

# VOYAGER

## Space Flight Operations Schedule (SFOS)

Issue Date: November 17, 2016

For the Period: 11/17/16 to 12/05/16 (16-322 – 16-340)

**DSN OPSCHIEF (1) 230-102**

**DSOT (1) 230-102**

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 \*gdyke@airmail.ftops.jpl.nasa.gov  
 \*John.M.Grant@jpl.nasa.gov  
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 \* Belinda.Arroyo@jpl.nasa.gov  
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**SCIENCE**

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 PWS \*wsk@space.physics.uiowa.edu  
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 \*Donald-Gurnett@uiowa.edu

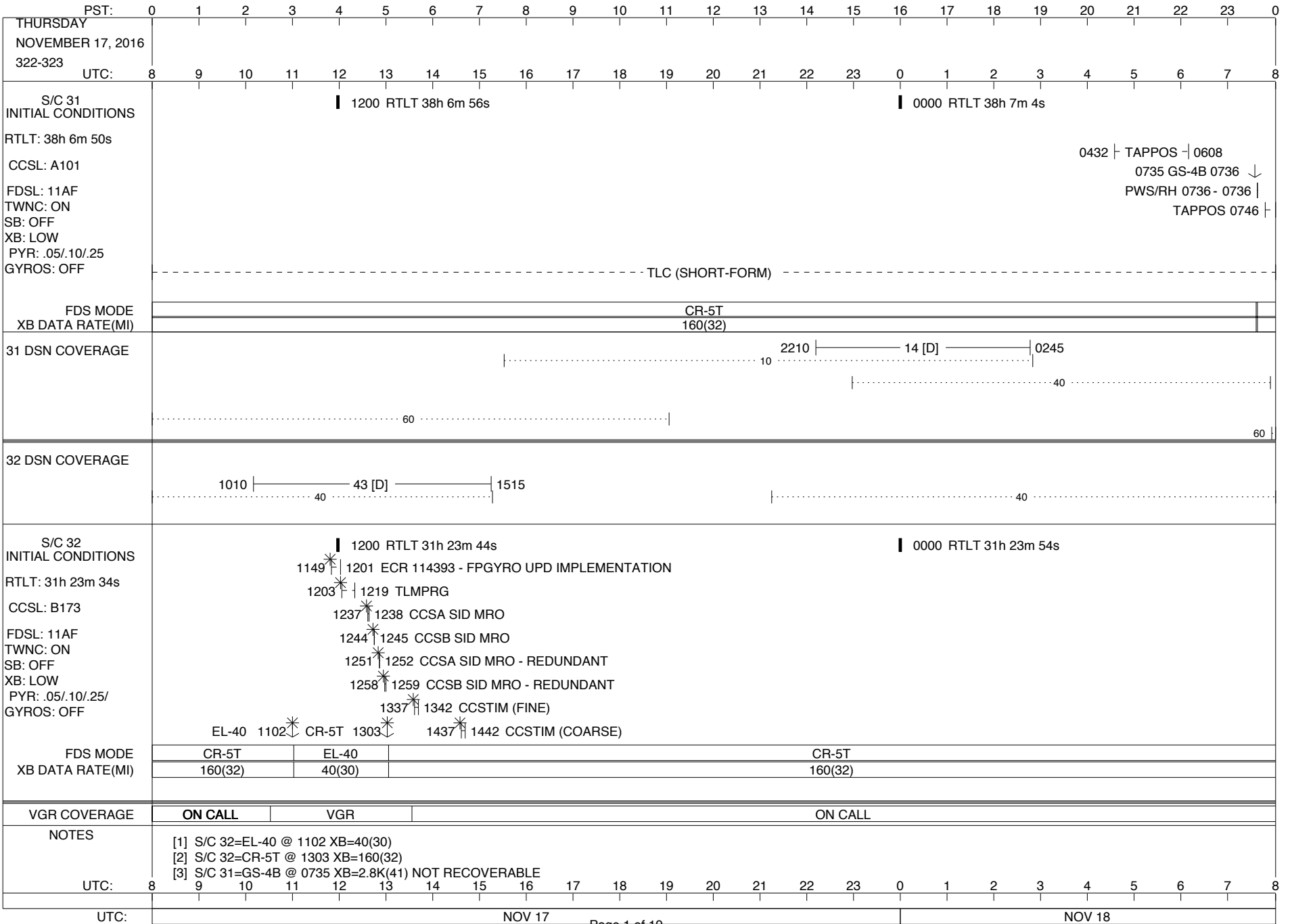
**FLIGHT TEAM (14) 600-100**

Dodd, S.  
 Hall, J.  
 Howard, S. (3)  
 Ludwig, R. (2)  
 Matsumoto, S.  
 Medina  
 Peralta, F.  
 Weeks, T.  
 Wong, R.  
 Yang, L.  
 Zottarelli, L.  
 \*odivers@san.rr.com

