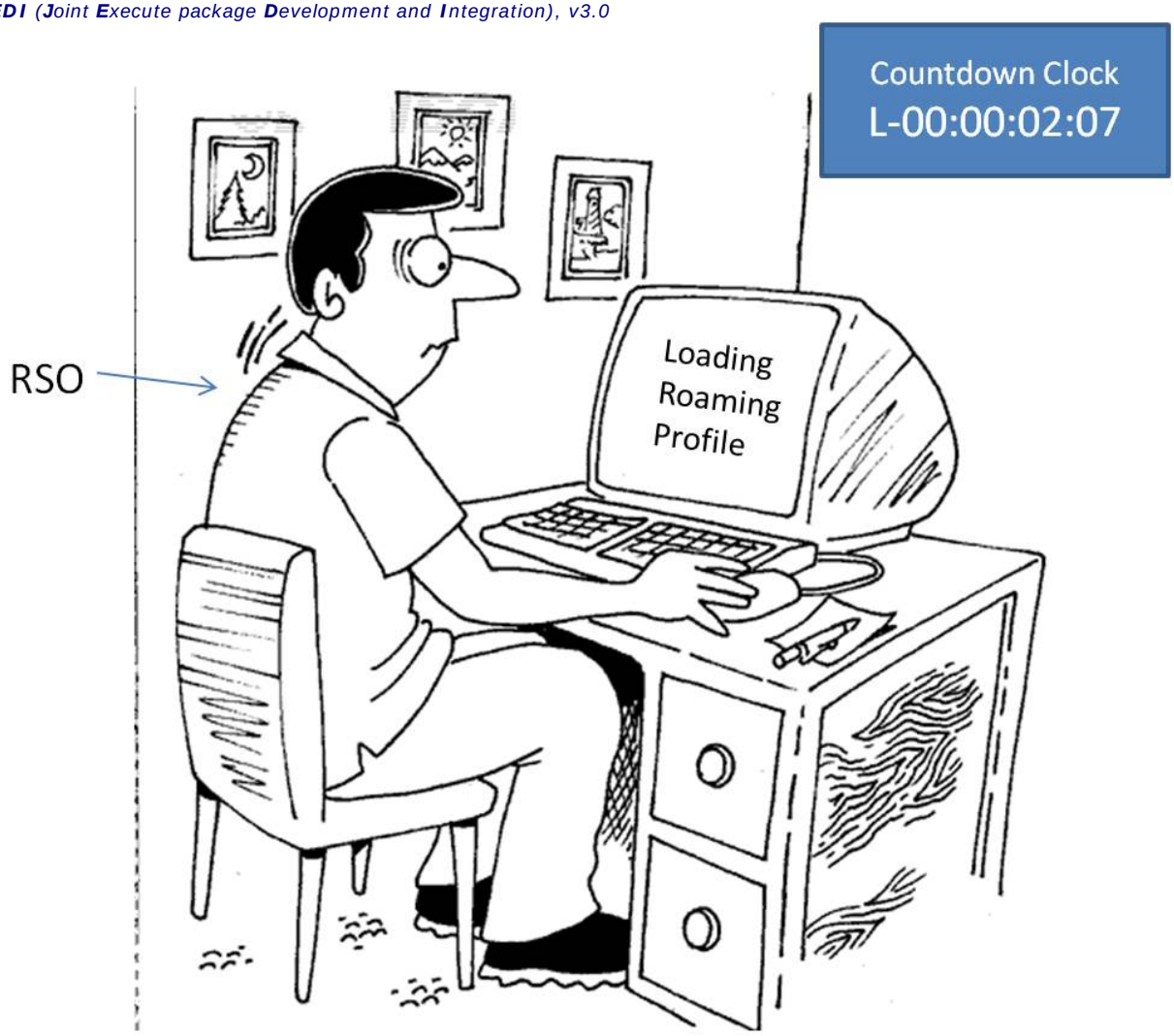
STS-133 / ULF5

FD 02 Execute Package

MSG	Page(s)	Title
002A	1 - 13	FD02 Flight Plan Revision
003	14 - 15	FD02 Mission Summary

Approved by FAO:
Greg Whitney

Last Updated: Feb 25 2011 10:11 AM GMT
JEDI *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v3.0*



"UH, Launch Director, RSO..."

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MSG INDEX

MSG NO.	TITLE
002	FD02 Flight Plan Revision
003	FD02 Mission Summary

1. The MCC has remotely uplinked the latest HazMat data file to all PGSCs onboard.

2. CGBA is unpowered because of the prelaunch problem with it rebooting itself. The Flight Plan has been updated to remove the daily CGBA status checks and CGBA adjust set temp, and to modify the NLP activation and termination.

