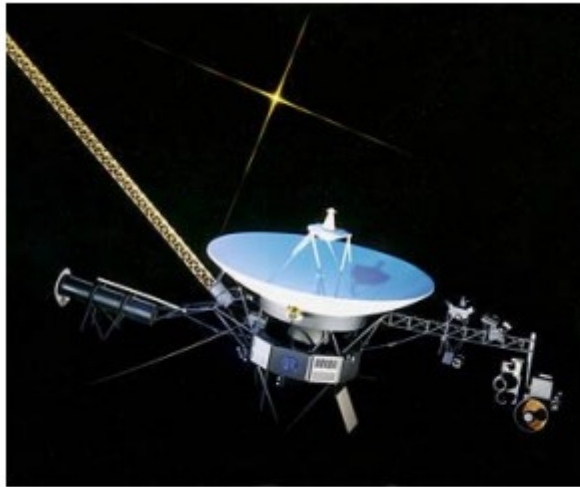


VOYAGER

Space Flight Operations Schedule (SFOS)

Issue Date: October 30, 2019

For the Period: 10/31/19 to 11/18/19 (19/304 – 19/322)



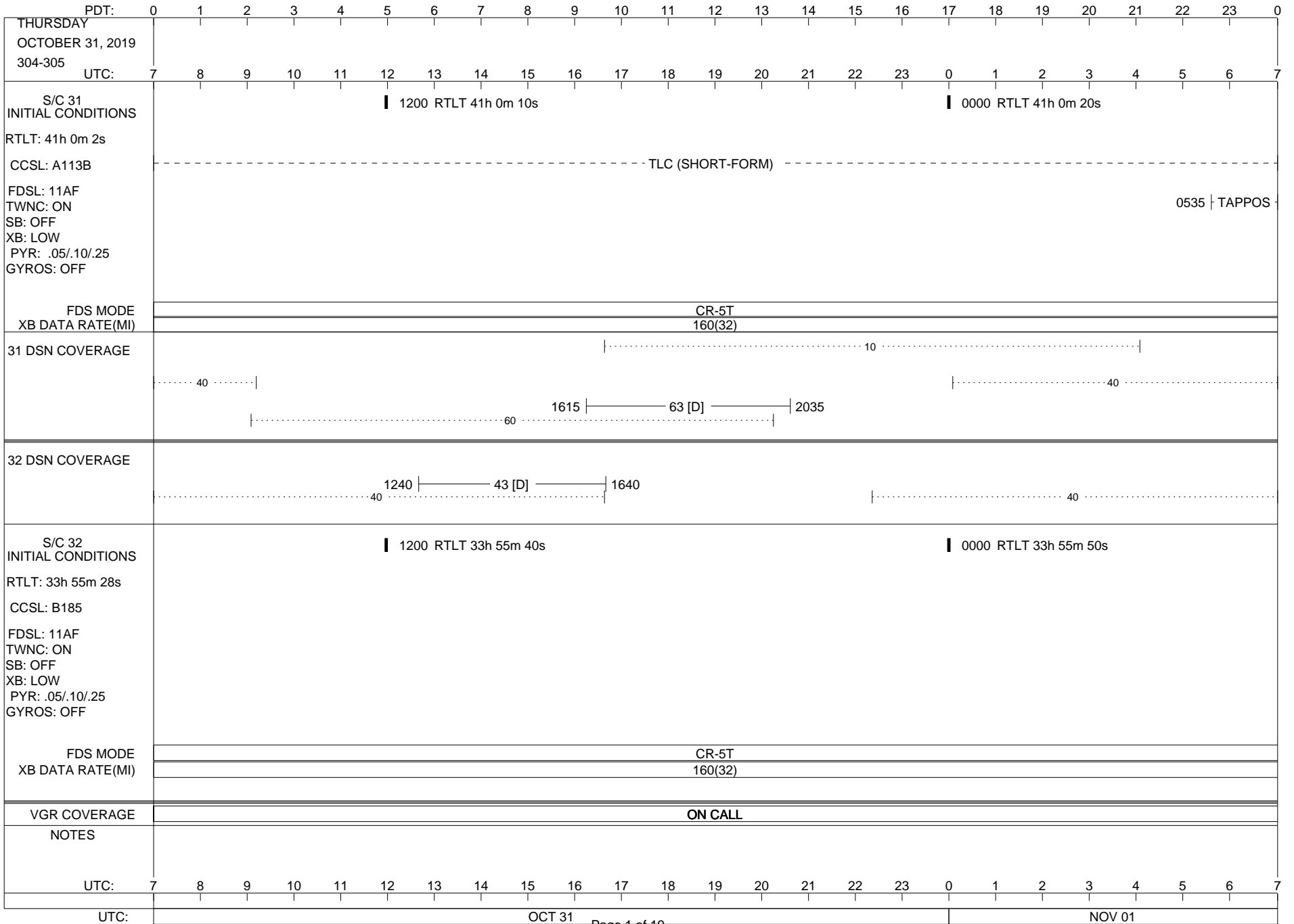
Posted at <https://voyager.jpl.nasa.gov/mission/status/>

LEGEND:

- ▽ = R/T Command (Last chance or Contingency)
- ▼ = R/T Command (Scheduled)
- * = Result of R/T Command
- n = (where n = 1,2,3 ..) Special Note, see bottom of page
- A = Arrayed station
- B = BLF
- D = Downlink only pass
- H = High Power Transmitter
- R = Array Reference Antenna
- T = TLC Uplink
- U = Uplink only pass
- [o] = Ramp-through