**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

\*Electronic Copy Only  
 (16 – Dist/N: Paper Copies)  
 09/08/10

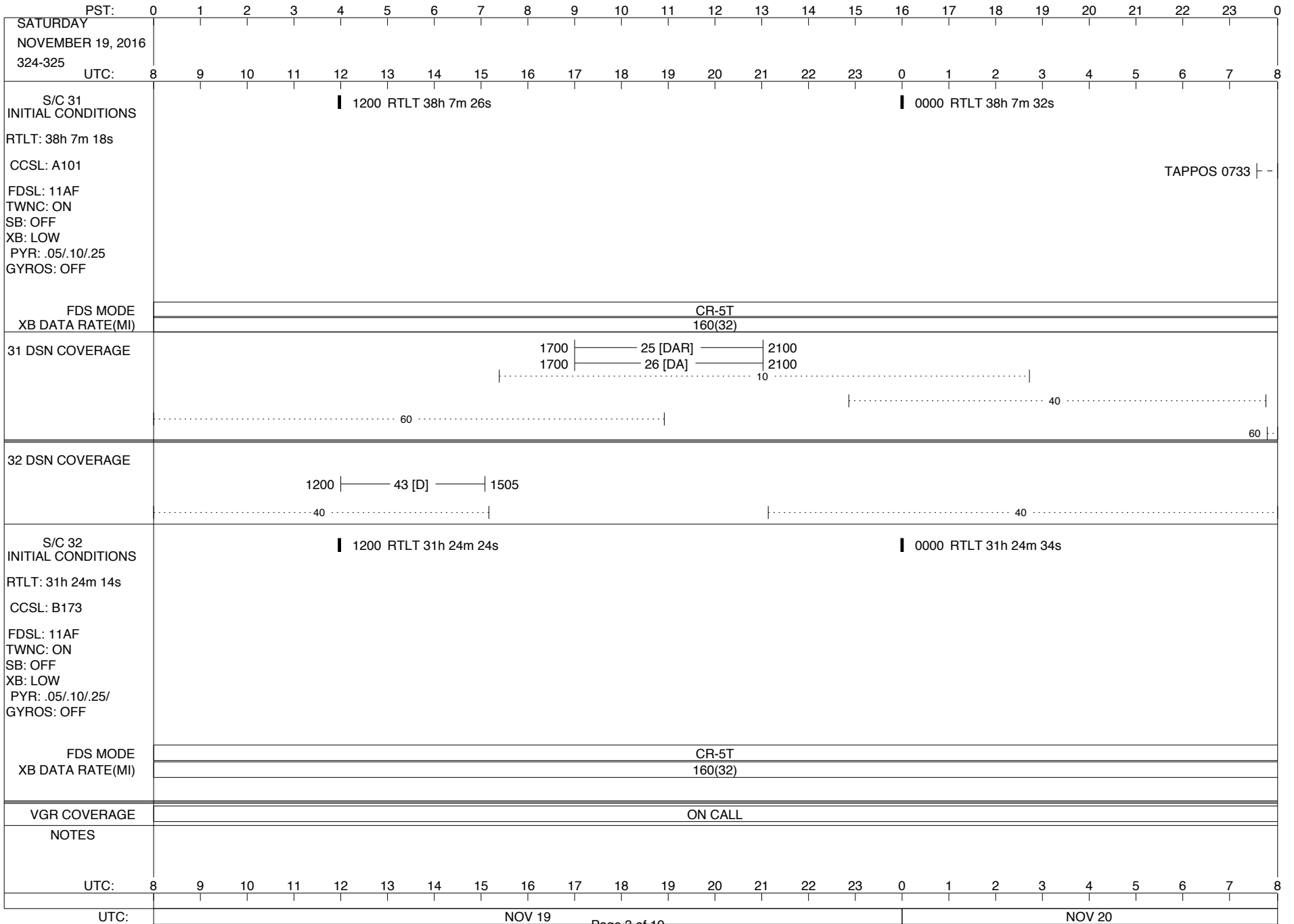
ISSUE DATE: 11/17/16 02:56



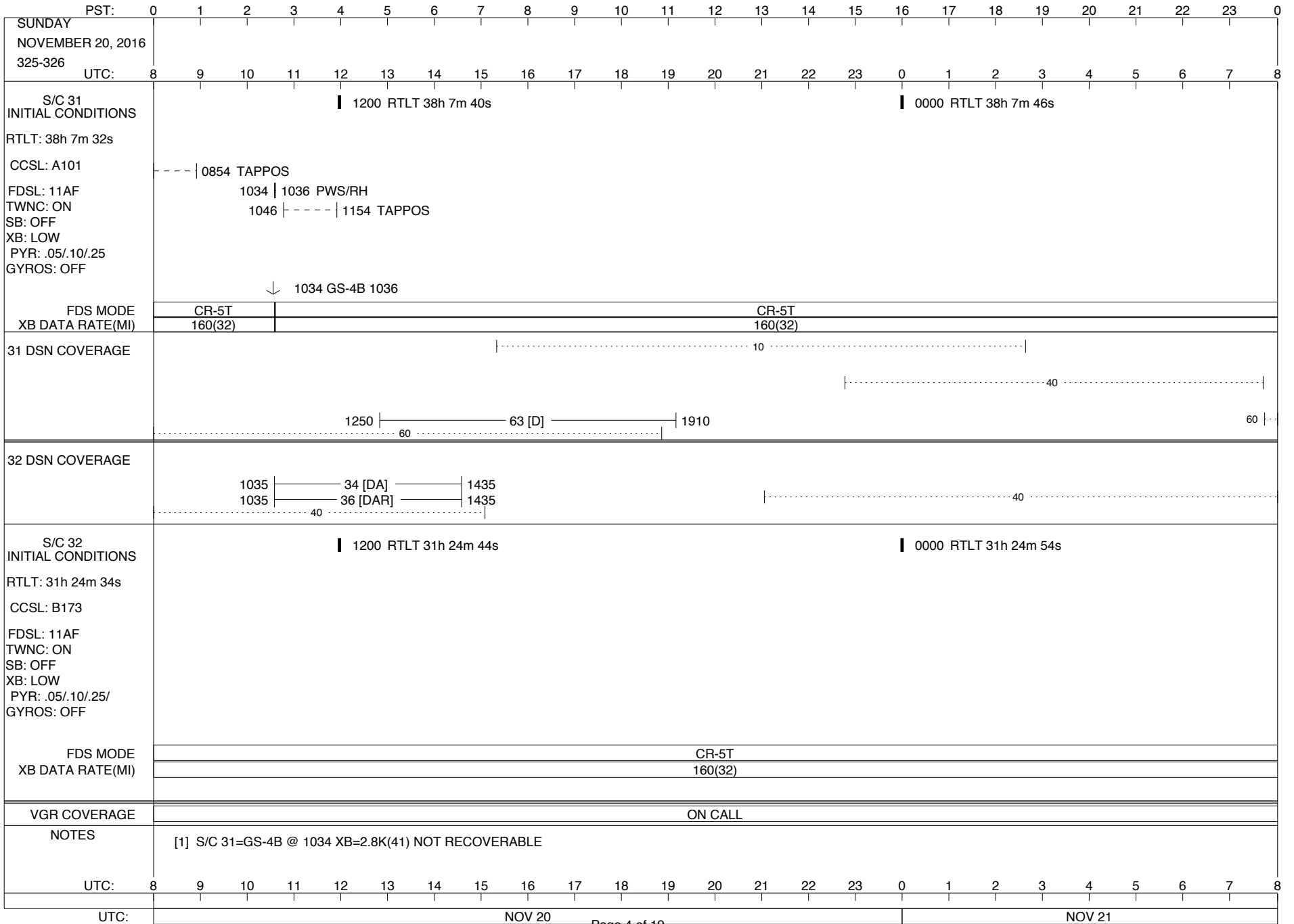
ISSUE DATE: 11/17/16 02:56

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FRIDAY NOVEMBER 18, 2016 323-324																													
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S/C 31 INITIAL CONDITIONS		1200 RTLT 38h 7m 12s														0000 RTLT 38h 7m 18s													
RTLTL: 38h 7m 4s		1418 *   1434 ECR 114299 FPGYRO PART 2 IMPLEMENTATION 1441 *   1449 CCSA SID MRO 1457 *   1506 CCSB SID MRO 1521 *   1529 CCSA SID MRO - REDUNDANT 