

STS-117/13A

FD 09 Execute Package



MSG	Page(s)	Title
075B	1 - 11	FD09 Flight Plan Revision (pdf)
076	12	FD09 Mission Summary (pdf)
077	13 - 14	FD09 Transfer Message (pdf)
073A	15	Words from Lindsey (pdf)
081	16 - 17	EVA Transfer and Reconfig Update (pdf)
082	18	EVA 4 Summary Timeline (pdf)
078	---	FD08 MMT Summary (pdf - Electronic Only)

Approved by FAO: Linda Delapp

Last Updated: Jun 16 2007 11:45AM GMT

JEDI (Joint Execute package Development and Integration), v2.04.0003

1 MSG INDEX

2

3 MSG NO. TITLE

4 073 Words from Lindsey

5 075 FD09 Flight Plan Revision

6 076 FD09 Mission Summary

7 077 FD09 Transfer Summary

8 078 FD08 MMT Summary (Electronic Only)

9 080 PAO Event Summary Message Joint Crew News Conference (Electronic Only)

10 081 EVA Transfer and Reconfig Update

11 082 EVA 4 Summary Timeline

12

13

14 1. A total of two shuttle crewmembers can use the shuttle WCS during the EVA with no
15 impact to the waste management plan.

16

17 2. Since GPC 2 was Powered OFF (MSG 074A), DPS will call daily during Pre-sleep to have
18 you Power ON GPC 2 for ~ 5 seconds. This will allow for a memory scrub of GPC 2.

19

20 3. We have provided you with an EVA 4 summary timeline so you can start thinking about
21 those tasks. We will have an updated Tool Config, Inhibit Pad and Detailed Timeline for
22 you later in the day. And as a reminder, we will take the answers to yesterday's MMOD
23 shield questions whenever you are ready (reference message 79 (15-0458)).

24

25 4. There are no exercise constraints for today's activities.

26

27 5. If needed, the following are the Ku opportunities for crew choice downlinks at the end of
28 the day:

29

30 TDRS W: 8/01:25 - 01:49

31 TDRS E: 8/01:55 - 02:03

32 TDRS W: 8/02:59 - 03:05

33 TDRS E: 8/03:39 - 03:46

34

35 6. Based on the current mission plans, all of your PFCs are scheduled during your off duty
36 on flight day 11 between MET 9/13:15 and 19:45.

37

38 7. REPLACE PAGES 2-30, 2-32, AND 3-92 THROUGH 3-99.

39

40

41

42

43

44

45

46

47

48

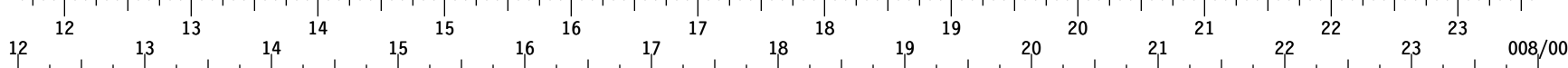
49

50

51

FD09

GMT 06/16/07 (167)
 β = 32
 MET Day 007



S T S - 1 1 7	CDR STURCKOW	SLEEP	POST SLEEP	02 RECONFIG TO XFER		02 #	FC*	EXERCISE		CIN W C I T 2	MEAL	C T W E R C 1 M 2	C X W F E R	EVA 4 PROC REVIEW	P H O T O		
	PLT/R2/M1 ARCHAMBAULT	SLEEP	POST SLEEP*	P X W F E R	XFER		P W R # 1 F I L L	P W R # 2 F I L L	P W R X F E R	MEAL	XFER	EXERCISE	EVA 4 PROC REVIEW	P H O T O			
	MS1/EV3/R1 FORRESTER	SLEEP	POST SLEEP	N I N I T	EXERCISE	N T E R M	EMU SWAP	B M I A E N T T O T / X L	E_LK PREP	MEAL	EVA TOOL CONFIG	FILTER INSPECT	P C R L L O A S E	XFER	EVA 4 PROC REVIEW	P H O T O	
	MS2/EV4/M2 SWANSON	SLEEP	POST SLEEP	EXERCISE		XFER	EMU SWAP	B M I A E N T T O T / X L	E_LK PREP	MEAL	EVA TOOL CONFIG	XFER		EVA 4 PROC REVIEW	P H O T O		
	MS3/EV2/R1 OLIVAS	SLEEP	POST SLEEP	PST EVA XFER & RCNFG		POST EVA 3 TOOL CNFG	XFER	EXERCISE	MEAL	XFER		P/TV 05 S/U	EVA 4 PROC REVIEW	P H O T O			
	MS4/EV1 REILLY	SLEEP	POST SLEEP	PST EVA XFER & RCNFG		POST EVA 3 TOOL CNFG	EXERCISE	XFER	MEAL	XFER		X B F R E I E F	EVA 4 PROC REVIEW	P H O T O			
D N	FE-2 WILLIAMS	SLEEP	POST SLEEP	DPC	PREP WORK	T V I S	H/O	CEVIS	RED	C W C	MIDDAY-MEAL	H/O		EVA 4 PROC REVIEW	P H O T O		
	ISS CDR ЮРЧИХИН	SLEEP	POST SLEEP	DPC	МБИ-21-CDR-EXE		PFC	RED	IMS	COЖ	MIDDAY-MEAL	DCS	БМП-FAN-REPL	EXERCISE CEVIS	P H O T O		
E X P - 1 5	FE-1 KOTOV	SLEEP	POST SLEEP	DPC	P W	P F C	P W	02 RECONFIG TO XFER	02 #	TVIS		MIDDAY-MEAL	КРМОГЕМ TEST	RED	EVA 4 PROC REVIEW	P H O T O	
	FE-2 ANDERSON	SLEEP	POST SLEEP	DPC	PREP WORK	C S A	G A M A H2	H/O	H2	H2 VENT RCNFG	H2H2	PMC	C W C	MIDDAY-MEAL	H2	H/O	TVIS

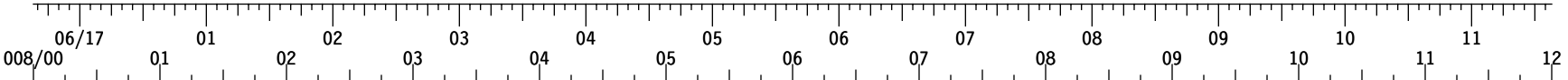
SSRMS		WS3 PDGF2														
S T S	DAY/NIGHT	[Timeline bars for Day/Night]														
	ORBIT	[Timeline bars for Orbit]														
	TDRS	W -171	[Timeline bars for TDRS]													
		E -46	[Timeline bars for TDRS]													
	Z -275	[Timeline bars for TDRS]														
	ORB ATT	BIAS -XLV -ZVV														
NOTES		*HUM SEP #INIT *MANUAL PURGE														