3. Visual acuity testing should be performed with uncorrected vision (no corrective lenses). Testing may be done with corrected vision, if desired, but please note on the eye questionnaire if visual acuity results are for uncorrected or corrected vision.

4. Replace pages 2-4, 2-5, and 3-8 through 3-17

REPLANNED

GMT 02/25/11 (056) — 10 11 12 13 14 15 16 17 18 19 20 21 22 23 001/00

MET Day 000 — 12 13 14 15 16 17 18 19 20 21 22 23

STS-133

FD02

CDR **LINDSEY**	SLEEP	POST SLEEP	NC2^ OMS BURN	-ZLV	-XVV	TIMU*	PWDB@	FCPRG#	CRYO O2 SNSRCK	I'CNCT	MNVR	STBD	STBD WING SURVEY	MNVR	NOSE	NOSE CAP SURVEY	MEAL	MNVR	PORT	PORT WING SURVEY	MNVR
PLT **BOE**	SLEEP	LOG	POST SLEEP	OMS BURN	OBSS UNBERTH								STBD WING SURVEY			NOSE CAP SURVEY	MEAL	PORT WING SURVEY			
MS1 **DREW**	SLEEP	LOG	POST SLEEP	MCIU#	OBSS UNBERTH								STBD WING SURVEY			NOSE CAP SURVEY	MEAL	EMU C/O PREP	EMU C/O		
MS2 **BOWEN**	SLEEP	POST SLEEP	MINI CAM D/L	POST SLEEP	GLCR PTV	AEM PHTO							EXERCISE				MEAL	EMU C/O PREP	EMU C/O		
MS3 **BARRATT**	SLEEP	LOG	POST SLEEP									ERG SETUP	EXERCISE			FILTER CLEANING	MEAL	VACINE	ACTIVATE	EMU C/O	
MS4 **STOTT**	SLEEP	POST SLEEP	OIU ACT	APCU$	POST	SLEEP	APCU~	OIU/A	MDK%	AEM$	AEM VIDEO	ERG SETUP	TRANSFER PREP				MEAL	OMS POD SRVY		EMU C/O	EXERCISE

