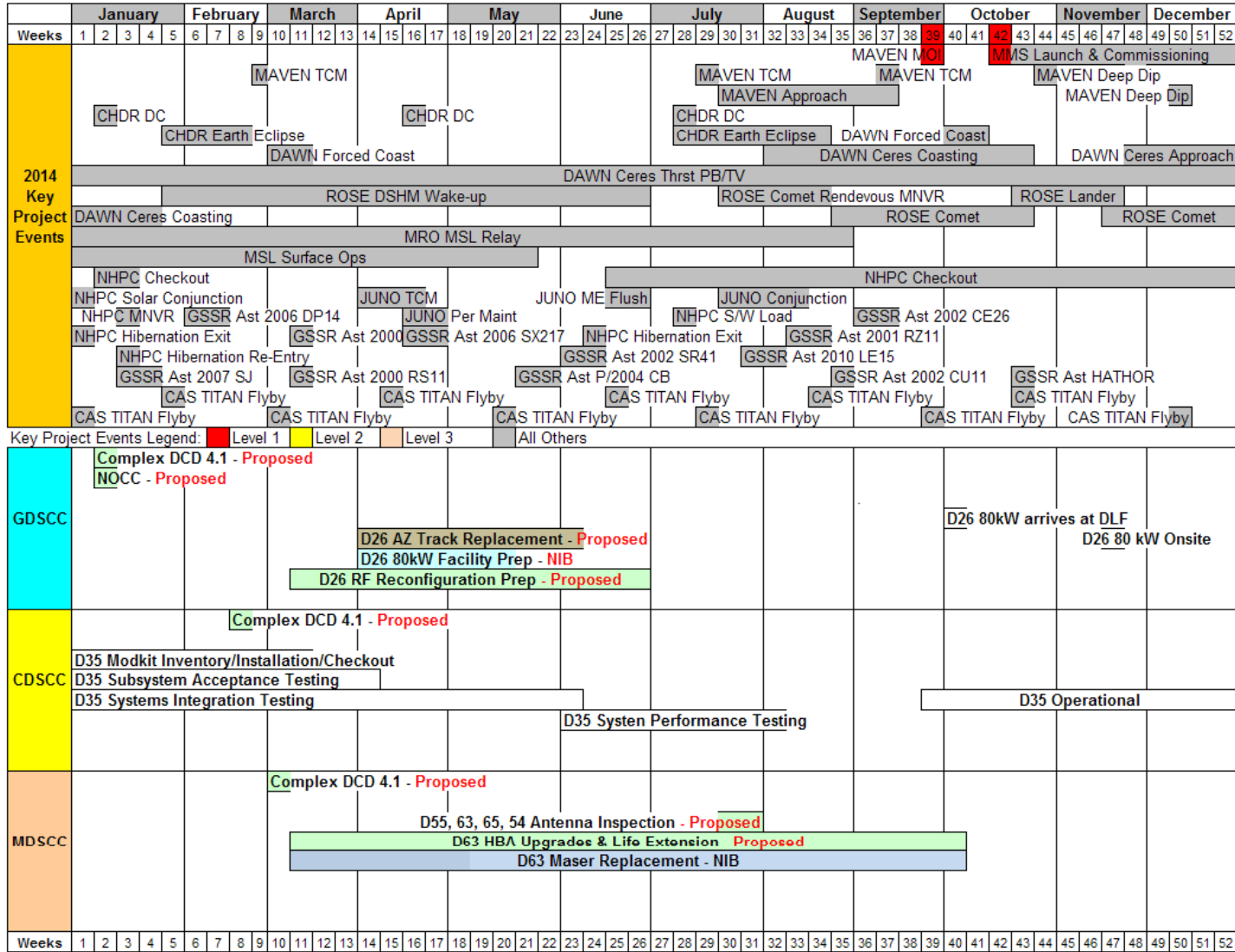


# Interplanetary Network Directorate (IND) Deep Space Network (DSN) Resource Allocation Planning Service



Jet Propulsion Laboratory  
California Institute of Technology

- 2014 -

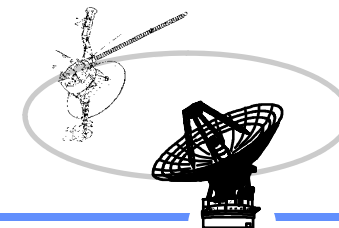


Revised: July 9, 2012



Jet Propulsion Laboratory  
California Institute of Technology

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

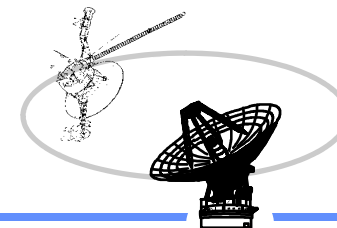


## DSN Downtime 2014

2014							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
SPC 10	DCD 4.1 - NIB	01/08/2014 23:10	01/09/2014 05:10	0	02 - 02	8	9
SPC 10	DCD 4.1 - Proposed	01/08/2014 23:10	01/09/2014 05:10	0	02 - 02	8	9
SPC 40	DCD 4.1 - Proposed	02/20/2014 12:00	02/20/2014 18:00	0	08 - 08	51	51
SPC 60	DCD 4.1 - Proposed	03/06/2014 07:00	03/06/2014 13:00	0	10 - 10	65	65
DSS 26	RF Reconfiguration Prep - Proposed	03/10/2014 00:00	06/29/2014 00:00	111	11 - 26	69	180
DSS 63	HBA Upgrades and Life Extension - Proposed	03/10/2014 00:00	10/05/2014 00:00	209	11 - 40	69	278
DSS 63	S-Band Maser Replacement - NIB	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
DSS 55	Antenna Inspection - Proposed	07/21/2014 07:00	07/21/2014 23:00	1	30 - 30	202	202
DSS 65	Antenna Inspection - Proposed	07/22/2014 07:00	07/22/2014 23:00	1	30 - 30	203	203
DSS 63	Antenna Inspection - Proposed	07/23/2014 07:00	07/23/2014 23:00	1	30 - 30	204	204
DSS 54	Antenna Inspection - Proposed	07/25/2014 07:00	07/25/2014 23:00	1	30 - 30	206	206
DSS 55	Antenna Inspection - Proposed	07/28/2014 07:00	07/28/2014 16:30	0	31 - 31	209	209
DSS 65	Antenna Inspection - Proposed	07/29/2014 07:00	07/29/2014 16:30	0	31 - 31	210	210
DSS 54	Antenna Inspection - Proposed	08/01/2014 07:00	08/01/2014 16:30	0	31 - 31	213	213



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



**Jet Propulsion Laboratory**  
California Institute of Technology

**- 2015 -**

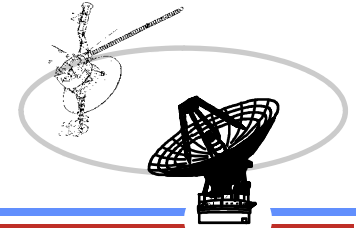
	January					February					March					April					May					June					July					August					September					October					November					December				
Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53							
<b>2015 Key Project Events</b>	MMS Commissioning					NHPC Pluto Approach					NHPC TCM					NHPC TCM					NHPC Pluto Encounter					NHPC Pluto Science PB					NHPC Checkout																													
	NHPC Solar Conjunction					MAVEN Deep Dip					MAVEN Deep Dip					MAVEN Deep Dip					MAVEN Conjunction					NHPC TCM					NHPC Solar Conjunction																													
	ROSE Comet					MMS Phase 1 Maneuver					DAWN Ceres Orbit					DAWN Ceres Approach					JUNO Per Maint					JUNO JOI DDOR					JUNO ME Flush					JUNO Conjunction					JUNO Early Approach																			
	CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS ENCELADUS Flyby																			
	GSSR Ast 2004 BL86					GSSR Ast 1999 JD6					GSSR Ast 2003 RB					GSSR Ast 1998 WT24					GSSR Ast 2003 SD220					GSSR Ast 1994 AW1					GSSR Ast 1999 JD6					GSSR Ast 2003 RB					GSSR Ast 1998 WT24																			
	CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS ENCELADUS Flyby																			
	CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS ENCELADUS Flyby																			
	CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS ENCELADUS Flyby																			
	CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS ENCELADUS Flyby																			
	CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS DIONE Flyby					CAS TITAN Flyby					CAS ENCELADUS Flyby																			
<b>GDSCC</b>	D26 Install 80kW					D26 Test 80kW					D26 80kW DDR					D15 Antenna Drive Replacement - Proposed					D14, 15, 25, 26, 24, 15, 27 Antenna Inspection - Proposed																																							
	D45 Maser Replacement - Proposed					D45 Antenna Drive Replacement - NIB																				D35 80kW Arrives to DLF					D35 80kW Onsite																													
<b>CDSCC</b>																																																												
<b>MDSCC</b>																																																												
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	53							