FD09

GMT 06/16/07 (167)

β = -29

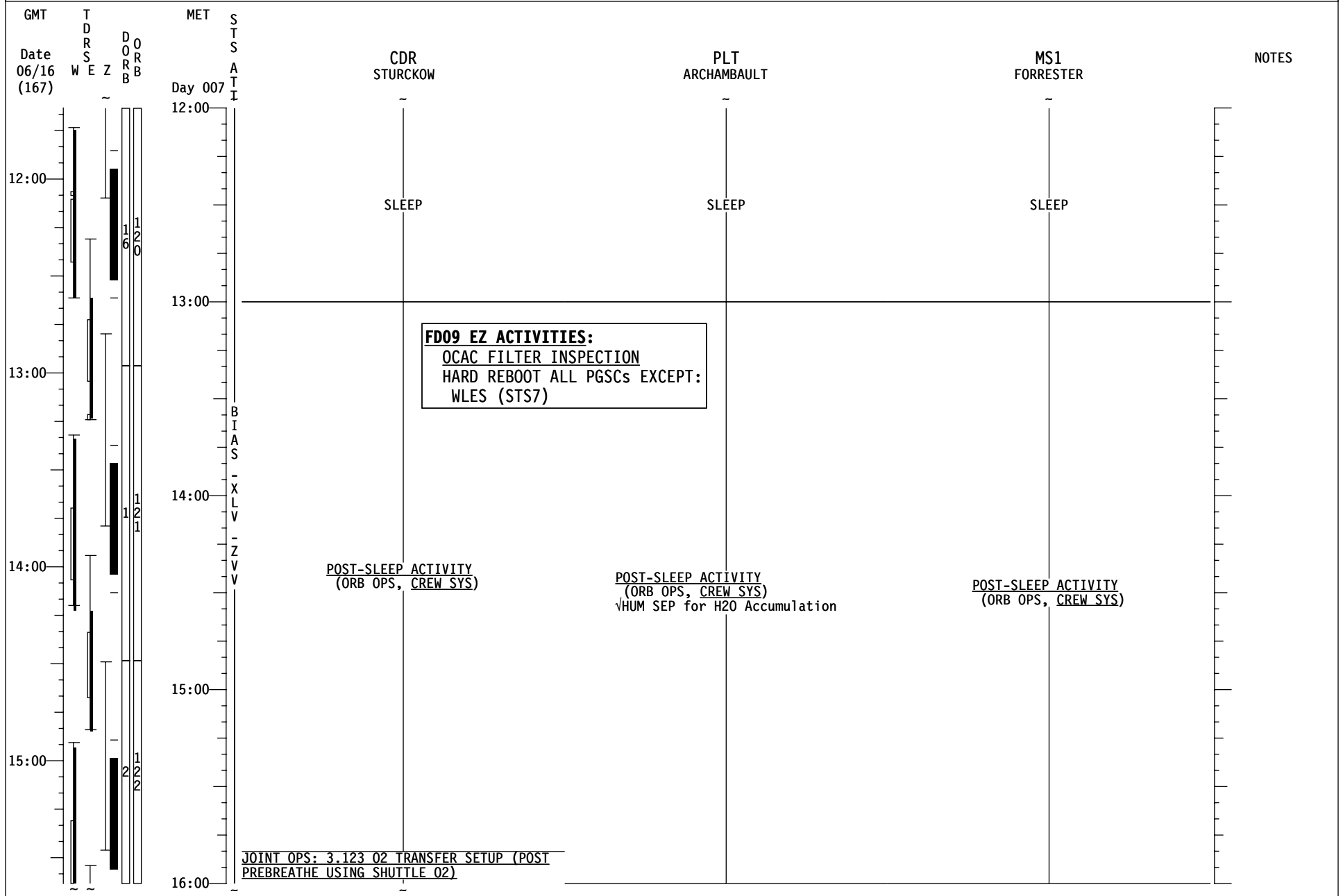
MET Day 008



S T S - 1 1 7	CDR STURCKOW	CREW CONF	02 * 02 RECONFIG TO P/B	PS RL EE EP PMC A/G	PRE SLEEP	SLEEP
	PLT/R2/M1 ARCHAMBAULT	CREW CONF			PRE SLEEP	SLEEP
	MS1/EV3/R1 FORRESTER	CREW CONF	PRE SLEEP		MASK PB/TOOL CONFIG	PRE SLEEP SLEEP
	MS2/EV4/M2 SWANSON	CREW CONF	PRE SLEEP		MASK PB/TOOL CONFIG	PRE SLEEP SLEEP
	MS3/EV2/R1 OLIVAS	CREW CONF			PRE SLEEP	SLEEP
	MS4/EV1 REILLY	CREW CONF	02 * 02 RECONFIG TO P/B		PRE SLEEP	SLEEP
D N	FE-2 WILLIAMS	CREW CONF	PREP WORK	DPC	PRE SLEEP	SLEEP
	ISS CDR ЮРЧИХИН	CREW CONF	PREP WORK	DPC	PRE SLEEP	SLEEP
E X P - 1 5	FE-1 KOTOV	CREW CONF	PREP WORK	DPC	PRE SLEEP	SLEEP
	FE-2 ANDERSON	CREW CONF	PREP WORK	DPC	PRE SLEEP	SLEEP
SSRMS		WS3 PDGF2				
S T S	DAY/NIGHT	128 129 130 131 132 133 134 135				
	ORBIT	128 129 130 131 132 133 134 135				
	TDRS W -171	[Timeline bars]				
	TDRS E -46	[Timeline bars]				
Z -275	[Timeline bars]					
ORB ATT	BIAS -XLV -ZVV					
NOTES	*TERM					

