STS-117 / 13A

FD 11 Execute Package

MSG	Page(s)	Title
093A	1 - 13	FD11 Flight Plan Revision **(pdf)**
094	14 - 15	FD11 Mission Summary **(pdf)**
095	16 - 17	FD11 Transfer Message **(pdf)**
097	18 - 24	Handover Attitude Control Orbiter to CMG-Only Without RS SMTC **(pdf)**
096A	---	FD10 MMT Summary **(pdf - Electronic Only)**

Approved by FAO: *Linda DeLapp*

Last Updated: Jun 18 2007 10:30AM GMT
JEDI *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v2.04.0003*

MSG INDEX

MSG NO.	TITLE
093	FD11 Flight Plan Revision
094	FD11 Mission Summary
095	FD11 Transfer Message
096	FD10 MMT Summary (Electronic Only)
097	Handover Att Control Orbiter to CMG Without RS SMTC

1. At MET 9/13:10, perform a simo water dump using SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) p. 5-2. MCC will TMBU limits in Steps B and K.

   The supply dump will be ~25 minutes.

   The waste dump will target 5% and nozzle open time will be ~40 minutes.

2. In POST EVA RECONFIGURATION AND TRANSFER (EVA, AIRLOCK CONFIG) pg FS 2-16, the following pen and ink changes are required to accommodate transfer of the additional safety tether:

   ADD: in Step 37, Table 3. EVA Systems Transfer Bag Final Configuration
   - 85 ft Safety Tether (sn 1004)

   ADD: in Step 40, Table 6. EVA Systems Transfer Bag Unpack and Stow
   - stow 85 ft Safety Tether (sn 1004) in Middeck Ceiling Stbd 1 (Bag G)

3. For the SRMS temperature check scheduled after post-sleep and prior to pre-sleep perform the following:

   A8L RMS PWR – PRI (MA)

   SM 94 PDRS CONTROL

   I/O ON – ITEM 5 EXEC (*****)

   After 2 minutes or on MCC call:

   A8L RMS PWR - OFF (SM ALERT, BCE BYP MCIU)

4. CJ, The ISS 2X Teleconverter (doubler) (P/N SED33104530-303) was borrowed for solar array imagery. Here is your requested reminder to return it to the ISS before hatch closure.

5. After hatch closure and prior to sleep, we'd like to know which DAIU config you'd prefer, either DAIU ON (hardline ICOM good, ISS tones come over), or DAIU OFF.

6. MSG 097 is the HANDOVER ATTITUDE CONTROL ORBITER TO CMG-ONLY WITHOUT RS SMTC. It provides a contingency procedure to handover attitude control directly from the Orbiter VRCS to the ISS CMGs without USTO or Russian thrusters. The procedure provides instructions for manually damping rates with the RHC in order to set up the best possible conditions for momentum manager start up. There are no plans to implement this procedure, it is contingency only.

7. There are no exercise constraints for today's activities.

8. If needed, the following are the Orbiter Ku opportunities for crew choice downlinks at the end of the day:

   TDRS W: 10/00:29 - 00:55
   TDRS E: 10/01:04 - 01:09
   TDRS W: 10/02:05 - 02:11
   TDRS E: 10/02:47 - 02:53

   The following are the ISS Ku opportunities for crew choice downlinks at the end of the day:

   W-174: 10/00:41 - 00:48
   E-046: 10/01:10 - 01:19
   E-046: 10/01:22 - 01:34
   W-174: 10/02:09 - 02:30
   E-046: 10/02:46 - 03:07

9. REPLACE PAGES 2-38, 2-40, 3-116 THROUGH 3-123.

FD11

GMT 06/18/07 (169)
β = 22
MET Day 009

12 13 14 15 16 17 18 19 20 21 22 23 010/00

STS-117

CDR STURCKOW	POST SLEEP	H/O; MSINVRO; POST SLEEP; MNEVAR; TEA; ODUTY; PFCOCA; OFF DUTY; N2T; MEAL; CWC15 INIT; OFF DUTY; GPC 2 IPL; N2 TERM; CWC15 M5; CWC16 INIT; EXERCISE; CWC16 TERM; CWC XFER; FAEL RELEASE; EGRS HATCH CLOSE; H/O; HATCH CHECK
PLT/R2/M1 ARCHAMBAULT	POST SLEEP	STRK*; SIMO INIT; POST SLEEP; SIMO TERM; STRK#; H/O; OFF DUTY; PFC OCA; OFF DUTY; MEAL; OFF DUTY; XFER; CWC XFER; FAEL RELEASE; EXERCISE
MS1/EV3/R1 FORRESTER	POST SLEEP	PFC OCA; POST SLEEP; ASPRN; OFF DUTY; MEAL; OFF DUTY; PST EVA RCNFG & XFER; POST EVA 4 TOOL CNFG; O2*; O2 SYS TEARDOWN; PCS XFER; FAEL RELEASE; PRE SLEEP; EXERCISE
MS2/EV4/M2 SWANSON	POST SLEEP	SIMO INIT; POST SLEEP; ASPRN; OFF DUTY; PFC OCA; OFF DUTY; MEAL; OFF DUTY; PST EVA RCNFG & XFER; IWIS T/D; PCS PREP; EXERCISE; FAEL RELEASE; RNDZ TOOLS C/O
MS3/EV2/R1 OLIVAS	POST SLEEP	SRMS*; OFF DUTY; MEAL; PFC OCA; OFF DUTY; EXERCISE; O8S/U P/TV08 EXTERNAL SRVY; XFER; MCIU; FAEL RELEASE; RNDZ TOOLS C/O
MS4/EV1 REILLY	POST SLEEP	OFF DUTY; PFC OCA; OFF; PFC A/G; MEAL; OFF DUTY; GPC 2 IPL; EXERCISE; XFER; XFER BRIEF; FAEL RELEASE; EGRS HATCH CLOSE; HATCH CHECK

DN

FE-2 WILLIAMS	POST SLEEP	PREP WORK; DPC; EVA-US TOOL-STOW; EXERCISE RED; H/O; GRAPPLE; H/O; METX#; MIDDAY-MEAL; WATCH; PFC; XFER; DCB PACK; CGBA*; XFER; FAEL RELEASE; PRE SLEEP

EXP-15

ISS CDR ЮРЧИХИН	POST SLEEP	RODNIK ASSY; DPC; PREP; WRDNK; 3Л-БЖ; RPRS; RODNIK MON; RODNIK END; БРП C/O; DCS RCNFG; VELO; MIDDAY-MEAL; CM-PO INSPECT; RDNK; Г-РОДНИК-БВ-TRANSF; FAEL RELEASE; RED
FE-1 КОТОВ	POST SLEEP	PREP WORK; KRGM; DPC; EXERCISE CEVIS; GRAPPLE; RED; RSP C/O; MIDDAY-MEAL; СОГС CMS ANLZ; ПИЛЛЕ RPLC; O2*; O2 SYS TEARDOWN; ГАНЛКЗ; FAEL RELEASE; EGRS HATCH CLOSE; PREP

UP

FE-2 ANDERSON	POST SLEEP	PREP WORK; DPC; EVA-US TOOL-STOW; H/O; GRAPPLE; H/O; RSP C/O; MIDDAY-MEAL; XFER; DCB PACK; XFER; FAEL RELEASE; EXERCISE CEVIS

