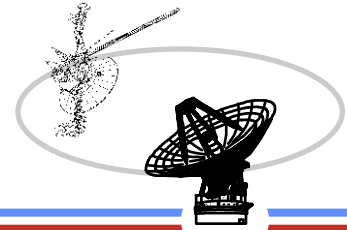




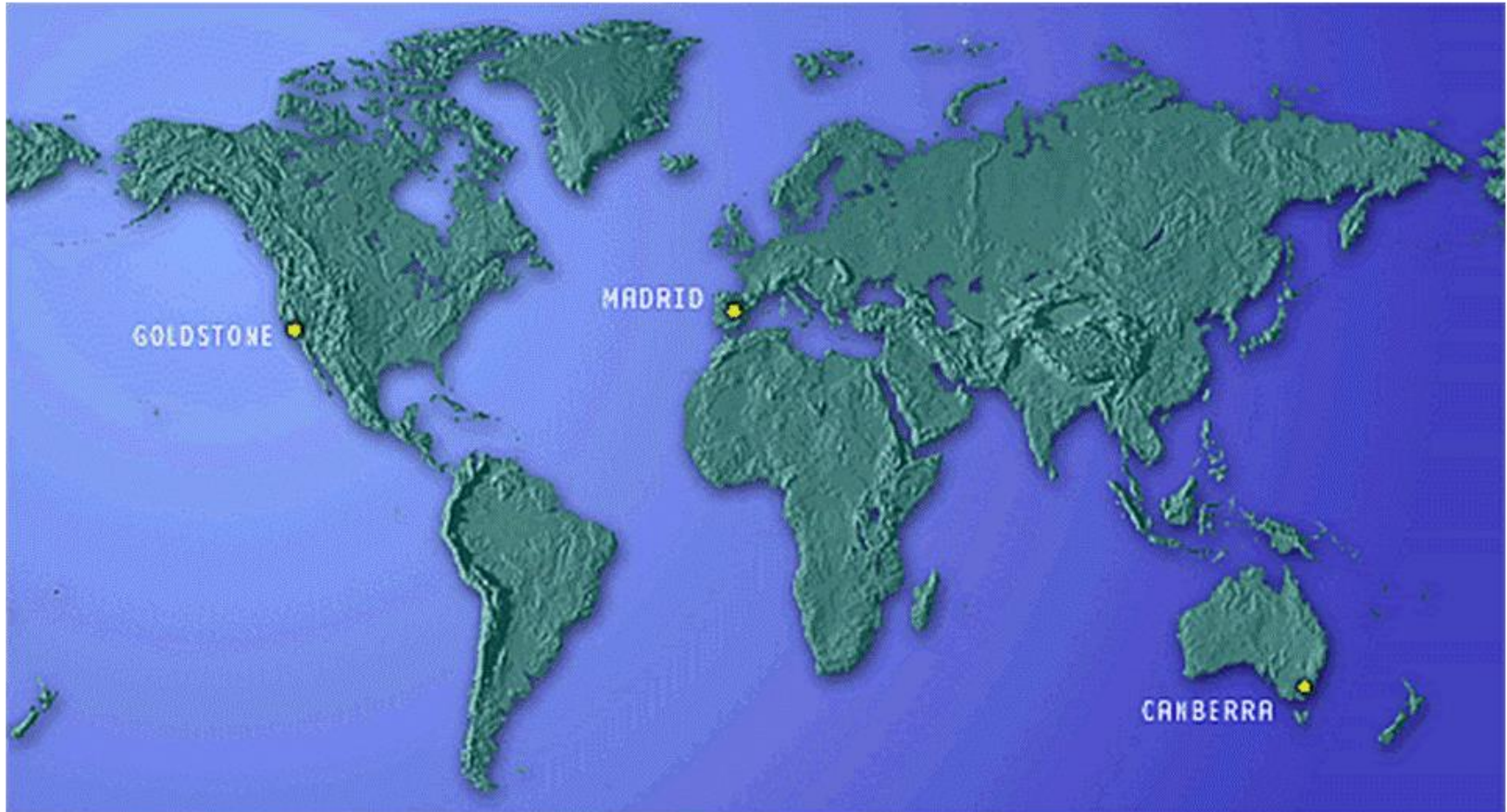
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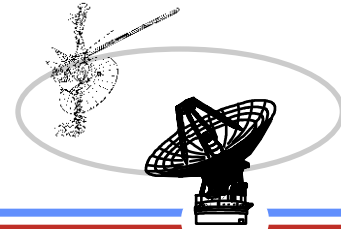
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DSN Antenna Downtime Status and Forecast





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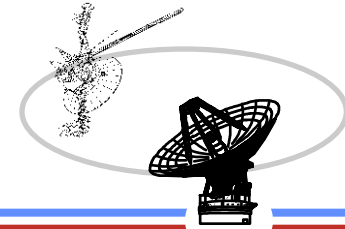


Antenna Downtime Status and Forecast

Downtime	Antenna	Start Date	End Date	Weeks	POC	Notes
S-Band TXR Upgrade	DSS-54	Jan 2016	Jan 2016	02	Harout Matossian	Require 3 days to upgrade the S-Band TXR
S-Band TXR Install	DSS-43	Feb 2016	Mar 2016	7 – 10		Require 1 block per week, day shift, NIB to Maintenance
S-Band TXR Upgrade	DSS-34	May 2016	May 2016	21		Mini DLM will be NIB
Shimming	DSS-63	Jan 2016	Jan 2016	03	Dave Taylor Ryan Higuera David Munoz Mochon, Bernardo Lopez, Asim Sehic	Scheduled NIB to LNA Maintenance
		May 2016	May 2016	20 & 21		Approved additional 2 weeks in May
Epoxy Grouting		Jul 2016	Aug 2016	29 - 33		July is shortened due to Cas. Need to specify the number of weeks for each degree. Also need to do 240 degree.
		Sep 2016	Sep 2016	35 - 39		Additional downtime in Aug/Sept allows Engineering to replace more of the HBA grout. This will in turn reduce the downtime requirement in 2018 for APCA and HBA grout effort.
Grouting/APCA		Mar 2018	Nov 2018	11 – 45		Grouting extended to 35 weeks in conjunction with the APCA. With the extended time there will be a 60 degree in July and also a 180 degree regrout. Grout and APCA will be combined as 1 activity with the weeks divided between the 2 activities. Could possibly shorten by 4 weeks. Additional weeks in 2016 could possibly shorten the 2018 timeframe.



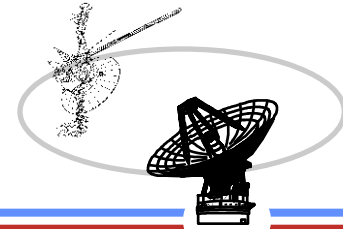
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Antenna Downtime Status and Forecast

Downtime`	Antenna	Start Date	End Date	Weeks	POC	Notes
APCA	DSS-14	Jan 2016	May 2016	04 – 19	Anna Fan, Barzia Tehrani Dave Taylor	In preparation for JNO JOI. Suggest doing a demo with JNO prior to RTS. DTRR scheduled for 1/6. Possible weather mitigation at DSS-14, need to stay within the scheduled time. Switchgear upgrade will be NIB in week 18 & 19.
	DSS-43	Oct 2017	Feb 2018	42 – 06		
	DSS-63	Mar 2018	Nov 2018	11 – 45		
NMC 4-MSPA I&T, AT SOAK Install, Ops Install	GDSCC	Feb 2016	Aug 2016	06, 16, 30	Jim Buckley Shirley Cizmar, Dave Taylor	Require 8 hour downtimes in 2016 for NMC 4-MSPA tasks. Downtime in week 15 moved to week 16 due to high contention in week 15.
	CDSCC	May 2016	Aug 2016	11 & 31		
NMC Operational Readiness Test	MDSCC	May 2016	June 2016	19 & 23		All NMC task need to be scheduled during dayshift hours.
	CDSCC	Nov 2016	Nov 2016	45		Task name is changed to B230 Operations Readiness for all 3 tests.
	MDSCC	Nov 2016	Nov 2016	45		Require additional 8 hour blocks in November for Operational Readiness testing. CDSCC was moved to week 45 prior to MDSCC due to a conflict with a mission event.
	DSOC/ GDSCC	Nov 2016	Nov 2016	46		

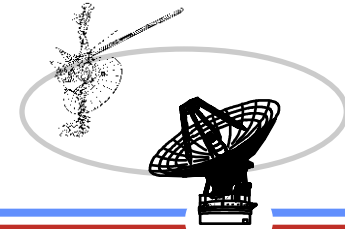


Antenna Downtime Status and Forecast

Downtime	Antenna	Start Date	End Date	Weeks	POC	Notes
Pedestal Metrology	DSS-63	Feb 2016	Jul 2016	04 & 32	David Munoz Muchon Bernardo Lopez	Will measure pedestal stability twice a year in Summer and Winter, through Summer 2019. Require 2 consecutive nights.
		Feb 2017	Aug 2017	07 & 34		
		Feb 2018	Aug 2018	08 & 32		
		Feb 2019	Aug 2019	06 & 31		
		Feb 2019	Aug 2019	06 & 31		
	DSS-54	Feb 2016	Jul 2016	06 & 28		Will be NIB to LNA and Exciter in week 28
		Feb 2017	Aug 2017	05 & 32		Will be NIB to Ka2 Tune-up in week 5
		Feb 2018	Aug 2018	03 & 34		
		Jan 2019	Aug 2019	04 & 33		
		Jan 2019	Aug 2019	04 & 33		
	DSS-55	Jan 2016	Jan 2016	02		Added at the request of the complex
		Feb 2016	Jul 2016	09 & 34		Start time reduced by 45 minutes for CAS support scheduled during first block in week 34.
		Feb 2017	Aug 2017	06 & 35		
		Feb 2018	Aug 2018	05 & 29		Will be NIB to LNA in week 5
		Feb 2019	Aug 2019	08 & 35		Bernardo will send a presentation of reason why the metrology is needed.