02/27/19

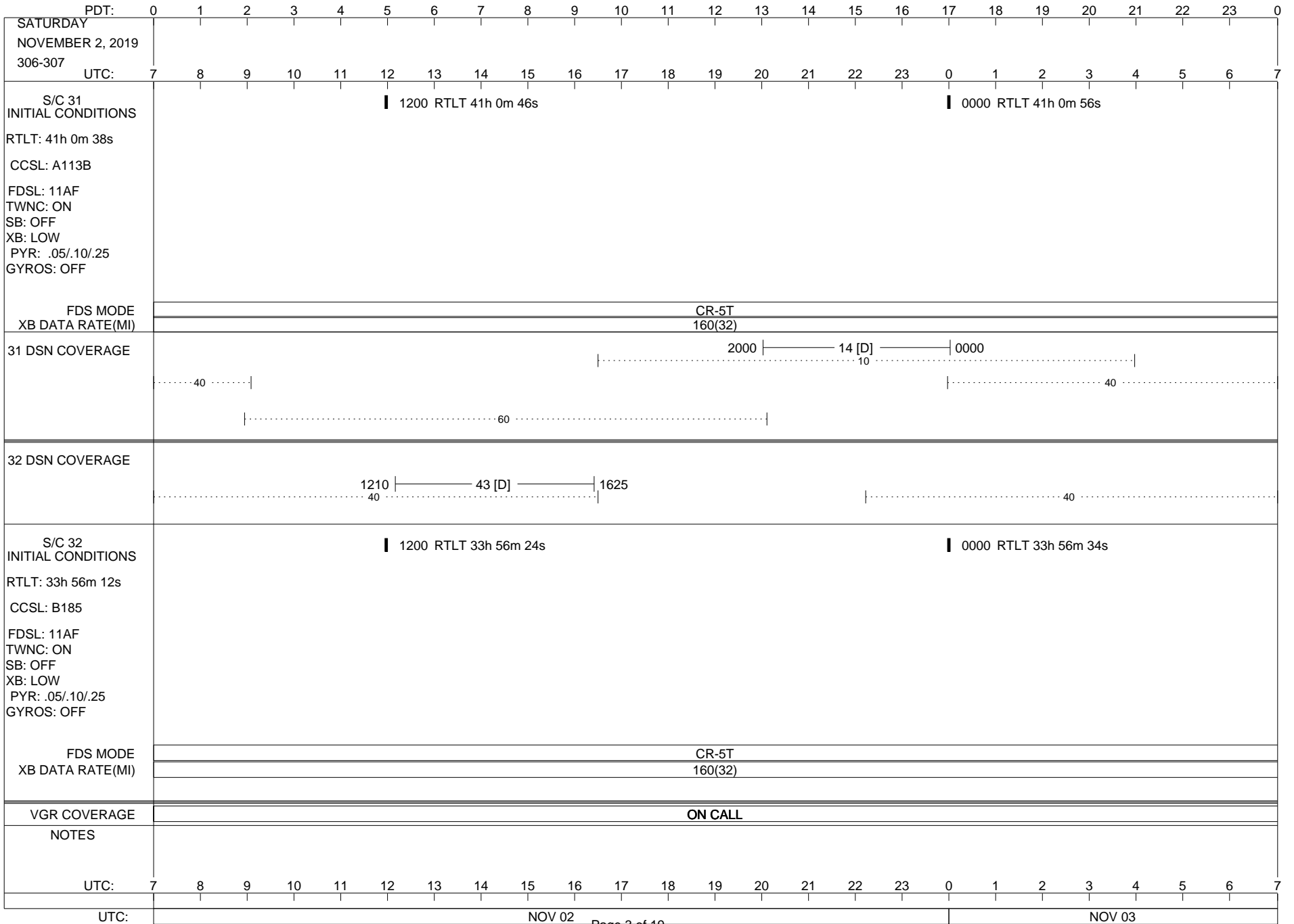
ISSUE DATE: 10/30/19 10:40



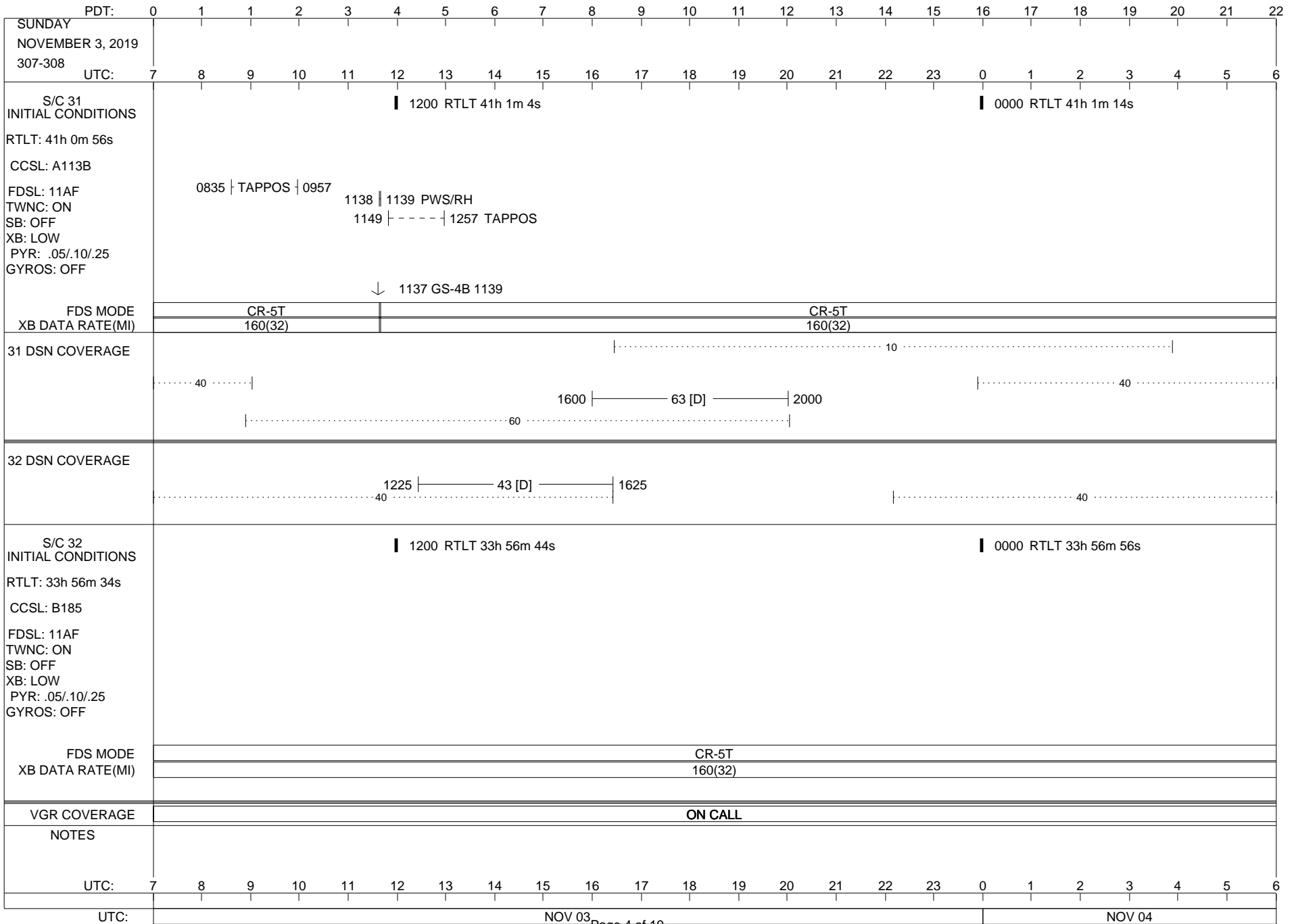
ISSUE DATE: 10/30/19 10:40

PDT:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0			
FRIDAY NOVEMBER 1, 2019 305-306																												
UTC:	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7			
S/C 31 INITIAL CONDITIONS	█ 1200 RTLT 41h 0m 28s												█ 0000 RTLT 41h 0m 38s															
RTLT: 41h 0m 20s																												
CCSL: A113B	- - - TLC (SHORT-FORM) - - + D/L - 1203																											
FDSL: 11AF	0711 TAPPOS																											
TWNC: ON	0837 0838 PWS/RH																											
SB: OFF	0849 TAPPOS 1010																											
XB: LOW																												
PYR: .05/10/25																												
GYROS: OFF																												
FDS MODE	CR-5T												CR-5T															
XB DATA RATE(MI)	160(32)												160(32)															
31 DSN COVERAGE	<p>..... </p> <p>.....40..... </p> <p>.....60..... 1635 ----- 63 [D] ----- 2035 </p> <p>.....10..... </p>																											
32 DSN COVERAGE	<p>.....40..... </p> <p>.....1230 ----- 43 [D] ----- 1630 </p> <p>.....40..... </p>																											
S/C 32 INITIAL CONDITIONS	█ 1200 RTLT 33h 56m 2s												█ 0000 RTLT 33h 56m 12s															
RTLT: 33h 55m 50s																												
CCSL: B185																												
FDSL: 11AF																												
TWNC: ON																												
SB: OFF																												
XB: LOW																												
PYR: .05/10/25																												
GYROS: OFF																												
FDS MODE													CR-5T															
XB DATA RATE(MI)													160(32)															
VGR COVERAGE	ON CALL																											
NOTES																												
UTC:	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7			