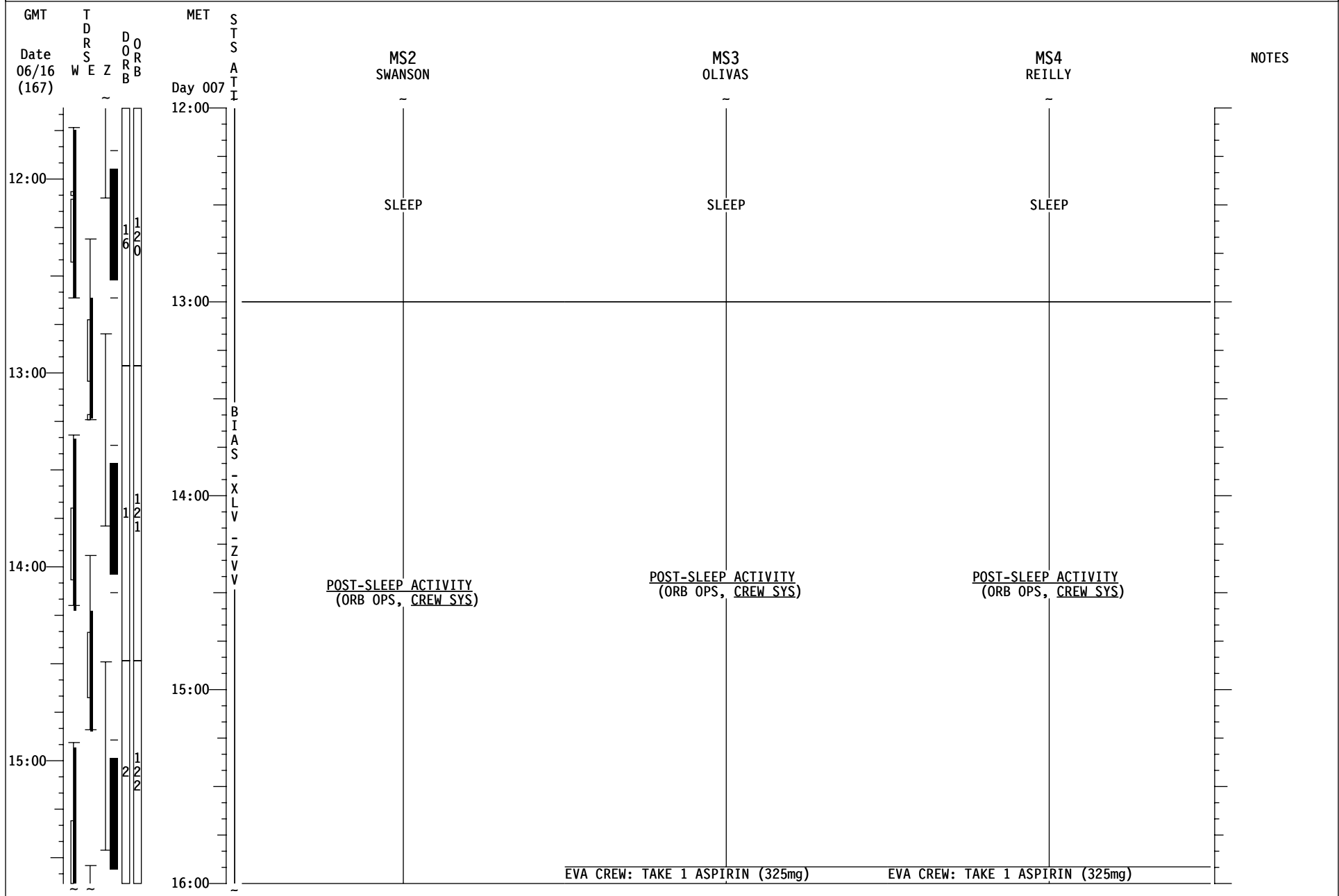
STS-117 (FD09)

REPLANNED



STS-117 (FD09)

REPLANNED



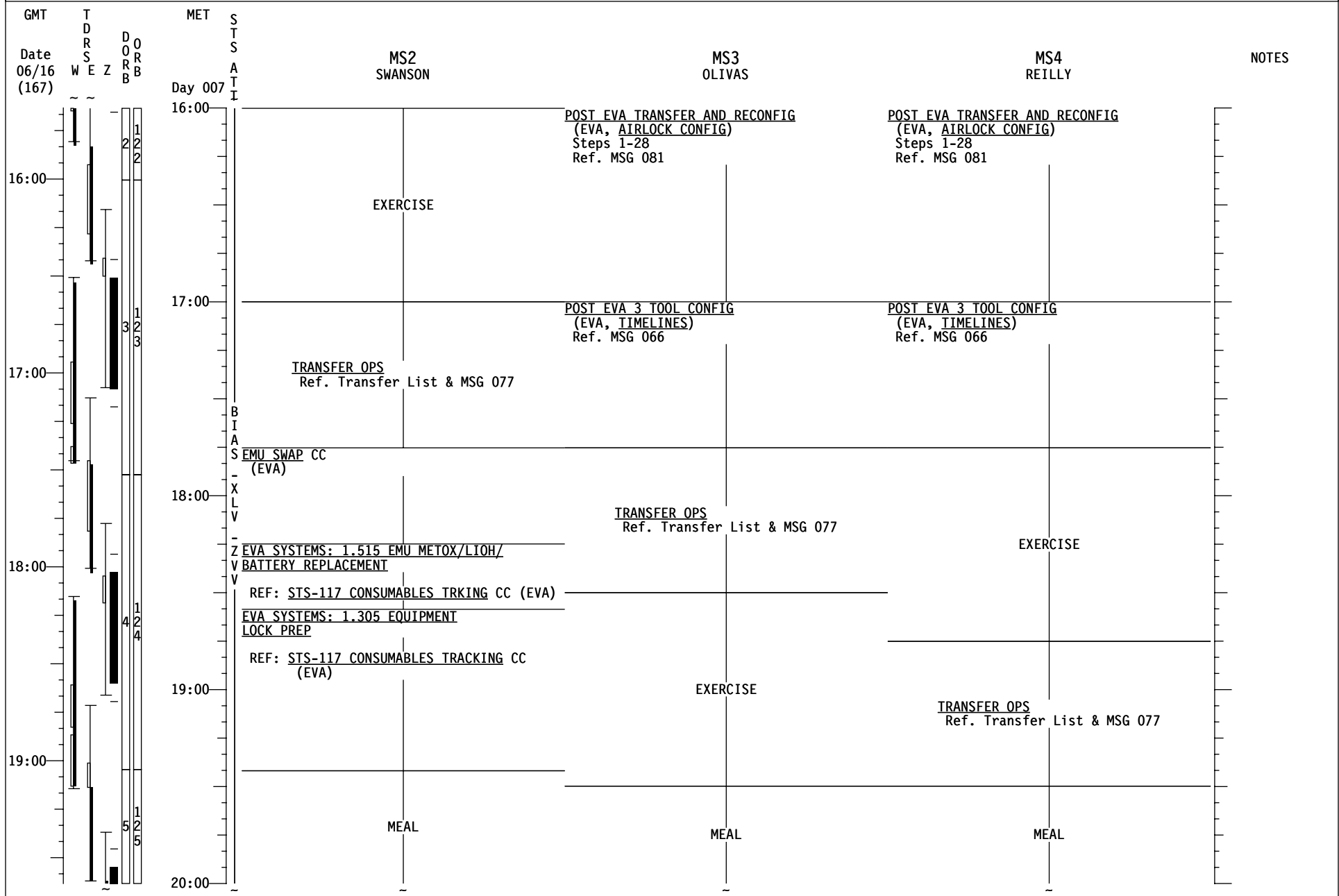
STS-117 (FD09)