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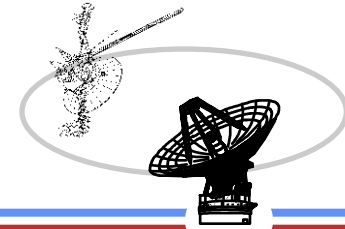


Antenna Downtime Status and Forecast

Downtime	Antenna	Start Date	End Date	Weeks	POC	Notes
Complex downtime for Power House Commission	CDSCC	Mar 2016	Apr 2016	12 & 15	Cameron Lyon, Dave Taylor	Additional downtime requested for Feb/March timeframe. Week 14 downtime moved to week 15 due to high contention in week 14.
LNA Replacement	DSS-35	Mar 2016	Mar 2016	12	Kevin Piechowski	Replacing defective LNA, the first 6 hours combined with Power Upgrade.
LNA Upgrade	DSS-35			13	Chris Link	Upgrading LNA
Power Plant Controller Replacement	MDSCC	Apr 2016	May 2016	14, 17 & 21	Javier Lopez-Perea	Require a minimum of 15 days separation between downtimes. Week 14 removed as H/W was not available. Still checking on week 17.
Generator Switch Gear Update	DSS-14	May 2016	May 2016	18	Ethan Copitch	This task will be NIB to APCA and level 4 tracks. No back-up or recovery system will be available during a power interruption.
Mini DLM	CDSCC	May 2016	May 2016	20 & 21	Paul Richter	Mini DLMs are scheduled for 12-hour blocks and will include S-Band TXR Upgrade during DSS-34 Mini DLM.
Depot Level Maintenance	DSS-43	Feb 2017	Mar 2017	07 – 09	Bernardo Lopez, John Phillips	NIB to Exciter Obsolescence Installation and LNA Maintenance.
SWUPS Installation	CDSCC	May 2016 May 2016 May 2016	May 2016 May 2016 May 2016	20 21 21	Dave Taylor Hal Ahlstrom	Must be done in daylight, There is a connection to the power house. There may be Fire Detection issues. S-Band TXR Upgrade and Mini DLM will be scheduled NIB. Will be completed prior to JNO JOI. Will use diesel power instead for the JOI. Chiller Installation scheduled NIB in week 21.



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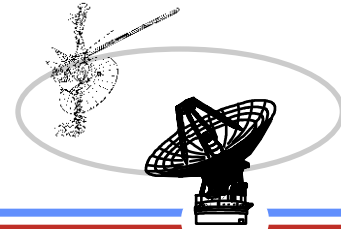
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Antenna Downtime Status and Forecast

Downtime	Antenna	Start Date	End Date	Weeks	POC	Notes
Chiller Installation	DSS-43	May 2016	May 2016	21	John Phillips	Work will be done in parallel with the SWUPS powerhouse outages. Need a 14 hour continuous block or 2 8 hour blocks close together.
		May 2016	May 2016	21		
Ka2 Tune-up	DSS-34	Oct 2016	Nov 2016	44 & 45	Wendy Hodgkin	DSS-34 moved to 2016, weeks 44 & 45 with LNA NIB in week 44. This was moved to allow time prior to TESS launch in August 2017. This is budget/resource driven. There is a task to build 4 th Ka2/S-Band capabilities. This needs to be done 6 months prior to TESS Launch. MERR is scheduled 6 weeks prior to launch. LNA downtime will include Ka2 after the Tune-ups.
	DSS-54	Jan 2017	Feb 2017	04 & 05		
	DSS-24	Mar 2017	Mar 2017	11 & 12		
AZ Encoder Cover Installation	DSS-35	Dec 2016	Dec 2016	49		Require 1 week for AZ Encoder Cover Installation. LNA will be NIB
Antenna Inspections/ TXR RF Characterization	CDSCC	Jan 2017	Jan 2017	02 & 03	Dave Taylor Daniel Olson Harout Matossian	All inspections slipped 1 year Inspections require 12 hours, 8 hours NIB to maintenance with 4 hours following for TXR RF Characterization during inspections. Per discussion with engineers the Inspection will use the first 6 hours of downtime and release the last 6 hours for TXR task at each complex. Note: Cannot do Inspection/TXR RF Characterization on 2 antenna on a given day.
	MDSCC	Jun 2018	Jun 2018	24 & 25		
	GDSCC	May 2019	May 2019	21 & 22		
	CDSCC	Jan 2020	Jan 2020	04 & 05		



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Antenna Downtime Status and Forecast

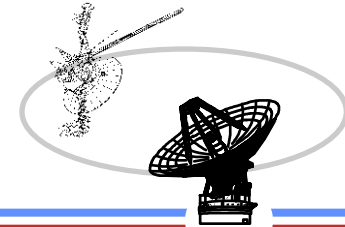
Downtime	Antenna	Start Date	End Date	Weeks	POC	Notes
Follow the Sun Ops Test	Network wide, SPC-10, 40, 60	Jan 2017	Jan 2017	03	Shirley Cizmar	Require 14 hour Network downtime for testing the Follow the sun (FtS) remote Ops. All 3 complexes concurrent.
	Network wide, SPC-10, 40, 60	Mar 2017	March 2017	10		Require 14 hour Network downtime for testing the Follow the sun (FtS) remote Ops. All 3 complexes concurrent.
	Network wide, SPC-10, 40, 60	May 2017	May 2017	19		Require 14 hour Network downtime for testing the Follow the sun (FtS) remote Ops. All 3 complexes concurrent.
	Network wide, SPC-10, 40, 60	Jun 2017	Jun 2017	25		Require 14 hour Network downtime for testing the Follow the sun (FtS) remote Ops. All 3 complexes concurrent. Performing remote Ops during the last test. No additional task can co-exist during these downtimes.
XMTR Controller Replacement	DSS-14	Jun 2017	Jun 2017	25 & 26	Ryan Higuera	Require 2 weeks for transmitter controller replacement in place of L-Band Install task.
S-Band Install	DSS-26	Sept 2017	Oct 2017	36 – 42	Wendy Hodgkin	GDSCC cannot support the downtime as planned in weeks 14-19, so the downtime has moved to weeks 36-42. DSS-26 Exciter install will be NIB.
XX/Ka/Ka U/L Installation	DSS-25	Mar 2018	Jun 2018	10 – 23	Wendy Hodgkin	XX/Ka requires 14 weeks - AZ Track will be NIB in weeks 14 – 23. Needs to happen as soon after JNO end of mission as possible. Add Ka Uplink replacement. Could move to end in week 29. Need detailed schedule of activities.



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Antenna Downtime Status and Forecast

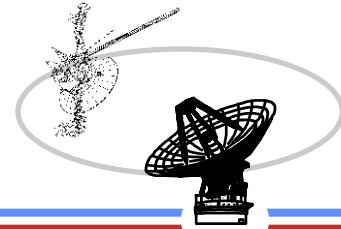
Downtime	Antenna	Start Date	End Date	Weeks	POC	Notes
AZ Track Replacement	DSS-25	Apr 2018	Jun 2018	14 – 23	Pam Rothman Daniel Olson	This is NIB to XX/Ka Installation.
XX Installation	DSS-24	Feb 2019	Apr 2019	06 – 17	Wendy Hodgkin	XX requires 12 weeks DSS-24 is not funded at this time, but still in the plan to proceed with downtime. Moving to early 2019. There will be no Ka installation.
Pedestal Rehab	DSS-54	Nov 2019	Apr 2021	45 – 17	Bernardo Lopez	This Rehab could take 15 – 18 months to complete. Servo Replacement and Transmitter Replacement will be NIB. DSS-56 will become operational October 1, 2019 with Ka2/S-Band feed. If DSS-54 is not available for JWST, the Ka2 will be installed at DSS-55. If we wait for DSS-56 to become operational and DSS-54 can operate until then, DSS-54 will start Pedestal Rehab the first weeks of Nov 2019 and end the last week of April 2021. Servo and Transmitter Replacements will be NIB Status of this task is still unknown at this time. Could move to start in 2020.



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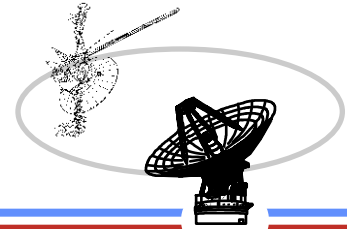


Antenna Downtime Status and Forecast

Downtime	Antenna	Start Date	End Date	Weeks	POC	Notes
El Bearing Replacement	DSS-63	Apr 2020	May 2020	16 - 21	Asim Sehic	This downtime moved from weeks 12-24 to weeks 16-21. There are about 5-6 years of bearing life left based on last inspection. Requires only 6 weeks. If bearings continue to show healthy conditions and longevity, this work may be reduced to seals replacement.
20 KW XMTR Replacement	DSS-14	Jun 2020	Sep 2020	25 - 38	Pete Hames	This downtime is require in preparation for HYB2 Earth Re-Entry

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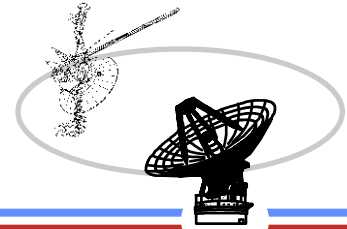


70m Major Downtimes 2015 - 2020

Downtime	Ant	Start Date	End Date	Weeks	Status	# of Days	Notes and next downtime date
APCA	DSS-14	Jan 25, 2016	May 13, 2016	04 – 19	Approved	109	LNA is scheduled NIB in week 04 Next downtime is June 2020
20 KW XMTR Replacement	DSS-14	Jun 15, 2020	Sep 19, 2020	25 – 38	Proposed	95	
Depot Level Maintenance	DSS-43	Feb 19, 2017	Mar 3, 2017	07 – 09	Approved	12	NIB to Exciter Obsolescence Installation Next downtime is October of 2017
APCA	DSS-43	Oct 30, 2017	Feb 9, 2018	44 – 06	Approved	101	LNA is scheduled NIB in week 02 of 2018
Shimming	DSS-63	Jan 18, 2016	Jan 23, 2016	03	Approved	5	NIB to LNA Next downtime May 2016
Shimming	DSS-63	May 16, 2016	May 27, 2016	20 – 31	Approved	11	Next downtime is Aug of 2016.
Shimming	DSS-63	Jul 18, 2016	Aug 19, 2016	29 – 33	Approved	11	Exciter Obsolescence Install is NIB Next downtime is March of 2018. Possible extension of 5 weeks
Grouting/APCA	DSS-63	Mar 12, 2018	Nov 9, 2018	11 – 45	Proposed	242	Next downtime is March of 2020
El Bearing Replacement	DSS-63	Mar 16, 2020	Jun 12, 2020	16 – 21	Proposed	88	



