



STS-133/ULF5

FD 03 Execute Package

MSG	Page(s)	Title
007A	1 - 16	FD03 Flight Plan Revision
008	17 - 18	FD03 Mission Summary
009	19 - 22	FD03 ULF5 SODF Transfer
010	23	ULF5 Pen and Ink for 2.104 Hatch Opening and Shuttle/ISS Duct Installation
011A	24 - 27	FD03 Transfer Message
012	28	LiOH Transfer
013	29 - 30	Water Ops CC
014	31 - 35	Rendezvous Execute Package
015	36 - 38	Exp 26 and STS-133/ULF5 Emergency Response Agreements

Approved by FAO:
Greg Whitney

Last Updated: Feb 26 2011 10:35 AM GMT
JEDI (Joint Execute package Development and Integration), v3.0

Peggy decides on a crew replacement



“Hmm, Mastracchio, Massimino and Metcalf-Lindenburger just won’t fit. Bowen it is!

MSG 007A - FD03 FLIGHT PLAN REVISION

MSG INDEX

<u>MSG NO.</u>	<u>TITLE</u>
007	FD03 Flight Plan Revision (26-0869)
008	FD03 Mission Summary
009	FD03 ULF5 SODF Transfer (26-0826)
010	ULF5 Pen & Ink for 2.104 Hatch Opening and Shuttle/ISS Duct Installation (26-0826)
011	FD03 Transfer Message (26-0870)
012	LiOH Transfer (26-0871)
013	Water Ops CC
014	Rendezvous Execute Package
015	Exp 26 and STS-133/ULF5 Emergency Response Agreements (26-0872)

1. **STS-133/ULF5 FD02 - MMT Summary** - The MMT met briefly today to review the orbiter systems and mission progress. Discovery performed flawlessly during launch and the teams are not working any issues. The ISS crew and team are anxiously awaiting your arrival tomorrow.

2. **Comm Loop Overview**

FD3 GENERAL COMMUNICATION LOOP OVERVIEW

S/G 1 & A/G 1	S/G 2	A/G 2
<ul style="list-style-type: none"> • Rendezvous, RPM • Docking • ELC Unberth & Install • Exercise Constraints 	<ul style="list-style-type: none"> • Water Samples • Russian Ops • Hatch Open/ PAO • RFTA R&R • DPC • All other ISS Comm 	<ul style="list-style-type: none"> • Transfer • All other STS Comm

3. **S-Band Frequency Changes** - INCO will be configuring the S-Band system to Low Freq for the Rendezvous timeframe to maintain a better forward link. Approximately 1 hour after hard mate INCO will configure the S-Band system back to High Freq.

4. **WHC Crew Allocation** - Per the pre-flight plan, 3 Shuttle crew equivalent should use the WHC while hatches are open. However, WHC usage cannot begin until the ISS Crew is complete with the RFTA R&R. MCC will provide a GO for WHC usage.

5. **Water Dump Details** - Today you will perform a simo supply/waste water dump using SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS), p.5-3. MCC will TMBU limits in steps B and K. Do not perform Step J.

The supply nozzle open time will be 15 minutes.

Dump the waste tank to 5%. Nozzle open time will be approximately 20 minutes.

MSG 007A - FD03 FLIGHT PLAN REVISION

1 6. **SSRMS** - When SSRMS was walked off to Node 2, the base LEE was left rigidized.
2 Therefore after the SSRMS walkoff to the MBS, step 13.2 of 1.120 ELC4 UNBERTH
3 AND INSTALL is not required.

4
5 7. Replace pages 2-6 through 2-9 and 3-20 through 3-29.
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50

END OF PAGE 2 OF 16, MSG 007A

NO UNISOLATED EXERCISE
DIRECT DEADBAND COLLAPSE
REPLANNED

GMT 02/26/11 (057)

10 11 12 13 14 15 16 17 18 19 20 21 22 23 002/00

MET Day 001

ISS	TDRS	AVAIL	Timeline (GMT 02/26/11)																																											
ISS	FD03		SLEEP	POST SLEEP	PW DPC	ARED	N 2	CEVIS	RFTA R&R	⊕	TIMER	TIMER	◆	PARAV 2	CAM-0	HATCH LEAK CK ISS	CUP	SSRT MUI SPO	SAU D I I PO	INGRS HATCH OPEN	WLCM	SAFETY BRIEF																								
	FE-1 KALERI		SLEEP	POST SLEEP	PW DPCPW	♥	TVIS	БРТК DEINS	БРТК МБРЛ PCE DEINST		MIDDAY-MEAL										WLCM	SAFETY BRIEF																								
	FE-2 SKRIPCHKA		SLEEP	POST SLEEP	PW DPCPW		МБИ-20-FE2-EXE		ARED-FE-2		MIDDAY-MEAL								φ	REBOOT	•	WLCM	SAFETY BRIEF																							
	FE-4 KONDRATYEV		SLEEP	POST SLEEP	PW DPCPW	∇	CCBP-CtM-RECONFIG				MIDDAY-MEAL									TEX 22 DNLD		WLCM	SAFETY BRIEF																							
	FE-5 NESPOLI		SLEEP	POST SLEEP	PW DPC	RPM SETUP	PFC	ARED	CEVIS		PREP 800	◇								HATCH LEAK S/U CK ISS	⊕	SSRT MUI SPO	INGRS HATCH OPEN	WLCM	SAFETY BRIEF																					
	FE-6 COLEMAN		SLEEP	POST SLEEP	PW DPC	RPM SETUP	*	TVIS2	PFC	COUCB ET LAB	◆	BCAT CAM CK	⊕												WLCM	SAFETY BRIEF																				
DAY/NIGHT ORBIT ALL VHF			25	26	27	28	29	30	31	32	33																																			
NOTES			▲СОГС-ЭЛКТ-АФ-БЖ-МОН											▲CGBA-STATUS-CHECK											⊕WHC-CONFIG-UPA											⊕INGRS HATCH OPEN										
			♥БРТК МБРЛ CLOUTPREP1											◆MIDDAY-MEAL											▲EHS-IGDS-RETRIEVE											▲C&T-AUDIO-CNFG										
			∇МБИ-20-FE2-HELP											◇MIDDAY-MEAL											⊕TEX-15-DAK-DNLD											FE2										
			*USOS-SHUTTER-CLS											⊕MERLIN-DESCANT-RMV											*01/21:22											●COTC-AKIM-STS-SAM										

NO EXERCISE
ELC <2ft FROM STRUCTURE

EXERCISE CONSTRAINTS
SEE DETAILS

REPLANNED

GMT 02/26/11 (057)

002/00

MET Day 002

		22	23	02/27	01	02	03	04	05	06	07	08	09	10	11	12	
STS-133	CDR LINDSEY	P/TV 05 S/U	PRP S / TV U	P/TV6 OPS		P C B XFER INIT	N2 XFER INIT	P/TV6 OPS	PRE SLEEP	PMC A/G	PGR PL	PRE SLEEP		SLEEP			
	PLT BOE	02 XFER SETUP	SRMS H/O	SODF XFER	SRMS MNVR HAND BACK	ELC #	CWC S/U	PRE SLEEP	PGR PL	PRE SLEEP		SLEEP					
	MS1 DREW	PST DCK XFR	EVA XFR CFG	SRMS H/O	SRMS MNVR HAND BACK	P/TV6 OPS	ELC #	PRE SLEEP	ELC4 INSTALL	PRE SLEEP		SLEEP					
	MS2 BOWEN	PST DCK EVA XFR RCFG			LIOH XFER	SSM S E D U K P	PRE SLEEP		SLEEP								
	MS3 BARRATT	ELC UNBRTH	ELC H/O	MNVR *	SSRMS MNVR HAND BACK	SSRMS ELC INSTALL	PRE SLEEP		SLEEP								
	MS4 STOTT	ELC UNBRTH	ELC H/O	MNVR *	BASE CHANGE	SSRMS MNVR HAND BACK	SSRMS ELC INSTALL	PRE SLEEP		SLEEP							
STS	DAY/NIGHT ORBIT	33		34		35		36		37		38		39		40	41
STS	TDRS W E Z	[Timeline bars for TDRS W E Z]															
ISS	TDRS AVAIL	[Timeline bars for TDRS AVAIL]															
	ORB ATT	BIAS -XLV -ZVV															
	NOTES	%SURVEY@STATUS CHECK #RELEASE *SSRMS TO MBS/PDGF															

NO EXERCISE
ELC <2ft FROM STRUCTURE

EXERCISE CONSTRAINTS
SEE DETAILS

REPLANNED

GMT 02/26/11 (057)