DAY/NIGHT

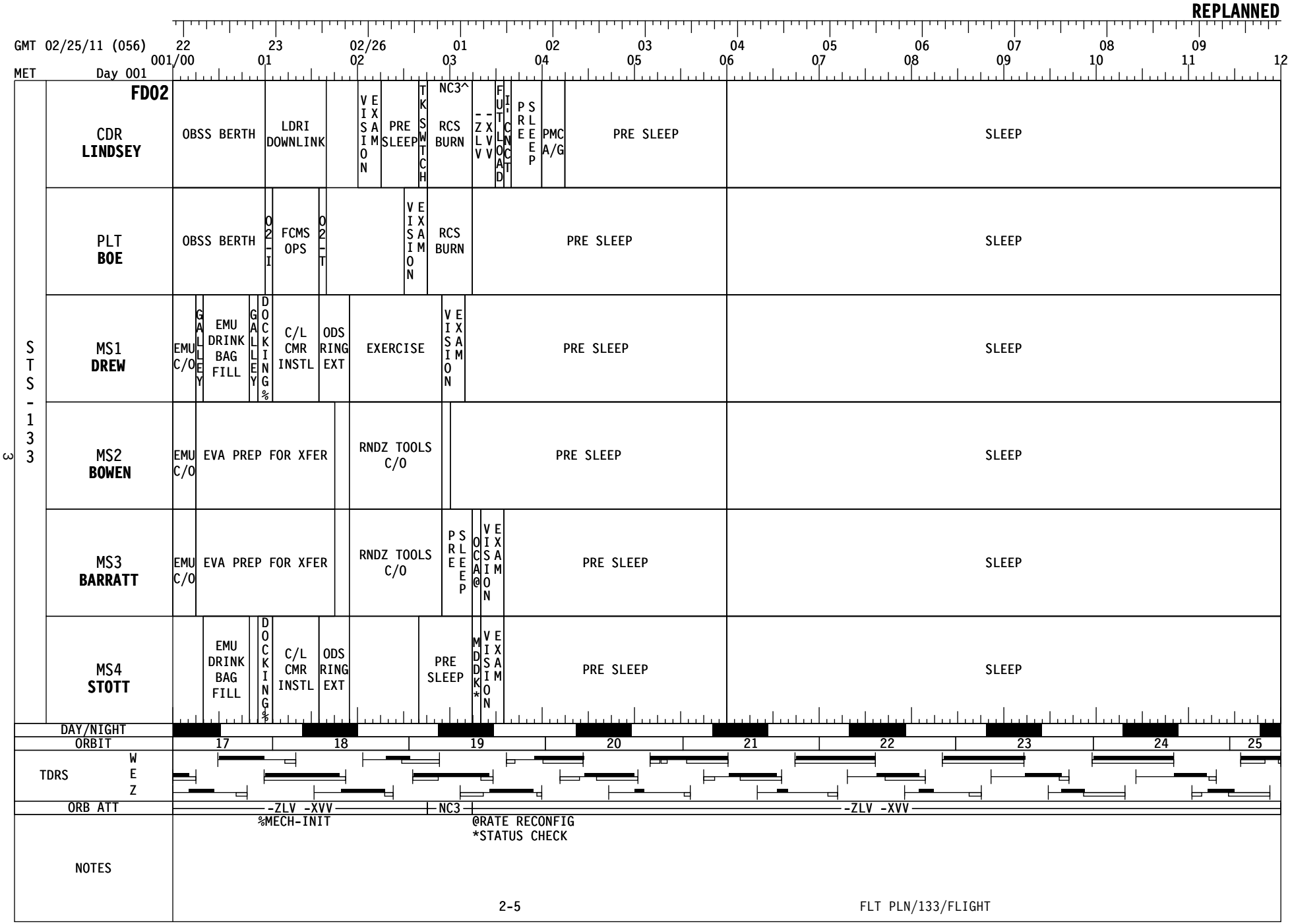
ORBIT: 9 10 11 12 13 14 15 16 17

TDRS W E Z

ORB ATT: -ZLV -XVV | NC2 | -ZLV -XVV | STBD SURVEY | NOSE SURVEY | PORT SURVEY

NOTES

$ACT
@CNTLR SWAP
*B POD HTR RECONFIG
#MANUAL
#FILTER CK
^DEACT
%STATUS CHECK
$STATUS CHECK


REPLANNED
GMT 02/25/11 (056)
22 23 02/26 01 02 03 04 05 06 07 08 09
001/00 01 02 03 04 05 06 07 08 09 10 11 12
MET Day 001
FD02
STS-133
CDR LINDSEY
OBSS BERTH
LDRI DOWNLINK
VISION EXAM
PRE SLEEP
TK SWTCH
NC3^
RCS BURN
-ZLV -XVV
FUT LOAD
I' CNCT
PRE SLEEP
PMC A/G
PRE SLEEP
SLEEP
PLT BOE
OBSS BERTH
O2-I
FCMS OPS
O2-T
VISION EXAM
RCS BURN
PRE SLEEP
SLEEP
MS1 DREW
EMU C/O
GALLEY
EMU DRINK BAG FILL
GALLEY
DOCKING%
C/L CMR INSTL
ODS RING EXT
EXERCISE
VISION EXAM
PRE SLEEP
SLEEP
MS2 BOWEN
EMU C/O
EVA PREP FOR XFER
RNDZ TOOLS C/O
PRE SLEEP
SLEEP
MS3 BARRATT
EMU C/O
EVA PREP FOR XFER
RNDZ TOOLS C/O
PRE SLEEP
OCA@
VISION EXAM
PRE SLEEP
SLEEP
MS4 STOTT
EMU DRINK BAG FILL
DOCKING%
C/L CMR INSTL
ODS RING EXT
PRE SLEEP
MDDK*
VISION EXAM
PRE SLEEP
SLEEP
DAY/NIGHT
ORBIT
17 18 19 20 21 22 23 24 25
TDRS
W
E
Z
ORB ATT
-ZLV -XVV
NC3
-ZLV -XVV
%MECH-INIT
@RATE RECONFIG
*STATUS CHECK
NOTES
2-5
FLT PLN/133/FLIGHT

3

STS-133 FD (02)

REPLANNED

GMT Date 02/25 (056) | W | TDRSE | Z | D/N | ORB | MET Day 000 | STS ATI | CDR **LINDSEY** | PLT **BOE** | MS1 **DREW** | NOTES

10:00 11:00 12:00 13:00

12:00 13:00 14:00 15:00 16:00

9 10 11

-ZLV -XVV

SLEEP | SLEEP | SLEEP

FD02 EZ ACTIVITIES:
OCAC Filter Inspection
TEPC (STATUS CHECK)
(ORB OPS, CREW SYSTEMS)
Hard reboot all PGSCs not shut down overnight, except: STS1 (OCA ROUTER), STS5 (RPOP2) and STS6 (WLES)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
√Hum Seps for H2O accumulation