UTC:	NOV 01														NOV 02													

ISSUE DATE: 10/30/19 10:40



ISSUE DATE: 10/30/19 10:40



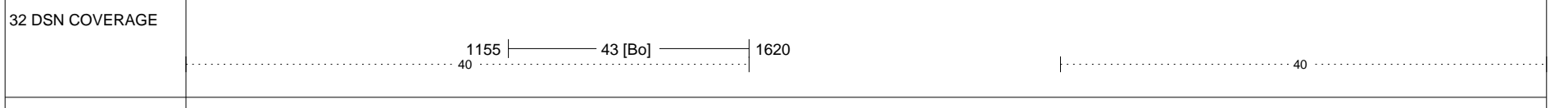
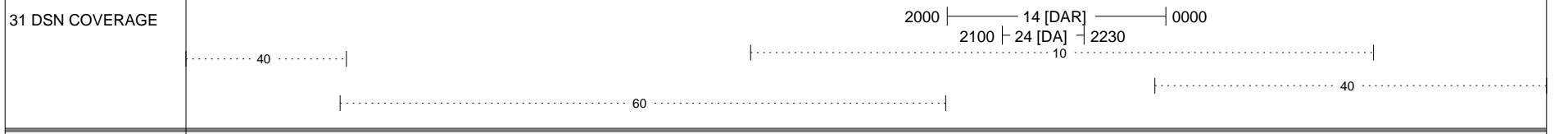
ISSUE DATE: 10/30/19 10:40

PST: 22 23 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

MONDAY
NOVEMBER 4, 2019
308-309
UTC: 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7

S/C 31
INITIAL CONDITIONS
RTLT: 41h 1m 14s
CCSL: A113B
FDSL: 11AF
TWNC: ON
SB: OFF
XB: LOW
PYR: .05/10/25
GYROS: OFF
1200 RTLT 41h 1m 22s
0000 RTLT 41h 1m 32s
2057 BAY 1 HTR OFF
2057 GYROS BC ON
2058 GYRO INIT
2107 GYRO FAULT TEST
2128 AAI
2131 - 2205 MAGROL
2210 RAI
2216 GYROS OFF
2224 BAY 1 HTR ON
2100 EL-40 2101

FDS MODE
XB DATA RATE(MI)
CR-5T 160(32) CR-5T 160(32)



S/C 32
INITIAL CONDITIONS
RTLT: 33h 56m 56s
CCSL: B185
FDSL: 11AF
TWNC: ON
SB: OFF
XB: LOW
PYR: .05/10/25
GYROS: OFF
1200 RTLT 33h 57m 6s
0000 RTLT 33h 57m 16s
1302 DUMMY (5 MIN BRACKETED 23:00)

FDS MODE
XB DATA RATE(MI)
CR-5T 160(32)

VGR COVERAGE ON CALL VGR ON CALL VGR ON CALL

NOTES

UTC: 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7

UTC: NOV 04 Page 5 of 19 NOV 05

ISSUE DATE: 10/30/19 10:40

TUESDAY PST: 23 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

NOVEMBER 5, 2019
309-310 UTC: 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7

S/C 31
INITIAL CONDITIONS
RTLTL: 41h 1m 32s
CCSL: A113B
FDSL: 11AF
TWNC: ON
SB: OFF
XB: LOW
PYR: .05/10/25
GYROS: OFF

1200 RTLT 41h 1m 40s 0000 RTLT 41h 1m 48s

0016 CCS FULMRO (17:17)

U/L 0045 | - | - - - - - TLC (SHORT-FORM) - - - - -

0201 | 0201 PWS/RH

↓ 0201 GS-4B 0201

FDS MODE
XB DATA RATE(MI)

CR-5T
160(32)

CR-5T
160(32)

31 DSN COVERAGE



32 DSN COVERAGE



S/C 32
INITIAL CONDITIONS
RTLTL: 33h 57m 16s
CCSL: B185
FDSL: 11AF
TWNC: ON
SB: OFF
XB: LOW
PYR: .05/10/25
GYROS: OFF

1200 RTLT 33h 57m 28s 0000 RTLT 33h 57m 38s

FDS MODE
XB DATA RATE(MI)

CR-5T
160(32)