Revised: June 20, 2012



Jet Propulsion Laboratory  
California Institute of Technology

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



## DSN Downtime 2015

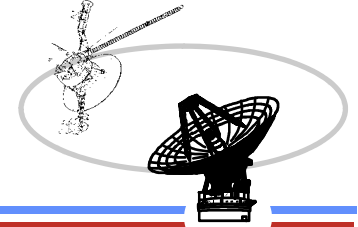
2015							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 45	Antenna Drive Replacement - NIB	01/12/2015 00:00	05/04/2015 00:00	112	03 - 19	12	124
DSS 45	Maser Replacement - Proposed	01/12/2015 00:00	05/04/2015 00:00	112	03 - 19	12	124
DSS 15	Antenna Drive Replacement - Proposed	05/04/2015 00:00	07/06/2015 00:00	63	19 - 28	124	187
DSS 14	Antenna Inspection - Proposed	05/04/2015 15:00	05/05/2015 06:00	1	19 - 19	124	125
DSS 26	Antenna Inspection - Proposed	05/05/2015 15:00	05/06/2015 06:00	1	19 - 19	125	126
DSS 25	Antenna Inspection - Proposed	05/06/2015 15:00	05/07/2015 06:00	1	19 - 19	126	127
DSS 15	Antenna Inspection - Proposed	05/07/2015 15:00	05/08/2015 06:00	1	19 - 19	127	128
DSS 27	Antenna Inspection - Proposed	05/08/2015 14:00	05/08/2015 23:00	0	19 - 19	128	128
DSS 14	Antenna Inspection - Proposed	05/11/2015 14:00	05/11/2015 23:00	0	20 - 20	131	131
DSS 26	Antenna Inspection - Proposed	05/12/2015 14:00	05/12/2015 23:00	0	20 - 20	132	132
DSS 24	Antenna Inspection - Proposed	05/13/2015 15:00	05/14/2015 06:00	1	20 - 20	133	134
DSS 15	Antenna Inspection - Proposed	05/14/2015 14:00	05/14/2015 23:00	0	20 - 20	134	134
DSS 27	Antenna Inspection - Proposed	05/15/2015 14:00	05/15/2015 23:00	0	20 - 20	135	135
DSS 65	Maser Replacement - Proposed	08/03/2015 00:00	11/23/2015 00:00	112	32 - 48	215	327





Jet Propulsion Laboratory  
California Institute of Technology

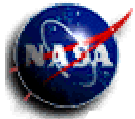
# Interplanetary Network Directorate (IND) Deep Space Network (DSN) Resource Allocation Planning Service



## Antenna Downtime Status and Forecast

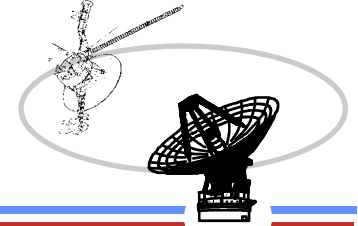
The following are downtimes for 2015 – 2018

- Maser Replacement has been requested for 2015
  - DSS-45 is proposed for weeks 03 – 18
    - Antenna Drive Replacement will be NIB
  - DSS-65 is proposed for weeks 32 – 47
  
- HEF Antenna Drive Replacement requested
  - DSS-15 Proposed for May 4 – July 6, 2015 weeks, 19 – 27
    - DSS-15 Antenna inspection proposed for weeks 19 and 20
  - DSS-45 Proposed for April 11 – July 4, 2016, weeks, 15 – 26
  - DSS-65 Proposed for August 7 – October 2, 2017, weeks 32 – 39
    - DSS-65 Antenna inspection proposed for weeks 33 and 34
  