002/00

01

02/27
02

03

04

05

06

07

08

09

10

11

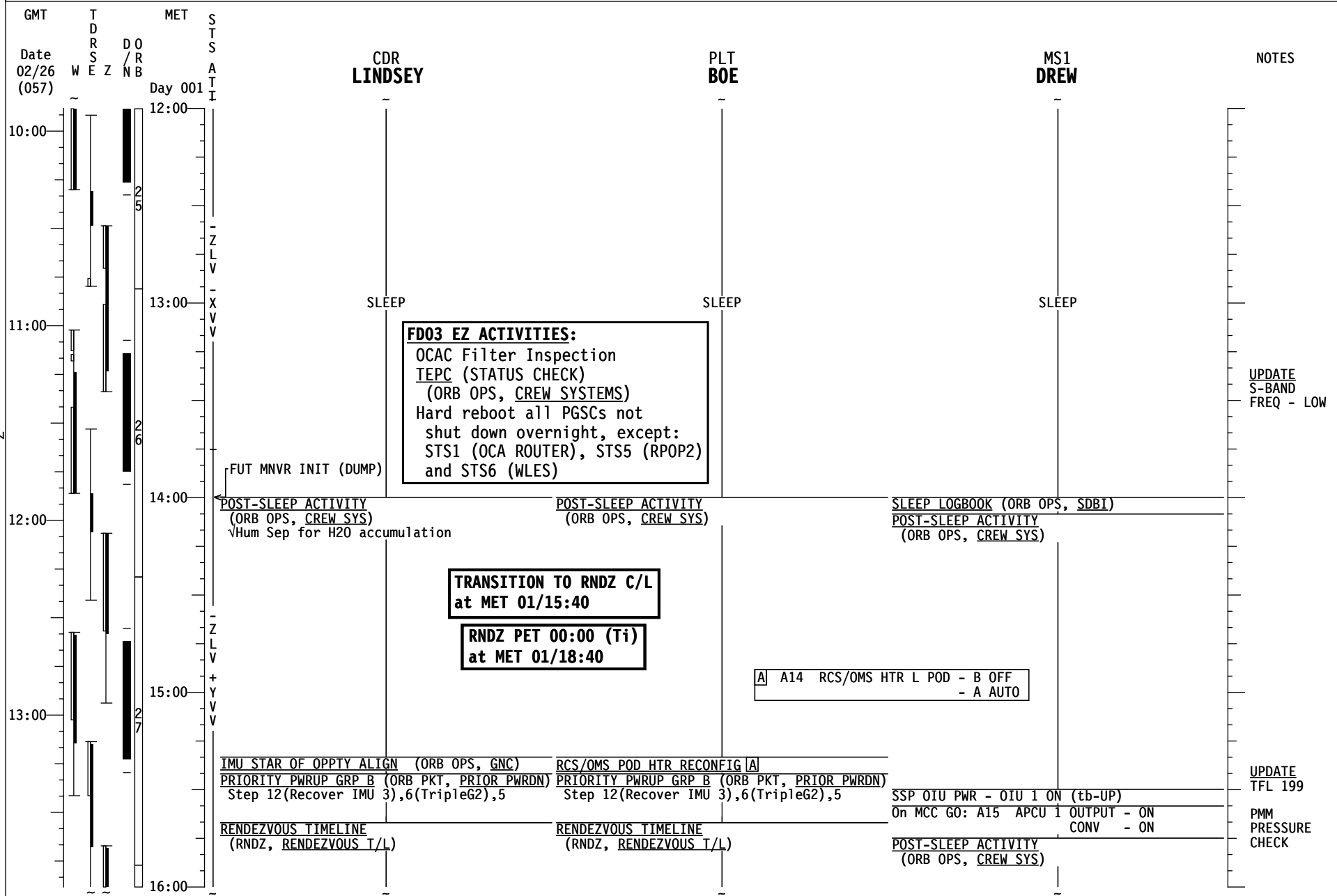
12

MET Day 002

ISS	TDRS	AVAIL	ISS												
ISS	FD03	ISS CDR S. KELLY	02 XFER SETUP	ONLINE			N2 XFER INIT	P /T V D	PW		PRE SLEEP-ISS			SLEEP	
		FE-1 KALERI	БРТК-МБРЛ-РСЕ-ДЕINST						PW		PRE SLEEP-ISS			SLEEP	
		FE-2 SKRIPCHKA	*		I M S - E D I T	⊕	◆	Ⓢ	PW		PRE SLEEP-ISS			SLEEP	
		FE-4 KONDRATYEV											PRE SLEEP-ISS		SLEEP
		FE-5 NESPOLI	PST DCK EVA XFR RCFG	D M S	SODF XFER					PW	D M S	PRE SLEEP-ISS		SLEEP	
		FE-6 COLEMAN	P /T V - A					V D S I N S	IMV FLOW	D X S	PW	♥	ELC4 INSTALL	PRE SLEEP-ISS	SLEEP
DAY/NIGHT															
ORBIT															
ALL VHF															
NOTES			♣ЭЛЕКТР MONTR ⊕R-PAO-CHRONICLE-P/V2 ◆СОГС-ИП-1-MNT ⓈСОГС-ЭЛКТ-АФ-БЖ-MON ♥PRE SLEEP-ISS												

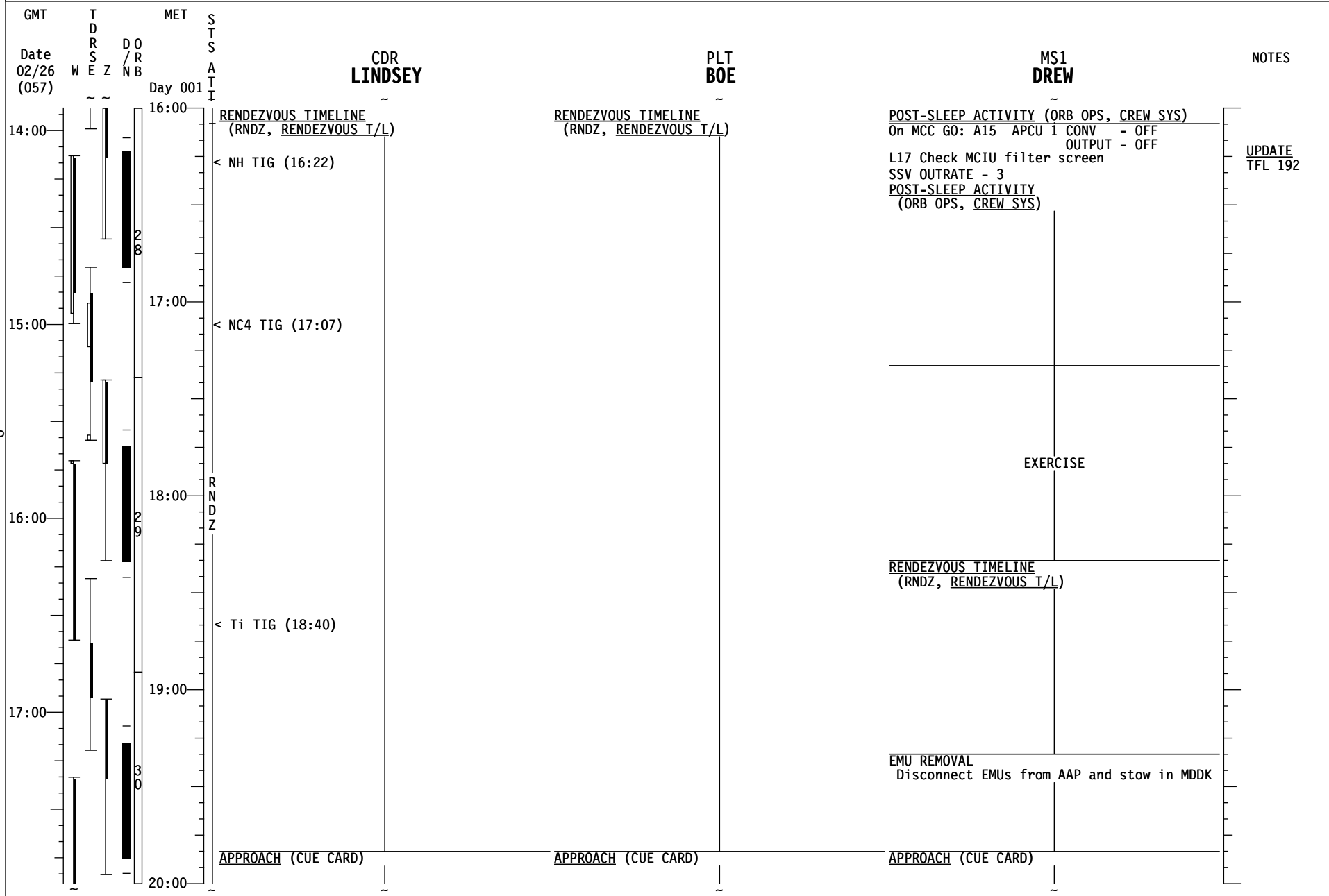
STS-133 FD (03)

REPLANNED



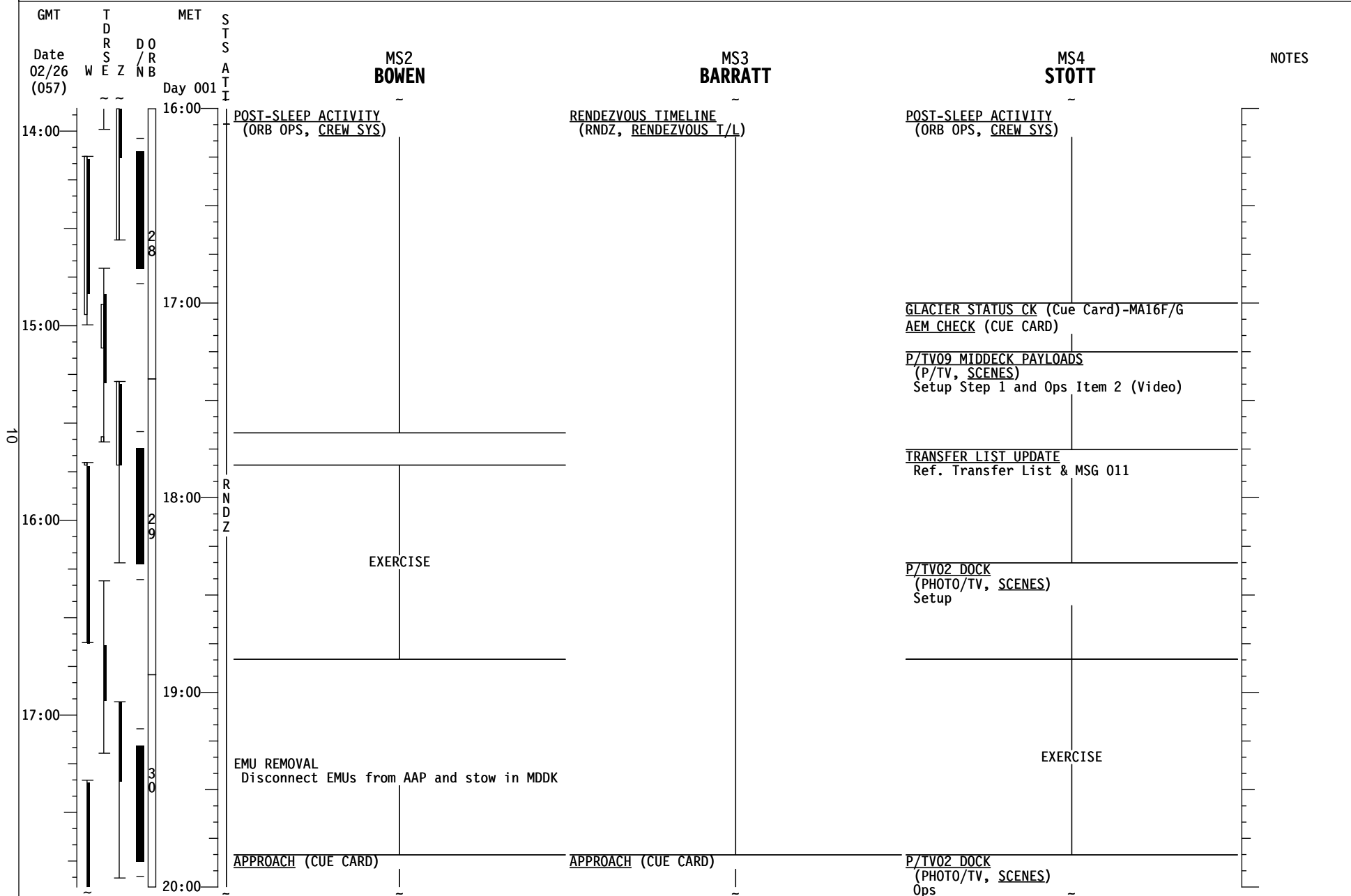
STS-133 FD (03)

REPLANNED



STS-133 FD (03)

REPLANNED



STS-133 FD (03)

REPLANNED

GMT	TDRS W E Z	MET	STS A T I	CDR LINDSEY	PLT BOE	MS1 DREW	NOTES
Date 02/26 (057)		Day 001					
18:00				APPROACH (CUE CARD)	APPROACH (CUE CARD)	APPROACH (CUE CARD)	UPDATE B21+MASK Box 1,2,4
19:00				DOCKING (1/21:22)	<div style="border: 1px solid black; padding: 2px;"> C Single G2 - After MNVR Complete Step 3: √MCC or Pause -4 min (DAP settling) DAP: as req'd </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> D On MCC GO: A15 OPCU 1,2 CONV(two) - ON R1 MN BUS TIE B - ON(tb-ON) C - ON(tb-ON) </div>		
RETURN TO FLIGHT PLAN							
20:00				POST DOCKING HATCH LEAK CHECK (RNDZ, APDS)	MNVR (TRK) BIAS -XLV -ZVV TG=2 BV=5 P=165.31 Y=0.41 OM=193.00 (1/21:42) Init TRK, DAP:FREE > 2 sec, then DAP: A12/AUTO/VERN		UPDATE B21+MASK Box 1,3,4 UPDATE TFL 184
21:00				PRIORITY PWRDN GRP B (ORB PKT, PRIOR PWRDN) Steps 6(C), & 12 (In Step 12, IMU 3 STBY-ITEM 23 EXEC) B06 S TRK PWR -Z - OFF I When ISS is GO for deadband collapse: A DAP: B13 S - JOINT OPS: 2.104 HATCH OPENING AND X SHUTTLE/ISS DUCT INSTALL L Perform Steps 3-15. Refer to MSG 010 V for an updated step 10.4 that installs V the IMV cone screen. Z - MCC-H will perform Steps 12-13 & V 16-18	PRIORITY PWRDN GRP B (ORB PKT, PRIOR PWRDN) Steps 6(C), & 12 (In Step 12, IMU 3 STBY-ITEM 23 EXEC) 06 S TRK PWR -Z - OFF When ISS is GO for deadband collapse: DAP: B13 When ISS is GO for ATT control, DAP:FREE Rtrn DAP A12/FREE/VERN,Rcnfg DAP B to B12 SPTS ODS CONNECTOR VERIF A15 ODS MATE X1,X2 (two) - ON √MCC then - OFF	SSV OUTFATE - 2 JOINT OPS: 6.109 HARDLINE ICOM AUDIO Steps 1,5,&6	UPDATE S-BAND FREQ - HIGH NO UNISOLATED EXERCISE WHILE ON DAP:B13
22:00							
23:00				WELCOME JOINT OPS: 12.100 SHUTTLE CREW SAFETY BRIEFING	WELCOME JOINT OPS: 12.100 SHUTTLE CREW SAFETY BRIEFING	WELCOME JOINT OPS: 12.100 SHUTTLE CREW SAFETY BRIEFING	
00:00							

