STS-135 / ULF7

FD 05 Execute Package

MSG	Page(s)	Title
033	1 - 15	FD05 Flight Plan Revision
034	16 - 17	FD05 Mission Summary
035	18 - 20	FD05 Transfer Message
036A	Electronic Only	1.111 Cupola Crew Restraint Operations
037	21	FD04 MMT Summary

Approved by FAO:
J. MIntz

Approved by OpsPlan:
K. Howell

Last Updated: Jul 12 2011 4:13 AM GMT
***JEDI** (**J**oint **E**xecute package **D**evelopment and **I**ntegration), v3.0*

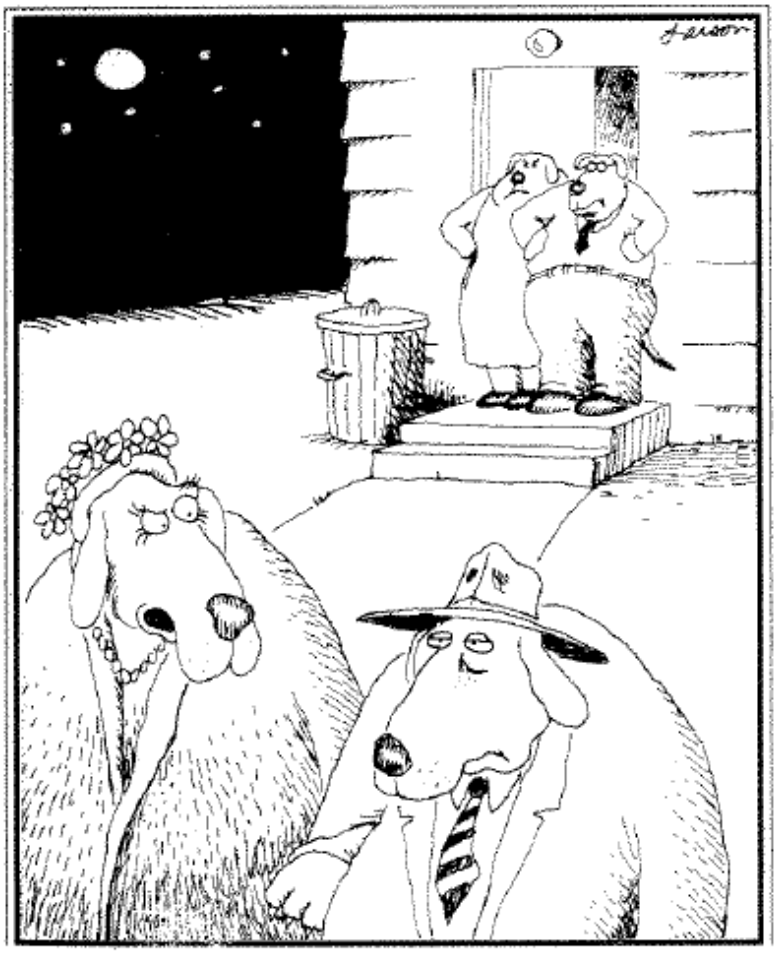
STS-135 Mission Status Briefing Transcript

Navias: We have plenty of time for some questions.

Reporter: Was the extra day added to the flight?

Kwatsi: The STS-135/ULF7 flight started life as an 11 day foray into the great dark unknown known as outer space, and would have launched on the 28th day of the sixth month, which would be June, of the year 2011, on a flight with precisely zero extra-vehicular activity excursions. As we proceeded through the arduous and difficult pre-mission planning process as this great MOD organization has 134 times before the flight of the orbiter we affectionately know as Atlantis grew in length by one day and it was agreed that the illustrious misters Fossum and Garan would perform an EVA. During this time and due to the extreme difficulty of preparing the Space Shuttle vehicle for flight the day selected as the launch date was amended from the 28th of June, 2011 to the eighth day of July. At this time the mission's duration remained 12 days, although I would be remiss if I did not point out that deorbit and landing were scheduled for the 13th flight day. On the 8th of July the flight launched on time, meaning the cryogenic oxygen and hydrogen tanks were…

Navias: I'm sorry, that's all the time we have. Thank you for joining us.



"Our last visit to the ISS ..... and then you had to go and do that on the rug!"

MSG INDEX

MSG NO.	TITLE
033	FD05 Flight Plan Revision
034	FD05 Mission Summary
035	FD05 Transfer Message
036	1.111 Cupola Crew Restraint Operations
037	FD04 MMT Summary

1. Great job on being energy conscious so far! Since ascent, we have been averaging ~700 watts under the predicted power level. We have specifically noticed reduced power usage of the galley and payload bay floodlights. Our margin is currently 6 hours (H2 limited) above a 13+0+2 day mission. Margin has increased for several reasons such as a change in planned heater operations of the MPLM, deleting focused inspection, and your efforts to conserve energy. Keep up the good work!

   For today's cryo config, O2 and H2 tanks 1 and 5 will be active.

   R1 O2,H2 MANF VLV TK1 (two) - OP (tb-OP)

2. **Sandy:** Ron was too busy to complete the D3s camera cleaning yesterday so we've rescheduled it for you today at MET 004/01:45. We wanted to let you know that the Sensor Klear Loupe light mentioned in step 3.2 of ISS PTV: 5.499 D3s Sensor Cleaning is not expected to function due to dead batteries. The replacement batteries have not yet been located. We don't expect you to need the light but if you do we suggest using a Headlamp or Mini Maglight.