REPLANNED

GMT	T D R S E Z	D O R B	MET	S T S	CDR	PLT	MS1	NOTES
Date	W E Z	ORB	Day	A T I	STURCKOW	ARCHAMBAULT	FORRESTER	
06/16 (167)	~	1 2 2	007	I				
16:00					JOINT OPS: 3.123 O2 TRANSFER SETUP (POST PREBREATHE USING SHUTTLE O2)	TRANSFER PWR TO STS Transfer PWRs SN 1007 and 1025 to STS Ref. MSG 048	N2 RPRS USING PL N2 VLVS Init (ORB OPS, ECLS) Steps 1-5. On MCC Go, perform Step 6. MCC will TMBU all limits	
16:00					JOINT OPS: 3.116 HIGH PRESSURE TANK O2 XFER (Init) Steps 1 & 2			
17:00		3 2 3			FC PURGE - MANUAL (ORB OPS, EPS)	TRANSFER OPS Ref. Transfer List & MSG 077	EXERCISE	
17:00					EXERCISE			N2 RPRS USING PL N2 VLVS Term (ORB OPS, ECLS) On MCC Go, Steps 7-12. MCC will TMBU all limits
18:00						PWR FILL (ORB OPS, ECLS) Perform WATER FILL #1 Ref. MSG 048	EMU SWAP CC (EVA)	
18:00		4 2 4				PWR FILL (ORB OPS, ECLS) Perform WATER FILL #2 Ref. MSG 048	EVA SYSTEMS: 1.515 EMU METOX/LIOH/ BATTERY REPLACEMENT	
19:00						PWR TRANSFER Transfer 2 PWRs to ISS Ref. MSG 048	REF: STS-117 CONSUMABLES TRKING CC (EVA)	
19:00					SHUTTLE/ISS H2O CNTR FILL (ORB OPS, ECLS) Init Fil1 #12 Ref. MSG 048		EVA SYSTEMS: 1.305 EQUIPMENT LOCK PREP	
19:00		5 2 5					REF: STS-117 CONSUMABLES TRACKING CC (EVA)	
20:00					MEAL	MEAL	MEAL	

STS-117 (FD09)

REPLANNED



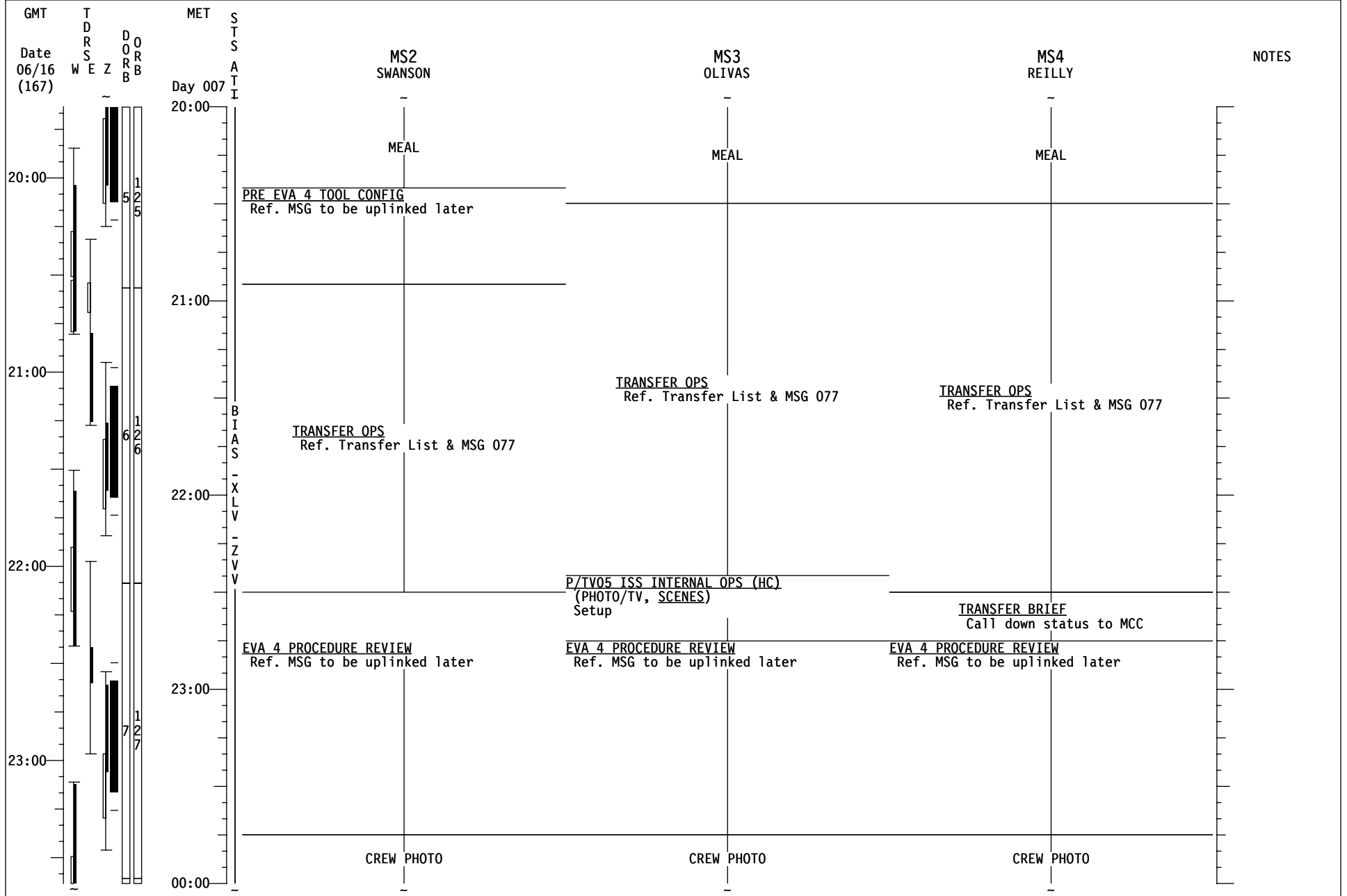
STS-117 (FD09)

