STS-116 / 12A.1

FD 06 Execute Package

MSG	Page(s)	Title
048A	1 - 13	FD06 Flight Plan Revision **(pdf)**
049	14 - 15	FD06 Mission Summary **(pdf)**
043	16	ROBO Procedure Updates for EVA2 **(pdf)**
050	17 - 18	FD06 Ceta Cart Relocation Viewing **(pdf)**
052	19 - 21	FD06 Transfer Message **(pdf)**
053	22	FD06 Water Summary Message **(pdf)**
054	23	Excerpts from FD06 Daily Summary **(pdf)**
044	---	Channel 2-3 Power Reconfiguration Flowchart Update **(pdf - Electro**
045	---	Channel 2/3 Power Reconfiguration Definitions Table Update **(pd**
046	---	Channel 2-3 Ground/Crew Interaction Table **(pdf - Electronic Only)**
051	---	FD05 MMT Summary **(pdf - Electronic Only)**

Approved by FAO: *Terry Clancy*

Last Updated: Dec 14 2006 2:01PM GMT
JEDI *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v2.04.0003*

MSG INDEX

MSG NO.	TITLE
043	ROBO Procedure Updates for EVA2 (14-0566)
044	Channel 2-3 Power Reconfiguration Flowchart Update (14-0567)
045	Channel 2/3 Power Reconfiguration Definitions Table Update (14-0568)
046	Channel 2-3 Ground/Crew Interaction Table (14-0569)
048	FD06 Flight Plan Revision
049	FD06 Mission Summary (14-0570)
050	FD06 Ceta Cart Relocation Viewing
051	FD05 MMT Summary (14-0571)
052	FD06 Transfer Message (14-0572)
053	FD06 Water Summary Message
054	Excerpts from FD06 Daily Summary

1. PRLA CLOSE DELTA

   Please make the following changes as part of PRLA CLOSE on page Orbit Ops FS 6-2.

   Insert before Step 1:

   PERFORM DURING SHUTTLE KU LOS

   NOTE
   When LOGIC switches taken OFF, KU will mode to standby.

   MA73C:A MCA LOGIC MNC MID 2 – OFF
   :B MNB MID 4 – OFF

   Replace Step 6 with:

   MA73C:A MCA LOGIC MNC MID 2 – ON
   :B MNB MID 4 – ON

   These logic powers are turned off to prevent inadvertent OBSS MRL release with PL BAY MECH Power on.

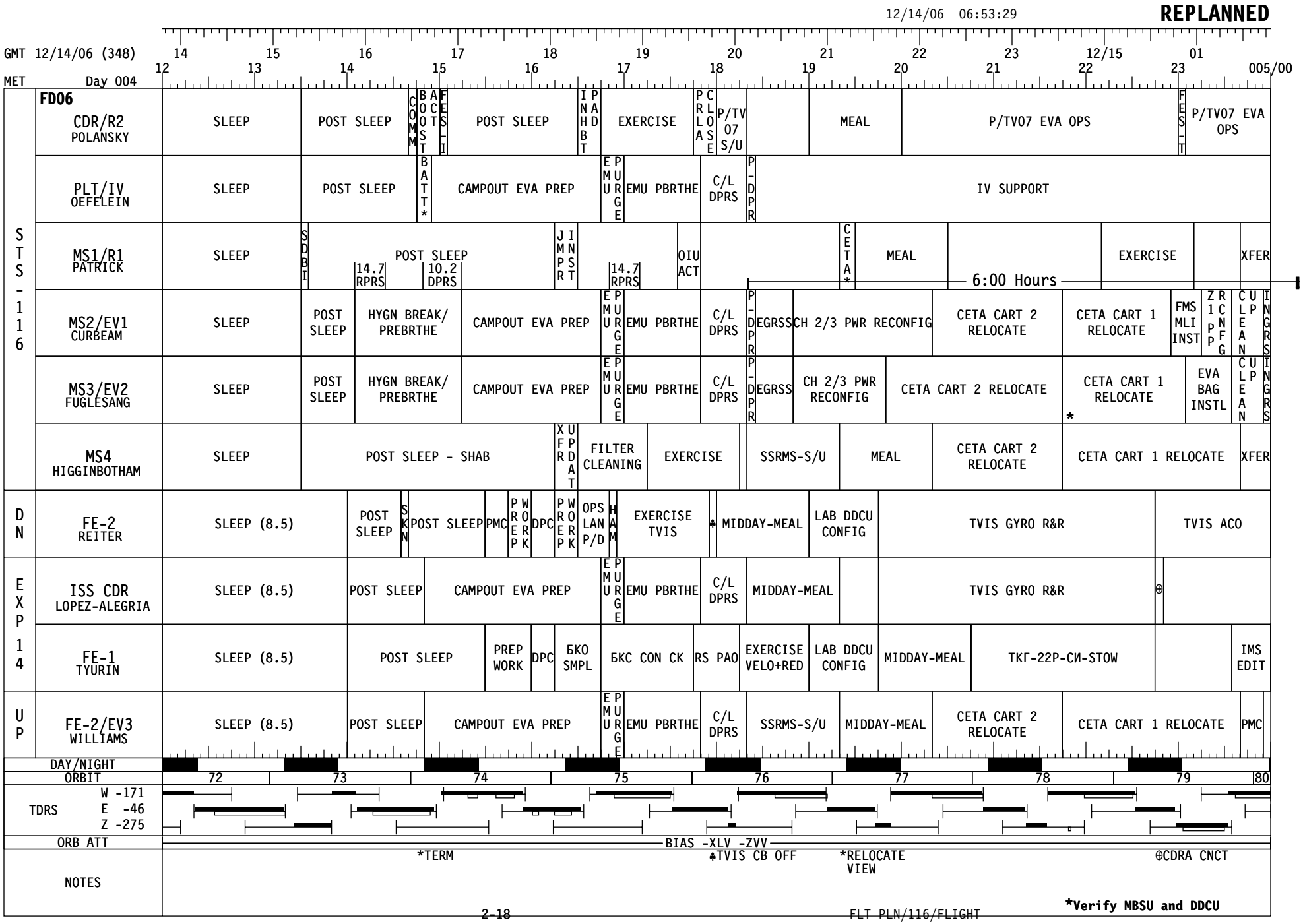
2. STOWAGE LOCATION OF THE DE-BONDED CAMERA SHOE MOUNT

   In order to help out the KSC vehicle processing team, we would like to know the stowage location of the de-bonded camera shoe mount. Please call down at your convenience.

3. FD06 SPACEHAB VIEWPORT VIOLATIONS

   There are no viewport violations for FD06.

4. REPLACE PAGES 2-18, 2-20, AND 3-56 THROUGH 3-65.


12/14/06 06:53:29
REPLANNED
GMT 12/14/06 (348)
MET Day 004
14 15 16 17 18 19 20 21 22 23 12/15 01
12 13 14 15 16 17 18 19 20 21 22 23 005/00
STS-116
FD06
CDR/R2 POLANSKY
SLEEP
POST SLEEP
COMM
BOOST
AC
FES-I
POST SLEEP
INHBT
PAD
EXERCISE
PRLA
CLOSE
P/TV 07 S/U
MEAL
P/TV07 EVA OPS
FEST
P/TV07 EVA OPS
PLT/IV OEFELEIN
SLEEP
POST SLEEP
BATT*
CAMPOUT EVA PREP
EMU
PURGE
EMU PBRTHE
C/L DPRS
P-DPR
IV SUPPORT
MS1/R1 PATRICK
SLEEP
SDBI
POST SLEEP
14.7 RPRS
10.2 DPRS
JMPR
INST
14.7 RPRS
OIU ACT
CETA*
MEAL
EXERCISE
XFER
6:00 Hours
MS2/EV1 CURBEAM
SLEEP
POST SLEEP
HYGN BREAK/ PREBRTHE
CAMPOUT EVA PREP
EMU
PURGE
EMU PBRTHE
C/L DPRS
P-DPR
EGRSS
CH 2/3 PWR RECONFIG
CETA CART 2 RELOCATE
CETA CART 1 RELOCATE
FMS MLI INST
ZP PCNFG
CUP CLEAN
INGRS
MS3/EV2 FUGLESANG
SLEEP
POST SLEEP
HYGN BREAK/ PREBRTHE
CAMPOUT EVA PREP
EMU
PURGE
EMU PBRTHE
C/L DPRS
P-DPR
EGRSS
CH 2/3 PWR RECONFIG
CETA CART 2 RELOCATE
CETA CART 1 RELOCATE *
EVA BAG INSTL
CUP CLEAN
INGRS
MS4 HIGGINBOTHAM
SLEEP
POST SLEEP - SHAB
XFR
UPDAT
FILTER CLEANING
EXERCISE
SSRMS-S/U
MEAL
CETA CART 2 RELOCATE
CETA CART 1 RELOCATE
XFER
DN
FE-2 REITER
SLEEP (8.5)
POST SLEEP
SKN
POST SLEEP
PMC
PWR PERP
WORK
DPC
PWR PERP
WORK
OPS LAN P/D
HAM
EXERCISE TVIS
♣
MIDDAY-MEAL
LAB DDCU CONFIG
TVIS GYRO R&R
TVIS ACO
EXP 14
ISS CDR LOPEZ-ALEGRIA
SLEEP (8.5)
POST SLEEP
CAMPOUT EVA PREP
EMU
PURGE
EMU PBRTHE
C/L DPRS
MIDDAY-MEAL
TVIS GYRO R&R
⊕
FE-1 TYURIN
SLEEP (8.5)
POST SLEEP
PREP WORK
DPC
БКО SMPL
БКС CON CK
RS PAO
EXERCISE VELO+RED
LAB DDCU CONFIG
MIDDAY-MEAL
ТКГ-22Р-СИ-STOW
IMS EDIT
UP
FE-2/EV3 WILLIAMS
SLEEP (8.5)
POST SLEEP
CAMPOUT EVA PREP
EMU
PURGE
EMU PBRTHE
C/L DPRS
SSRMS-S/U
MIDDAY-MEAL
CETA CART 2 RELOCATE
CETA CART 1 RELOCATE
PMC
DAY/NIGHT
ORBIT 72 73 74 75 76 77 78 79 80
TDRS W -171 E -46 Z -275
ORB ATT
BIAS -XLV -ZVV
NOTES
*TERM
♣TVIS CB OFF
*RELOCATE VIEW
⊕CDRA CNCT
*Verify MBSU and DDCU

GMT 12/15/06 (349): 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13

MET Day 005: 005/00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12

FD06

Group	Crew	Activities (in time order)
STS-116	CDR/R2 POLANSKY	WCS* / COMM / COND / T/D / PRE / SLEEP / CONF / IMU / COMM 1 / BOOST / DEACT / PMC OCA / PRE SLEEP / SLEEP
STS-116	PLT/IV OEFELEIN	♣ / P-R PR / REPRS / POST EVA W/H2O / BSA INIT / PRE SLEEP / SLEEP
STS-116	MS1/R1 PATRICK	XFER / JMPR / RMV / XFER / CETA* / PRE SLEEP / SLEEP
STS-116	MS2/EV1 CURBEAM	INGRS / P-R PR / REPRS / POST EVA W/H2O / TOOL CONFG / CONF / PRE SLEEP / SLEEP
STS-116	MS3/EV2 FUGLESANG	INGRS / P-R PR / REPRS / POST EVA W/H2O / TOOL CONFG / CONF / PRE SLEEP / SLEEP
STS-116	MS4 HIGGINBOTHAM	XFER / XFER / TAGUP / XFER / BRIEF / PRE SLEEP - SHAB / SLEEP
DN	FE-2 REITER	TVIS ACO / DCS / ⊕ / XFER / TAGUP / PREP WORK / DPC / PREP WORK / OPS LAN P/U / PRE SLEEP / SLEEP (8.5)
EXP 14	ISS CDR LOPEZ-ALEGRIA	♦ / EXERCISE RED / CONF / DPC / PREP WORK / PRE SLEEP / SLEEP (8.5)
EXP 14	FE-1 TYURIN	IMS / EDIT / ПП ON / EXERCISE VELO / DPC / EXDL / СОЖ MNT / PRE SLEEP / SLEEP (8.5)
UP	FE-2/EV3 WILLIAMS	POST EVA W/H2O / CONF / DPC / PREP WORK / PRE SLEEP / SLEEP (8.5)

