STS-131/19A

FD 08 Execute Package

MSG	Page(s)	Title
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060	---	FD08 PAO Event Summary for ABC World News / MSNBC/ Fox News Channel / KUSA-TV
061	---	FD08 PAO Event Summary for JAXA VIP Event, Tokyo, Japan

Approved by FAO:
L. Rush

Last Updated: Apr 12 2010 2:03 AM GMT
JEDI *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v3.0*

Heard at the DPS Flight Controller Interview

MSG INDEX

MSG NO.	TITLE
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MSG-055	EVA 3 Tool Config
MSG-056	EVA 3 Replanned Summary Timeline
MSG-057	FD8 EVA Deltas
MSG-058	Preliminary EVA 3 Detailed Timeline
MSG-060	FD 08 PAO Event Summary for ABC World News / MSNBC/ Fox News Channel / KUSA-TV
MSG-061	FD 08 PAO Event Summary for JAXA VIP Event, Tokyo, Japan

1. Post-Sleep Cryo Config

For today's post-sleep cryo config, O2 tanks 1 & 2 and H2 tanks 2 & 5 will be active.

R1 O2,H2 MANF VLV TK2 (two) - OP (tb-OP)
O2 TK1 HTR A – AUTO

A15 CRYO TK5 HTR O2 A – OFF

Pre-Sleep Cryo Config

√MCC for deltas prior to configuring for pre-sleep.

For tonight's cryo config, manifold 1 will be closed with O2 and H2 tanks 1 and 5 active.

A15 CRYO TK5 HTR O2 A - AUTO

R1 H2 TK1 HTRS A,B (two) - AUTO
TK2 HTRS A,B (two) - OFF
O2 TK2 HTR A - OFF
O2,H2 MANF VLV TK1 (two) - CL (tb-CL)

2. Comm Loop Overview for Flight Day 8

S/G 1 & A/G 1	S/G 2	A/G 2
EVA Tool Config	Russian Ops	Transfer
	PAO Events	STS Crew PFCs
	DPC	All other STS Comm
	All other ISS Comm	

3. Late Inspection Tapes
MCC requests that you use 40 minute tapes to record the survey during Late Inspection. We expect the Late Inspection procedures will take 6 tapes total, but recommend reserving 10 tapes to be conservative.

4. Video Quality
So far we have downlinked only 1 AVI file (from the digital camera). The ground verified that the file was readable. As discussed preflight, we will continue to leave the AVI files on the the PCMCIA cards.

5. FD07 MMT Summary
The MMT met to review orbiter systems and mission progress. Discovery and her crew continue to perform well. The team is happy with the results of EVA 2 and is reviewing the ATA installation plan for EVA 3 to account for any lessons learned from EVA 2.

6. MELFI to Glacier Sample Transfer
Naoko: Today you and Soichi will be performing the MELFI to Glacier sample transfer. The Light Duty Cryo Gloves (Mechanix Wear) have been pregathered in a Ziplock bag on the front of MELFI 1 (JPM1D4).

We also wanted to remind you that the TROPI samples cannot be exposed to ambient air for longer than three minutes during the transfer. Please try to keep all the samples protected between the Icepac belts inside the Double Coldbag during transport between MELFI and Glacier.

7. SHUTTLE CONDENSATE CHANGEOUT
Swap out condensate CWC s/n 5096 with CWC s/n 1062. Condensate CWC s/n 1062 is located at NOD2O2. Transfer Shuttle CWC s/n 5096 to NOD2O2 for processing. Notify MCC when complete.

8. DUMP EQUIPMENT GATHER
Today you will dump 3 leaking ISS bags and stow them for return. Gather the following items and temp stow them for the dump later today:
   - Technical ISS CWC s/n 1074 from NOD2S1
   - ISS CWC-I s/n 2001 and s/n 1009 from JPM1F7 rack front
   - Three large Ziplocks from ISS Ziplock pantry for CWC bag stowage post dump
   - WWD Filter from MA16F
   - Y-Y hose from CHCK

9. CWC OVERBOARD DUMP
Perform CWC OVERBOARD DUMP (ORB OPS, ECLS), p. 5-39. Dump CWC s/n 1074, CWC-I s/n 2001, and CWC-I s/n 1009 in that order. MCC will TMBU limits in B and H. In step G, return Y-Y hose to CHCK and WWD (in Ziplock) to MA16F.

Stow empty bags for return per MPLM Return Item #751, and Middeck Return Item #954, and #953.

Nozzle open time ~45 min, 30 min and 25 min, respectively.

10. JEM Window Shutter Reminder
    JEM window shutters need to be closed for water dump prior to Attitude Handover US to Orbiter, and must remain closed at least until the end of Handover Orbiter to US Momentum Management.

11. MPLM Hatch Question for Clay
    Clay, on FD4 during MPLM hatch opening, we believe you reported that you saw the MPLM IV hatch handle turning through the window during hatch actuation.

    Can you confirm our understanding of your statement is correct?

    Please confirm the MPLM IV Hatch Handle is now stowed properly and is therefore in a safe config for hatch closure in a few days.

12. REPLACE PAGES 2-26, 2-28, 2-30 and 3-80 THROUGH 3-89.

REPLANNED

FD07

GMT 04/11/10 (101)
β = −4
MET Day 006

06 17 07 18 08 19 09 20 10 21 11 22 12 23 13 04/12 14 01 15 02 16 03 17 04 18

STS-131

CDR POINDEXTER	♣ PMC A/G	PRE SLEEP	ISS EXTERNAL SURVEY SLEEP	FD08	POST SLEEP	GTHR @
PLT DUTTON	PRE SLEEP		SLEEP		POST SLEEP	SRMS^
MS1 MASTRACCHIO	PRE SLEEP		SLEEP	ASPRN	PST SLP	
MS2 METCALF-LINDENBURGER	PRE SLEEP		SLEEP		POST SLEEP	MCIU SRMS^
MS3 WILSON	PRE SLEEP		SLEEP	LOG	POST SLEEP	COND CHG/O POST SLEEP
MS4 YAMAZAKI	PRE SLEEP		SLEEP	LOG	POST SLEEP	
MS5 ANDERSON	PRE SLEEP		SLEEP	ASPRN LOG	PST SLP	

TDRS W E Z

DAY/NIGHT

ORBIT 99 100 101 102 103 104 105 106 107

ORB ATT BIAS -XLV -ZVV

TDRS AVAIL

NOTES
♣PRE SLEEP
DUMP EQUIP @
MNVR to MPLM VIEW ^

FD08 **REPLANNED**

GMT 04/12/10 (102)
β = −1
MET Day 006

18 05 06 07 08 09 10 11 12 13 14 15 16
19 20 21 22 23 007/00 01 02 03 04 05 06

STS-131

CDR POINDEXTER	GTHR@	EVA CONF	OFF DUTY				EXERCISE ARED	MEAL	N2-I	CINCT #3	MPLM XFER		CTERM CWC	CWC XFER	MPLM XFER			N2-T	EVA 3 PROC RVW		XFER	TAGUP	PRE SLEEP	PAO EVENT	PRE SLP
PLT DUTTON	SRMS^	IMU	ILOF	OFF DUTY	EXERCISE	OFF DUTY		MEAL	H/O*	MNVR^	DUMPT	P/TV 09 S/U	GLAC	PHOTO	CWC-I#	CWC-I$	DUMP	TERM	MNVR*	DDC	H/O&	EVA 3 PROC RVW	ILON	PRE SLEEP	PAO EVENT	PRE SLEEP
MS1 MASTRACCHIO	PST SLP	EVA CONF	OFF DUTY		EXERCISE	OFF DUTY		MEAL	BSA-T	LIOH&	BINSTT	ERCA SWAP	TOOL CONFIG			E_LK PREP			EVA 3 PROC RVW		PRE SLEEP				
MS2 METCALF-LINDENBURGER	SRMS^	EVA CONF	OFF DUTY	EXERCISE		OFF DUTY		MEAL	ERCA RTRV		MPLM XFER		TOOL CONFIG		ERCA STOW		MPLM XFER		EVA 3 PROC RVW			PRE SLEEP	PAO EVENT	PRE SLEEP
MS3 WILSON	POST	SLEEP	GLACR	MDK	EXERCISE	OFF DUTY		MEAL		MARES-STOWAGE CONFIG									EVA 3 PROC RVW		AEM#	MDK	PRE SLEEP	PAO EVENT	PRE SLEEP
MS4 YAMAZAKI	POST	SLEEP	XFER	UPDAT	OFF DUTY		EXERCISE	MEAL	SMP XFR RVW		JAXA	EVENT	MLF GLCR XFER	GLCR$	MPLM XFER	GLACR	MPLM XFER				XFER	TAGUP	PRE SLEEP		
MS5 ANDERSON	PST SLP	EVA CONF	OFF DUTY		EXERCISE	OFF DUTY		MEAL	REBA@	LIOH&	BINSTT	ERCA SWAP	TOOL CONFIG			E_LK PREP			EVA 3 PROC RVW		PRE SLEEP				

TDRS W E Z

DAY/NIGHT

ORBIT 107 108 109 110 111 112 113 114 115

ORB ATT BIAS -XLV -ZVV | BIAS -XLV -ZVV DUMP | BIAS -XLV -ZVV

TDRS AVAIL

NOTES
@DUMP EQUIP
^ MNVR to MPLM VIEW
*CMG to STS
^DUMP
@INSTALL
#DUMP INIT 1
%DUMP INIT 2
$DOOR LOCK
*DOCKED TEA
&STS to CMG
#STATUS CHECK
NO EXERCISE
(ATT RATE SETTLING)

FD08 **REPLANNED**

GMT 04/12/10 (102)
β = 1
MET Day 007

06 17 18 07 08 19 20 21 22 23 04/13 01 02 03 04 09 10 11 12 13 14 15 16 17 18

STS-131

| | | |

STS-131/19A FD08

REPLANNED

GMT Date 04/11 (101) | W | TDRS E | Z | D/N | ORB | MET Day 006 | STS ATI | CDR POINDEXTER | PLT DUTTON | MS2 METCALF-LINDENBURGER | NOTES

12:00 — 13:00 — 14:00 — 15:00 — 16:00

23:00 — 00:00 — 01:00 — 02:00

ORB: 103, 104, 105, 106

STS ATI: BIAS-XLV-ZVV

CDR: SLEEP

PLT: SLEEP

MS2: SLEEP

FD08 EZ ACTIVITIES:
TEPC (ORB OPS, CREW SYSTEMS)
Check Status
OCAC Filter Inspection
Check MDDK Duct Screen
Hard reboot all PGSCs not shut down overnight.

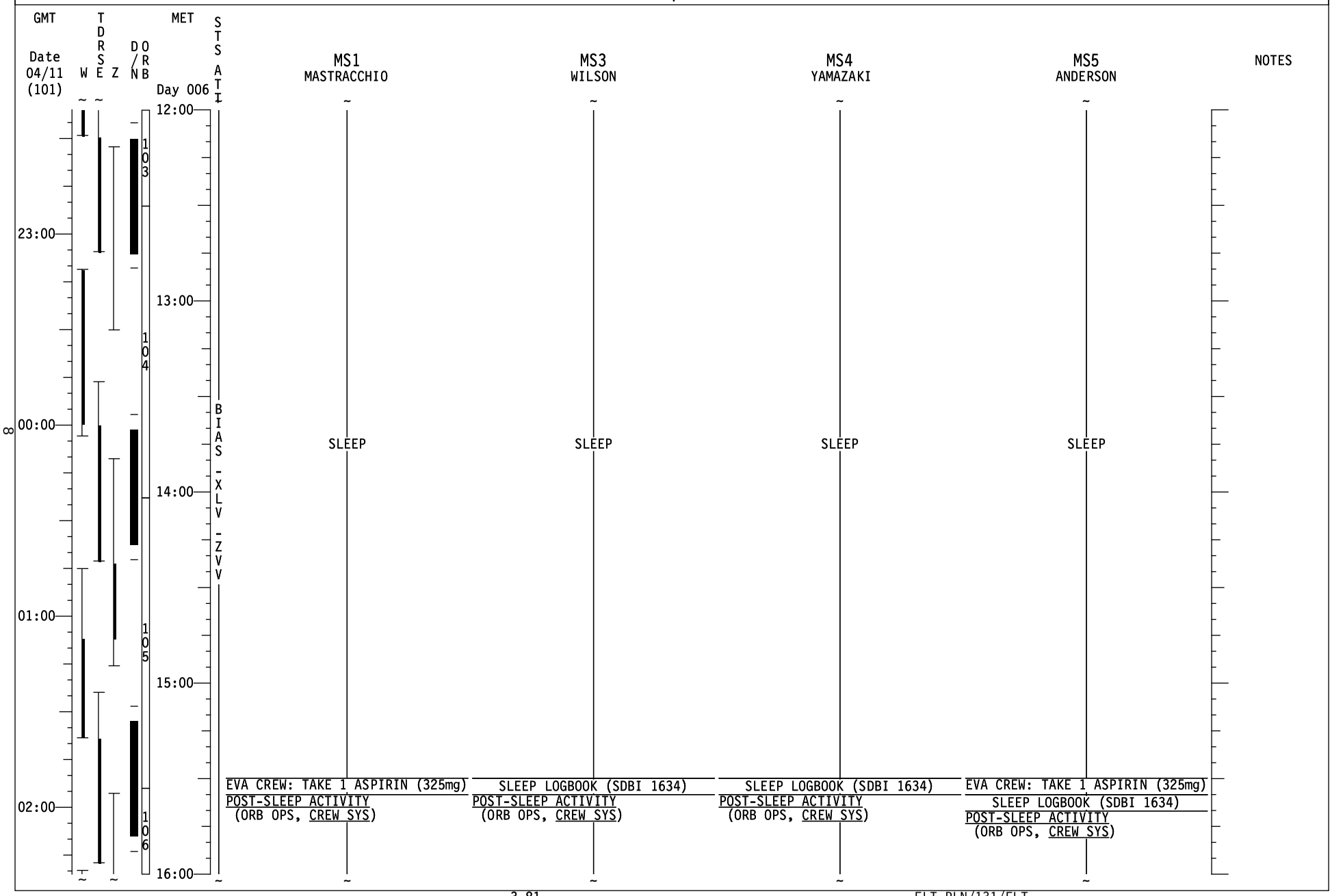
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