REPLANNED

GMT	T D R S Z	D O R B	MET	S T S	CDR	PLT	MS1	NOTES
Date	W E Z	ORB	Day	A T I	STURCKOW	ARCHAMBAULT	FORRESTER	
06/16 (167)			007					
20:00		125			MEAL	MEAL	MEAL	
20:00		525			<u>SHUTTLE/ISS H2O CNTR FILL</u> (ORB OPS, ECLS) Perform <u>FILL TERMINATION</u>		<u>PRE EVA 4 TOOL CONFIG</u> Ref. MSG to be uplinked later	
					<u>CWC TRANSFER</u> Transfer 1 CWC to ISS Ref. MSG 048			
21:00						<u>TRANSFER OPS</u> Ref. Transfer List & MSG 077	<u>FILTER CLEANING</u> (IFM, SCHEDULED MAINTENANCE) Inspect filters and clean as necessary	
21:00		126						
		626					<u>PRLA CLOSE</u> (ORB OPS, PRLA)	
22:00						EXERCISE		
22:00							<u>TRANSFER OPS</u> Ref. Transfer List & MSG 077	
23:00		127			<u>EVA 4 PROCEDURE REVIEW</u> Ref. MSG to be uplinked later	<u>EVA 4 PROCEDURE REVIEW</u> Ref. MSG to be uplinked later	<u>EVA 4 PROCEDURE REVIEW</u> Ref. MSG to be uplinked later	
23:00		727						
00:00					CREW PHOTO	CREW PHOTO	CREW PHOTO	

STS-117 (FD09)

REPLANNED



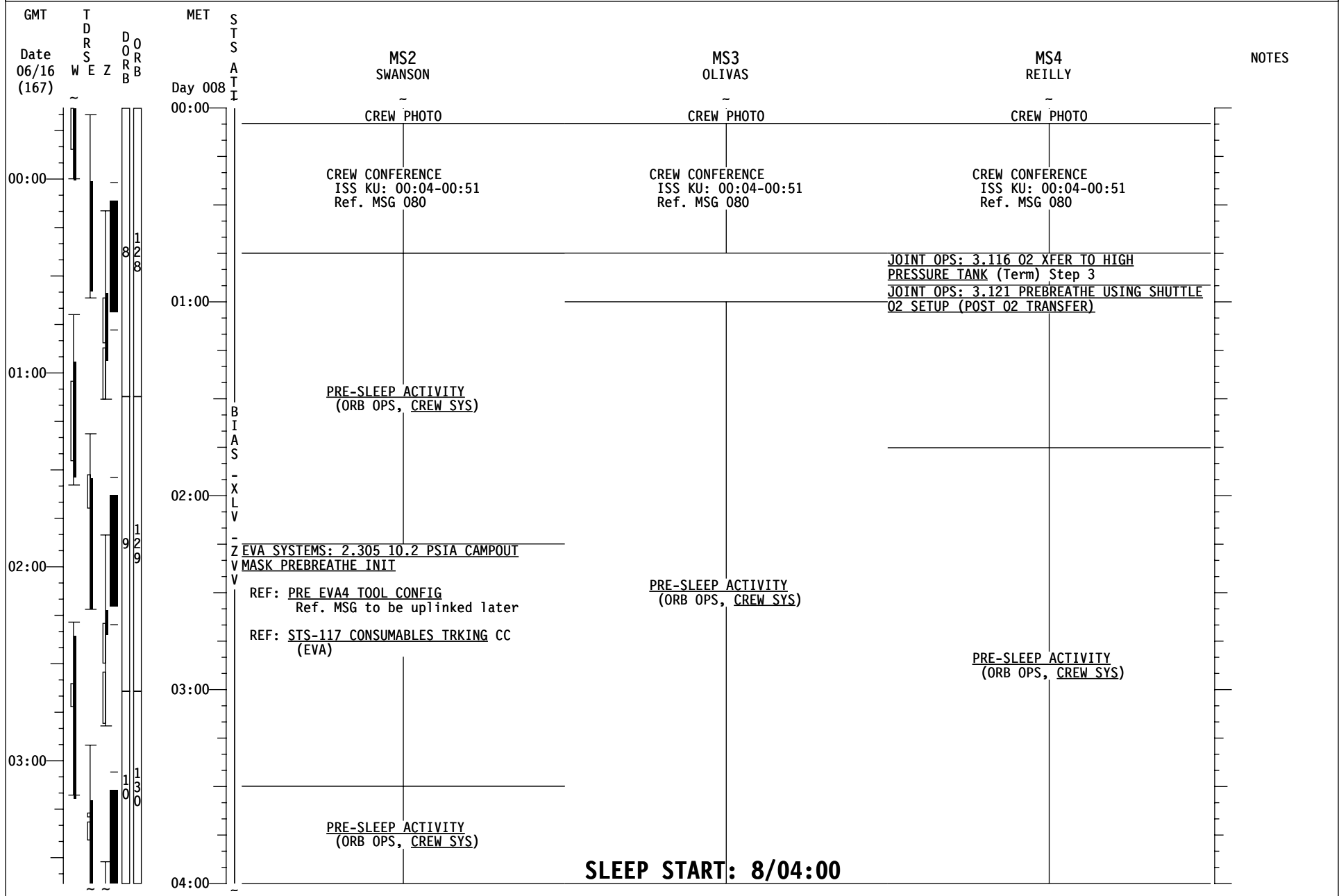
STS-117 (FD09)