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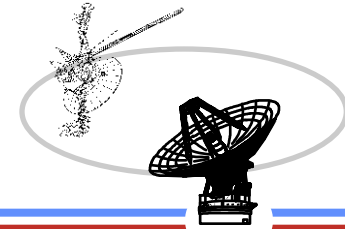
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Proposed LNA Maintenance Scheduled for 2016

Antenna	Start Date	End Date	Week	STATUS	Number of Days	2015 LNAs/ Notes	Number of months since last LNA
DSS-43	Jan	Jan	01	Approved	5	Mar, Jun, Oct, Nov, Dec of 2015	10 months
DSS-63	Jan	Jan	03	Approved	5	Jan, Nov of 2015 During grouting	13 months
DSS-14	Jan	Jan	04	Approved	5	Dec of 2014 During APCA	13 months
DSS-25	Apr	Apr	14	Approved	3	Feb, Jul, Oct of 2015	14 months
DSS-45	Apr	Apr	17	Approved	4	Feb, Apr, Jul of 2015	14 months
DSS-24	May	May	19	Approved	3	Apr, Aug of 2015 After DSS-14 APCA	13 months
DSS-26	Jun	Jun	25	Approved	3	May 2015	13 months
DSS-54	Jul	Jul	28	Approved	3	Jun 2015	13 months
DSS-15	Aug	Aug	32	Approved	3	Mar of 2015	17 months
DSS-34	Nov	Nov	44	Approved	3	Sep, Nov 2015	14 months
DSS-65	Nov	Nov	46	Approved	4	Jul, Dec 2015	16 months
DSS-35	Dec	Dec	49	Approved	50 hours	Oct 2015	14 months
DSS-55	Dec	Dec	50	Approved	3	Aug 2015	16 months



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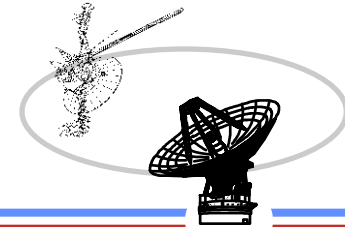
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Proposed LNA Maintenance Scheduled for 2017

Antenna	Start Date	End Date	Week	STATUS	Number of Days	Notes for 2017 LNAs	Number of months since last LNA
DSS-43	Mar	Mar	08 & 09	Proposed	5	NIB to Exciter Obsolescence	14 months
DSS-14	Mar	Mar	13	Proposed	5	Stand Alone	14 months
DSS-63	May	May	19	Proposed	5	Stand Alone	16 months
DSS-25	Jun	Jun	22	Proposed	3	Stand Alone	14 months
DSS-24	Jul	Jul	27	Proposed	3	Stand Alone	14 months
DSS-54	Oct	Oct	41	Proposed	3	Stand Alone	15 months



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Proposed LNA Maintenance Scheduled for 2018

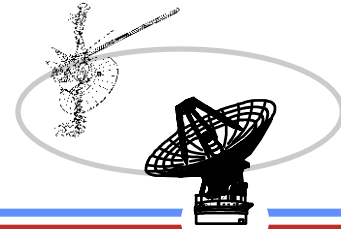
Antenna	Start Date	End Date	Week	STATUS	Number of Days	Notes for 2018 LNAs	Number of months since last LNA
DSS-43	Jan	Jan	02	Proposed	5	NIB to APCA	10 months
DSS-55	Feb	Feb	05	Proposed	3	Stand Alone	13 months
DSS-14	Mar	Mar	09	Proposed	5	Stand Alone	11 months
DSS-34	Mar	Mar	09	Proposed	3	Ka2 will be added to process	15 months
DSS-25	Mar	Mar	11	Proposed	3	Stand Alone	9 months
DSS-35	Apr	Apr	16	Proposed	50 hours	Stand Alone	16 months
DSS-63	Jun	Jun	23	Proposed	5	NIB to APCA/Grouting	13 months
DSS-24	Sep	Sep	39	Proposed	3	Ka2 will be added to process	14 months
DSS-54	Nov	Nov	47	Proposed	3	Ka2 will be added to process	13 months



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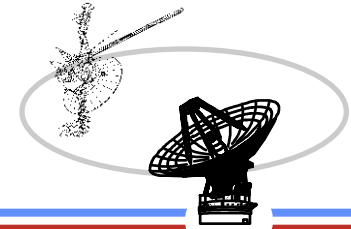


Proposed LNA Maintenance Scheduled for 2019

Antenna	Start Date	End Date	Week	STATUS	Number of Days	Notes for 2019 LNAs	Number of months since last LNA
DSS-43	Mar	Mar	10	Proposed	5	Stand Alone	14 months
DSS-34	May	May	18	Proposed	3	Stand Alone	14 months
DSS-14	May	May	19	Proposed	5	Stand Alone	14 months
DSS-55	May	May	21	Proposed	3	Stand Alone	15 months
DSS-35	Jun	Jun	23	Proposed	50 hours	Stand Alone	14 months
DSS-25	Jun	Jun	24	Proposed	3	Stand Alone	14 months
DSS-63	Aug	Aug	31	Proposed	5	Stand Alone	14 months
DSS-24	Dec	Dec	49	Proposed	3	Stand Alone	13 months



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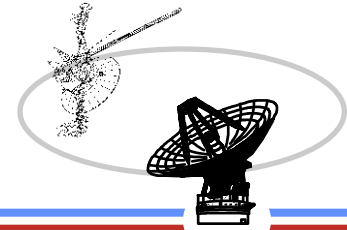
Exciter Obsolescence Install 2015 – 2018

Antenna	Start Date	End Date	Week	Status	Number of Days	Notes
DSS-34	Nov 30, 2015	Dec 15, 2015	49 – 51	Approved	12	Completed
DSS-24	May 9, 2016	May 13, 2016	19	Approved	5	DSS-24 LNA NIB
DSS-54	Jul 11, 2016	Jul 15, 2016	28	Approved	5	DSS-54 LNA/Single Axis LOTO NIB
DSS-15	Aug 8, 2016	Aug 11, 2016	32	Approved	5	DSS-15 LNA NIB
DSS-63	Jul 25, 2016	Jul 30, 2016	30	Approved	5	NIB to Shimming
DSS-65	Nov 14, 2016	Nov 19, 2016	46	Approved	5	DSS-65 LNA NIB
DSS-55	Dec 12, 2016	Dec 16, 2016	50	Approved	5	DSS-55 LNA NIB
DSS-43	Feb 19, 2017	Mar 3, 2017	07 – 09	Proposed	5	DLM & LNA NIB
DSS-14	Jun 19, 2017	Jun 24, 2017	25	Proposed	5	NIB to L-Band Install
DSS-26	Sep 4, 2017	Oct 20, 2017	36-42	Approved		NIB to DSS-26 S-Band Install
DSS-25	Apr 2, 2018	Apr 7, 2018	14	Proposed	5	NIB to AZ Track Replacement XX/Ka Install