3. Crew Choice Downlink KU Opportunities:

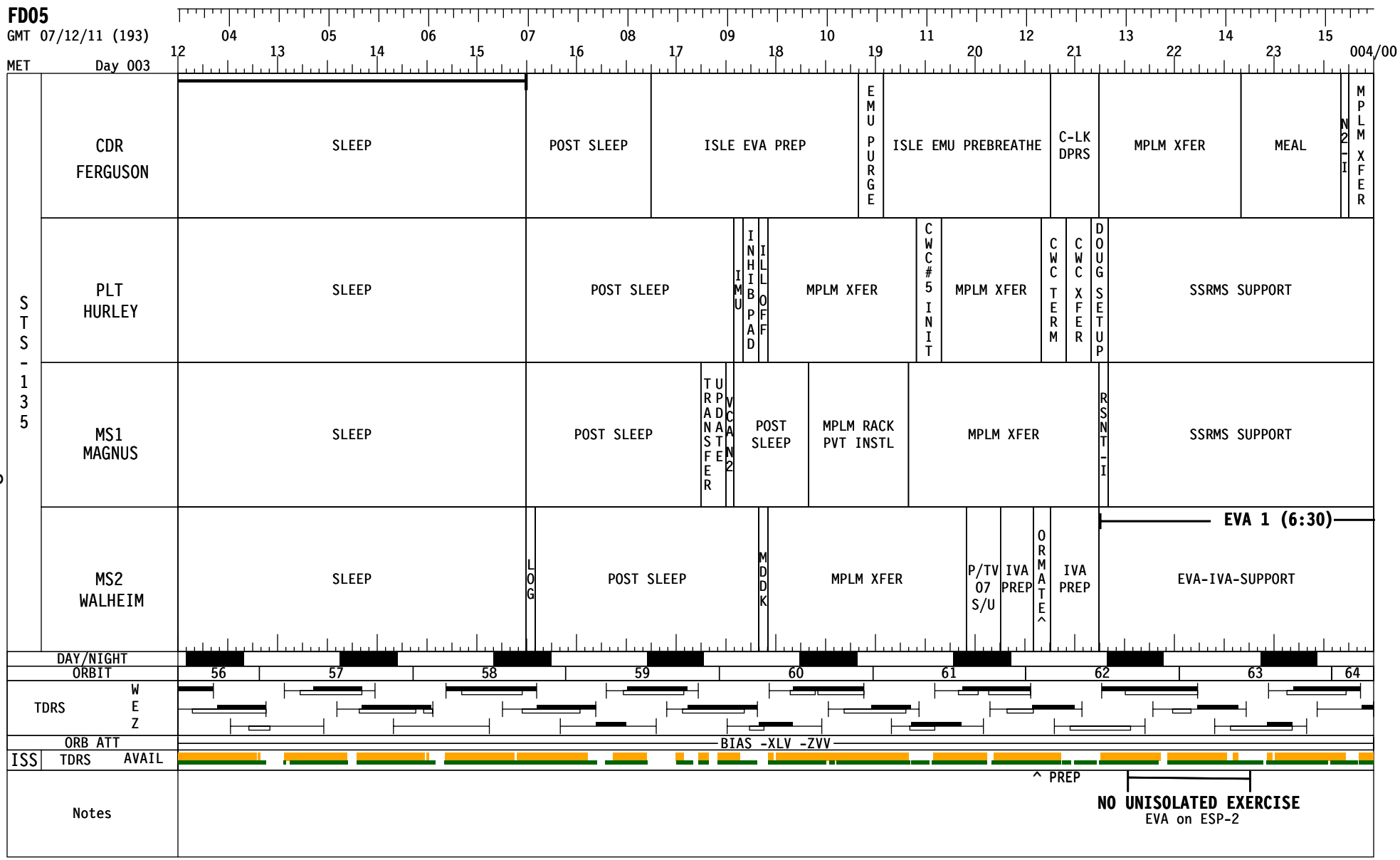
   Please allow 1-2 minutes to lock up on Ku-band. Check with MCC before starting playback.

   Pre-Sleep Evening of FD05

TDRS	AOS	LOS	Delta (min)	Notes
E-TDS	4/04:38	4/04:51	13	
E-TDS	4/04:58	4/05:12	14	
E-TDS	4/06:16	4/06:48	32	

4. REPLACE PAGES 2-14 THROUGH 2-17 AND 3-44 THROUGH 3-53.

REPLANNED


FD05
GMT 07/12/11 (193)
MET Day 003
04 05 06 07 08 09 10 11 12 13 14 15
12 13 14 15 16 17 18 19 20 21 22 23 004/00
STS-135
CDR FERGUSON
SLEEP
POST SLEEP
ISLE EVA PREP
EMU PURGE
ISLE EMU PREBREATHE
C-LK DPRS
MPLM XFER
MEAL
N2-I
MPLM XFER
PLT HURLEY
SLEEP
POST SLEEP
IMU
INHIB PAD
ILL OFF
MPLM XFER
CWC#5 INIT
MPLM XFER
CWC TERM
CWC XFER
DOUG SETUP
SSRMS SUPPORT
MS1 MAGNUS
SLEEP
POST SLEEP
TRANSFER
UPDATE
VCAN2
POST SLEEP
MPLM RACK PVT INSTL
MPLM XFER
RSNT-I
SSRMS SUPPORT
MS2 WALHEIM
SLEEP
LOG
POST SLEEP
MDDK
MPLM XFER
P/TV 07 S/U
IVA PREP
ORMATE^
IVA PREP
EVA 1 (6:30)
EVA-IVA-SUPPORT
DAY/NIGHT
ORBIT
56 57 58 59 60 61 62 63 64
TDRS
W
E
Z
ORB ATT
BIAS -XLV -ZVV
ISS
TDRS AVAIL
^ PREP
Notes
NO UNISOLATED EXERCISE
EVA on ESP-2