VGR COVERAGE

ON CALL

VGR

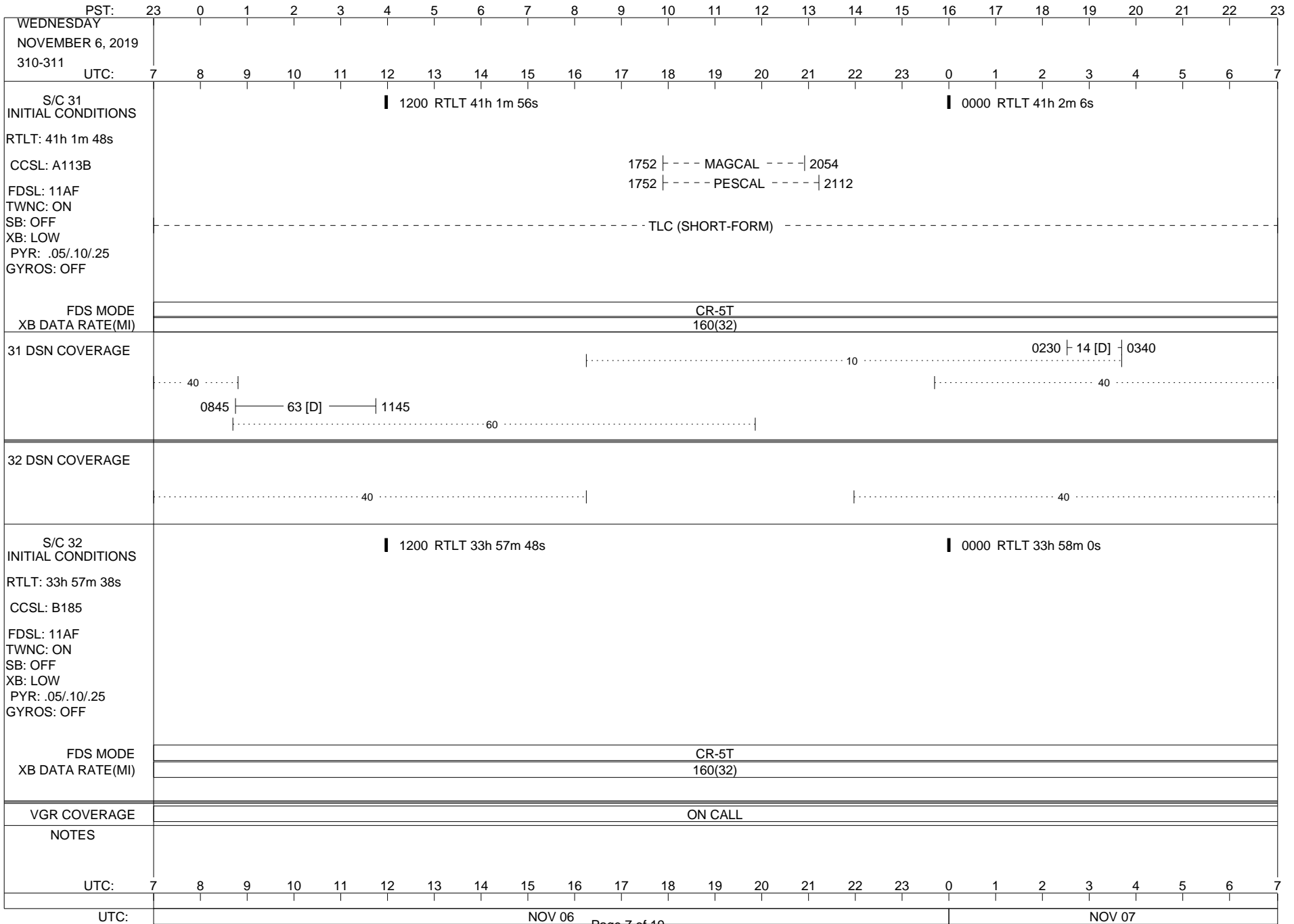
ON CALL

NOTES

UTC: 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7

UTC: NOV 05 Page 6 of 19 NOV 06

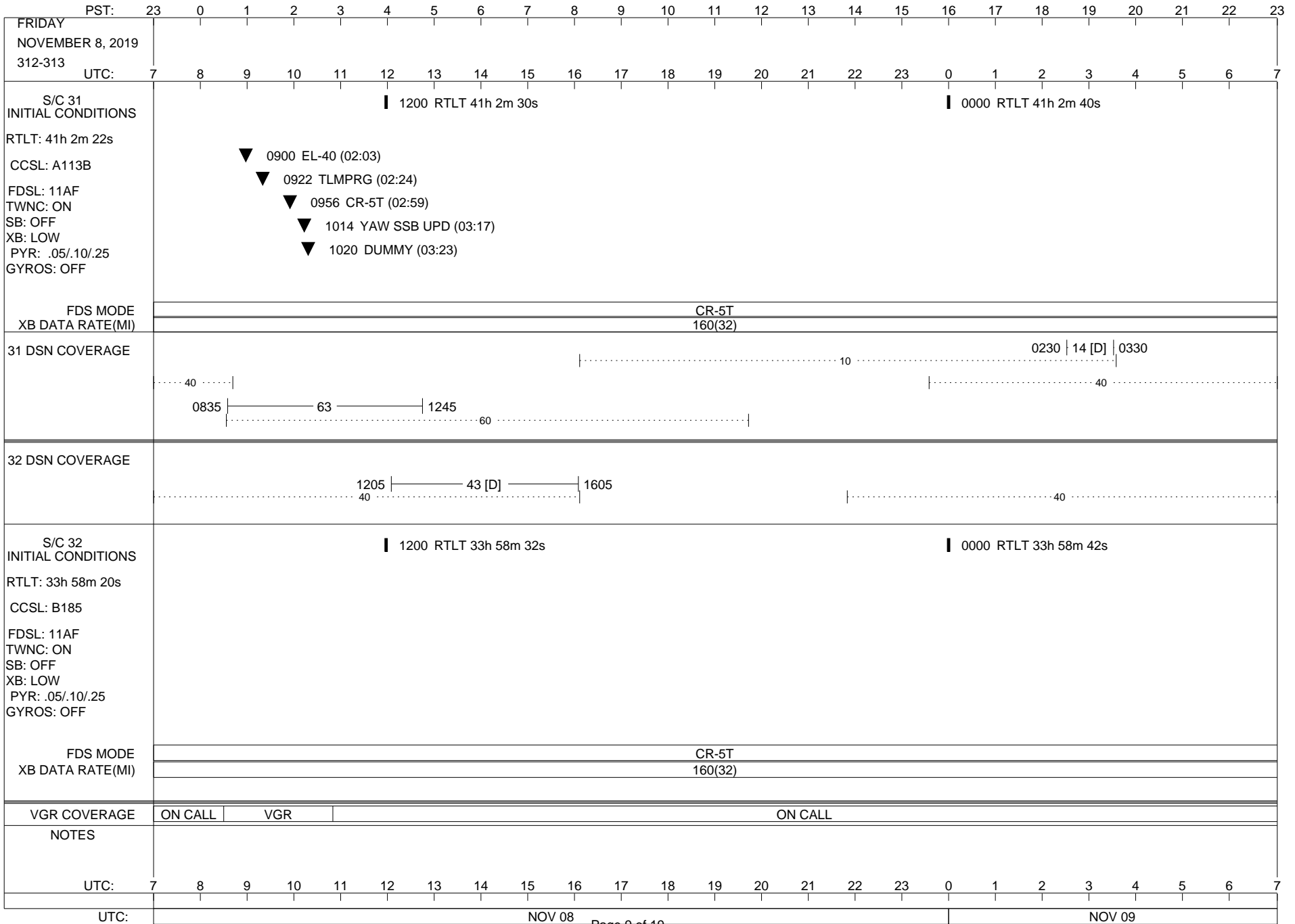
ISSUE DATE: 10/30/19 10:40



ISSUE DATE: 10/30/19 10:40

PST:	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
THURSDAY NOVEMBER 7, 2019 311-312																									
UTC:	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
S/C 31 INITIAL CONDITIONS	1200 RTLT 41h 2m 14s											0000 RTLT 41h 2m 22s													
RTLT: 41h 2m 6s												* CCS FULMRO -													
CCSL: A113B												1734 CCSA - 1850 1850 CCSB - 2006													
FDSL: 11AF												D/L - 1915													
TWNC: ON												TLC (SHORT-FORM) -----													
SB: OFF																									
XB: LOW																									
PYR: .05/10/25																									
GYROS: OFF																									
FDS MODE	CR-5T											EL-40													
XB DATA RATE(MI)	160(32)											40(30)													
31 DSN COVERAGE												10													
	40											1720 63 [D] 2010													
	60																								
32 DSN COVERAGE												1200 43 [D] 1600													
	40											40													
S/C 32 INITIAL CONDITIONS	1200 RTLT 33h 58m 10s											0000 RTLT 33h 58m 20s													
RTLT: 33h 58m 0s																									
CCSL: B185																									
FDSL: 11AF																									