- SPC-40 Antenna inspections proposed for weeks 18 and 19
  
- SPC-10 request a 24 hour downtime on each antenna for inspection in 2015
  - Antennas include DSS-14, 15, 24, 25, 26 and 27
  - Week 19 inspection times are proposed for 8 hours NIB to maintenance plus 8 hours swing shift
  - Week 20 inspection times are proposed for 8 hours NIB to maintenance



Jet Propulsion Laboratory  
California Institute of Technology

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



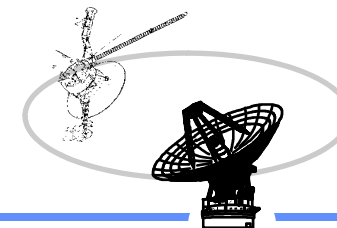
## Antenna Downtime Status and Forecast

### 2015 – 2018 Downtimes cont.

- ❑ SPC-40 request three twelve-hour downtimes for UPS Installation in 2016
  - ❑ Proposed February and March, weeks 05, 07, 09
  
- ❑ HEF Transmitter Replacement requested
  - ❑ DSS-15 Proposed for July 11 – September 12, 2016 weeks, 28 – 39
  - ❑ DSS-45 Proposed for May 15 – August 7, 2017, weeks, 20 – 31
  - ❑ DSS-65 Proposed for July 16 – October 8, 2018, weeks 29 – 40
  
- ❑ AZ Track Replacement is requested for DSS-25 and DSS-55
  - ❑ 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
    - ❑ Reconfiguration Prep is proposed for February 1 – May 23, weeks 05 – 20
  - ❑ DSS-25 is proposed for October 16 – December 25, 2017, weeks 42 – 52
    - ❑ XX/Ka Installation will be NIB
  
- ❑ SPC-60 request three twelve-hour downtimes for UPS Installation in 2018
  - ❑ Proposed February and March, weeks 05, 07, 09
  
- ❑ DSS-24 XX/Ka Installation requested for 2018
  - ❑ Proposed for April 30 – July 9, weeks 18 – 27



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



Jet Propulsion Laboratory  
California Institute of Technology

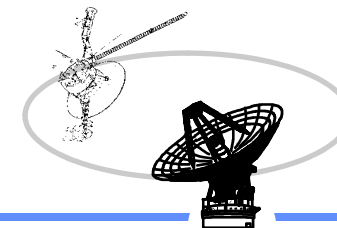
- 2016 -

	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	44	45	46	47	48	49	50	51	52									
2016 Key Project Events	ExoMars																																																												
	NHPC Solar Conjunction													JUNO Approach												JUNO TCM				JUNO Conjunction												ORX Launch																			
	NHPC Pluto Science PB													JUNO TCM												JUNO Capture Orbit												JUNO Orbit Ops																							
	NHPC Kuiper Belt Approach													NHPC Kuiper Belt Encounter												JUNO PRM											JUNO Gravity Sci																								
	MMS Phase 1 Maneuver																							MMS Phase 2a1												MMS Phase 2a2				MMS Phase 2b Maneuver																					
	JUNO TCM																																																												
	JUNO Approach																																																												
	JUNO Approach																																																												
	CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby																								
	CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby				CAS TITAN Flyby																												
Key Project Events Legend: <span style="color: red;">■</span> Level 1 <span style="background-color: yellow;">■</span> Level 2 <span style="background-color: orange;">■</span> Level 3 <span style="background-color: gray;">■</span> All Others																																																													
GDSCC	D15 Transmitter Replacement - Proposed																																																												
CDSCC	D35 Install 80kW													UPS Installation - Proposed												D35 80kW Test				D35 DDR												D36 Operational																			
D36 Modkit Inventory/Installation/Checkout													D36 Subsystem Acceptance Testing												D34, 43,45 Antenna Inspection - Proposed				D36 System Performance Testing																																
D36 Systems Integration Testing																																																													
MDSCC	D55 AZ Track Replacement - Proposed													D55 80 kW Facility Prep NIB												D55 RF Reconfiguration Prep - Proposed				D55 80kW to DLF												D55 80kW on site																			
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									