STS-133 FD (03)

REPLANNED

GMT	TDRS W E Z	MET	STS A T I	MS2 BOWEN	MS3 BARRATT	MS4 STOTT	NOTES
Date 02/26 (057)		Day 001					
18:00				APPROACH (CUE CARD)	APPROACH (CUE CARD)	P/TV02 DOCK (PHOTO/TV, SCENES) Ops	
19:00				DOCKING (1/21:22)			
RETURN TO FLIGHT PLAN							
20:00				POST DOCKING HATCH LEAK CHECK (RNDZ, APDS)		P/TV04 INGRESS/EGRESS (PHOTO/TV, SCENES) Setup	
21:00				AIRLOCK PREP FOR INGRESS - AIRLOCK FAN ACTIVE (RNDZ, APDS)		AIRLOCK PREP FOR INGRESS - AIRLOCK FAN ACTIVE (RNDZ, APDS)	
22:00				JOINT OPS: 2.104 HATCH OPENING AND SHUTTLE/ISS DUCT INSTALL Perform Steps 3-15. Refer to MSG 010 for an updated step 10.4 that installs the IMV cone screen. MCC-H will perform Steps 12-13 & 16-18		P/TV04 INGRESS/EGRESS (PHOTO/TV, SCENES) Ops	
23:00				WELCOME	DIGITAL VIA VTR (CUE CARD, DIGITAL PLAYBACK) Docking KU TDRW (23:10-23:34)	WELCOME	
				JOINT OPS: 12.100 SHUTTLE CREW SAFETY BRIEFING	JOINT OPS: 12.100 SHUTTLE CREW SAFETY BRIEFING	JOINT OPS: 12.100 SHUTTLE CREW SAFETY BRIEFING	
00:00							

NO UNISOLATED EXERCISE WHILE ON DAP:B13

STS-133 FD (03)

REPLANNED

GMT	TDRS W E Z	MET DO NRB	S T S A T I	CDR LINDSEY	PLT BOE	MS1 DREW	NOTES
Date 02/26 (057)		Day 002					
22:00				P/TV05 ISS INTERNAL OPS (HC) (PHOTO/TV, SCENES) Setup	<u>02 REPRESS INIT</u> [E] <u>JOINT OPS: 3.115 OXYGEN TRANSFER SETUP</u> Steps 2-6 MCC-H will perform Steps 2.4 & 6.6	<u>POST DOCKING EVA TRANSFER & RECONFIG</u> (EVA, AIRLOCK CONFIG) Ref Transfer List Items 64-69	NO EXERCISE WHILE ELC IS <2ft FROM STRUCTURE
				<u>ROBO: 1.120 ELC4 UNBRTH AND INSTL</u> Steps 3-5			
				P/TV06 ROBOTICS OPERATIONS (P/TV, SCENES) Setup			
				P/TV06 ROBOTICS OPERATIONS (P/TV, SCENES) Ops	<u>02 REPRESS TERM (On MCC GO)</u> [F] <u>JNT OPS:3.117 LOW PRESS TANK O2 XFER</u> Step 2		
23:00				[E] OCAC PWR - OFF C5 DIRECT O2 vlv - OP Perform the following H/W C&W actions: R13U H/W C&W CH 034,044 (two) - INH MCC will TMBU all S/W limits	<u>ELC4 HANDOFF</u> (PDRS, ELC4 NOMINAL) EXERCISE CONSTRAINT	<u>ELC4 HANDOFF</u> (PDRS, ELC4 NOMINAL) EXERCISE CONSTRAINT	
				[F] C5 DIRECT O2 vlv - CL OCAC PWR - ON Perform the following H/W C&W actions: R13U H/W C&W CH 034,044 (two) - ENA MCC will TMBU all S/W limits	<u>SODF TRANSFER</u> Ref. Transfer List Items 49,50,50.1		
00:00					<u>ELC4 HANDBACK</u> (PDRS, ELC4 NOMINAL) Steps 1,2	<u>ELC4 HANDBACK</u> (PDRS, ELC4 NOMINAL) Steps 1,2	
				<u>S&M: A.6 PASSIVE CBM INSPECTION REFERENCE</u> Use Shuttle Airlock Hatch Window		P/TV06 ROBOTICS OPERATIONS (P/TV, SCENES) Ops	NO EXERCISE WHILE SRMS AND SSRMS ARE GRAPPLED TO ELC
				<u>JOINT OPS: 3.102 NITROGEN TRANSFER INIT</u> Setup and Initiate Verify MCC-H complete with Step 2, then perform 3-4.3	<u>ELC4 HANDBACK (PDRS, ELC4 NOMINAL)</u> Step 3 EXERCISE CONSTRAINT	<u>ELC4 HANDBACK (PDRS, ELC4 NOMINAL)</u> Step 3 EXERCISE CONSTRAINT	
				P/TV06 ROBOTICS OPERATIONS (P/TV, SCENES) Ops	<u>SHUTTLE/ISS H2O CNTR FILL</u> (ORB OPS, ECLS) Perform <u>EQUIP PREP</u> and <u>WATER TRANSFER HOSE PURGE</u> Ref MSG 013	<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)	NO EXERCISE FROM MNVR TO INSTL TO 1st STAGE CAPTURE
01:00				<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)	<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)		
						<u>S&M: 1.911 PAS NORMAL MATE</u> Steps 6-17 EXERCISE CONSTRAINT	
04:00							

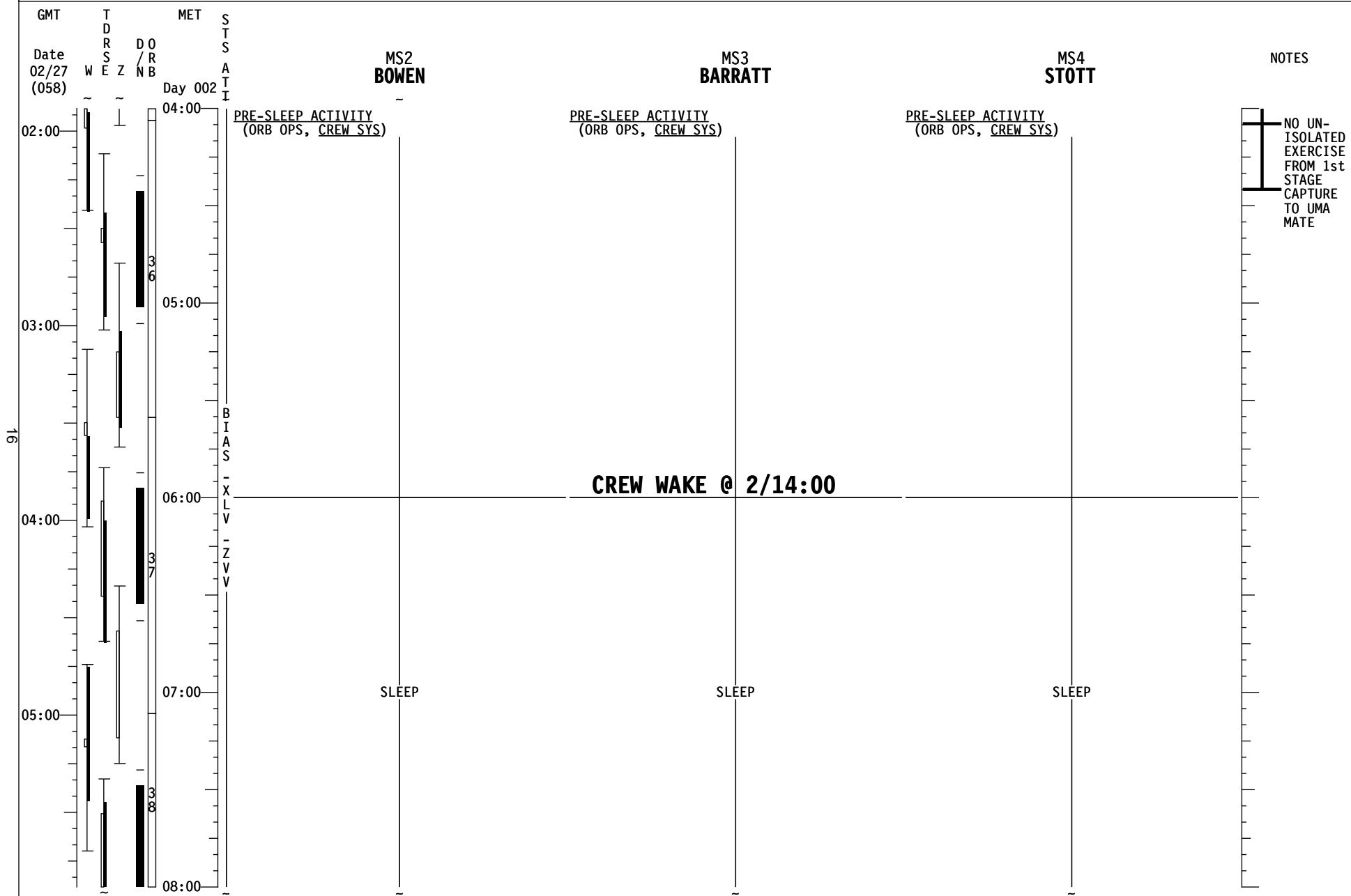
STS-133 FD (03)

REPLANNED

GMT	T D R S W E Z	MET Day 002 I	S T S A T I	MS2 BOWEN	MS3 BARRATT	MS4 STOTT	NOTES
22:00	~	00:00		<u>POST DOCKING EVA TRANSFER & RECONFIG</u> (EVA, AIRLOCK CONFIG) Ref Transfer List Items 64-69	<u>ROBO: 1.120 ELC4 UNBERTH AND INSTALL</u> Steps 1-7 EXERCISE CONSTRAINT	<u>ROBO: 1.120 ELC4 UNBERTH AND INSTALL</u> Steps 1-7 EXERCISE CONSTRAINT	NO EXERCISE WHILE ELC IS <2ft FROM STRUCTURE
23:00		01:00			<u>ROBO: 1.120 ELC4 UNBERTH AND INSTALL</u> Step 8 EXERCISE CONSTRAINT	<u>ROBO: 1.120 ELC4 UNBERTH AND INSTALL</u> Step 8 EXERCISE CONSTRAINT	
		02:00			<u>ROBO: 1.120 ELC4 UNBERTH AND INSTALL</u> Steps 9-11 EXERCISE CONSTRAINT	<u>ROBO: 1.120 ELC4 UNBERTH AND INSTALL</u> Steps 9-11 EXERCISE CONSTRAINT	
00:00		02:00		<u>LIQH TRANSFER</u> Ref. MSG 012 Ref. Transfer List Items 2,3,4,709 & 736	<u>ROBO: 1.120 ELC4 UNBERTH AND INSTALL</u> Steps 12-15 EXERCISE CONSTRAINT Ref. MSG 007 Item 6	<u>ROBO: 1.120 ELC4 UNBERTH AND INSTALL</u> Steps 12-15 EXERCISE CONSTRAINT Ref. MSG 007 Item 6	NO EXERCISE WHILE SRMS AND SSRMS ARE GRAPPLED TO ELC
		03:00		<u>ORBITER SSC SETUP</u> Ref. Transfer List Item 749			
01:00		03:00		<u>GLACIER STATUS CK (Cue Card)-MA16F/G</u> <u>PRE-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)	<u>ROBO: 1.120 ELC4 UNBERTH AND INSTALL</u> Steps 16-19 EXERCISE CONSTRAINT	<u>ROBO: 1.120 ELC4 UNBERTH AND INSTALL</u> Steps 16-19 EXERCISE CONSTRAINT	NO EXERCISE FROM MNVR TO INSTL TO 1st STAGE CAPTURE
04:00		04:00					

STS-133 FD (03)

REPLANNED



MSG 008 - FD03 MISSION SUMMARY

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51

Good Morning Discovery! The ISS crew assures us that they are ready to welcome 6 new guests today, your reservation has been confirmed.