DAY/NIGHT

ORBIT: 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87

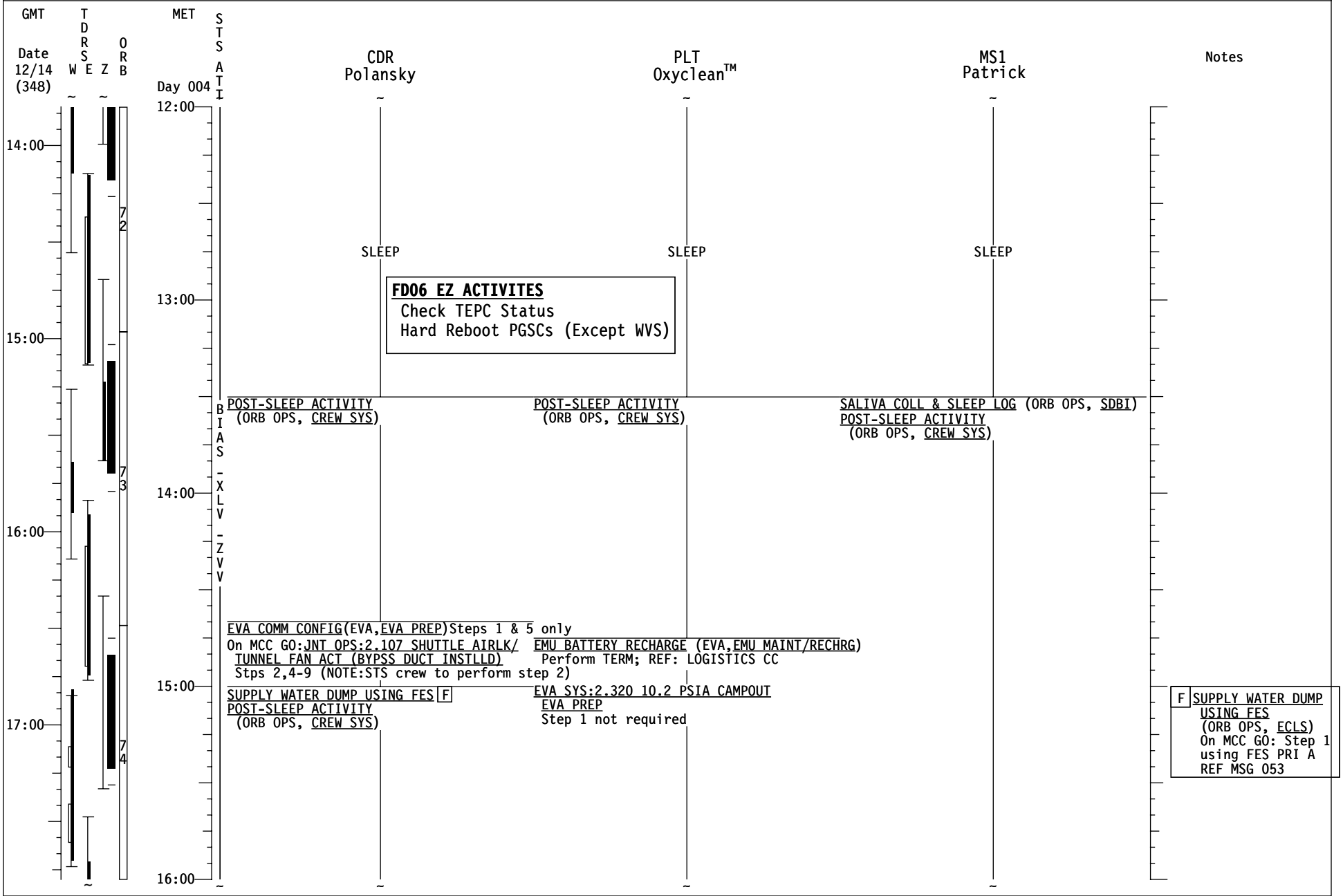
TDRS: W -171, E -46, Z -275

ORB ATT: BIAS -XLV -ZVV

NOTES:
♣IV SUPPORT ⊕WARN BOOK
♦MELFI-STATUS-CHECK
*FILTER CK *RELOCATE VIEW

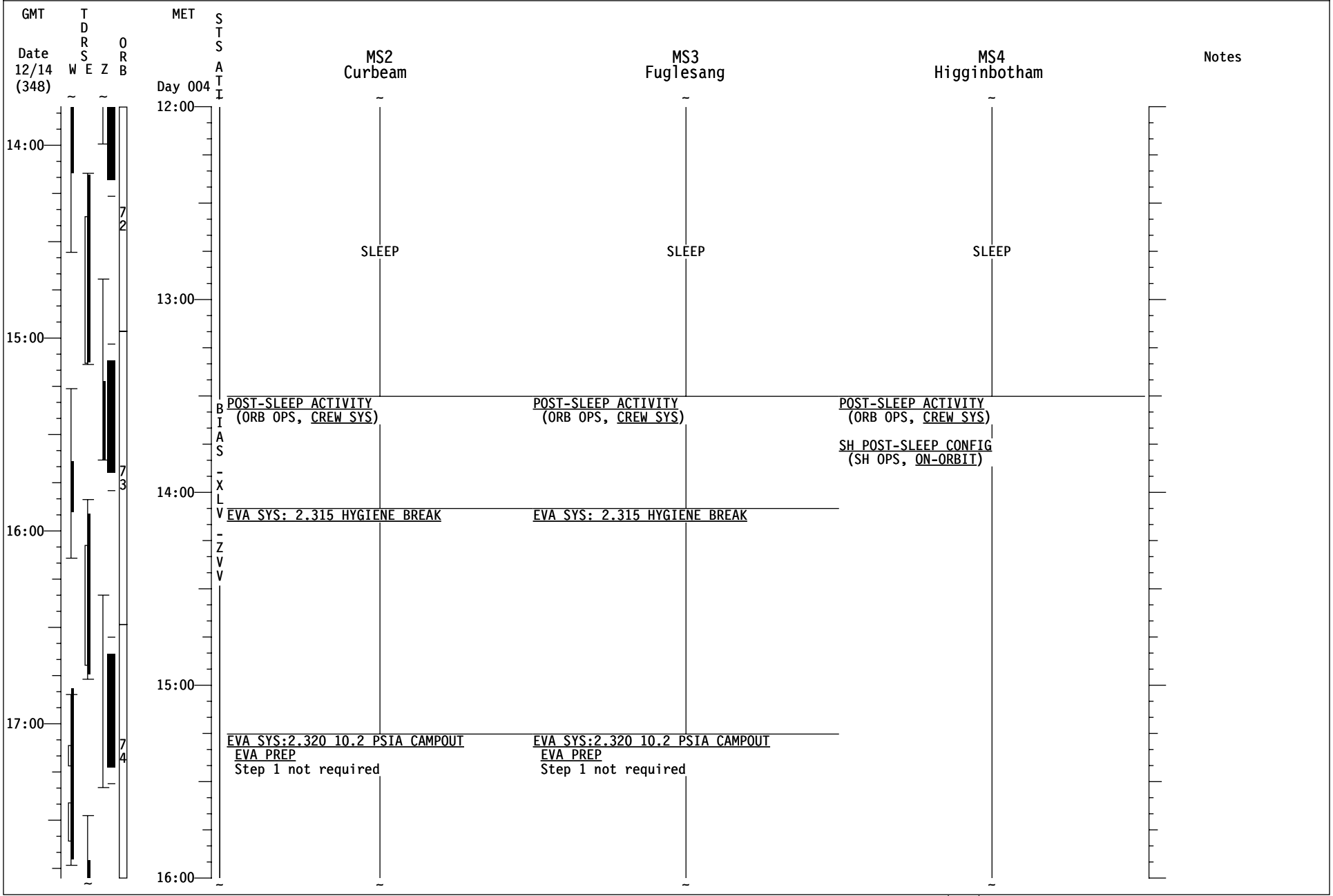
STS-116 FD06

REPLANNED



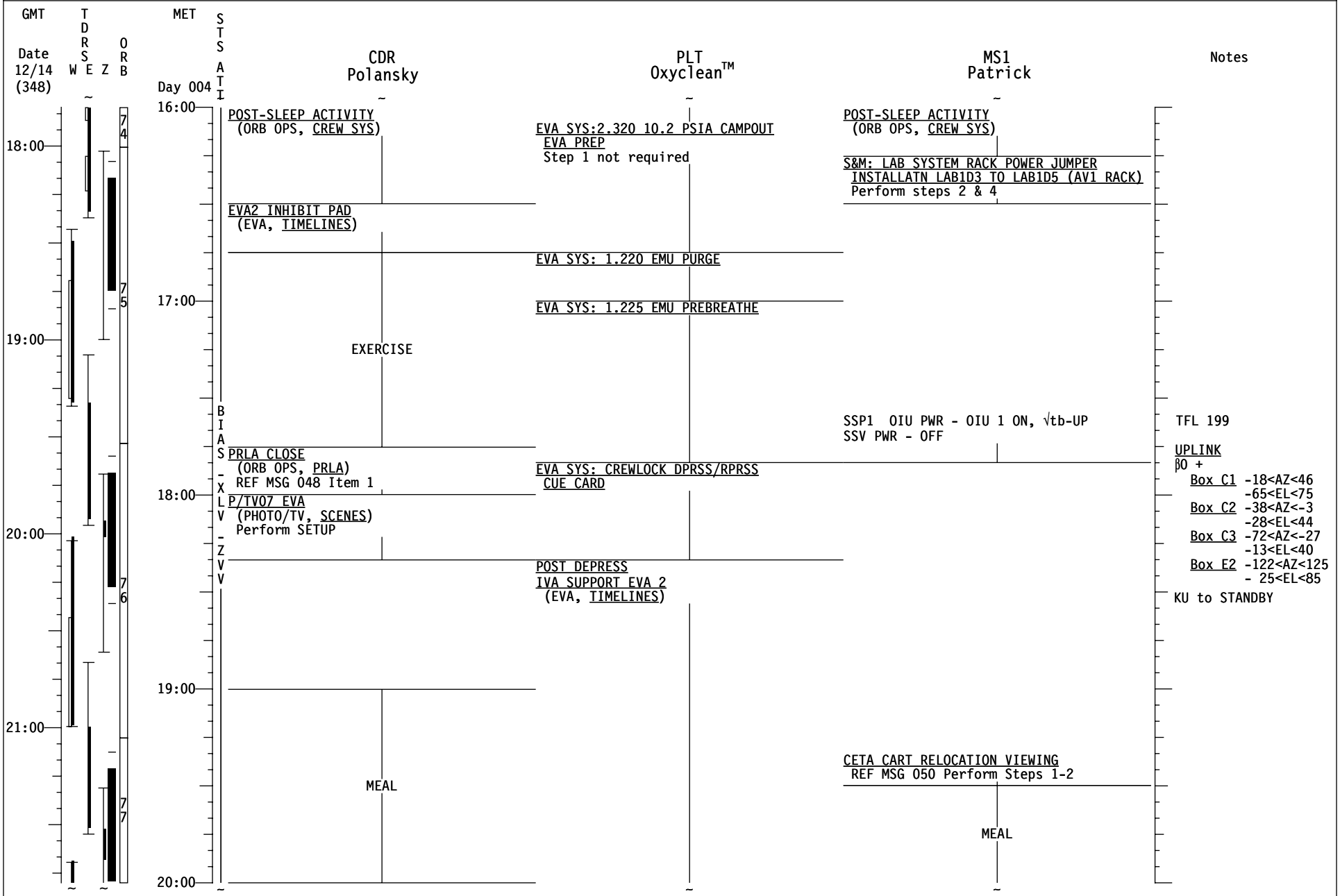
STS-116 FD06

REPLANNED



STS-116 FD06

REPLANNED



STS-116 FD06

REPLANNED

GMT Date 12/14 (348) | TDRS W E Z | ORB | MET Day 004 | STS ATTI

GMT: 18:00, 19:00, 20:00, 21:00

ORB: 74, 75, 76, 77

MET: 16:00, 17:00, 18:00, 19:00, 20:00

STS ATTI: BIAS -XLV -ZVV

MS2 Curbeam

EVA SYS:2.320 10.2 PSIA CAMPOUT
EVA PREP
Step 1 not required

EVA SYS: 1.220 EMU PURGE

EVA SYS: 1.225 EMU PREBREATHE

EVA SYS: CREWLOCK DPRSS/RPRSS
CUE CARD

POST DEPRESS
EGRESS

CHANNEL 2/3 POWER RECONFIGURATION

MS3 Fuglesang

EVA SYS:2.320 10.2 PSIA CAMPOUT
EVA PREP
Step 1 not required

EVA SYS: 1.220 EMU PURGE

EVA SYS: 1.225 EMU PREBREATHE

EVA SYS: CREWLOCK DPRSS/RPRSS
CUE CARD

POST DEPRESS
EGRESS

CHANNEL 2/3 POWER RECONFIGURATION

CETA CART 2 RELOCATION

MS4 Higginbotham

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)
SH POST-SLEEP CONFIG(SH OPS CL,ON-ORBIT)

DAILY TRANSFER LIST
UPDATE
REF MSG 052

FILTER CLEANING
(IFM, SCHEDULED MAINTENANCE)

EXERCISE

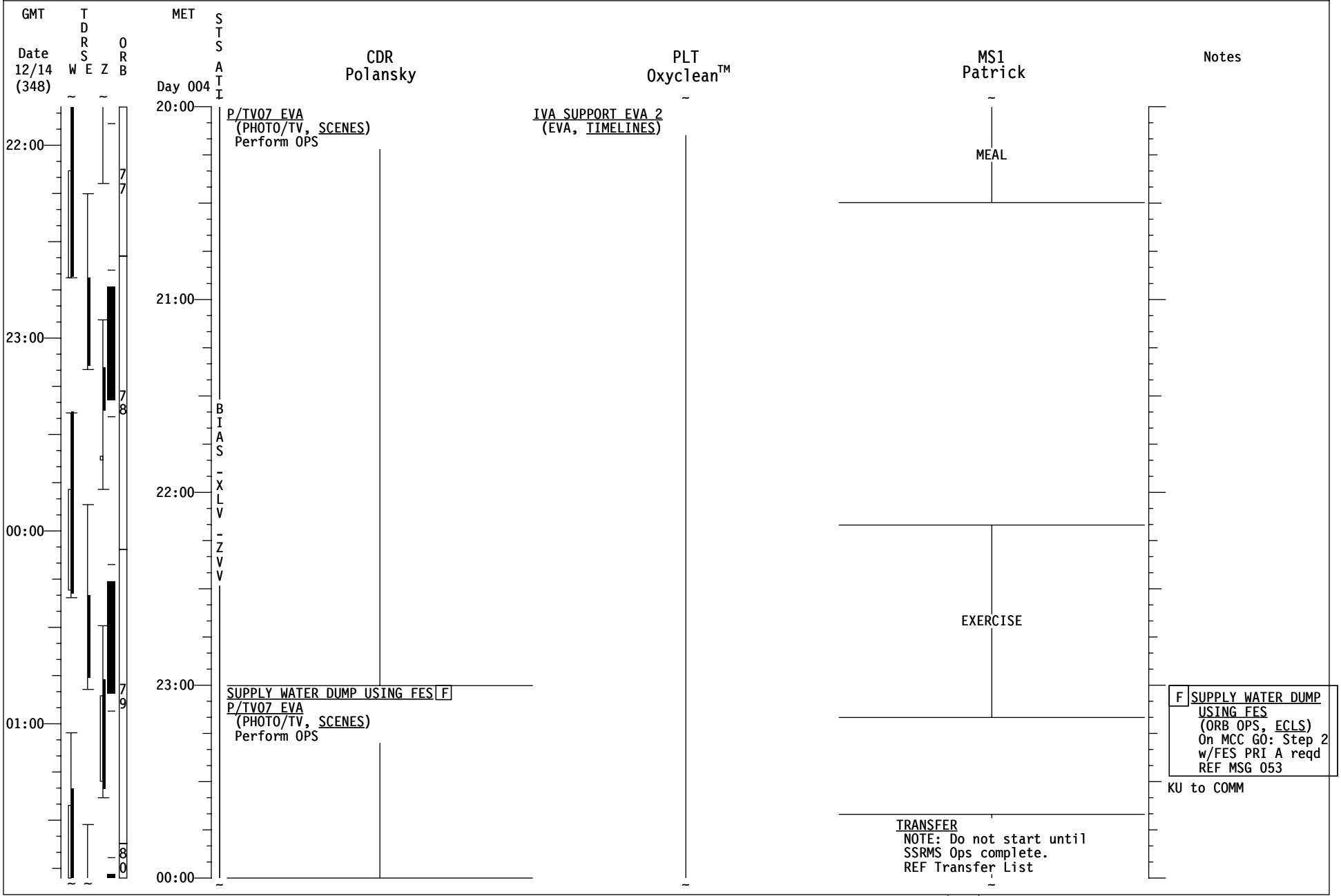
ROBO: 4.101 STBD CETA CART 2 RELOCATION
Perform Steps 1-3
REF MSG 043