Revised: July 6, 2012



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



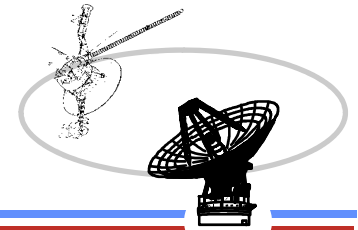
Jet Propulsion Laboratory  
 California Institute of Technology

## DSN Downtime 2016

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
DSS 55	RF Reconfiguration Prep - Proposed	02/01/2016 00:00	05/23/2016 00:00	112	05 - 21	32	144
SPC 40	UPS Installation - Proposed	02/03/2016 21:00	02/04/2016 09:00	0	05 - 05	34	35
SPC 40	UPS Installation - Proposed	02/17/2016 21:00	02/18/2016 09:00	0	07 - 07	48	49
SPC 40	UPS Installation - Proposed	03/02/2016 21:00	03/03/2016 09:00	0	09 - 09	62	63
DSS 43	Antenna Inspection - Proposed	05/02/2016 22:00	05/03/2016 14:00	1	18 - 18	123	124
DSS 34	Antenna Inspection - Proposed	05/03/2016 22:00	05/04/2016 14:00	1	18 - 18	124	125
DSS 45	Antenna Inspection - Proposed	05/04/2016 22:00	05/05/2016 14:00	1	18 - 18	125	126
DSS 43	Antenna Inspection - Proposed	05/09/2016 22:00	05/10/2016 06:00	0	19 - 19	130	131
DSS 34	Antenna Inspection - Proposed	05/10/2016 22:00	05/11/2016 06:00	0	19 - 19	131	132
DSS 15	Transmitter Replacement - Proposed	07/11/2016 00:00	10/03/2016 00:00	84	28 - 40	193	277



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



Jet Propulsion Laboratory  
California Institute of Technology

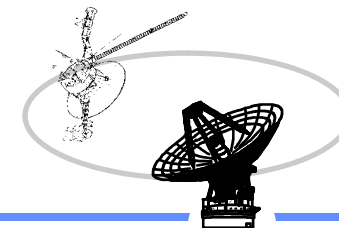
- 2017 -

	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	44	45	46	47	48	49	50	51	52																					
2017 Key Project Events	MMS Phase 2b Maneuver								MMS Disposal								JUNO Orbit Ops/Gravity Sci																																								JUNO Deorbit																
	CAS TITAN Flyby																																																																								
Key Project Events Legend: <span style="color:red">■</span> Level 1 <span style="color:yellow">■</span> Level 2 <span style="color:orange">■</span> Level 3 <span style="color:gray">■</span> All Others																																																																									
GDSCC																																	D25 AZ Track Replacement - Proposed				D25 XX/Ka Installation - NIB																																				
CDSCC																																	D45 Transmitter Replacement - Proposed																																								
MDSCC	D55 Install 80kW																D55 Test 80kW								D65 Antenna Drive Replacement - Proposed				D54,55,63, 65 Antenna Inspection - Proposed																																												
																																									D55 DDR																																
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																					

Revised: July 6, 2012



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



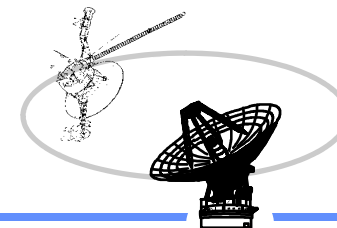
Jet Propulsion Laboratory  
 California Institute of Technology

## DSN Downtime 2017

2017							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 45	Transmitter Replacement - Proposed	05/15/2017 00:00	08/07/2017 00:00	84	20 - 32	135	219
DSS 65	Antenna Drive Replacement - Proposed	08/07/2017 00:00	10/02/2017 00:00	56	32 - 40	219	275
DSS 55	Antenna Inspection - Proposed	08/14/2017 07:00	08/14/2017 23:00	1	33 - 33	226	226
DSS 65	Antenna Inspection - Proposed	08/15/2017 07:00	08/15/2017 23:00	1	33 - 33	227	227
DSS 63	Antenna Inspection - Proposed	08/16/2017 07:00	08/16/2017 23:00	1	33 - 33	228	228
DSS 54	Antenna Inspection - Proposed	08/18/2017 07:00	08/18/2017 23:00	1	33 - 33	230	230
DSS 55	Antenna Inspection - Proposed	08/21/2017 07:00	08/21/2017 16:30	0	34 - 34	233	233
DSS 63	Antenna Inspection - Proposed	08/23/2017 07:00	08/23/2017 16:30	0	34 - 34	235	235
DSS 54	Antenna Inspection - Proposed	08/25/2017 07:00	08/25/2017 16:30	0	34 - 34	237	237
DSS 25	AZ Track Replacement - Proposed	10/16/2017 00:00	12/25/2017 00:00	70	42 - 52	289	359
DSS 25	XX/Ka Installation - NIB	10/16/2017 00:00	12/25/2017 00:00	70	42 - 52	289	359