YOUR CURRENT ORBIT IS: 124 X 116 NM

NOTAMS - (NO CHANGES)

- 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.

NEXT 2 PLS OPPORTUNITIES:

KSC15	ORB 31 – 1/21:13	SCT030 BKN070	7	360/5P7
EDW22	ORB 49 – 3/00:45	SKC	7	230/7P12

END OF PAGE 1 OF 2, MSG 008

MSG 008 - FD03 MISSION SUMMARY

1 OMS TANK FAIL CAPABILITY:

2

3 PRE NH: YES

4 POST NC-4: NO

5

6 LEAKING OMS PRPLT BURN:

7

8 PRE NH: L or R OMS LEAK: ALWAYS BURN OUT OF PLANE

9 POST NC-4: L or R OMS LEAK: ALWAYS BURN RETROGRADE

10

11 OMS QUANTITIES(%) (POST Ti)

12

13 L OMS OX = 33.50 R OMS OX = 34.12

14 FU = 33.06 FU = 34.11

15

16 DELTA V AVAILABLE:

17

18 OMS 313 FPS

19 ARCS (TOTAL ABOVE QTY1) 31 FPS

20

21 TOTAL IN THE AFT 344 FPS

22

23 ARCS (TOTAL ABOVE QTY2) 60 FPS

24 FRCS (ABOVE QTY 1) 27 FPS

25

26 AFT QTY 1 81 %

27 AFT QTY 2 44 %

28

29

30

<u>SYSTEM</u>	<u>FAILURE</u>	<u>IMPACT</u>	<u>WORK AROUND</u>
ECLS	Hum Sep B experienced water carry over	Water in LEB	Set up condensate collection

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

END OF PAGE 2 OF 2, MSG 008

26-0826 (MSG 009) FD03 ULF5 SODF TRANSFER

Page 1 of 4 pages

Part 1

DURATION: 30 Minutes

INSTRUCTIONS:

Transfer and temp stow SODF 1.0 CTB, S/N 1064, B/C 003946J from MF57M and Ziplock bag labeled 'Transfer to ISS' from MF57K to LAB1P6 rack front.

Part 2

DURATION: 1 Hour 40 Minutes

INSTRUCTIONS:

Retrieve CTB and Ziplock bag labeled 'Transfer to ISS' from LAB1P6 rack front. (Emer 1, Emer 2, POC, Contingency Jumper PCN, Leak Pinpoint and Repair Kit, Crew Handover, and cue cards will be deployed).

Joint Mission Cue Card Deploy

Verify cue cards required for Joint Mission located in 'Joint Operations Cue Cards' ziplock have been deployed.

Cue Card Contents 'Joint Operations Cue Cards':

10.102 Joint Emergency Egress (can be placed in STS or ISS common trash at undock)

[QTY:3]

- 1 on Shuttle side of hatch
- 1 in Node 2 FWD
- 1 in Airlock

10.103 Joint Emergency Ingress (can be placed in STS or ISS common trash at undock)

[QTY:2]

- 1 on ISS side of hatch
- 1 on Shuttle side of hatch

Leak Pinpoint Repair Kit Deploy

Gather the Leak Pinpoint Repair Kit from the Ziplock bag labeled 'Transfer to ISS' [QTY:1]

In the **PMA1**:

Place in the ISS common trash:

- Leak Pinpoint and Repair Kit (Cover says: Starting with ISS-20A) _____

Deploy:

- Leak Pinpoint and Repair Kit (Cover says: Starting with ISS-ULF5) _____

25 FEB 11

Page 1 of 4, 26-0826 (MSG 009)

52 **PORTABLE ONBOARD COMPUTERS (POC) BOOK DEPLOY**

53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102

In the **LAB**:

Gather the POC Book [QTY:1] from the Ziplock bag labeled 'Transfer to ISS'.

Remove message 24-0801 NETWORK INFORMATION FOR JSL ADMINISTRATION from the front of the old POC Book (cover says: Applicable at E23) and place it in the new POC book behind the cover (Date: 14 FEB 2011).

Place in the ISS common trash:

- POC Book (Cover says: Applicable at E23) _____

Deploy:

- POC Book (Date: 14 FEB 2011) _____

CREW HANDOVER BOOK DEPLOY

Gather the Crew Handover Books [QTY:2, 1 English and 1 Russian] from the Ziplock bag labeled 'Transfer to ISS':

Place in the ISS common trash:

- Crew Handover Book (Cover says: Starting with E23-E24) _____

Deploy in Crew preference location:

- Crew Handover Book (Date: 11 FEB 2011) _____

Contingency Jumper Kit PCN Deploy

Gather the Contingency Jumper PCN from the CTB [QTY:1].

In the Contingency Jumper Kit (Cover says: Applicable at ULF2) located in the IVA Contingency Jumper Kit toolbox at NOD1P4_G:

Implement Contingency Jumper PCN

- After cover page, add procedures 1.3.407, 1.3.408, and 1.3.409 _____

Ammonia Detection Kit Cue Cards #1 and #2 and IVA Ammonia Detection Kit

Gather the Ammonia Detection Kit Cue Cards #1 and #2 [QTY:2each] and the IVA Ammonia Detection Kit Ziplock (Includes two copies of 4.321 DONNING OF AMMONIA RESPIRATOR & CARTRIDGE CHANGEOUT and 2 copies of 2.836 IFHX NH3 LEAK DETECTED - WARN) from the CTB.

In the **FGB**:

Temp Stow:

- Ammonia Detection Kit Cue Cards #1 and #2 and the IVA Ammonia Detection Kit Ziplock on or behind FGB panel 308 _____

(Note: These will later be inserted in the new Ammonia Detection Kits)

26-0826 (MSG 009) FD03 ULF5 SODF TRANSFER

Page 3 of 4 pages

103 **EMERGENCY BOOK DEPLOY - after Docking and prior to PMM Ingress**

104 Gather the Emer 1 Books [QTY:6] and Emer 2 Books [QTY:3] from the CTB:

105

106 In the **LAB**:

107

108 Place in the ISS common trash:

109 ULF4 Emer 1 Book (Cover says: Starting with ISS-ULF4) _____

110 ULF4 Emer 2 Book (Cover says: Starting with ISS-ULF4) _____

111

112 Deploy:

113 ULF5 Emer 1 Book (Cover says: Starting with ISS-ULF5 and Date: 15 OCT 2010) -

114

115 _____ (Date: 14 FEB 2011) _____

116

117 In **SOYUZ1**:

118 Place in the ISS common trash:

119 ULF4 Emer 1 Book (Cover says: Starting with ISS-ULF4) _____

120

121 Deploy:

122 ULF5 Emer 1 Book (Cover says: Starting with ISS-ULF5 and Date: 15 OCT 2010) -

123

124 _____

125 In **SOYUZ2**:

126 Place in the ISS common trash:

127 ULF4 Emer 1 Book (Cover says: Starting with ISS-ULF4) _____

128

129 Deploy:

130 ULF5 Emer 1 Book (Cover says: Starting with ISS-ULF5 and Date: 15 OCT 2010) -

131

132 _____

133 In the **SM**:

134 Place in the ISS common trash:

135 ULF4 Emer 1 Book (Cover says: Starting with ISS-ULF4) _____

136 ULF4 Emer 2 Book (Cover says: Starting with ISS-ULF4) _____

137

138 Deploy:

139 ULF5 Emer 1 Book (Cover says: Starting with ISS-ULF5 and Date: 15 OCT 2010) -

140

141 _____ (Date: 14 FEB 2011) _____

142

143 In the **Airlock: (Emer-1 normally located in FGB)**

144 Place in the ISS common trash:

145 ULF4 Emer 1 Book (Cover says: Starting with ISS-ULF4) _____

146 ULF4 Emer 2 Book (Cover says: Starting with ISS-ULF4) _____

147

148 Deploy:

149 ULF5 Emer 1 Book (Cover says: Starting with ISS-ULF5 and Date: 15 OCT 2010) -

150

151 _____ (Date: 14 FEB 2011) _____

152

25 FEB 11

Page 3 of 4, 26-0826 (MSG 009)

26-0826 (MSG 009) FD03 ULF5 SODF TRANSFER

Page 4 of 4 pages

153 In **Node 2:**

154 Place in the ISS common trash:

155 ULF4 Emer 1 Book (Cover says: Starting with ISS-ULF4) _____

156

157 Deploy:

158 ULF5 Emer 1 Book (Cover says: Starting with ISS-ULF5 and Date: 15 OCT 2010) -

159 _____

160

161

162

163 **Report completion to MCC-H.**

164

26-0838 (MSG 010) – ULF5 Pen and Ink for 2.104 Hatch Opening and Shuttle/ISS Duct Installation

Page 1 of 1

OBJECTIVE:

Insert the following step as a new step 10.4 to Joint Operations 2.104 HATCH OPENING AND SHUTTLE/ISS DUCT INSTALLATION. Steps will then continue per procedure. Installation of this screen will be incorporated in to the Joint Ops book for future flights.

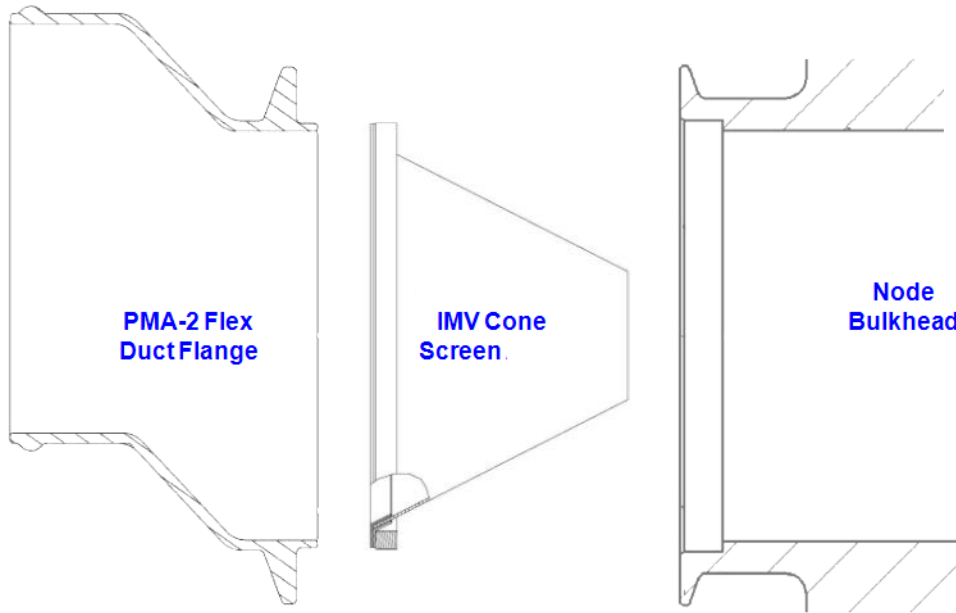


Figure 1.- IMV Cone Screen Assembly Orientation

10.4 Insert IMV Cone Screen with cone pointed into Node 2 Bulkhead Refer to Figure 1

PMA2 air duct jumper →|← Node 2 Fwd Stbd IMV flange

Tighten V-Band clamp (Ratchet, 1/4" Drive; 1/2" Deep Socket).