TWNC: ON																									
SB: OFF																									
XB: LOW																									
PYR: .05/10/25																									
GYROS: OFF																									
FDS MODE												CR-5T													
XB DATA RATE(MI)												160(32)													
VGR COVERAGE	ON CALL											VGR													
NOTES												ON CALL													
												[1] S/C 31=EL-40 @ 1718 XB=40(30)													
												[2] S/C 31=CR-5T @ 2006 XB=160(32)													
UTC:	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
UTC:	NOV 07											NOV 08													

ISSUE DATE: 10/30/19 10:40



ISSUE DATE: 10/30/19 10:40

PST: 23 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

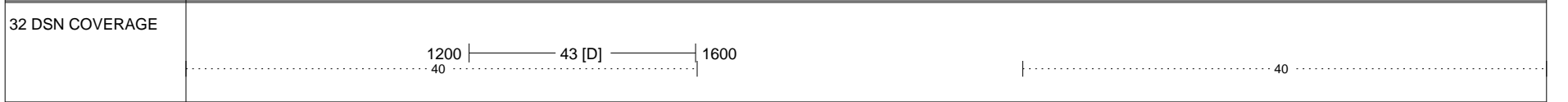
SATURDAY NOVEMBER 9, 2019 313-314 UTC: 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7

S/C 31 INITIAL CONDITIONS
 RTLT: 41h 2m 40s
 CCSL: A113B
 FDSL: 11AF
 TWNC: ON
 SB: OFF
 XB: LOW
 PYR: .05/.10/.25
 GYROS: OFF

1200 RTLT 41h 2m 48s
 0000 RTLT 41h 2m 56s

1925 CCSTIM F/C (12:28)
 0002 - TAPPOS - 0153
 * 0225 - 0237 TLMPRG
 * 0317 YAW SSB UPD
 * EL-40 0203 - 0259 CR-5T

FDS MODE	CR-5T	EL-40	CR-5T
XB DATA RATE(MI)	160(32)	40(30)	160(32)



S/C 32 INITIAL CONDITIONS
 RTLT: 33h 58m 42s
 CCSL: B185
 FDSL: 11AF
 TWNC: ON
 SB: OFF
 XB: LOW
 PYR: .05/.10/.25
 GYROS: OFF

1200 RTLT 33h 58m 52s
 0000 RTLT 33h 59m 2s

FDS MODE	CR-5T
XB DATA RATE(MI)	160(32)