REPLANNED

GMT	T D R S E Z	D O R B	MET	S T S	CDR	PLT	MS1	NOTES
Date 06/16 (167)	W	08	Day 008	A T V I	STURCKOW	ARCHAMBAULT	FORRESTER	
00:00			00:00		CREW PHOTO	CREW PHOTO	CREW PHOTO	
00:00					CREW CONFERENCE ISS KU: 00:04-00:51 Ref. MSG 080	CREW CONFERENCE ISS KU: 00:04-00:51 Ref. MSG 080	CREW CONFERENCE ISS KU: 00:04-00:51 Ref. MSG 080	
01:00			01:00		<u>JOINT OPS: 3.116 O2 XFER TO HIGH</u> <u>PRESSURE TANK (Term) Step 3</u> <u>JOINT OPS: 3.121 PREBREATHE USING SHUTTLE</u> <u>O2 SETUP (POST O2 TRANSFER)</u>			
01:00							PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
02:00			02:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
02:00					PRIVATE MEDICAL CONFERENCE Perform via A/G 2			<u>EVA SYSTEMS: 2.305 10.2 PSIA CAMPOUT</u> <u>MASK PREBREATHE INIT</u> REF: <u>PRE EVA4 TOOL CONFIG</u> Ref. MSG to be uplinked later REF: <u>STS-117 CONSUMABLES TRKING CC</u> (EVA)
02:00						PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		
03:00			03:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
03:00							PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
04:00			04:00		SLEEP START: 8/04:00			

STS-117 (FD09)

REPLANNED



MSG 076 (15-0455) - FD09 MISSION SUMMARY

Page 1 of 1

1 Good Morning Atlantis!
2 Superb team effort on yesterday's EVA 3. We really appreciate the tremendous work you
3 are doing. Today's activities include preparation for EVA 4.

4
5 YOUR CURRENT ORBIT IS: 184 X 178 NM

6
7 NOTAMS:

8
9 MORON (MRN) – CLOSED
10 WAKE ISLAND (WAK) - CLOSED
11 GOOSE BAY (YYR) – RWY 08/26 CLOSED
12 LAJES (LAJ) – TACAN LAJ CH45 UNUSABLE
13 KEFLAVIK (IKF) – UNUSABLE
14 RIO GALLEGOS (AWG) – UNUSABLE

15
16
17 NEXT 2 PLS OPPORTUNITIES:

18
19 NOR17 ORB 126 – 7/21:48 (SCT150 BKN250 160/6P10)
20 EDW22 ORB 142 – 8/22:07 (SKC 250/17P25)

21
22 OMS TANK FAIL CAPABILITY:

23
24 L OMS FAIL: NO R OMS FAIL: NO

25
26 LEAKING OMS PRPLT BURN:

27
28 L OMS LEAK: ALWAYS RETROGRADE
29 R OMS LEAK: ALWAYS RETROGRADE

30
31 OMS QUANTITIES(%)

32
33 L OMS OX = 31.0 R OMS OX = 33.0
34 FU = 30.8 FU = 32.5

35
36 SUBTRACT I'CNCT COUNTER FOR CURRENT OMS QUANTITIES

37
38 DELTA V AVAILABLE:

39
40 OMS 332 FPS
41 ARCS (TOTAL ABOVE QTY1) 48 FPS
42 TOTAL IN THE AFT 380 FPS
43
44 ARCS (TOTAL ABOVE QTY2) 82 FPS
45 FRCS (ABOVE QTY 1) 25 FPS
46
47 AFT QTY 1 79 %
48 AFT QTY 2 41 %

49
50
51 THERE ARE NO FAILURE/IMPACT/WORK AROUNDS FOR TODAY.

MSG 077 (15-0456) - FD09 TRANSFER MESSAGE

Page 1 of 2

1 Good morning crew,

2

3 It's the bottom of the 9th and the bases are loaded. Today we're looking forward to that last
4 big transfer push to knock these open items out of the park. To that end, we've sat down
5 with pencils sharpened and added 10 ½ hours of transfer time to FD09.

6

7 The Transfer List Excel file, FD09_TransferList_STS117.xls, is located on the KFX machine
8 in **C:\OCA-up\transfer**.

9

10 For ISS, the Transfer List Excel file, FD09_TransferList_STS117.xls, is located in **K:\OCA-**
11 **up\transfer**.

12

13 Transfer Notes

14

- As promised, here are the changes to Return bag 402.
 - This bag contains a prepacked CSA-CP Resupply Kit that needs to remain on ISS. We added this to your Transfer List along with instructions to remove it from the return bag and restow it back on ISS (Ref item 402.1).
 - Returning in place of the CSA-CP Resupply Kit is payload hardware (Ref items 402.14 and 402.15).
 - Suni is still “go” to pack extra foam or clothing in this bag. Please ensure the water samples are protected from puncture or heavy loads upon landing.
- Today's Choreography contains almost all remaining transfer items as this is your last big day of transfer.
- Please swap out all pages of the Return tab with pages in this message. This is because updates to Return page 1 caused items to shift on all other pages.

15

16

17

18

19

20

21

22

23

24

25

26

27

28 Questions/Answers for the crew

29

1. We're evaluating the potential return of two Russian Computers in a 5 MLE bag. To accommodate this, and minimize impact to return config, we have the following questions.

30

31

32

33

34

35

36

37

38

39

40

41 Choreography (items for transfer today)

42

TO ISS:

43

Item 2: DCS Camera Battery

44

Item 3: Multimeter

45

Item 9: DCS Camera Batteries

46

Item 27.1: DCS 760 Camera Battery Swap

47

Item 27.2: Clean Room Gloves

48

Item 803: EVA Camera Blanket

49

50

51

MSG 077 (15-0456) - FD09 TRANSFER MESSAGE

Page 2 of 2

- 1 **FROM ISS:**
- 2 **Item 402:** 1.0 CTB [CHeCS Kits, IV Pump Batteries, CSA-CPs]
- 3 **Item 402.1:** CSA-CP Resupply Kit removal
- 4 **Item 402.14, 402.15:** G-Limit Hardware stowage
- 5 **Item 402.16:** (10-50 in-lbs) Torque Wrench, 1/4" Drive
- 6 **Item 403:** 3.0 CTB [TPS Hardware]
- 7 **Item 404, 404.2, 404.3, 404.16:** P/TV Equipment
- 8 **Item 408:** 0.5 CTB [EVA Tethers/Micron Filters]
- 9 **Item 411, 411.2:** QDMA and 2B Leader Panel
- 10 **Items 602, 616:** NiRA
- 11 **Item 603:** A31p Laptop
- 12 **Item 606:** 12A.1 CD Transfer Case
- 13 **Item 700:** Multimeter
- 14 **Items 703 and subs:** 1.0 CTB [CHeCS Return Bag]
- 15 **Item 704:** DCS Camera Battery
- 16 **Item 705:** DCS Camera Batteries
- 17 **Item 801:** EVA Transfer Bag
- 18 **Item 802:** 12A.1 Warning Book