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



Jet Propulsion Laboratory  
California Institute of Technology

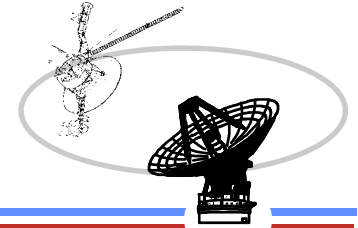
- 2018 -

	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	44	45	46	47	48	49	50	51	52																																
2018 Key Project Events																															SP Launch				JWST Launch																																																	
Key Project Events Legend: <span style="color: red;">■</span> Level 1 <span style="background-color: yellow;">■</span> Level 2 <span style="background-color: orange;">■</span> Level 3 <span style="background-color: gray;">■</span> All Others																																																																																				
GDSCC																															D24 XX/Ka Installation - Proposed																																																					
CDSCC																															D36 Install 80kW												D36 80kW Test								D36 DDR																																	
MDSCC																															D55 Install 80kW												D55 Test 80kW								D55 DDR																																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 20%;"> <p style="color: red;">UPS Installation - Proposed</p> <p style="color: red;">UPS Installation - Proposed</p> <p style="color: red;">UPS Installation - Proposed</p> </div> <div style="width: 20%; background-color: green;">D65 Transmitter Replacement - Proposed</div> </div>																																																																																				
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																																

Revised: June 21, 2012



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



Jet Propulsion Laboratory  
California Institute of Technology

## DSN Downtime 2018

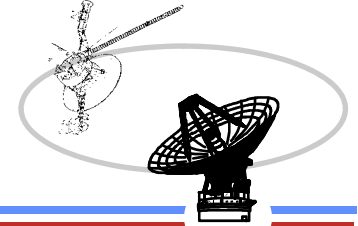
2018							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
SPC 60	UPS Installation - Proposed	01/31/2018 06:00	01/31/2018 18:00	0	05 - 05	31	31
SPC 60	UPS Installation - Proposed	02/14/2018 06:00	02/14/2018 18:00	0	07 - 07	45	45
SPC 60	UPS Installation - Proposed	02/28/2018 06:00	02/28/2018 18:00	0	09 - 09	59	59
DSS 24	XX/Ka Installation - Proposed	04/30/2018 00:00	07/09/2018 00:00	70	18 - 28	120	190
DSS 65	Transmitter Replacement - Proposed	07/16/2018 00:00	10/08/2018 00:00	84	29 - 41	197	281





Jet Propulsion Laboratory  
California Institute of Technology

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



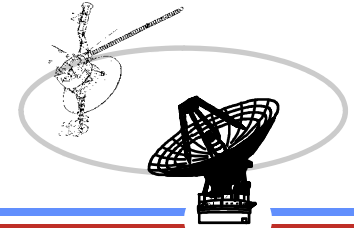
## Future assets new/upgrades

- 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
  - Operational September 26, 2014
  
- DSS-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-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



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

Resource Allocation Planning Service



Jet Propulsion Laboratory  
California Institute of Technology

Antenna Downtime Status and Forecast

Complex	Station	Subnet	S-Band		X-Band		Ka-Band		Ka Phase 2	X-Band ACQ AID	80KW
			Down	Up	Down	Up	Down	Up			
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	✓	✓	✓	✓	N/A	N/A	10/01/15
10	DSS-26	34B2	N/A	N/A	✓	✓	✓	N/A	N/A	N/A	N/A
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 = Capability Not Planned

xx/xx/xx = Capability Date Recently Changed

As of: 1/5/2012

✓ ✓ ✓ = Capability Recently Exists

✓ = Capability Exists

\* = To Be Commissioned