VGR COVERAGE	ON CALL	VGR	ON CALL	VGR	ON CALL
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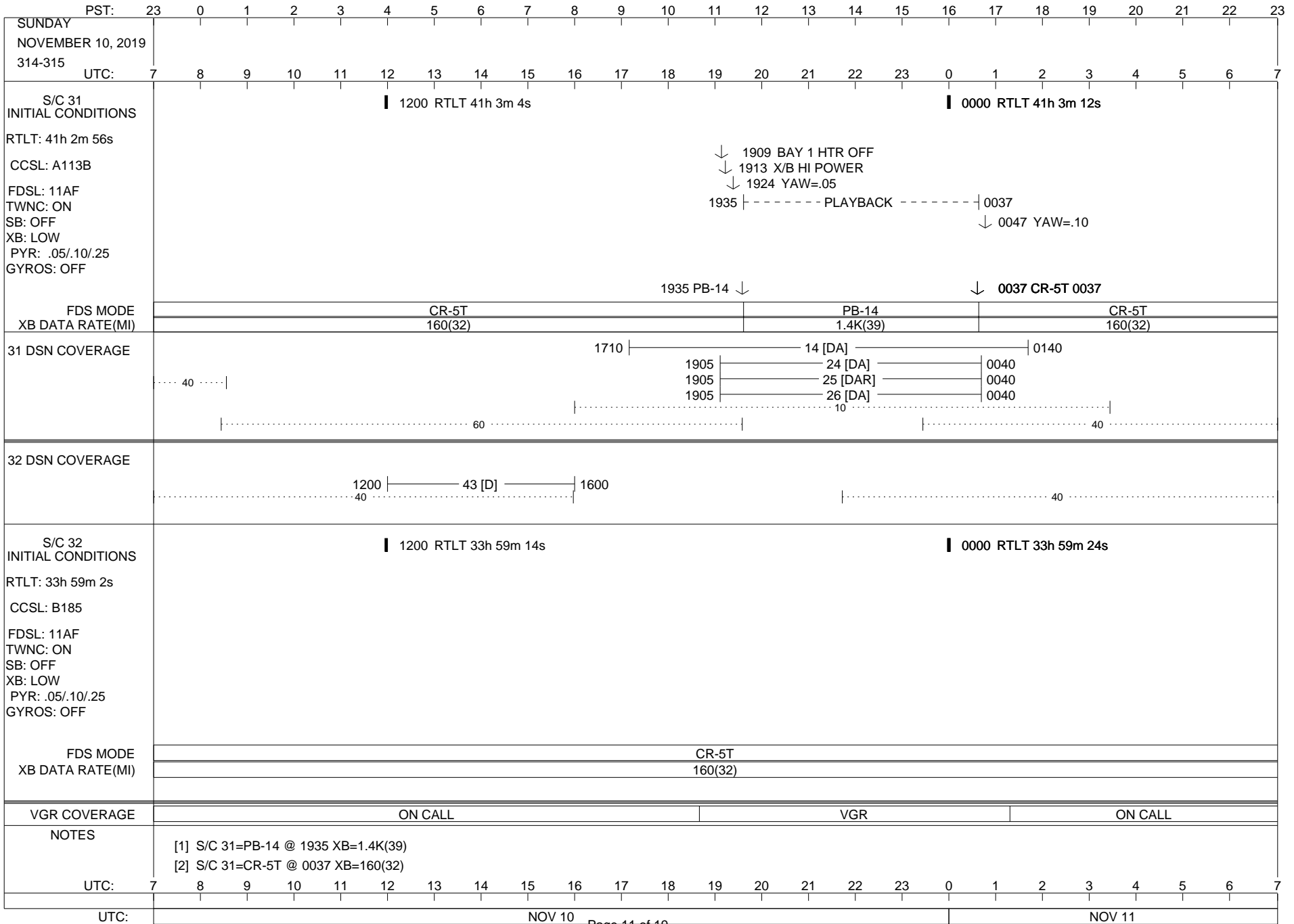
NOTES

[1] S/C 31=EL-40 @ 0203 XB=40(30)
 [2] S/C 31=CR-5T @ 0259 XB=160(32)

UTC: 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7

UTC: NOV 09 Page 10 of 19 NOV 10

ISSUE DATE: 10/30/19 10:40



ISSUE DATE: 10/30/19 10:40

PST: 23		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
MONDAY NOVEMBER 11, 2019 315-316																											
UTC: 7		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7		
S/C 31 INITIAL CONDITIONS RTLTL: 41h 3m 12s CCSL: A113B FDSL: 11AF TWNC: ON SB: OFF XB: HI PYR: .05/10/.25 GYROS: OFF		<p>1200 RTLT 41h 3m 20s</p> <p>0959 TAPPOS 1139</p> <p>1059 -- 1139 TAPPOS</p> <p>1227 * 1234 CCSTIM FINE</p> <p>1259 1303 COARSE</p> <p>1351 - 1424 SSB ASCAL</p> <p>↓ 1424 ROLL=.25</p> <p>↓ 1430 X/B LOW POWER</p> <p>↓ 1434 BAY 1 HTR ON</p> <p>↓ 1325 EL-40 1427</p> <p>0000 RTLT 41h 3m 28s</p>																									
FDS MODE		CR-5T					EL-40					CR-5T															
XB DATA RATE(MI)		160(32)					40(30)					160(32)															
31 DSN COVERAGE		<p>1040 ----- 63 [D] ----- 1440</p> <p>..... 40 ----- 60 ----- 40</p>																									
32 DSN COVERAGE		<p>1155 ----- 43 [D] ----- 1555</p> <p>..... 40 ----- 40</p>																									
S/C 32 INITIAL CONDITIONS RTLTL: 33h 59m 24s CCSL: B185 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/.25 GYROS: OFF		<p>1200 RTLT 33h 59m 34s</p> <p>0000 RTLT 33h 59m 44s</p> <p>2354 0011 SHUNT POWER TEST</p>																									
FDS MODE		CR-5T																									
XB DATA RATE(MI)		160(32)																									
VGR COVERAGE		ON CALL					VGR					ON CALL															
NOTES																											
UTC: 7		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7		
UTC:		NOV 11																NOV 12									

ISSUE DATE: 10/30/19 10:40

		PST:	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
TUESDAY																												
NOVEMBER 12, 2019																												
316-317		UTC:	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	
S/C 31 INITIAL CONDITIONS								1200													0000							
RTLT: 41h 3m 28s																												
CCSL: A113B																												
FDSL: 11AF																												
TWNC: ON																												
SB: OFF																												
XB: LOW																												
PYR: .05/.10/.25																												
GYROS: OFF																												
FDS MODE																												
XB DATA RATE(MI)																												
31 DSN COVERAGE																												
32 DSN COVERAGE																												
S/C 32 INITIAL CONDITIONS								1200													0000							
RTLT: 33h 59m 44s																												
CCSL: B185																												
FDSL: 11AF																												
TWNC: ON																												
SB: OFF																												
XB: LOW																												
PYR: .05/.10/.25																												
GYROS: OFF																												
FDS MODE																												
XB DATA RATE(MI)																												
VGR COVERAGE																												
NOTES																												
UTC:			7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	
UTC:			NOV 12													NOV 13												

ISSUE DATE: 10/30/19 10:40

PST:	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
WEDNESDAY NOVEMBER 13, 2019 317-318																									
UTC:	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
S/C 31 INITIAL CONDITIONS RTLT: 41h 3m 44s CCSL: A113B FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	1200 RTLT 41h 3m 52s												0000 RTLT 41h 4m 0s												
FDS MODE	CR-5T												CR-5T												
XB DATA RATE(MI)	160(32)												160(32)												
31 DSN COVERAGE	-----												-----												
	40												40												
	1545												1945												
	60												60												
32 DSN COVERAGE	-----												-----												
	1145												2130												
	40												40												
	43 [D]												43 [D]												
	1545												0130												
S/C 32 INITIAL CONDITIONS RTLT: 34h 0m 4s CCSL: B185 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	1200 RTLT 34h 0m 16s												0000 RTLT 34h 0m 26s												
FDS MODE	CR-5T												EL-40		CR-5T										
XB DATA RATE(MI)	160(32)												40(30)		160(32)										
VGR COVERAGE	ON CALL												VGR		ON CALL										
NOTES	[1] SC 32=EL-40 @ 2226 XB=40(30) [2] SC 32=CR-5T @ 2357 XB=160(32)																								
UTC:	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
UTC:	NOV 13												NOV 14												