2

REPLANNED

FD05

GMT 07/12/11 (193)

MET Day 003

04 05 06 07 08 09 10 11 12 13 14 15

12 13 14 15 16 17 18 19 20 21 22 23 004/00

ISS	ISS CDR BORISENKO	SLEEP	POST SLEEP	PW	ППЭ C/O	VELO	MPLM XFER	БИО-5-D/L	DAK VFY	MEAL	DAK DNLD						
ISS	FE-1 SAMOKUTYAEV	SLEEP	POST SLEEP	PW		ARED	MPLM XFER	MEAL	COЖ								
ISS	FE-3 GARAN	SLEEP	POST SLEEP	ISLE EVA PREP	EMU PURGE	ISLE EMU PREBREATHE	C-LK DPRS	P-DPS	EGRS	SSRMS SETUP	EVA 1 (6:30) RMV PM FRAM ESP2	XFER PM FRAM PLB	INSTL PM FRAM LMC	RMV RRM	FRAM LMC		
ISS	FE-4 VOLKOV	SLEEP	POST SLEEP	PW	ППЭ C/O	T2	MPLM XFER	MEAL									
ISS	FE-5 FURUKAWA	SLEEP	POST SLEEP	EVA INH	ISLE EVA PREP	EMU PURGE	ISLE EMU PREBREATHE	C-LK DPRS	VSW	T2	MEAL						
ISS	FE-6 FOSSUM	SLEEP	POST SLEEP	ISLE EVA PREP	EMU PURGE	ISLE EMU PREBREATHE	C-LK DPRS	P-DPS	EGRS	INSTALL COLTS	EVA 1 (6:30) RMV PM FRAM ESP2	XFER PM FRAM PLB	INSTL PM FRAM LMC	RMV RRM	FRAM LMC		