SSRMS: WS3 PDGF2

DAY/NIGHT

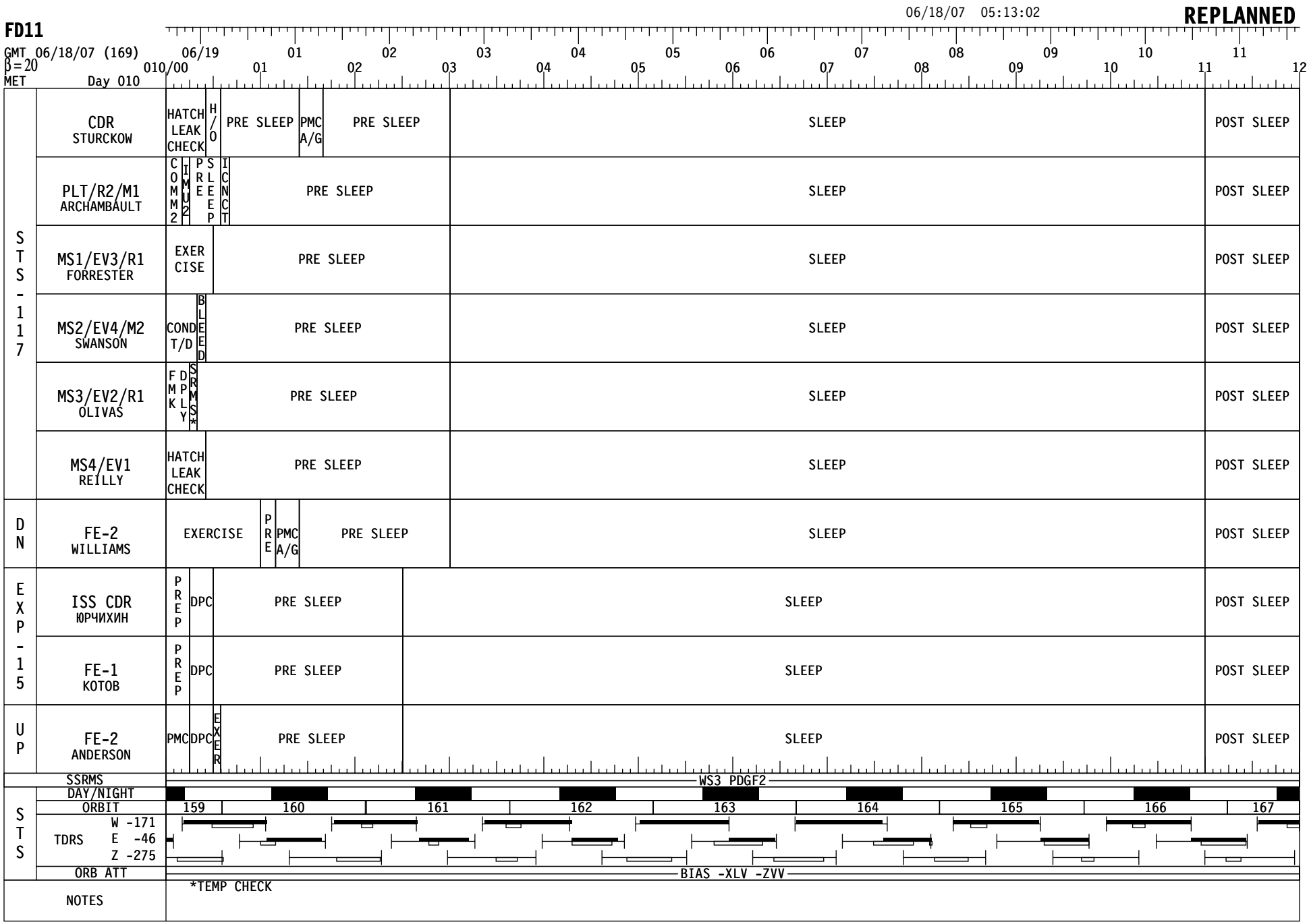
ORBIT: 151 152 153 154 155 156 157 158 159

TDRS W -171 / E -46 / Z -275

ORB ATT: BIAS +YVV; BIAS -XLV -ZVV

NOTES:
*ON
#OFF
*TEMP CHECK
#TERM
*TERM

FD11


GMT 06/18/07 (169)
β = 20
MET Day 010
06/19
010/00
01 02 03 04 05 06 07 08 09 10 11 12
STS-117
CDR STURCKOW
HATCH LEAK CHECK
H/O
PRE SLEEP
PMC A/G
PRE SLEEP
SLEEP
POST SLEEP
PLT/R2/M1 ARCHAMBAULT
COM2
IMU2
PRE
SLEEP
ICNCT
PRE SLEEP
SLEEP
POST SLEEP
MS1/EV3/R1 FORRESTER
EXER CISE
PRE SLEEP
SLEEP
POST SLEEP
MS2/EV4/M2 SWANSON
COND T/D
BLEED
PRE SLEEP
SLEEP
POST SLEEP
MS3/EV2/R1 OLIVAS
FMK
DPLY
SRMS*
PRE SLEEP
SLEEP
POST SLEEP
MS4/EV1 REILLY
HATCH LEAK CHECK
PRE SLEEP
SLEEP
POST SLEEP
DN
FE-2 WILLIAMS
EXERCISE
PRE
PMC A/G
PRE SLEEP
SLEEP
POST SLEEP
EXP-15
ISS CDR ЮРЧИХИН
PREP
DPC
PRE SLEEP
SLEEP
POST SLEEP
FE-1 KOTOB
PREP
DPC
PRE SLEEP
SLEEP
POST SLEEP
UP
FE-2 ANDERSON
PMC
DPC
EXER
PRE SLEEP
SLEEP
POST SLEEP
SSRMS
WS3 PDGF2
DAY/NIGHT
ORBIT
159 160 161 162 163 164 165 166 167
STS
TDRS W -171
E -46
Z -275
ORB ATT
BIAS -XLV -ZVV
NOTES
*TEMP CHECK