ISSUE DATE: 10/30/19 10:40

PST: 23 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

THURSDAY
NOVEMBER 14, 2019
318-319

UTC: 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7

S/C 31
INITIAL CONDITIONS
RTLTL: 41h 4m 0s
CCSL: A113B
FDSL: 11AF
TWNC: ON
SB: OFF
XB: LOW
PYR: .05/.10/.25
GYROS: OFF

1200 RTLT 41h 4m 8s

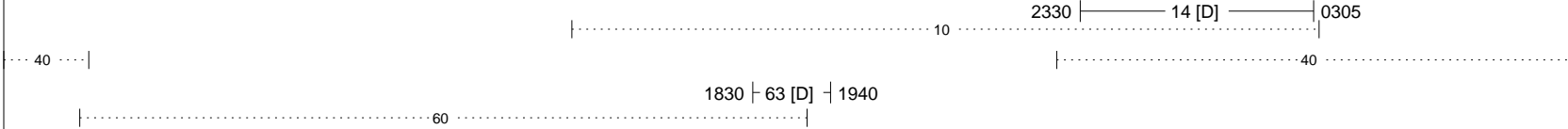
0000 RTLT 41h 4m 16s

0449 - 0625 | TAPPOS |

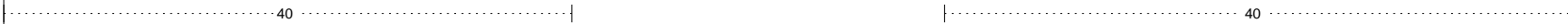
FDS MODE
XB DATA RATE(MI)

CR-5T
160(32)

31 DSN COVERAGE



32 DSN COVERAGE



S/C 32
INITIAL CONDITIONS
RTLTL: 34h 0m 26s
CCSL: B185
FDSL: 11AF
TWNC: ON
SB: OFF
XB: LOW
PYR: .05/.10/.25
GYROS: OFF

1200 RTLT 34h 0m 36s

0000 RTLT 34h 0m 46s

FDS MODE
XB DATA RATE(MI)

CR-5T
160(32)

VGR COVERAGE

ON CALL

NOTES

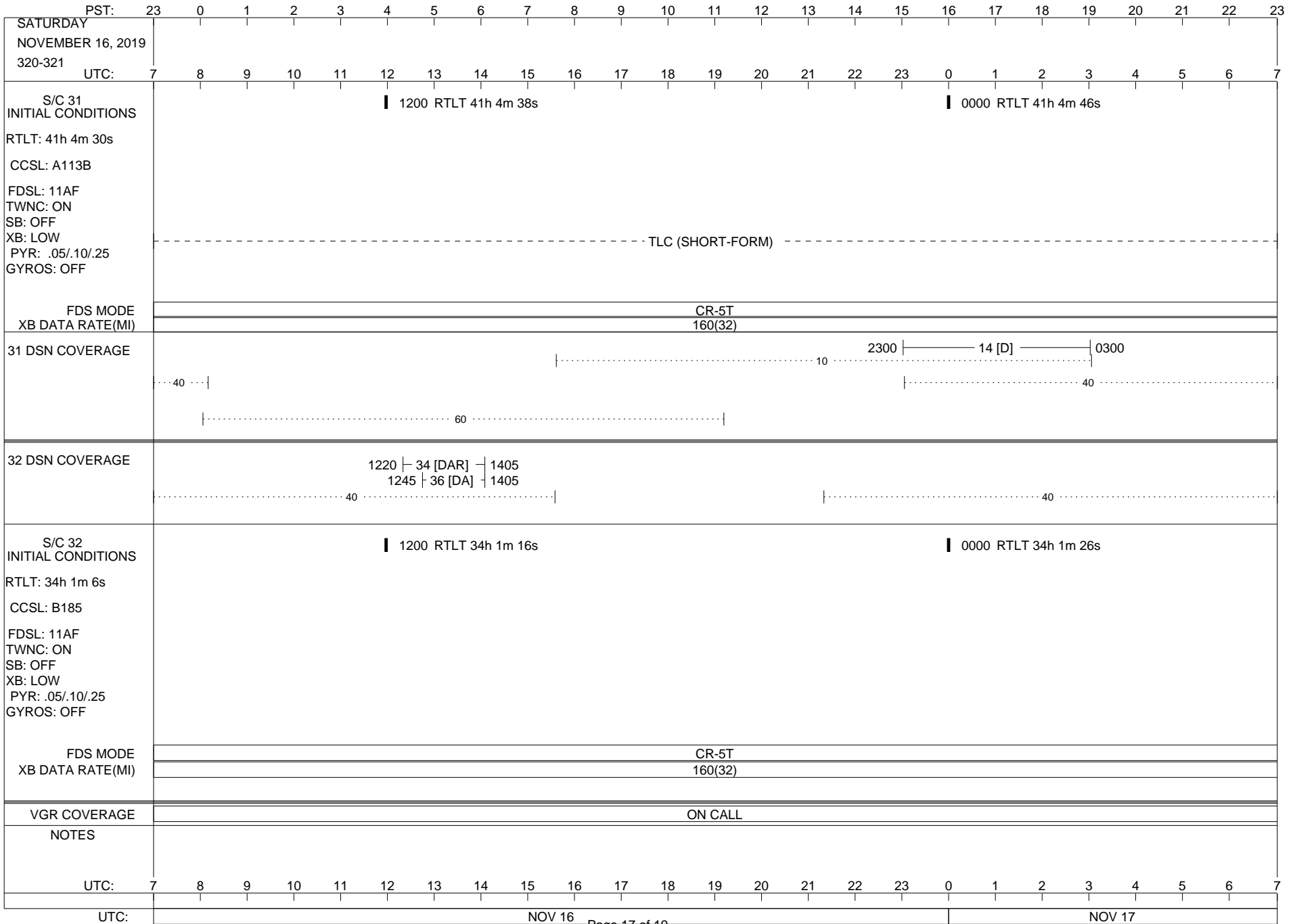
UTC: 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7