STS-131/19A FD08

REPLANNED



STS-131/19A FD08

REPLANNED

GMT Date 04/12 (102) | W | T D R S E Z | D/N O R B | MET Day 006 | STS ATI

MET	CDR POINDEXTER	PLT DUTTON	MS2 METCALF-LINDENBURGER	NOTES
16:00	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
17:00	GATHER DUMP EQUIPMENT Ref. MSG 050, item 8	OBSS MNVR TO MPLM VIEWING POSITION (PDRS, OBSS NOMINAL)	L17 Check MCIU filter screen OBSS MNVR TO MPLM VIEWING POSITION (PDRS, OBSS NOMINAL)	
18:00	L9 PAYLOAD STATION A/G (two) - OFF PRIVATE EVA TAGUP VIA A/G 2	IMU STAR OF OPPTY ALIGN (ORB OPS, GNC) ILLUMINATOR OPS (Cue Card, TV) ILLUMINATOR OFF - ALL	PRIVATE EVA TAGUP VIA A/G 2	
19:00	OFF DUTY	OFF DUTY	OFF DUTY	
20:00		EXERCISE	EXERCISE	

BIAS-XLV-ZVV

03:00 04:00 05:00 06:00

106 107 108

STS-131/19A FD08

REPLANNED

GMT Date 04/12 (102) | W | T D R S E | Z | D/N | O R B | MET Day 006 | STS ATI

MS1 MASTRACCHIO | MS3 WILSON | MS4 YAMAZAKI | MS5 ANDERSON | NOTES

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

03:00 — 106

17:00 — SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS)
Perform CHANGEOUT, Ref. MSG 050, item 7
POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

04:00 — 107

18:00 — BIAS-XLV-ZVV

PRIVATE EVA TAGUP VIA A/G 2 | GLACIER COLD HEAD CHECK (ASSY OPS, PAYLOADS) | DAILY TRANSFER LIST UPDATE Ref. Transfer Lists & MSG 052 | PRIVATE EVA TAGUP VIA A/G 2

MERLIN STATUS CK (Cue Card)
STL STATUS CK (Cue Card)

05:00 — 19:00 — EXERCISE

OFF DUTY | OFF DUTY | OFF DUTY

108

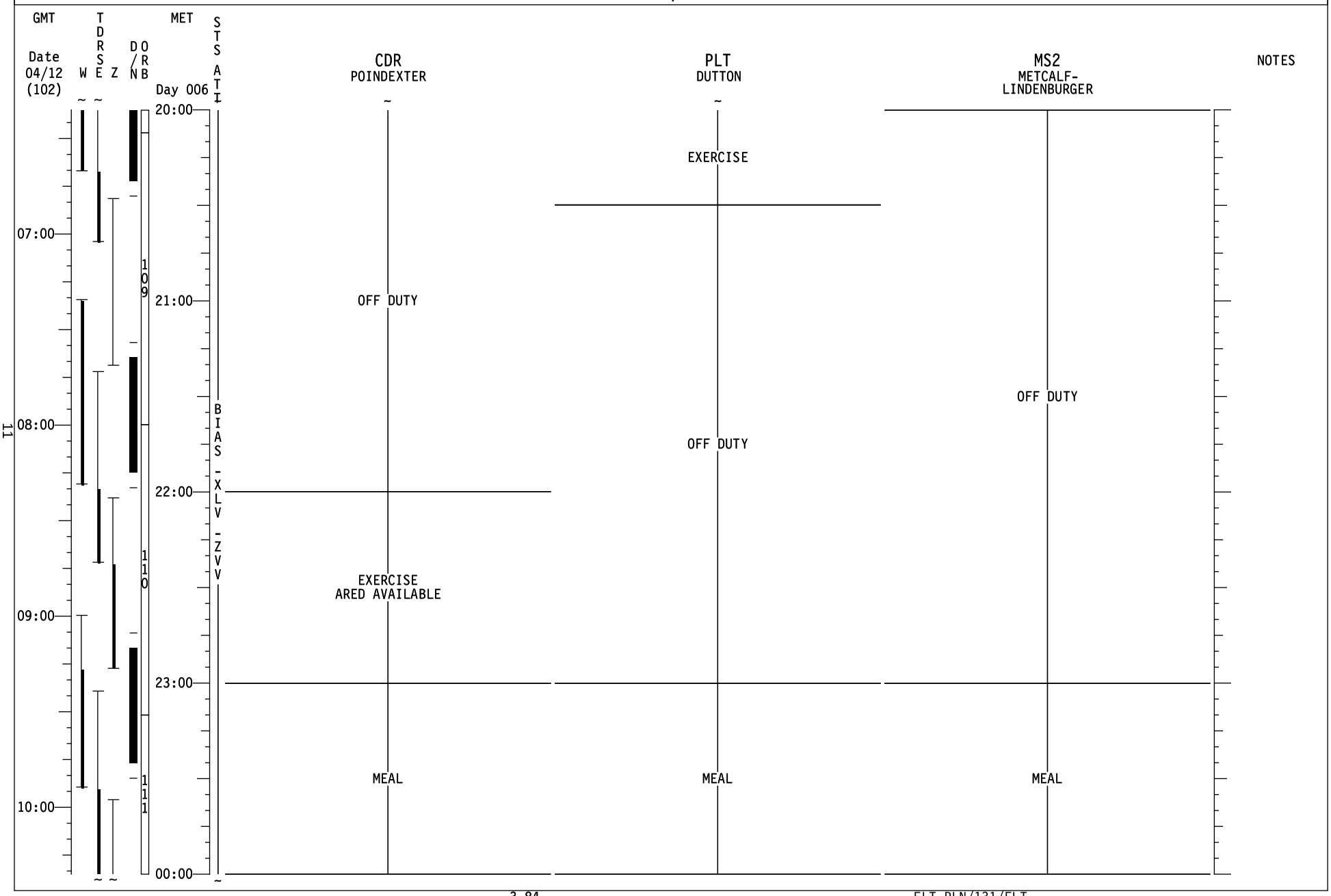
06:00 — OFF DUTY

20:00

10

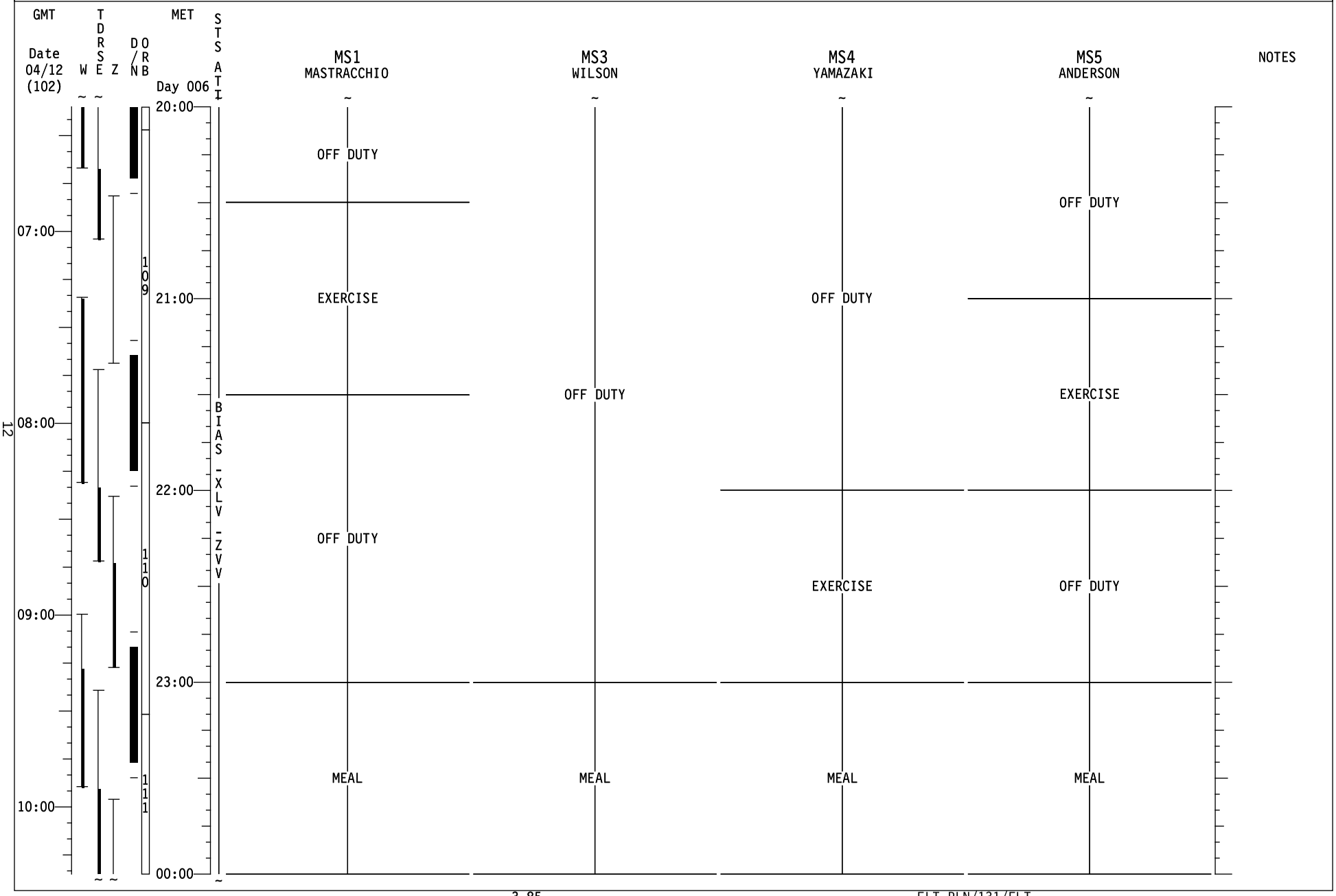
STS-131/19A FD08

REPLANNED



STS-131/19A FD08

REPLANNED



STS-131/19A FD08

REPLANNED

GMT Date 04/12 (102) | TDRS W E Z | DO/RNB | MET Day 007 | STS ATT

CDR POINDEXTER

- 00:00 — N2 REPRESS INIT [B]
- SHUTTLE/ISS H2O CONTAINER FILL (HC) (ORB OPS, ECLS) Perform CWC FILL #3, Ref. MSG 012
- TRANSFER OPS Ref. MPLM Transfer Lists and MSG 052
- 01:00 — SHUTTLE/ISS H2O CONTAINER FILL (HC) (ORB OPS, ECLS) Perform FILL TERMINATION
- CWC TRANSFER Transfer CWC to ISS
- TRANSFER OPS Ref. MPLM Transfer Lists and MSG 052
- 03:00 — [C] N2 REPRESS USING P/L N2 VLVS (ORB OPS, ECLS) on MCC go, perform steps 8-13 MCC will TMBU S/W FDA
- N2 REPRESS TERM (On MCC GO) [C]
- EVA 3 BRIEFING CARD (EVA, TIMELINES) EVA 3 Procedure Review Ref. MSG 041, 042, 056, 057, and 059

PLT DUTTON

- H/O ATT CNTRL CMG TA TO ORB [A]
- MNVR (TRK) BIAS -XLV -ZVV (Dump) TG=2 BV=5 P=164 Y=0 OM=193 A12/AUTO/VERN, Init TRK
- CWC OVERBOARD DUMP (Init) (ORB OPS, ECLS) Ref. MSG 050, item 9
- P/TV09 MIDDECK PAYLOADS (P/TV, SCENES) SETUP
- P/T09 MIDDECK PAYLOADS (P/TV, SCENES) OPS, Item 1 for GLACIER
- CWC OVERBOARD DUMP (Init) (ORB OPS, ECLS) Ref. MSG 050, item 9
- CWC OVERBOARD DUMP (Init) (ORB OPS, ECLS) Ref. MSG 050, item 9
- CWC OVERBOARD DUMP (Term) (ORB OPS, ECLS)
- MNVR (TRK) BIAS -XLV -ZVV (Mated TEA) TG=2 BV=5 P=162.72 Y=0 OM=187.09 A12/AUTO/VERN, Init TRK
- When ISS is GO for deadband collapse, DAP: B13
- When ISS is GO for attitude cntrl,DAP: FREE DAP: A12/FREE/VERN Reload DAP: B12
- EVA 3 BRIEFING CARD (EVA, TIMELINES) EVA 3 Procedure Review Ref. MSG 041, 042, 056, 057, and 059

MS2 METCALF-LINDENBURGER

- ERCA RETRIEVE Ref. MPLM Transfer List Item #288
- [A] √A12/FREE/VERN When ISS in Free Drift, DAP: LVLH, When jet activity stopped for > 5 sec, DAP: FREE > 2 sec, Then DAP: AUTO
- TRANSFER OPS Ref. MPLM Transfer Lists and MSG 052
- [B] N2 REPRESS USING P/L N2 VLVS (ORB OPS, ECLS) Steps 1,3-7 MCC will TMBU S/W FDA
- EVA 3 TOOL CONFIG (EVA, TIMELINES) Ref. CONSUMABLES TRACKING CUE CARD Ref. MSGs 055-058
- ERCA STOW Ref. MPLM Transfer List Item #753
- TRANSFER OPS Ref. MPLM Transfer Lists and MSG 052
- EVA 3 BRIEFING CARD (EVA, TIMELINES) EVA 3 Procedure Review Ref. MSG 041, 042, 056, 057, and 059