MEAL

Notes

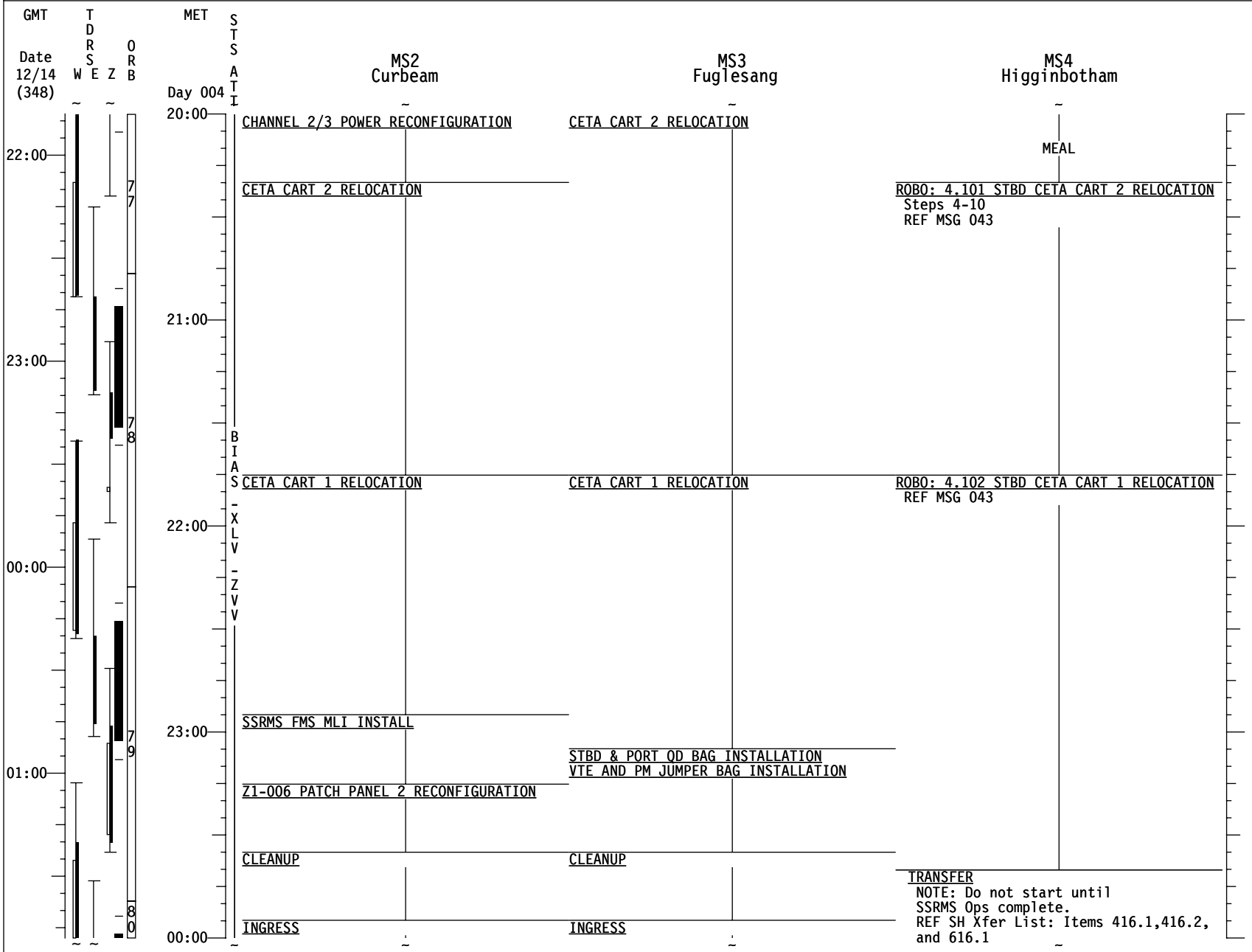
STS-116 FD06

REPLANNED



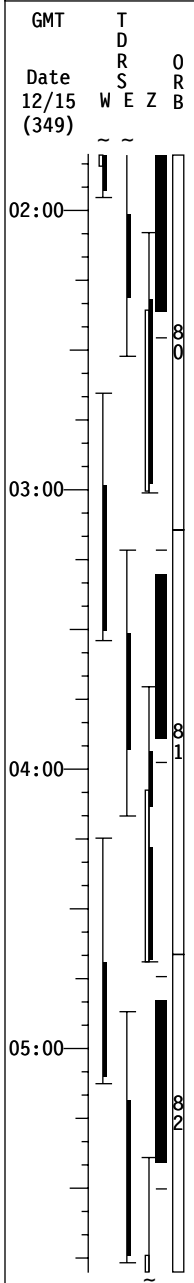
STS-116 FD06

REPLANNED



STS-116 FD06

REPLANNED



MET Day 005

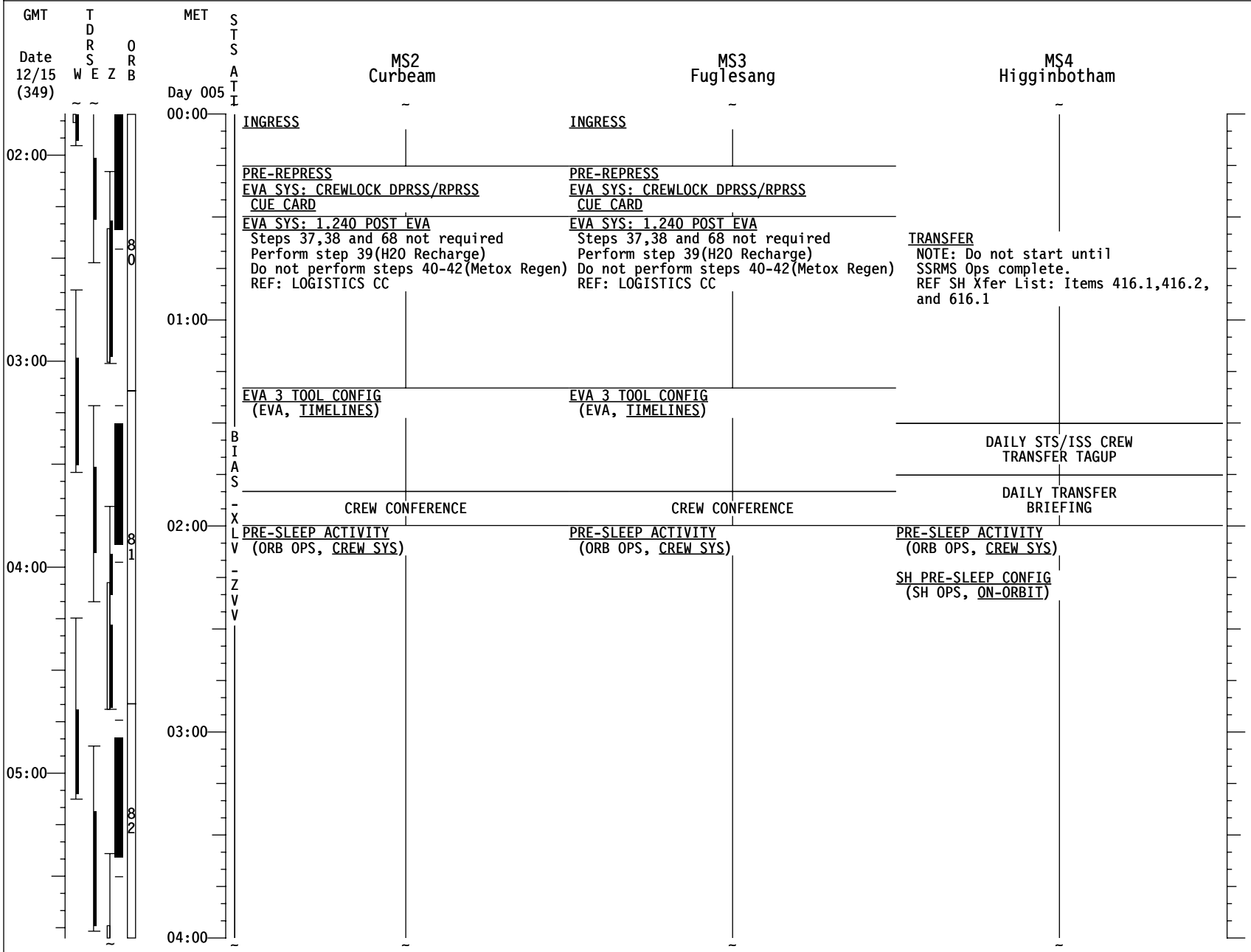
STS ATL

	CDR Polansky	PLT Oxyclean™	MS1 Patrick	Notes
00:00	WCS CRADLE - AUTO INHIBIT Inspect hose block filter, change if req'd WCS CRADLE - AUTO	IVA SUPPORT EVA 2 (EVA, TIMELINES) PRE-REPRESS EVA SYS: CREWLOCK DPRSS/RPRSS CUE CARD	TRANSFER NOTE: Do not start until SSRMS Ops complete. REF Transfer List	UPLINK β0 + Box C1 -18<AZ<46 -65<EL<75 Box C2 -38<AZ<-3 -28<EL<44 Box C3 -72<AZ<-27 -13<EL<40 Box D2 -94<AZ<-20 9<EL<75
01:00	EVA COMM DECONFIG(EVA,EVA PREP)Steps 1 & 5 only SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS) TEARDOWN REF MSG 053 REF SH Xfer List: Item 416.2	EVA SYS: 1.240 POST EVA Steps 37,38 and 68 not required Perform step 39(H2O Recharge) Do not perform steps 40-42(Metox Regen) REF: LOGISTICS CC	S&M: LAB SYSTEM RACK POWER JUMPER REMOVAL LAB1D3 TO LAB1D5 (AV1 RACK) Perform steps 2 & 4 TRANSFER REF Transfer List	
02:00	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) CREW CONFERENCE IMU STAR OF OPPTY ALIGN (ORB OPS, GNC) COMM STRING 1 C/O (PART A) (ORB OPS, COMM/INST) JNT OPS: 2.108 SHUTTLE AIRLK/TUNNEL FAN DEACT (BYPSS DUCT INSTLLD)Steps 3-9 (NOTE:STS crew to perform step 3) Inform MCC when complete	EVA SYS 1.605 BSA BATTERY RECHARGE Perform INITIATE for PGT, REBA, & HL batteries. In step 7, leave BC1 off. REF: LOGISTICS CC	CETA CART RELOCATION VIEWING REF MSG 050 Perform Step 3 PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	UPLINK β21 + Box C1 -18<AZ<46 -65<EL<75 Box C2 -38<AZ<-3 -28<EL<44 Box C3 -72<AZ<-27 -13<EL<40 Box D2 -94<AZ<-20 9<EL<75
03:00	PMC:NETMEETING VID CNFRNC (ORB OPS,PGSC) Omit VLHS item in Step 1, Omit Step 3 Use A/G 2 for audio & KFX PGSC KU TDRZ: 02:29-02:53 PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		
04:00				

BIAS-XLVZVV

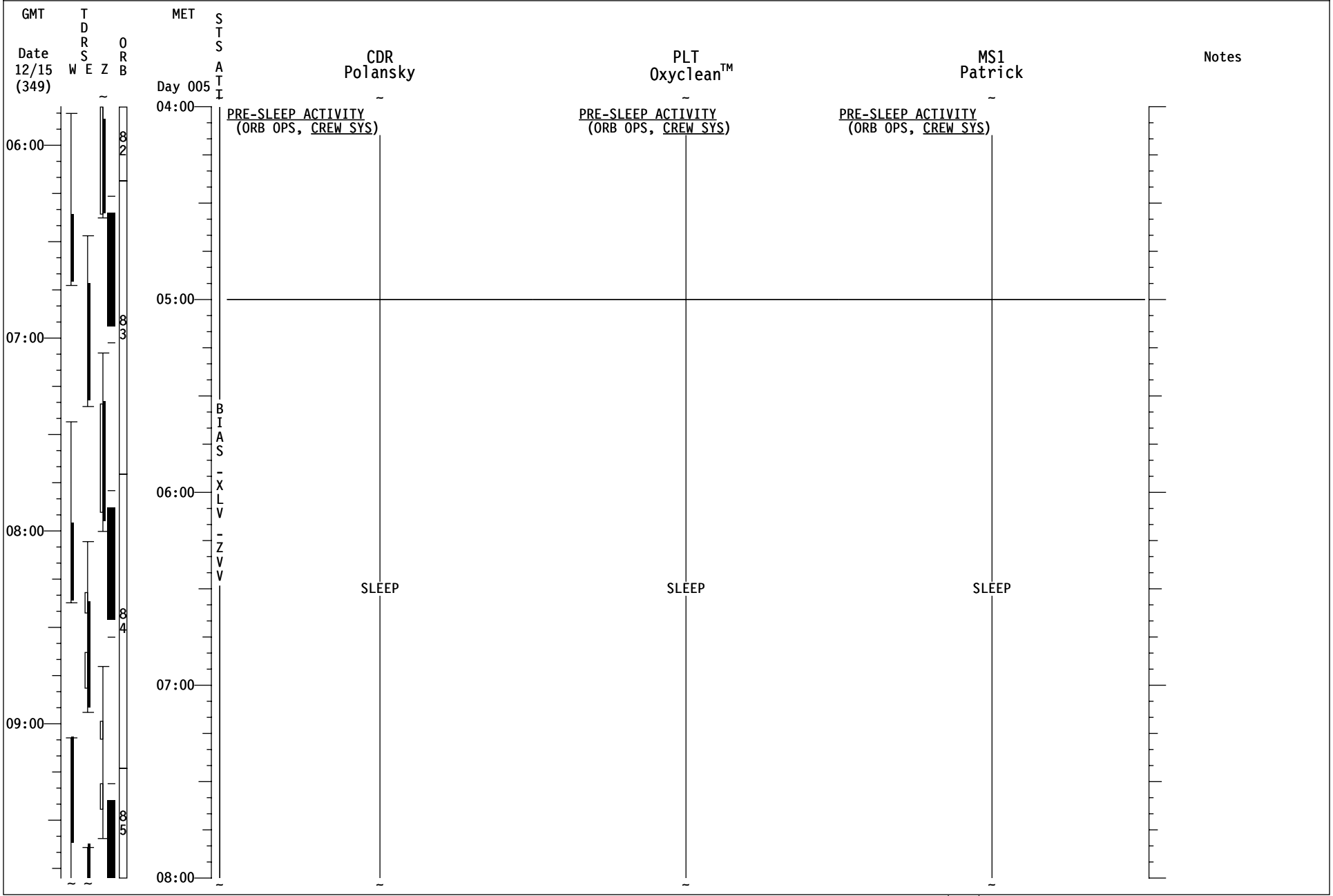
STS-116 FD06

REPLANNED



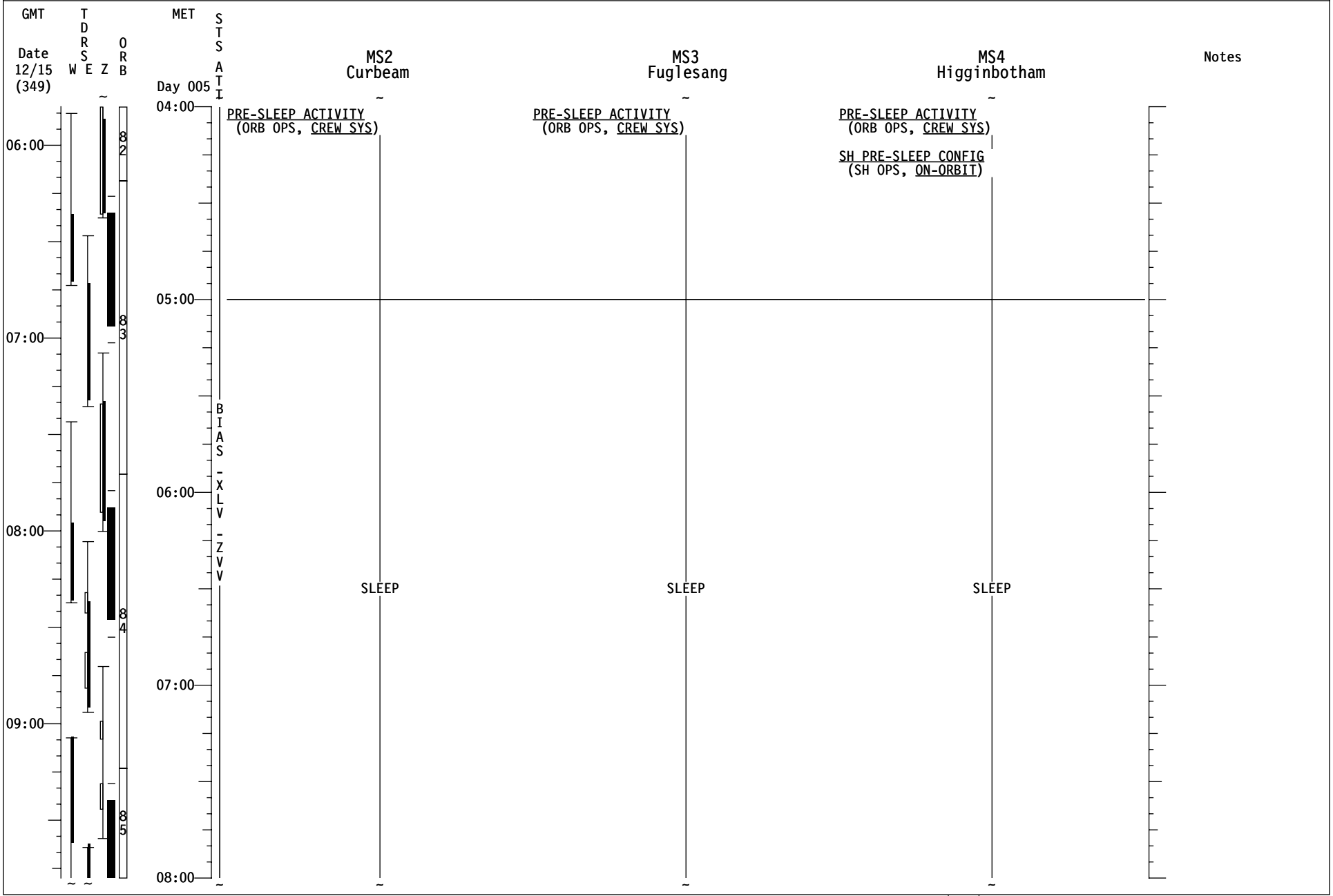
STS-116 FD06

REPLANNED



STS-116 FD06

REPLANNED



Good Morning Discovery!!!

Yesterday was yet another outstanding day by the entire crew. Thank you so much. Once again it was demonstrated that it is much easier to take something out than to put it away! Thankfully we are in a configuration so we can continue on with the nominal flight plan.

We are all eagerly anticipating today's space walk!

OUR CURRENT ORBIT IS: 193 X 177 NM

NOTAMS:

EDWARDS (EDW) - LAKEBEDS RED DUE TO RAIN
NORTHRUP (NOR) – LAKEBEDS GREEN
AMBERLY (AMB) -CLOSED
ANDERSEN (GUA) -06L/24R CLOSED, ALTERNATE 06R/24L
GANDER TACAN (YQX74) - AZIMUTH OUT OF SERVICE
KEFLAVIK (IKF) – UNUSABLE
MORON (MRN) – TACAN CH (MRN100) OUT OF SERVICE
ORMOND BEACH TACAN (OMN73) - AZIMUTH OUT OF SERVICE
OCEANA (NTU) – 32R/14L CLOSED
RIO GALLEGOS (AWG) – UNUSABLE
SALISBURY TACAN (SBY49) - AZIMUTH OUT OF SERVICE
STEPHENVILLE TACAN (YJT78) -UNUSABLE
WAKE ISLAND (WAK) - CLOSED

NEXT 2 PLS OPPORTUNITIES:

EDW22 ORB 79 – 4/23:09 (FEW100 FEW200, 250/10P15)
EDW22 ORB 95 – 5/23:32 (SCT050 SCT100 BKN200, 260/14P21)

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 = 44.1	R OMS OX = 45.3	
	FU = 44.1		FU = 45.8

SUBTRACT I'CNCT COUNTER FOR CURRENT OMS QUANTITIES

DELTA V AVAILABLE:

OMS	414 FPS
ARCS (TOTAL ABOVE QTY1)	50 FPS
TOTAL IN THE AFT	464 FPS
ARCS (TOTAL ABOVE QTY2)	80 FPS
FRCS (ABOVE QTY 1)	38 FPS
AFT QTY 1	86 %
AFT QTY 2	48 %

THERE ARE NO FAILURE/IMPACT/WORK AROUNDS FOR TODAY.

ROBO Procedure Updates for EVA2

In 4.101 STBD CETA CART 2 RELOCATION, make the following P&I updates:

At the end of step 3 on page 6 of 16 4.101 (pg. 62 of the ROBO book),
Was: Give SSRMS Operator a GO to maneuver to the CETA Cart Viewing position
Is: Give SRMS Operator a GO to maneuver to the CETA Cart Relocation Viewing position

At the start of step 4 on page 6 of 16 of 4.101 (pg. 62 of the ROBO book),
Was: Give SRMS Operator a GO to maneuver to the CETA Cart viewing position
Is: Verify SRMS is in CETA Cart Relocation Viewing position.

