



# STS-133/ULF5

## FD 10 Execute Package

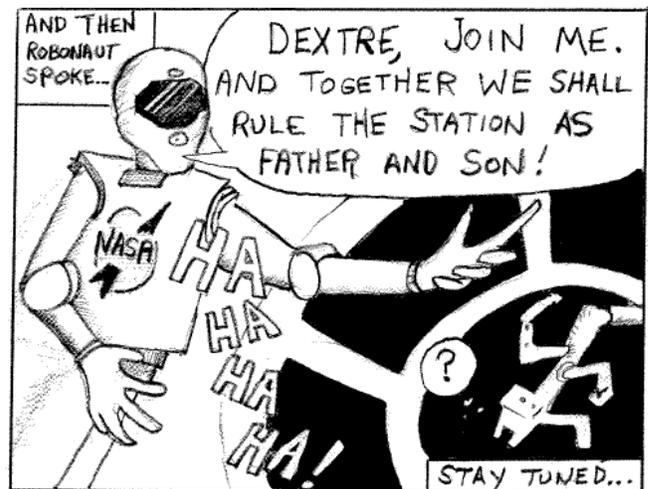
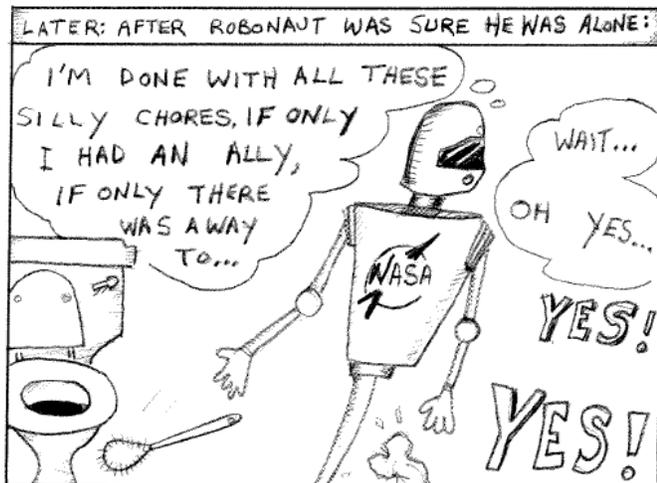
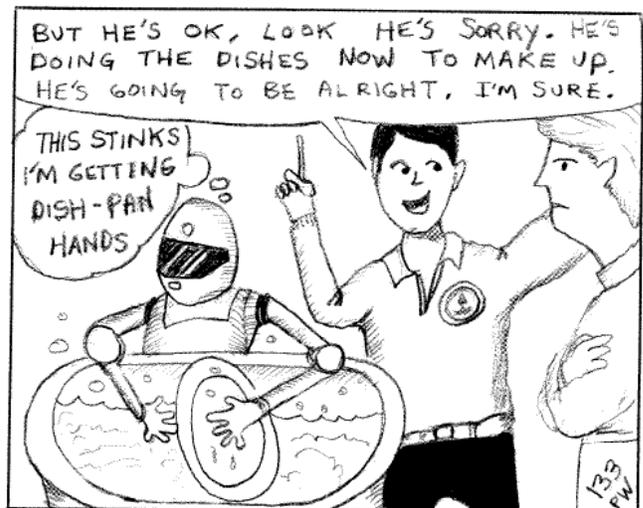
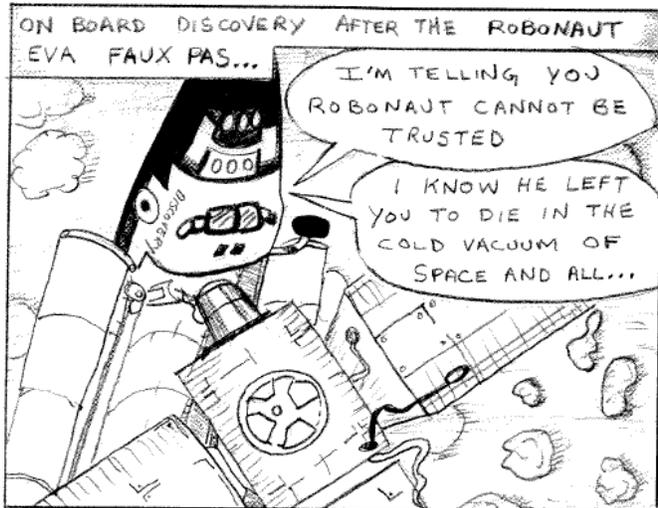
MSG	Page(s)	Title
080A	1 - 17	FD10 Flight Plan Revision
081	18 - 19	FD10 Mission Summary
082	20	FD10 Transfer Message
078A	21	AR1 CDRA Bed 202 Failed Heater Isolation and Recovery - Big Picture Words
079A	---	AR1 CDRA BED 202 Failed Heater Isolation and Recovery
083	---	AR1 CDRA BED 202 Failed Heater Isolation and Recovery - Tables
084	---	9.5.109 ZSR Transfer from PMM1S1 to COL1F2
085B	---	ULF5 Unpack List
086A	---	HTV2 Cargo Ops During ULF5
087	22 - 33	PMM Reconfig Activities for FD10