NOTES

- NO EXERCISE (ATT RATES SETTLING)

STS-131/19A FD08

REPLANNED

GMT Date 04/12 (102) | TDRS W E Z | DO/RN B | MET Day 007 | STS ATI

MS1 MASTRACCHIO | MS3 WILSON | MS4 YAMAZAKI | MS5 ANDERSON | NOTES

00:00 — 01:00 — 02:00 — 03:00 — 04:00 — 11:00 — 12:00 — 13:00 — 14:00

111 — 112 — 113 — 114

BIAS-XLV-ZVV DUMP

BIAS-XLV-ZVV

MS1 MASTRACCHIO

EVA SYS: 1.605 BSA BATTERY RECHARGE
TERM Ref. CONSUM TRACK CC

EVA SYSTEMS: 1.515 EMU METOX/LIOH/BATTERY REPLACEMENT [D]

EVA SYS: 1.403 REBA POWERED HARDWARE CHECKOUT [E]
Steps 1-2,7,10-11,and 14
Ref. CONSUMABLES TRACKING CC

EVA 3 TOOL CONFIG
(EVA, TIMELINES)
Ref. CONSUMABLES TRACKING CC
Ref. MSGs 055-058

EVA SYSTEMS: 1.305 EQUIPMENT LOCK PREP
Omit DRINK BAG FILL

EVA 3 BRIEFING CARD
(EVA, TIMELINES)
EVA 3 Procedure Review
Ref. MSG 041, 042, 056, 057, and 059

MS3 WILSON

1.145 19A MARES STOWAGE RECONFIGURATION
(ASSY OPS, ACT&C/O)
In step 1.7 stow loose bolts in MARES Bolt Return Bag.
Photo document final config.
Ref. MPLM Return Transfer List: Items 772-778

EVA 3 BRIEFING CARD
(EVA, TIMELINES)
EVA 3 Procedure Review
Ref. MSG 041, 042, 056, 057, and 059

MS4 YAMAZAKI

SAMPLE TRANSFER REVIEW
REVIEW ONLY: 19A DESCENT SAMPLE TRANSFER FROM MELFI TO GLACIER (ASSY OPS, PAYLOADS)
Ref. MSG 050, item 6

PUBLIC AFFAIRS EVENT
ISS KU AVAIL (00:15-00:48)
Ref. MSG 061

19A DESCENT SAMPLE TRANSFER FROM MELFI TO GLACIER
(ASSY OPS, PAYLOADS)
Ref. Middeck Return Transfer List: Item 712

LOCKING GLCR DOOR (ASSY OPS, PL)

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 052

GLACIER COLD HEAD CHECK (ASSY OPS, PAYLOADS)

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 052

MS5 ANDERSON

EVA SYS: 1.307 REBA INSTALLATION/REMOVAL Perform INSTALLATION
Ref. CONSUMABLES TRACKING CC

EVA SYSTEMS: 1.515 EMU METOX/LIOH/BATTERY REPLACEMENT [D]

EVA SYS: 1.403 REBA POWERED HARDWARE CHECKOUT [D]
Steps 1-2,7,10-11,and 14
Ref. CONSUMABLES TRACKING CC

EVA 3 TOOL CONFIG
(EVA, TIMELINES)
Ref. CONSUMABLES TRACKING CC
Ref. MSGs 055-058

EVA SYSTEMS: 1.305 EQUIPMENT LOCK PREP
Omit DRINK BAG FILL

EVA 3 BRIEFING CARD
(EVA, TIMELINES)
EVA 3 Procedure Review
Ref. MSG 041, 042, 056, 057, and 059

NOTES

NO EXERCISE (ATT RATES SETTLING)

[D] Ref. CONSUMABLES TRACKING CC
Ref. BATTERY RECHARGE CUE CARD
Record LiOH s/n on Cue Card;
Report to MCC

[E] CAMR ID ASSIGNMENT
(Cue Card, WVS)

EMU TV Camr Address	19	20
Serial Number	1004	1006
Label	EV1	EV2

STS-131/19A FD08

REPLANNED

GMT Date 04/12 (102) | W | TDRS E | TDRS Z | DO/N | ORB | MET Day 007 | STS ATI

GMT	MET	CDR POINDEXTER	PLT DUTTON	MS2 METCALF-LINDENBURGER	NOTES
04:00		EVA 3 BRIEFING CARD (EVA, TIMELINES) EVA 3 Procedure Review Ref. MSG 041, 042, 056, 057, and 059	EVA 3 BRIEFING CARD (EVA, TIMELINES) EVA 3 Procedure Review Ref. MSG 041, 042, 056, 057, and 059	EVA 3 BRIEFING CARD (EVA, TIMELINES) EVA 3 Procedure Review Ref. MSG 041, 042, 056, 057, and 059	
		TRANSFER TAGUP Coordinate with transfer counterparts	ILLUMINATOR OPS (Cue Card, TV) ILLUMINATOR ON - A,D	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
15:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) Air Quality Report √HUM SEP for H2O Accumulation	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		
05:00					
		PUBLIC AFFAIRS EVENT ISS KU AVAIL (04:59-05:44) Ref. MSG 060	PUBLIC AFFAIRS EVENT ISS KU AVAIL (04:59-05:44) Ref. MSG 060	PUBLIC AFFAIRS EVENT ISS KU AVAIL (04:59-05:44) Ref. MSG 060	
16:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) Air Quality Report	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
06:00					
17:00		L9 PAYLOAD STATION A/G (two) - OFF PRIVATE MEDICAL CONFERENCE VIA A/G 2			
		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
07:00					
18:00					
08:00			**CREW WAKEUP AT 07/16:00**		

BIAS - XLV - ZVV

114 115 116

15

STS-131/19A FD08

REPLANNED

GMT Date 04/12 (102) | W | TDRS E | TDRS Z | DON/DOFF | MET Day 007 | STS ATI

MS1 MASTRACCHIO

EVA 3 BRIEFING CARD
(EVA, TIMELINES)
EVA 3 Procedure Review
Ref. MSG 041, 042, 056, 057, and 059

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

EVA SYSTEMS: 1.206 10.2 PSIA
CAMPOUT MASK PREBREATHE
Ref. CONSUMABLES TRACKING CC

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

MS3 WILSON

EVA 3 BRIEFING CARD
(EVA, TIMELINES)
EVA 3 Procedure Review
Ref. MSG 041, 042, 056, 057, and 059

AEM UNIT#1 CK (Cue Card)
AEM UNIT#2 CK (Cue Card)
MERLIN STATUS CK (Cue Card)
STL STATUS CK (Cue Card)
PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

PUBLIC AFFAIRS EVENT
ISS KU AVAIL (04:59-05:44)
Ref. MSG 060

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

MS4 YAMAZAKI

TRANSFER OPS
Ref. MPLM Transfer Lists and MSG 052

TRANSFER TAGUP
Coordinate with transfer counterparts

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

TRANSFER BRIEF
Call down status to MCC

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

MS5 ANDERSON

EVA 3 BRIEFING CARD
(EVA, TIMELINES)
EVA 3 Procedure Review
Ref. MSG 041, 042, 056, 057, and 059

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

EVA SYSTEMS: 1.206 10.2 PSIA
CAMPOUT MASK PREBREATHE
Ref. CONSUMABLES TRACKING CC

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

NOTES

BIAS-XLV-ZVV

CREW WAKEUP AT 07/16:00

Good Morning Discovery,
Fantastic job on the EVA, Robotics, and Transfer work yesterday! You guys are awesome.
Enjoy some well-deserved off-duty time today!

YOUR CURRENT ORBIT IS: 190 X 182 NM

NOTAMS (ADDED NKT, NTU, PTN)

EDW -	EDT 22R/04L IN USE. EDW 22/04 CLOSED FOR CONSTRUCTION.
EDW -	LAKEBED RWYS RED.
NOR -	LAKEBED RWYS GREEN.
NKT -	DME EWN83 OTS.
NTU -	RWY 23L/05R CLOSED.
FOK -	RWY 06/24 CLOSED.
DOV -	RWY 32 REIL OTS.
FMH -	RWY 23 ALS OTS.
YYT -	TACAN UYT23 AZIMUTH OTS.
JTY -	RWY 18 ALS OTS.
MYR -	RWY 18/36 CLOSED FROM 0340 - 0930 GMT.
KKI -	TACAN RIY92 OTS.
MRN -	RWY 02/20 CLOSED.
PTN -	RWY 14/32 CLOSED.
IKF -	NOT USABLE. NO AGREEMENT.
BEN -	NOT RECOMMENDED/NOT SUPPORTED.

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

NOR23 (DESCENDING) ORB 114 – 7/04:57 SCT080 7 160/08P12
EDR22R (DESCENDING) ORB 130 – 8/05:19 FEW050 7 230/08P14

<u>OMS TANK FAIL CAPABILITY:</u>

L OMS FAILS: NO
R OMS FAILS: NO

<u>LEAKING OMS PRPLT BURN:</u>

L OMS LEAK: ALWAYS BURN RETROGRADE
R OMS LEAK: ALWAYS BURN RETROGRADE

<u>OMS QUANTITIES(%)</u>

L OMS OX = 34.08 R OMS OX = 35.28
FU = 33.60 FU = 35.21

DELTA V AVAILABLE:

OMS	373 FPS
ARCS (TOTAL ABOVE QTY1)	30 FPS
TOTAL IN THE AFT	403 FPS
ARCS (TOTAL ABOVE QTY2)	63 FPS
FRCS (ABOVE QTY 1)	27 FPS
AFT QTY 1	80 %
AFT QTY 2	42 %

SYSTEM	FAILURE	IMPACT	WORK AROUND
COMM/INST	Camera C Zoom	Camera C cannot Zoom in (current configuration is completely zoomed out)	If zoom is required, use another camera

Good Morning Naoko and Steph,

Wow…what a great day of transfer yesterday! You are definitely ahead of the curve now! Thank you again for all the great work up there.

Today should be a bit more low key, as you get a half day off duty. In the afternoon, you'll be swapping the ERCAs and transferring samples from MELFI to Glacier. In addition, you will also be reconfiguring the MARES rack today.

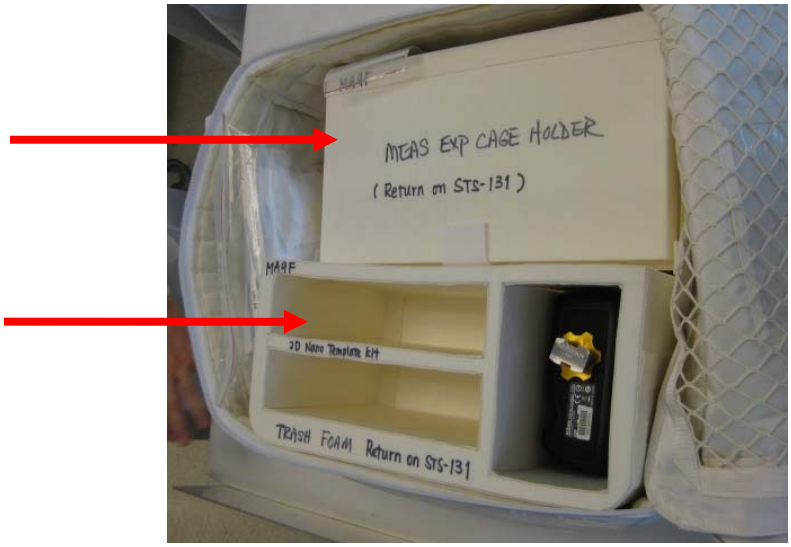
The Transfer List Excel file, FD08_Transfer_List_STS131.xls, locations are:

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

Transfer Notes

- **TeSS Bricks:** We understand that you see several TeSS Brick pieces in 3.0 CTB (s/n 1050). We were only expecting to see seven brick assemblies in that CTB. Since these bricks are massive, they will need to be stowed in the specific locations referenced in the transfer list; therefore, we have included a new figure for your MPLM Return LAYOUTS section detailing each brick assembly we expect to return.

- **MA9F foam:** Naoko, below is a photo of the foam pieces from the MA9F 1.0 CTB (s/n 1268) that we expect to return in MPL1S1_G1. Please let us know if you need any more information.



- **Item 446 (Broken Items CTB):** Naoko, if the ISS crew has not triple-bagged the Dolphin NiMH batteries (Item 446.2) stowed in this CTB, they do not need to complete this activity. Instead, we would like you to triple-bag the entire CTB using trash bags from ISS. In addition, we do not need you to look further for the TOCA Ground Strap (Item 446.1). Your transfer list for today has been updated to reflect this.

- **EVA3 Hardware:** Neither the ETVCG Light (MPLM Resupply Item 280) nor the CLPA (MPLM Resupply Item 195) will be installed during EVA 3. In order to protect the ETVCG Light while it's stowed on ISS, we would like you to retrieve the foam box from S4_D2, restow the light in the box, and then stow this box in an empty 3.0 CTB (retrieve from NOD3A2). The CLPA will need to remain in its protective white box. The CLPA launch foam can return in MPL1P4_K1 as planned. Once configured, both the CLPA (in protective container) and the 3.0 CTB (with ETVCG Light) should be stowed at LAB1D4.

- **Missing Items:** Naoko, we've reviewed all our documentation for items 423, 642, and 647, which you reported missing yesterday, and we do not have any alternate locations to suggest. We're sure you've already done this, but we recommend checking with TJ and Soichi who packed these items pre-flight.