DAY/NIGHT

DAILY ORBIT: 14 | 15 | 1 | 2 | 3 | 4 | 5 | 6 | 7

TDRS AVAIL

ISS TLM: 122 | 112

ORBIT: 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64

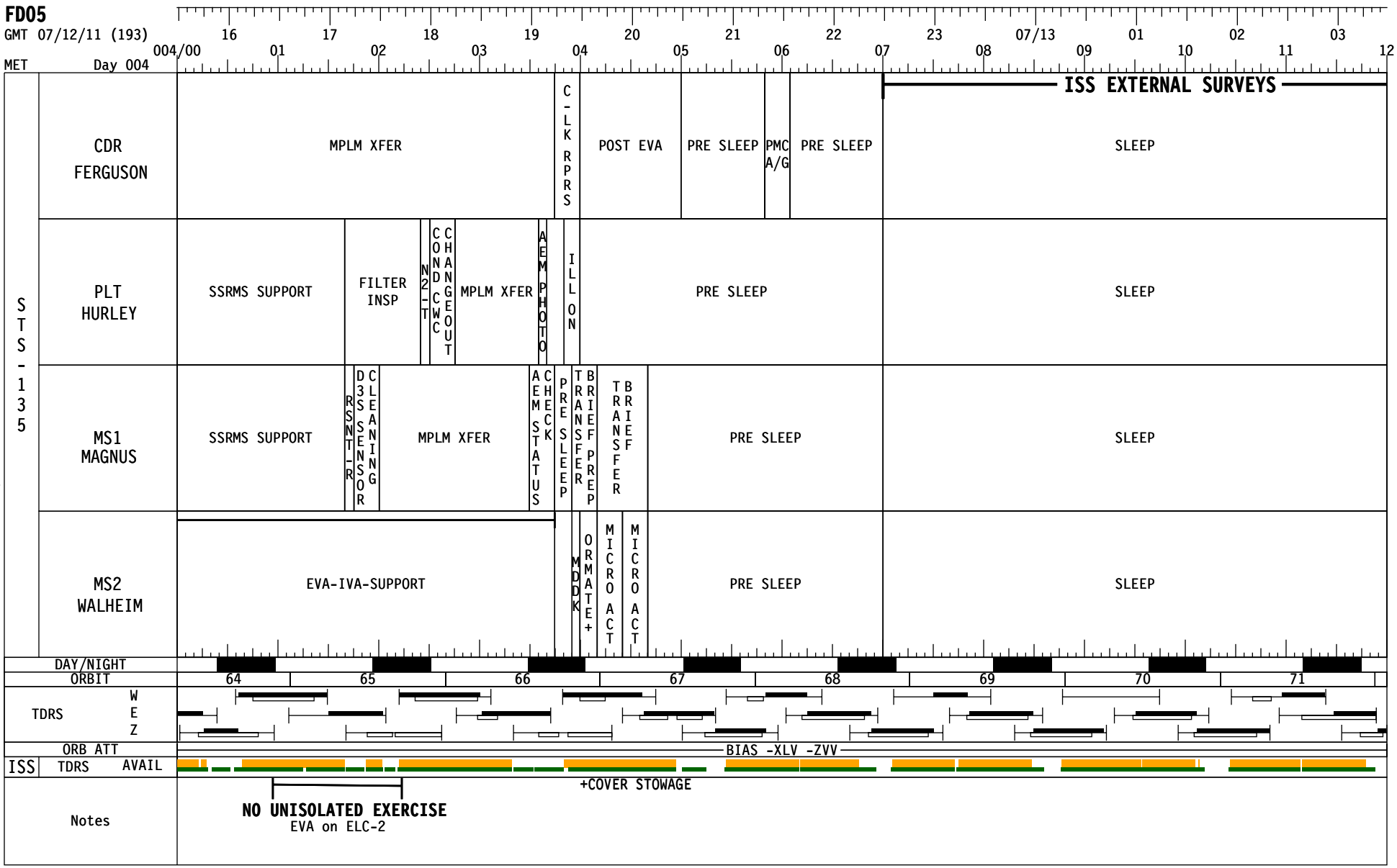
NOTES

*CAMCORDER CONFIG

NO UNISOLATED EXERCISE

EVA on ESP-2

3


FD05
GMT 07/12/11 (193)
MET Day 004
004/00 16 17 18 19 20 21 22 23 07/13 01 02 03
01 02 03 04 05 06 07 08 09 10 11 12
STS-135
CDR FERGUSON
MPLM XFER
C-LK RPRS
POST EVA
PRE SLEEP
PMC A/G
PRE SLEEP
ISS EXTERNAL SURVEYS
SLEEP
PLT HURLEY
SSRMS SUPPORT
FILTER INSP
N2-T
COND CWC
CHANGEOUT
MPLM XFER
AEM PHOTO
ILL ON
PRE SLEEP
SLEEP
MS1 MAGNUS
SSRMS SUPPORT
RSNT-R
D3S SENSOR
CLEANING
MPLM XFER
AEM STATUS
CHECK
PRE SLEEP
TRANSFER
BRIEF PREP
TRANSFER
BRIEF
PRE SLEEP
SLEEP
MS2 WALHEIM
EVA-IVA-SUPPORT
MDK
ORMATE+
MICRO ACT
MICRO ACT
PRE SLEEP
SLEEP
DAY/NIGHT
ORBIT
64 65 66 67 68 69 70 71
TDRS
W
E
Z
ORB ATT
BIAS -XLV -ZVV
ISS TDRS AVAIL
+COVER STOWAGE
Notes
NO UNISOLATED EXERCISE
EVA on ELC-2

REPLANNED

FD05

GMT 07/12/11 (193) 004/00 16 17 18 19 20 21 22 23 07/13 01 02 03

MET Day 004 01 02 03 04 05 06 07 08 09 10 11 12

5

ISS

ISS CDR BORISENKO	DAK DNLD	COGC	MON ИП 1	MPLM XFER			ARED			PW	PS	DPC	PRE SLEEP-ISS								SLEEP		
FE-1 SAMOKUTYAEV	COX			MPLM XFER		IMS		T2		PW	PS	DPC	PRE SLEEP-ISS								SLEEP		
FE-3 GARAN	♣	XFER RRM FRAM EOTP	INS EOTP	ORMATE INSTALL ELC2			PMA3 COVER INSTALL	EVA CLNUP INGRESS	P-RPS	C-LK	RPRS	POST EVA		RXN	PS	HMS-POST	EVA-PMC	PS			SLEEP		
FE-4 VOLKOV			MO9 PREP	MPLM XFER				VELO		PW	PS	DPC	PRE SLEEP-ISS								SLEEP		
FE-5 FURUKAWA						GLOVE	CEVIS		VSW	C-LK	RPRS	POST EVA		RTNVCA	MPCON	PRE SLEEP-ISS			MPCDN		SLEEP		
FE-6 FOSSUM	♣	XFER RRM FRAM EOTP	INS EOTP	SSRMS CLEANUP	FGB PDGF TS		PMA3 COVER INSTALL	EVA CLNUP INGRESS	P-RPS	C-LK	RPRS	POST EVA		RXN	PS	HMS-POST	EVA-PMC	PS			SLEEP		

DAY/NIGHT

DAILY ORBIT: 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14

TDRS AVAIL

ISS TLM: 112 | 122

ORBIT: 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71

NOTES

♣RMV RRM FRAM LMC

NO UNISOLATED EXERCISE
EVA on ELC-2

⊕VDS-N2-VID-CAP-INSTL
*CAMCORDER CONFIG

STS-135/ULF7 FD05

GMT Date 07/12 (193) | W | T D R S E | Z | D/N | O R B | MET Day 003 | STS ATI

CDR Ferguson | PLT Hurley | NOTES

12:00 — 13:00 — 14:00 — 15:00 — 16:00

04:00 — 05:00 — 06:00 — 07:00

56 — 57 — 58

BIAS -XLV -ZVV

SLEEP (CDR)