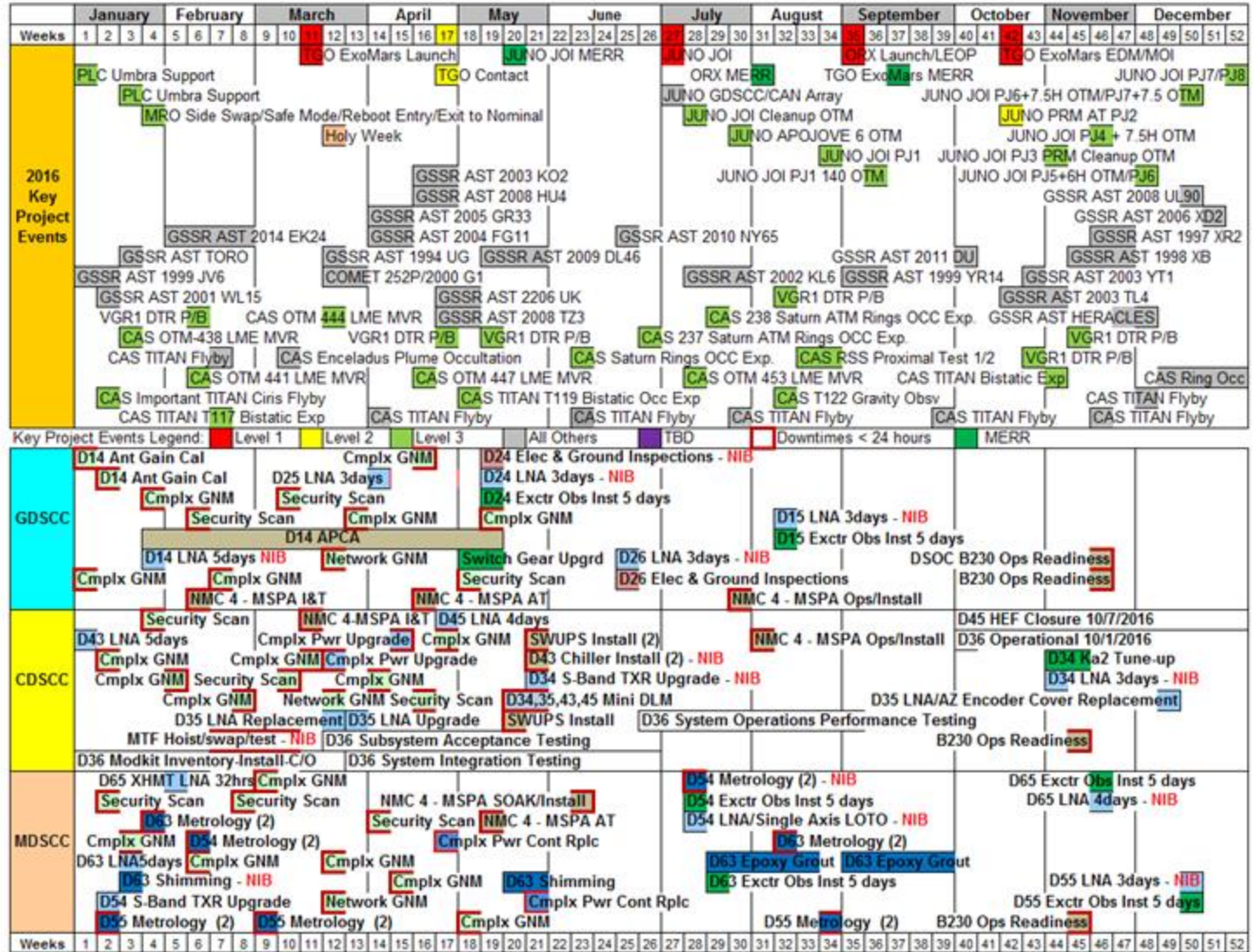


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- 2016 -

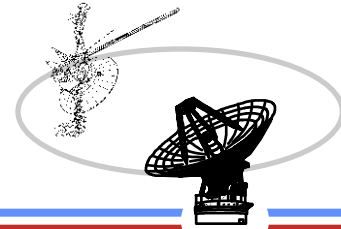




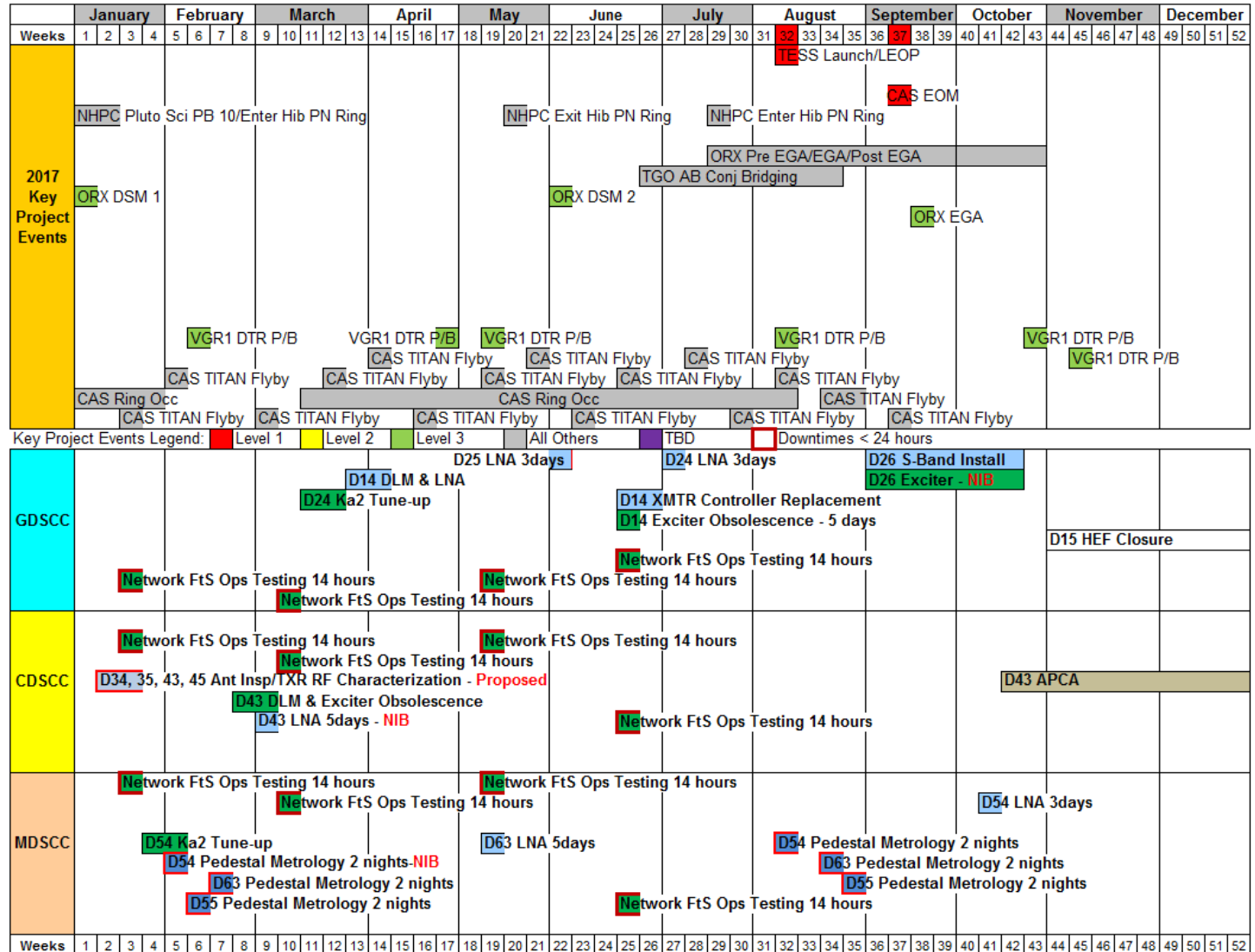
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- 2017 -

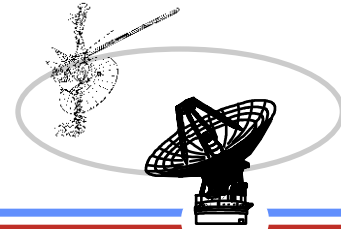


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Downtime February 2, 2016 17

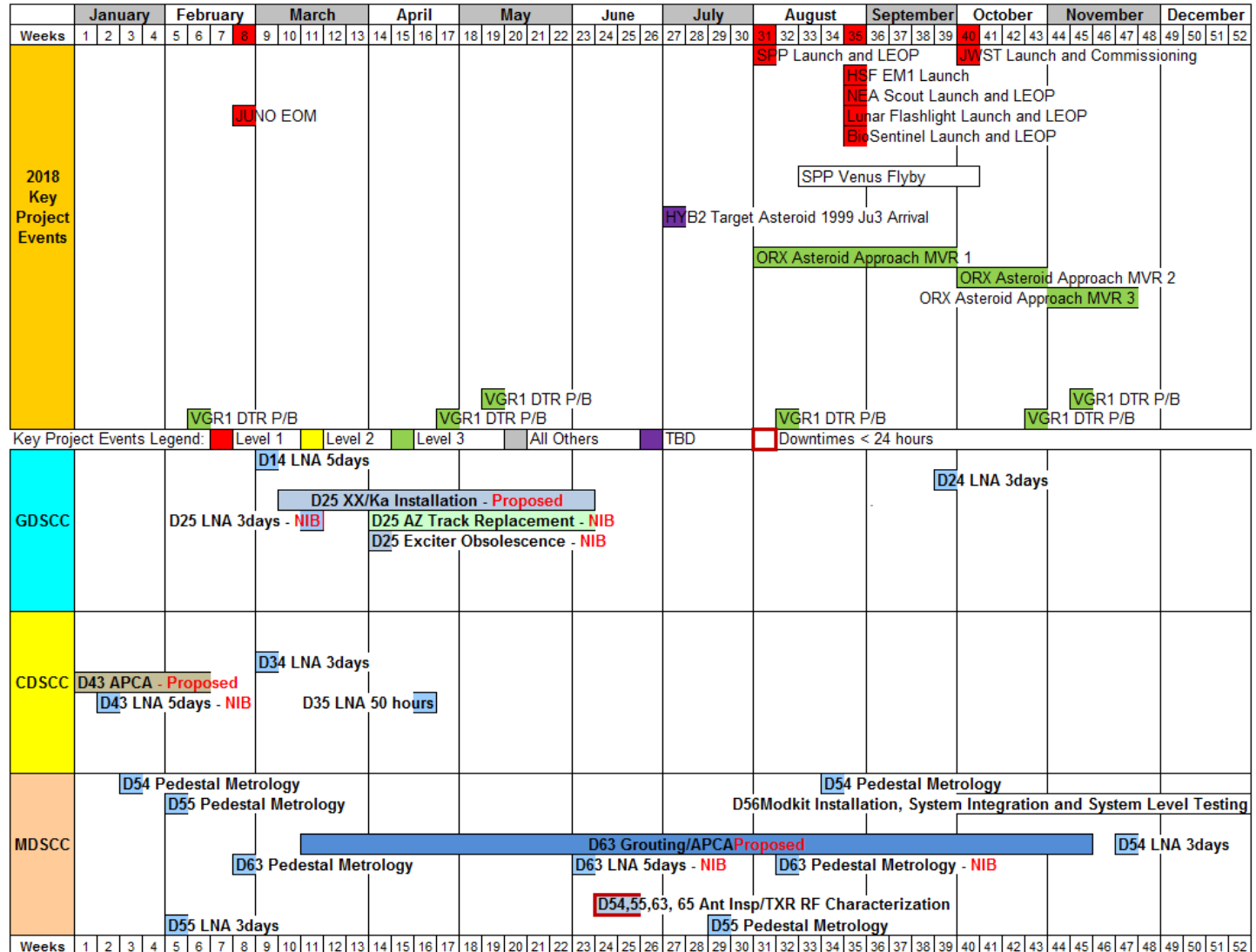


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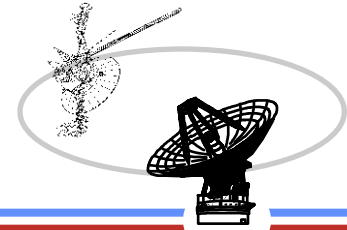
Revised: February 1, 2016