STS-117 (FD11) REPLANNED

GMT Date 06/18 (169) | TDRS W E Z | DOR B | ORB 151 152 153 154 | MET Day 009 | STS ATI

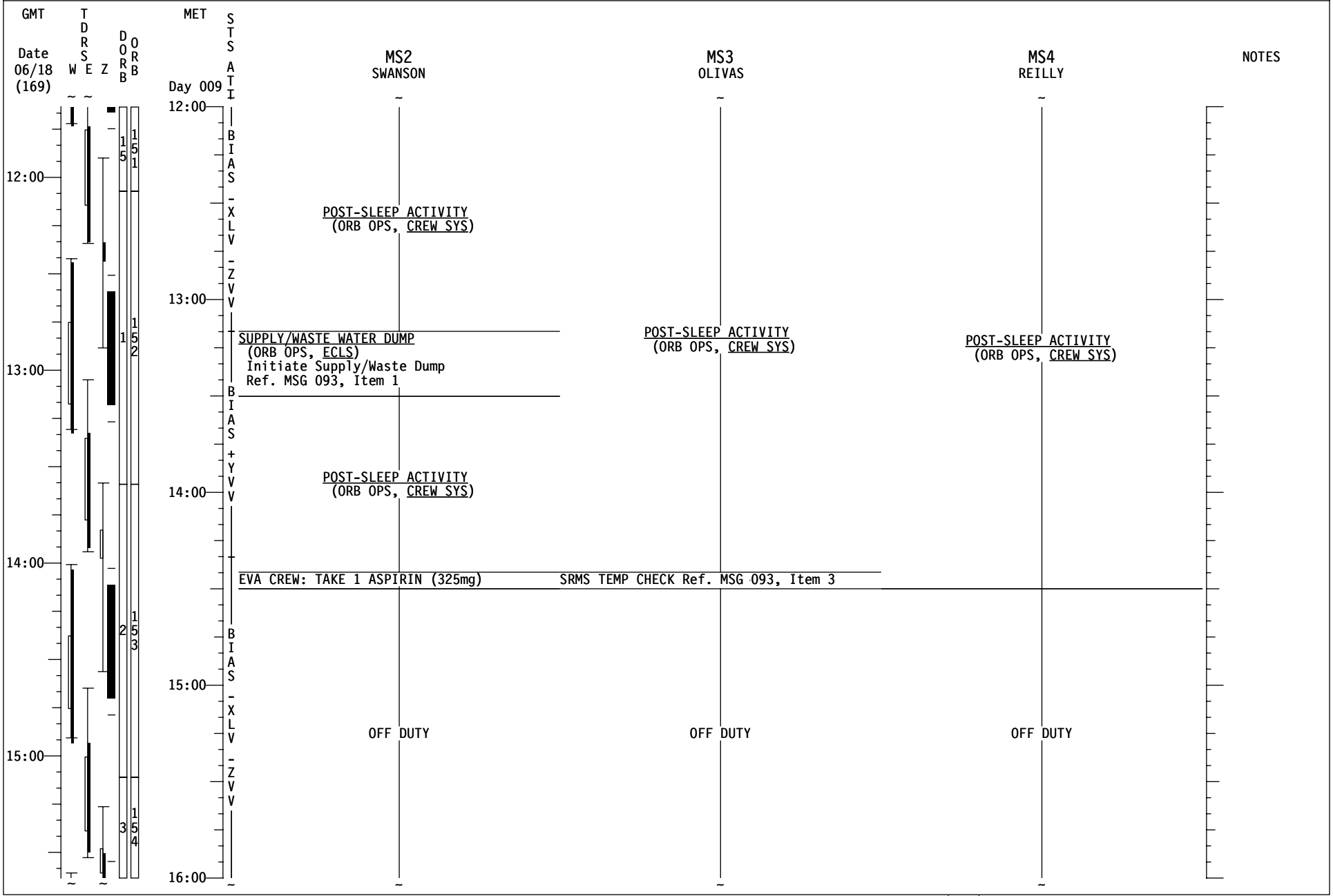
FD11 EZ ACTIVITIES:
OCAC FILTER INSPECTION
HARD REBOOT ALL PGSCs EXCEPT:
WLES (STS7)

A Omit VLHS item in Step 1
Omit Step 3
Use A/G2 for Audio and KFX PGSC

MET	CDR STURCKOW	PLT ARCHAMBAULT	MS1 FORRESTER	NOTES
12:00	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
13:00	JOINT OPS: 3.110 H/O ATT CONTROL CMG TA TO ORB MNVR (TRK) BIAS -XLV +YVV (Simo Dump) TG=2 BV=5 P=156.7 Y=358 OM=194 A12/AUTO/VERN Init TRK	06 S TRK PWR -Y - ON GNC I/O RESET SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Initiate Supply/Waste Dump Ref. MSG 93, Item 1	NETMEETING VIDEO CONFERENCING A (ORB OPS, PGSC) Private Family Conference	OCA-PFC
14:00	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) MNVR (TRK) BIAS -XLV -ZVV (TEA) TG=2 BV=5 P=159 Y=2.7 OM=179.8 A12/AUTO/VERN Init TRK OFF DUTY	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Terminate Supply/Waste Dump Ref. MSG 093, Item 1 06 S TRK PWR -Y - OFF	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) EVA CREW: TAKE 1 ASPIRIN (325mg)	
15:00	NETMEETING VIDEO CONFERENCING A (ORB OPS, PGSC) Private Family Conference OFF DUTY	JOINT OPS: 8.101 H/O ATT CONTROL ORB TO RS THRUSTERS OFF DUTY	OFF DUTY	OCA-PFC
16:00		NETMEETING VIDEO CONFERENCING A (ORB OPS, PGSC) Private Family Conference OFF DUTY		OCA-PFC

STS-117 (FD11)

REPLANNED



STS-117 (FD11)

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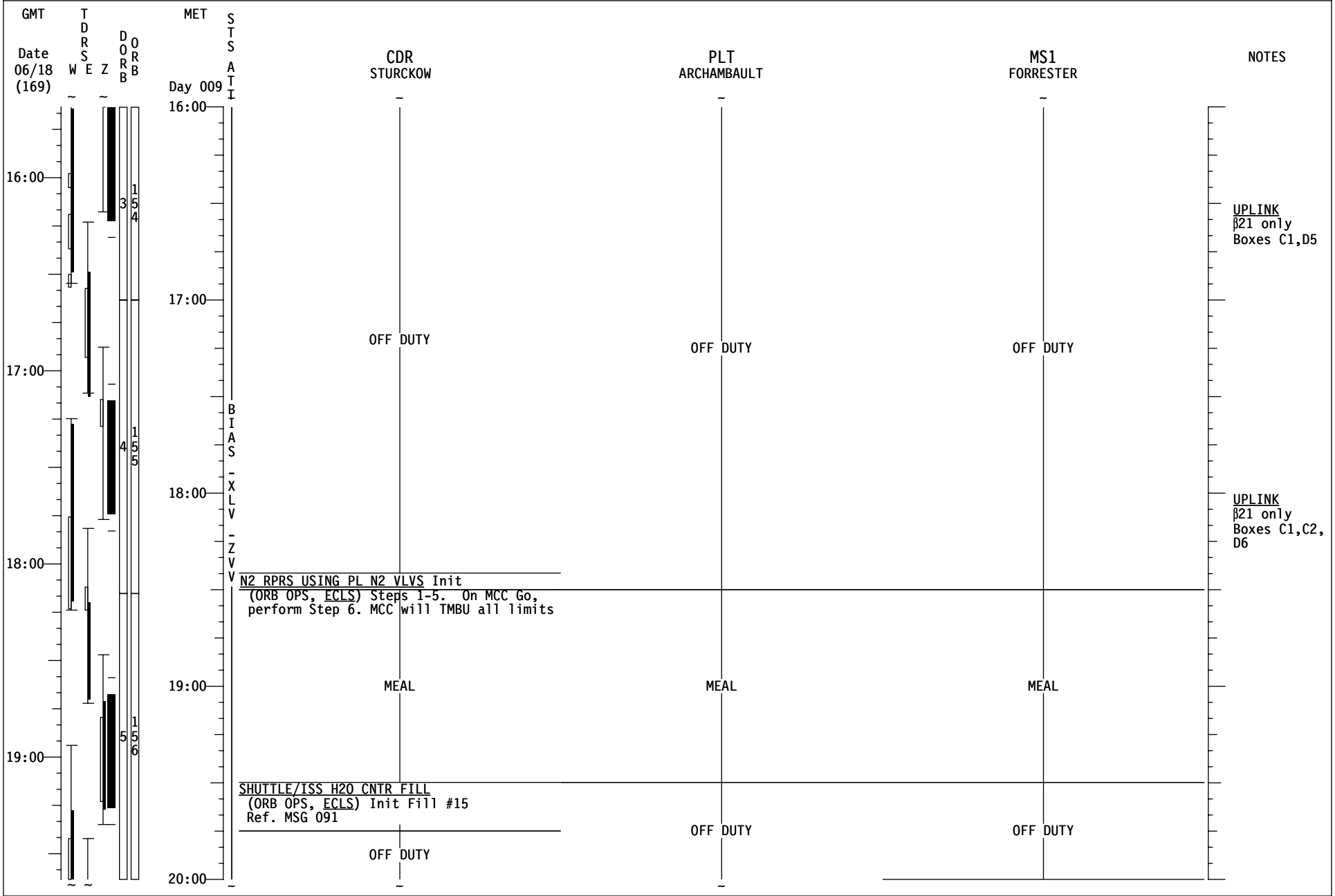