**Approved by FAO:**

Crystal Hyde

Last Updated: Mar 5 2011 8:13 AM GMT

**JEDI** (Joint Execute package Development and Integration), v3.0



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# MSG 080A (26-0966A) - FD10 FLIGHT PLAN REVISION

Page 1 of 17

## MSG INDEX

MSG NO.	TITLE
080	FD10 Flight Plan Revision (26-0966)
081	FD10 Mission Summary
082	FD10 Transfer Message (26-0967)
078	AR1 CDRA Bed 202 Failed Heater Isolation and Recovery - Big Picture Words (26-0951)
079	AR1 CDRA BED 202 Failed Heater Isolation and Recovery (26-0950)
083	AR1 CDRA BED 202 Failed Heater Isolation and Recovery -Tables (26-0961)
084	9.5.109 ZSR Transfer from PMM1S1 to COL1F2 (26-0776)
085	ULF5 Unpack List (26-0837)
086	HTV2 Cargo Ops During ULF5 (26-0963)
087	PMM Reconfig Activities for FD10 (26-0965)

1. **STS-133/ULF5 FD09 - MMT Summary** - The MMT met very briefly today to review the orbiter systems and mission progress. Your spaceship Discovery continues to perform flawlessly and the teams are working no issues. Have a great day!

## 2. Comm Loop Overview

### FD10 GENERAL COMMUNICATION LOOP OVERVIEW

S/G 1 & A/G 1	S/G 2	A/G 2
<ul style="list-style-type: none"><li>PAO Downlink</li></ul>	<ul style="list-style-type: none"><li>ISS Payloads</li><li>Russian Ops</li><li>DPC</li><li>OGS Maintenance</li><li>CDRA Maintenance</li><li>All other ISS Comm</li></ul>	<ul style="list-style-type: none"><li>PMM Outfitting</li><li>All Transfer</li><li>All other STS Comm</li></ul>

3. **Communication** - As noted in the comm. plan, to better manage the calls to the ground, the PMM outfitting and all transfer will be handled by the White FCR on A/G 2.

4. **H2O Ops Stowage Update** - Due to your report yesterday of JLP1A1 being full, you may continue stowing newly filled CWC-Is at JLP1P1. Mark this as an alternate stowage location on your Cue Card.

5. **Condensate Bag Status** - Please provide MCC with an estimate of how full condensate CWC S/N 1062 (on the middeck) is at your convenience.

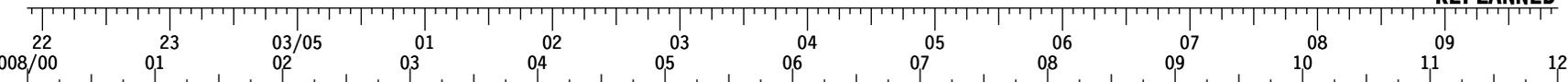
6. **Mike** - Today you will be performing an activity to identify and isolate a failed CDRA heater in the AR1 (LAB) CDRA Bed 202. Big Picture Words for this activity can be found in MSG 078A and the procedure in MSG 079A (which were updated overnight). The tables for this procedure can be found in MSG 083.