SLEEP LOGBOOK (ORB OPS, SDBI)
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

SLEEP LOGBOOK (ORB OPS, SDBI)
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

4

STS-133 FD (02)

REPLANNED

GMT Date 02/25 (056) | W | TDRSE | Z | D/N | ORB | MET Day 000 | STS ATI | MS2 **BOWEN** | MS3 **BARRATT** | MS4 **STOTT** | NOTES

10:00 11:00 12:00 13:00

12:00 13:00 14:00 15:00 16:00

9 10 11

-ZLV -XVV

SLEEP

SLEEP

SLEEP

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SLEEP LOGBOOK (ORB OPS, SDBI)

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

DIGITAL VIA VTR
(CUE CARD, DIGITAL PLAYBACK)
Window 4 Minicam
KU TDRW 15:23-15:49

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

5

STS-133 FD (02)

REPLANNED

GMT Date 02/25 (056) | W | TDRSE | Z | D/N | ORB | MET Day 000 | STS ATI | CDR **LINDSEY** | PLT **BOE** | MS1 **DREW** | NOTES

14:00 — 15:00 — 16:00 — 17:00

16:00 — 17:00 — 18:00 — 19:00 — 20:00

11 — 12 — 13 — 14

NC2 — ZLV - XVV — STBD SURVEY

CDR LINDSEY

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

ON-ORBIT OMS BURN
(ORB OPS, OMS)

< NC2 TIG (16:48:30)

MNVR (TRK) -ZLV -XVV
TG=2 BV=3 OM=0
A1/AUTO/VERN Init TRK

IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)

RCS/OMS POD HTR RECONFIG A

R2 BLR CNTLR/HTR (three) - B

FC PURGE - MANUAL
(ORB OPS, EPS)

CRYO O2 TK HTR SNSR CK
(ORB OPS, EPS) Tank 1-4 Only

I'CNCT: R OMS to RCS (OPCL, RCS)

MNVR (TRK) BIAS +YSI (Stbd Survey)
TG=4 BV=5 P=0 Y=40 OM=320
A14/AUTO/VERN, OBSS UNBERTH cmplt, Init TRK

OBSS LDRI RCC SURVEY - STBD
(PDRS, OBSS OPS)

PLT BOE

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

ON-ORBIT OMS BURN
(ORB OPS, OMS)

OBSS UNBERTH (PDRS, OBSS OPS)
Prior to Step 3:
SM 179 POWER TRANSFER
√PTU 2 APCU OUT VOLTS: <10V
OUTPUT - OFF
Verify MNVR Complete prior to performing Step 5

OBSS LDRI RCC SURVEY - STBD
(PDRS, OBSS OPS)

A A14 RCS/OMS HTR L POD - A OFF
- B AUTO
R POD - A OFF
- B AUTO

MS1 DREW

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

L17 Check MCIU filter screen

OBSS UNBERTH (PDRS, OBSS OPS)
Prior to Step 3:
SM 179 POWER TRANSFER
√PTU 2 APCU OUT VOLTS: <10V
OUTPUT - OFF
Verify MNVR Complete prior to performing Step 5

OBSS LDRI RCC SURVEY - STBD
(PDRS, OBSS OPS)

NOTES

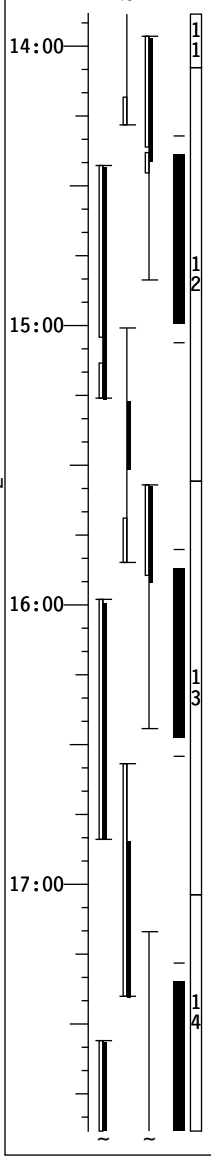
UPDATE ORBITAL MNVR PAD

6

STS-133 FD (02)

REPLANNED

GMT Date 02/25 (056) | W | TDRSE | Z | D/N | ORB | MET Day 000 | STS ATI



16:00 17:00 18:00 19:00 20:00

NC2 - ZLV - XVV - STBD SURVEY

MS2 BOWEN

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

P/TV09 MIDDECK PAYLOADS
(PHOTO/TV, SCENES)
Setup & Ops Item 1 (During Stat Ck)