1537 *   1546 CCSB SID MRO - REDUNDANT 0908 TAPPOS TLC (SHORT-FORM)   D/L -   1750 EL-40 1357 *   1550 CR-5T																											
CCSL: A101																													
FDSL: 11AF																													
TWNC: ON																													
SB: OFF																													
XB: LOW																													
PYR: .05/.10/.25																													
GYROS: OFF																													
FDS MODE		CR-5T							EL-40							CR-5T													
XB DATA RATE(MI)		160(32)							40(30)							160(32)													
31 DSN COVERAGE		-----10-----   -----40-----  1300  -----63 [D]-----  1900 60  -----60-----																											
32 DSN COVERAGE		1010  -----43 [D]-----  1510 40  -----40-----  2140  -----34 [DA]-----  0240 2140  -----35 [DAR]-----  0240  -----40-----																											
S/C 32 INITIAL CONDITIONS		1200 RTLT 31h 24m 4s														0000 RTLT 31h 24m 14s													
RTLTL: 31h 23m 54s																													
CCSL: B173																													
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							ON CALL													
NOTES		[1] S/C 31=EL-40 @ 1357 XB=40(30) [2] S/C 31=CR-5T @ 1550 XB=160(32)																											
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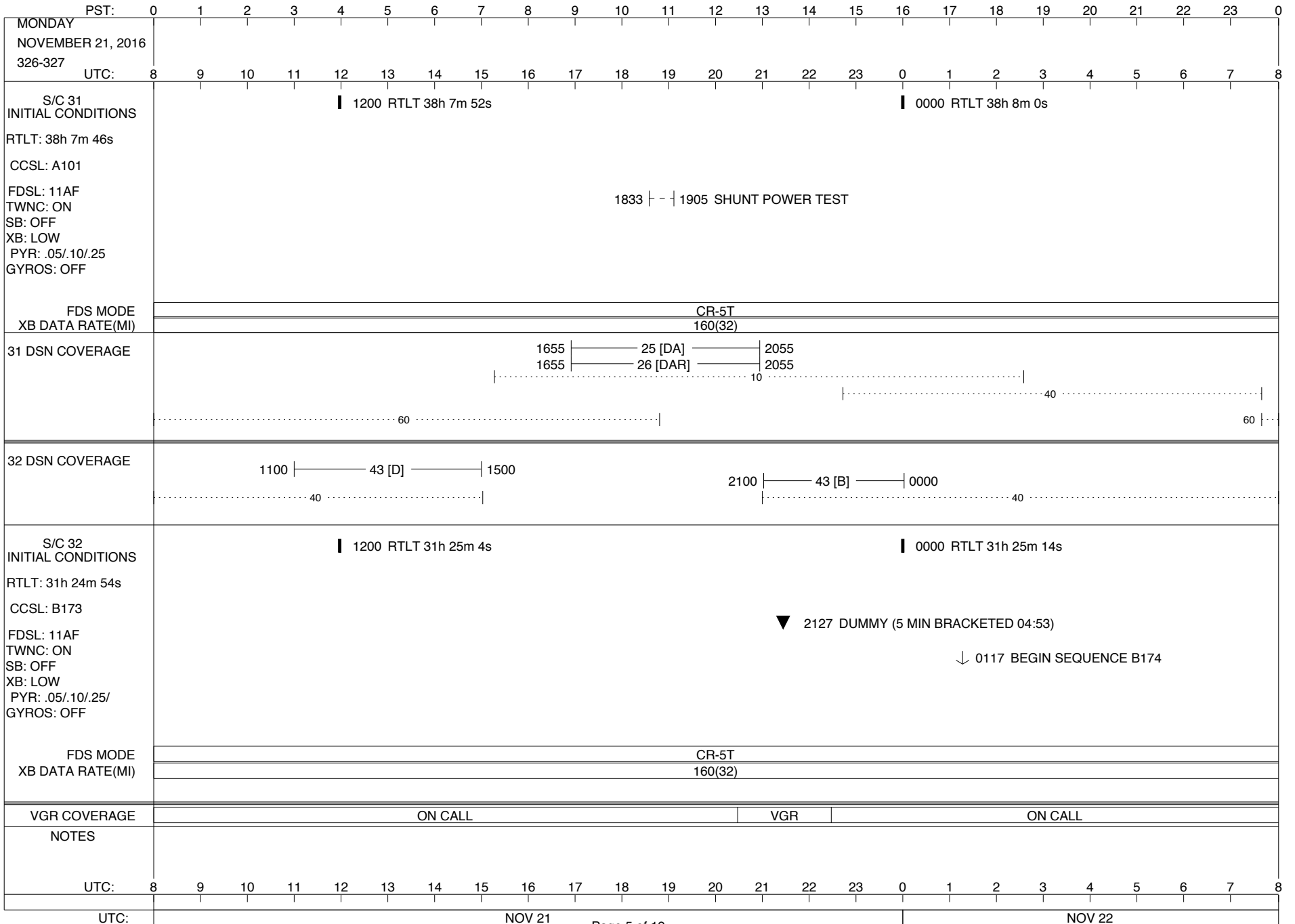
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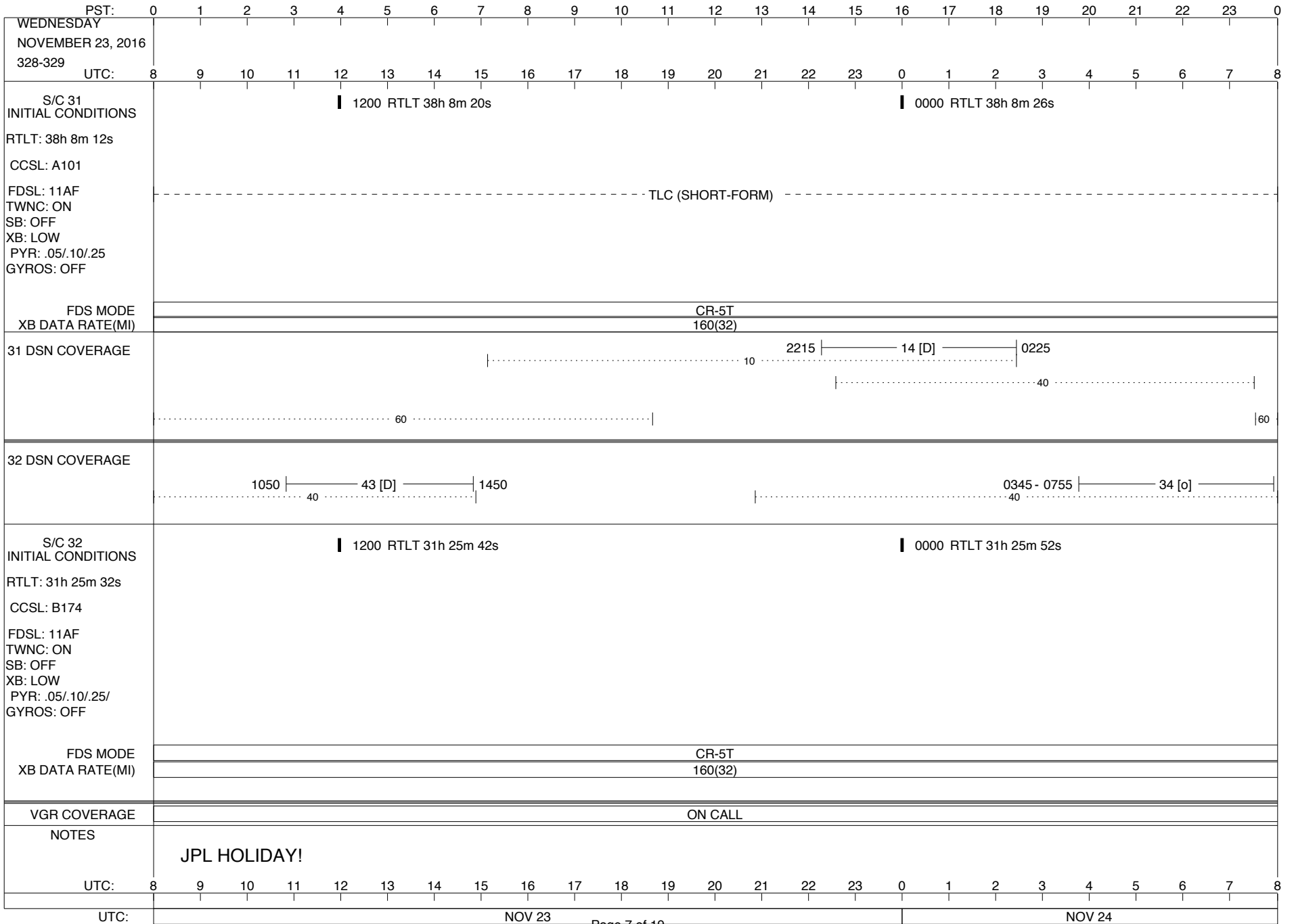