MSG 011A (26-0870A) - FD3 TRANSFER MESSAGE

Page 1 of 24

1 Good morning Mike & Nicole!

2
3 We are very excited that your transfer days have arrived! Today, we have uplinked all your
4 return pages and a few changes to resupply. I have included a few additional words below
5 on why we have made the changes we have, as FYI for you.

6
7 After hatch opening, there are several activities involving transfer items, and these are
8 detailed in your choreography below. As you have time, we know you plan to move the 5
9 MLE bags to ISS, so we have included those item numbers as well for quick reference.
10 Although we do not have a dedicated Transfer Brief tonight, please status us on what is
11 completed. We know from our last training session that you might want to talk in more
12 detail, and if so, just let us know and we will be available for an ad hoc Transfer Brief as
13 required.

14
15 The Transfer List Excel file, FD03_Transfer_List_STS133.xls, is located on the KFX
16 machine in **C:\OCA-up\transfer** (and available via the **PGSC homepage**).

17
18 For ISS, the Transfer List Excel file, FD03_Transfer_List_STS133.xls, is located in **K:\OCA-**
19 **up\transfer**.

21 FD03 (Docking) Choreography

- 22 • Boe: Transfer SODF per SODF XFER activity (Items 49, 50 & 50.1)
- 23 • Drew & Bowen: Transfer EVA h/w to ISS per POST DOCK EVA XFER RECONFIG
24 (Items 64, 65, 66, 67, 68 & 69)
- 25 • Bowen: Transfer LiOH & ATCO per LIOH XFER (Items 2, 3, 4, 709 & 736)
- 26 • Bowen: Transfer SSC temporarily to shuttle per SSC SETUP (Item 749)
- 27 • Barratt or Stott: Transfer get-ahead items to ISS as time permits.
 - 28 ○ Transfer fresh food to ISS (Item 35)
 - 29 ○ Transfer 5 MLE bags A, D, E, F & H to ISS (Items 15, 16, 18, 19 & 34)

31 Change Pages

32 **Please incorporate changes as follows:**

33
34 In the Transfer List **RESUPPLY** tab

35 Pen & Ink the following page:

36 Resupply – 3

37 Item 13: in the “Qty” field, change “1 ziplock” to “2 ziplocks”

38 Replace the following pages:

39 Resupply – 7, 11, 12, 15

40 Add the following page:

41 Resupply – 17

42
43 In the Transfer List **RETURN** tab

44 Add the following pages:

45 Return – 1 through 15

46
47
48
49
50
Page 1 of 24, MSG 011A (26-0870A)

MSG 011A (26-0870A) - FD3 TRANSFER MESSAGE

Page 2 of 24

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49

Change Page Details (FYI)

- Item 13 – There was an additional ziplock for transfer packed in the Crew Support locker
- Item 27 – This RFTA is no longer needed for today's WRS-RFTA-R&R.
- Item 40 – We have learned that the Multimeter is being used several days during docked ops, so we constrained this item to FD04 since there are no planned uses on that day
- Item 47 – The Ammonia Kit swap coordination has not been fully completed, so for now we have removed it from the Transfer List. If approved, it will appear on your list on a future uplink.
- Item 59 – We have added the additional words for the D3s camera swap to remove the attached items as we discussed preflight
- Item 800 – After you are done with Eye Simulator ops on FD04, you will leave it on ISS
- Return – There have not been any major changes from what we discussed in your last training session. There are some changes being considered and we will make sure to get a decision on that before you start packing 5 MLE bags for return.

Have a great day!

- The ULF5 Transfer Team

ULF5 Transfer Choreography

FD04

- Drew: Swap PCS laptops per PCS SWAP (Items 56 & 740)
- Barratt: Transfer the Eye Simulator per TONO VERIF TEST 1 activity (Item 800)
- Nespoli: Transfer WOOV hardware per COL-WOOV8 activities (Items 16.5, 26 & 751)
- Stott: Unpack middeck Glacier per GLACIER POWER UP (Items 36 & 37)
- Coleman: Transfer PMM outfitting items per PMM VEST EQUIP S/U (Items 34.4, 34.5 & 34.6)
- Coleman: Transfer JAXA Area Dosimeters per DOSIMETER-STOW and S/U (Items 43 & 708)
- XFER OPS:
 - Transfer CHeCS CTB prior to EHS-CSA CP-ACO (Item 48)
 - Complete transfer of 5 MLE bags to ISS if required (Items 15, 16, 18, 19 & 34)
 - Transfer FUNGI payload items to ISS (Items 9 & 10)
 - Transfer ISS HARDWARE CTB to ISS (Item 51)
 - Swap Multimeters (Items 40 & 738)
 - Transfer crew pref items (Items 13, 41, 42 & 53)
 - Continue unconstrained resupply transfer items to ISS

FD05 (EVA 1)

Page 2 of 24, MSG 011A (26-0870A)

MSG 011A (26-0870A) - FD3 TRANSFER MESSAGE

Page 3 of 24

- 1 • Coleman: Transfer returning RAMs to shuttle per EHS-RAM-DEPLOY (Item
- 2 742)
- 3 • Coleman: Transfer RPCM to shuttle per N14B C-RPCM-R&R (Item 746)
- 4 • XFER OPS:
- 5 ○ RS crewmembers will be prepping RS items for return per ULF5-
- 6 CARGO-PREP activity (Items 620 through 628)
- 7 ○ Complete unconstrained resupply transfers to shuttle & swaps
- 8 ○ Start unconstrained return transfers to shuttle if time permits
- 9

FD06 (PMM Install)

- 10 • Kelly: Transfer Message in a Bottle per SPACE-BOTTLE-STOW (Item 748)
- 11 • Nespoli: Transfer returning EDB samples per RS-EDB URINE-SMPL (Item 717)
- 12 • XFER OPS:
- 13 ○ Continue unconstrained return transfers to shuttle
- 14
- 15

FD07 (EVA 2 / PMM Ingress)

- 16 • Boe/Coleman: Transfer PFE and GSC per PMM INGRESS (Items 34.3 & 403.1)
- 17 • XFER OPS:
- 18 ○ Work on food and clothing locker consolidations to determine space
- 19 available
- 20 ○ Continue unconstrained return transfers to shuttle
- 21 ○ Transfer Robonaut patch to shuttle (Item 745)
- 22
- 23

FD08 (XFER / Off-duty)

- 24 • Stott & Kelly: Swap Glaciers per GLACIER XFER (Items 12 & 723)
- 25 • Stott & Kelly: Transfer cold samples to shuttle per GLACIER SAMPLE XFER
- 26 (Item 724)
- 27 • Stott: Swap NLP CELLS per CELLS SWAP activity (Items 11 & 739)
- 28 • XFER OPS:
- 29 ○ Transfer returning FUNGI payload items to shuttle (Item 722)
- 30 ○ Retrieve Hydrogen Dome foam and 10 MLE bag from PMM and pack
- 31 Dome for return (Items 604, 700, 725, 726, 727 & 728)
- 32 ○ Continue unconstrained return transfers to shuttle, including items
- 33 returning in available food and clothing lockers
- 34 ○ Begin transfer of 5 MLE bags A, D, E, F, & H to shuttle (Items 702, 703,
- 35 704, 705 & 706)
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43
- 44
- 45
- 46
- 47
- 48
- 49
- 50

MSG 011A (26-0870A) - FD3 TRANSFER MESSAGE

Page 4 of 24

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47

FD09 (ISS Hatch Close)

- Drew & Bowen: Transfer EVA h/w per EVA RECONFIG & XFER (Items 701, 718, 719 & 720)
- Nespoli: Transfer samples per IMMUN-SALIVA & BLOOD-STOW (Items 729 & 730)
- Drew: Transfer SSC back to ISS per SSC TEARDOWN (Item 58)
- Lindsey: Transfer PCS and power supply to ISS per PCS DEACT (Items 57 & 57.1)
- Barratt: Transfer PMM Flag after PMM FLAG activity (Item 726.1)
- Kelly & Coleman: Transfer Coldbags per DCB-BAG-TRANSFER (Items 712, 713, 714, 715 & 716)
- XFER OPS:
 - Transfer Return to Houston P/TV tapes (Item 744)
 - Complete transfer of 5 MLE bags to shuttle (Items 702, 703, 704, 705 & 706)
 - Complete all transfer

MSG 012 (26-0871) - LIOH TRANSFER

Page 1 of 1

1 **FD3 LiOH Swap**

2 Today, you will swap 11 unused LiOH cans and 2 ATCO cans from Shuttle with 17 unused
3 LiOH cans from the ISS Stockpile and one old ISS ATCO can. Transfer details are provided
4 below:

5
6 Details:

7
8 Retrieve the green mesh bag pregathered at the ISS Stockpile, NOD1S4_D2. The bag
9 contains the following:

- 10 • STS-128 can 72
- 11 • STS-129 cans 22-25, 27-30 and 33
- 12 • STS-130 cans 14, 17, and 20-23

13 Also located in NOD1S4_D2 is STS-130 can 24, but this can is not pregathered in the mesh
14 bag. Locate this can, add it to the mesh bag, and transfer all to the Shuttle middeck.

15
16 Remove ATCO can 00002 from NOD1P4_B2, located in 1.0 CTB S/N 1009: "Post-Fire
17 Kit, 1 of 2," and transfer to the Shuttle middeck.

18
19 Remove STS-133 cans 8-18 and 2 new ATCO cans, S/N 00006 and 00007 from the
20 LiOH Box. The two ATCO cans are tagged with a yellow label for transfer. ATCO can S/N
21 00005 will remain in the LiOH Box.

22
23 Remove the socks from any 11 of the 17 ISS stockpile cans and install on the STS-133
24 LiOH cans being transferred to ISS. The six remaining ISS Stockpile LiOH cans will be
25 returned in the middeck LiOH volume with the LiOH socks still installed.

26
27 Place the 17 LiOH cans and the one ATCO can from ISS in the LiOH Box.

28
29 Transfer the 11 STS-133 cans to the ISS Stockpile, NOD1S4_D2. Transfer the two
30 Shuttle ATCO cans to NOD1P4_B2. Stow S/N 00006 in 1.0 CTB S/N 1009: "Post-Fire Kit, 1
31 of 2", and stow S/N 00007 in 2.0 CTB S/N 1015: "US POST-FIRE KIT 2 of 2."

32
33 Once complete, stow the empty green mesh bag on ISS per your preference.
34
35
36
37
38
39
40

Page 1 of 1, MSG 012 (26-0871)

CWC-I FILLS											
CWC-I Fill No.	CWC Initial Location	Record S/N Used	Disinfect QDs	INIT	← Fill Duration ~10 minutes →	TERM	Cap R-Y Hose	Verify Label In Windows	Sample Ref. Kit Table	Transfer To:	
				Report CWC-I S/N To MCC	TERM at MET:						
<input type="checkbox"/> 1	NOD2D2 2.0 CTB S/N 1126 (Note C)		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple	<input type="checkbox"/> S/N 1004 (Note A)	<input type="checkbox"/>	
<input type="checkbox"/> 2			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple		<input type="checkbox"/>	
<input type="checkbox"/> 3			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple	<input type="checkbox"/> S/N 1004 (Note A)	<input type="checkbox"/>
<input type="checkbox"/> 4			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple		<input type="checkbox"/>
<input type="checkbox"/> 5			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple	<input type="checkbox"/> S/N 1004 (Note A)	<input type="checkbox"/>
<input type="checkbox"/> 6		<input type="checkbox"/> 2067 <input type="checkbox"/> 2073 <input type="checkbox"/> 2074 <input type="checkbox"/> 2076 <input type="checkbox"/> 2077 <input type="checkbox"/> 2078 <input type="checkbox"/> 2079 <input type="checkbox"/> 2080 <input type="checkbox"/> 2081 <input type="checkbox"/> 2085		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple		<input type="checkbox"/>
<input type="checkbox"/> 7			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple	<input type="checkbox"/> S/N 1004 (Note A)	<input type="checkbox"/>
<input type="checkbox"/> 8			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple		<input type="checkbox"/>
<input type="checkbox"/> 9			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple		<input type="checkbox"/>
<input type="checkbox"/> 10			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple	<input type="checkbox"/> S/N 1004 (Note A)	<input type="checkbox"/>
<input type="checkbox"/> 11 (Note D)			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple	vMCC	<input type="checkbox"/>	
<input type="checkbox"/> 12 (Note D)			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple	vMCC	<input type="checkbox"/>	
<input type="checkbox"/> 13 (Note D)			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple	vMCC	<input type="checkbox"/>	
<input type="checkbox"/> 14 (Note D)			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/> Purple	vMCC	<input type="checkbox"/>	

JLP1A12
3.0 CTBs
Report serial number of CTB used to MCC

CWC-I Fill Notes:

- A. Stow filled purge and sample bags in MF14E.
- B. Rough handling may cause leakage.
- C. CWC-I's pregathered at NOD2D2. Some CWC-I's may still contain residual water. Prior to filling, report if CWC-I has a significant amount of residuals.