P/TV09 MIDDECK PAYLOADS (P/TV, SCENES)
Ops Item 2 (Photos)

EXERCISE

MS3 BARRATT

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

CYCLE ERGOMETER OPS (ORB OPS, CREW SYS)
Perform ERGOMETER SETUP

EXERCISE

MS4 STOTT

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SSP OIU PWR - OIU 1 ON (tb-UP)
On MCC GO: A15 APCU 1 OUTPUT - ON
CONV - ON

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

On MCC GO: A15 APCU 1 CONV - OFF
OUTPUT - OFF

SSP1 OIU PWR - OFF (tb-bp)

GLACIER STATUS CK (Cue Card)-MA16F/G

AEM CHECK (CUE CARD)

P/TV09 MIDDECK PAYLOADS
(P/TV, SCENES)
Setup and Ops Item 2 (Video)

CYCLE ERGOMETER OPS (ORB OPS, CREW SYS)
Perform ERGOMETER SETUP

TRANSFER PREP
Complete Transfer List Item 51.1
and take photo

NOTES

UPDATE
TFL 199
PMM
PRESSURE
CHECK

UPDATE
TFL 188

7

STS-133 FD (02)

REPLANNED

GMT Date 02/25 (056) | W | TDRSE | Z | D/N | ORB | MET Day 000 | STS ATT | CDR **LINDSEY** | PLT **BOE** | MS1 **DREW** | NOTES

18:00 — 19:00 — 20:00 — 21:00

14 — 15 — 16 — 17

20:00 — 21:00 — 22:00 — 23:00 — 00:00

NOSE SURVEY

PORT SURVEY

CDR LINDSEY

MNVR (TRK) BIAS +XSI (Nose Cap)
TG=4 BV=5 P=330 Y=0 OM=335
A14/AUTO/VERN,RCC SRVY-STBD cmplt,Init TRK

OBSS LDRI RCC SURVEY-NOSE CAP
(PDRS, OBSS OPS)

MEAL

MNVR TRK BIAS -YSI (Port Survey)
TG=4 BV=5 P=0 Y=323 OM=180
A14/AUTO/VERN,RCC SRVY-PORT Step 3 cmplt, Init TRK

OBSS LDRI RCC SURVEY-PORT(PDRS, OBSS OPS)

MNVR (TRK) -ZLV -XVV B

PLT BOE

OBSS LDRI RCC SURVEY-NOSE CAP
(PDRS, OBSS OPS)

MEAL

OBSS LDRI RCC SURVEY-PORT(PDRS, OBSS OPS)

MS1 DREW

OBSS LDRI RCC SURVEY-NOSE CAP
(PDRS, OBSS OPS)

MEAL

EMU CHECKOUT PREP
(EVA, AIRLOCK CONFIG)

EMU CHECKOUT
(EVA, CHECKOUTS)
Stow LCVG's in ECOKs when complete
MCC will TMBU S/W limits, steps 1 & 100

B TG=2 BV=3 OM=0
A14/AUTO/VERN,RCC SRVY-PORT
Step 14 cmplt,Init TRK

8

STS-133 FD (02)

REPLANNED

GMT Date 02/25 (056) | W | TDRSE | Z | D/N | ORB | MET Day 000 | STS ATT

18:00 | 19:00 | 20:00 | 21:00

14 | 15 | 16 | 17

20:00 | 21:00 | 22:00 | 23:00 | 00:00

NOSE SURVEY

PORT SURVEY

MS2 BOWEN

EXERCISE

MEAL

EMU CHECKOUT PREP
(EVA, AIRLOCK CONFIG)

EMU CHECKOUT
(EVA, CHECKOUTS)
Stow LCVG's in ECOKs when complete
MCC will TMBU S/W limits, steps 1 & 100

MS3 BARRATT

FILTER CLEANING
(IFM, SCHEDULED MAINTENANCE)

MEAL

NLP ACTIVATION (ASSY OPS, PAYLOADS)
Activate GAPs A-P (Vaccine 11)
Do not perform steps 2,7-9.
In step 10, only call down METs from Table 1. Note: Step 3.1 will be verify only.