<u>FD08 Choreography</u> (in timeline order)

- **Item 288:** Transfer ERCAs 19 & 20 from MPL1S4_K1 for ERCA Retrieve and Swap activity.
- **Item 753:** Transfer ERCA 16 to MPLM for return following the ERCA Stow activity.
- **Item 712:** Transfer cold samples from MELFI to Glacier per GLACIER MELFI XFER activity.
- **Item 1001:** Remove BSTC and transfer to MPLM.
- **Items 772 thru 778:** Transfer MARES M-bags, fences, struts, and bolts to MPLM for return following MARES STOWAGE CONFIG.

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

In the Middeck Transfer List **RETURN** tab
Replace the following page:
Return 8

In the MPLM Resupply Transfer List **MPLM GLAs** tab
Replace the following page:
Resupply 13

In the MPLM Resupply Transfer List **P4 RSR** tab
Replace the following page:
Resupply 29

In the MPLM Return Transfer List **LAYOUTS** tab
Replace the following page:
L-4
L-5
L-7
L-8
L-9
L-31

Add the following page:
L-49

In the MPLM Return Transfer List **RETURN** tab
Replace the following pages:
Return 14
Return 15
Return 31

<u>FD09 Choreography</u> (in timeline order)

- **Swap LiOH**
  - **Items 296-300:** 15 unused cans from MPLM to Middeck
  - **Items 767-771:** 15 used cans from Middeck to MPLM
- **Item 131:** Transfer Kubik Drawer (KID) from MPL1A4_A1 to Columbus per KID Xfer activity.
- **Item 765:** Return KID foam in ziplock to MPLM for return.
- **Items 104:** Scavenge MPL1PA4, PF2, and PF4 LHAs - call MCC to open RPC.

Have a fantastic day and let us know if you have any questions!

- The STS-131 Transfer Team

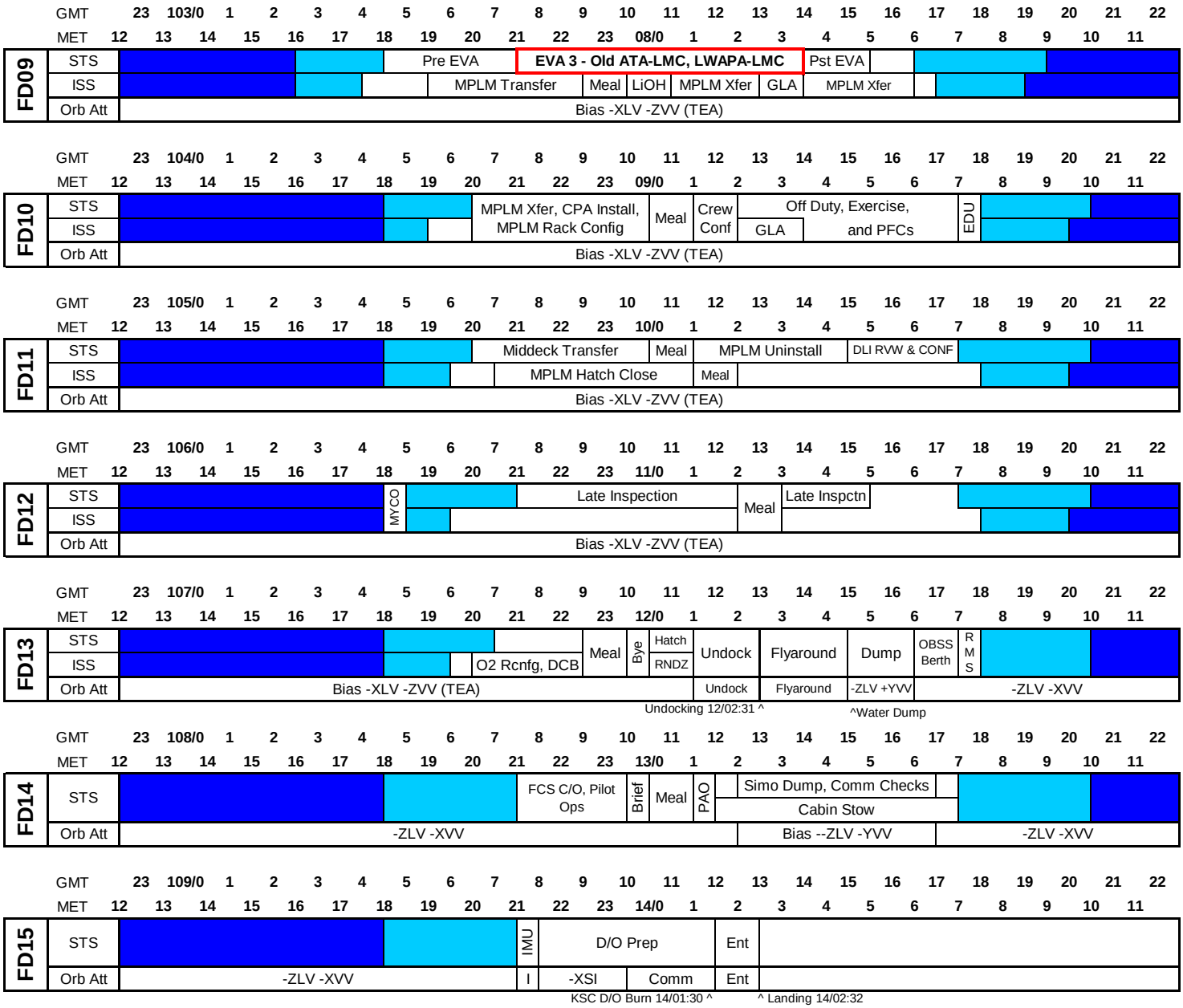
MSG 053 (23-0241) - FD08 CREW CHOICE DOWNLINK

The following times indicate good Shuttle Sband on A/G 2 and ISS Ku for crew choice downlink.

AOS	LOS	Delta (min)	Notes
07/05:04	07/05:43	39	A/G 20 second H/O at 05:30
07/06:00	07/06:17	17	
07/06:40	07/07:01	21	
07/07:14	07/07:58	44	A/G H/O & ratty comm 07:28 - 07:34

Note: Please notify MCC-H 10 minutes prior to the event to allow for ground network configuration.

STS-131/ISS 19A
Overview Timeline 14+0+2
FD12 Docked Late Inspection



END OF PAGE 1 OF 1

23-0244 (MSG055): EVA 3 TOOL CONFIG
PAGE 1 OF 2

EV1

EMU D-rings
- ☐☐ D-ring Extender (2, R&L D-ring)
  - ☐☐ A/L 85-ft Safety Tether (R D-ring Ext)
  - ☐■ Spare 85-ft Safety Tether (R D-ring Ext)
- ☐☐ Waist Tether (L on D-ring Ext)

MWS
- ☐☐ RET (sm-sm)
- ☐☐ RET w/PIP Pin
- ☐☐ Adj Tether (2)
- ☐☐ Wire Tie (3)
- ☐☐ Small ISS Trash Bag (L Inner)

- ☐☐ Swing Arm (R)
  - ☐☐ RET (sm-sm)
    - ☐☐ PGT w/6-in ext s/n 1006
      - ☐☐ PGT Battery s/n _____
- ☐☐ BRT (L)
  - ☐☐ RET (sm-sm)
  - ☐☐ Wire Tie (2)

☐☐ SAFER
☐☐ WVS

NOTE: Prior to use, inspect the following hardware:
- ❑ RET cords for fraying
- ❑ Safety Tether/Waist Tether LAS & D-ring Extenders; ref (section 8) CREW TETHER INSPECTIONS:
  1. MMOD/general damage
  2. Discoloration
  3. Tack Stitching
  4. Red Band
- ❑ ISS Trash Bag: Empty, Zipped, and √Bristle deformation/damage, after having stowed tools inside
- ❑ PGT MTL @ 30.5 & battery ~40 V
- ❑ Verify MWS EE secured to T-bar
- ❑ Verify ORUs brought IVA are capped

Tether Counts: RED RETs
RETs (sm-sm) = 14 of 16 RETs (PIP Pin) = 3 of 5
RETs (Lg-sm) = 4 of 8 Adj Equip Tethers = 6 of 10

EV2

EMU D-rings
- ☐☐ D-ring Extender (2, R&L D-ring)
  - ☐☐ A/L 85-ft Safety Tether (L D-ring Ext)
  - ☐☐ Spare 85-ft Safety Tether (L D-ring Ext)
- ☐☐ Waist Tether (R on D-ring)

MWS
- ☐☐ RET (sm-sm)
- ☐☐ RET w/PIP Pin
- ☐☐ Adj Tether
- ☐☐ Wire Tie (2)
- ☐☐ Small ISS Trash Bag (L Inner)
- ☐☐ RET (sm-sm)
  - ☐■ MMOD Shield T-Handle Short

- ☐☐ Swing Arm (R)
  - ☐☐ RET w/PIP Pin
    - ☐☐ PGT **[A2,** 30.5**]** s/n 1001
      - ☐■ 2-in rigid socket
      - ■☐ 6-in wobble socket
      - ☐☐ PGT Battery s/n _____
- ☐☐ BRT (L)
  - ☐☐ RET (sm-sm)
  - ☐☐ Wire Tie (2 – short)

☐☐ Adj Tether (2) on wrists

☐☐ SAFER
☐☐ WVS

CREWLOCK
- ☐☐ Tether Ext on A/L D-ring

- ☐☐ RET (Lg-sm)
  - ☐☐ **Tool Relocate Bag** (C/L Bag)
    - ☐■ Vise Grips (Int RET #1)
    - ☐■ Probe (w/o sheath) (Int RET #2)
    - ☐■ Pin Straightener (Int RET #3)
    - ☐■ Hammer (Int RET #4)
  - ☐☐ RET (sm-sm)
    - ☐☐ Cannon Connector Tool
  - ☐☐ RET (sm-sm)
    - ☐☐ Cannon Connector Tool

CREWLOCK (Cont)
- ☐☐ RET (Lg-sm)
  - ☐☐ **C/L Bag**
    - ☐☐ Adj Tether (outside – tie down)
    - ☐☐ 55-ft Safety Tether (SSRMS)
    - ☐☐ RET (sm-sm)
      - ☐☐ EVA Camera w/Bracket
    - ☐☐ RET (sm-sm)
      - ☐☐ BRS Pin Tool
    - ☐☐ RET (sm-sm)
      - ☐☐ Prybar
    - ☐☐ WIF Adapter (Int RET #1)
    - ☐☐ Round TM (Int RET #2)
      - ☐☐ 7/16-in Flush Socket
    - ☐☐ Ratchet w/no PW (Int RET #3)
      - ☐☐ 2-in rigid socket
    - ☐☐ Socket caddy (Int RET #4)
      - ☐■ 6-in wobble socket
      - ■☐ 2-in rigid socket

- ☐☐ RET (Lg-sm)
  - ☐☐ **Beam Bag** (Med ORU Bag) (Deploy beams through gap)
    - ☐☐ RET (sm-sm)
      - ☐■ Outbd RAD GF Stow Beam (Bottom of Bag – Label Up)
    - ☐☐ RET (sm-sm)
      - ☐■ Inbd RAD GF Stow Beam (Top of Bag – Label Up)
    - ☐☐ RET (sm-sm)
      - ☐☐ Socket Caddy (PIP Pin vertical)
        - ☐☐ 5/8 x 7.8 in socket (center post)

- ☐☐ RET (Lg-sm) (On D-Ring Extender)
  - ■☐ A/L MMOD Shields (2)
    - ■☐ MMOD Shield T-Handle

■☐ LDTD Tethers (2) (from MMOD shields)

■☐ EV1 85-ft Safety Tether (drop off post LWAPA install)

Camera Checkout:
- ☐ √Camera focuses
- ☐ √Data in view finder
- ☐ Take sample IVA photos to check camera function
- ☐ √Eyepiece thermal wrap connected to thermal blanket

END OF PAGE 1 OF 1, 23-0244 (MSG055)

23-0244 (MSG055): EVA 3 TOOL CONFIG
PAGE 2 OF 2

☐☐ Staging Bag
- ☐☐ Fish Stringer
  - ☐☐ Wire Tie Caddy (Hook #1)
  - ☐☐ Velcro/Tape Caddy (Hook #2)
  - ☐☐ PGT (Hook #3) s/n 1002
    - ☐☐ PGT Battery s/n _____
    - ☐☐ 7/16 (wobble) Socket-6 ext
  - ☐☐ Ratchet Wrench (Hook #5)
    - ☐☐ 7/16 (rigid) Socket-9 ext
  - ☐☐ Needle Nose Pliers (Hook #6)
  - ☐☐ Spare WIF Adapter (Hook #7)
  - ☐☐ Spare 85-ft Safety Tether
- ☐☐ Fish Stringer
  - ☐☐ Connector Cleaner Tool Kit (Hook #1)
  - ☐☐ Cheater Bar (Hook #5)
  - ☐☐ MWS Key Strap Assy (on Wire tie, to strap)
  - ☐☐ Long Duration Tie-Down Tether (2)
- ☐☐ RET (sm-sm)
  - ☐☐ Right Angle Drive

☐☐ IV Bag
- ☐☐ Towels (2)
- ☐☐ Contamination Detection Kit
- ☐☐ GP Caddy (2)
  - ☐☐ Adjustable Thermal Mittens (2)
- ☐☐ Socket Caddy (hatch cont) w/RET (sm-sm) (Black)
  - ☐☐ 1/2 Socket-8 ext
  - ☐☐ 7/16 (wobble) Socket-6 ext (spare)
- ☐☐ DCM Plug (SAFER Hardmount) (2)
- ☐☐ RET (sm-sm, Black) (2)

END OF PAGE 1 OF 1, 23-0244 (MSG055)