19

20 **Please incorporate uplink pages as follows:**

- 21
- 22 In **RESUPPLY** tab
- 23 Replace Page(s): 1 and 5
- 24
- 25 In **RETURN** tab
- 26 Replace Page(s): All pages (additions on page 1 shifted items to other pages).
- 27

28 **Changes to the Transfer List are detailed below.**

29 **RESUPPLY**

- 30 **Item 3:** Updated note
- 31 **Item 4:** Updated Constraint
- 32 **Item 13:** Updated Constraint

33

34 **RETURN**

- 35 **Item 402:** New note
- 36 **Item 402.1:** New line to remove a return item
- 37 **Item 402.14:** New Return Item
- 38 **Item 402.15:** New Return Item
- 39 **Item 407:** New Note
- 40 **Item 700:** New note and Location
- 41 **Item 708.4:** New Return Items (Qty 2)

42

43 Call us with any questions and have a great day!

44

45 - The Transfer Team

46

47

48

49

50

51

MSG 073A (15-0459A) - WORDS FROM LINDSEY

Page 1 of 1

1 CJ, Fyoder, and both crews:

2

3 We wanted to give you a big picture update on what's currently happening here at JSC. We
4 are looking at every possible option/impact resulting from the computer problems in the
5 Russian segment. We are fully engaged with our Russian counterparts on this situation.
6 We have formed 5 teams here in Houston to address the issues/impacts:

7

8 - Root Cause/Systems Recovery team - working with our Russian counterparts to try and
9 determine/solve the problem that's affecting the computers.

10

11 - Alternate Attitude Control team -- looking at options to control ISS attitude after the Shuttle
12 undocks with the RS computers down (CMGs, Soyuz, Progress, etc.). This team is also
13 looking at Shuttle undock in various attitudes to minimize rates/CMG saturation at undock.

14

15 - Crewed Operations team -- looking at how to keep ISS running (consumables, O2
16 generation, CO2 scrubbing, etc.) without the RS computers. Options may include additional
17 transfers of supplies from Shuttle to ISS.

18

19 - ISS Decrew team -- looking at minimum criteria to keep crew onboard, and what would
20 trigger a de-crew of ISS from a consumables standpoint. Also looking at Soyuz undock
21 capability (with ISS attitude rates) and what a de-crewed ISS systems configuration would
22 look like.

23

24 - The "How Long can the Shuttle Stay Docked" team -- looking at all options to keep Atlantis
25 docked as long as possible, as needed.

26

27 Our objective in all of this is to have the ISS in the best configuration possible at undock.
28 Thus you may be getting some strange requests or asked to do some unexpected
29 transfers/additional powerdowns -- we wanted to make sure you know where and why these
30 requests/changes are happening.

31

32 Please let us know any questions and ideas you have, at all times. We will solve this!

33

34 Steve

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

MSG 081 (15-0462) - EVA TRANSFER AND RECONFIG UPDATE

Page 1 of 2

1 Due to the additional days that have been added to the mission, the EVA reconfiguration and
2 transfer procedure will now be executed over two days, FD9 and FD11. There are a few deltas
3 to transfer procedures.

4
5
6 In POST EVA RECONFIGURATION AND TRANSFER (EVA, AIRLOCK CONFIG) pg FS 2-
7 13, the following pen and ink changes are required:

8
9 CHANGE: Step 18,

10 FROM:

11 Step 18: Remove helmet, disconnect CCA from electrical harness, connect helmet to
12 HUT, lock, install helmet cover

13 TO:

14 Step 18: Remove helmet, disconnect CCA from electrical harness

15 Step 18a: Remove DIDB restraint bag (-02) from EMU 3010 and stow in EMU Temp Stow
16 Bag

17 Step 18b: Install launched DIDB restraint bag (-01) in EMU 3010

18 Step 18c: Connect helmet to HUT, lock, install helmet cover.

19
20 DELETE: Steps 34 & 35

21
22 CHANGE: Step 36,

23 FROM: Retrieve 0.5-in leg ring protective pouch from EMU Temp Stow Bag; stow rings
24 inside, close pouch. Stow in Shuttle External Airlock Floor Bag.

25 TO: Retrieve 0.5-in leg rings wrapped in towel and grey tape from EMU Temp Stow Bag;
26 Stow in Shuttle Airlock Floor Bag.

27
28 CHANGE: Step 38, Contents of External Airlock Floor Bag

29 FROM: EMU 0.5" leg sizing rings (sn118/119) in protective pouch, returning from ISS

30 TO: EMU 0.5" leg sizing rings (sn122/123) in towel w/grey tape, returning from ISS

31
32
33 The EVA CHECKLIST TRANSFER ITEMS procedure (EVA, TOOLS AND STOWAGE) has also
34 been updated with a change to the EMU 0.5" leg sizing ring serial numbers that are to be
35 returned and the deletion of the sizing ring pouch. These changes are already reflected in
36 the transfer list, but an updated pg FS 8-12 has been provided for JR's reference.

MSG 081 (15-0462) - EVA TRANSFER AND RECONFIG UPDATE

Page 2 of 2

EVA CHECKLIST TRANSFER ITEMS (Cont)**ISS TO SHUTTLE**NOTE

All Items below transfer to Shuttle on FD9-11 in the POST EVA RECONFIGURATION AND TRANSFER procedure

<input checked="" type="checkbox"/> ITEM	LANDING LOCATION	QTY	S/N	NOTES
<input type="checkbox"/> EVA System Transfer Bag				
<input type="checkbox"/> EMU Servicing Kit - Signal Conditioner (Tyr prime)	Volume H, INBD	1	5002 116	Used during all 117/13A EVAs
<input type="checkbox"/> External A/L Floor Bag				
<input type="checkbox"/> EMU ICB Battery	External A/L Floor Bag	2	2059, 2060	Prepack staging area, move to Ext A/L Bag on FD4 in SW/FR EMU Reconfig
<input type="checkbox"/> Leg Sizing Rings, 0.5" pr - in pouch wrapped in towel and grey tape	External A/L Floor Bag	1	448, 449 122, 123	Retrieve pouch from EMU Temp Stow Bag. Rings come from FR EMU post-EVA
<input type="checkbox"/> Velcro Tape Caddy	External A/L Floor Bag	1	1019	Swap on FD911
<input type="checkbox"/> EMU [S/N 3010]				
<input type="checkbox"/> Comm Cap Assy (CCA - LA prime)	EMU 3010 (RY) Restraint Bag kangaroo pouch	1	1172	Retrieve from EMU Temp Stow Bag
<input type="checkbox"/> EMU ICB Battery	EMU 3010	1	2039	Retrieve from EMU Temp Stow Bag
<input type="checkbox"/> EMU [S/N 3004]				
<input type="checkbox"/> Comm Cap Assy (CCA - OL b/u)	EMU 3004 (OL) Restraint Bag kangaroo pouch	1	1177	Retrieve from EMU Temp Stow Bag
<input type="checkbox"/> EMU ICB Battery	EMU 3004	1	2040	Retrieve from EMU Temp Stow Bag