ISSUE DATE: 11/17/16 02:56



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TUESDAY																													
NOVEMBER 22, 2016																													
327-328																													
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S/C 31 INITIAL CONDITIONS		█ 1200 RTLT 38h 8m 6s														█ 0000 RTLT 38h 8m 12s													
RTLTL: 38h 8m 0s																													
CCSL: A101																													
FDSL: 11AF																													
TWNC: ON																													
SB: OFF																													
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		..... 10 ..... 2230  ----- 14 [T] -----  0225 ..... ..... 40 ..... ..... 60 .....   ..... 60  ...																											
32 DSN COVERAGE		..... 40 ..... 1220  ----- 43 [D] -----  1455 ..... ..... 40 ..... 0355  ----- 34 [D] -----  0710 .....																											
S/C 32 INITIAL CONDITIONS		█ 1200 RTLT 31h 25m 22s														█ 0000 RTLT 31h 25m 32s													
RTLTL: 31h 25m 14s																													
CCSL: B174																													
FDSL: 11AF																													
TWNC: ON																													
SB: OFF																													
XB: LOW																													
PYR: .05/.10/.25/																													
GYROS: OFF																													
FDS MODE		CR-5T														CR-5T													
XB DATA RATE(MI)		160(32)														160(32)													
VGR COVERAGE		ON CALL														VGR		ON CALL											
NOTES		[1] S/C 31=GS-4B @ 0058 XB=2.8K(41) NOT RECOVERABLE																											
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ISSUE DATE: 11/17/16 02:56





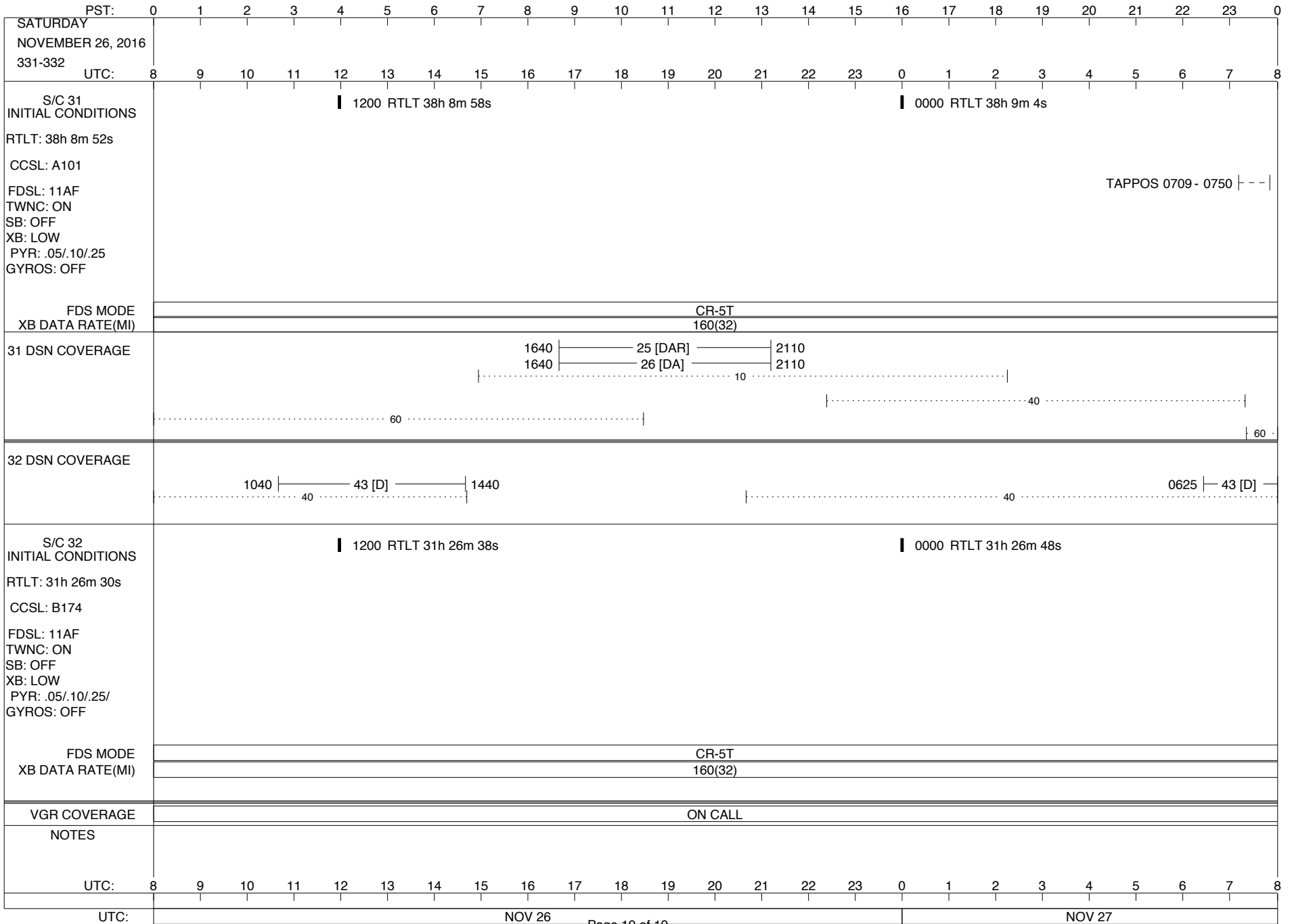
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S/C 31 INITIAL CONDITIONS RTLTL: 38h 8m 26s CCSL: A101 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	█ 1200 RTLTL 38h 8m 32s												█ 0000 RTLTL 38h 8m 38s												
FDS MODE	CR-5T																								
XB DATA RATE(MI)	160(32)																								
31 DSN COVERAGE	1505  -----  14 [D]  -----  0210  -----  10  -----   -----  40  -----   -----  60  -----   -----  60																								
32 DSN COVERAGE	-----  40  -----   -----  40  -----																								
S/C 32 INITIAL CONDITIONS RTLTL: 31h 25m 52s CCSL: B174 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25/ GYROS: OFF	█ 1200 RTLTL 31h 26m 0s												█ 0000 RTLTL 31h 26m 10s												
FDS MODE	CR-5T																								
XB DATA RATE(MI)	160(32)																								
VGR COVERAGE	ON CALL																								
NOTES	[1] S/C 31=GS-4B @ 0711 XB=2.8K(41) NOT RECOVERABLE JPL HOLIDAY!																								
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
UTC:	NOV 24												NOV 25												