Downtime February 2, 2016 18



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- 2019 -

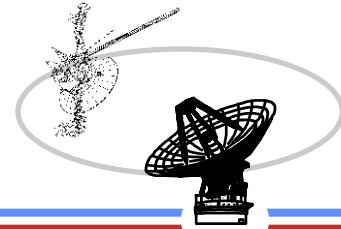
	January					February					March					April					May					June					July					August					September					October					November					December				
Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52								
2019 Key Project Events						SPP Beacon					SPP Solar Enc					ORX Touch & Go (TAG) 1 Reh										ORX TAG 1					SPP Solar Enc										SPP Venus Flyby																			
						VGR1 DTR P/B					VGR1 DTR P/B					VGR1 DTR P/B					D14,24,25,26, Ant Insp/TXR RF Characterization					VGR1 DTR P/B					HYB2 Target Asteroid 1999 Ju3 Departure					VGR1 DTR P/B					VGR1 DTR P/B																			
Key Project Events Legend: ■ Level 1 ■ Level 2 ■ Level 3 ■ All Others ■ TBD Downtimes < 24 hours																																																												
GDSCC						D24 XX/Ka Installation - Proposed										D14 LNA 5days					D25 LNA 3days															D24 LNA 3days																								
CDSCC						D43 LNA 5days										D34 LNA 3days					D35 LNA 50 hours																																							
MDSCC																																				D56 Modkit Installation, System Integration and System Level Testing										D56 Operational														
						D63 Pedestal Metrology										D55 LNA 3days					D54 Pedestal Metrology					D54 Pedestal Rehab end April 2021 - Proposed																																		
	D54 Pedestal Metrology					D55 Pedestal Metrology										D63 LNA 5days					D63 Pedestal Metrology - NIB					D54 Servo/MTR Replacement - NIB																																		
																																			D53 Modkit Installation, System Integration and System Level Testing										D55 Pedestal Metrology															

Revised: February 1, 2016

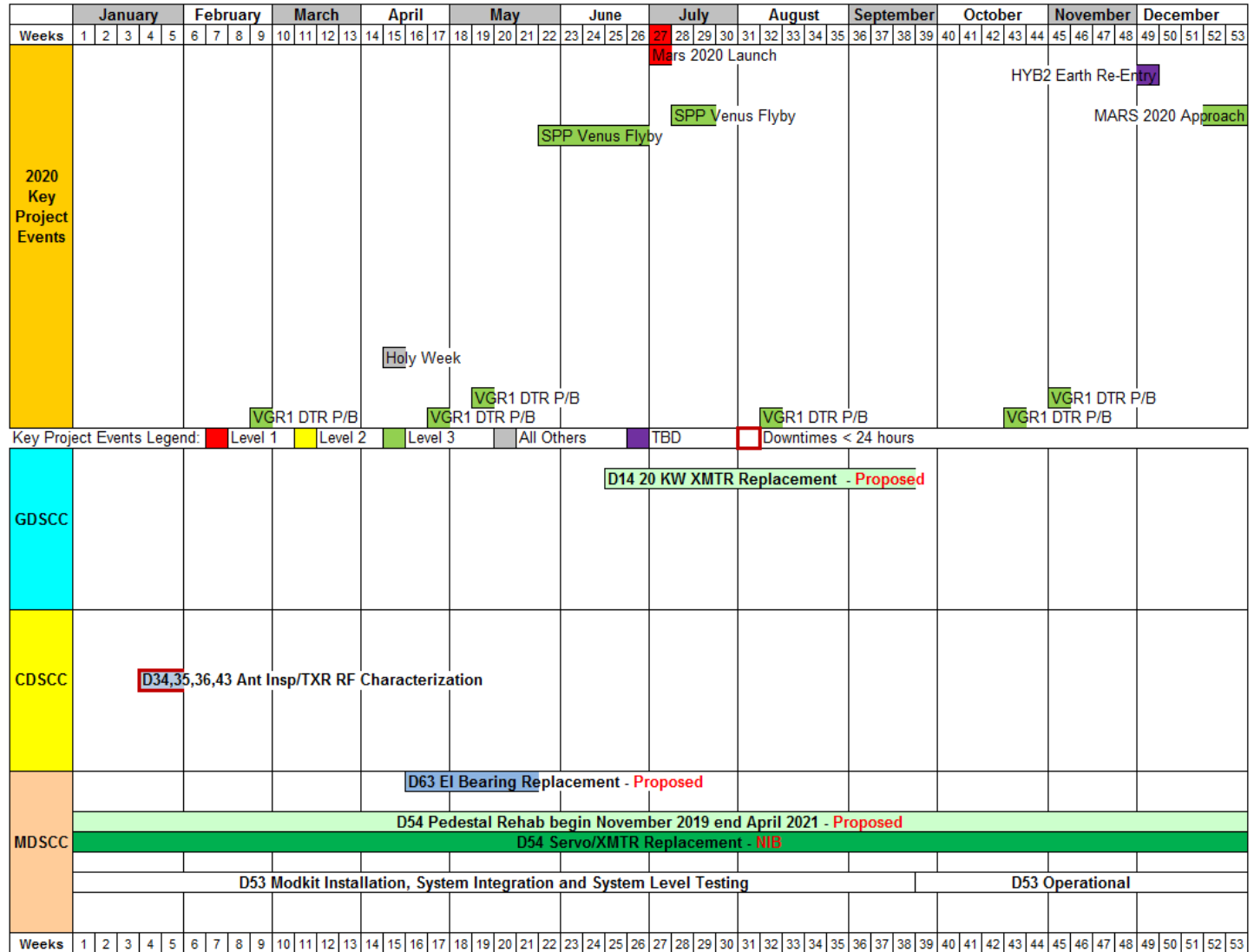
Downtime February 2, 2016 19



Resource Allocation Planning Service



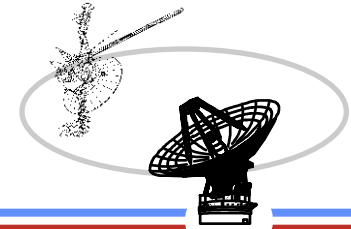
- 2020 -



Revised: February 1, 2016



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



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- 2021 -

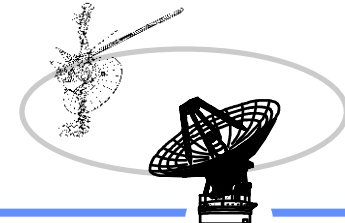
	January					February					March					April					May					June					July					August					September					October					November					December				
Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52								
2021 Key Project Events	MARS 2020 Approach					Mars EDL					ORX Asteroid Departure MVR					SPP Venus Flyby					SPP Venus Flyby										HSF EM2 Launch					ORX Asteroid Sample Return Capsule Release																								
						SPP Venus Flyby					SPP Venus Flyby																									SPP Venus Flyby																								
Key Project Events Legend:																																																												
 Level 1 Level 2 Level 3 All Others TBD Downtimes < 24 hours																																																												
GDSCC																																																												
CDSCC																																																												
MDSCC																																																												
	D54 Pedestal Rehab Begin November 2019 - Proposed																				D54,53,55,56,63, Ant Insp/TXR RF Characterization																																							
	D54 Servo/XMTR Replacement - NIB																																																											
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								

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Downtime February 2, 2016 21



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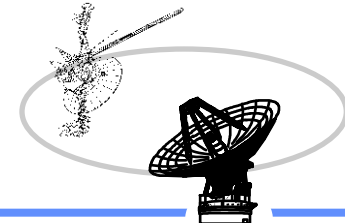
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DSN Downtime 2016

2016							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 54	S-Band TXR Upgrade	01/13/2016 06:00	01/15/2016 15:00	2	02 - 02	13	15
DSS 14	Antenna Gain Calibration	01/14/2016 00:40	01/14/2016 10:20	0	02 - 02	14	14
DSS 63	LNA Maintenance	01/18/2016 00:00	01/23/2016 00:00	5	03 - 03	18	23
DSS 63	Shimming - NIB	01/18/2016 00:00	01/23/2016 00:00	5	03 - 03	18	23
DSS 14	LNA Maintenance - NIB	01/25/2016 00:00	01/30/2016 00:00	5	04 - 04	25	30
DSS 14	APCA	01/25/2016 15:00	05/13/2016 23:00	109	04 - 19	25	134
DSS 63	Pedestal Metrology	01/25/2016 20:00	01/26/2016 04:00	0	04 - 04	25	26
DSS 63	Pedestal Metrology	01/26/2016 20:00	01/27/2016 04:00	0	04 - 04	26	27
DSS 65	XHMT LNA Maintenance	02/01/2016 08:00	02/03/2016 00:00	2	05 - 05	32	34
SPC 10	NMC 4 - MSPA I&T	02/08/2016 18:00	02/09/2016 02:00	0	06 - 06	39	40
DSS 54	Pedestal Metrology	02/09/2016 22:30	02/10/2016 07:15	0	06 - 06	40	41
DSS 54	Pedestal Metrology	02/10/2016 19:30	02/11/2016 03:30	0	06 - 06	41	42
DSS 43	MTF Hoist - NIB to Maint.	02/15/2016 23:30	02/16/2016 04:20	0	07 - 07	46	47
DSS 43	MTF Swap - NIB to Maint.	02/22/2016 21:05	02/23/2016 04:00	0	08 - 08	53	54
DSS 55	Pedestal Metrology	02/29/2016 20:00	03/01/2016 06:00	0	09 - 09	60	61
DSS 55	Pedestal Metrology	03/01/2016 20:00	03/02/2016 07:00	0	09 - 09	61	62
DSS 43	MTF Test - NIB to Maint.	03/02/2016 21:00	03/03/2016 04:00	0	09 - 09	62	63
DSS 43	MTF Test - NIB to Maint.	03/07/2016 21:00	03/08/2016 04:00	0	10 - 10	67	68
SPC 40	NMC 4 - MSPA I&T	03/15/2016 21:00	03/16/2016 05:00	0	11 - 11	75	76
DSS 35	LNA Replacement	03/23/2016 00:00	03/25/2016 06:00	2	12 - 12	83	85
SPC 40	Complex Powerhouse Upgrade	03/23/2016 21:00	03/24/2016 05:00	0	12 - 12	83	84
DSS 35	LNA Upgrade	03/28/2016 21:00	03/29/2016 21:00	1	13 - 13	88	89
DSS 25	LNA Maintenance	04/04/2016 00:00	04/07/2016 00:00	3	14 - 14	95	98