Hardware Table

Item	S/N	Initial Location	Undock Location
Sample/Purge Kit	1004	Middeck Floor (Port 2, Bag B)	NOD2D2 M-02 Bag S/N 1026
Iodinated Sample Adapter (black handle)	1019	MF71M (Ziploc labeled "CWC-I Sample Adapter")	MF71M (Ziploc labeled "CWC-I Sample Adapter")

- D. CWC-I Fills 11 - 14 will only be completed if water available (docked extension days). MCC will provide S/Ns, sample plan, and stowage locations.

STS-133/ULF5

CWC FILLS				INIT	← Fill Duration ~52 minutes →			TERM				
CWC Fill No.	CWC Initial Location	Record S/N Used	Disinfect QDs	Mineral Syringe Kit Ref: Kit Table	Report CWC S/N to MCC	Ag Biocide Kit Ref: Kit Table	TERM at MET:	Cap Water Transfer Hose	Verify Label In Window	Sample/Purge Kit Ref: Kit Table	Transfer To:	
<input type="checkbox"/> 1	NOD2O2 <input type="checkbox"/> 1068 <input type="checkbox"/> 1089		<input type="checkbox"/>	 	<input type="checkbox"/>	S/N 1010 <input type="checkbox"/>		<input type="checkbox"/>	Green <input type="checkbox"/>	 	<input type="checkbox"/>	JLP1P2
<input type="checkbox"/> 2 (Note D)			<input type="checkbox"/>	 	<input type="checkbox"/>	S/N 1010 <input type="checkbox"/>		<input type="checkbox"/>	Green <input type="checkbox"/>	 	<input type="checkbox"/>	
<input type="checkbox"/> 3 (Note D)			<input type="checkbox"/>	 	<input type="checkbox"/>	S/N 1010 <input type="checkbox"/>		<input type="checkbox"/>	Green <input type="checkbox"/>	 	<input type="checkbox"/>	
<input type="checkbox"/> 4 (Note D)			<input type="checkbox"/>	 	<input type="checkbox"/>	S/N 1010 <input type="checkbox"/>		<input type="checkbox"/>	Green <input type="checkbox"/>	 	<input type="checkbox"/>	

CWC Fill Notes:

- A. Rough handling may cause leakage.
- B. Fill each CWC for 52 min or Term CWC Fill on MCC call.
- C. Some CWCs may still contain residual water. Prior to filling, report if CWC has a significant amount of residuals.
- D. CWC Fills 2, 3, and 4 will only be completed if water available (docked extension days). MCC will provide S/Ns and stowage locations.

Kit Table

Kit	S/N	Initial Location	Undock Location
Ag Biocide Kit	1010	NOD2D2 (with other pregathered items)	NOD2D2 M-02 Bag S/N 1026
Sample/Purge Kit	1004	Middeck Floor (Port 2, Bag B)	NOD2D2 M-02 Bag S/N 1026

PWR FILLS

PWR No.	PWR S/N	Stowage Location	Actions
<input type="checkbox"/> 1	1005	A/L1D1	Fill and return to A/L1D1
<input type="checkbox"/> 2	1007	A/L1D1	Fill and return to A/L1D1
<input type="checkbox"/> 3	1015	A/L1D1	Fill and return to A/L1D1
<input type="checkbox"/> 4	1023	A/L1D1	Fill and return to A/L1D1
<input type="checkbox"/> 5	1024	A/L1D1	Fill and return to A/L1D1
<input type="checkbox"/> 6	1027	A/L1D1	Fill and return to A/L1D1
<input type="checkbox"/> 7	1032	A/L1D1	Fill and return to A/L1D1
<input type="checkbox"/> 8	1003	A/L1D1	Post-EVA1, fill and return to A/L1D1

PWR Fill Notes:

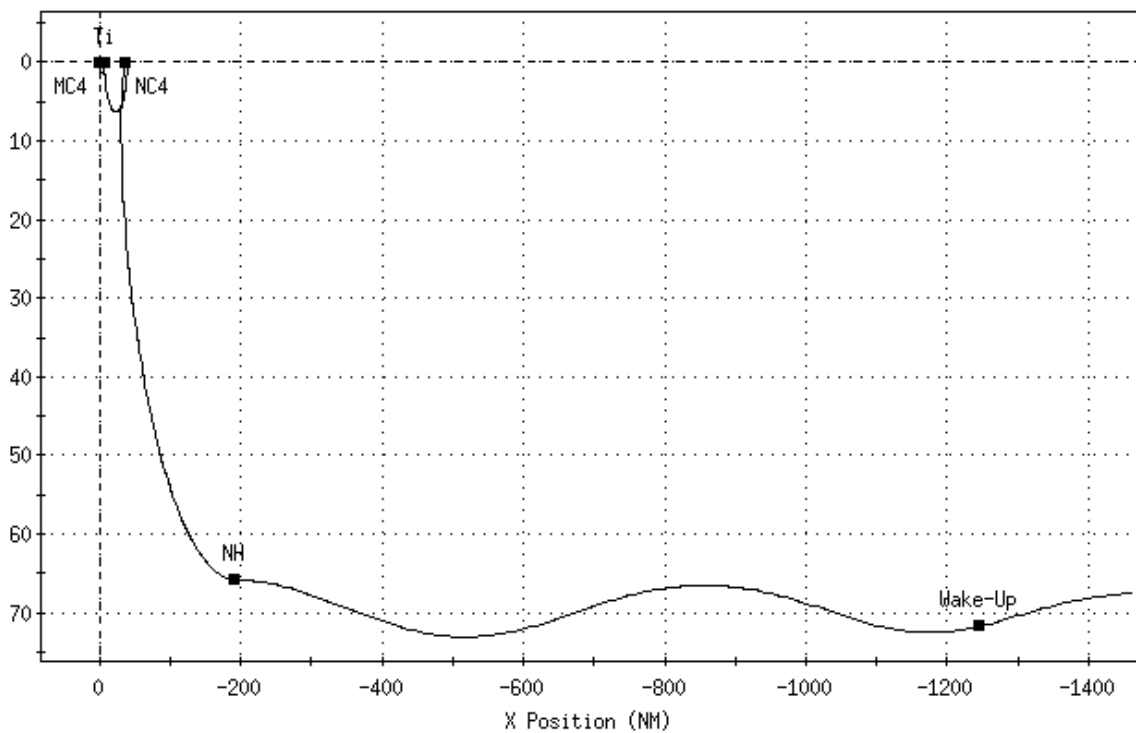
- A. Do not detach PWR (EMU H2O Recharge Bag) QD restraint during PWR ops.
- B. Some PWRs may still contain residual water. Prior to filling, report if PWR has a significant amount of residuals. MCC has estimates of residuals, and will adjust fill durations accordingly

STS-133/ULF5

MSG 014 - RENDEZVOUS EXECUTE PACKAGE

1 MET
2 NH 001:16:22:25.094
3 NC4 001:17:07:46.631
4 NCC 001:17:42:18.000
5 TI 001:18:40:00.000 PET = 0:0 ; SS - 36 MIN
6 MC1 001:19:00:00.000
7 MC2 001:19:29:54.000 ET = 0:0
8 MC3 001:19:46:54.000 MC2 + 17 MIN
9 MC4 001:19:56:54.000 MC2 + 27 MIN
10 DOCK 001:21:22:00.000
11

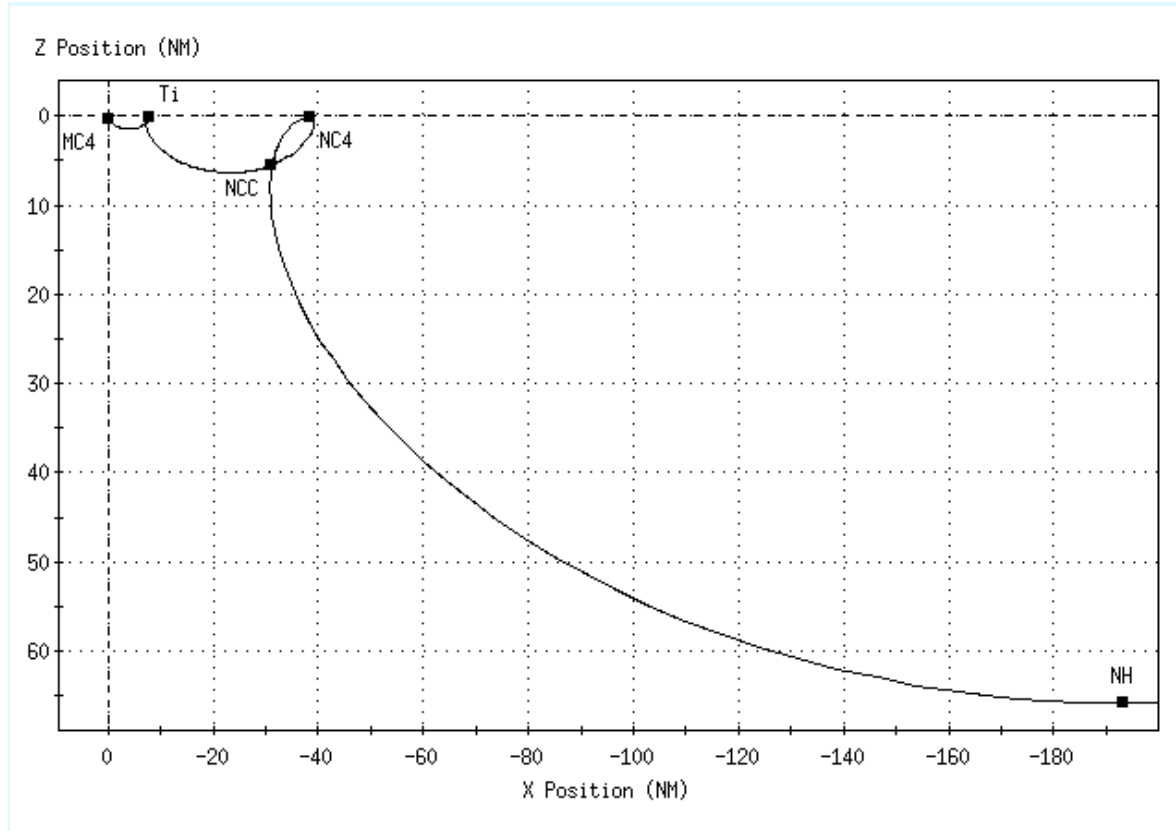
Z Position (NM)



12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27

END OF PAGE 1 OF 5, MSG 014

MSG 014 - RENDEZVOUS EXECUTE PACKAGE



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26

END OF PAGE 2 OF 5, MSG 014

PRELIMINARY ORBIT MANEUVER PAD FOR NH (p.3-2)

OMS BOTH 1

L 2

R 3

RCS SEL 4 +X
 -X
 MULTI-AXIS

TV ROLL 5

TRIM LOAD P 6

LY 7

RY 8

WT 9

TIG 10 / : : .