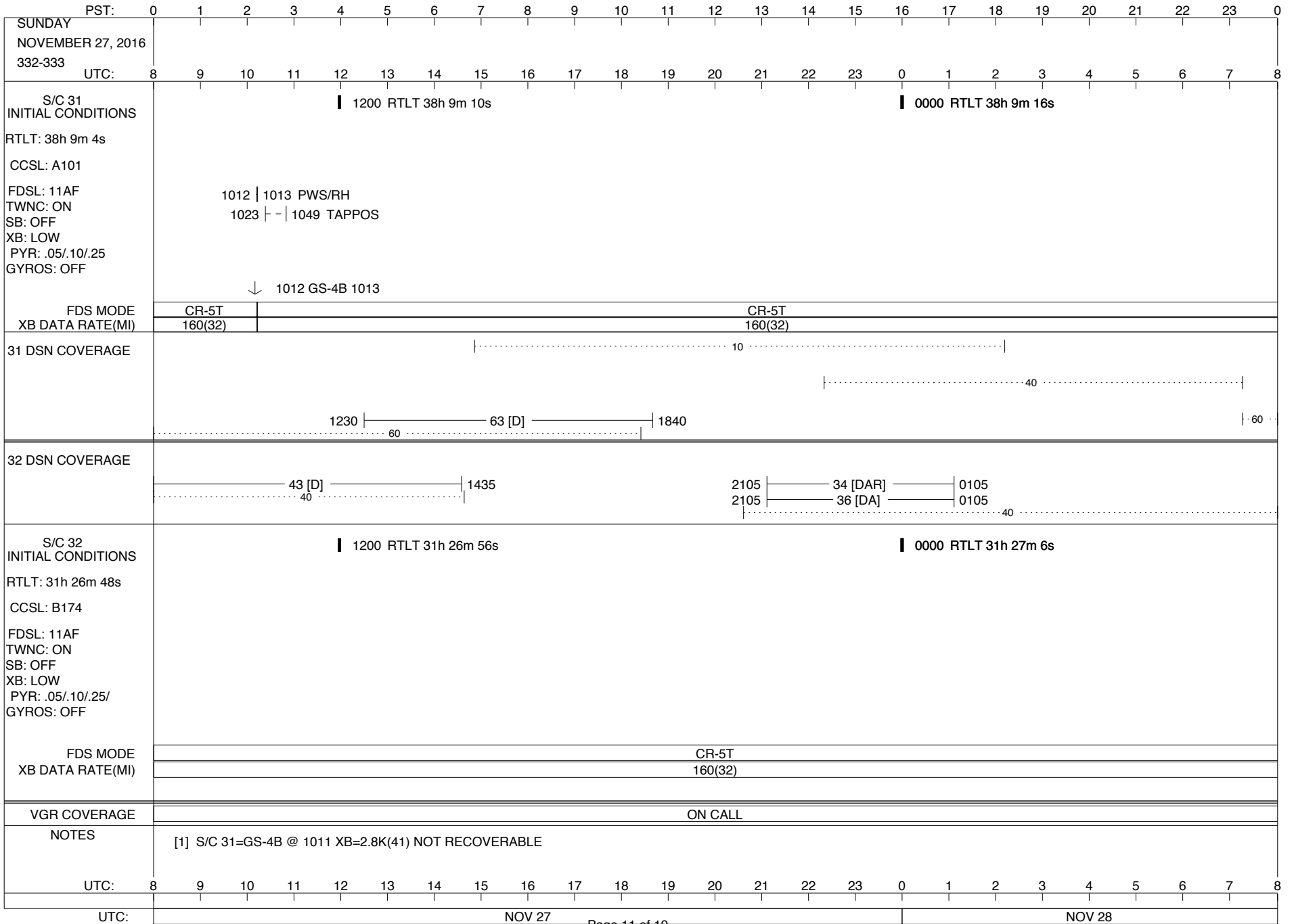
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FRIDAY NOVEMBER 25, 2016 330-331	UTC: 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	
S/C 31 INITIAL CONDITIONS RTLT: 38h 8m 38s CCSL: A101 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	1200 RTLT 38h 8m 46s												0000 RTLT 38h 8m 52s													
0803 TAPPOS																										
FDS MODE XB DATA RATE(MI)													CR-5T 160(32)													
31 DSN COVERAGE																										
32 DSN COVERAGE																										
S/C 32 INITIAL CONDITIONS RTLT: 31h 26m 10s CCSL: B174 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25/ GYROS: OFF	1200 RTLT 31h 26m 20s												0000 RTLT 31h 26m 30s													
FDS MODE XB DATA RATE(MI)													CR-5T 160(32)													
VGR COVERAGE	ON CALL																									
NOTES	JPL HOLIDAY!																									
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	
UTC:	NOV 25													NOV 26												

ISSUE DATE: 11/17/16 02:56



ISSUE DATE: 11/17/16 02:56



ISSUE DATE: 11/17/16 02:56

PST:	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		
MONDAY NOVEMBER 28, 2016 333-334	UTC: 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8		
S/C 31 INITIAL CONDITIONS RTLT: 38h 9m 16s CCSL: A101 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	█ 1200 RTLT 38h 9m 22s												█ 0000 RTLT 38h 9m 28s														
FDS MODE XB DATA RATE(MI)													CR-5T 160(32)														
31 DSN COVERAGE	1450  ----- 14 [D] -----  1850												10 .....   ----- 40 -----  .....60 .....														
32 DSN COVERAGE	.....40 .....												2035  ----- 43 [B] -----  2320  ----- 40 -----														
S/C 32 INITIAL CONDITIONS RTLT: 31h 27m 6s CCSL: B174 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25/ GYROS: OFF	█ 1200 RTLT 31h 27m 16s												█ 0000 RTLT 31h 27m 24s														
FDS MODE XB DATA RATE(MI)													CR-5T 160(32)														
VGR COVERAGE	ON CALL												VGR			ON CALL											
NOTES																											
UTC: 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8			
UTC:	NOV 28												Page 12 of 19			NOV 29											