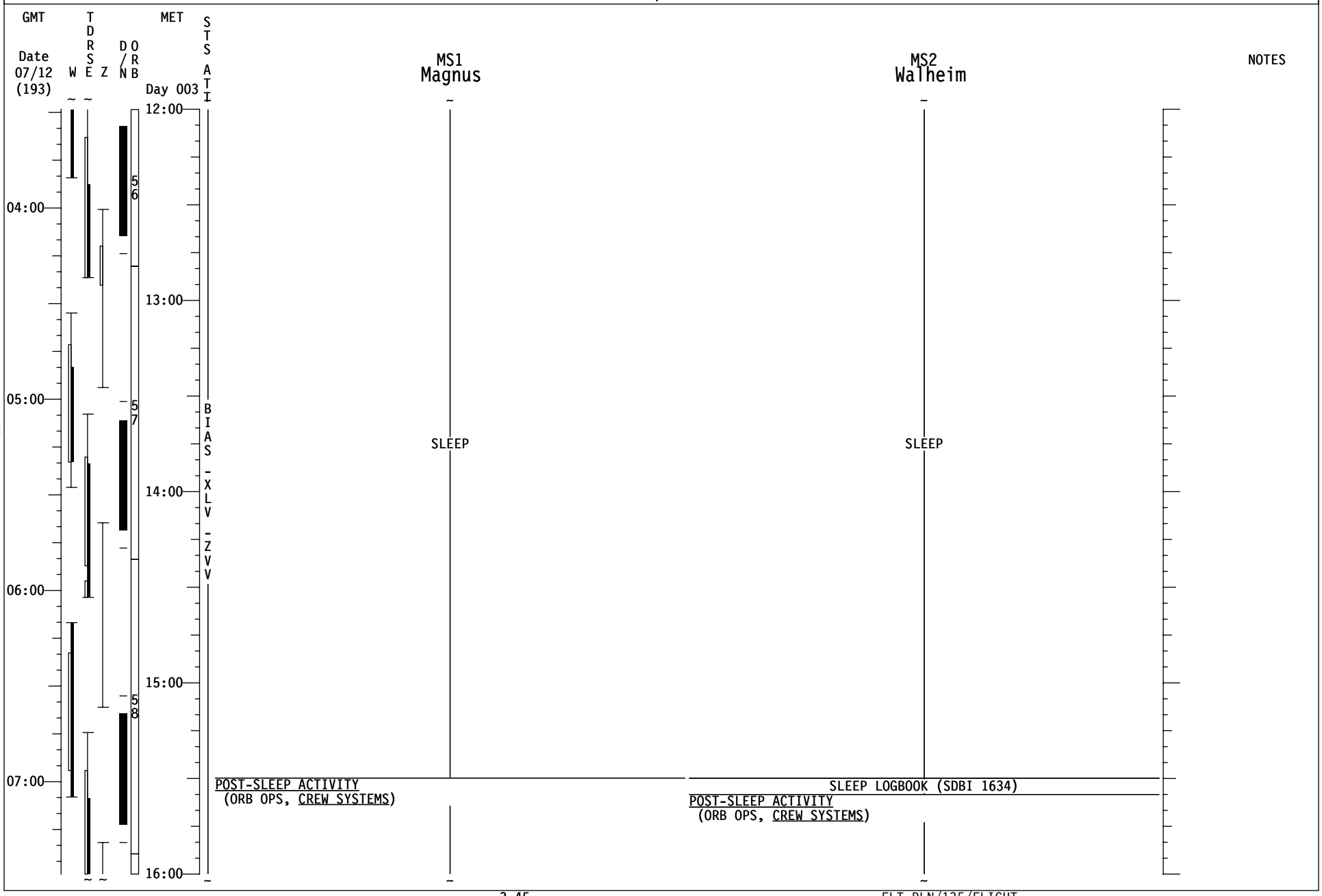
SLEEP (PLT)

FD05 EZ ACTIVITIES:
- √MDDK DUCT SCREEN
- TEPC STATUS CHECK
  - Verify display is backlit
- HARD REBOOT STS-3 (KFX)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYSTEMS)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYSTEMS)

STS-135/ULF7 FD05



STS-135/ULF7 FD05

GMT Date 07/12 (193) | W | TDRSE | Z | D/N | ORB | MET Day 003 | STS ATI

CDR Ferguson

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYSTEMS)

ISS EVA SYSTEMS: 2.325 ISLE EVA PREP
In step 2.4: check 4 CSA-02s locatd in Airlock
MCC-H Performs Steps 1, 22.8.4 - 22.8.6

BIAS - XLV - ZVV

ISS EVA SYSTEMS: 1.220 EMU PURGE MCC-H performs steps 6 and 12
ISS EVA SYSTEMS: ISLE EMU PREBREATHE CUE CARD (WITH DATA CLCT)
Use ISS EVA Systems Checklist with Red Stripe, page 575-576

ISS EVA SYSTEMS: 2.330 ISLE EMU PREBREATHE (WITH DATA CLCT)
Skip Steps 8 and 14
MCC-H Performs Step 52
ISS EVA SYSTEMS: ISLE EMU PREBREATHE CC (WITH DATA CLCT)
Use ISS EVA Systems Cecklist with Red Stripe
Pg, 575-576

PLT Hurley

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYSTEMS)

IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)

EVA 1 INHIBIT PAD
Ref. MSG 030

ILLUMINATOR OPS (Cue Card, TV) ILLUMINATOR OFF - ALL

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 035

SHUTTLE/ISS H2O CONTAINER FILL (HC)
(ORB OPS, ECLS)
Perform CWC FILL #5, Ref. MSG 031

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 035

NOTES

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

08:00 09:00 10:00 11:00

59 60 61

8

STS-135/ULF7 FD05

GMT Date 07/12 (193) | W | TDRSE | Z | D/N | ORB | MET Day 003 | STS ATI | MS1 Magnus | MS2 Walheim | NOTES

16:00 — POST-SLEEP ACTIVITY (ORB OPS, CREW SYSTEMS)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYSTEMS)

A
1. Move VCA1 from COL to NOD2 Zenith in an area suitable to view ULF7 transfer ops in MPLM/NOD2 with proper routing of the cable from SUP1 through hatch.
2. Note that the only disconnect (requires 3-4 turns) is at the camera so the camera should be placed within 2 feet of the NOD2/COL hatch.
3. Use viewfinder to verify picture quality. Adjust zoom factor via zoom rocker switch and focus via button on VCA panel.