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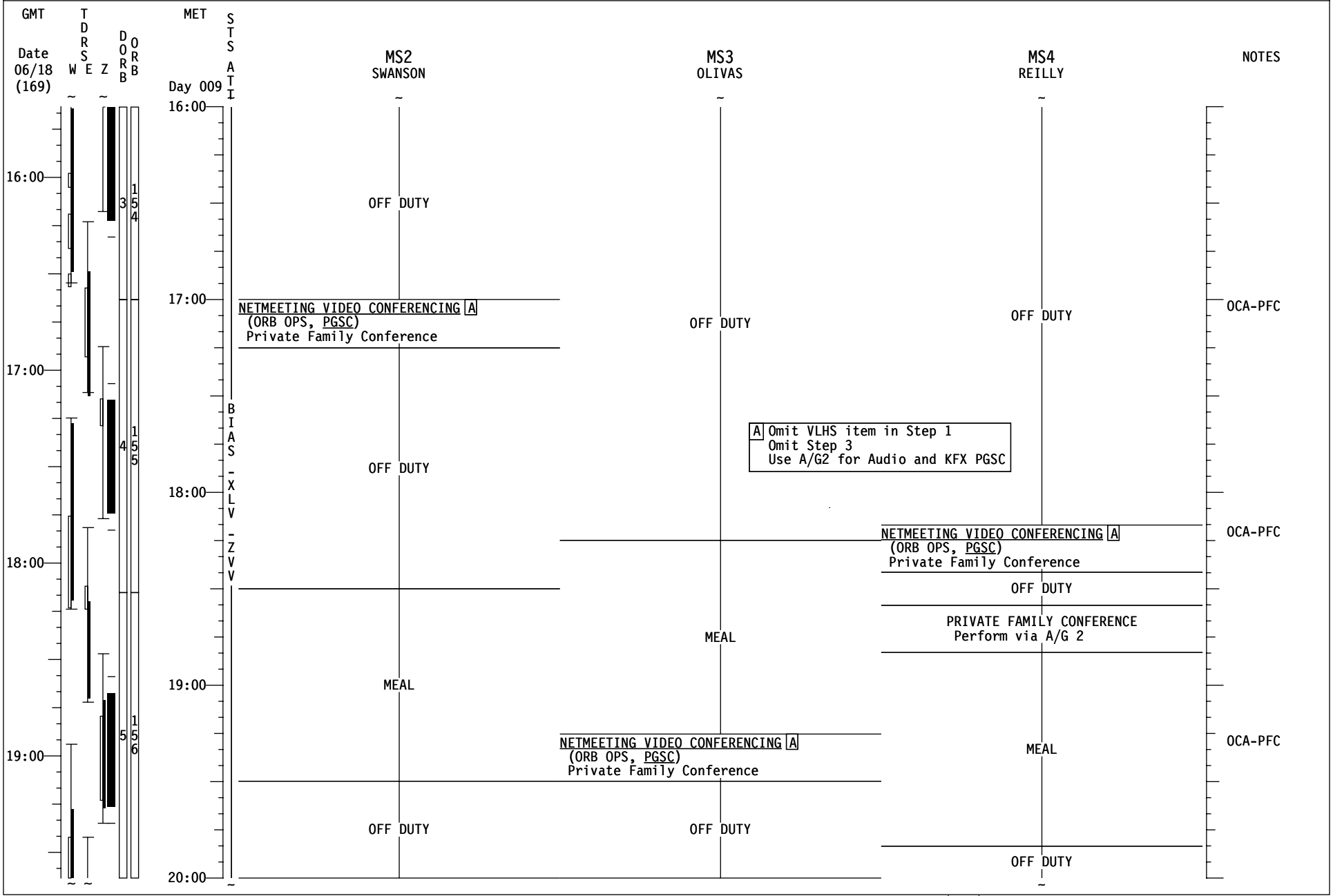

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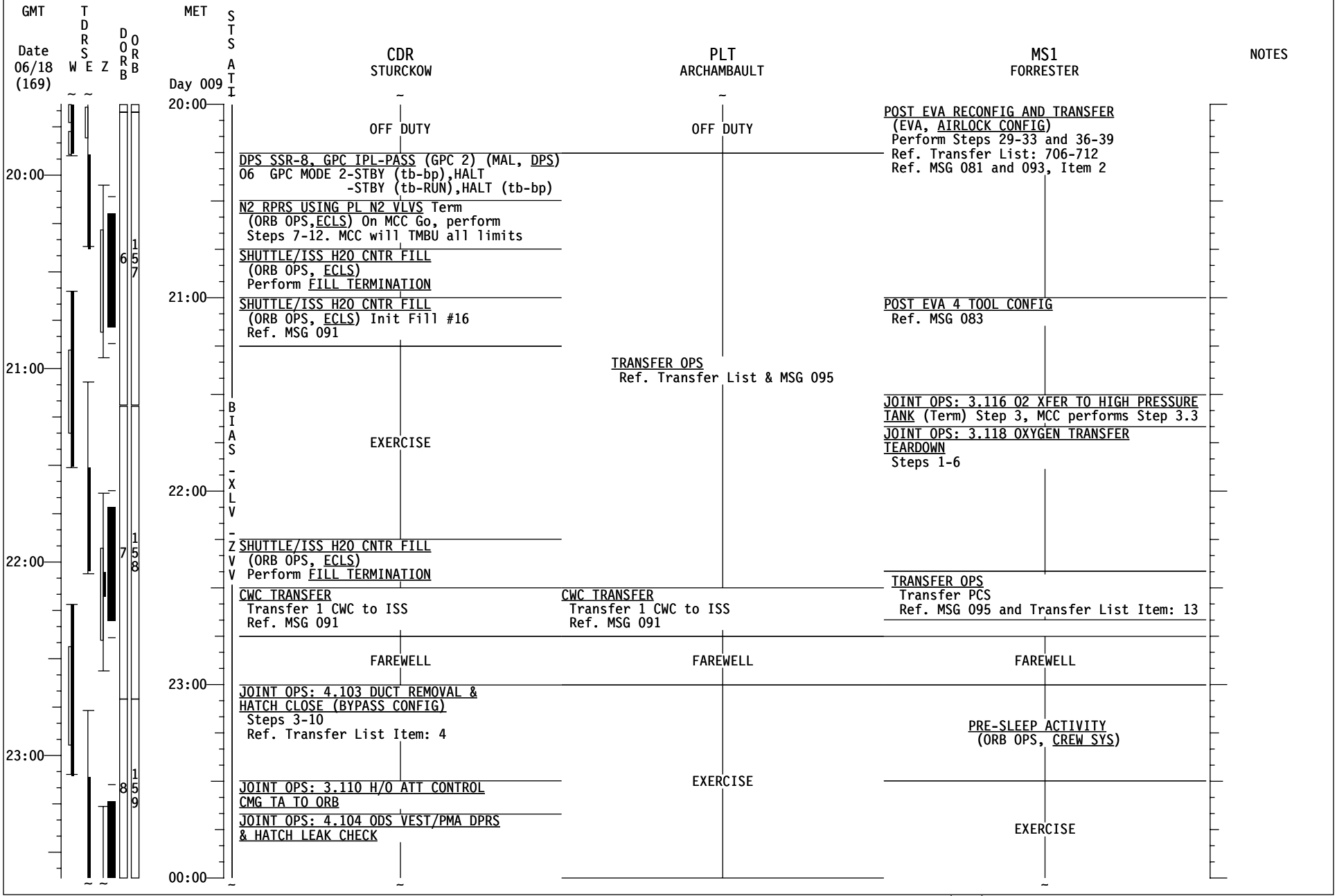