EMU CHECKOUT
(EVA, CHECKOUTS)
Stow LCVG's in ECOKs when complete
MCC will TMBU S/W limits, steps 1 & 100

MS4 STOTT

MEAL

P/TV08 EXTERNAL SURVEY (PHOTO/TV, SCENES)
OMS POD SURVEY. Setup, Perform Step 1
OPS, Perform Item 1
BEST LIGHTING: (21:32-22:14)

EMU CHECKOUT
(EVA, CHECKOUTS)
EMU comm setup and checks

EXERCISE

NOTES

STS-133 FD (02)

REPLANNED

GMT Date 02/25 (056) | W | TDRS E | Z | D/N | ORB | MET Day 001 | STS ATI

MET	CDR LINDSEY	PLT BOE	MS1 DREW	NOTES
00:00	OBSS BERTH (PDRS, OBSS OPS)	OBSS BERTH (PDRS, OBSS OPS)	EMU CHECKOUT (EVA, CHECKOUTS) Stow LCVG's in ECOKs when complete MCC will TMBU S/W limits, steps 1 & 100	
			GALLEY OVERNIGHT CONFIG (ORB OPS,ECLS)	
		C OCAC PWR - OFF C5 DIRECT O2 vlv - OP	DIDB FILL Use DIDBs from A/L Floor Bag Fill 4 DIDBs from Galley with cold water Remove gas When filled, stow 2 each in crew specific ECOKs Dispose of fill tool in wet trash	
		D C5 DIRECT O2 vlv - CL OCAC PWR - ON		
			√All EVA drink bag fills complete THEN: GALLEY MORNING CONFIG (ORB OPS, ECLS)	
01:00	DIGITAL VIA VTR (CUE CARD, DIGITAL PLAYBACK) LDRI SURVEYS KU TDRE (00:59-01:48)	O2 REPRESS INIT C	DOCKING MECH INITIALIZATION (RNDZ, APDS)	
		FC MONITORING SYS (FCMS) OPS (ORB OPS, EPS)	C/L CAMR INSTALL (P/TV, C/L CAMR) Setup & Align C/L Camera	
	- ZLV - XVV	O2 REPRESS TERM (On MCC GO) D	DOCKING MECH POWERUP DOCKING RING EXTENSION DOCKING MECH POWERDOWN (RNDZ, APDS)	
02:00	VISION EXAM Retrieve Visual Acuity Charts from MAK, Complete Exam and Questionnaire with uncorrected vision.			
	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		EXERCISE	
		VISION EXAM Retrieve Visual Acuity Charts from MAK, Complete Exam and Questionnaire with uncorrected vision.		
	I'CNCT TK SWTCH: R to L OMS FEED (OPCL, RCS)			
	ON-ORBIT +X RCS BURN (ORB OPS, RCS)	ON-ORBIT +X RCS BURN (ORB OPS, RCS)		
03:00	NC3 < NC3 TIG (03:10:44)		VISION EXAM Retrieve Visual Acuity Charts from MAK, Complete Exam and Questionnaire with uncorrected vision.	
	MNVR (TRK) -ZLV -XVV TG=2 BV=3 OM=0 A1/AUTO/VERN Init TRK	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
	FUTURE LOADED MNVR E			
	I'CNCT RETURN (OPS 2,3) (OPCL, RCS)			
	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
		E TG=2 BV=3 OM=270 A1/AUTO/VERN (1/14:00), Init TRK		
04:00				

22:00 23:00 00:00 01:00

17 18 19

STS-133 FD (02)

REPLANNED

GMT Date 02/25 (056) | W | TDRSE | Z | D/N | ORB | MET Day 001 | STS ATI

22:00 | 23:00 | 00:00 | 01:00

17 | 18 | 19

00:00 | 01:00 | 02:00 | 03:00 | 04:00

-ZLV -XVV | NC3 | -ZLV -XVV

MS2 BOWEN

EMU CHECKOUT (EVA, CHECKOUTS)
Stow LCVG's in ECOKs when complete
MCC will TMBU S/W limits, steps 1 & 100

EVA PREP FOR TRANSFER TO ISS
(EVA, AIRLOCK CONFIG)

RNDZ TOOLS CHECKOUT
(RNDZ, RNDZ TOOLS)

F After LDRI PLAYBACK Complete
L10(MUX) √MUX/VTR/CC PWR - ON (LED ON)
RECONFIGURE OCA DOWNLINK RATE
(ORB OPS, PGSC) Perform Part C, Omit Step 4

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

MS3 BARRATT

EMU CHECKOUT (EVA, CHECKOUTS)
Stow LCVG's in ECOKs when complete
MCC will TMBU S/W limits, steps 1 & 100

EVA PREP FOR TRANSFER TO ISS
(EVA, AIRLOCK CONFIG)

RNDZ TOOLS CHECKOUT
(RNDZ, RNDZ TOOLS)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

RECONFIGURE OCA RATE F
VISION EXAM Retrieve Visual Acuity
Charts from MAK, Complete Exam
and Questionnaire with uncorrected vision.