7. Replace pages 2-32 through 2-37 and 3-102 through 3-111.

REPLANNED

GMT 03/04/11 (063)

MET Day 008



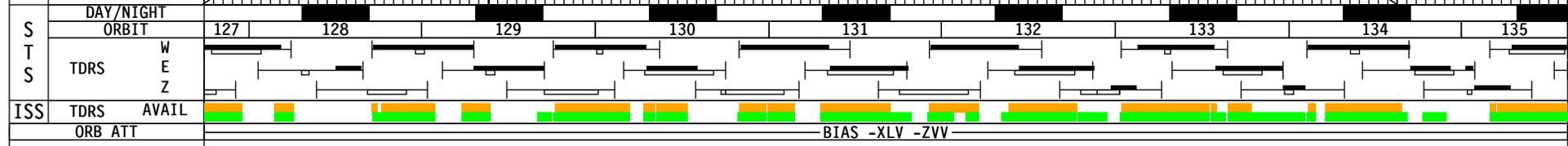
STS-133	<p><b>FD09</b></p> <p>CDR LINDSEY</p> <p>PRE SLP    PMC A/G</p> <p>PRE SLEEP</p> <p>SLEEP</p> <p>POST SLEEP</p>
	<p>PLT BOE</p> <p>PRE SLEEP</p> <p>SLEEP</p> <p>POST SLEEP</p>
	<p>MS1 DREW</p> <p>PRE SLEEP</p> <p>SLEEP</p> <p>POST SLEEP</p>
	<p>MS2 BOWEN</p> <p>PRE SLEEP</p> <p>SLEEP</p> <p>POST SLEEP</p>
	<p>MS3 BARRATT</p> <p>PSX B RLFR EEI EER EP</p> <p>PRE SLEEP</p> <p>SLEEP</p> <p>POST SLEEP</p>
	<p>MS4 STOTT</p> <p>PRE SLEEP</p> <p>SLEEP</p> <p>POST SLEEP</p>

ISS EXTERNAL SURVEYS

LOG

LOG

MC  
YL  
CC  
OT



NOTES

REPLANNED

GMT 03/04/11 (063)		22	23	03/05	01	02	03	04	05	06	07	08	09	12		
MET Day 008		008/00	01	02	03	04	05	06	07	08	09	10	11	12		
ISS	TDRS	AVAIL														
ISS	<b>FD09</b>		X													
	ISS CDR S. KELLY	PRE SLEEP-ISS							SLEEP						POST SLEEP	P W
	FE-1 KALERI	PRE SLEEP-ISS							SLEEP						POST SLEEP	P W
	FE-2 SKRIPCHKA	PRE SLEEP-ISS							SLEEP						POST SLEEP	P W
	FE-4 KONDRATYEV	PRE SLEEP-ISS							SLEEP						POST SLEEP	P W
	FE-5 NESPOLI	PRE SLEEP-ISS							SLEEP						MYCO MELF*	POST SLEEP
FE-6 COLEMAN	PRE SLEEP-ISS							SLEEP						DRY MYCO	POST SLEEP	P W
DAY/NIGHT			■		■		■		■		■		■			
ORBIT		127	128	129	130	131	132	133	134	135						
ALL VHF																
NOTES														*POST SLEEP *MYCO INSERT		

REPLANNED

GMT 03/05/11 (064)

10 11 12 13 14 15 16 17 18 19 20 21 22 23 009/00

MET Day 008

STS - 1 3 3	<b>FD10</b> CDR LINDSEY	POST SLEEP	I L L - O	EXERCISE	I M U	PMM/HTV2 RCNFG	MEAL	PMM/HTV2 RCNFG	O 2 - I	H 2 - I	PRE SLEEP		
	PLT BOE	POST SLEEP	W S C S #	P R C M N / F H G T V 2	EXERCISE	PMM/HTV2 RCNFG	MEAL	PMM/HTV2 RCNFG			PRE SLEEP		
	MS1 DREW	POST SLEEP		PMM/HTV2 RCNFG	EXERCISE	PMM/HTV2 RCNFG	MEAL	C F W I C L - I # 1 2	C F W I C L - I # 1 3	PMM/HTV2 RCNFG	C F W I C L - I # 1 4	C X F C E R - I	PRE SLEEP
	MS2 BOWEN	POST SLEEP		PMM/HTV2 RCNFG	EXERCISE	PMM/HTV2 RCNFG	MEAL			PMM/HTV2 RCNFG		PRE SLEEP	
	MS3 BARRATT	POST SLEEP		LAB-CDRA BED-RMV	LAB-CDRA J1-TEST	EXERCISE	MEAL	LAB-CDRA HTR-ISO	LAB-CDRA BED-INST	PMM/HTV2 RCNFG		PRE SLEEP	
	MS4 STOTT	POST SLEEP	A E M >	M D D K #		PMM/HTV2 RCNFG	MEAL			PMM/HTV2 RCNFG	EXERCISE	M D D K #	PRE SLEEP