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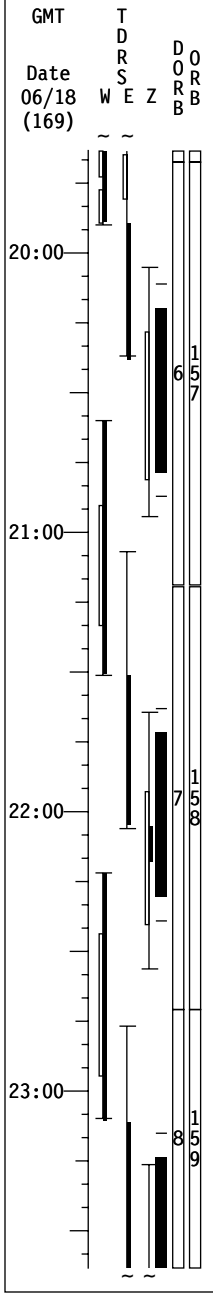


MET Day 009

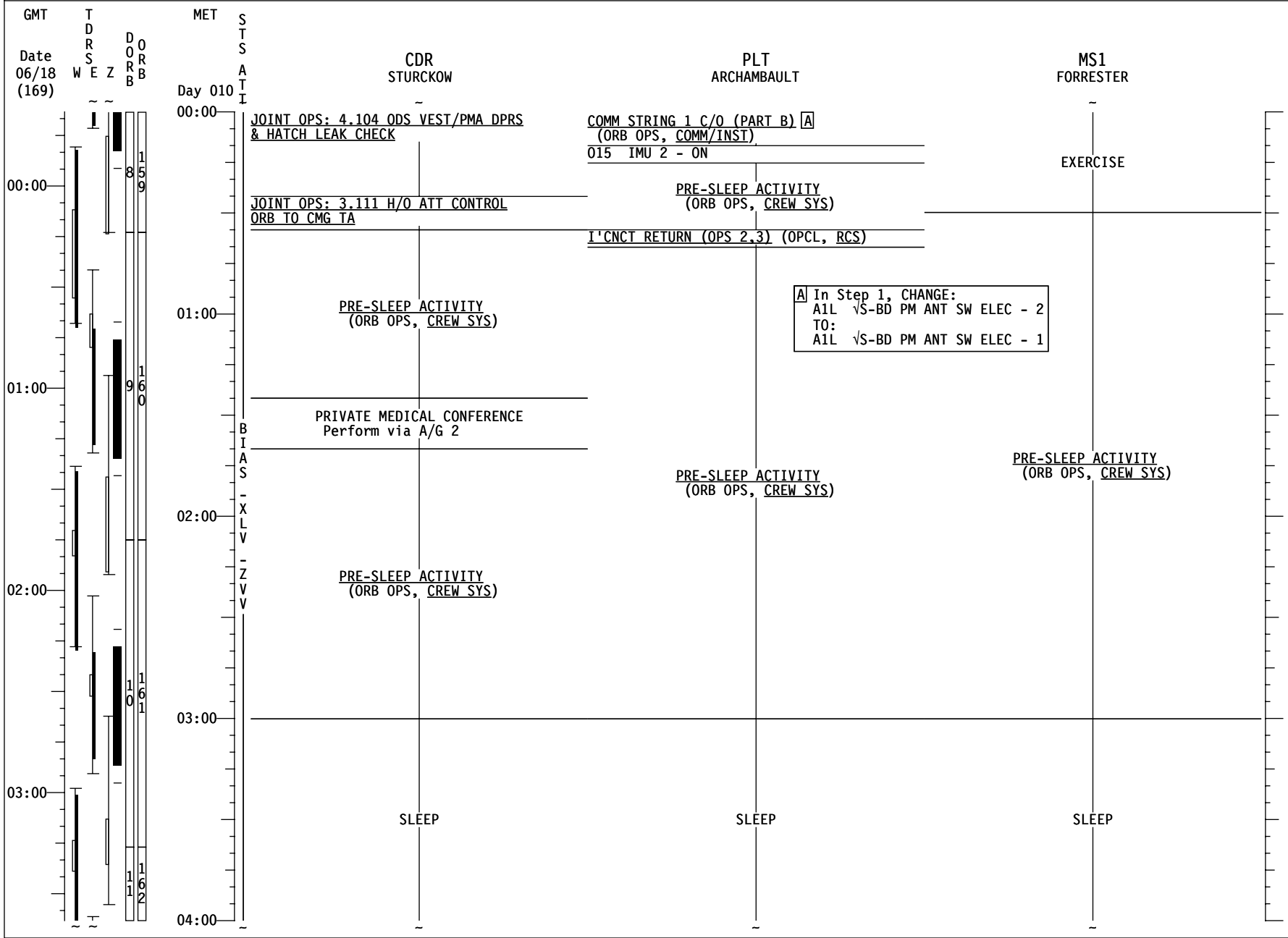
STS ATI

BIAS-XLV-ZVV

	MS2 SWANSON	MS3 OLIVAS	MS4 REILLY	NOTES
20:00	POST EVA RECONFIG AND TRANSFER (EVA, AIRLOCK CONFIG) Perform Steps 29-33 and 36-39 Ref. Transfer List: 706-712 Ref. MSG 081 and 093, Item 2	EXERCISE	OFF DUTY DPS SSR-8, GPC IPL-PASS (GPC 2) (MAL, DPS) 06 GPC MODE 2-STBY (tb-bp), HALT -STBY (tb-RUN), HALT (tb-bp)	
21:00	CSS: 15-0374 IWIS INSTALLATION IN AIRLOCK Stow equipment in IWIS CTB (B/C 006637J) located in LAB1P5_A1 Ref. MSG 005, Step 2 JOINT OPS: 2.303 PCS DEACTIVATION	P/TV08 EXTERNAL SURVEY (PHOTO/TV, SCENES) Setup P/TV08 EXTERNAL SURVEY (PHOTO/TV, SCENES)	EXERCISE	
22:00	EXERCISE	TRANSFER OPS Ref. Transfer List & MSG 095 L17 Check MCIU filter screen	TRANSFER OPS Ref. Transfer List & MSG 095 TRANSFER BRIEF Call down status to MCC	
23:00	FAREWELL RNDZ TOOLS CHECKOUT (RNDZ, RNDZ TOOLS) Disconnect WLES Laptop Reciever Unit from STS6 Serial port. Leave attached to laptop with Velcro.	FAREWELL RNDZ TOOLS CHECKOUT (RNDZ, RNDZ TOOLS)	FAREWELL JOINT OPS: 4.103 DUCT REMOVAL & HATCH CLOSE (BYPASS CONFIG) Steps 3-10 Ref. Transfer List: 4 JOINT OPS: 4.104 ODS VEST/PMA DPRS & HATCH LEAK CHECK	UPLINK TFL 192 PDI - ON UPLINK TFL 161 PDI - OFF
00:00				