At the end of step 9 on page 14 of 16 of 4.101 (pg. 70 of the ROBO book),
Was: Perform {4.102 STBD CETA CART 1 RELOCATION}, steps 6 and 8 (SODF: RBT FS: EVA 2), then:
Is: Perform {4.102 STBD CETA CART 1 RELOCATION}, steps 6 and 7 (SODF: RBT FS: EVA 2)

In 4.102 STBD CETA CART 1 RELOCATION, make the following P&I updates:

Near the end of step 7 near the bottom of page 8 of 9 of 4.102 (pg. 80 of the ROBO book),
Prior to entering Single Mode, add a note with the following:
Expect Singularity when SP between -169.2 and -166.7 degrees.

At the end of step 7 on page 9 of 9 of 4.102 (pg. 81 of the ROBO book),
Add: Notify SRMS operator that SSRMS operations are complete.

1. SETUP

A7U CCTV – config for CETA CART RELOCATION viewing

MON 1	DNLK
B	Elbow (EE)
MON 2	DTV
A	C

SM 94 PDRS CONTROL

√PL ID, ITEM 3: 0

√INIT ID, ITEM 24: 0

2. MNVR TO CETA CART RELOCATION VIEWING POSN

On SSRMS GO, maneuver to CETA CART RELOCATION VIEWING posn

RATE – as required (VERN within 10 ft)
BRAKES – OFF (tb-OFF)
MODE – SINGLE, ENTER

Mnvr to CETA CART RELOCATION VIEWING posn:

	SY	SP	EP	WP	WY	WR
4B SAW	+136.0	+35.0	-47.0	+86.6	+62.6	-23.2
1: WR –						-41.6
2: WY +					+110.0*	
3: WP +				+89.2		
4: EP –			-93.9			
5: SP +		+62.0				
6: SY +	+162.2					
CETA Cart	+162.2	+62.0	-93.9	+89.2	+110.0	-41.6

X	Y	Z	PITCH	YAW	ROLL	PL ID
-319	-190	-496	158	277	150	0

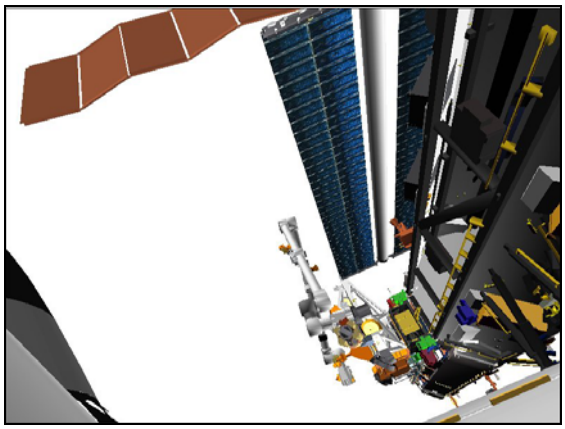
***** Expect SINGULAR lt

BRAKES – ON (tb-ON)
√MODE – not DIRECT
PARAM – PORT TEMP
JOINT – CRIT TEMP

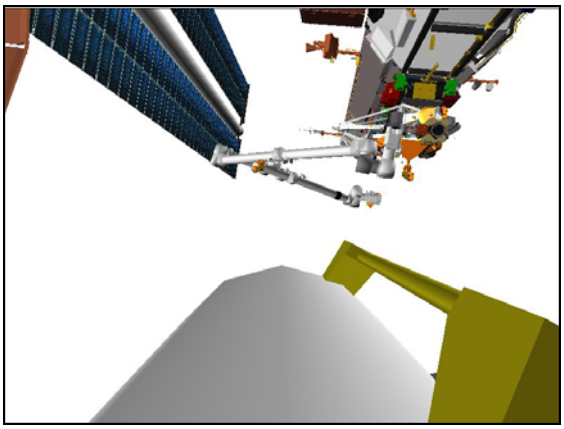
Notify SSRMS operator that SRMS at CETA CART RELOCATION VIEWING posn

NOTE

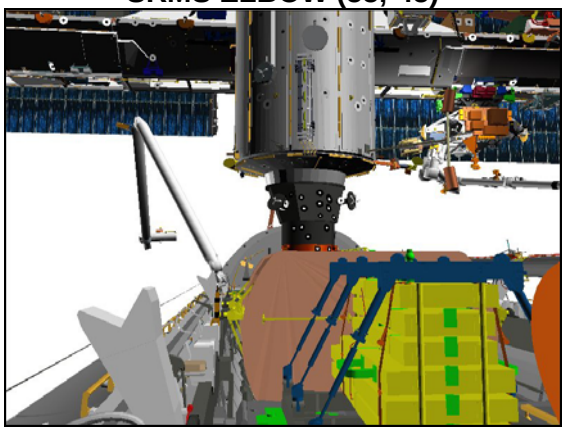
Pan and Tilt Elbow camera as required for CETA cart relocation viewing



SRMS ELBOW (55,-45)



SRMS EE



CCTV B (5,5)

NOTE

When CETA cart relocation viewing is complete, maneuver to SRMS Pre-Cradle position

3. MNVR TO SRMS PRE-CRADLE POSN

RATE – as required (VERN within 10 ft)
BRAKES – OFF (tb-OFF)
MODE – as desired

Mnvr to SRMS PRE-CRADLE posn:

	SY	SP	EP	WP	WY	WR
CETA Cart	+162.2	+62.0	-93.9	+89.2	+110.0	-41.6
1: SY –	0.0					
2: EP +			-25.0			
3: WR +						0.0
4: WY –					0.0*	
5: WP –				+5.0		
6: SP –		+25.0				
Pre-Cradle	0.0	+25.0	-25.0	+5.0	0.0	0.0

X	Y	Z	PITCH	YAW	ROLL	PL ID
-1261	-146	-551	5	2	0	0

* Expect SINGULAR lt

BRAKES – ON (tb-ON)
√MODE – not DIRECT
PARAM – PORT TEMP
JOINT – CRIT TEMP

Good morning Joanie, Nick, and STS-116 & Increment 14 crews!

You guys are really hustling up there! You're actually ahead at this point, so keep up the great work! It appears the Transfer Queen is directing her drones with ease.

Yesterday we directed you to stow item 616 in Spacehab for return; however, we have added item 616.1 to the Spacehab return transfer list today. Item 616.1 needs to be removed from this bag and stowed on ISS. We greatly apologize for making you get back into this bag.

Today you should pack more return items in Spacehab. We now have an updated CWC return plan, so you can pack the full condensate bag in Spacehab today.

The Transfer List Excel file, FD06_Transfer_List_STS116.xls, is located on the KFX machine in **C:\OCA-up\transfer.**

For ISS, the Transfer List Excel file, FD06_Transfer_List_STS116.xls, is located in **K:\OCA-up\transfer.**

Questions for crew

- During yesterday's transfer brief you called items 118.1.1 and 118.1.2 complete. Can you confirm the masks were installed on the new PBAs?

- During last night's calldown, you called items 18, 18.1, 703, and 420 from the Swap tab (EMU H2O Kit) complete. However, you didn't say item 3 was complete. Has item 3 been transferred to ISS as well?

Transfer Notes

- Just a reminder…do NOT transfer the returning TVIS Gyro (item 759) to Spacehab today. The CHeCS community would like to analyze the activation and checkout data prior to packing this gyro for return. Expect to pack it on FD7.

- As we mentioned above, we now have an updated CWC return plan for Spacehab. You'll now return only one full shuttle condensate CWC (item 416.2), instead of the two originally planned. Two half-full CWCs (items 433 and 630) will return as planned. If a second shuttle condensate CWC returns, it will be accommodated in the Middeck. Additionally, there is discussion of returning another CWC from ISS; we'll add this to the Transfer List if approved.

- FYI…we have uplinked the remaining Spacehab 5 MLE bag drawings (AS01 and AS03).

FD06 Choreography

- **Item 416.1**: Stow 21P KURS in SH for return.
- **Item 416.2**: Stow shuttle condensate CWC in SH for return after fill is complete.
- **Item 616.1**: Remove from item 616, and transfer to ISS.

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

No updates to Resupply today!!

In the Middeck Transfer List **RETURN** tab
Replace the following pages:
Page Return 1
Page Return 3
Page Return 6

In the Spacehab Transfer List **RETURN** tab
Replace the following pages:
Page Return 10
Page Return 11
Page Return 12
Page Return 14
Page Return 16
Page Return 19

In the Middeck Transfer List **SWAP** tab
Replace the following pages:
Page Swap 4

In the Spacehab Transfer List **SWAP** tab
Replace the following pages:
Page Swap 13

In the Spacehab Transfer List **REFERENCES** tab
Add the following pages:
REF-6
REF-7

Changes to the Transfer List are detailed below:

MIDDECK RETURN
Item 408 – updated return location
Item 614.2 – new item
Item 704.1 – updated return location

SPACEHAB RETURN
Item 411 – added comments
Item 416 – updated comments
Item 416.1 – new item
Item 416.2 – new item
Item 616.1 – new item
Item 630 – updated comments
Item 704.1 – updated return location
Item 754 – item moved
Item 755 – item deleted
Item 769 – updated return location
Item 769.1 – updated return location

Have a great day on orbit!

- The Transfer Team

Today you will perform a Supply Water Dump using the FES and perform Condensate Teardown.

FES Dump Details

The FES Dump duration will be approximately 8 hours. Due to constraints with ISS momentum management, it is important that the dump initiation and termination occur at the prescribed times. Check MCC prior to initiating and terminating the FES Dump. The following details are required for the dump:

At MET 4/15:00, initiate SUPPLY WATER DUMP USING FES (ORB OPS, ECLS), p. 5-9, Step 1 DUMP INITIATION, using FES PRI A.

At MET 4/23:00, terminate the FES dump on MCC call using Step 2, DUMP TERMINATION; FES PRI A is req'd.

Condensate Teardown Details

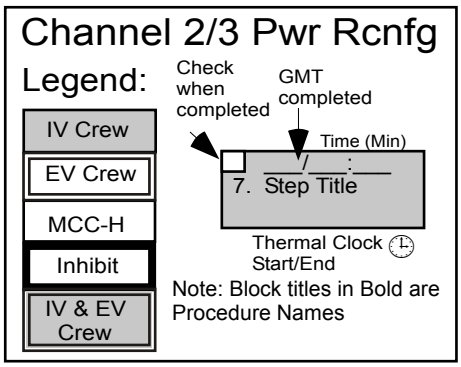
There is sufficient ullage in the Waste Water tank to allow terminating Condensate Collection.

Perform SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS), p. 5-36 performing TEARDOWN; Steps 1 and 2.

The Condensate Collection hardware will be stowed in Shuttle Middeck Locker MF28H. The filled Condensate CWC will be stowed in the SpaceHab (Reference SH Transfer List: Item 416.2).

- The 2/3 channel will be reconfigured today. A full list of the equipment that is powered off during the powerdowns is available in {CHANNEL 2/3 POWERDOWN SUMMARY - (EVA 2)} (SODF: ASSY OPS: MALFUNCTION: REFERENCE: NONE). There are two parts to the power reconfigs: the main channel 2/3 reconfig and the Z1 Patch Panel Reconfig.
- If you're interested in following along, we've uplinked a new version of the Channel 2/3 Power Reconfig flowchart (14-0567, Msg 044) and Definitions Table (14-0568, Msg 045), with some updates from THOR. There are no block number changes from what you have in the Assy Ops book.
- To provide additional redundancy, Nick will be installing the Lab Systems Rack jumper to provide power to Avionics Rack 1 from Channel 1/4. We will nominally be powering up only the INT-2 MDM in that rack after the jumper installation.
- Disciplines will be powering down redundant equipment throughout the morning, to put their system in a good config for powerdown. You will probably not notice the powerdowns until we put the EVA inhibits in place (corresponds to block 21 in the flowchart). At that time, you will notice half of the lights in the Node and the Lab go off, you will lose comm with the Russian Segment, the Lab Aft ATU will not be functioning, and Big loop comm will be only through STS A/G. You will be given a heads up prior to us putting the inhibits in place.
- While the EV crew is performing the Channel 2/3 Power Reconfiguration (i.e. while the 2/3 channel is powered down), Thomas and Misha will put Lab DDCUs LA2A and LA3B into a parallel configuration during the DDCU Rack 2 Reconfiguration activity. You'll need to rotate the rack to perform that activity.
- After the EVA crew completes the cable reconfigurations, the ground will begin the powerup, starting with critical equipment (MBSUs, DDCUs, Pump Module). If any MBSU, DDCU, or the Pump Module fails its activation, a contingency plan will be executed to R&R the failed box, if possible. Power up will take most of the rest of the day. It may or may not be complete by the time you go to bed.
- All coordination between crew and ground during the Power Reconfig timeframe are summarized in the Ground/Crew Interactions Table (14-0569, Msg 046).

Channel 2/3 Power Reconfig



ASSUMPTIONS:
LVLH
Campout is EVA protocol
ROOBA fully functional
Port SARJ on String 1 and rotating
MT at Worksite 3 in CETA-CETA-MT config prior to EVA
P6 4B Array is retracted
CMGs 2, 3, 4 are powered from Z1; CMG 1 powered from S0
CMG-3 not in control law
String 1 S-band Fwd Link assumed bad

CHANNEL 2/3 RECONFIG INITIAL CONDITIONS

ADCO
- ☐ all GPS Antennas are on String 1

ODIN
- ☐ Tier 1 & 2 MDMs are powered from Channel 1/4
- ☐ Verify Single Node Mighty Mouse PPL

CATO
- ☐ S-band String 2 configured for Primary
- ☐ UHF system configured to UHF-2
- ☐ Audio and UHF FDIR inhibited
- ☐ IAC-1 Prime

THOR
- ☐ ORUs preheated to proper temps (ref FR 12A.1_C2-84)
- ☐ P1 TRRJ in Directed Position (position dependent on β), S1 TRRJ Parked at 0°
- ☐ EATCS Loop B Fill Complete and EATCS Pressure > 2592 kPa (>376 psi)
- ☐ IATCS in Single LT

ECLSS
- ☐ LAB1P6 CCAA operational

PHALCON
- ☐ Payload racks off (except MELFI and ER4 - ER4 unpowered in block B16)
- ☐ A/L patch panel reconfig complete (A/L avionics powered from Ch 1/4 string)

BME
- ☐ VOA Powered down; Defibrillator switch off (crew action)

CIO
- ☐ UOPs and Ops LAN in proper config

Russian Power:

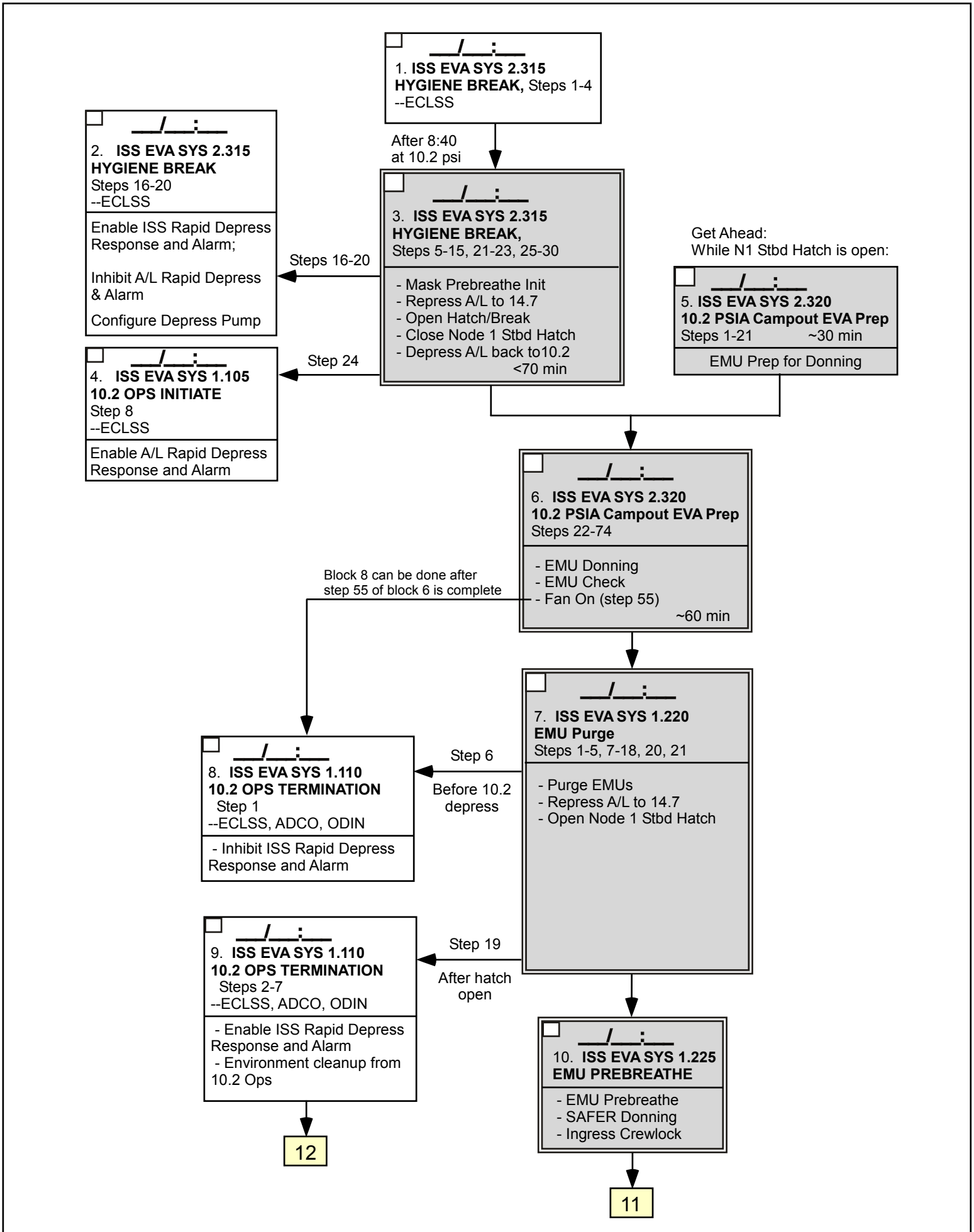
Remove power from FGB ARCUs 51, 52 and SM CHTs 23, 24: Block 45