23-0243 (MSG 056): EVA 3 REPLANNED SUMMARY TIMELINE
PAGE 1 OF 1

PET HR : MIN	IV/SSRMS	EV1 (Mastracchio)	EV2 (Anderson)	
00:00	NOTE: Get-Aheads in Priority Order APFR Relocate for ULF-4 S1 FHRC P-Clamps Tool Relocate Task No Longer Being Considered SPDM CLPA 1 & EP 1 Cover CP13 Light R&R	EGRESS & SETUP (00:15)	EGRESS & SETUP (00:15)	00:00
		S1 ATA CONNECTORS (00:30) • Connect ATA Fluid QDs	A/L MMOD SHIELD RETRIEVE (00:45)	
		A/L MMOD SHIELD RETRIEVE (00:15)		
01:00		AGB STOW (00:30) • AGB removal from ATA • AGB install on ESP-2 FHRC	AGB STOW (00:30) • AGB removal from ATA • AGB install on ESP-2 FHRC	01:00
		PLB SETUP (00:30) • Verify spherical bearings aligned Bolt 2 & 4 • Verify floating clevis clear Bolt 1	PLB SETUP (00:30) • APFR retrieve • APFR install on LMC	
02:00		ATA INSTALL ON LMC (00:45) • Install Bolt 2 • Install Bolt 4 • Remove FGB and temp stow • Install Bolt 1	ATA INSTALL ON LMC (00:45) • SSRMS Release ATA • Install Bolt 3 • Retrieve APFR	02:00
03:00		S1 ATA FGB INSTALL (01:00) • PLB Cleanup • Install FGB on S1 ATA Nadir	SSRMS SETUP (00:30) • Translate to COL • Install APFR on SSRMS	03:00
			LWAPA RETRIEVE (01:00) • Remove LWAPA • Install LWAPA on LMC	
04:00		LWAPA INSTALL (00:30) • Assist EV2 with LWAPA install		04:00
		Z1 SGANT PREP (00:45)	SSRMS CLEANUP (01:00) • Stow APFR in NOD2 WIF 7	
05:00		S1 RADIATOR GRAPPLE FIXTURE BEAM INSTALL (01:00) • Retrieve Beam Bag • S1 Rad GF Stow Beam install		05:00
			GET-AHEADS (00:45)	
06:00		CLEANUP & INGRESS (00:30)	CLEANUP & INGRESS (00:30)	06:00
06:30				06:30

Big Picture Notes for EVA3

1) Here is a summary of the EVA messages that have been uplinked:

   131-055 EVA 3 Tool Config

   131-056 EVA 3 Summary Timeline

   131-058 Preliminary EVA 3 Detailed Timeline

   This will give you a chance to review the changes to EVA3 prior to the A/G tagup with the EVA team. A Final Detailed Timeline will be uplinked prior to your Procedure Review.

2) To ensure the team on the ground has sufficient time to perform ATA activation during the EVA, EV1 will perform ATA QD Mate immediately after Egress is complete. During this time, EV2 will perform MMOD Shield Retrieve. When EV1 is complete with ATA QD Mate, he will assist with MMOD Shield Retrieve. Upon completion of these tasks, the crew will pick up with the nominal EVA3 tasks, starting with AGB Stow.

3) For EVA3, the ETVCG Light task has been removed from the Get-Aheads list due to the concern that the Light in a Lg ORU bag may take up too much room in the Crewlock once the MMOD shields have been stowed.

4) The SPDM task has been removed from the Get-Aheads list due to the fact that the task duration exceeds available EVA time now that EV2 will perform MMOD Shield Retrieve post-egress.

5) Since the SPDM task has been removed from EVA3, EV2 will now maneuver from the PLB back to the LWAPA Clearance position near Columbus for APFR egress and SSRMS Cleanup once LWAPA retrieve and stow on the LMC in the PLB is complete.

6) The EMU Glove Team has reviewed the downlinked photos and concluded that the gloves for EV1 and EV2 are GO for EVA.

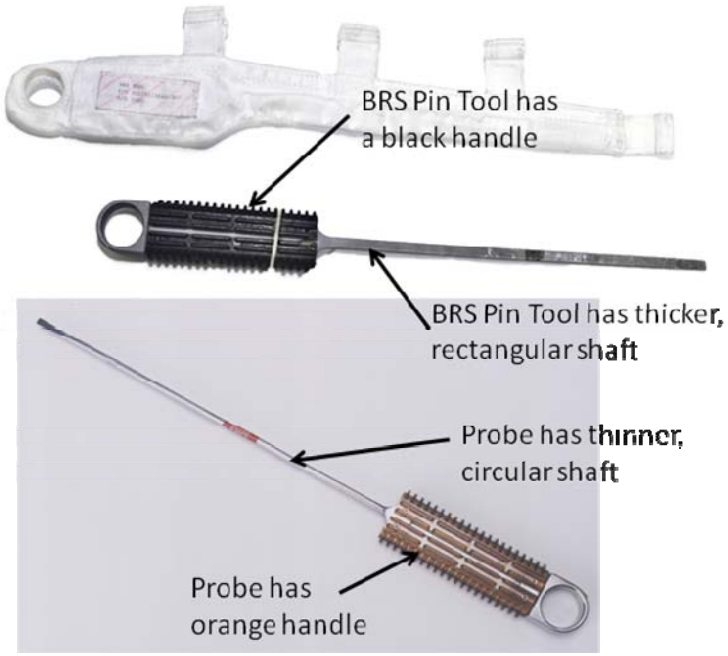
Notes for EVA3 Tool Config (changes reflected in msg 131-055, EVA Tool Config)

7) Due to the problems with the ATA plungers, the Prybar should be moved to the Nominal C/L bag per the uplinked EVA3 Tool Config.

8) During EVA2 Tool Config, we believe the BRS Pin Tool was moved to the Tool Relocate C/L bag, instead of the Probe. The Probe is the tool required for Tool Relocate; we believe the Probe is still in the EVA Staging bag, on hook #3. Please retrieve the Probe from the EVA Staging bag and stow it in the Tool Relocate C/L bag.

9) Additionally, due to those ATA plungers, we would also like the BRS Pin Tool moved from the Tool Relocate C/L bag to the Nominal C/L bag. The images below denote the subtle differences between the Probe and BRS Pin Tool.

END OF PAGE 1 OF 1, 23-0242 (MSG057)



10) The first task performed by EV2 post-egress is the MMOD Shield Retrieve Task. Note that per the uplinked EVA3 Tool Config, EV2 now egresses the A/L with the T-handle tool tethered to his MWS.

11) For the Z1 SGANT Prep task, the connectors can be handled with Cannon Connector Tools. Per the uplinked EVA3 Tool Config, the Cannon Connector Tools should be stowed in the Tool Relocate C/L bag. When Rick is complete with LWAPA Retrieve, he returns to the A/L, stows his spare 85-ft ST inside the crewlock and retrieves the Tool Relocate C/L bag. If you prefer to stow the Cannon Connector Tools in a different way, please advise.

12) Since the ETVCG Light and SPDM tasks have been deleted from EVA3, any tools that may have already been gathered for the associated ORU bags for these tasks can be stowed in the EVA Done Tools Mesh Bag.

END OF PAGE 1 OF 1, 23-0242 (MSG057)

EVA 3 INHIBIT PAD

Orbiter (1)

ALL EVAs

TCS (Prior to Egress)
IV L12 1. √TCS POWER – OFF

TriDAR (Prior to Egress)
IV L12L (SSP2) 1. √TriDAR POWER – OFF (tb-bp)

Ku-Band Antenna (Prior to Egress)
MCC-H 1. √KU-BAND Mask – active
2. √KU-BAND EVA Protect Box – active

RCS (Prior to Egress)
EV crew < 27 feet from FRCS
IV O14,15,16
1. √DAP: VERN, FREE, LO Z
2. √RJDF F1, F2, F3, F4 MANF DRIVER (four) – OFF
LOGIC (four) – OFF
MCC-H IV
3. √Above RCS config
4. √RCS F – ITEM 1 EXEC (*)
√JET DES F1U – ITEM 17 (*)
F3U – ITEM 19 (*)
F2U – ITEM 21 (*)

LMC LWAPA PFRAM (Prior to Install on LMC)
IV R1 1. √PL AFT MNC – OFF

Ground

ALL EVAs

Ground Radar (Prior to Egress)
MCC-H 1. √TOPO console, ground radar restrictions in place for EVA

USOS (1)

ALL EVAs

PCU (Prior to Egress)

NOTE
PCUs may require up to a 1-hour warmup period before they are operational.

MCC-H 1. √PCUs (two) operational in discharge mode and one of the following:
a. CCS PCU EVA hazard control FDIR enabled.
b. No more than two arrays unshunted and oriented <105º from velocity vector.
If one or both PCUs failed
2. No more than two arrays unshunted and oriented <105º from velocity vector.

CUCU (Prior to Egress)
IV (LAB1O4) 1. √cb POWER A, B [two] – OPEN
2. √cb LINK 1,2 [two] – OPEN

TASK SPECIFIC INHIBITS

ATA (ATA QD Mate) (Prior to Egress)
MCC-H 1. 1.110 S1 ATA Post-Replacement Activation – Part 2

LOCATION DEPENDENT INHIBITS

LAB Window (EV1 Translation to PLB) (Prior to Egress)
IV EV crew expected < 10 feet from window or in window FOV, close window shutter

Cupola Windows (not planned)
IV If EV crew less than 10 feet from window ~~or in window FOV~~, coordinate shutter closing/opening with EV crew and minimize time shutter is open

S-Band (SASA) Antennas (ATA QD Mate, FGB on S1 ATA) (Prior to Egress)
MCC-H EV crew expected 3.6 feet from S1 SASA
1. P1 SASA – Active
2. S1 SASA – Powered down & unavailable to FDIR

PRELIMINARY

EVA 3 INHIBIT PAD (Cont)

USOS (2)

LOCATION DEPENDENT INHIBITS

TRRJ (ATA QD Mate) (Prior to Egress)
MCC-H EV crew working within 2 feet of S1 TRRJ rotation envelope
1. √DLA (1) – LOCKED at -40 deg

TRRJ (FGB on S1 ATA)
MCC-H EV crew working within 2 feet of S1 TRRJ rotation envelope
1. √DLA (1) – LOCKED (per flight rule)

TRRJ (S1 Rad GF Stow Beams)
MCC-H EV crew working within 2 feet of S1 TRRJ rotation envelope
1. √DLA (1) – LOCKED at 0 deg

Mobile Transporter (Prior to Egress)
MCC-H EV crew expected <1.5 meters from MT
1. √MT latched

FPMU
MCC-H 1. FPMU power – Off

Z1 (SGANT-2 Boom, SGANT-2 Installation)
MCC-H
1. RPCM Z1-4B-B RPC 02 – Open – Close Cmd Inhibit
2. RPCM Z1-3B-B RPC 02 – Open – Close Cmd Inhibit
3. RPCM Z1-4B-B RPC 03 – Open – Close Cmd Inhibit
4. RPCM Z1-3B-B RPC 03 – Open – Close Cmd Inhibit

JEM (1)

ALL EVAs

ICS-EF Antenna (Prior to Egress)
SSIPC
1. ICS MOD – OFF
2. ICS UPC – OFF
3. ICS HPA – OFF
4. “HPA ON” and “UPC ON” commands are cleared (not present) in the ICS stored command queue

RSOS (1)

ALL EVAs

SM Antennas (Prior to Egress)
IV
1. GTS – Deactivate
2. ARISS (Ham Radio) – Deactivate

IMPULSE (Prior to Egress)
MCC-M 1. IMPULSE (ИПИ-100) – Is not activated

COL (1)

TASK SPECIFIC INHIBITS

COLUMBUS EPF (LWAPA Retrieve)

(Prior to Egress)
IV COL1SC 1. √PPSB PL DN 1, 2 (two) sw – DISCHARGE

(20 min prior to LWAPA Removal)
COL-CC
1. √PDU2 Outlet 3 SSPC 1, 2, 3, 4 (four) Pwr – OFF
Verify Current < 0.1A
2. √SSPC 1, 2, 3, 4 (four) Sys Bus Cntl Stat – DISABLED

PRELIMINARY

EVA 3 EGRESS (00:15)

IV/SSRMS	EV1 – Mastracchio (FF)	EV2 – Anderson (FF)
1. WVS Software: Select page – RF Camera sel 'Advanced controls' S-Band level (two) – max (Required after A/L egress)	INITIAL CONFIG Verify: ❑ EV1 left waist tether connected to EV2 85-ft ST ❑❑ √Gate closed (both hooks) ❑❑ √Hook locked (both hooks) EGRESS (00:15) 1. Open A/L Thermal Cover 2. Egress A/L 3. Attach EV1 85-ft ST to aft A/L anchor point ❑❑ √Gate closed (both hooks) ❑❑ √Hook locked (both hooks) ❑ √Reel unlocked 4. Attach EV2 85-ft ST to fwd A/L anchor point ❑ √Gate closed ❑ √Hook locked 5. Release waist tether from EV2 85-ft ST 6. Give EV2 GO to release waist tether from A/L D-ring extender 7. Receive Beam bag; temp stow on A/L HR, stay aft on A/L 8. Put camera on MWS 9. Verify EV1 SAFER and WVS config: ❑ √R Handle down (HCM door – Closed) ❑ √L Handle down (MAN ISO Valve – Open)	INITIAL CONFIG Verify: ❑ EV2 right waist tether connected to A/L D-ring extender ❑❑ √Gate closed (both hooks) ❑❑ √Hook locked (both hooks) EGRESS (00:15) 1. Check ST config ❑ √Gate closed ❑ √Hook locked ❑ √Reel unlocked 2. On EV1 GO release waist tether from A/L D-ring extender 3. Transfer Beam bag to EV1 4. Egress A/L w/C/L bag; temp stow C/L Bag on A/L HR 5. Close A/L thermal cover 6. Verify EV2 SAFER and WVS config: ❑ √R Handle down (HCM door – Closed) ❑ √L Handle down (MAN ISO Valve – Open)