UTC: NOV 14 Page 15 of 19 NOV 15

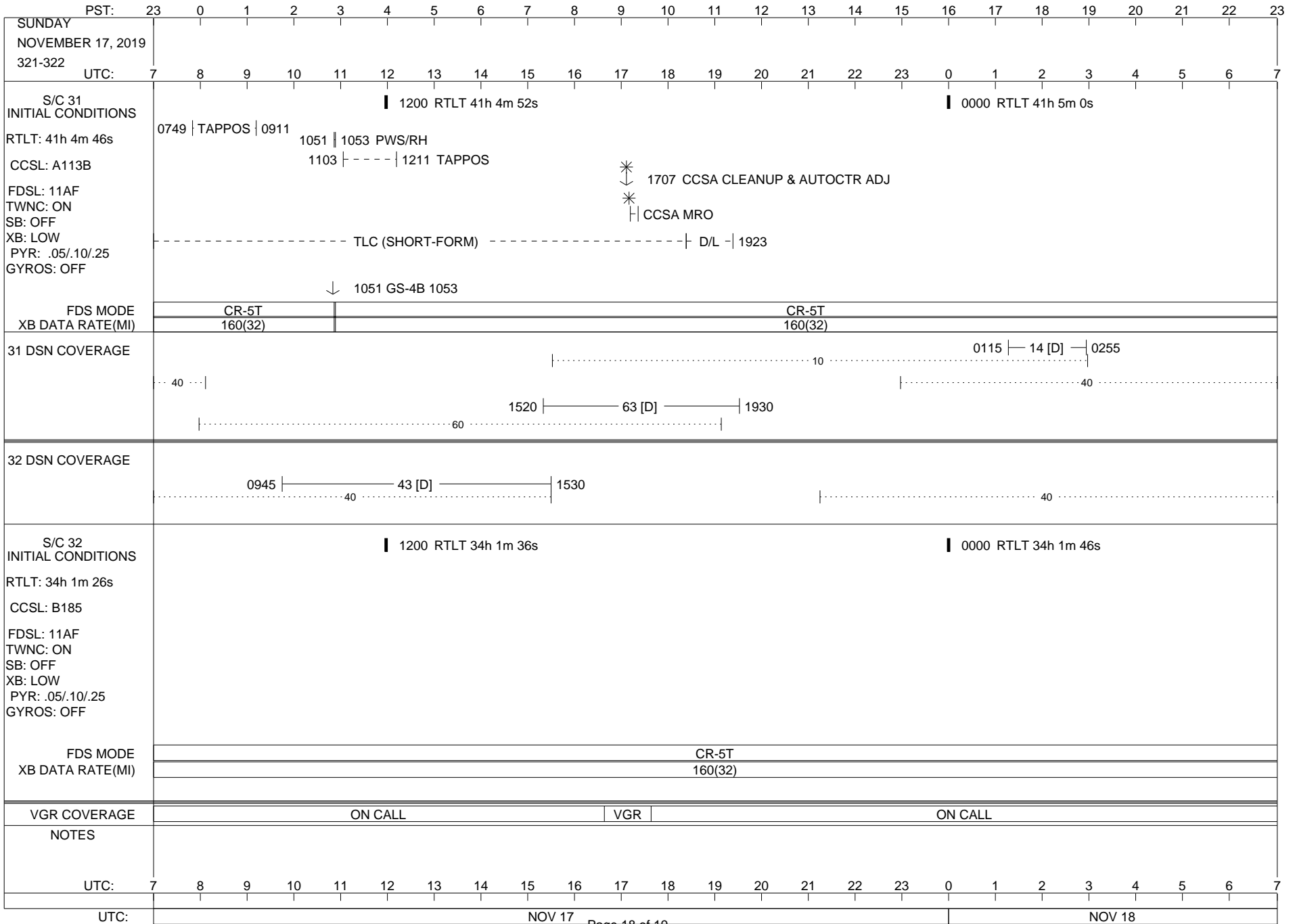
ISSUE DATE: 10/30/19 10:40

		PST:	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
FRIDAY NOVEMBER 15, 2019 319-320		UTC:	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	
S/C 31 INITIAL CONDITIONS RTLT: 41h 4m 16s CCSL: A113B FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF FDS MODE XB DATA RATE(MI)		1200 RTLT 41h 4m 22s													0000 RTLT 41h 4m 30s													
		0752 0752 PWS/RH 0803 TAPPOS 0924 ↓ 0751 GS-4B 0752													▼ 2325 DUMMY (16:30) ▼ 0002 CCSA CLEANUP & AUTOCTR ADJ (17:06) U/L 0050 - - - - - - TLC (SHORT-FORM) - - - - -													
31 DSN COVERAGE	 40 60 10 2300 14 [T] 0305																										
32 DSN COVERAGE	 40 1140 43 [D] 1540													2245 43 [H1] 0245 40 40													
S/C 32 INITIAL CONDITIONS RTLT: 34h 0m 46s CCSL: B185 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF FDS MODE XB DATA RATE(MI)		1200 RTLT 34h 0m 56s													0000 RTLT 34h 1m 6s													
		CR-5T 160(32)																										
VGR COVERAGE		ON CALL													VGR			ON CALL										
NOTES		[1] B186 BACKUP U/L SUPPORT																										
UTC:		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7		
UTC:		NOV 15																		NOV 16								

ISSUE DATE: 10/30/19 10:40



ISSUE DATE: 10/30/19 10:40



ISSUE DATE: 10/30/19 10:40

PST:	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MONDAY NOVEMBER 18, 2019 322-323	UTC: 7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
S/C 31 INITIAL CONDITIONS RTLTL: 41h 5m 0s CCSL: A113B FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF	1200 RTLTL 41h 5m 8s																								
FDS MODE XB DATA RATE(MI)	CR-5T 160(32)																								
31 DSN COVERAGE	1745 ----- 14 [D] ----- 2150 ... 40 ... ----- 60 -----																								
32 DSN COVERAGE	1105 ----- 43 ----- 1505 ----- 40 -----																								
S/C 32 INITIAL CONDITIONS RTLTL: 34h 1m 46s CCSL: B185 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF	1200 RTLTL 34h 1m 56s																								
FDS MODE XB DATA RATE(MI)	CR-5T 160(32)																								
VGR COVERAGE	ON CALL																								
NOTES																									
UTC:	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
UTC:	NOV 18													NOV 19											