STS-117 (FD11)

REPLANNED



STS-117 (FD11)

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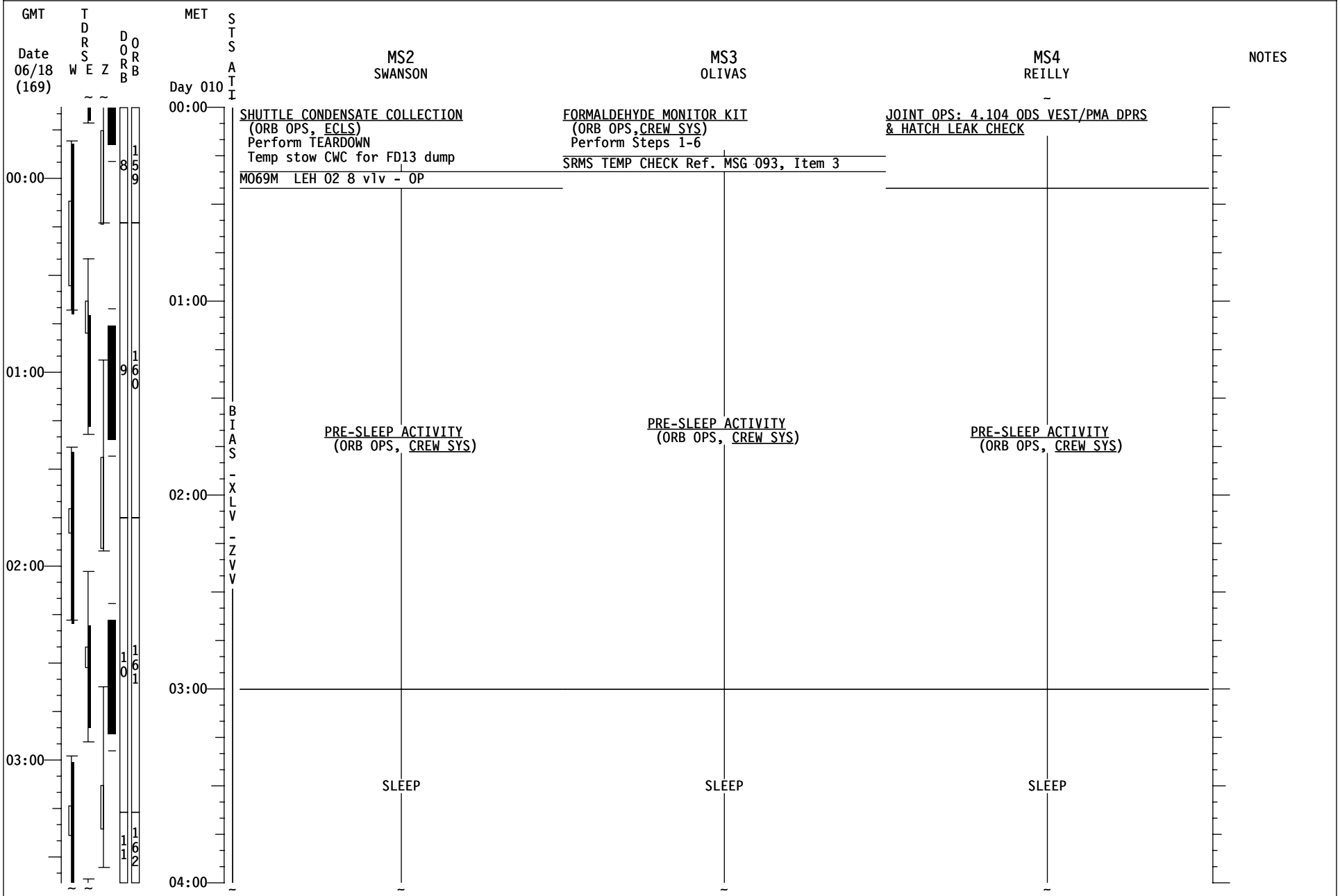

Good Morning Atlantis!
Congratulations on an outstanding EVA yesterday! PFCs, transfer activities, and hatch closure highlight today's activities.

YOUR CURRENT ORBIT IS: 184 X 178 NM

NOTAMS:

MORON (MRN) – CLOSED
WAKE ISLAND (WAK) - CLOSED
GOOSE BAY (YYR) – RWY 08/26 CLOSED
GOOSE BAY (YYR) – DME CH 120 UNUSABLE UNTIL 9/15:50
LAJES (LAJ) – TACAN LAJ CH45 UNUSABLE
KEFLAVIK (IKF) – UNUSABLE
RIO GALLEGOS (AWG) – UNUSABLE

NEXT 2 PLS OPPORTUNITIES:

EDW22 ORB 157 – 9/20:53 (SKC 220/12P20)
EDW22 ORB 173 – 10/21:13 (SKC 220/12P20)

OMS TANK FAIL CAPABILITY:

L OMS FAIL: NO R OMS FAIL: NO

LEAKING OMS PRPLT BURN:

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

OMS QUANTITIES(%)

L OMS	OX = 31.0	R OMS OX = 33.0	
	FU = 30.8		FU = 32.5

SUBTRACT I'CNCT COUNTER FOR CURRENT OMS QUANTITIES

DELTA V AVAILABLE:

OMS	331 FPS
ARCS (TOTAL ABOVE QTY1)	49 FPS
TOTAL IN THE AFT	380 FPS
ARCS (TOTAL ABOVE QTY2)	84 FPS
FRCS (ABOVE QTY 1)	17 FPS
AFT QTY 1	77 %
AFT QTY 2	39 %

SYSTEM	FAILURE	IMPACT	WORK AROUND
EPS	Panel A6U ANNUN BUS SEL causes a high-pitched interference noise when in either MNB or MNC position.	A high-pitched noise will be produced over the flight deck speakers when Panel A6U ANNUN BUS SEL is taken to the MNB or MNC position.	Panel A6U ANNUN BUS SEL will remain in OFF unless it is needed. It can be taken to either the MNB or MNC position when required.

Good morning crew,

Thank you for the bonus FD10 Transfer Calldown; we are eagerly waiting for the final Transfer Calldown of the mission.

The Transfer List Excel file, FD11_TransferList_STS117.xls, is located on the KFX machine in **C:\OCA-up\transfer**.

For ISS, the Transfer List Excel file, FD11_TransferList_STS117.xls, is located in **K:\OCA-up\transfer**.

Transfer Notes

- We shortened the list of scavenge items slightly and added them to the Transfer List as 808 – 818.
- The FCT team determined only STS4 is needed to be transferred from STS to ISS.
- During yesterday's Transfer calldown, you mentioned that you're still looking for Item 402.16 (Torque Wrench). This is the old torque wrench that flew up on 12A.1 and the last known use was by Suni on FD03.