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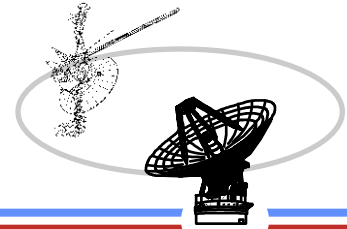
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DSN Downtime 2016

2016 cont.							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
SPC 40	Complex Powerhouse Upgrade	04/13/2016 21:00	04/14/2016 05:00	0	15 - 15	97	98
SPC 10	NMC 4 - MSPA AT	04/22/2016 15:00	04/22/2016 23:00	0	16 - 16	106	106
DSS 45	LNA Maintenance	04/25/2016 00:00	04/29/2016 00:00	4	17 - 17	116	120
SPC 60	Power Plant Controller Replacement	04/27/2016 06:00	04/27/2016 14:00	0	17 - 17	118	118
DSS 14	Generator Switch Gear Update	05/02/2016 00:00	05/09/2016 00:00	7	18 - 19	123	130
DSS 24	LNA Maintenance - NIB	05/09/2016 00:00	05/12/2016 00:00	3	19 - 19	130	133
DSS 24	Electrical and Ground Inspection- NIB	05/09/2016 15:00	05/14/2016 00:00	4	19 - 19	130	135
DSS 24	Exciter Obsolescence Install	05/09/2016 15:00	05/14/2016 00:00	4	19 - 19	130	135
SPC 60	NMC 4 - MSPA AT	05/14/2016 06:00	05/14/2016 14:00	0	19 - 19	135	135
DSS 63	Shimming	05/16/2016 06:00	05/27/2016 17:00	11	20 - 21	137	148
DSS 43	Mini DLM	05/16/2016 20:00	05/17/2016 08:00	0	20 - 20	137	138
DSS 34	Mini DLM	05/17/2016 20:00	05/18/2016 08:00	0	20 - 20	138	139
DSS 45	Mini DLM	05/18/2016 20:00	05/19/2016 08:00	0	20 - 20	139	140
DSS 35	Mini DLM	05/19/2016 20:00	05/20/2016 08:00	0	20 - 20	140	141
SPC 40	SWUPS Installation	05/19/2016 20:00	05/20/2016 08:00	0	20 - 20	140	141
DSS 43	Mini DLM	05/23/2016 20:00	05/24/2016 08:00	0	21 - 21	144	145
DSS 43	Chiller Install - NIB	05/24/2016 20:00	05/25/2016 08:00	0	21 - 21	145	146
DSS 34	Mini DLM - NIB	05/24/2016 20:00	05/25/2016 08:00	0	21 - 21	145	146
SPC 40	SWUPS Installation	05/24/2016 20:00	05/25/2016 08:00	0	21 - 21	145	146
DSS 34	S-Band TXR Upgrade	05/24/2016 22:00	05/27/2016 07:00	2	21 - 21	145	148
SPC 60	Power Plant Controller Replacement	05/25/2016 06:00	05/25/2016 14:00	0	21 - 21	146	146
DSS 45	Mini DLM	05/25/2016 20:00	05/26/2016 08:00	0	21 - 21	146	147
DSS 43	Chiller Install - NIB	05/26/2016 20:00	05/27/2016 08:00	0	21 - 21	147	148



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DSN Downtime 2016

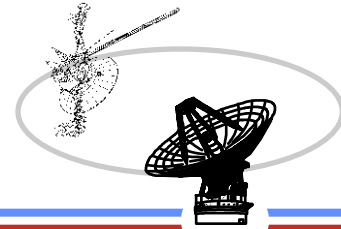
2016 cont.							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 35	Mini DLM	05/26/2016 20:00	05/27/2016 08:00	0	21 - 21	147	148
SPC 40	SWUPS Installation	05/26/2016 20:00	05/27/2016 08:00	0	21 - 21	147	148
SPC 60	NMC 4 - MSPA SOAK/Install	06/10/2016 06:00	06/10/2016 14:00	0	23 - 23	162	162
DSS 26	LNA Maintenance - NIB	06/20/2016 00:00	06/23/2016 00:00	3	25 - 25	172	175
DSS 26	Electrical and Ground Inspection	06/20/2016 00:00	06/23/2016 16:00	4	25 - 25	172	175
DSS 54	Exciter Obsolescence Install	07/11/2016 06:00	07/15/2016 17:00	4	28 - 28	193	197
DSS 54	LNA/Single Axis LOTO - NIB	07/11/2016 06:00	07/15/2016 17:00	4	28 - 28	193	197
DSS 54	Pedestal Metrology - NIB	07/11/2016 22:00	07/12/2016 05:00	0	28 - 28	193	194
DSS 54	Pedestal Metrology - NIB	07/12/2016 22:00	07/13/2016 05:00	0	28 - 28	194	195
DSS 63	Exciter Obsolescence Install-NIB	07/18/2016 06:00	07/22/2016 17:00	4	29 - 29	200	204
DSS 63	Shimming	07/18/2016 06:00	08/19/2016 17:00	32	29 - 33	200	232
SPC 10	NMC 4 -MSPA Ops Install	07/30/2016 15:00	07/30/2016 23:00	0	30 - 30	212	212
SPC 40	NMC 4 - MSPA OPs Install	08/02/2016 22:00	08/03/2016 06:00	0	31 - 31	215	216
DSS 15	LNA Maintenance - NIB	08/08/2016 00:00	08/11/2016 00:00	3	32 - 32	221	224
DSS 15	Exciter Obsolescence Install	08/08/2016 15:00	08/13/2016 00:00	4	32 - 32	221	226
DSS 63	Pedestal Metrology	08/09/2016 22:00	08/10/2016 05:00	0	32 - 32	222	223
DSS 63	Pedestal Metrology	08/10/2016 22:00	08/11/2016 05:00	0	32 - 32	223	224
DSS 55	Pedestal Metrology	08/22/2016 22:00	08/23/2016 05:00	0	34 - 34	235	236
DSS 55	Pedestal Metrology	08/23/2016 22:45	08/24/2016 05:00	0	34 - 34	236	237
DSS 63	Epoxy Grouting	08/29/2016 06:00	09/30/2016 17:00	32	35 - 39	242	274
DSS 45	Decommissioned	10/07/2016 00:00	01/01/2050 00:00	12139	40 - 52	281	1
DSS 34	LNA Maintenance -NIB	10/31/2016 00:00	11/03/2016 00:00	3	44 - 44	305	308
DSS 34	Ka2 Tune-up	10/31/2016 21:00	11/11/2016 06:00	10	44 - 45	305	316



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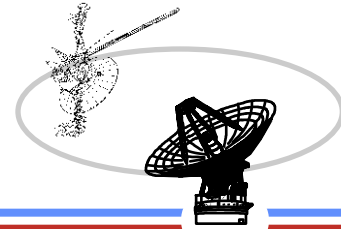


DSN Downtime 2016

2016 cont.							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
SPC 40	NMC Ops Readiness	11/08/2016 21:00	11/09/2016 05:00	0	45 - 45	313	314
SPC 60	NMC Ops Readiness	11/10/2016 06:00	11/10/2016 14:00	0	45 - 45	315	315
DSS 65	LNA Maintenance - NIB	11/14/2016 00:00	11/18/2016 00:00	4	46 - 46	319	323
DSS 65	Exciter Obsolescence Install	11/14/2016 06:00	11/19/2016 17:00	5	46 - 46	319	324
SPC 10	NMC Ops Readiness	11/18/2016 16:00	11/19/2016 00:00	0	46 - 46	323	324
GCF 20	NMC Ops Readiness	11/18/2016 16:00	11/19/2016 00:00	0	46 - 46	323	324
DSS 35	Encoder Cover Replacement - NIB	12/05/2016 00:00	12/10/2016 00:00	5	49 - 49	340	345
DSS 35	LNA Maintenance	12/05/2016 00:00	12/10/2016 00:00	5	49 - 49	340	345
DSS 55	LNA Maintenance - NIB	12/12/2016 00:00	12/16/2016 00:00	4	50 - 50	347	351
DSS 55	Exciter Obsolescence Install	12/12/2016 06:00	12/17/2016 17:00	5	50 - 50	347	352



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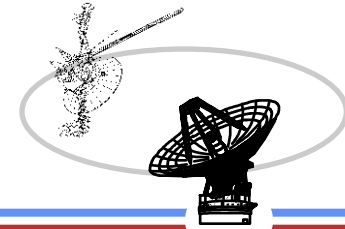