Reapply power to FGB ARCUs 51, 52 and SM CHTs 23, 24: Block 51

Articulating Components:

	Stop Rotating	Start Rotating
SARJ	does not stop	does not stop
S1 TRRJ (Loop A)	parked at 0°	parked at 0°
P1 TRRJ (Loop B)	positioned	positioned

Channel 2/3 Power Reconfig



Channel 2/3 Power Reconfig

Disciplines will perform Blocks B1-B17 in parallel

☐ ___/___:___

B1. Lab Systems Rack Jumper Installation

☐ Avionics Rack Equipment Powerdowns (CC2, SCU2, VSU2, IAC-2, ABC-2, trunklines)

LAB SYSTEMS RACK POWER JUMPER INSTALLATION LAB1D3 TO LAB1D5 (AV1 RACK),

- ☐ Step 1 (MCC-H)
- ☐ Step 2, 4 (CREW)
- ☐ Step 3 (MCC-H)

☐ Power on INT-2 MDM

--ODIN, CATO, PHALCON, IV

~30 min

☐ ___/___:___

B2. Verify all Tier 1 & 2 MDMs are on Channel 1/4

--ODIN

☐ ___/___:___

B3. RT FDIR Inhibits

--ODIN

☐ ___/___:___

B4. Pre EVA Config Script

--ODIN

☐ ___/___:___

B5. ADCO Powerdowns

☐ **MCS 2.608 GPS SHUTDOWN**

☐ **MCS 2.606 RGA SHUTDOWN**

--ADCO

☐ ___/___:___

B6. Configure Internal and External Video (powerdown VSU3, EVSU2, CVIUs)

--CATO

☐ ___/___:___

B7. Deact GNC-2 MDM

--ODIN

☐ ___/___:___

B8. **ETCS LOOP A(B) CONFIGURATION VERIFICATION** (for Loop B)

--THOR ~40 min

☐ ___/___:___

B9. **CHANNEL 2/3 POWERDOWN TRUSS HEATER PREP**

--THOR ~15 min

☐ ___/___:___

B10. THOR Prep for MDM Transitions

☐ **TCS 4.205 LAB IATCS RECONFIGURATION FOR LA2 MDM TRANSITION,** Steps 1-8; in step 2 don't inhibit FRITCS

☐ **TCS 4.235 LAB IATCS RECONFIGURATION FOR LA3 MDM TRANSITION OR FAILURE,** Step 1

--THOR ~15 min

☐ ___/___:___

B11. **12A.1 SSAS HEATER RECONFIGURATION - CHANNEL 2/3,** step 1 (if req'd)

--OSO

☐ ___/___:___

B12. Ops LAN Powerdown

--IV (timelined)

☐ ___/___:___

B13. Open Defib RPC

--BME

Booster Fan Activation

Inform crew that they will have only one smoke detector in both Lab and Node

☐ ___/___:___

B14. ECLSS Powerdowns

- ☐ Node 1 Smoke Detector 2
- ☐ Lab SD5 Smoke Detector
- ☐ Node 1 Fwd Port IMV Valve
- ☐ Node 1 Fwd Stbd IMV Valve
- ☐ Lab Aft Port IMV Valve
- ☐ Lab Aft Stbd IMV Valve
- ☐ Lab Fwd Stbd IMV Fan
- ☐ **ECLSS 1.511 CHeCS RACK VENTILATION SHUTDOWN**

--ECLSS ~10 min

Inform crew that Rack Power Switches will be disabled. Crew should use PCS if they need a Rack Power Switch.

☐ ___/___:___

B15. **EPS SYSTEM CONFIGURATION FOR EVA 2 POWERDOWN**

- ☐ Inhibit Rack RPSs
- ☐ Confirm MCC-M prepared for CHT/ARCU pwrdn
- ☐ CETA Light Config
- ☐ FPMU Config