Questions/Answers for the crew

- Answer for Suni: We've looked at returning the 2 additional GSCs you asked about on FD09. Unfortunately, there is no available stowage location that meets return constraints of early destow, weight, and volume limitations. These GSCs should remain on ISS.

- Please confirm you used three syringes from Item 29 (Silver Biocide Syringe Kit S/N 1003) for CWC fills 15, 16, and 17 and then transferred the kit back to ISS.

Choreography (items for transfer today)

TO ISS:

Item 4: IMV O-Ring Kit
Item 13: A31p Laptop [Aft Flight Deck PCS]
Item 29: Silver Biocide Syringe Kit
Item 808: 20 Ga Pin Test Adapter
Item 809: 16 Ga Pin Test Adapter
Item 810: 16 Ga Pin/Socket Test Jumper Leads (24")
Item 811: 1" Gray Tape
Item 812: 2" Gray Tape
Item 813: 1553 Network Card
Item 814: Blue/Blue Hose
Item 815: Yellow/Red QD
Item 816: Cold Plate Cover – 14"x18"
Item 817: A31p Laptop [STS4]
Item 818: Huggies Wipes

FROM ISS:

Item 402.16: (10-50 in-lbs) Torque Wrench, 1/4" Drive
Item 404, 404.2, 404.3, 404.16: P/TV Equipment
Item 407, 607, 407.5: Payload Return Hardware
Item 408: 0.5 CTB [EVA Tethers/Micron Filters]

Items 602, 616: NiRA
Item 603: A31p Laptop
Items 702: Double Coldbag
Item 706, 707: EMU's
Item 708, 708.1, 708.2, 708.3, 708.4: External Airlock Floor Bag
Item 711: EVA System Bag
Item 712: EVA Laundry bag
Item 801: EVA Transfer Bag
Item 807: A31p Laptop [S/N 1014]

Please incorporate uplink pages as follows:

In **RESUPPLY** tab
Replace Page: 5 and 9
Add Page: 10

In **RETURN** tab
Replace Page: 10

Changes to the Transfer List are detailed below.
RESUPPLY
Item 13: Updated note
Item 808 – 818: New Items

RETURN
Item 807: New Item

Call us with any questions and have a great day!

- The Transfer Team

HANDOVER ATTITUDE CONTROL ORBITER TO CMG-ONLY WITHOUT RS SMTC

(JNT OPS/13A/) Page 1 of 7 pages

OBJECTIVE:
To switch mated stack attitude control responsibility from Orbiter to ISS Control Moment Gyroscopes without RS SMTC computers.

1. GNC COMMAND RESPONSE COUNTERS RESET

PCS MCG: GNC Command Response Counters
GNC Command Response Counters

sel Reset

Verify the Since Reset column values are all blank.

Do not close this window until the procedure is complete.

If while executing a command, the Command Accept counter on that display does not increment
Reselect GNC Command Response Counters to determine if a command was rejected.

√**MCC-H**

2. VERIFYING INITIAL ATTITUDE CONTROL CONFIGURATION – FREE DRIFT

PCS MCG: MCS Configuration
MCS Configuration
'MCS Moding'

Verify US GNC Mode – Drift (UDG)

'MCS ORU Status'

Verify Min ORUs Avail – Yes

'Data Source and Quality'

Verify the following information

	US Quality
Attitude	Valid (Valid RS) (Degraded)
Rate	Valid (Valid RS) (Degraded)
State Vector	Valid (Valid RS) (Degraded)

HANDOVER ATTITUDE CONTROL ORBITER TO CMG-ONLY WITHOUT RS SMTC
(JNT OPS/13A/) Page 2 of 7 pages

3. DETERMINING REQUIRED CCDB INFORMATION

The following information required for attitude control handover will be determined from OSTP or **MCC-H**.

Commanded CMG IG/OG Angles
Record CMG 1 IG/OG Angles, deg: _____ /_____
Record CMG 2 IG/OG Angles, deg: _____ /_____
Record CMG 3 IG/OG Angles, deg: _____ /_____
Record CMG 4 IG/OG Angles, deg: _____ /_____

Record CMG 2 expected IG/OG Current Angle F/W, deg _____ /_____

If this information is not recorded elsewhere, record it below

	Attitude Hold	Mom Mgmt
US Take Cntl CCDB ID:	[X]	[Y]
Version ID:		
Cmd Att, deg Y:		
Cmd Att, deg P:		
Cmd Att, deg R:		

Record LVLH Rate limit: _____ deg/s

Record Momentum Command for Control: X Axis: _____ N-m-s
Record Momentum Command for Control: Y Axis: _____ N-m-s
Record Momentum Command for Control: Z Axis: _____ N-m-s

HANDOVER ATTITUDE CONTROL ORBITER TO CMG-ONLY WITHOUT RS SMTC

(JNT OPS/13A/) Page 3 of 7 pages

4. POSITIONING CMG GIMBALS

MCG: CMG Configuration: Gimbal Angles
CMG Gimbal Angles

If CMG 1(3,4) IG,OG Current Angle S/W, deg and CMG 2 expected
IG,OG Current Angle F/W, deg are not as recorded in step 3
Perform {2.207 CMG GIMBAL ANGLE POSITIONING}, all (SODF: MCS: NOMINAL: CMGS), then:

5. CHECKING USOS SOLAR ARRAYS ARE CONFIGURED

If ground is performing
Coordinate with Phalcon to check that USOS Solar Array Wing configuration is acceptable for the upcoming attitude control configuration.

If crew is performing
√**MCC-H**

6. REMOVING INHIBITS TO ENABLE MODING

MCG: MCS Configuration: MCS Inhibits
MCS Inhibits

cmd Mode Transition Enable (Verify – Ena)
cmd Attitude Maneuver Enable (Verify – Ena)

√ Desat Request – Inh
√ Att Cntl Shutdown – Inh
√ UDG Shutdown – Inh
√ Auto Att Control Handover to RS - Inh

ISS**(MCC-H)** ⇒ Orbiter, “ISS ready for Orbiter rate damping and Free Drift.”

7. SET-UP ORBITER FOR MANUAL RATE DAMPING

CAUTION
The active DAP will be modified in the following steps. Incorrect entries could result in DAP instabilities.

7.1 Edit DAP A12 VERN ROT PULSE to 0.001
GNC 20 DAP CONFIG
ITEM 3+12 EXEC
ITEM 66 + 0.001 EXEC

HANDOVER ATTITUDE CONTROL ORBITER TO CMG-ONLY WITHOUT RS SMTC

(JNT OPS/13A/) Page 4 of 7 pages

ITEM 5 EXEC

7.2 Set Up for Rate damping

GNC UNIV PTG
√ ERR TOT – ITEM 23 "*"

GNC 20 DAP CONFIG
√DAP: A12/AUTO/VERN
O14,O15, O16 cb DDU L(R) (four) – cl

Update DAP to collapse attitude deadbands
GNC 20 DAP CONFIG
ITEM 24+1 EXEC

Wait for DAP to Stabilize (~1 min), verify with MCC-H.

Update DAP to collapse attitude deadbands further
GNC 20 DAP CONFIG
ITEM 24+0.5 EXEC

Wait for DAP to Stabilize (~3 min), verify with MCC-H.