DSN Downtime 2017

2017							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 43	Ant Insp/TXR RF Characterization - Proposed	01/09/2017 22:00	01/10/2017 10:00	0	02 - 02	9	10
DSS 34	Ant Insp/TXR RF Characterization - Proposed	01/10/2017 22:00	01/11/2017 10:00	0	02 - 02	10	11
DSS 45	Ant Insp/TXR RF Characterization - Proposed	01/11/2017 22:00	01/12/2017 10:00	0	02 - 02	11	12
DSS 35	Ant Insp/TXR RF Characterization - Proposed	01/12/2017 22:00	01/13/2017 10:00	0	02 - 02	12	13
DSS 43	Ant Insp/TXR RF Characterization - Proposed	01/16/2017 22:00	01/17/2017 10:00	0	03 - 03	16	17
DSS 34	Ant Insp/TXR RF Characterization - Proposed	01/17/2017 22:00	01/18/2017 10:00	0	03 - 03	17	18
DSS 45	Ant Insp/TXR RF Characterization - Proposed	01/18/2017 22:00	01/19/2017 10:00	0	03 - 03	18	19
DSS 35	Ant Insp/TXR RF Characterization - Proposed	01/19/2017 22:00	01/20/2017 10:00	0	03 - 03	19	20
SPC 40	Follow the Sun Ops Testing	01/21/2017 14:00	01/22/2017 02:00	0	03 - 03	21	22
SPC 60	Follow the Sun Ops Testing	01/21/2017 14:00	01/22/2017 02:00	0	03 - 03	21	22
SPC 10	Follow the Sun Ops Testing	01/21/2017 14:00	01/22/2017 02:00	0	03 - 03	21	22
DSS 54	Ka2 Tune-up	01/23/2017 07:00	02/03/2017 17:00	11	04 - 05	23	34
DSS 54	Pedestal Metrology	01/30/2017 20:00	01/31/2017 07:00	0	05 - 05	30	31
DSS 54	Pedestal Metrology	01/31/2017 20:00	02/01/2017 07:00	0	05 - 05	31	32
DSS 55	Pedestal Metrology	02/06/2017 20:00	02/07/2017 07:00	0	06 - 06	37	38
DSS 55	Pedestal Metrology	02/07/2017 20:00	02/08/2017 07:00	0	06 - 06	38	39
DSS 63	Pedestal Metrology	02/13/2017 20:00	02/14/2017 07:00	0	07 - 07	44	45
DSS 63	Pedestal Metrology	02/14/2017 20:00	02/15/2017 07:00	0	07 - 07	45	46
DSS 43	DLM & Exciter Obsolescence Install	02/19/2017 21:00	03/03/2017 21:00	12	07 - 09	50	62
DSS 43	LNA Maintenance -NIB	02/26/2017 21:00	03/03/2017 21:00	5	08 - 09	57	62
SPC 60	Follow the Sun Ops Testing	03/09/2017 12:00	03/10/2017 00:00	0	10 - 10	68	69
SPC 10	Follow the Sun Ops Testing	03/09/2017 12:00	03/10/2017 00:00	0	10 - 10	68	69
SPC 40	Follow the Sun Ops Testing	03/09/2017 12:00	03/10/2017 00:00	0	10 - 10	68	69



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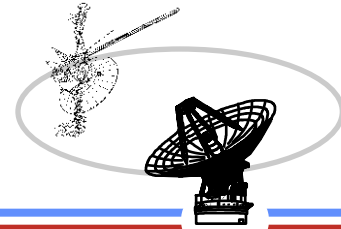
2017 cont.							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 24	Ka2 Tune-up - Proposed	03/13/2017 15:00	03/25/2017 00:00	11	11 - 12	72	84
DSS 14	DLM & LNA Maintenance	03/27/2017 00:00	04/07/2017 23:00	12	13 - 14	86	97
DSS 63	LNA Maintenance	05/08/2017 00:00	05/13/2017 00:00	5	19 - 19	128	133
SPC 40	Follow the Sun Ops SOAK	05/13/2017 12:00	05/14/2017 02:00	1	19 - 19	133	134
SPC 10	Follow the Sun Ops SOAK	05/13/2017 12:00	05/14/2017 02:00	1	19 - 19	133	134
SPC 60	Follow the Sun Ops SOAK	05/13/2017 12:00	05/14/2017 02:00	1	19 - 19	133	134
DSS 25	LNA Maintenance	05/30/2017 00:00	06/02/2017 00:00	3	22 - 22	150	153
DSS 14	Exciter Obsolescence - NIB	06/19/2017 15:00	06/24/2017 23:00	5	25 - 25	170	175
DSS 14	Transmitter Controller Replacement	06/19/2017 15:00	06/30/2017 23:00	11	25 - 26	170	181
SPC 60	Follow the Sun Ops Testing	06/22/2017 12:00	06/23/2017 02:00	1	25 - 25	173	174
SPC 10	Follow the Sun Ops Testing	06/22/2017 12:00	06/23/2017 02:00	1	25 - 25	173	174
SPC 40	Follow the Sun Ops Testing	06/22/2017 12:00	06/23/2017 02:00	1	25 - 25	173	174
DSS 24	LNA Maintenance	07/03/2017 00:00	07/06/2017 00:00	3	27 - 27	184	187
DSS 54	Pedestal Metrology	08/07/2017 22:00	08/08/2017 05:00	0	32 - 32	219	220
DSS 54	Pedestal Metrology	08/08/2017 22:00	08/09/2017 05:00	0	32 - 32	220	221
DSS 63	Pedestal Metrology	08/21/2017 22:00	08/22/2017 05:00	0	34 - 34	233	234
DSS 63	Pedestal Metrology	08/22/2017 22:00	08/23/2017 05:00	0	34 - 34	234	235
DSS 55	Pedestal Metrology	08/28/2017 22:00	08/29/2017 05:00	0	35 - 35	240	241
DSS 55	Pedestal Metrology	08/29/2017 22:00	08/30/2017 05:00	0	35 - 35	241	242
DSS 26	S-Band Install	09/04/2017 15:00	10/20/2017 02:00	45	36 - 42	247	293
DSS 15	Decommissioned	10/01/2017 00:00	01/01/2050 00:00	11780	39 - 52	274	1
DSS 54	LNA Maintenance	10/09/2017 00:00	10/12/2017 00:00	3	41 - 41	282	285
DSS 43	APCA - Proposed	10/16/2017 21:00	02/09/2018 06:00	115	42 - 06	289	40



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DSN Downtime 2018

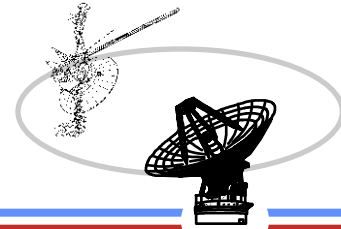
2018							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 43	LNA Maintenance	01/08/2018 21:00	01/13/2018 21:00	5	02 - 02	8	13
DSS 54	Pedestal Metrology	01/15/2018 20:00	01/16/2018 07:00	0	03 - 03	15	16
DSS 54	Pedestal Metrology	01/16/2018 20:00	01/17/2018 07:00	0	03 - 03	16	17
DSS 55	LNA Maintenance	01/29/2018 00:00	02/03/2018 00:00	5	05 - 05	29	34
DSS 55	Pedestal Metrology	01/29/2018 20:00	01/30/2018 07:00	0	05 - 05	29	30
DSS 55	Pedestal Metrology	01/30/2018 20:00	01/31/2018 07:00	0	05 - 05	30	31
DSS 63	Pedestal Metrology	02/19/2018 20:00	02/20/2018 07:00	0	08 - 08	50	51
DSS 63	Pedestal Metrology	02/20/2018 20:00	02/21/2018 07:00	0	08 - 08	51	52
DSS 14	LNA Maintenance	02/26/2018 00:00	02/26/2018 23:00	1	09 - 09	57	57
DSS 34	LNA Maintenance	02/26/2018 21:00	03/01/2018 21:00	3	09 - 09	57	60
DSS 25	XX/Ka Installation	03/06/2018 15:00	06/08/2018 00:00	93	10 - 23	65	159
DSS 63	Grouting/APCA	03/12/2018 06:00	11/09/2018 17:00	242	11 - 45	71	313
DSS 25	Exciter Obsolescence Install-NIB	04/02/2018 15:00	04/07/2018 00:00	4	14 - 14	92	97
DSS 25	AZ Track Replacement - NIB	04/02/2018 15:00	06/08/2018 00:00	66	14 - 23	92	159
DSS 35	LNA Maintenance	04/16/2018 21:00	04/19/2018 21:00	3	16 - 16	106	109
DSS 63	LNA Maintenance	06/04/2018 00:00	06/09/2018 00:00	5	23 - 23	155	160
DSS 55	Ant Insp/TXR RF Characterization	06/11/2018 07:00	06/11/2018 19:00	0	24 - 24	162	162
DSS 65	Ant Insp/TXR RF Characterization	06/12/2018 07:00	06/12/2018 19:00	0	24 - 24	163	163
DSS 63	Ant Insp/TXR RF Characterization	06/13/2018 07:00	06/13/2018 19:00	0	24 - 24	164	164
DSS 54	Ant Insp/TXR RF Characterization	06/14/2018 07:00	06/14/2018 19:00	0	24 - 24	165	165
DSS 55	Ant Insp/TXR RF Characterization	06/18/2018 07:00	06/18/2018 19:00	0	25 - 25	169	169
DSS 65	Ant Insp/TXR RF Characterization	06/19/2018 07:00	06/19/2018 19:00	0	25 - 25	170	170
DSS 63	Ant Insp/TXR RF Characterization	06/20/2018 07:00	06/20/2018 19:00	0	25 - 25	171	171



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DSN Downtime 2018

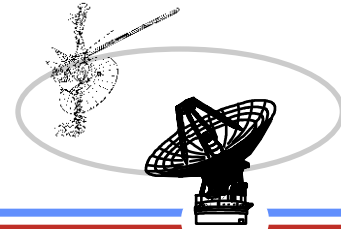
2018 cont.							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 54	Ant Insp/TXR RF Characterization	06/21/2018 07:00	06/21/2018 19:00	0	25 - 25	172	172
DSS 55	Pedestal Metrology	07/16/2018 22:00	07/17/2018 05:00	0	29 - 29	197	198
DSS 55	Pedestal Metrology	07/17/2018 22:00	07/18/2018 05:00	0	29 - 29	198	199
DSS 63	Pedestal Metrology	08/06/2018 22:00	08/07/2018 05:00	0	32 - 32	218	219
DSS 63	Pedestal Metrology	08/07/2018 22:00	08/08/2018 05:00	0	32 - 32	219	220
DSS 54	Pedestal Metrology	08/20/2018 22:00	08/21/2018 05:00	0	34 - 34	232	233
DSS 54	Pedestal Metrology	08/21/2018 22:00	08/22/2018 05:00	0	34 - 34	233	234
DSS 24	LNA Maintenance	09/24/2018 00:00	09/27/2018 00:00	3	39 - 39	267	270
DSS 54	LNA Maintenance	11/19/2018 00:00	11/22/2018 00:00	3	47 - 47	323	326