--PHALCON ~15min

☐ ___/___:___

B16. Payload Rack Config

- ☐ Verify MELFI is configured on Channel 4A
- ☐ Power off EXPRESS Rack 4

--POIC

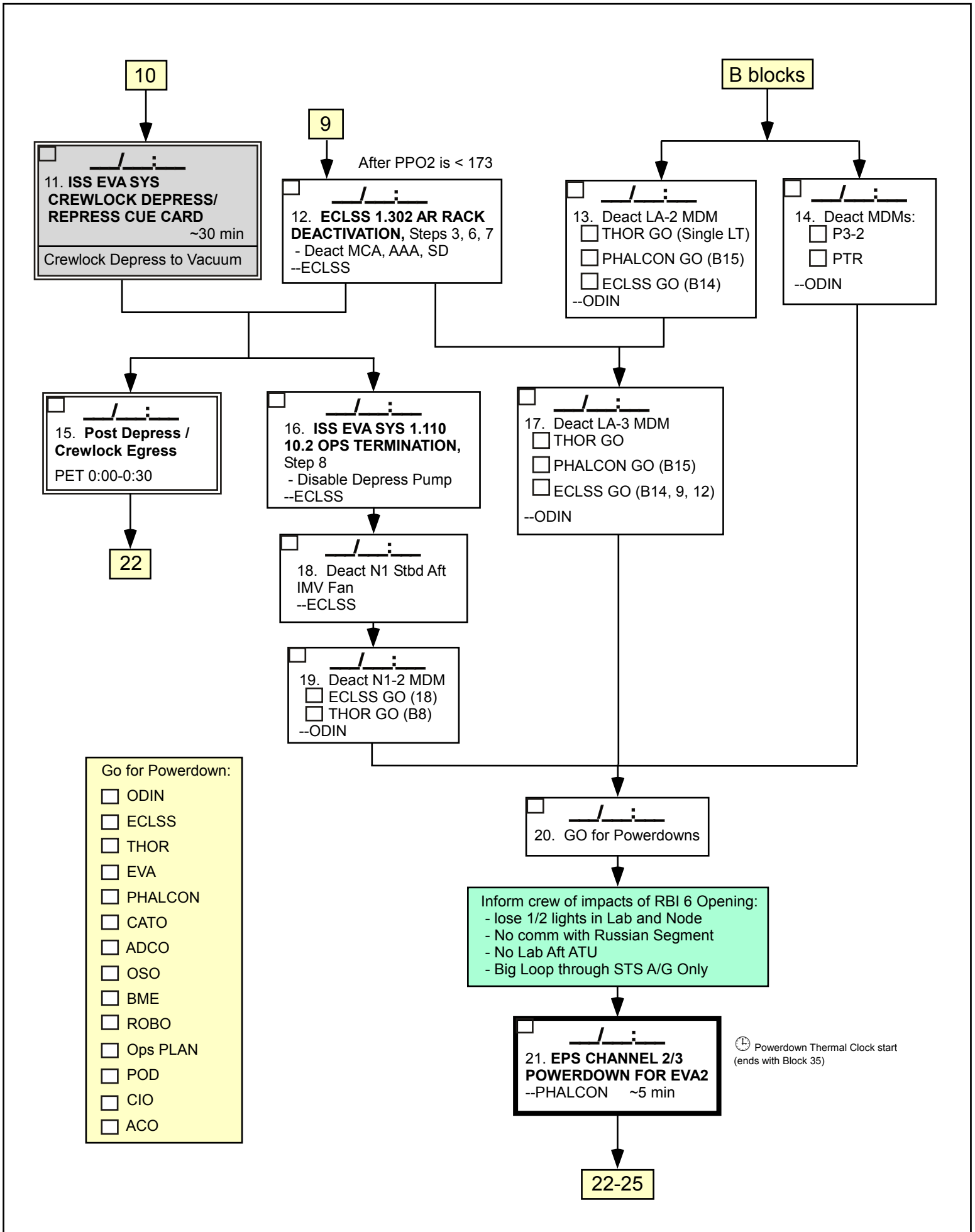
☐ ___/___:___

B17. Verify MSS configured for single string ops

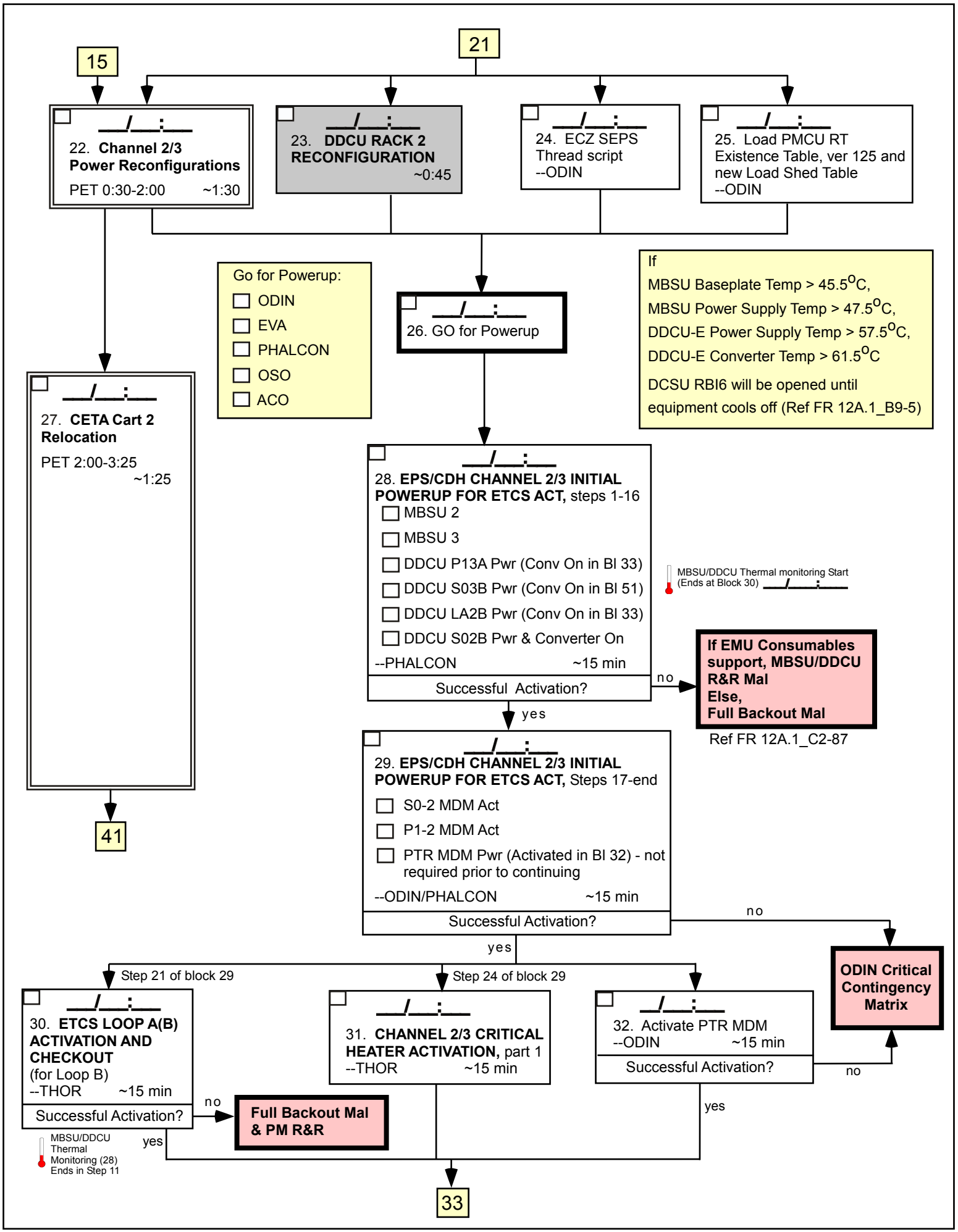
--ROBO

13, 14

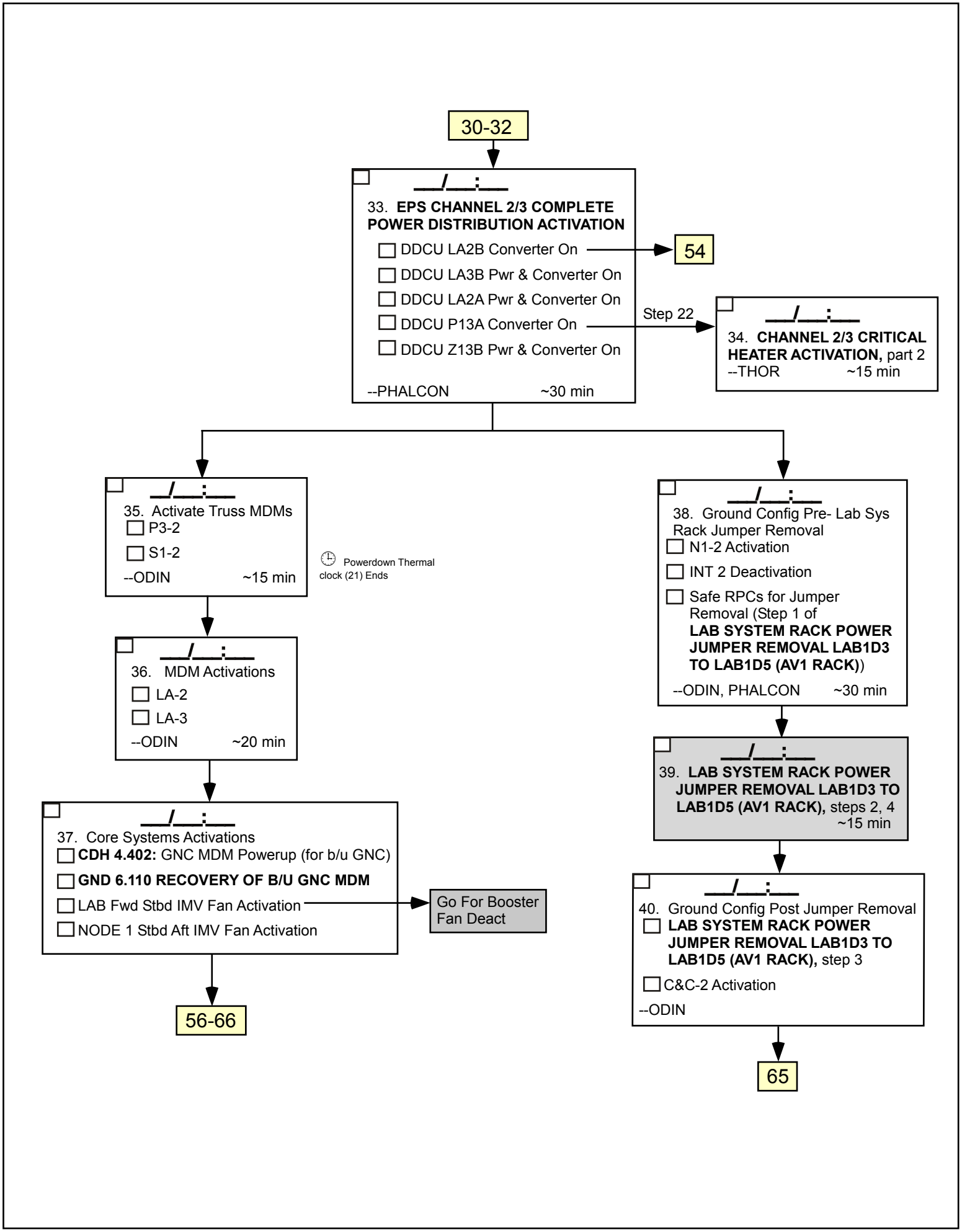
Channel 2/3 Power Reconfig



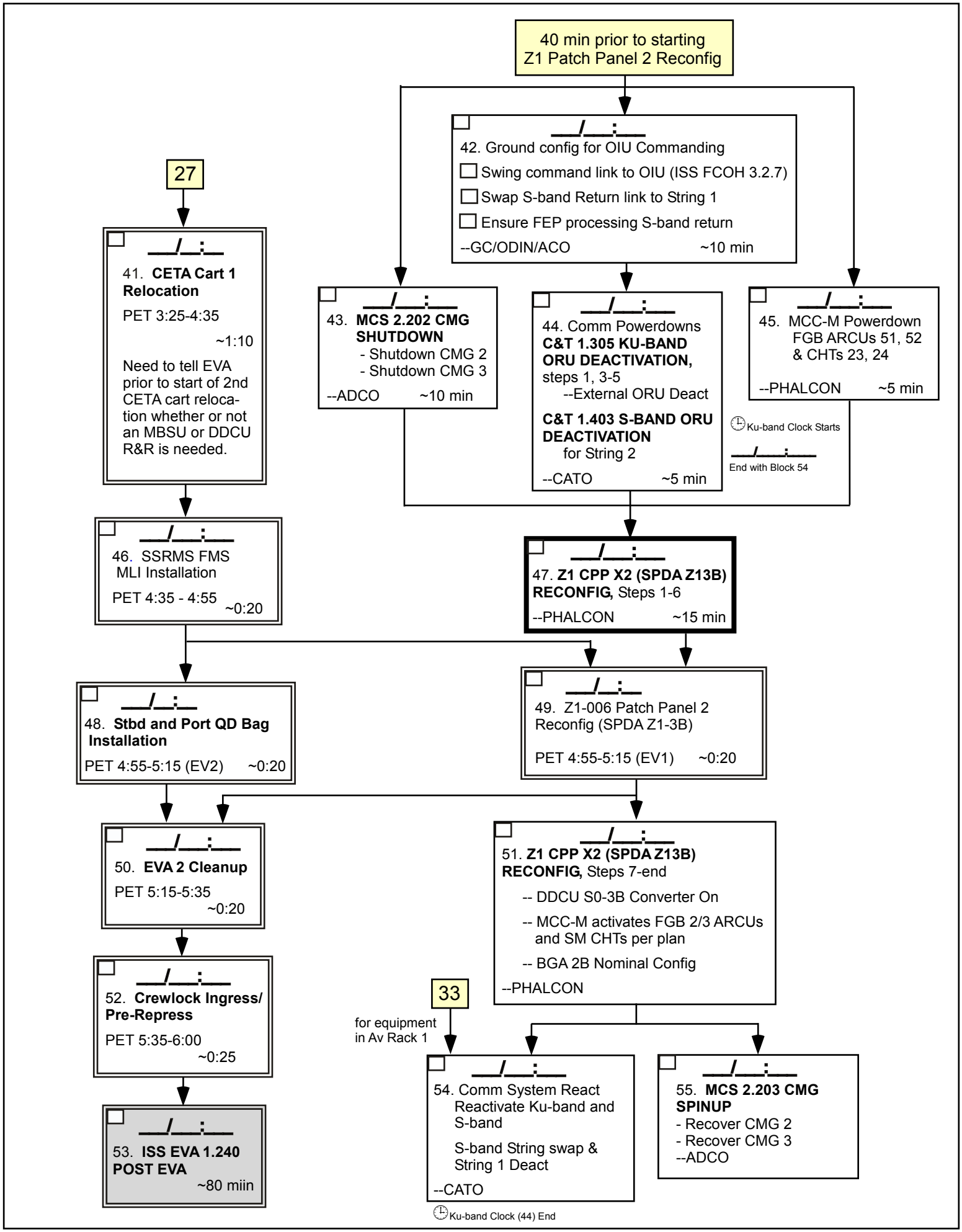
Channel 2/3 Power Reconfig



Channel 2/3 Power Reconfig



Channel 2/3 Power Reconfig



Channel 2/3 Power Reconfig

John McCullough Memorial Free For All

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56. ADCO Free for All
- **2.607 GPS Startup**
- **2.605 RGA Startup**
- **2.206 CMG Survival Heater Powerup**

57. Verify MSS Configured for dual string
--ROBO

58. **12A.1 SSAS HEATER RECONFIGURATION - CHANNEL 2/3,** steps 2 - 6
--OSO

59. **EPS LOAD RECONFIG POST EVA 2**
- Set Rack RPS Availability for LA-2 & LA-3 MDMS
- Enable Rack RPS
- Close RPCs to Loads
- Activate SARJ Redundant String
- Power off S1-1 CETA Light

--PHALCON

GO for Ops LAN Powerup

60. RT FDIR Enable
--ODIN

61. ODIN Free for All
- Post-EVA FDIR config
- Activate APS-2 and PEHG-2

--ODIN

62. THOR Free for All
- **2.405 LOOP A(B) TRRJ STRING 1 TO STRING 2 SWITCHOVER;** steps 1-6 for Loop A
- **2.417 Loop A(B) TRRJ INITIATE DIRECTED POSITION OR AUTOTRACK;** for Loop A ($\Gamma = -30^{o}$)
- **2.403 LOOP B TRRJ INITIALIZE STRING 1(2);**
- **9.230 NODE1/PMA1 HEATER RECOVERY**
- **CHANNEL 2/3 NON-CRITICAL HEATER ACTIVATION**
- **2.204 LAB IATCS TRANSITION TO SINGLE LT (AUTO),** Step 1 only
- **4.205 LAB IATCS RECONFIG FOR LA2 MDM TRANSITION,** steps 9-12
- **4.235 LAB IATCS RECONFIG FOR LA-3 MDM TRANSITION OR FAILURE,** step 2
- **2.205 LAB IATCS TRANSITION TO SINGLE MT (AUTO)**

40

For Equipment in AV Rack 1

63. ECLSS Free for All
- **ECLSS 1.301 AR RACK ACTIVATION**
- **ECLSS 1.508 CHECS RACK VENTILATION STARTUP**
- N1 Smoke Detector 2
- Lab SD5 Smoke Detector
- Node 1 Fwd Port IMV Vlv
- Node 1 Fwd Stbd IMV Vlv
- Lab Aft Port IMV Vlv
- Lab Aft Stbd IMV Vlv

64. **MED OPS 2.0.050 CHECS HARDWARE POWERDOWN & POWERUP,** steps 5.1, 5.2
Close RPC to Defibrillator
--BME

65. CATO Free for All
- Enable Audio and UHF FDIR
- **C&T 2.205 AUDIO SUBSYSTEM NOMINAL VOICE LOOPS SETUP**
Power on ATU 1, RAIU, ABC2, AUAI1P
- **C&T 2.212 AUDIO SUBSYSTEM CONFIGURATION FOR DOCKED OPERATIONS**
- **C&T 1.701 HCOR ACTIVATION,** steps 1-4
- **C&T 1.601 VDS ACTIVATION**
- **C&T 4.602 VDS TRUNKLINE CONFIGURATION**

66. POIC Free for All
- MELFI Rack Configuration to Channel 2A
- **C&T 1.701 HCOR ACTIVATION,** steps 5-end
- Repower EXPRESS Rack 4
- Power Off MELFI Brayton motor

--POIC

Note: OCA is available after blocks
- 40 (Av Rack 1),
- 59 (UOP),
- 61 (APS),
- 66 (ER4) and the
- Ops LAN powerup are complete

14-0568 (MSG 045) CHANNEL 2/3 POWER RECONFIGURATION DEFINITIONS TABLE
(ASSY OPS/12A.1/FIN/REAL-TIME) Page 1 of 20 pages

	Callout	Definition/Comment
	Initial Conditions	ADCO ❑ All GPS Antennas are on String 1 ODIN ❑ Tier 1 and 2 MDMs are powered from Channel 1/4 ❑ Verify Single Node Mighty Mouse PPL CATO ❑ S-Band String 2 configured for Primary ❑ UHF system configured to UHF-2 ❑ Audio and UHF FDIR inhibited ❑ IAC-1 Prime THOR ❑ ORUs preheated to proper temperature (Reference FR 12A.1_C2-84). ❑ P1 TRRJ in Directed Position (position dependent on β) S1 TRRJ parked at 0^{o} per FR 12A.1_B18-26 ❑ EATCS Loop B Fill Complete and ETCS pressure > 2592 kPa (376 psi): (Pressure will be rechecked in Block B8). ❑ IATCS in Single LT ECLSS ❑ LAB1P6 CCAA Operational PHALCON ❑ Payload racks off (except MELFI and ER4 - ER4 will be powered off in Block B16) ❑ A/L patch panel reconfiguration complete (A/L avionics powered from Channel 1/4 string) BME ❑ VOA powered down; Defib switch off (crew action) CIO UOPs and Ops LAN in proper configuration

	Callout	Definition/Comment
B1	Lab Systems Rack Jumper Installation	Avionics Rack Equipment Powerdown {4.303 CC MDM TRANSITION C: TRANSITIONING CC 3(1, 2) MDM FROM STANDBY(BACKUP) TO FAILED/DIAGNOSTIC/OFF} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER I) Power down CC 2. {4.602 VDS TRUNKLINE CONFIGURATION} (SODF: C&T: CORRECTIVE: VIDEO) Deact USOS trunk lines 1 to 13, 17 to 20, 23 to 29 and MSS trunk lines 6, 7 {1.603 VDS DEACTIVATION} (SODF: C&T: ACTIVATION AND CHECKOUT: VIDEO) SCU-2 and VSU-2 {4.202 AUDIO SUBSYSTEM DEACTIVATION} steps 11, 13 (SODF: C&T: CORRECTIVE: AUDIO) Deact IAC-2, ABC-2 {LAB SYSTEM RACK POWER JUMPER INSTALLATION LAB1D3 TO LAB1D5 (AV1 RACK)} (SODF: ASSY OPS: POWER RECONFIGURATION: S&M) Step 1 - performed by MCC-H Steps 2, 4 - performed by crew Step 3 - performed by MCC-H {4.406 INTERNAL MDM TRANSITION B: TRANSITIONING BACKUP MDM 1(2) FROM OFF TO STANDBY WHILE MDM 2(1) IS OPERATIONAL} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER II) Power up INT 2.

<table>
<tr><th></th><th>Callout</th><th>Definition/Comment</th></tr>
<tr><td>B2</td><td>Verify all Tier 1 and 2 MDMs are on Channel 1/4</td><td>Logical IDs:
<table>
<tr><th>Primary:</th><th>Other:</th></tr>
<tr><td>C&C-1</td><td>C&C-3 Backup
C&C-2 Standby</td></tr>
<tr><td>INT-1</td><td>INT-2 Off</td></tr>
<tr><td>GNC-1</td><td>GNC-2 Backup</td></tr>
<tr><td>PMCU-1</td><td>PMCU-2 Off</td></tr>
<tr><td>EXT-1</td><td>EXT-2 Off</td></tr>
<tr><td>PL-1</td><td>PL-2 Off</td></tr>
<tr><td>N1-2</td><td>N1-1 Secondary</td></tr>
</table></td></tr>
<tr><td>B3</td><td>RT FDIR Inhibits</td><td>ODIN FDIR INHIBIT script (reference DEC ALPHA)
This is a “nice to have” block that will prevent buses from switching.
Inhibit RT FDIR for RPCM and ORU to be powered off.</td></tr>
<tr><td>B4</td><td>Pre-EVA Config Script</td><td>Pre_EVA_FDIR_Config
Inh Recovery For GNC MDM
Inh BC Comm Fail
Inh Auto Trans to Diag for INT and PMCU
Suppress Caution & Warning for EVA</td></tr>
<tr><td>B5</td><td>ADCO Powerdowns</td><td>{2.608 GPS SHUTDOWN} (SODF: MCS: NOMINAL: ATTITUDE AND STATE DETERMINATION)
{2.606 RGA SHUTDOWN} (SODF: MCS: NOMINAL: ATTITUDE AND STATE DETERMINATION)</td></tr>
</table>

	Callout	Definition/Comment
B6	Configure Internal and External Video	VIDEO: {1.602 VDS CVIU POWERUP AND POWERDOWN} (SODF: C&T: ACTIVATION AND CHECKOUT: VIDEO) For powering down CVIUs 4, 5, 6, 8 {1.603 VDS DEACTIVATION} (SODF: C&T: ACTIVATION AND CHECKOUT: VIDEO) VSU-3 and EVSU-2 NOTE Comm equipment not powered off in this block or in block B1 is not powered down gracefully. Ku-Band is available until Block 21.
B7	Deactivate GNC 2 MDM	{4.403 GNC MDM TRANSITION C: TRANSITION BACKUP GNC MDM 2(1) FROM WAIT TO DIAGNOSTIC/OFF WHILE PRIMARY GNC MDM IS OPERATIONAL} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER II)
B8	{ETCS LOOP A(B) CONFIGURATION VERIFICATION} (SODF: ASSY OPS: POWER RECONFIGURATION: TCS)	Loop B ETCS Repress only if required, should not be necessary due to initial conditions. The repress takes ~20 minutes (if required). It is desired to perform the repress before time-critical activities begin. This repress is required to achieve a Pump Inlet Pressure of at least 2592 kPa at PM Activation time (reference FR 12A.1_B18-11).
B9	{CHANNEL 2/3 POWERDOWN TRUSS HEATER PREP} (SODF: ASSY OPS: POWER RECONFIGURATION: TCS)	Assures that T-stat heaters on Channel 1/4 are powered.
B10	{4.205 LAB IATCS RECONFIGURATION FOR LA2 MDM TRANSITION}, steps 1 to 8 (SODF: TCS: CORRECTIVE: IATCS) {4.235 LAB IATCS RECONFIGURATION FOR LA3 MDM TRANSITION OR FAILURE}, step 1 (SODF: TCS: CORRECTIVE: IATCS)	In step 2 of 4.205, do not inhibit FRITCS. Both procedures record applicable RFCA parameters prior to MDM deactivation. 4.205 also configures IFHX heaters as well as verifying stable ITCS performance prior to inhibiting TWMVs.
B11	{12A.1 SSAS HEATER RECONFIGURATION - CHANNEL 2/3}, step 1 (SODF: ASSY OPS: POWER RECONFIGURATION: S&M)	If required

	Callout	Definition/Comment
B12	Ops LAN Powerdown	Timelined for IV Crew. Half of all UOPs and SSCs unavailable after powerdown. Fileserver and OCA are not available.
B13	Open Defibrillator RPC	Crew turns the Defibrillator switch off the evening of FD05. This callout is for the ground to open the RPC to the defibrillator.
B14	ECLSS Power Downs	Prior to performing this block, the Shuttle Booster Fan should be activated (in timeline for post-sleep timeframe). The crew should be informed that they will lose one smoke detector in both the Node and Lab for the duration of the powerdowns (full smoke detection will be regained in block 63). {1.402 SMOKE DETECTOR DEACTIVATION}, steps 1 and 2 (SODF: ECLSS: ACTIVATION AND CHECKOUT: FDS) Node 1 Smoke Detector 2 LAB SD5 Smoke Detector {2.506 IMV VALVE RECONFIGURATION POST CCS}, step 4 (SODF: ECLSS: NOMINAL: THC) Node 1 Fwd Port IMV Valve Node 1 Fwd Stbd IMV Valve LAB Aft Port IMV Valve LAB Aft Stbd IMV Valve {1.504 IMV FAN ACTIVATION/DEACTIVATION POST CCS}, step 3 (SODF: ECLSS: ACTIVATION AND CHECKOUT: THC) LAB Fwd Stbd IMV Fan {1.511 CHECS RACK VENTILATION SHUTDOWN}, (SODF: ECLSS: ACTIVATION AND CHECKOUT: THC) LAB1D4 AAA and Smoke Detector

	Callout	Definition/Comment
B15	{EPS SYSTEM CONFIGURATION FOR EVA 2 POWERDOWN} (SODF: ASSY OPS: POWER RECONFIGURATION: EPS)	Part of this procedure instructs the ground to inform the crew that Rack Power Switches are being disabled. If the crew needs to use an RPS, they should use the PCS. This block cannot be performed until the Prime CC MDM is on Channel 1/4 (verified in Block B2). Inhibit Rack RPS Monitoring for LA 2 and LA 3 MDMs (must do prior to LA 2, 3 Deactivation). Confirm **MCC-M** prepared for CHT/ARCU powerdown. Turn on S1-1 CETA Light ; check heaters for Lab, S1-2, N1-2 CETA lights Configure FPMU power
B16	Payload Rack Configuration	Verify MELFI is configured on Channel 4A. Power off EXPRESS Rack 4. Since all racks are off, Smoke Detection is inhibited. LA 2 MDM controls LAB1O1, LAB1O2, LAB1O3, LAB1O4 and LAB1O5 smoke detectors. LA 3 MDM controls LAB1P2, LAB1P4, and LAB1S4 smoke detectors.
B17	Verify MSS is configured for Single String Ops	LAB RWS Active, SSRMS and MBS operational on Prime string.