8. ORBITER RATE DAMPING

Once ISS is ready for Orbiter rate damping, execute the following

F6/ F8 FLT CNTRL PWR - ON
DAP: A/FREE/VERN

NOTE:
Peform one RHC Pulse input at a time. Use a minimum of 5 second spacing for all following RHC inputs.
Due to cross coupling, roll and yaw damping will be iterative.

GNC UNIV PTG

		√MCC for updates
Desired UNIV PTG rates:		
Roll	-0.003	_ . _ _ _
Pitch	+0.066	_ . _ _ _
Yaw	0.000	_ . _ _ _

RHC: PITCH Pulse inputs as required to establish desired UNIV PTG pitch rate

HANDOVER ATTITUDE CONTROL ORBITER TO CMG-ONLY WITHOUT RS SMTC

(JNT OPS/13A/) Page 5 of 7 pages

RHC: ROLL Pulse inputs as required to establish desired UNIV PTG roll rate
RHC: YAW Pulse as required to establish desired UNIV PTG yaw rate
Iterate Roll/Yaw damping as required

√UNIV PTG PITCH rate:
Repeat damping if UNIV PTG pitch rate ≠ desired rate

When desired rates are achieved in all axes:
F6/F8 FLT CNTRL PWR - OFF

Orbiter ⇒ ISS (**MCC-H),** "Orbiter ready for ISS to control the mated stack."

9. RECONFIGURE DAP TO NOMINAL A12

Once ISS has attempted to take attitude control
Reload DAP A12:
GNC 20 DAP CONFIG

ITEM 1+12 EXEC

PCS 10. INITIATING ORBITER TO U.S. ATTITUDE CONTROL HANDOVER

NOTE

1. The following commands in this step should be sent as soon as possible following the Orbiter call that they're ready for ISS control (step 8).

2. If the US Take Control Unconditional command is not sent within 60 seconds of verification of US Take Attitude Control Enable, the US Take Attitude Control parameter will be reset back to Inhibit. In this case, this step would need to be repeated (commanding US Take Attitude Control Enable followed by the US Take Control Unconditional command).

The second command in this step (US Take Control Unconditional) must be sent within 60 seconds of US Take Attitude Control Enable verification.

MCG: MCS Configuration: Off Nominal RS to US
Off Nominal RS to US

cmd US Take Att Cntl Enable – (Verify - Ena)

input Attitude Hold US Take Cntl CCDB ID - (from step 3)
input Attitude Hold US Take Cntl Ref Frame - LVLH

HANDOVER ATTITUDE CONTROL ORBITER TO CMG-ONLY WITHOUT RS SMTC
(JNT OPS/13A/) Page 6 of 7 pages

cmd Initiate Handover - Set

Verify US Take Cntl Cmd Response – Accepted

Verify Active CCDB Source Slot – as commanded
Verify US GNC Mode – CMG Only

11. INITIATING MOMENTUM MANAGEMENT CONTROLLER

MCG: MCS Configuration
MCS Configuration
'CCDB Slots'

For Momentum Management CCDB ID, Slot [Y] from step 3
Sel Make Active [Y]
Make Active [Y]

NOTE
It may require an orbit or more for attitude error and attitude rate transients to stabilize after the Momentum Management CCDB is incorporated.

cmd Incorporate
'Active CCDB'
Verify Active CCDB Source Slot – as commanded

If the Momentum Command for Control is to be sent per step 3
MCG: MCS Configuration: Active CCDB
Active CCDB
'Momentum Command for Control'

input X Axis – _____ (from step 3)
input Y Axis – _____ (from step 3)
input Z Axis – _____ (from step 3)

cmd Set Momentum

Verify X Axis – as commanded
Verify Y Axis – as commanded
Verify Z Axis – as commanded

ISS (**MCC-H**) ⇒ Orbiter, "ISS has assumed attitude control."
ISS (**MCC-H**) ⇒ **MCC-M**, "ISS has assumed attitude control."

HANDOVER ATTITUDE CONTROL ORBITER TO CMG-ONLY WITHOUT RS SMTC
(JNT OPS/13A/) Page 7 of 7 pages

| **********
* If **"Loss of CMG Attitude Control"** Warning is in Alarm,
*
* Shuttle crew will regain control of the mated stack with the following steps
* √DAP: A12/FREE/VERN
* DAP: A12/LVLH/VERN
* Once Rates Damped (<0.1), DAP: FREE>2 sec, Then DAP:AUTO
*
* **MCC-H:** Perform {3.202 RECOVERY OF US GNC FUNCTIONALITY}, all
* (SODF: MCS: MALFUNCTION: ATTITUDE CONTROL), then:
*
* Go to step 13.

****

12. REPLACING US GNC INHIBITS TO PREVENT MODING

MCG: MCS Configuration: MCS Inhibits
MCS Inhibits

cmd Mode Transition Inhibit (Verify – Inh)
cmd Attitude Maneuver Inhibit (Verify – Inh)

13. RETURNING ORBITER TO NOMINAL CONFIGURATION

O14, O15, O16 cb DDU L(R) (four) – op

FD10 MMT Crew Summary

The MMT met today to discuss mission progress including the latest status on the ISS Russian computer anomalies. The overall plan is to proceed toward undocking on FD 12 per the pre-mission 13 day timeline. The FD10 and FD11 SARJ checkouts, the FD10 MT translation, and the docked water dump planned on FD11 will provide the ISS team more confidence in the functionality of the Russian computers. As of the FD10 MMT, 4 of 6 lanes were continuing to function nominally with almost all the Russian systems active except for the Elektron. The Elektron is still off in order to consume Progress O2 prior to Progress undock. The ISS and Russian teams continue to work toward understanding the root cause of the Russian computer anomalies. The leading theories continue to be electromagnetic interference or a voltage/frequency problem with the normal secondary power feed.

Consumables Status: The MMT reviewed the latest consumables status and continues to be very pleased with the crew's power conservation. The overall plan is to continue to utilize the modified Group C powerdown to allow for a 13+3 mission duration. The additional day would only be used as a docked day if the Russian computer situation degrades. It is expected that the ISS MMT, which meets around the start of the FD 11 off duty time will recommend undocking per this plan.

Additionally, the plan is still to maximize O2 transfer to ISS. On FD9 we transferred approximately 60 lbm of O2. The plan is to transfer as much as ~80 lbm of O2 after EVA-4. The final amount transferred is dependent on the ORCA transfer rate and transfer time available.

As you know all constraints have been lifted on use of the Shuttle WCS. The team is working towards a docked dump on FD11 using shuttle VRCS attitude control. After the dump, about an hour of attitude control on Russian thrusters is scheduled to serve as a good test of the handover to Russian thrusters that are required for undocking. Overall, the prop margins are very healthy and would support shuttle VRCS attitude control of the mated stack through the remaining docked period if required.

Recent Failures: The teams continue to investigate the high-pitched noise from the aft flight deck speakers when the ANNUNCIATOR BUS SELECT switch was taken to the MN B and MN C positions. The theory is that an oscillator inside the Annunciator Control Assemblies (ACAs) is somehow providing feedback through the speaker. It is unclear whether any action could be taken in flight to correct this problem.

There does not appear to be any issues with the small water leak in the Mineral/Sliver Biocide CWC port although the team will investigate whether there is any spare hardware onboard for the final CWC fills should the leak become worse.