PST:	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
TUESDAY NOVEMBER 29, 2016 334-335	UTC: 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
S/C 31 INITIAL CONDITIONS RTLTL: 38h 9m 28s CCSL: A101 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	█ 1200 RTLTL 38h 9m 34s												█ 0000 RTLTL 38h 9m 40s												
FDS MODE XB DATA RATE(MI)	CR-5T 160(32)												CR-5T 160(32)												
31 DSN COVERAGE	1445  ----- 14 [D] -----  1725												10 ..... ----- 40 .....												
	1230  ----- 63 [D] -----  1445												----- 60 ..... ----- 60 ..												
32 DSN COVERAGE	0950  ----- 43 [D] -----  1425												----- 40 ..... ----- 40 .....  0555 - 0730  ----- 34 [o] -----												
S/C 32 INITIAL CONDITIONS RTLTL: 31h 27m 24s CCSL: B174 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25/ GYROS: OFF	█ 1200 RTLTL 31h 27m 34s												█ 0000 RTLTL 31h 27m 42s												
FDS MODE XB DATA RATE(MI)	CR-5T 160(32)																								
VGR COVERAGE													ON CALL												
NOTES	[1] S/C 31=GS-4B @ 0035 XB=2.8K(41) NOT RECOVERABLE																								
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
UTC:	NOV 29												NOV 30												

ISSUE DATE: 11/17/16 02:56

PST:	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
WEDNESDAY NOVEMBER 30, 2016 335-336																									
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
S/C 31 INITIAL CONDITIONS RTLTL: 38h 9m 40s CCSL: A101 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	█ 1200 RTLTL 38h 9m 46s												█ 0000 RTLTL 38h 9m 50s												
FDS MODE XB DATA RATE(MI)													CR-5T 160(32)												
31 DSN COVERAGE	1445  -----  14  -----  2005												-----  10  -----  40  -----												
32 DSN COVERAGE	1025  -----  43 [D]  -----  1425												-----  40  -----  40  -----												
S/C 32 INITIAL CONDITIONS RTLTL: 31h 27m 42s CCSL: B174 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25/ GYROS: OFF	█ 1200 RTLTL 31h 27m 52s												█ 0000 RTLTL 31h 28m 0s												
FDS MODE XB DATA RATE(MI)													CR-5T 160(32)												
VGR COVERAGE	ON CALL												VGR ON CALL												
NOTES																									
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
UTC:	NOV 30												DEC 01												

ISSUE DATE: 11/17/16 02:56

PST:	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
THURSDAY DECEMBER 1, 2016 336-337																									
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
S/C 31 INITIAL CONDITIONS RTLTL: 38h 9m 50s CCSL: A101 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	█ 1200 RTLTL 38h 9m 56s												█ 0000 RTLTL 38h 10m 2s												
													0346   0358 TAPPOS PWS/RH 0648   0649 TAPPOS 0700   0701												
													0648 GS-4B 0649 ↓												
FDS MODE	CR-5T												CR-5T												
XB DATA RATE(MI)	160(32)												160(32)												
31 DSN COVERAGE	-----10-----												-----40-----												
	1130  -----63 [D]-----  1625												-----60-----												
32 DSN COVERAGE	0930  -----43 [D]-----  1420												-----40-----												
S/C 32 INITIAL CONDITIONS RTLTL: 31h 28m 0s CCSL: B174 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25/ GYROS: OFF	█ 1200 RTLTL 31h 28m 8s												█ 0000 RTLTL 31h 28m 18s												
FDS MODE	CR-5T												CR-5T												
XB DATA RATE(MI)	160(32)												160(32)												
VGR COVERAGE	ON CALL												ON CALL												
NOTES	[1] S/C 31=GS-4B @ 0648 XB=2.8K(41) NOT RECOVERABLE																								
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
UTC:	DEC 01												DEC 02												



PST:	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 DECEMBER 2, 2016 337-338	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
S/C 31 INITIAL CONDITIONS RTLTL: 38h 10m 2s CCSL: A101 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	1200 RTLTL 38h 10m 8s												0000 RTLTL 38h 10m 12s												
FDS MODE XB DATA RATE(MI)													CR-5T 160(32)												
31 DSN COVERAGE	1745  -----  14 [D]  -----  2145												-----  40  -----												
	-----  60  -----												-----  60  -----												
32 DSN COVERAGE	1010  -----  43 [D]  -----  1415												-----  40  -----  0535 - 0720  -----  34 [o]  -----												
S/C 32 INITIAL CONDITIONS RTLTL: 31h 28m 18s CCSL: B174 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25/ GYROS: OFF	1200 RTLTL 31h 28m 26s												0000 RTLTL 31h 28m 36s												
FDS MODE XB DATA RATE(MI)													CR-5T 160(32)												
VGR COVERAGE													ON CALL												
NOTES																									
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
UTC:	DEC 02												DEC 03												

ISSUE DATE: 11/17/16 02:56

PST: 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

SATURDAY  
DECEMBER 3, 2016  
338-339

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

S/C 31  
INITIAL CONDITIONS  
RTLTL: 38h 10m 12s  
CCSL: A101  
FDSL: 11AF  
TWNC: ON  
SB: OFF  
XB: LOW  
PYR: .05/.10/.25  
GYROS: OFF

1200 RTLTL 38h 10m 18s

0000 RTLTL 38h 10m 24s

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

TAPPOS 0646 || 0648

FDS MODE  
XB DATA RATE(MI)