	Callout	Definition/Comment
1	{2.315 HYGEINE BREAK}, steps 1 to 4 (SODF: ISS EVA SYS: OVERNIGHT CAMPOUT)	
2	{2.315 HYGEINE BREAK}, steps 16 to 20 (SODF: ISS EVA SYS: OVERNIGHT CAMPOUT)	Enable ISS Rapid Depress Response and Alarm. Inhibit A/L Rapid Depress and Alarm. Configure Depress Pump
3	{2.315 HYGEINE BREAK}, steps 5-15, 21-23, 25-30 (SODF: ISS EVA SYS: OVERNIGHT CAMPOUT)	- Mask Prebreathe Init - Repress A/L to 14.7 (step 12) - Open Hatch/Hygiene Break - Close Node 1 Stbd Hatch - Depress A/L to 10.2 (step 23)
4	{1.105 ISS AIRLOCK 10.2 PSIA OPERATIONS INITIATION}, step 8 (SODF: ISS EVA SYS: 10.2 PSIA OPS)	Enable A/L Rapid Depress Response and Alarm. Called from step 24 of Block 3. To be performed after the Airlock is depressed to 10.2 psi (step 23 of Block 3).
5	{2.320 10.2 PSIA CAMPOUT EVA PREP}, steps 1 to 21 (SODF: ISS EVA SYS: OVERNIGHT CAMPOUT)	EMU Prep for Donning
6	{2.320 10.2 PSIA CAMPOUT EVA PREP}, steps 22 to 74 (SODF: ISS EVA SYS: OVERNIGHT CAMPOUT)	- EMU Donning - EMU Check - EMU Suit Fan on (in step 55)
7	{1.220 EMU PURGE}, steps 1 to 5, 7 to 18, 20, 21 (SODF: ISS EVA SYS: EVA PREP/POST)	- Purge EMUs - A/L Repress to 14.7 (step 10) - Open Node 1 Stbd Hatch (step 11)
8	{1.110 ISS AIRLOCK 10.2 PSIA OPERATIONS TERMINATION }, step 1 (SODF: ISS EVA SYS: 10.2 PSIA OPS)	Inhibit ISS Rapid Depress Response and Alarm. This step can be performed as soon as the Suit Fan is on (Step 55 of Block 6) and must be performed prior to A/L repress (Step 10 of Block 7).

	Callout	Definition/Comment
9	{1.110 ISS AIRLOCK 10.2 PSIA OPERATIONS TERMINATION }, steps 2 to 7 (SODF: ISS EVA SYS: 10.2 PSIA OPS)	Enable ISS Rapid Depress Response and Alarm. Environment cleanup from 10.2 Ops. Perform this step after the Node 1 Stbd Hatch is open (Step 11 of Block 7).
10	{1.225 EMU PREBREATHE} (SODF: ISS EVA SYS: EVA PREP/POST)	- EMU Prebreathe - SAFER Donning - Ingress Crewlock
11	{CREWLOCK DEPRESS/REPRESS CUE CARD} (SODF: ISS EVA SYS: EVA PREP/POST)	Crewlock Depress to Vacuum
12	{1.302 ATMOSPHERE REVITALIZATION RACK DEACTIVATION}, steps 3, 6, 7 (SODF: ECLSS: ACTIVATION AND CHECKOUT: ARS)	Deactivates MCA, AAA, and Smoke Detector in the LAB1D6 rack (TCCS is deactivated earlier in the day). The MCA will not be unpowered until ECLSS can confirm PPO2 < 173 mm.
13	Deact LA 2 MDM	{4.503 LAB MDM TRANSITION C: TRANSITIONING LAB MDM FROM OPERATIONAL/MIN OPS TO STANDBY/DIAGNOSTIC/OFF} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER III) ❑ THOR: Must be in single LT (initial condition) ❑ PHALCON: Rack RPSs must be disabled (Block B15) ❑ ECLSS: Must be complete with Block B14.
14	Deact MDMs P3 2 PTR	{4.631 P3 MDM TRANSITION C: TRANSITIONING P3 MDM FROM NORMAL/WAIT TO WAIT/DIAGNOSTIC/OFF} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER III) {4.627 PTR MDM TRANSITION C: TRANSITIONING PTR MDM FROM NORMAL/WAIT TO WAIT/DIAGNOSTIC/OFF} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER III) The controlled deactivation of these MDMs can be skipped if EVA is ahead of **MCC** and it is desired to open RBI 6 prior to completing this block. Skipping this block will require ODIN clean up steps to be performed after powerup.

	Callout	Definition/Comment
15	Post Depress/Crewlock Egress	Reference EVA Timeline. PET 0:00 - 0:30
16	{1.110 ISS AIRLOCK 10.2 PSIA OPERATIONS TERMINATION}, step 8 (SODF: ISS EVA SYS: 10.2 PSIA OPS)	Disable Depress Pump.
17	Deactivate LA 3 MDM	{4.503 LAB MDM TRANSITION C: TRANSITIONING LAB MDM FROM OPERATIONAL/MIN OPS TO STANDBY/DIAGNOSTIC/OFF} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER III) ❑ THOR: Must be in single LT (initial condition). ❑ PHALCON: Rack RPSs must be disabled (Block B15). ❑ ELCSS: Must be complete with Blocks B14, 9, and 12.
18	Deactivate N1 Stbd Aft IMV Fan	{1.504 IMV FAN ACTIVATION/DEACTIVATION POST CCS}, step 3 (SODF: ECLSS: ACTIVATION AND CHECKOUT: THC) N1 Stbd Aft IMV Fan
19	Deactivate N1 2 MDM	{4.602 NODE 1 MDM TRANSITION B: N1-2 TO DIAGNOSTIC/STANDBY/OFF FROM PRIMARY AND N1-1 TO PRIMARY FROM SECONDARY} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER III) ❑ ECLSS: N1 Stbd Aft IMV Fan must be deactivated (Block 18). ❑ THOR: Node 1 Heater inhibits should be in place (Block B8).
20	Go for Powerdown	Everyone but PHALCON must be complete with powerdown activities. Crew should be informed of the impacts of opening RBI6: - lose 1/2 lights in Node and Lab - No comm with Russian Segment - No Lab Aft ATU - Big Loop available only through STS A/G

	Callout	Definition/Comment
21	{EPS CHANNEL 2/3 POWERDOWN FOR EVA 2} (SODF: ASSY OPS: POWER RECONFIGURATION: EPS)	All Thermostatically Controlled heaters are turned off. This block starts the Powerdown Thermal Clock (ends in Block 35). NOTE 1. P1 2, S1 2, and S0 2 MDMs are powered off nongracefully by this block. 2. Intermodule Comm goes down in this block with the RAIU. Ku goes down in this block with the HRM, HRFM, and VBSP. 2B RBI 6 open Verify 2A RBI 6 open.
22	Channel 2/3 Power Reconfigurations	Reference EVA Timeline. PET 00:30 - 02:00
23	{DDCU RACK 2 RECONFIGURATION} (SODF: ASSY OPS: POWER RECONFIGURATION: S&M)	DDCU LA2A and LA3B configured to allow parallel mode operations. Includes installing the Channel 2/3 - LAB Cable Assembly Jumper.
24	ECZ SEPS Thread script	Verify S1, P1, and S0 configuration after pulling power.
25	Load PMCU RT Existence Table Version 125 to Pri PMCU and new Load Shed Table	The PMCU RT Existence Table allows the PMCU to see the MBSU. This can be done earlier if needed, but alarms will be received because the PMCU will be looking for MBSUs that are not yet connected. Version 125 is designed for the configuration where Channel 2/3 has parallel DDCUs and Channel 1/4 does not. Must be done prior to Block 28.
26	Go for Powerup	EVA Power Reconfigurations, DDCU Patch Panel Reconfigurations, and ODIN's blocks must be complete for GO.
27	CETA Cart 2 Relocation	Reference EVA Timeline. PET 02:00 - 03:25

	Callout	Definition/Comment
28	{EPS/CDH CHANNEL 2/3 INITIAL POWERUP FOR ETCS ACTIVATION}, steps 1 to 16 (SODF: ASSY OPS: POWER RECONFIGURATION: EPS)	❑ MBSU 2 ❑ MBSU 3 ❑ DDCU P13A Power (converter not turned on until Block 33) ❑ DDCU S03B Power (converter not turned on until Block 51) ❑ DDCU LA2B Power (converter not turned on until Block 33) ❑ DDCU S02B Power and Converter On If an MBSU or DDCU failure is detected and EMU consumables support, an R&R of the failed box may be performed. Reference Flight Rule 12A.1_C2-87. If a failure is detected after the time which EMU consumables could support an R&R, a complete backout of the EVA Power Reconfigurations is required and the EPS will be returned back to the pre-12A.1 configuration for this channel. This block starts MBSU/DDCU Thermal Monitoring. Ends with Block 30. Constraints MBSU Baseplate temp < 45.5° C MBSU Power Supply Temp < 47.5° C DDCU Power Supply Temp < 57.5° C DDCU Converter Temp < 61.5° C
29	{EPS/CDH CHANNEL 2/3 INITIAL POWERUP FOR ETCS ACTIVATION}, steps 17 to end (SODF: ASSY OPS: POWER RECONFIGURATION: EPS)	❑ S0 2 MDM ❑ P1 2 MDM ❑ PTR MDM Powered (Activated in Block 32) Reference {12A.1 CRITICAL CONTINGNECIES DURING POWERUP AFTER COMPLETION OF EPS CH 2/3 RECONFIGURATION} (SODF: ASSY OPS: POWER RECONFIGURATION: CONTINGENCY) for workarounds if off-nominal activation.
30	{ETCS LOOP A(B) ACTIVATION AND CHECKOUT} for Loop B (SODF: ASSY OPS: POWER RECONFIGURATION: TCS)	Successful activation of the Pump Module in this procedure ends MBSU/DDCU Thermal Monitoring (started in Block 28). If the PM Activation is not successful, the power system must be put into a pre-EVA configuration, using the Full Backout Mal flowchart. A Pump Module R&R will be attempted at the next available opportunity. PHALCON will give GO for this block in Step 21 of Block 29.

	Callout	Definition/Comment
31	{CHANNEL 2/3 CRITICAL HEATER ACTIVATION} part 1 (SODF: ASSY OPS: POWER RECONFIGURATION: TCS)	This block ends part 1 of the Powerdown Thermal Clock (started in Block 21). The entire Powerdown Thermal Clock is ended in block 35.
32	Activate PTR MDM	{4.626 PTR MDM TRANSITION B: TRANSITIONING PTR MDM FROM OFF TO WAIT} (SODF: C&DH: CORRECTIVE) The RPC for the PTR MDM is closed in Step 25 of Block 29. Reference {12A.1 CRITICAL CONTINGENCIES DURING POWERUP AFTER COMPLETION OF EPS CH 2/3 RECONFIGURATION} (SODF: ASSY OPS: POWER RECONFIGURATION: CONTINGENCY) for workarounds if off-nominal activation. PTR MDM can be used to read RBVM pressures. The PTR MDM is activated at this time to prepare off-nominal activation of the P1-2 MDM.
33	{EPS CHANNEL 2/3 COMPLETE POWER DISTRIBUTION ACTIVATION} (SODF: ASSY OPS: POWER RECONFIGURATION: EPS)	❑ DDCU LA2B Converter On (powered in Block 28) ❑ DDCU LA3B Power and Converter On ❑ DDCU LA2A Power and Converter On ❑ DDCU P13A Converter On (powered in Block 28) ❑ DDCU Z13B Power and Converter On This block should be completed prior to proceeding with remaining blocks to allow PHALCON to bring up the most critical equipment first.
34	{CHANNEL 2/3 CRITICAL HEATER ACTIVATION} part 2 (SODF: ASSY OPS: POWER RECONFIGURATION: TCS)	This block ends part 2 of the Powerdown Thermal Clock (started in Block 21). The entire Powerdown Thermal Clock is ended in block 35.
35	Activate Truss MDMs P3 2 S1 2	This block ends part 3 the Powerdown Thermal Clock (started in block 21). With this block, all Powerdown Thermal Clocks have ended. {4.630 P3 MDM TRANSITION B: TRANSITIONING P3 MDM FROM OFF TO WAIT} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER III) {4.614 S1 MDM TRANSITION B: TRANSITIONING S1 MDM FROM OFF TO WAIT} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER III)

	Callout	Definition/Comment
36	MDM Activations LA 2 LA 3	{4.502 LAB MDM TRANSITION B: TRANSITIONING LAB MDM FROM OFF TO OPERATIONAL} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER III) Activate LA 2 {4.502 LAB MDM TRANSITION B: TRANSITIONING LAB MDM FROM OFF TO OPERATIONAL} (SODF: C&DH: CORRECTIVE) Activate LA 3
37	Core Systems Activations	{4.402 GNC MDM TRANSITION B: TRANSITIONING GNC BACKUP MDM 2(1) FROM OFF TO WAIT WHILE PRIMARY GNC IS OPERATIONAL} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER II) Activate GNC 2 {6.110 RECOVERY OF BACKUP GNC MDM} (SODF: GND: MCS: ACTIVATION AND CHECKOUT) {1.504 IMV FAN ACTIVATION/DEACTIVATION POST CCS}, steps 1 to 2 (SODF: ECLSS: ACTIVATION AND CHECKOUT: THC) Lab Fwd Stbd IMV Fan Node 1 Stbd Aft IMV Fan After Lab Fwd Stbd IMV Fan is on, the Booster Fan can be Deactivated. NOTE The purpose of this block is to allow certain systems to be brought up as soon as possible without being stepped on by “Free for All” commanding. “Free for All” steps should not be started until this block is complete.

	Callout	Definition/Comment
38	Ground Configuration Pre-Lab Systems Rack Jumper Removal	{4.603 NODE 1 MDM TRANSITION C: N1-2 TO PRIMARY FROM OFF/DIAGNOSTIC/STANDBY WHILE N1-1 IS PRIMARY} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER III) Activate N1 2 MDM {4.407 INTERNAL MDM TRANSITION C: TRANSITIONING BACKUP MDM 1(2) FROM STANDBY TO DIAGNOSTIC/OFF WHILE MDM 2(1) IS OPERATIONAL} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER II) Deactivate INT 2 Safe RPCs for Jumper Removal {LAB SYSTEM RACK POWER JUMPER INSTALLATION LAB1D3 TO LAB1D5 (AV1 RACK)}, step 1 (SODF: ASSY OPS: POWER RECONFIGURATION: S&M) Performed by MCC-H The Lab Systems Rack Jumper should be removed as soon as possible to reduce the amount of time that the CC MDMs are on the same power channel, but it can be deferred to the next day if necessary.
39	{LAB SYSTEM RACK POWER JUMPER INSTALLATION LAB1D3 TO LAB1D5 (AV1 RACK)}, steps 2 & 4 (SODF: ASSY OPS: POWER RECONFIGURATION: S&M)	Crew actions to return power from Channel 2/3 to AV Rack 1, LAB1D5.
40	Ground Configuration Post Lab Systems Rack Jumper Removal	{LAB SYSTEM RACK POWER JUMPER INSTALLATION LAB1D3 TO LAB1D5 (AV1 RACK)}, step 3 (SODF: ASSY OPS: POWER RECONFIGURATION: S&M) Performed by MCC-H {4.302 CC MDM TRANSITION B: TRANSITIONING CC 3(1,2) MDM FROM OFF TO STANDBY(BACKUP)} (SODF: C&DH: CORRECTIVE: MDM STATE TRANSITIONS TIER I) CC 2 Activation After this block is complete, CATO can powerup his equipment in Av Rack 1, per block 65.