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

MS4 STOTT

DIDB FILL
Use DIDBs from A/L Floor Bag
Fill 4 DIDBs from Galley with cold water
Remove gas
When filled, stow 2 each in crew specific ECOKs
Dispose of fill tool in wet trash

DOCKING MECH INITIALIZATION
(RNDZ, APDS)

C/L CAMR INSTALL
(P/TV, C/L CAMR)
Setup & Align C/L Camera

DOCKING MECH POWERUP
DOCKING RING EXTENSION
DOCKING MECH POWERDOWN
(RNDZ, APDS)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

GLACIER STATUS CK (Cue Card)-MA16F/G
VISION EXAM Retrieve Visual Acuity
Charts from MAK, Complete Exam
and Questionnaire with uncorrected vision.

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

NOTES

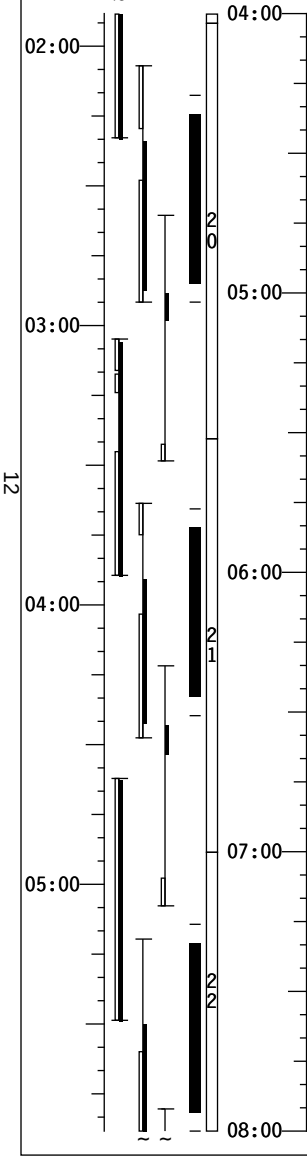
UPDATE TFL 192

UPDATE TFL 188

STS-133 FD (02)

REPLANNED

GMT Date 02/26 (057) | W | TDRSE | Z | D/N | ORB | MET Day 001 | STS ATI



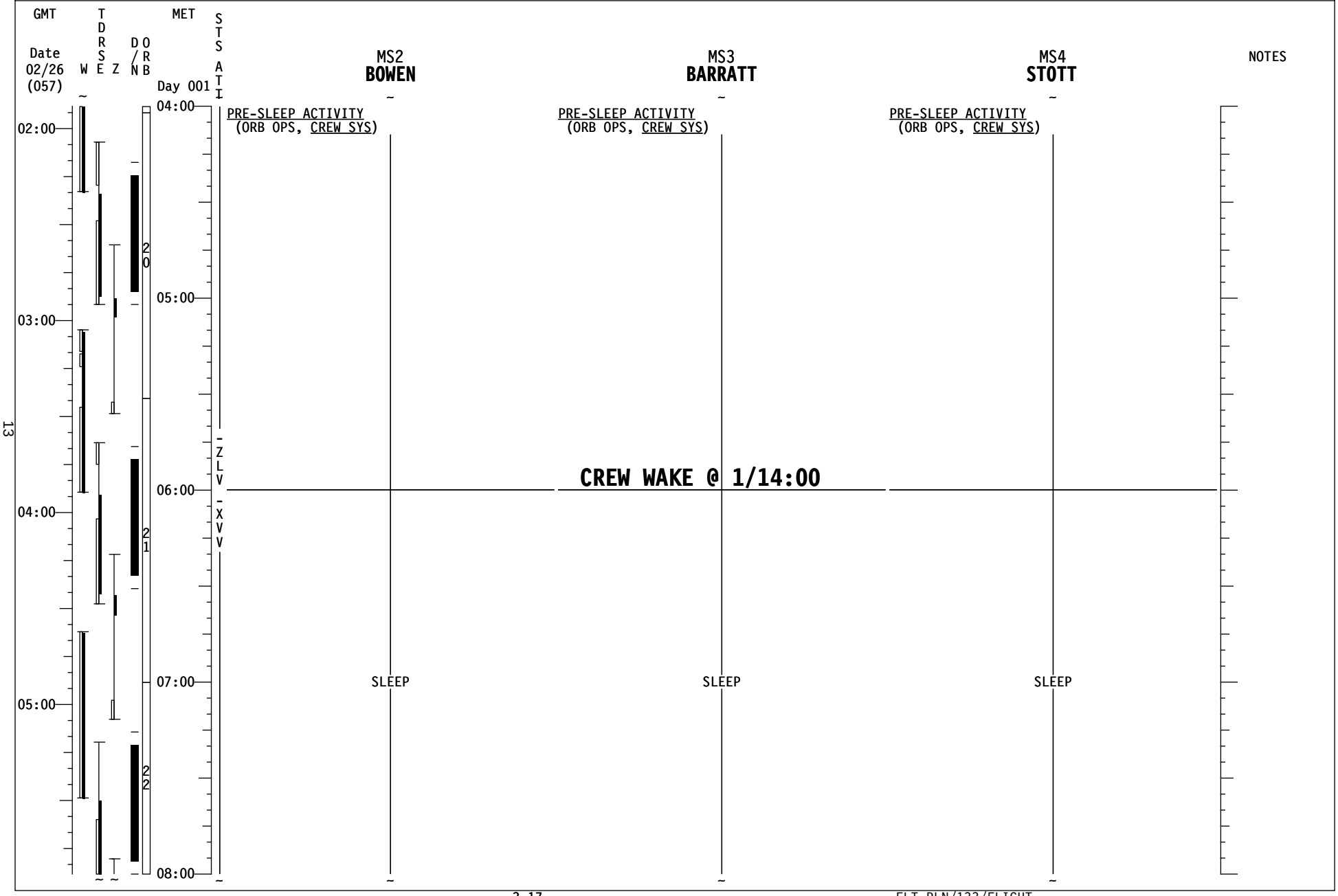
MET	CDR **LINDSEY**	PLT **BOE**	MS1 **DREW**	NOTES
04:00	06 √UHF MODE - OFF L9 PAYLOAD STATION A/G (two) - OFF PRIVATE MEDICAL CONFERENCE via A/G2 PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
05:00				
06:00		**CREW WAKE @ 1/14:00**		
07:00	SLEEP	SLEEP	SLEEP	
08:00				