TGT PEG 7 ΔV_X 19

ΔV_Y 20

ΔV_Z 21

BURN ATT

R 24

P 25

Y 26

ΔV_{TOT}

TGO :

VGO X

VGO Y

VGO Z

HA

HP

TGT

33

NOTES

<p>OMS GMBL CK:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">PRE</td> <td style="text-align: center;">POST-BURN</td> </tr> <tr> <td>L PRI</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td>L SEC</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>R PRI</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td>R SEC</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>NONE</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>		PRE	POST-BURN	L PRI	<input type="checkbox"/>	<input checked="" type="checkbox"/>	L SEC	<input type="checkbox"/>	<input type="checkbox"/>	R PRI	<input type="checkbox"/>	<input checked="" type="checkbox"/>	R SEC	<input type="checkbox"/>	<input type="checkbox"/>	NONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>RCS I'CNCT:</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/></td> <td>L OMS → RCS</td> </tr> <tr> <td><input type="checkbox"/></td> <td>R OMS → RCS</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>NONE</td> </tr> </table>	<input type="checkbox"/>	L OMS → RCS	<input type="checkbox"/>	R OMS → RCS	<input checked="" type="checkbox"/>	NONE	<p>DOWN MODE OPTIONS:</p> <table style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/></td> <td>2 OMS → 1 OMS</td> </tr> <tr> <td><input type="checkbox"/></td> <td>1 OMS → RCS</td> </tr> <tr> <td><input type="checkbox"/></td> <td>NONE</td> </tr> </table>	<input checked="" type="checkbox"/>	2 OMS → 1 OMS	<input type="checkbox"/>	1 OMS → RCS	<input type="checkbox"/>	NONE	
	PRE	POST-BURN																															
L PRI	<input type="checkbox"/>	<input checked="" type="checkbox"/>																															
L SEC	<input type="checkbox"/>	<input type="checkbox"/>																															
R PRI	<input type="checkbox"/>	<input checked="" type="checkbox"/>																															
R SEC	<input type="checkbox"/>	<input type="checkbox"/>																															
NONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>																															
<input type="checkbox"/>	L OMS → RCS																																
<input type="checkbox"/>	R OMS → RCS																																
<input checked="" type="checkbox"/>	NONE																																
<input checked="" type="checkbox"/>	2 OMS → 1 OMS																																
<input type="checkbox"/>	1 OMS → RCS																																
<input type="checkbox"/>	NONE																																
<p>OMS HE REG TEST:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;"><input type="checkbox"/> NONE</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">L</td> <td style="text-align: center;">R</td> </tr> <tr> <td></td> <td style="text-align: center;">GPC OP CL</td> <td style="text-align: center;">GPC OP CL</td> </tr> <tr> <td>A</td> <td style="text-align: center;"><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></td> </tr> <tr> <td>B</td> <td style="text-align: center;"><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></td> </tr> </table>		<input type="checkbox"/> NONE			L	R		GPC OP CL	GPC OP CL	A	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	B	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>-X RCS BURNS:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">BURN ATT</td> <td style="text-align: center;">LVLH ATT</td> </tr> <tr> <td>P 15</td> <td style="text-align: center;"><input type="text" value="N"/> / <input type="text" value="A"/></td> <td style="text-align: center;"><input type="text" value="N"/> / <input type="text" value="A"/></td> </tr> <tr> <td>Y 16</td> <td style="text-align: center;"><input type="text" value="N"/> / <input type="text" value="A"/></td> <td style="text-align: center;"><input type="text" value="N"/> / <input type="text" value="A"/></td> </tr> <tr> <td>OM 17</td> <td style="text-align: center;"><input type="text" value="N"/> / <input type="text" value="A"/></td> <td style="text-align: center;"><input type="text" value="N"/> / <input type="text" value="A"/></td> </tr> </table>		BURN ATT	LVLH ATT	P 15	<input type="text" value="N"/> / <input type="text" value="A"/>	<input type="text" value="N"/> / <input type="text" value="A"/>	Y 16	<input type="text" value="N"/> / <input type="text" value="A"/>	<input type="text" value="N"/> / <input type="text" value="A"/>	OM 17	<input type="text" value="N"/> / <input type="text" value="A"/>	<input type="text" value="N"/> / <input type="text" value="A"/>	<p>ORBIT BURN MONITOR</p> <p>GPC FILL-INS <u>1</u> (<u>3</u>)</p> <table style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/></td> <td>CRIT BURN</td> </tr> <tr> <td><input type="checkbox"/></td> <td>NON-CRIT BURN</td> </tr> </table>	<input checked="" type="checkbox"/>	CRIT BURN	<input type="checkbox"/>	NON-CRIT BURN
	<input type="checkbox"/> NONE																																
	L	R																															
	GPC OP CL	GPC OP CL																															
A	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>																															
B	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>																															
	BURN ATT	LVLH ATT																															
P 15	<input type="text" value="N"/> / <input type="text" value="A"/>	<input type="text" value="N"/> / <input type="text" value="A"/>																															
Y 16	<input type="text" value="N"/> / <input type="text" value="A"/>	<input type="text" value="N"/> / <input type="text" value="A"/>																															
OM 17	<input type="text" value="N"/> / <input type="text" value="A"/>	<input type="text" value="N"/> / <input type="text" value="A"/>																															
<input checked="" type="checkbox"/>	CRIT BURN																																
<input type="checkbox"/>	NON-CRIT BURN																																
<p>MAX TIG SLIP ___ MIN. <input type="checkbox"/> DO NOT UPDATE TIG</p> <p><input type="checkbox"/> UPDATE TIG AFTER ___ MIN.</p>																																	

NOTES

PRELIMINARY ORBIT MANEUVER PAD FOR NC-4 (p.3-4)

OMS BOTH 1

L 2

R 3

RCS SEL 4 +X
-X
MULTI-AXIS

TV ROLL 5

BURN ATT

R 24	3	2	4
P 25	3	4	7
Y 26	0	1	7

ΔVTOT

TGO

VGO X (+)

VGO Y (+)

VGO Z (+)

HA HP (+)

TGT (+)

TRIM LOAD P 6 (+)

LY 7 (-)

RY 8 (+)

WT 9

TIG 10 / : : .

TGT PEG 7 ΔVX 19 (+)

ΔVY 20 (+)

ΔVZ 21 (+)

NOTES

<p>OMS GMBL CK:</p> <table border="1"> <tr> <td></td> <td>PRE</td> <td>POST-BURN</td> </tr> <tr> <td>L PRI</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>L SEC</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>R PRI</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>R SEC</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>NONE</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>		PRE	POST-BURN	L PRI	<input type="checkbox"/>	<input checked="" type="checkbox"/>	L SEC	<input type="checkbox"/>	<input type="checkbox"/>	R PRI	<input type="checkbox"/>	<input checked="" type="checkbox"/>	R SEC	<input type="checkbox"/>	<input type="checkbox"/>	NONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>RCS I'CNCT:</p> <table border="1"> <tr> <td><input type="checkbox"/></td> <td>L OMS → RCS</td> </tr> <tr> <td><input type="checkbox"/></td> <td>R OMS → RCS</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>NONE</td> </tr> </table>	<input type="checkbox"/>	L OMS → RCS	<input type="checkbox"/>	R OMS → RCS	<input checked="" type="checkbox"/>	NONE	<p>DOWN MODE OPTIONS:</p> <table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>2 OMS → 1 OMS</td> </tr> <tr> <td><input type="checkbox"/></td> <td>1 OMS → RCS</td> </tr> <tr> <td><input type="checkbox"/></td> <td>NONE</td> </tr> </table>	<input checked="" type="checkbox"/>	2 OMS → 1 OMS	<input type="checkbox"/>	1 OMS → RCS	<input type="checkbox"/>	NONE		
	PRE	POST-BURN																																
L PRI	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																
L SEC	<input type="checkbox"/>	<input type="checkbox"/>																																
R PRI	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																
R SEC	<input type="checkbox"/>	<input type="checkbox"/>																																
NONE	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																
<input type="checkbox"/>	L OMS → RCS																																	
<input type="checkbox"/>	R OMS → RCS																																	
<input checked="" type="checkbox"/>	NONE																																	
<input checked="" type="checkbox"/>	2 OMS → 1 OMS																																	
<input type="checkbox"/>	1 OMS → RCS																																	
<input type="checkbox"/>	NONE																																	
<p>OMS HE REG TEST:</p> <table border="1"> <tr> <td></td> <td>L</td> <td><input type="checkbox"/> NONE</td> <td>R</td> </tr> <tr> <td></td> <td>GPC</td> <td>OP</td> <td>CL</td> </tr> <tr> <td>A</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>B</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>		L	<input type="checkbox"/> NONE	R		GPC	OP	CL	A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>-X RCS BURNS:</p> <table border="1"> <tr> <td></td> <td>BURN ATT</td> <td>LVLH ATT</td> </tr> <tr> <td>P 15</td> <td><input type="text" value="N"/> / <input type="text" value="A"/></td> <td>R <input type="text" value="N"/> / <input type="text" value="A"/></td> </tr> <tr> <td>Y 16</td> <td><input type="text" value="N"/> / <input type="text" value="A"/></td> <td>P <input type="text" value="N"/> / <input type="text" value="A"/></td> </tr> <tr> <td>OM 17</td> <td><input type="text" value="N"/> / <input type="text" value="A"/></td> <td>Y <input type="text" value="N"/> / <input type="text" value="A"/></td> </tr> </table>		BURN ATT	LVLH ATT	P 15	<input type="text" value="N"/> / <input type="text" value="A"/>	R <input type="text" value="N"/> / <input type="text" value="A"/>	Y 16	<input type="text" value="N"/> / <input type="text" value="A"/>	P <input type="text" value="N"/> / <input type="text" value="A"/>	OM 17	<input type="text" value="N"/> / <input type="text" value="A"/>	Y <input type="text" value="N"/> / <input type="text" value="A"/>	<p>ORBIT BURN MONITOR</p> <p>GPC FILL-INS <u>1</u> (<u>3</u>)</p> <table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>CRIT BURN</td> </tr> <tr> <td><input type="checkbox"/></td> <td>NON-CRIT BURN</td> </tr> </table>	<input checked="" type="checkbox"/>	CRIT BURN	<input type="checkbox"/>	NON-CRIT BURN
	L	<input type="checkbox"/> NONE	R																															
	GPC	OP	CL																															
A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																															
B	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																															
	BURN ATT	LVLH ATT																																
P 15	<input type="text" value="N"/> / <input type="text" value="A"/>	R <input type="text" value="N"/> / <input type="text" value="A"/>																																
Y 16	<input type="text" value="N"/> / <input type="text" value="A"/>	P <input type="text" value="N"/> / <input type="text" value="A"/>																																
OM 17	<input type="text" value="N"/> / <input type="text" value="A"/>	Y <input type="text" value="N"/> / <input type="text" value="A"/>																																
<input checked="" type="checkbox"/>	CRIT BURN																																	
<input type="checkbox"/>	NON-CRIT BURN																																	
<p>MAX TIG SLIP ___ MIN. <input type="checkbox"/> DO NOT UPDATE TIG</p> <p><input type="checkbox"/> UPDATE TIG AFTER ___ MIN.</p>																																		

NOTES

PRELIMINARY ORBIT MANEUVER PAD FOR Ti (p.3-6)

OMS BOTH 1

L 2

R 3

RCS SEL 4 +X
-X
MULTI-AXIS

TV ROLL 5

BURN ATT

R 24	<input type="text" value="3"/>	<input type="text" value="2"/>	<input type="text" value="9"/>
P 25	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="0"/>
Y 26	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="9"/>