08:00 — 59

17:00

DAILY TRANSFER LIST UPDATE
Ref. Transfer Lists & MSG 035

09:00 — VCA1 MOVE FROM COL TO NOD2 A
POST-SLEEP ACTIVITY (ORB OPS, CREW SYSTEMS)

BIAS-XLV-ZVV

CGBA UNIT #1,2 STATUS CHECK (CC), STL STATUS CHECK (CC)

18:00 — 60

S&M: 1.261 RSP/RSR ROTATE DOWN
Steps 1-3 for Pivot Fitting Instl on MPL2A2, F2, A4, F4

10:00 — For Rack Rotations Ref:
S&M: 1.262 RSP/RSR ROTATE UP
Step 3 to Rotate an RSP Up

S&M: 1.261 RSP/RSR ROTATE DOWN
Steps 4-end to Rotate an RSP Down

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 035

19:00

11:00 — 61

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 035

20:00

P/TV07 EVA
(P/TV, SCENES) SETUP, step 4

STS-135/ULF7 FD05

GMT Date 07/12 (193) | W | TDRSE | Z | D/N | ORB | MET Day 003 | STS ATI | CDR Ferguson | PLT Hurley | NOTES

20:00

ISS EVA SYSTEMS: 2.330 ISLE EMU PREBREATHE (WITH DATA CLCT)
Skip Steps 8 and 14
MCC-H Performs Step 52
ISS EVA SYSTEMS: ISLE EMU PREBREATHE CC (WITH DATA CLCT)
Use ISS EVA Systems Cecklist with Red Stripe
Pg, 575-576

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 035

12:00

SHUTTLE/ISS H2O CONTAINER FILL (HC)
(ORB OPS, ECLS)
Perform FILL TERMINATION, Ref. MSG 031

EVA SYSTEMS: CREWLOCK DEPRESS/REPRESS CUE CARD
Perform CREWLOCK DEPRESS

21:00

CWC TRANSFER
Transfer 1 CWC to ISS

POC: 2.7.501 DOUG STARTUP PROCEDURE
Start DOUG on SSC 17 and setup in SSRMS real-time support for EVA 1. Ref. MSG 021

ROBO: 1.300 EVA1 SUPPORT

13:00

BIAS-XLV-ZVV

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 035

22:00

NO UNISOLATED EXERCISE
EV CREW ON ESP-2

14:00

23:00

MEAL

B N2 REPRESS USING PAYLOAD N2 VALVES
(ORB OPS, ECLS)Steps 3-7, working parenthetical () steps. In Step 1, H/W FDA already INH. MCC will TMBU S/W FDA.

15:00

N2 REPRESS INIT B

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 035

00:00

6 1
6 2
6 3
6 4

STS-135/ULF7 FD05

GMT Date 07/12 (193) | W | T D R S E | Z | D/N | O R B | MET Day 003 | STS ATI

MS1 Magnus

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 035

1.111 CUP CREW RESTRAINT OPS
Ref. MSG 036
Install, Step 8
ROBO: 1.300 EVA1 SUPPORT

MS2 Walheim

P/TV07 EVA
(P/TV, SCENES)
SETUP, step 4

IVA SUPPORT PREP

On MCC Go:
MISSE 8 ORMATE III R/W PREP FOR EVA (EVA, TOOLS AND STOWAGE)

IVA SUPPORT PREP

IVA SUPPORT EVA 1

NOTES

NO UNISOLATED EXERCISE
EV CREW ON ESP-2

12:00 13:00 14:00 15:00 20:00 21:00 22:00 23:00 00:00

61 62 63 64

BIAS-XLV-ZVV

STS-135/ULF7 FD05

GMT Date 07/12 (193) | W | TDRSE | Z | D/N | ORB | MET Day 004 | STS ATI

CDR Ferguson | PLT Hurley | NOTES

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

16:00 | 17:00 | 18:00 | 19:00

64 | 65 | 66

BIAS - XLV - ZVV

ROBO: 1.300 EVA1 SUPPORT

C N2 REPRESS USING PAYLOAD N2 VALVES (ORB OPS, ECLS) Steps 8-12, working parenthetical () steps. MCC will TMBU S/W FDA.

D Retrieve empty ISS Condensate CWC S/N 1094 pregathered in NOD02. Re-label CWC 1094 from "Technical" (green label) to "Condensate" (brown label). Perform CHANGEOUT using CWC 1094 Take Shuttle Condensate CWC S/N 5110 to ISS CDR for Processing

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 035

FILTER CLEANING
(IFM, SCHEDULED MAINTENANCE)
Inspect filters and clean as necessary

N2 REPRESS TERM (On MCC GO) C

SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS) D

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 035

P/TV09 MIDDECK PAYLOADS
(ASSY OPS, SCENES) OPS Item 4, PHOTOS for AEM

EVA SYSTEMS: CREWLOCK DPRS/RPRS CUE CARD
Perform CREWLOCK REPRESS

ILLUMINATOR OPS (Cue Card, TV)
ILLUMINATOR ON - A,D

NO UNISOLATED EXERCISE
EV CREW ON ELC-2

STS-135/ULF7 FD05

GMT Date 07/12 (193) | W | T D R S E | Z | D / N | O R B | MET Day 004 | STS ATI

MS1 Magnus | MS2 Walheim | NOTES

00:00 — ROBO: 1.300 EVA1 SUPPORT

16:00 — 64

01:00

17:00 — BIAS-XLV-ZVV

1.111 CUP CREW RESTRAINT OPS
Ref. MSG 036. Removal, Step 9

ISS PTV: 5.499 D3s SENSOR CLEANING
Perform for SSP D3s S/N 2007935
Ref. MSG 033, Item 2

IVA SUPPORT EVA 1

NO UNISOLATED EXERCISE
EV CREW ON ELC-2

65

02:00

18:00

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 035

03:00

66

19:00

AEM UNIT #1,2,3 CHECK (Cue Card)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYSTEMS)

TRANSFER BRIEF PREP

CGBA UNIT #1,2 STATUS CHECK (CC), STL STATUS CHECK (CC)

04:00

STS-135/ULF7 FD05

GMT Date 07/12 (193) | W | TDRSE | Z | D/N | ORB | MET Day 004 | STS ATI | CDR Ferguson | PLT Hurley | NOTES