STS ATI: -ZLV -XVV

12

STS-133 FD (02)

REPLANNED



MSG 003 - FD02 MISSION SUMMARY

Good Morning Discovery. Congratulations to the whole crew for a successful launch and congratulations to CDR Steve for becoming an "Honorary Bug" by dragging 5 of them to orbit.

YOUR CURRENT ORBIT IS: 125 X 108 NM

NOTAMS -

EDW -	EDW 22L/04R IN USE. EDT 22R/04L EMERGENCY DAY USE ONLY.
EDW -	LAKEBED RWYS RED.
NOR -	LAKEBED RWYS GREEN.
ZZA -	NOT USABLE. UNDER CONSTRUCTION.
MRN -	MRN20 ALS OTS.
BEN -	NOT USABLE. NOT SUPPORTED.
NTU -	RWY 05R/23L CLSD.
WAL -	TACAN SBY49 DME ONLY.
YYT -	TACAN UYT23 DME ONLY.
YQX -	TACAN YQX74 DME ONLY.
FFA -	NOT USABLE. IN CARETAKER STATUS.
ESN -	DME BAG78 OTS.
IKF -	NOT USABLE. NO AGREEMENT.

<u>NEXT 2 PLS OPPORTUNITIES:</u>

EDW22 ORB 17 – 1/00:34 SCT030 BKN120 7 **220/19P29**
CHC SHRA/SHSN WI 30NM

KSC15 ORB 31 – 1/21:16 SCT030 **BKN050** BKN150 7 100/9P14
CHC SHRA WI 30NM

END OF PAGE 1 OF 2, MSG 003

MSG 003 - FD02 MISSION SUMMARY

OMS TANK FAIL CAPABILITY:

YES

LEAKING OMS PRPLT BURN:

L or R OMS LEAK: ALWAYS BURN OUT OF PLANE

OMS QUANTITIES(%)

L OMS OX = 58.86 R OMS OX = 56.93
FU = 58.49 FU = 56.73

DELTA V AVAILABLE:

OMS	561 FPS
ARCS (TOTAL ABOVE QTY1)	56 FPS
TOTAL IN THE AFT	617 FPS
ARCS (TOTAL ABOVE QTY2)	84 FPS
FRCS (ABOVE QTY 1)	41 FPS
AFT QTY 1	88 %
AFT QTY 2	50 %

SYSTEM	FAILURE	IMPACT	WORK AROUND
EPS	The Fuel Cell 2 H2 Flow Sensor behaved erratically during prelaunch and ascent.	Possible inaccurate FC 2 FLOW H2 on SPEC 69 FUEL CELLS.	None. MCC will monitor Fuel Cell 2 health.

END OF PAGE 2 OF 2, MSG 003