ΔVTOT

TGO

VGO X	<input "="" type="text" value="("/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="8"/>	<input type="text" value="."/> <input type="text" value="7"/>
VGO Y	<input "="" type="text" value="("/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="1"/>	<input type="text" value="."/> <input type="text" value="8"/>
VGO Z	<input "="" type="text" value="("/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="2"/>	<input type="text" value="."/> <input type="text" value="3"/>

HA

HP

TRIM LOAD P 6

LY 7

RY 8

WT 9

TIG 10

TGT PEG 7 ΔVX 19

ΔVY 20

ΔVZ 21

35

<p>OMS GMBL CK:</p> <table border="1"> <tr> <th>PRE</th> <th>POST-BURN</th> </tr> <tr> <td>L PRI <input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>L SEC <input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>R PRI <input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>R SEC <input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>NONE <input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </table>		PRE	POST-BURN	L PRI <input type="checkbox"/>	<input type="checkbox"/>	L SEC <input type="checkbox"/>	<input type="checkbox"/>	R PRI <input type="checkbox"/>	<input type="checkbox"/>	R SEC <input type="checkbox"/>	<input type="checkbox"/>	NONE <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>NOTES</p> <p>RCS I'CNCT:</p> <table border="1"> <tr> <td><input type="checkbox"/></td> <td>L OMS → RCS</td> </tr> <tr> <td><input type="checkbox"/></td> <td>R OMS → RCS</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>NONE</td> </tr> </table>		<input type="checkbox"/>	L OMS → RCS	<input type="checkbox"/>	R OMS → RCS	<input checked="" type="checkbox"/>	NONE	<p>DOWN MODE OPTIONS:</p> <table border="1"> <tr> <td><input type="checkbox"/></td> <td>2 OMS → 1 OMS</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>1 OMS → RCS</td> </tr> <tr> <td><input type="checkbox"/></td> <td>NONE</td> </tr> </table>		<input type="checkbox"/>	2 OMS → 1 OMS	<input checked="" type="checkbox"/>	1 OMS → RCS	<input type="checkbox"/>	NONE																			
PRE	POST-BURN																																															
L PRI <input type="checkbox"/>	<input type="checkbox"/>																																															
L SEC <input type="checkbox"/>	<input type="checkbox"/>																																															
R PRI <input type="checkbox"/>	<input type="checkbox"/>																																															
R SEC <input type="checkbox"/>	<input type="checkbox"/>																																															
NONE <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																																															
<input type="checkbox"/>	L OMS → RCS																																															
<input type="checkbox"/>	R OMS → RCS																																															
<input checked="" type="checkbox"/>	NONE																																															
<input type="checkbox"/>	2 OMS → 1 OMS																																															
<input checked="" type="checkbox"/>	1 OMS → RCS																																															
<input type="checkbox"/>	NONE																																															
<p>OMS HE REG TEST:</p> <table border="1"> <tr> <td colspan="3"></td> <td>NONE</td> <td colspan="3"></td> </tr> <tr> <td>GPC</td> <td>L</td> <td>OP</td> <td>CL</td> <td>GPC</td> <td>R</td> <td>OP</td> <td>CL</td> </tr> <tr> <td>A</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>A</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>B</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>B</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>					NONE				GPC	L	OP	CL	GPC	R	OP	CL	A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>-X RCS BURNS:</p> <table border="1"> <tr> <th>BURN ATT</th> <th>LVLH ATT</th> </tr> <tr> <td>P 15 <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/></td> <td>R <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/></td> </tr> <tr> <td>Y 16 <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/></td> <td>P <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/></td> </tr> <tr> <td>OM 17 <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/></td> <td>Y <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/></td> </tr> </table>		BURN ATT	LVLH ATT	P 15 <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>	R <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>	Y 16 <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>	P <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>	OM 17 <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>	Y <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>	<p>ORBIT BURN MONITOR:</p> <p>GPC FILL-INS <u>1</u> (<u>3</u>)</p> <table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>CRIT BURN</td> </tr> <tr> <td><input type="checkbox"/></td> <td>NON-CRIT BURN</td> </tr> </table>		<input checked="" type="checkbox"/>	CRIT BURN	<input type="checkbox"/>	NON-CRIT BURN
			NONE																																													
GPC	L	OP	CL	GPC	R	OP	CL																																									
A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																									
B	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																									
BURN ATT	LVLH ATT																																															
P 15 <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>	R <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>																																															
Y 16 <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>	P <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>																																															
OM 17 <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>	Y <input type="text" value="N"/> <input type="text" value="/"/> <input type="text" value="A"/>																																															
<input checked="" type="checkbox"/>	CRIT BURN																																															
<input type="checkbox"/>	NON-CRIT BURN																																															
<p>TIG SLIP: If Ti not started by nominal TIG + __ min go to Ti DELAY, 5-27</p> <p>Max Ti DELAY TIG slip __ min. <input type="checkbox"/> DO NOT UPDATE TIG <input type="checkbox"/> UPDATE TIG AFTER __ MIN. </p>																																																

Ti DELAY

TGT PEG 7 ΔVX 19

ΔVY 20

ΔVZ 21

NEW Ti (BASETIME)

NOTES

1 The following points summarize the joint emergency response agreements between
2 STS-133/ULF5 Commander Lindsey and Expedition 26 Commander Kelly.

3
4 GENERAL

- 5 - Emergency response will be conducted per published procedures: EMER-1
6 SODF, Joint Emergency Egress (JEE), Joint Emergency Ingress (JEI), Joint
7 Emergency Undock and Separation (JEUS) and “ISS Ammonia Response –
8 Shuttle Crew” cue card in Joint Operations SODF , and Orbit Pocket Checklist
9 in Shuttle FDF.
 - 10 ○ JEE cue cards will be posted on ISS in PMA2, and in the Airlock. A/L
11 cue card will be left in A/L. A copy of the JEUS will be posted at the
12 Lab RWS.
 - 13 ○ Joint Operations emergency SODF will be stored in the FDF locker on
14 Discovery.
 - 15 ○ ISS crew has the lead for response in any ISS Emergency case.
 - 16 ○ Shuttle crew has the lead for response in any Shuttle Emergency case.
- 17 - In general, all calls regarding an Emergency and response actions will be
18 made on the Big Loop (S/G1-A/G1). An initial call may be made via PAGE to
19 ensure all crew are aware.
- 20 - When initiating JEE, ISS CDR, Shuttle CDR and both CAPCOMs will confirm
21 JEE in progress on the Big Loop. ISS CAPCOM will echo JEE in progress on
22 S/G-2 for any crew in RS.
- 23 - Shuttle crewmembers will use the nearest available PBA when required.
24 Shuttle crew will not use Russian ИПК masks unless absolutely no other
25 option is available.
- 26 - During complex operations:
 - 27 ○ If an Emergency annunciates while SSRMS is grappled to OBSS,
28 PMM, or ELC while in MPMS, Shuttle crew will proceed with the
29 emergency response and egress to Discovery. The ungrapple will be
30 performed by MCC-H.
 - 31 ○ During campout operations, if an Emergency will be manually
32 annunciates, the crew in the Airlock will be alerted before the alarm is
33 annunciates.
 - 34 ○ During campout operations, if Airlock depress is imminent when an
35 Emergency annunciates, crew may need to don PBAs, which can be
36 taken to Shuttle.
 - 37 ○ If an Emergency annunciates during EVA, the primary ingress path will
38 be USOS Airlock. For an ammonia leak, Discovery’s airlock is
39 available as a backup option.
- 40 - Shuttle crewmember responsibilities will be divided as follows:
 - 41 ○ CDR (Lindsey): JEE/JEUS procedure execution. Maintain comm with
42 ISS and MCC-H. Preparations for undock (if required). Assist in
43 headcount.
 - 44 ○ PLT (Boe): Assist CDR and MS1.
 - 45 ○ MS1 (Drew): Retrieve designated EMUs from ISS. Configuring SRMS
46 for undock.

- 1 ○ MS2 (Bowen): Retrieve designated EMUs from ISS. Assist CDR with
- 2 undock preparations.
- 3 ○ MS3 (Barratt): Crew headcount. Disconnect O2/N2, duct and BPSMU.
- 4 Assist MS4.
- 5 ○ MS4 (Stott): Retrieve hose from seat 6 (and 5 if needed). Assist MS3
- 6 with disconnect of O2/N2, duct and BPSMU. Close Node 2 Forward
- 7 and PMA2 hatches. Report hatch closures to CDR and ISS crew.
- 8 - Training Reminders:
- 9 ○ Over-riding philosophy is to take immediate safing steps (fight fire,
- 10 collect EMUs, etc.) then quickly egress to shuttle.
- 11 ○ If an emergency occurs when each crew is on their own vehicle,
- 12 Shuttle crew will come back to ISS to get their EMUs, except (1) in an
- 13 ammonia leak case, or (2) if the emergency is in their direct path.
- 14 ○ Identify EMUs for return using expedited doff cue card for ISS crew
- 15 awareness.
- 16 ○ When possible, use the buddy system.
- 17 ○ If ISS crew egresses to Soyuz, they will not be able to communicate
- 18 with Shuttle crew until Houston and Moscow perform the steps to tie
- 19 the loops together.
- 20 ○ Only tones for Shuttle alarms will be passed to ISS via BPSMU, so
- 21 alarm information should be communicated via Big Loop. If there are
- 22 DAIU problems after docking, ISS alarms may not be passed to
- 23 Shuttle.

24

25 RAPID DEPRESS

- 26 - If a Shuttle crewmember detects a rapid depress, they will confirm with an
- 27 ISS crewmember before annunciating the Rapid Depress alarm. Shuttle crew
- 28 will notify ISS crew when the Node 2 Forward hatch is closed, and will provide
- 29 additional detail as available to assist in the response (eg, hatch pulled away
- 30 or slammed shut).
- 31 - ISS atmosphere may be utilized to support Shuttle leak response actions.

32

33 FIRE

- 34 - In the event of a Shuttle fire, the ISS crew, per Shuttle crew call, will initiate
- 35 an ISS Fire alarm to stop ISS ventilation. If possible, this will be done before
- 36 the Shuttle PFE is used in order to prevent the spread of Halon into the ISS.
- 37 - If a Shuttle crewmember sees visible smoke or flames on ISS, they will
- 38 annunciate the ISS Fire alarm. Shuttle crew may flip the Rack Power Switch
- 39 (if available) to power down the affected rack, and use a PFE, or they may
- 40 inform a Station crewmember, who will determine the appropriate response.
- 41 They will then egress to Shuttle.
- 42 - If a Shuttle crewmember smells a burning odor, they will inform a Station
- 43 crewmember, who will determine the appropriate response.
- 44 - Any visible smoke or fire should be communicated via Big Loop upon
- 45 detection.

1 TOXIC ATM

- 2 - If a Shuttle crewmember smells ammonia, they will annunciate the TOX ATM
3 alarm.
4 - If MCC-H sees indications of an ammonia leak, MCC-H will make the
5 following call on the big loop (S/G1-A/G1): **“Ammonia Leak, Execute
6 Emergency Response – I say again – Ammonia Leak, Execute
7 Emergency Response.”**
8 ○ Memorized Shuttle Crew Response - don masks, push ATM button on
9 C&W panel if not already in alarm, close Node 2 Fwd hatch, if
10 contamination suspected doff clothes in PMA2, close APAS hatch.
11 - EMUs will not be retrieved from ISS for return on Shuttle in an ammonia
12 response.
13 - After egressing the USOS, both crews will close the appropriate hatch as
14 soon as all resident crewmembers are accounted for, without waiting for
15 confirmation that the other crew is secure.
16 - Both crews will verify levels of ammonia in own vehicles using ammonia
17 detection kit.
18 - If a Shuttle crewmember detects an odor or spill of a substance other than
19 ammonia, they will inform an ISS crewmember, who will determine the
20 appropriate response and coordinate via Big Loop as required.
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45