PRELIMINARY

EVA 3 S1 ATA QD MATE (00:30) / A/L MMOD SHIELD RETRIEVE (00:45)

IV/SSRMS	EV1 – Mastracchio (FF)	EV2 – Anderson (FF)
1. √**MCC-H:** ❑ Stbd TRRJ locked, ❑ S1 SASA off, and ❑ S1 ATA inhibits in place	CAUTION QDs exposed to direct sunlight can overtemp in 20 min. Shading by EMU or thermal shroud can lengthen acceptable time with bootie removed	WARNING Back side of MMOD shield fasteners are potential sharp edges
2. √**MCC-H:** S1 ATA and NTA valves are in the proper config	S1 ATA FLUID CONNECTORS (00:30) ATA F1/M1 10 Translate to S1 ATA to perform QD mate operations 11 On IV GO: Remove 1/4-in cap from ATA M1 3. Mate F1 to ATA M1 (N2) – **BLOCK D** 4. Open valve on F1/M1 (N2) – **BLOCK E** 5. Replace thermal bootie on F1/M1 ATA F50/M3 6. Remove 1/2-in cap from ATA M3 7. Mate F50 to ATA M3 (NH3) – **BLOCK D** 8. Open valve on F50/M3 (NH3) – **BLOCK E** 9. Retrieve 1/2-in SPD 10. Attach 1/2-in SPD to F50/M3 – **BLOCK F** 11. Replace thermal bootie on F50 ATA F2/M2 12. Remove 1/4-in cap from ATA M2 13. Mate F2 to ATA M2 (N2) – **BLOCK D** 14. Open valve on F2/M2 (N2) – **BLOCK E** 15. Replace thermal bootie on F2/M2 ATA F51/M4 16. Remove 1/2-in cap from ATA M4 17. Mate F51 to ATA M4 (NH3) – **BLOCK D** 18. Open valve on F51/M4 (NH3) – **BLOCK E** 19. Replace thermal bootie on F51 20. Close TA clamps as reqd 21. Retrieve Fish Stringer; stow on MWS 22. Close ATA QD thermal shroud 23. WVS survey of ATA shroud ☞	A/L MMOD SHIELD RETRIEVE (00:45) 1. Enter worksite w/head port 2. Install MMOD shield T-handle into A/L MMOD shield ❑ Pull test 3. RET to T-handle tool 4. Release LDTD tether from ESP-2 HR 8015 5. Release LDTD tether from ESP-2 HR 8001

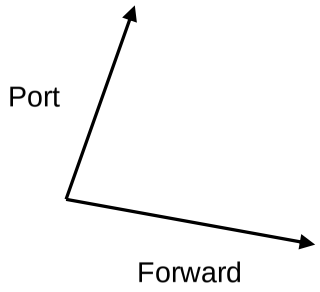
PRELIMINARY

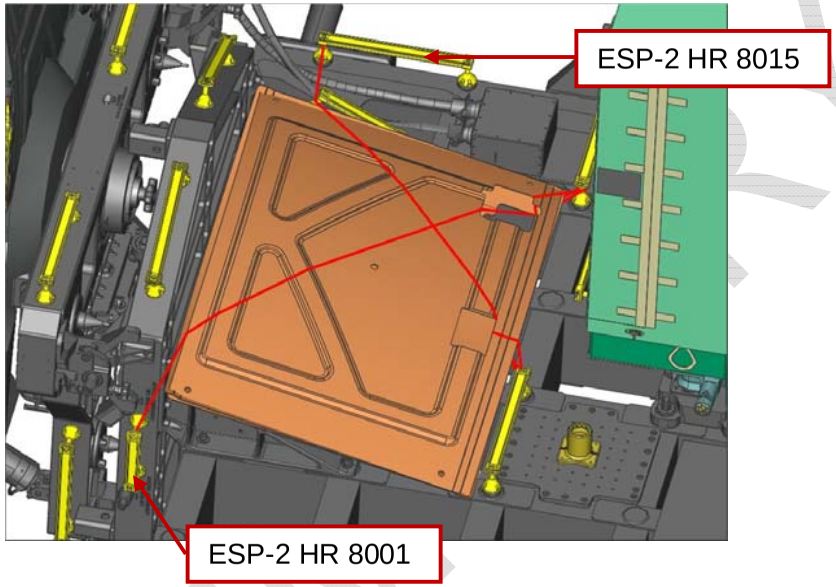
EVA 3 S1 ATA QD MATE (00:30) / A/L MMOD SHIELD RETRIEVE (00:45)

IV/SSRMS	EV1 – Mastracchio (FF)	EV2 – Anderson (FF)
	24. Give **MCC-H** GO to activate ATA 25. ~~Retrieve EVA camera~~ 26. Glove check WARNING Back side of MMOD shield fasteners are potential sharp edges A/L MMOD SHIELD RETRIEVE (00:15) 27. Translate to A/L 28. Open thermal cover when EV2 ready to pass shields 29. Daisy chain RET (sm-sm) to RET (Lg-sm) 30. RET to MMOD shield T-handle tool 31. Receive A/L MMOD shields from EV2 32. Stow shields in A/L behind bungee w/T-handle away from IV hatch 31. Retrieve Fish Stringer from MWS and stow in A/L 32. Egress A/L 33. Verify EV1 SAFER and WVS config: ❑ √R Handle down (HCM door – Closed) ❑ √L Handle down (MAN ISO Valve – Open) 34. Glove check	6. Pass MMOD shields to EV1; attach MWS end of T-handle RET to wire tie 7. Retrieve LDTD tethers (2); stow on MWS 8. Stow LDTD tethers (2) in A/L; egress and close thermal cover 9. Retrieve C/L Bag from A/L HR; stow on BRT 10. Verify EV2 SAFER and WVS config: ❑ √R Handle down (HCM door – Closed) ❑ √L Handle down (MAN ISO Valve – Open) 11. Glove check

PRELIMINARY

EVA 3 S1 ATA QD MATE (00:30) / A/L MMOD SHIELD RETRIEVE (00:45)





PRELIMINARY

EVA 3 AGB STOW (00:30)

IV/SSRMS	EV1 – Mastracchio (FF)	EV2 – Anderson (FF)
	AGB STOW (00:30) 1. Translate to ESP-2 fwd face 2. Fairlead as reqd	AGB STOW (00:30) 1. Translate to ESP-2 fwd face via CETA Spur and LAB 2. Fairlead on LAB HR 0252 (0247) w/Adj 3. Poorman fairlead on inboard ESP-2 trunnion
1. SSRMS: On EV GO, approach ESP-2	3. Give SSRMS GO to approach ESP-2	4. Give SSRMS GO to approach ESP-2
2. SSRMS: GCA to AGB Removal	4. Open FHRC AGB GP MLI flap (1) If time permits: ❑ Open FHRC AGB GP MLI flaps (2) 5. RET to AGB HR	5. Open FHRC AGB GP MLI flaps (2) 6. GCA SSRMS for AGB Removal 7. **PGT [A2, CCW2**,30.5**]** (3.8 ft-lb, 30 RPM); 2-in ext 8. Release AGB Bolt; ~2-4 turns to hardstop 9. Pull T-handle to unlock ❑ √2 white lines visible 10. Extend AGB
3. SSRMS: On EV1 GO, maneuver to ESP-2 Clearance position	6. Release AGB from soft dock (2 pin side) 7. Give SSRMS GO to maneuver to ESP-2 Clearance position 8. Slide single pin end into FHRC receptacle until aligned with FHRC position 9. Push T-handle to lock AGB ❑ √No white lines visible	11. Release AGB from ATA 12. Soft dock AGB onto FHRC (2 pin side port)
4. AGB Bolt **Torque (ft-lb)** / **Turns** / **Green Light** [ ] / [ ] / [ ]	10. Receive PGT from EV2 11. **PGT [A2, CW2**,30.5**]** (3.8 ft-lb, 30 RPM); 2-in ext 12. Drive AGB bolt, 2-4 turns to hard stop 13. Transfer PGT to EV2 14. Pull Test AGB 15. Close FHRC AGB GP MLI flap (1) 16. Glove check	13. Transfer PGT to EV1 for AGB install 14. Receive and stow PGT 15. Close FHRC AGB GP MLI flaps (2) 16. Glove check

PRELIMINARY

EVA 3 PLB SETUP (00:30)

IV/SSRMS	EV1 – Mastracchio (FF)	EV2 – Anderson (FF)
	PLB SETUP (00:30) 1. Translate to JPM HR 1100 via the low road 2. Perform tether swap to spare 85-ft ST: ❑❑ √Gate closed (both hooks) ❑❑ √Hook locked (both hooks) ❑ √Reel unlocked (Spare 85-ft ST) ❑ Temp stow A/L 85-ft ST reel on JPM HR 1100 (fwd/nadir on JPM endcone) ❑ √Reel unlocked (A/L 85-ft ST) WARNING 2-ft KOZ for SSPTS cable floating connectors on PMA2 stbd side 3. Fairlead on ODS HR with Adj tether 4. Translate to PLB ATA using port sill, watch for SSRMS 5. Poorman fairlead on PRLA V-guides 6. Glove check	PLB SETUP (00:30) WARNING 2-ft KOZ for SSPTS cable floating connectors on Lab Stbd/Fwd HR 0273 1. Translate to APFR in NODE 2 WIF 7 2. Tether C/L bag to APFR boot plate 3. Translate fwd to NODE 2 HR 0359 (stbd/fwd of N2 zenith CBM) 4. Perform tether swap to spare 85-ft ST: ❑❑ √Gate closed (both hooks) ❑❑ √Hook locked (both hooks) ❑ √Reel unlocked (Spare 85-ft ST) ❑ Temp stow A/L 85-ft ST reel on NODE 2 HR 0352 ❑ √Reel unlocked (A/L 85-ft ST) 5. √APFR ingress aid stowed and locked 6. Retrieve APFR; stow on BRT WARNING 2-ft KOZ for SSPTS cable floating connectors on PMA2 stbd side Stay 1 ft from PLB SSOR antenna Stay 1 ft from powered ROEU connector 7. Translate to LMC using stbd PLB sill; fairlead on ODS with Adj tether (from wrist) 8. Poorman fairlead on PRLA V-guides 9. Install **APFR [1,OO,G,1]** into stbd LMC WIF ❑ √Blk-Blk ❑ Pull/Twist test 10. Remove C/L Bag from APFR and temp stow near middle of LMC 11. Perform socket swap from 2-in to 6-in ❑ 2-in on socket caddy, tug test ❑ 6-in on PGT, tug test 12. Glove check

PRELIMINARY

EVA 3 ATA INSTALL ON LMC/FGB REMOVAL (01:45)

IV/SSRMS

1. Verify SSRMS at Payload Bay Port Clear position
2. SSRMS GCA to ATA Release position
3. SSRMS receive EV2 GO: Release ATA
4. SSRMS Clear of ATA and maneuvering to ATA Backoff

ATA Bolt	Torque	Turns	Green Light
1			
2			
3			
3 w/TM			
4			

5. Verify tool inventory of EV2 MWS(L-R)
   - ☐ BRT (L)
     - ☐ RET (sm-sm)
     - ☐ Wire Tie (2)
   - ☐ Small ISS Trash Bag
   - ☐ RET (sm-sm)
   - ☐ RET (sm-sm)
   - ☐ RET (sm-sm) w/PIP Pin
   - ☐ Adj Tether
   - ☐ Wire Tie (2 – short)
   - ☐ RET w/PIP Pin
     - ☐ PGT
       - ☐ 6-in ext
   - ☐ Adj Tether (0) on wrists; fairleads
6. Verify PLB Camera B rotated vertical

EV1 – Mastracchio (FF)

ATA UNGRAPPLE
1. Verify following on FSE:
   - ❑ Spherical bearings aligned on Bolt 1,2
   - ❑ Bolt 1 floating clevis rotated clear
2. GCA SSRMS to ATA Release position
3. Assist EV2 as reqd
4. Maneuver ATA into soft dock (bolts 2 & 4) on LMC

ATA INSTALL
5. Hold ATA and give EV2 GO: Drive bolt 3
6. **PGT [A7, CW2,** 30.5**]** (9.2 ft-lb, 30 RPM); 6-in ext
7. Drive ATA bolt 2, ~16 turns to a hardstop
   - ❑ Verify no white lines visible
8. Stow 6-in socket in trash bag
9. Retrieve TM from C/L Bag
10. Engage TM on ATA bolt 3
    - ❑ Verify anti-backlash in neutral
11. Drive TM at **PGT [A7, CW2,** 30.5**]** to torque (9.2 ft-lb, 30 RPM)
12. Stow TM in C/L Bag
13. Socket swap to 6-in in trash bag
    - ❑ Pull test

CAUTION
Avoid contact with FGB grapple pin and RMS target
Avoid contact with PLB cameras

EV2 – Anderson (FF)

ATA UNGRAPPLE
1. Verify following on FSE:
   - ❑ Spherical bearings aligned on Bolt 4
2. Ingress APFR
3. GCA SSRMS to ATA Release position
4. Attach RET to ATA HR
5. Give SSRMS GO: Release ATA
6. Maneuver ATA into soft dock (bolts 2 & 4) on LMC