	Callout	Definition/Comment
41	CETA Cart 1 Relocation	Reference EVA Timeline. PET 03:25 - 04:35 EVA must be told prior to the start of the second CETA Cart (Cart 1) relocation whether or not an MBSU or DDCU R&R will be required to allow time for R&R completion. Determination of whether to do an R&R or not will be made based on Suit Consumables.
42	Ground Config for OIU Commanding	Start ~40 minutes prior to EV crew performing the Z1 Patch Panel 2 Reconfiguration. Swing command link to OIU {2.402 S-BAND STRING SWAP} (SODF: WARNING: CTG) Swap S-band Return link to String 1 Ensure FEP processing S-band return
43	{2.202 CMG SHUTDOWN} (SODF: MCS: NOMINAL: CMGs)	Start ~30 minutes prior to EV crew performing the Z1 Patch Panel 2 Reconfiguration. Disconnect Spin Motor from CMGs 2. CMG 3 is not spun up, but still needs to be powered off CMG 2 will not be completely spun down.
44	Comm Powerdowns	{1.305 KU-BAND ORU DEACTIVATION} steps 1, 3 to 5 (SODF: C&T: ACTIVATION AND CHECKOUT: KU BAND) {1.403 S-BAND ORU DEACTIVATION} (SODF: C&T: ACTIVATION AND CHECKOUT: S-BAND) for String 2 S-band Starts Ku-band Thermal Clock. End in Block 54 Start ~30 minutes prior to EV crew performing the Z1 Patch Panel 2 Reconfiguration.
45	**MCC-M** Powerdown FGB ARCUs 51, 52 & SM CHTs 23, 24	Start ~30 minutes prior to EV crew performing the Z1 Patch Panel 2 Reconfiguration.
46	SSRMS FMS MLI Installation	Reference EVA Timeline. PET 04:35-04:55
47	{Z1 CPP X2 (SPDA Z13B) RECONFIG}, steps 1 to 6 (SODF: ASSY OPS: POWER RECONFIGURATION: EPS)	Inhibit for Z1 Patch Panel 2 Reconfiguration. Includes positioning the 2B array for plasma protection
48	Stbd and Port QD Bag Installation	Reference EVA Timeline. PET 04:55-05:15 (EV2)

	Callout	Definition/Comment
49	Z1-006 Patch Panel 2 Reconfiguration (SPDA Z1-3B)	Reference EVA Timeline. PET 04:55-05:15 (EV1)
50	EVA 2 Cleanup	Reference EVA Timeline. PET 05:15 - 05:35
51	{Z1 CPP X2 (SPDA Z13B) RECONFIGURATION}, steps 7 to end (SODF: ASSY OPS: POWER RECONFIGURATION: EPS)	DDCU S0-3B Converter On (powered in Block 28). **MCC-M** activates FGB 2/3 ARCUs and SM CHTs per plan. BGA 2B Nominal Configuration.
52	Crewlock Ingress/Pre-Repress	Reference EVA Timeline. PET 05:35 - 06:00
53	{1.240 POST EVA} (SODF: ISS EVA SYS: EVA PREP/POST)	
54	Comm System React	{1.304 KU-BAND ORU ACTIVATION} (SODF: C&T: ACTIVATION AND CHECKOUT: KU BAND) Repower SGANT, VBSP, HRFM, HRM, TRC {2.241 KU-BAND PAYLOAD CHANNEL CONFIGURATION} (SODF: GROUND: C&T: NOMINAL) {2.242 KU-BAND VIDEO CHANNEL CONFIGURATION} (SODF: GROUND: C&T: NOMINAL) {1.401 S-BAND ORU ACTIVATION}, (SODF: C&T: ACTIVATION AND CHECKOUT: S-BAND) Repower S-Band 2: BSP, XPDR, RFG {2.303 S-BAND HIGH DATA RATE CONFIGURATION AND LINK ACTIVATION }, steps 1, 2, 3, and 8 (SODF: C&T: NOMINAL: S-BAND) S-band String swap & String 1 Deact Ends Ku-band Thermal Clock (started in Block 44).

	Callout	Definition/Comment
55	{2.203 CMG SPIN UP}, Recover CMGs 2 and 3 (SODF: MCS: NOMINAL: CMGS)	CMG 2 will be spun up to 6600 rpm. CMG 3 will be repowered but will not be spun up and will not be incorporated into the control law. NOTE The CMG will require ~1 hour to spin up to 6600 rpm, but this block is complete as soon as the commanding is complete.
56	ADCO Free for All	{2.607 GPS STARTUP} (SODF: MCS: NOMINAL: ATTITUDE AND STATE DETERMINATION) {2.605 RGA STARTUP} (SODF: MCS: NOMINAL: ATTITUDE AND STATE DETERMINATION) {2.206 CMG SURVIVAL HEATER POWERUP} (SODF: MCS: NOMINAL: CMGS)
57	Verify MSS Configured for Dual String Ops	Power MBS to Keep-Alive on redundant string. Verify PHALCON/THOR scripts have repowered the MT.
58	{12A.1 SSAS HEATER RECONFIGURATION - CHANNEL 2/3}, steps 2 to 6 (SODF: ASSY OPS: POWER RECONFIGURATION: S&M)	
59	{EPS LOAD RECONFIGURATION POST EVA 2} (SODF: ASSY OPS: POWER RECONFIGURATION: EPS)	LA 2 and LA 3 MDMs must be up before these steps can be performed. Set Rack RPS Availability for LA 2 and LA 3 MDMs Enable Rack RPS Close RPCs to Loads Heaters Lights UOPs TUS VSC Power Activate SARJ Redundant String Power off S1-1 CETA Light
60	RT FDIR Enable	ODIN RT FDIR Enable Script (reference DEC ALPHA)
61	ODIN Free for All	Post-EVA FDIR Configuration Activate APS-2 and PEHG-2.

	Callout	Definition/Comment
62	THOR Free For All	This procedure reinitializes Loop B String 2 after the reconfiguration powerdown. MBSU 2 and DDCU S02B activation in block 29 and the P1-2 MDM activation in block 35 are required for this procedure: {2.405 LOOP A(B) TRRJ STRING 1 TO STRING 2 SWITCHOVER} steps 1-6 (SODF: TCS: NOMINAL: TRRJ) For Loop A {2.417 LOOP A(B) TRRJ INITIATE DIRECTED POSITION OR AUTOTRACK} (SODF: TCS: NOMINAL: TRRJ) For Loop A: Directed position at Γ = -30° {2.403 LOOP B TRRJ INITIALIZE STRING 1(2)} (SODF: TCS: NOMINAL: TRRJ) This procedure will put the Node1 and PMA1 shell heaters back in a nominal configuration. DDCU Z13B activation in Block 33 and N1-2 MDM activation in block 38 are requried for this procedure. {9.230 NODE1/PMA1 HEATER RECOVERY} (SODF: GND SYS: TCS: NOMINAL) This procedure activated survival heaters on the S0, S1 and P1 trusses in 2 parts. DDCU S02B activation in Block 28 and S0-2 and P1-2 MDM activation in Block 29 are required for part 1 and DDCU P13A activation in block 33 is required for part 2. {CHANNEL 2/3 NON-CRITICAL HEATER ACTIVATION} (SODF: ASSY OPS: POWER RECONFIGURATION: TCS) These procedures returns the ITCS to a nominal Single LT mode after the LA2 MDM recovery. DDCU LA2B activation in Block 33 and LA2 MDM activation in Block 36 are required for these procedures. {2.204 LAB IATCS TRANSITION TO SINGLE LT (AUTO)}, step 1 (SODF: TCS: NOMINAL: IATCS) Verifies RPC positions before subsequent transition attempts. {4.205 LAB IATCS RECONFIGURATION FOR LA2 MDM TRANSITION}, steps 9-12 (SODF: TCS: CORRECTIVE: IATCS) {4.235 LAB IATCS RECONFIGURATION FOR LA 3 MDM TRANSITION OR FAILURE}, step 2 (SODF: TCS: CORRECTIVE: IATCS) HCOR must be activated and the MELFI Brayton Motor must be powered off prior to configuring for transition to Single MT (block 66). {2.205 LAB IATCS TRANSITION TO SINGLE MT (AUTO)}, (SODF: TCS: NOMINAL: IATCS)

	Callout	Definition/Comment
63	ECLSS Free for All	{1.301 ATMOSPHERE REVITALIZATION RACK ACTIVATION} (SODF: ECLSS: ACTIVATION AND CHECKOUT: ARS) CDRA will be powered after EVA 2 and is needed for METOX Regen. Will be powered per timelined activity, not per this block. {1.508 CHECS RACK VENTILATION STARTUP} (SODF: ECLSS: ACTIVATION AND CHECKOUT: ARS) {1.401 SMOKE DETECTOR ACTIVATION} (SODF: ECLSS: ACTIVATION AND CHECKOUT: FDS) N1 SD2 LAB SD5 {2.506 IMV VALVE RECONFIGURATION POST CCS}, step 1 (SODF: ECLSS: NOMINAL: THC) Node 1 Fwd Port IMV Vlv Node 1 Fwd Stbd IMV Vlv Lab Aft Port IMV Vlv Lab Aft Stbd IMV Vlv
64	{2.0.050 CHECS HARDWARE POWERDOWN AND POWERUP} steps 5.1, 5.2 (SODF: MED OPS: NOMINAL: CHECS GENERIC)	This block can be performed after ECLSS has performed 1.508 CHECS Rack Ventilation Startup (block 63) Close RPC to Defibrillator. Crew actions to flip switch are included in timeline and should not be performed until after this block is complete.

	Callout	Definition/Comment
65	CATO Free for All	Equipment in Av Rack 1 cannot be activated until after the Lab Systems Rack Jumper is removed (block 40). {2.703 UHF 2 ORU ACTIVATION} (SODF: C&T: NOMINAL: UHF) Enable UHF FDIR Enable Audio FDIR (no SODF procedure) {2.205 AUDIO SUBSYSTEM NOMINAL VOICE LOOPS SETUP} (SODF: C&T: NOMINAL: AUDIO) Activate ABC-2, AUAI1P, ATU1, and RAIU {2.212 AUDIO SUBSYSTEM CONFIGURATION FOR DOCKED OPS} (SODF: C&T: NOMINAL: AUDIO) {1.701 HCOR ACTIVATION} (SODF: C&T: ACTIVATION AND CHECKOUT: HCOR) {1.601 VDS ACTIVATION} (SODF: C&T: ACTIVATION AND CHECKOUT: VIDEO) For both VSUs {4.602 VDS TRUNKLINE CONFIGURATION} (SODF: C&T: CORRECTIVE: VIDEO) NOTE Comm checks are desired after the Internal Audio configuration is complete; therefore, it is desired that this block be completed 2 hours prior to crew sleep. If not completed before sleep, comm checks should be performed after crew wake. The UHF will remain powered and functioning as the big loop until checks are performed.
66	POIC Free For All	MELFI Rack Configuration to Channel 2A {1.701 HCOR ACTIVATION} steps 5-end (SODF: C&T: ACTIVATION AND CHECKOUT: HCOR) Perform this after CATO performs the first 4 steps of this procedure (block 65). HCOR must be activated prior to THOR switching to single MT Repower EXPRESS Rack 4 Power Off MELFI Brayton Motor Must be complete prior to THOR performing TCS 4.235 (block 62).

Interactions between Ground and Crew -Channel 2/3 Power Reconfiguration

Flowchart Block	Activity	Performed by	Notes
Blocks 1-10	EVA Prep	IVs, EVs, ground	Timelined activties, am FD06
B1	Lab Systems Rack Jumper Installation	MS1	Timelined activty, am FD06
B12	Ops Lan Powerdown	FE-2	Timelined activty, am FD06
Prior to B13	HMS-DEFIB PDIM-OFF (turn off Defibrillator)	ISS CDR	Timelined activity, evening of FD05
Prior to B14	Booster Fan Activation	STS CDR	Timelined activty, am FD06
B14	ECLSS Powerdowns	ground	Lose 1/2 smoke detection in Lab and Node
B15	EPS System Configuration for EVA 2 Powerdown	ground	Rack Power Switches (RPSs) disabled.
21	EPS Channel 2/3 Powerdown for EVA 2	ground	**Inhibits for EVA Activity:** Channel 2/3 Power Reconfigurations. Crew will lose 1/2 lights in Lab and Node, No comm with RS, No Lab Aft ATU, Big Loop thru STS only
23	DDCU Rack 2 Reconfiguration	FE-1, FE-2	Scheduled in timeline, must be done during powerdown
28	EPS/CDH Channel 2/3 Initial Powerup for ETCS Act	ground	If successful, no MBSU or DDCU R&R required
30	ETCS Loop A(B) Activation and Checkout (for Loop B)	ground	If successful, no PM R&R required
37	After Lab Fwd Stbd IMV Fan Activation, go for Booster Fan Deact	STS CDR	Timelined activty, pm FD06
39	Lab System Rack Jumper Removal	MS1	Timelined activty, pm FD06
Before 42	OIU Activation	MS1	Timelined activty, am FD06; OIU required for Z1 Patch Panel Reconfig
47	Z1 CPP X2 (SPDA Z13B) Reconfig	ground	**Inhibits for EVA Activity:** Z1-006 Patch Panel 2 Reconfig (SPDA Z1-3B). No visible impacts.
After 59	EPS Load Reconfig Post EVA 2	ground	Crew go for Ops LAN Powerup
After:			OCA Available
40	Av Rack 1 Powered	ground	
59	UOPs Powered	ground	
61	APS Powered	ground	
66	EXPRESS Rack 4 Powered (Ku-band Fwd Receiver)	ground	
Ops LAN Powerup	Ops LAN equipment powered	FE-2	
After 64	HMS-DEFIB PDIM-ON (turn on Defibrillator)	FE-1	Timelined activity, am FD07

The FD 5 MMT was brief and reviewed a few minor EVA and orbiter anomalies. Both the ISS and Shuttle MMT were very pleased with your hard work and outstanding execution of EVA 1. The team also appreciated the great imagery of Port RCC panel 19-22 obtained via the shuttle RMS at the end of FD4. The Imagery teams continue to review that data and again these panels look very healthy and ready for entry (See Figure 1). There were no significant decisions made during the meeting today.

Ascent/On-Orbit Imagery - The Orbit TPS imagery review is now complete and one final item was noted on the aft part of the vehicle. This item is the dome heat shield blanket patch that is debonded (See Figure 2). This item is obviously no concern for entry since it on the very aft part of the vehicle in a benign thermal environment.

All of the ascent video has been received and we expect the SRB camera video to be presented to the MMT tomorrow. In general the imagery obtained for the night launch has been very good and has produced better than expected photography. The most significant debris event observed in this imagery is ET foam missing from the -Z side of the intertank flange between stringers 14 and 16 (See Figure 3). The missing foam is approximately 14 inches long and spans the width of flange closeout. This foam is from the back side of the ET, outside the critical debris zone, and in an area that was not reworked as part of the return to flight effort. Similar foam losses from this area have occurred on previous missions.

Finally, the MADS ascent data review is complete and no problems have been detected with any of the pressure, temperature, or strain parameters.

Middeck and Spacehab Transfer Status - As of FD4, Middeck and Spacehab transfers are approximately 16% complete, which is slightly ahead of schedule for this point in the mission

ISS O2 Transfer- A total of 70 lbs of O2 was transferred to the ISS. This was margin above the 12+2 day mission.

Solar Event - The MMT discussed the geomagnetic event at the end of EVA 1 and the predicted activity for the next 48 hours. Space weather conditions for the past 24 hours have been at high levels due to a flare that was observed from Solar Region 930. Space weather conditions are expected to remain at moderate levels for the immediate future. The Space Radiation Analysis Group will continue to closely monitor this region for changes and activity.

EVA 2 is in a very good location in terms of grountrack and there are no plans to alter the EVA. There is a slight possibility of higher levels at the end of EVA 2 if another event occurs but these will be managed within the existing flight rules.

SRB/RSRM Performance- The preliminary ascent review indicates nominal SRB/RSRM performance. The post flight assessment continues and preliminary visual observations look good.

PGT Socket Extension - The PGT socket extension that was lost overboard during EVA 1 was briefly discussed. We know it traveled to the port of the stack but do not know if it was posigrade or retrograde. Due to the size, mass, and low velocity of separation it may stay in the vicinity of the stack for a few days. The team is not concerned about this object and will try to obtain ground radar tracking on the object over the next few days.

Docked Audio Interface - The team continues to work on troubleshooting plans for the docked audio A/G 1 and ICOM anomalies. Expect this plan around FD 9. If crew time permits it is important to troubleshoot this problem during the STS-116 mission while the docked configuration exists.

Figure 1: Port Panel 19-22 Area viewed from SRMS

Figure 2: Dome Heat Shield Blanket Debond

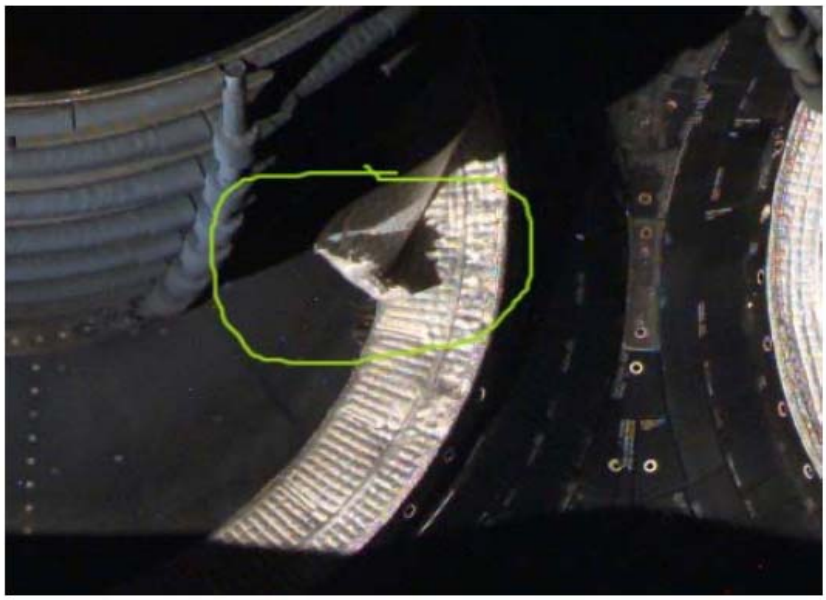

Figure 3: ET foam on –Z side of LH2 Intertank flange