15-0463 (MSG 082) – EVA 4 SUMMARY TIMELINE
PAGE 1 OF 1

TIME HR : MIN	IV	EV3 (FR)	EV4 (SW)	
00:00		<u>POST DEPRESS</u> (00:05)	<u>POST DEPRESS</u> (00:05)	00:00
		<u>EGRESS/SETUP</u> (00:40) • ETVCG INSTALL IN CP1	<u>EGRESS/SETUP</u> (00:40) • ETVCG INSTALL IN CP1	
01:00		<u>DLA 2 VERIFICATION</u> (00:45)	<u>SARJ LAUNCH RESTRAINTS</u> (01:15)	01:00
		<u>SARJ LAUNCH RESTRAINTS</u> (00:30)		
02:00		<u>DRAG LINK/KEEL PIN</u> (01 :00)	<u>DRAG LINK/KEEL PIN</u> (01 :00)	02:00
03:00		<u>APFR RELOCATE / MMOD SHIELD BOLTS</u> (00:30)	<u>APFR RELOCATE / MMOD SHIELD BOLTS</u> (00:30)	03:00
		<u>ETRS / TETHER SHUTTLE STOP / MT STOPS</u> (00:30)	<u>S3 CLEANUP</u> (00:30) • Crewlock Bag, Lg Trash Bag Retrieval	
04:00		<u>NODE LAN CABLE</u> (01:00)	<u>NODE LAN CABLE</u> (01:00)	04:00
05:00		<u>GPS 4 REMOVAL</u> (00:30)	<u>SASA GIMBAL LOCKS</u> (00:30)	05:00
		<u>VENT VALVE OPEN / MMOD SHIELD</u>	<u>MMOD SHIELD</u>	
06:00		<u>CLEANUP/INGRESS</u> (00:35)	<u>CLEANUP/INGRESS</u> (00:35)	06:00
		<u>PREREPRESS</u> (00:05)	<u>PREREPRESS</u> (00:05)	

MSG 078 (15-0457) - FD08 MMT SUMMARY

Page 1 of 2

1 **FD8 MMT Crew Summary**

2

3 The MMT met today and discussed mission progress, the Port OMS blanket repair testing
4 results, ISS attitude control anomalies, the OA2 MDM anomaly, and the post launch pad A
5 walkdown debris results. The MMT greatly appreciates the crew's efforts to conserve power
6 and the need for docked waste dumps in event that the docked mission needs to be
7 extended to assist with ISS computer troubleshooting.

8

9 **Port OMS Blanket Repair Testing:** The EVA repair was ongoing during the MMT and
10 everyone was very pleased by Danny's great work on the blanket. The MMT reviewed the
11 ascent heating analysis, Arc Jet testing, material degradation analysis, and wind tunnel
12 testing. The ascent heating analysis showed that temperatures were below that which
13 would cause any concern for damage to the honeycomb composite structure. The JSC Arc
14 Jet testing, which used a slightly higher heating profile than a nominal entry, showed that the
15 pins and staples used for the repair would survive entry heating. Materials analysis also
16 confirmed that the pins and staples would retain the necessary load capability for the entire
17 entry. Finally, wind tunnel testing at Texas A&M University showed that a blanket with
18 minimal securing (less than the actual repair) and a 0.25 inch step would survive the entry
19 aerodynamic profile. Based on this testing and the great repair work performed today, the
20 Damage Assessment Team and the MMT are confident that the port OMS pod is good for
21 entry.

22

23 **ISS Status:** The US and Russian teams are working around the clock on various options to
24 extend the docked duration, improve attitude control under shuttle control (VRCS or ALT),
25 and to recover the Russian computers. Just after the MMT concluded, the Russians were
26 able to activate 2 lanes on the SMCC and SMTC computers by having the crew bypass the
27 switch that powers the secondary power unit and sending a direct command to power on the
28 lanes. The lanes are in "test" mode and will remain in that configuration until tomorrow
29 morning Moscow time. These results appear to be consistent with the theory that the
30 problem was due to an issue with the secondary power supply. There is a possibility that
31 the Russians may ask to return some of this hardware on this mission, so standby for more
32 details.

33

34 **Consumables:** The current cryo margins with the existing powerdowns, no O2 transfer,
35 and the use of Russian O2, supports a 14+2 mission duration if required. The MMT decided
36 not to extend the mission by one more day at this time and may not make that decision until
37 FD 10. The teams are investigating more severe powerdowns including the SM GPC,
38 remaining PGSCs, and S-band power amps and the KU system when not in use to attempt
39 to gain a 15th day. These additional powerdowns would have to be initiated starting on the
40 morning of FD 9 in order to achieve the extra docked day. Obviously, the use of these
41 powerdowns or other significant timeline modifications would only occur if the problems with
42 the Russian computer cannot be resolved.

43

44

45

46

47

48

49

50

51

MSG 078 (15-0457) - FD08 MMT SUMMARY

Page 2 of 2

1 **MDM OA2 Impacts:** As you know the OA 2 Card 5 failure impacts more than just the card 5
2 data, but also some of the crew SM displays. The MMT reviewed the PASS and BFS
3 impacts to this failure. While some onboard calculations and other SM functions have been
4 lost the team continues to believe there is adequate redundancy in both the PASS and BFS
5 such that no further troubleshooting is required. The Entry team is identifying deltas to the
6 EPCL and the AESP procedures to take into account any of these missing parameters. A
7 summary of these impacts will be uplinked later in the mission.

8
9 **Pad A Post Launch Walkdown:** All post launch Pad A safing and walkdowns have been
10 completed nominally. The only debris highlight from the walkdown was the fiberglass deck
11 panels at the 295 foot level that separated due to SRB plume overpressure. The Team is
12 removing the plates and evaluating repair options for the decking to support STS-118.
13 There was also a missing top handrail on MLP side 3 that is under evaluation.