04:00 — ISS EVA SYSTEMS: 1.240 POST EVA Without H2O RECHARGE
Steps 37-39, 51, 66 not required
MCC-H will perform Steps 43, 67-68

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYSTEMS)

20:00

05:00 — PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYSTEMS)

21:00

BIAS-XLV-ZVV

06:00 — L9 CHECK ISS AIRLOCK ATU CONFIG
PAYLOAD STATION A/G (two) - OFF
PRIVATE MEDICAL CONFERENCE VIA A/G 2

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYSTEMS)

22:00

CREW WAKE @ 04/15:00

07:00

23:00 — SLEEP — SLEEP

08:00

66 67 68 69

STS-135/ULF7 FD05

GMT Date 07/12 (193) | W | TDRS E | TDRS Z | D/N | ORB | MET Day 004 | STS ATI

MS1 Magnus | MS2 Walheim | NOTES

04:00 — 05:00 — 06:00 — 07:00 — 08:00

20:00 — 21:00 — 22:00 — 23:00

ORB: 66, 67, 68, 69

STS ATI: BIAS-XLV-ZVV

MS1 Magnus

TRANSFER BRIEF PREP

TRANSFER BRIEF
Call down status to MCC

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYSTEMS)

SLEEP

MS2 Walheim

MISSE 8 ORMATE III R/W POST EVA COVER STOWAGE [D]

MICRO-4 MIXING - SHUTTLE (MIX A)
(ASSY OPS, PAYLOADS)

MICRO-4 MIXING-ISS (MIX A)
(ASSY OPS, PAYLOADS)

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYSTEMS)

SLEEP

[D] On MCC Go:
MISSE 8 ORMATE III R/W POST EVA COVER STOWAGE
(EVA, TOOLS AND STOWAGE)

CREW WAKE @ 04/15:00

Good Morning Atlantis!

Fabulous job once again on … well, where do we even start? Middeck Transfer…MPLM Unberth/Install & Ingress … and let's not forget EVA prep activities. The list goes on and on and on.
For today, we've got good news and bad news:
Good News……. You get a break from Middeck transfer and have the pleasure of continuing with MPLM transfer, providing a change in scenery, and supporting the EVA.
Bad News ……... This is the final joint Shuttle/ISS EVA and the last US ISS EVA planned for at least a year. Also: The ISS WHC is off-limits to shuttle crew …. or maybe this is actually good news ...

Enjoy your day and we look forward to a successful EVA.

P.S.: Please try not to shake the EVA crew and payloads too much with the arm. We know it may be difficult to see them clearly after not being able to perform the visual acuity test and questionnaire earlier in the mission.

P.P.S.: Since PAO has made all of you so famous, we have taken the liberty of hiring agents for all of you for your own reality show after the mission. Royalties not required. HAVE A GREAT DAY!!

-PAO and Surg/BME

YOUR CURRENT ORBIT IS: 212 X 206 NM

NOTAMS –

EDW -	EDW 22L/04R IN USE. EDT 22R/04L EMERGENCY DAY USE ONLY.
EDW -	LAKEBED RWYS RED.
EDW -	**RWY22L MLS AZIMUTH SINGLE STRING**
NOR -	LAKEBED RWYS GREEN.
NTU -	RWY 05L/23R AND 14R/32L CLSD.
MRN -	APPROACH LTS. OTS.
FMI -	TACAN NIM53 DECOMMISSIONED.
BEJ -	**CLOSED UNTIL 15 JULY**
ESN -	**RWY 03R/21L CLSD**
ESN -	TACAN BAG78 OUT OF SERVICE.
GUA -	TACAN UNZ105 OUT OF SERVICE.
FFA -	NOT USABLE. IN CARETAKER STATUS.
YQX -	TACAN YQX74 DME ONLY.
YYR -	TACAN UYR40 DME ONLY.
YYT -	TACAN UYT23 DME ONLY.
YJT -	TACAN YJT78 DME ONLY.
BEN -	NOT USABLE. NOT SUPPORTED.
IKF -	NOT USABLE. NO AGREEMENT.

NEXT 2 PLS OPPORTUNITIES:

EDW22 ORB 64 – 4/00:27 SKC 7 220/10P19
EDW22 ORB 79 – 4/23:29 SKC 7 210/10P16

OMS TANK FAIL CAPABILITY:

NO

LEAKING OMS PRPLT BURN:

ALWAYS BURN RETROGRADE

OMS QUANTITIES(%):
L OMS OX = 37.90 R OMS OX = 37.74
FU = 37.97 FU = 37.32

DELTA V AVAILABLE:

OMS	402 FPS
ARCS (TOTAL ABOVE QTY1)	38 FPS
TOTAL IN THE AFT	440 FPS
ARCS (TOTAL ABOVE QTY2)	70 FPS
FRCS (ABOVE QTY 1)	38 FPS
AFT QTY 1	84 %
AFT QTY 2	46 %

SYSTEM	FAILURE	IMPACT	WORK AROUND
PRLA	PRLA 3 REL A microswitch failed off	When PRLA 3 is released, PRLA 3 tb reads bp	Use PRLA 3 REL B on SM 97 PL RETENTION in place of tb for release status

END OF PAGE 2 OF 2, MSG 034

Good morning, Sandy!

Great work in the MPLM yesterday! Today you'll be transferring easily accessible MPLM resupply items and preparing the MPLM for tomorrow's rack rotations. While you're supporting robotic ops, Fergy should coordinate transfer of the remaining endcone CTBs, the ISP CTBs, set up the ISP bungee jail, and move return bags into the MPLM.