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DSN Downtime 2019

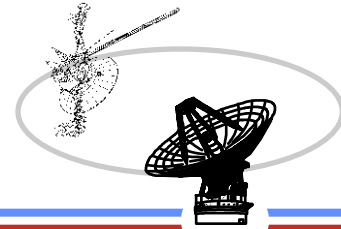
2019							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 54	Pedestal Metrology	01/22/2019 20:00	01/23/2019 07:00	0	04 - 04	22	23
DSS 54	Pedestal Metrology	01/23/2019 20:00	01/24/2019 07:00	0	04 - 04	23	24
DSS 24	XX/Ka Installation - Proposed	02/04/2019 15:00	04/26/2019 00:00	80	06 - 17	35	116
DSS 63	Pedestal Metrology	02/04/2019 20:00	02/05/2019 07:00	0	06 - 06	35	36
DSS 63	Pedestal Metrology	02/05/2019 20:00	02/06/2019 07:00	0	06 - 06	36	37
DSS 55	Pedestal Metrology	02/18/2019 20:00	02/19/2019 07:00	0	08 - 08	49	50
DSS 55	Pedestal Metrology	02/19/2019 20:00	02/20/2019 07:00	0	08 - 08	50	51
DSS 43	LNA Maintenance	03/04/2019 21:00	03/09/2019 21:00	5	10 - 10	63	68
DSS 34	LNA Maintenance	04/29/2019 21:00	05/02/2019 21:00	3	18 - 18	119	122
DSS 14	LNA Maintenance	05/06/2019 00:00	05/10/2019 23:00	5	19 - 19	126	130
DSS 55	LNA Maintenance	05/20/2019 00:00	05/23/2019 00:00	3	21 - 21	140	143
DSS 14	Ant Insp/TXR RF Characterization - Proposed	05/20/2019 15:00	05/21/2019 03:00	0	21 - 21	140	141
DSS 26	Ant Insp/TXR RF Characterization - Proposed	05/21/2019 15:00	05/22/2019 03:00	0	21 - 21	141	142
DSS 25	Ant Insp/TXR RF Characterization - Proposed	05/22/2019 15:00	05/23/2019 03:00	0	21 - 21	142	143
DSS 24	Ant Insp/TXR RF Characterization - Proposed	05/23/2019 15:00	05/24/2019 03:00	0	21 - 21	143	144
DSS 14	Ant Insp/TXR RF Characterization - Proposed	05/27/2019 15:00	05/28/2019 03:00	0	22 - 22	147	148
DSS 26	Ant Insp/TXR RF Characterization - Proposed	05/28/2019 15:00	05/29/2019 03:00	0	22 - 22	148	149
DSS 25	Ant Insp/TXR RF Characterization - Proposed	05/29/2019 15:00	05/30/2019 03:00	0	22 - 22	149	150
DSS 24	Ant Insp/TXR RF Characterization - Proposed	05/30/2019 15:00	05/31/2019 03:00	0	22 - 22	150	151
DSS 35	LNA Maintenance	06/03/2019 21:00	06/06/2019 21:00	3	23 - 23	154	157
DSS 25	LNA Maintenance	06/10/2019 00:00	06/13/2019 00:00	3	24 - 24	161	164
DSS 63	LNA Maintenance	07/29/2019 00:00	08/03/2019 00:00	5	31 - 31	210	215
DSS 63	Pedestal Metrology - NIB	07/29/2019 22:00	07/30/2019 05:00	0	31 - 31	210	211



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DSN Downtime 2019

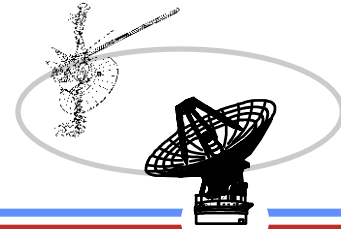
2019 cont.							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 63	Pedestal Metrology - NIB	07/30/2019 22:00	07/31/2019 05:00	0	31 - 31	211	212
DSS 54	Pedestal Metrology	08/13/2019 22:00	08/14/2019 05:00	0	33 - 33	225	226
DSS 54	Pedestal Metrology	08/14/2019 22:00	08/15/2019 05:00	0	33 - 33	226	227
DSS 55	Pedestal Metrology	08/26/2019 22:00	08/27/2019 05:00	0	35 - 35	238	239
DSS 55	Pedestal Metrology	08/27/2019 22:00	08/28/2019 05:00	0	35 - 35	239	240
DSS 65	Decommissioned	10/01/2019 00:00	01/01/2050 00:00	11050	40 - 52	274	1
DSS 54	Pedestal Rehab	11/04/2019 06:00	04/30/2021 17:00	543	45 - 17	308	120
DSS 54	Servo Replacement - NIB	11/04/2019 06:00	04/30/2021 17:00	543	45 - 17	308	120
DSS 54	Transmitter Replacement - NIB	11/04/2019 06:00	04/30/2021 17:00	543	45 - 17	308	120
DSS 24	LNA Maintenance	12/02/2019 00:00	12/05/2019 00:00	3	49 - 49	336	339



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DSN Downtime 2020

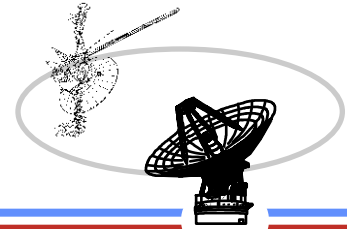
2020							
Site	Details	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
DSS 36	Ant Insp/TXR RF Characterization - Proposed	01/20/2020 22:00	01/21/2020 10:00	0	04 - 04	20	21
DSS 43	Ant Insp/TXR RF Characterization - Proposed	01/21/2020 22:00	01/22/2020 10:00	0	04 - 04	21	22
DSS 34	Ant Insp/TXR RF Characterization - Proposed	01/22/2020 22:00	01/23/2020 10:00	0	04 - 04	22	23
DSS 35	Ant Insp/TXR RF Characterization - Proposed	01/23/2020 22:00	01/24/2020 10:00	0	04 - 04	23	24
DSS 36	Ant Insp/TXR RF Characterization - Proposed	01/27/2020 22:00	01/28/2020 10:00	0	05 - 05	27	28
DSS 43	Ant Insp/TXR RF Characterization - Proposed	01/28/2020 22:00	01/29/2020 10:00	0	05 - 05	28	29
DSS 34	Ant Insp/TXR RF Characterization - Proposed	01/29/2020 22:00	01/30/2020 10:00	0	05 - 05	29	30
DSS 35	Ant Insp/TXR RF Characterization - Proposed	01/30/2020 22:00	01/31/2020 10:00	0	05 - 05	30	31
DSS 63	El Bearing Replacement	04/13/2020 06:00	05/22/2020 17:00	39	16 - 21	104	143
DSS 14	20Kw XMTR Replacement	06/15/2020 16:00	09/19/2020 00:00	95	25 - 38	167	263



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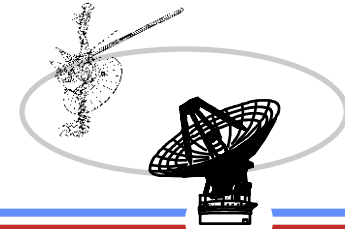


Future assets new/upgrades

- ❑ DSS-36 Installation and Operational 2016
 - ❑ Modkit inventory/install/checkout November 23, 2015 – March 21, 2016 Weeks 48 – 12
 - ❑ Acceptance testing March 22, 2016 – May 13, 2016 weeks 12 – 19
 - ❑ System Integration Testing March 29, 2014 June 30, 2016 Weeks 13 – 26
 - ❑ Operations System Performance Testing June 30, 2016 – August 29, 2016 weeks 26 – 35
 - ❑ Operational date October 1, 2016



Resource Allocation Planning Service



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Antenna Downtime Status and Forecast

DSN Resource Implementation Planning Matrix by Complex

Complex	Station	Subnet	S-Band		X-Band		Ka-Band		Ka Phase 2	X-Band ACQ	80KW
			Down	Up	Down	Up	Down	Up			
10	DSS-23*	34B2	N/A	N/A	10/01/24	10/01/24	10/01/24	10/01/24	N/A	N/A	10/01/24
10	DSS-24	34B1	✓	✓	✓	✓	N/A	N/A	✓	✓	N/A
10	DSS-25	34B2	N/A	N/A	✓	✓	✓	✓	N/A	N/A	N/A
10	DSS-26	34B2	09/01/17	09/01/17	✓	✓	✓	N/A	N/A	N/A	✓
10	DSS-15	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-33*	34B2	N/A	N/A	10/01/22	10/01/22	10/01/22	N/A	N/A	N/A	10/01/22
40	DSS-34	34B1	✓	✓	✓	✓	✓	N/A	✓	✓	N/A
40	DSS-35	34B2	N/A	N/A	✓	✓	✓	N/A	N/A	N/A	N/A
40	DSS-36*	34B1	10/01/16	10/01/16	10/01/16	10/01/16	10/01/16	N/A	N/A	N/A	N/A
40	DSS-45	34HEF	✓	✓	✓	✓	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-53*	34B2	N/A	N/A	10/01/20	10/01/20	10/01/20	N/A	N/A	N/A	10/01/20
60	DSS-54	34B1	✓	✓	✓	✓	✓	N/A	✓	✓	N/A
60	DSS-55	34B2	N/A	N/A	✓	✓	✓	N/A	N/A	N/A	N/A
60	DSS-56*	34B1	10/01/19	10/01/19	10/01/19	10/01/19	10/01/19	N/A	10/01/19	10/01/19	N/A
60	DSS-65	34HEF	✓	✓	✓	✓	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 = Not Applicable or Capability Not Planned					xx/xx/xx = Capability Date Recently Changed					As of: 10/5/2015	
✓✓✓ = Capability Recently Exists					✓ = Capability Exists					* = To Be Commissioned	