CR-5T  
160(32)

31 DSN COVERAGE

2020 |-----| 14 [T] |-----| 0135



32 DSN COVERAGE



S/C 32  
INITIAL CONDITIONS  
RTLTL: 31h 28m 36s  
CCSL: B174  
FDSL: 11AF  
TWNC: ON  
SB: OFF  
XB: LOW  
PYR: .05/.10/.25/  
GYROS: OFF

1200 RTLTL 31h 28m 44s

0000 RTLTL 31h 28m 52s

FDS MODE  
XB DATA RATE(MI)

CR-5T  
160(32)

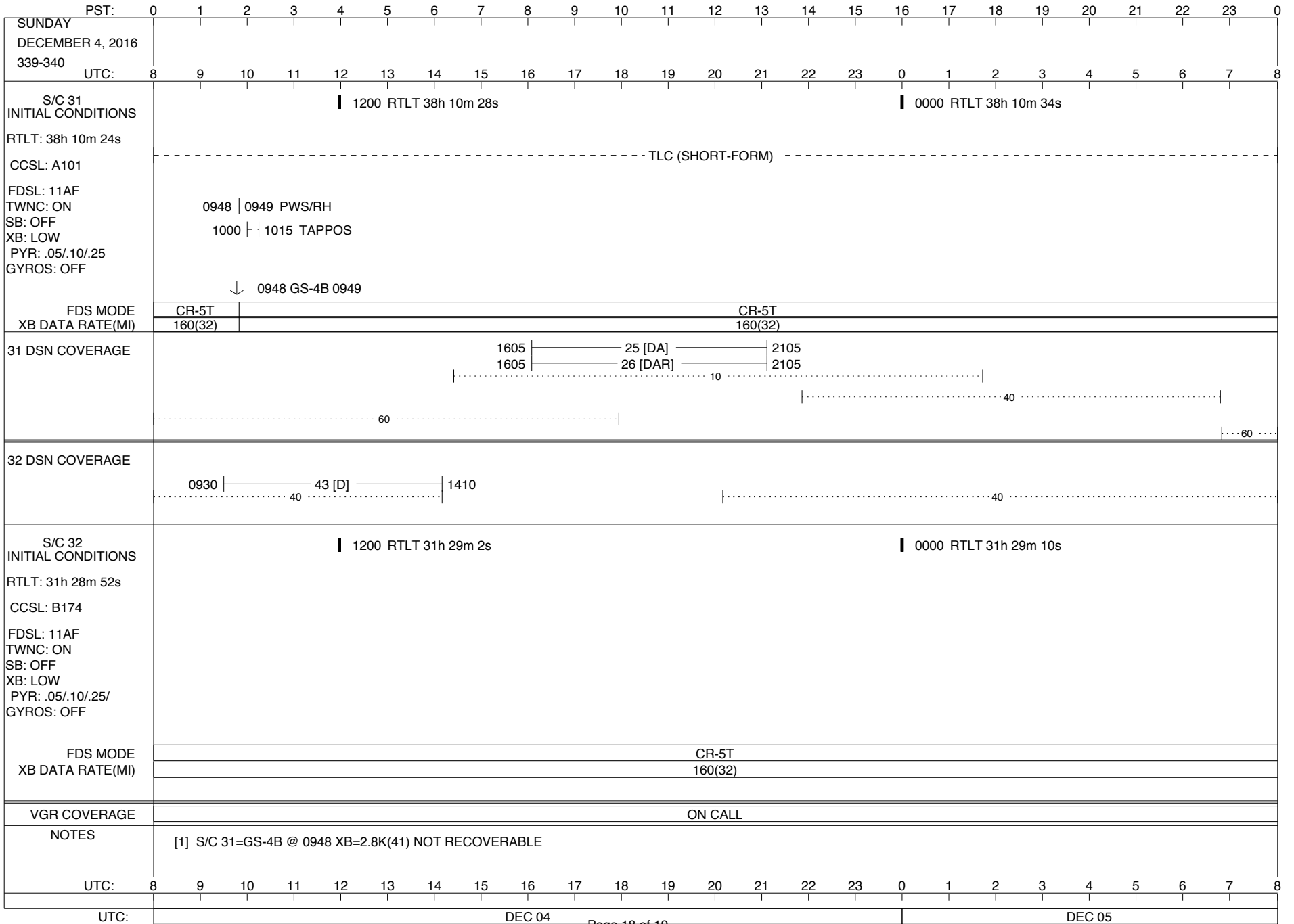
VGR COVERAGE

ON CALL

NOTES

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

UTC: DEC 03 Page 17 of 19 DEC 04



ISSUE DATE: 11/17/16 02:56

PST:	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		
MONDAY DECEMBER 5, 2016 340-341	UTC: 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8		
S/C 31 INITIAL CONDITIONS RTLT: 38h 10m 34s CCSL: A101 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	<p style="text-align: center;">█ 1200 RTLT 38h 10m 40s</p> <p style="text-align: center;">----- TLC (SHORT-FORM) -----  - D/L -  1643</p>																										
FDS MODE XB DATA RATE(MI)														CR-5T 160(32)													
31 DSN COVERAGE														1745  ----- 14 [D] -----  2010													
														1520  ----- 63 [D] -----  1800 .....60.....													
32 DSN COVERAGE														0935  ----- 43 [D] -----  1405 .....40.....													
S/C 32 INITIAL CONDITIONS RTLT: 31h 29m 10s CCSL: B174 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25/ GYROS: OFF	<p style="text-align: center;">█ 1200 RTLT 31h 29m 18s</p>																										
FDS MODE XB DATA RATE(MI)														CR-5T 160(32)													
VGR COVERAGE														ON CALL													
NOTES																											
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8		
UTC:	DEC 05													DEC 06													