The Transfer List Excel file, FD05_Transfer_List_STS135.xls, locations are:

- Shuttle: **C:\OCA-up\transfer** (KFX machine)
- Station: **K:\OCA-up\transfer**

Transfer Notes

- **A2 Fence Removal:** Remember that there is no specific order required for removing the A2 front fences, other than removing the PiP pins first. The specified order indicated in Assembly Ops: 2.100 CCAA Heat Exchanger/FSE Transfer (steps 2.1 - 2.5) is not required, since the fences do not have grounding straps.

- **Backside Return Items:** The following return items will be stowed on the backsides of the RSPs and should be gathered in an MPLM bungee jail today:

  410, 425, 603, 605, 605.1, 606, 607, 608, 609, 632, 633, 637, 649, 659, 750, 761, 809 (RFTA foam), and 810 (TVIS Gyro foam)

  Now that the extra day has been added, you can expect to see the ISS crew ingressing PMA3 on the afternoon of FD06 to retrieve several pieces of iRED hardware. Included are two 3.0 CTBs of hardware that will be stowed on the backsides as well (at A3_H1 and F3_H1). These bags have not been added to your transfer list yet, as we're still gathering details; however, expect to see them included for FD06.

- **Incomplete Pre-pack Items:** The ISS crew did not have enough time to complete the following return items as part of pre-pack:

  600, 608, 609, 612, 613, 614, 615, 616, 617, 618, 619, 620, 622, 623, 624, 625, 626, 627, 629, 630, 631, 634, 635, 636, 638, 643, 647, 655, 656, 657, 658

FD05 Choreography

- **MPLM Resupply Items 215 thru 225:** Transfer ISP CTBs & set up bungee jail.
- **MPLM Resupply Items 351, 353, 354, and 360:** Transfer remaining endcone CTBs.
- Transfer return bags/items to MPLM bungee jails.
- Transfer accessible RSR resupply items and stow return items.
- Clear all RSP locations that block access to RSR doors; then fold these fences
- Transfer cargo from C1 locations of RSPs and start stowing return items in these locations (only C1 locations get return bags; need to keep top/bottom fences folded).
- Remove A2 RSP front fences to accommodate CCAA HX for return (fences return in MPLM).

Please incorporate uplink pages as follows (we've listed the updates in the order they printed out for you):

MIDDECK TRANSFER LIST BOOK

In the Middeck Transfer List **RETURN** tab
Replace the following page:
Return 1

MPLM RETURN TRANSFER LIST BOOK

In the MPLM Return Transfer List **RETURN** tab
Pen & Ink on the following pages:
Return 19 – Item 430: update Stowage at Undock location
WAS: MPL2S1_D1
IS: MPL2S3_D2

Return 23 – Item 615: update Stowage at Undock location
WAS: MPL2S4_G2
IS: MPL2P1_G1

Return 25 – Item 632: update Initial Stowage location
WAS: PMM1F4_K1
IS: PMM1F4_D2

Replace the following page:
Return 37

FD06 Choreography

- **Rotate A2 and A4 RSPs down** to access backside stowage; transfer resupply items and stow return items
    - Relocate RFTA foam from A3_A1 to A2_K1 prior to packing RFTA for return
    - Retrieve foam from A2_H1 (Parts 1 & 2), A2_K1 (Parts 1 & 2), A3_H1 (Parts 1 & 2), and A4_H1 (Parts 1-4) prior to packing backsides for return
    - Loosen bottom row of PA4 GLA fasteners before rotating rack up (1/8" Ball Tip Hex Head, 1/4" Drive)
- **Rotate A2 and A4 RSPs up**
- **Rotate F2 and F4 RSPs down** to access backside stowage; transfer resupply items and stow return items
    - Verify A2 front fences are removed since they will be stowed on backside of F3 for return
    - Retrieve foam from F2_H1 (Parts 1-4 and 6), F3_H1 (Part 1 or 2), and F4_H1 (Parts 1 & 2) prior to packing backsides for return
    - Loosen bottom row of PF2 and PF4 GLA fasteners before rotating racks up (1/8" Ball Tip Hex Head, 1/4" Drive)
- **Rotate F2 and F4 RSPs up**
- **MPLM Resupply Item 310:** Transfer PWRs from MPLM to middeck for FD07
- **Middeck Return Items 723 & 724:** Swap and pack QDMAs (no PBAs) for return:
    - Retrieve space QDMAs (qty 2) from NOD1S4_A2
    - Swap one with QDMA in LAB1P0 PEP Locker and one with QDMA in MPLM
    - Pack QDMAs for return in middeck
- Transfer and stow return items in middeck 5 MLE bags

- STS-135 Transfer Team

STS-135/ULF7 FD04 - MMT Summary

The MMT met today to review the orbiter systems and mission progress.

Kudos to you guys for your hard work and consistently staying ahead of the timeline. You′ve definitely kept your pre-flight promise.

For your effort, the MMT agreed to extend the docked mission to 13+0+2. The ISS team is looking forward to the additional task completions as it will put us in a better posture for stage ops post undock.

The Debris Assessment Team provided the latest summary of the RCC and TPS imagery review. At this point there are no areas of concern in either the RCC or TPS, but per the standard process, the DAT is finishing up with the data review and will report out to the MMT tomorrow on FD5. For completeness, there are a few frayed blankets (3 - LOMS Pod, 1 - FWD of - Y Tracker door) and minor damage to a tile outboard of the STBD ET door that poise no liberation or entry heating concerns. If you would like any additional info give us a shout. Overall the TPS looks excellent this mission and is a testament to the team′s diligence to assure this level of success!

The post IPL dump of GPC 3 has been analyzed and there are no liens against use of the GPC.

Atlantis continues to perform flawlessly and the teams are not working any systems issues.

Good Luck on EVA 1!