ATA INSTALL
7. **PGT [A7, CW2,** 30.5**]** (9.2 ft-lb, 30 RPM); 6-in ext
8. On EV1 GO: Drive ATA bolt 3, 14 turns to a hardstop
9. Remove RET from ATA HR
10. Egress APFR
11. Drive ATA bolt 4, ~16 turns to a hardstop
    - ❑ Verify no white lines visible
12. Perform Tool Inventory (MWS and C/L bag)
    C/L Bag inventory:
    - ☐ **C/L Bag**
      - ☐ Adj Tether (outside – tie down)
      - ☐ 55-ft Safety Tether (SSRMS)
      - ☐ RET (sm-sm)
        - ☐ EVA Camera w/Bracket
      - ☐ RET (sm-sm)
        - ☐ BRS Pin Tool
      - ☐ RET (sm-sm)
        - ☐ Prybar
      - ☐ WIF Adapter (Int RET)
      - ☐ Round TM (Int RET)
        - ☐ 7/16-in Flush Socket
      - ☐ Ratchet w/no PW (Int RET)
        - ☐ 2-in socket
      - ☐ Socket caddy (Int RET)
        - ☐ 2-in socket
13. Tether C/L bag to APFR boot plate
14. √APFR ingress aid stowed and locked
15. Retrieve APFR, stow on BRT
16. Glove check

PRELIMINARY

EVA 3 ATA INSTALL ON LMC/FGB REMOVAL (01:45) (Cont)

IV/SSRMS

FGB Bolt	Torque	Turns	Green Light
GP1			
GP2			
GP3			
GP4			

7. Verify tool inventory of EV1 MWS (L-R)
   - ☐ BRT (L)
     - ☐ RET (sm-sm)
     - ☐ Wire Tie (2 – short)
   - ☐ RET (sm-sm)
   - ☐ RET w/PIP Pin
   - ☐ Adj Tether (1); fairlead
   - ☐ Wire Tie (3)
   - ☐ Small ISS Trash Bag
   - ☐ RET (sm-sm)
     - ☐ PGT w/6-in ext
   - ☐ EVA Camera
     - ☐ RET (sm-sm)

EV1 – Mastracchio (FF)

FGB REMOVAL

14. RET to FGB
15. **PGT [B7, CCW2,** 30.5**]**
    (25.5 ft-lb, 30 RPM); 6-in ext
16. Release FGB bolts (4) 10 turns; stop on turns (aft bolts 1st)
    - ❑ GP4 ❑ GP2
    - ❑ GP3 ❑ GP1
17. Temp stow FGB on LMC HR
18. Rotate Bolt 1 clevis vertical

19. **PGT [A7, CW2,** 30.5**]**
    (9.2 ft-lb, 30 RPM); 6-in ext
20. Drive ATA bolt 1, ~16 turns to a hardstop
    - ❑ Verify no white lines visible

TIGHTEN FGB BOLTS FOR ENTRY

21. **PGT [A1, CW2,** 30.5**]**
    (2.5 ft-lb, 30 RPM); 6-in ext
22. Tighten FGB bolts (4) 19 turns (any order)
    - ❑ GP4 ❑ GP2
    - ❑ GP3 ❑ GP1
23. Glove check

24. Tool Inventory (L-R)

FGB INSTALL ON S1 ATA NADIR (00:45)

25. Retrieve FGB from LMC HR, place on BRT
26. Translate to ODS via port sill
27. Retrieve Fairlead Adj tether from ODS

EV2 – Anderson (FF)

PRELIMINARY

EVA 3 INSTALL ATA ON LMC/FGB REMOVAL (01:45) (Cont)

IV/SSRMS	EV1 – Mastracchio (FF)	EV2 – Anderson (FF)
8. √**MCC-H:** S1 TRRJ Locked & S1 SASA OFF FGB Bolt / Torque / Turns / Green Light GP1 GP2 GP3 GP4 9. Report to **MCC-H** when EV1 is clear of the S1 TRRJ; THOR cannot rotate TRRJ to 0 degress for S1 Rad Beam Install until EV1 is clear	28. On IV GO: Translate to S1 ATA worksite, fairlead as reqd 29. Perform tether swap to A/L 85-ft ST (JPM HR 1100): ❑❑ √Gate closed (both hooks) ❑❑ √Hook locked (both hooks) ❑ √Reel unlocked (A/L 85-ft ST) ❑ Temp stow spare 85-ft ST on JPM HR 1100 ❑ √Reel unlocked (spare 85-ft ST) 30. Install FGB onto S1 ATA nadir 31. **PGT [A7, CW2,** 30.5**]** (9.2 ft-lb, 30 RPM); 6-in ext 32. Tighten FGB bolts (4) 8-11 turns to hardstop (any order) ❑ GP4 ❑ GP2 ❑ GP3 ❑ GP1 33. Translate to JPM HR 1100 34. Perform tether swap to spare 85-ft ST (JPM HR 1100): ❑❑ √Gate closed (both hooks) ❑❑ √Hook locked (both hooks) ❑ √Reel unlocked (spare 85-ft ST) ❑ Temp stow A/L 85-ft ST on JPM HR 1100 ❑ √Reel unlocked (A/L 85-ft ST) 35. Translate to PLB; fairlead as reqd	

PRELIMINARY

EVA 3 SSRMS SETUP (00:30)

IV/SSRMS	EV2 – Anderson (SSRMS)
1. Verify SSRMS at LWAPA Approach position   2. SSRMS GCA to APFR install

EVA 3 LWAPA RETRIEVE (01:00)

IV/SSRMS	EV2 – Anderson (SSRMS)
	LWAPA REMOVAL AND TRANSFER TO PLB (01:00)
4. √**MCC-H**: LWAPA inhibits	WARNING LWAPA PIP pins may be sharp
5. SSRMS: On EV2 GO, GCA for access to FRAM handrails	13. GCA SSRMS for access to FRAM handrails, if reqd
6. Verify EV2 config prior to LWAPA bolt removal	14. Attach RET to LWAPA; verify following in good config prior to LWAPA removal ❑ Cooling ❑ Visors ❑ Glove htrs ❑ Helmet lights ❑ Keep heels out ❑ Tethers clear 15. **PGT [A4, CCW2,** 30.5**]** (6.3 ft-lb, 30 RPM); 6-in ext
7. Give EV2 GO for LWAPA FRAM Bolt release	16. On IV GO: ❑ Release primary FRAM bolt ~11 turns to hard stop. (Push ~10 lb to release bolt locking tabs) ❑ √Status Indicator "In" 17. Stow PGT 18. Lift LWAPA from PFRAM
8. SSRMS: On EV2 GO, maneuver to LWAPA Clearance	19. Give SSRMS GO: Maneuver to LWAPA Clearance
9. Verify inhibit in place prior to installing LWAPA on LMC: R1 √PL AFT MNC – OFF	

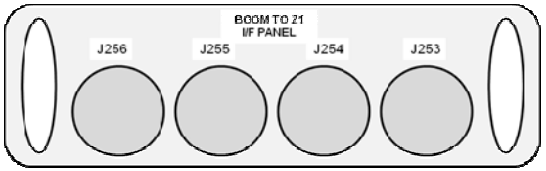
PRELIMINARY

EVA 3 LWAPA RETRIEVE (01:00) (Cont)

IV/SSRMS	EV1 – Mastracchio (FF)	EV2 – Anderson (SSRMS)
1. Record LWAPA bolt data Torque (ft-lb) | Turns | Green Light 2. Verify tool inventory EV1 MWS (L-R) ☐ BRT (L) ☐ RET ☐ Wire Tie (2) ☐ Small ISS Trash Bag ☐ RET (sm-sm) ☐ RET (sm-sm) w/PIP Pin ☐ Adj Tether (1); fairlead ☐ Wire Tie (3 – short) ☐ EVA Camera ☐ RET (sm-sm) ☐ RET (sm-sm) ☐ PGT ☐ 6-in ext ☐ FGB on BRT	LWAPA INSTALL ON LMC (00:30) WARNING LWAPA PIP pins may be sharp 1. Translate to nadir side of LMC 2. GCA SSRMS to LWAPA install position 3. Assist EV2 as reqd 4. Glove check 5. Perform tool inventory 6. If not complete: Stow FGB 7. On IV GO: Translate to A/L 8. Perform tether swap to A/L 85-ft ST (JPM HR 1100): ❑❑ √Gate closed (both hooks) ❑❑ √Hook locked (both hooks) ❑ √Reel unlocked (A/L 85-ft ST) ❑ Temp stow spare 85-ft ST on JPM HR 1100 ❑ √Reel unlocked (spare 85-ft ST) 9. Open thermal cover and stow spare 85-ft ST in A/L 10. Retrieve Tool Relocate C/L bag; egress A/L and close thermal cover 11. Stow Tool Relocate C/L bag on BRT 12. Verify EV1 SAFER and WVS config: ❑ √R Handle down (HCM door – Closed) ❑ √L Handle down (MAN ISO Valve – Open) 13. Glove check	LWAPA INSTALL ON LMC (00:30) 1. GCA SSRMS to LWAPA install position 2. **On IV GO:** Position LWAPA on PFRAM using FRAM alignment stripes 3. **PGT [A4, CW2,** 30.5**]** (6.3 ft-lb, 30 RPM); 6-in ext 4. Engage primary FRAM bolt ~11 turns to hard stop ❑ √Status indicator 'out' (Push ~10 lb to release bolt locking tabs) 5. Release RET from LWAPA 6. Tool inventory prior to leaving PLB (L-R) ☐ BRT (L) ☐ RET (sm-sm) ☐ Wire Tie (2) ☐ Adj Tether ☐ Small ISS Trash Bag ☐ RET (sm-sm) ☐ RET (sm-sm) ☐ RET (sm-sm) w/PIP Pin ☐ Wire Tie (2 – short) ☐ EVA Camera ☐ RET (sm-sm) ☐ RET w/PIP Pin ☐ PGT w/6-in ext ☐ Adj Tether (0) on wrists; fairleads

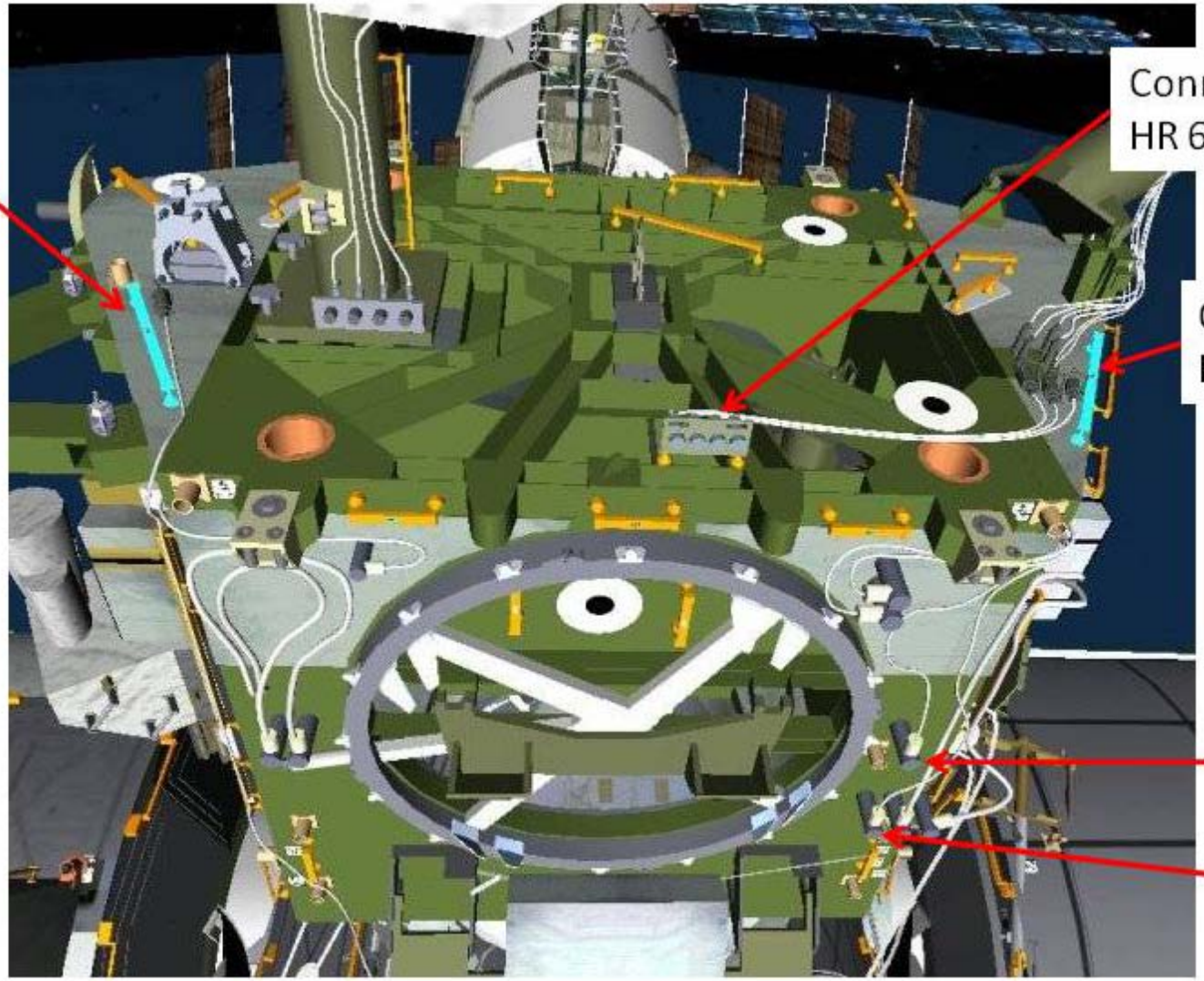
PRELIMINARY

EVA 3 Z1 SGANT PREP FOR ULF-4 (00:45)

IV/SSRMS	EV1 – Mastracchio (FF)
 J256 J255 J254 J253 Boom to Z1 Interface Panel 1. √**MCC-H**: Z1 SGANT inhibits in place 2. Record WVS survey	WARNING MMOD strike on A/L HR 0537 may be sharp 2-ft KOZ for SSPTS cable floating connectors on NOD1 Stbd/Fwd HR 0130 CAUTION Avoid inadvertent contact with spare Z1 SASA, Z1 heat pipe radiators and S0 aft face radiator On demated connectors, do not rotate collar or manipulate cable/connector using collar or connector tool 1. Translate to Z1 HR 6053 on zenith side of Z1 via zenith/aft A/L gas tank and Z1 stbd/aft corner 2. Wire-tie free end of Z1 interface connector panel to stbd stanchion of Z1 HR 6053 with connector caps facing ISS fwd 3. Remove caps (2) from the Z1 interface connector panel on Z1 HR 6053 (Caps can be tethered by either RET or Cannon Connector Tool) ☐ J255 ☐ J256 4. Release TA-clamps on Z1 cables W120 (P255/J155) and W140 (P256/J156) 5. Close TA-clamps with cables out of clamps 6. On IV GO: Demate cannon connectors (2) from Z1 fwd face ☐ P255 (W120) from J155 ☐ P256 (W140) from J156 NOTE Prior to mating connectors check no FOD, no bent pins, good EMI band 7. Mate caps (2) to Z1 fwd face to jacks that previously held connectors P255 and P256 ☐ J155 ☐ J156 8. Mate cannon connectors (2) to Z1 interface connector panel on Z1 HR 6053 ☐ P255 (W120) to J255 ☐ P256 (W140) to J256 9. Translate to Z1 HR 6054 on Z1 port/zenith 10. Release wire-tie from Z1 HR 6054 leaving it on the cable bundle 11. Relocate cable bundle to Z1 HR 6052 on Z1 stbd/zenith and attach to handrail with second wire-tie 12. Perform WVS surveys of SGANT worksites (Caps, connectors, cable bundle, and interface panel)

PRELIMINARY

EVA 3 Z1 SGANT PREP FOR ULF-4 (00:45)



EVA 3 S1 RAD GF STOW BEAM INSTALL (01:00)

IV/SSRMS	EV1 – Mastracchio (FF)
S1 Inboard Stowage Beam Bolts [table below]	S1 RADIATOR GF STOWAGE BEAM INSTALL 1. Translate to A/L 2. Stow Tool Relocate C/L bag on A/L HR 3. Retrieve S1 Rad GF Bean bag (take Lg-sm RET) from A/L HR 4. Place in BRT CAUTION Avoid kicking S1 radiator beam. If this occurs, wait 2 to 5 min to allow structural response to dissipate 5. Translate zenith at S1 FHRC to S1 HR 3250 6. Temp stow Beam ORU bag on S1 HR 3251 (nadir edge of S1) 7. Perform socket swap to 5/8 x 7.8-in ❑ Pull test 8. **PGT [B1, CW2,** 30.5**]** (12.0 ft-lb, 30 RPM); 5/8 x 7.8-in ext 9. Retrieve inboard stowage beam 10. Translate to S1 HR 3252 inboard 11. BRT to S1 HR 3252, as reqd 12. Place inboard stowage beam on radiator beam per picture with tether point facing ISS fwd (away from radiator) 13. Depress bolts (2) of inboard stowage beam to engage zip nuts 14. Torque bolts (2) of inboard stowage beam ❑ ❑ 15. Check no white lines visible on bolts ❑ ❑ 16. Translate outboard to S1 HR 3236 17. BRT to S1 HR 3236, as reqd 18. Place outboard stowage beam on radiator beam per picture with tether point facing ISS fwd (away from radiator) 19. Depress bolts (2) of outboard stowage beam to engage zip nuts

	Torque	Green Light
Fwd		
Aft		

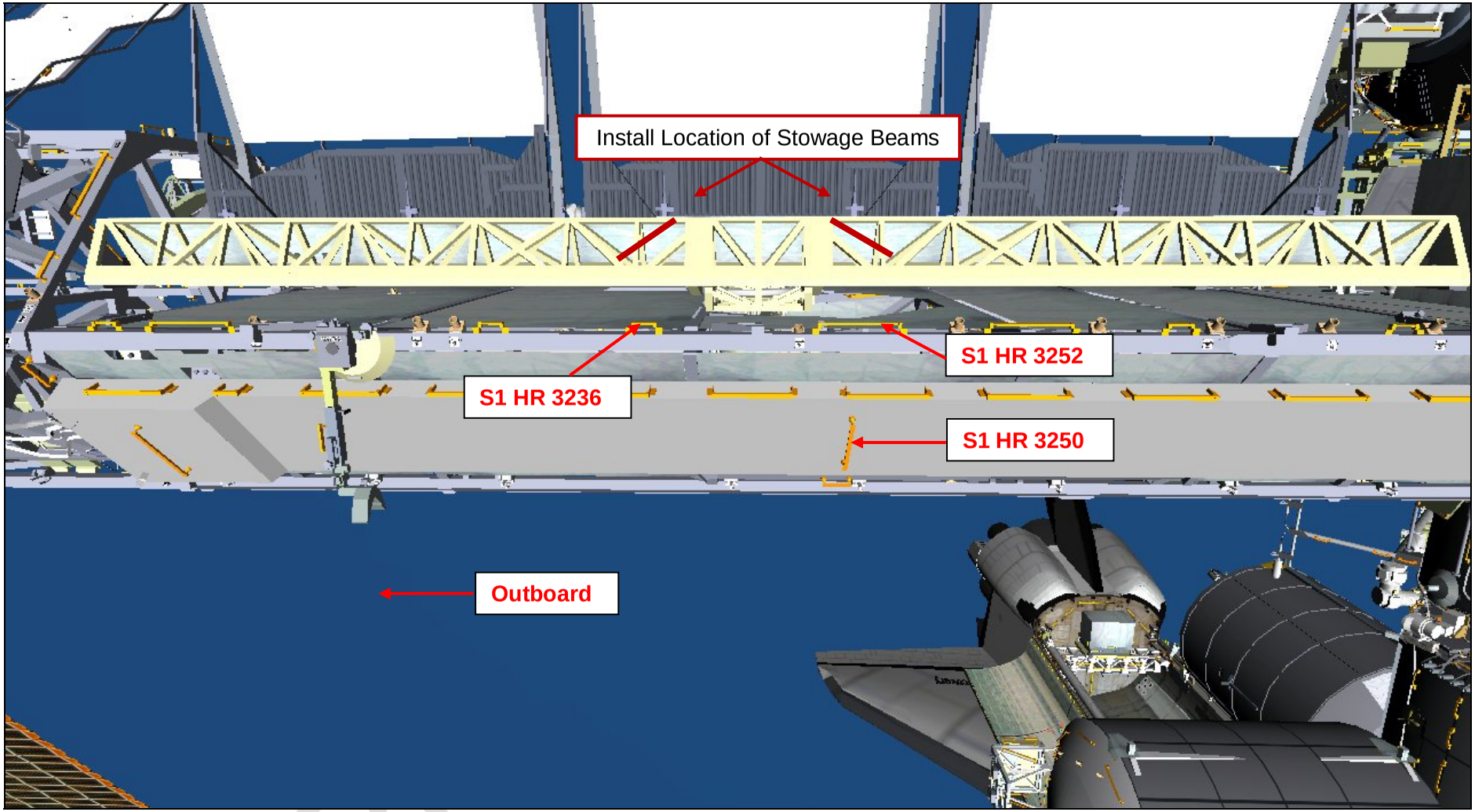
PRELIMINARY

EVA 3 S1 RAD GF STOW BEAM INSTALL (01:00)

IV/SSRMS	EV1 – Mastracchio (FF)
S1 Outboard Stowage Beam Bolts Fwd: Torque ____ Green Light ____ Aft: Torque ____ Green Light ____ Beam bag inventory: ☐ **Beam Bag** (Med ORU Bag) ☐ RET (Lg-sm) ☐ RET (sm-sm) ☐ RET (sm-sm) ☐ RET (sm-sm) ☐ Socket Caddy ☐ 5/8 x 7.8 in socket (center post)	20. **PGT [B1, CW2,** 30.5**]** (12.0 ft-lb, 30 RPM); 5/8 x 7.8-in ext 21. Torque bolts (2) of outboard stowage beam ❑ ❑ 22. Check no white lines visible on bolts ❑ ❑ 23. Perform socket swap back to 6-in 24. Retrieve Beam ORU bag 25. Perform Beam ORU bag inventory 26. Verify TRRJ Launch Lock in stowed position 27. Glove check

PRELIMINARY

EVA 3 S1 RAD GF STOW BEAM INSTALL (01:00)



EVA 3 SSRMS CLEANUP (01:00)

IV/SSRMS	EV1 – Mastracchio (FF)	EV2 – Anderson (FF)
1. SSRMS: On EV2 GO, maneuver to LWAPA Clearance position 2. SSRMS GCA to APFR egress 3. Verify tool inventory of EV2 MWS ☐ BRT (L) ☐ RET (sm-sm) ☐ Wire Tie (2) ☐ Small ISS Trash Bag ☐ RET (sm-sm) ☐ RET (sm-sm) ☐ RET (sm-sm) w/PIP Pin ☐ Adj Tether ☐ Wire Tie (2 – short) ☐ RET w/PIP Pin ☐ PGT ☐ 6-in ext ☐ Adj Tether (1) on wrist; fairlead ☐ **C/L Bag** ☐ Adj Tether ☐ 55-ft ST ☐ WIF Adapter (Int RET) ☐ EVA Camera w/Bracket ☐ RET (sm-sm) ☐ RET sm-sm ☐ BRS Pin Tool ☐ RET sm-sm ☐ Prybar ☐ Rd TM (Int RET) ☐ 7/16-in flush socket ☐ Ratchet w/no PW ☐ 2-in socket ☐ Socket Caddy ☐ 2-in socket		<u>SSRMS CLEANUP</u> (01:00) 1. Give SSRMS GO: Maneuver to LWAPA Clearance position 2. GCA SSRMS for APFR Egress 3. Egress APFR 4. Perform tether swap to Spare 85-ft ST: ❑❑ √Gate closed (both hooks) ❑❑ √Hook locked (both hooks) ❑ √Reel unlocked (Spare 85-ft ST) ❑ Retrieve SSRMS LEE 55-ft ST; stow inside C/L bag ❑ √Reel unlocked (55-ft ST) 5. Retract and lock ingress aid; fold to boot plate 6. RET to APFR, remove from WIF adapter 7. Place APFR on BRT 8. RET to WIF adapter, remove PIP pin, stow in C/L Bag 9. Verify tools and tethers clear of SSRMS 10. Give SSRMS GO to mnvr to COL backoff posn 11. Retrieve C/L bag and perform tool inventory 12. Tether C/L bag to APFR boot plate 13. Translate to NODE 2 WIF 7 and pickup fairlead 14. Install APFR **[12,NN,F,6]** into NODE 2 WIF 7 ❑ √Blk-Blk ❑ Pull/Twist test ❑ √AIA retracted and locked, folded to boot plate 15. Retrieve C/L bag from APFR boot plate; stow on BRT 18. Translate to A/L ST on NODE 2 HR 0359 19. Perform tether swap to A/L 85-ft ST on NODE 2 HR 0359: ❑❑ √Gate closed (both hooks) ❑❑ √Hook locked (both hooks) ❑ √Reel unlocked (A/L 85-ft ST) ❑ Temp stow Spare 85-ft ST MWS ❑ √Reel unlocked (Spare 85-ft ST)

PRELIMINARY

EVA 3 CLEANUP/INGRESS (00:30)

IV/SSRMS	EV1 – Mastracchio (FF)	EV2 – Anderson (FF)
Prior to Ingress: 4. Perform WVS PWRDN (PHOTO/TV, WVS CUE CARD)	CLEANUP/INGRESS (00:30) 1. Translate to A/L 2. Transfer Beam ORU bag to EV2 3. Connect waist tether to EV2 85-ft ST 4. On EV2 GO: Disconnect EV2 85-ft ST from aft A/L anchor point ❑❑ √Gate closed (both hooks) ❑❑ √Hook locked (both hooks) 5. Release EV1 85-ft ST from fwd A/L anchor point; stow on MWS 6. Ingress A/L 7. Close thermal cover; attach Velcro strap 8. Remove SCU from stowage pouch 9. Remove DCM cover; Velcro to DCM 10. Connect SCU to DCM; √SCU Locked	CLEANUP/INGRESS (00:30) 1. Translate to A/L 2. Retrieve fairlead from LAB HR 0252 (0247) 3. Open A/L thermal cover and attach C/L bag to RET (Lg-Sm); stow in A/L 4. Retrieve Tool Relocate C/L bag and attach to RET (Lg-sm); stow in A/L 5. Ingress A/L 6. Connect waist tether to A/L D-ring ext ❑ √Gate closed ❑ √Hook locked 7. Receive Beam ORU bag from EV1 8. Attach Beam ORU bag to RET (Lg-sm); stow in A/L 9. Give EV1 GO to disconnect EV2 85-ft ST 10. Remove SCU from stowage pouch 11. Remove DCM cover; Velcro to DCM 12. Connect SCU to DCM; √SCU Locked
	NOTE To reduce time for SCU cooling, set TCV 8 – Max C	
	11. WATER – OFF (fwd), expect H2O IS OFF msg	13. WATER – OFF (fwd), expect H2O IS OFF msg
	CAUTION Do not close hatch until EMU Water OFF for 2 min	
	12. √EV hatch clear of FOD and obstructions 13. Verify EV hatch handle position per hatch decal; close and lock Go to PRE-REPRESS (DEPRESS/REPRESS Cue Card)	Go to PRE-REPRESS (DEPRESS/REPRESS Cue Card)

PRELIMINARY