STS	DAY/NIGHT	[Day/Night Cycle]											
	ORBIT	135	136	137	138	139	140	141	142	143			
ISS	TDRS	[TDRS Schedule]											
	W E Z	[W E Z Schedule]											
	AVAIL	[AVAIL Schedule]											
	ORB ATT	BIAS -XLV -ZVV											

NOTES #COMPACT %FILTER CK ^STATUS CHECK #STATUS CHECK \*NOMINAL CONFIG #STATUS CHECK

GMT 03/05/11 (064)

MET Day 008

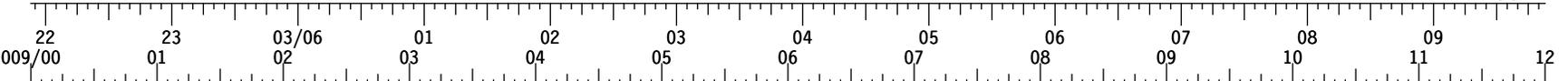
009/00

ISS	TDRS	AVAIL	10	11	12	13	14	15	16	17	18	19	20	21	22	23						
ISS	<b>FD10</b>		DPC	OGS QD	OGS GATHER	OGS SETUP		OGS FLTR INST	ARED	MIDDAY-MEAL	OGS LK CK SMP	OGS APT INST	FFQ	CWCI P T 1	URINE SMPL	CWCI P T 2	⊕	◆	CEVIS	DPC	PW	
	<b>FE-1 KALERI</b>		DPC	PW	KPT END	COGCMNT	EXERCISE-TVIS-БИ-1			MIDDAY-MEAL	COX-MNT								TVIS	DPC	PW	
	<b>FE-2 SKRIPCHKA</b>		DPC	PW	⊗		EXERCISE-TVIS-FE2		MIDDAY-MEAL						ARED					DPC	PW	
	<b>FE-4 KONDRATYEV</b>		DPC	PW	MO-2 TRM				MIDDAY-MEAL					EXERCISE-TVIS-БИ-4	ARED					DPC	PW	
	<b>FE-5 NESPOLI</b>		DPC	PW		ARED	FFQ	LAB-CDRA J1-TEST	CEVIS	MIDDAY-MEAL	LAB-CDRA HTR-ISO			BIO P/T V	SMC ROT	BC/OO	POS ROT	SODF XFER	PRE TVCASTE		DPC	PW
	<b>FE-6 COLEMAN</b>		DPC	PW	ONLINE	PMM HTV2 RCNFG	ARED	PMM/HTV2-RECONFIG	S/U	φ	P/AO	MIDDAY-MEAL	PMM/HTV2-RECONFIG		CEVIS				MICB MDS PHOTO	MELF &	DPC	PW
DAY/NIGHT																						
ORBIT			135	136	137	138	139	140	141	142	143											
ALL VHF																						
NOTES			⊗TEX-15-DAK-DNLD_FE2    ◆OGS PRE FLUSH    φPAO EVENT    ⊕OGS-FLTR-REMLV    & MICB MDS INS ▲ACS-VL013-OPEN    ♥RK DRS OPEN    ◆OGS-CLOSEOUT    ΔRK DRS CLS																			

REPLANNED

GMT 03/05/11 (064)

MET Day 009

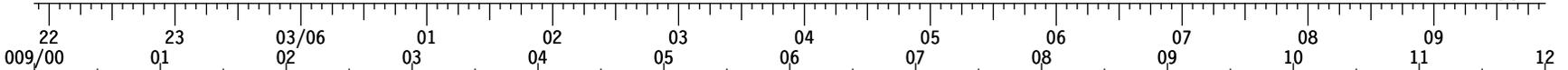


STS-133	FD10	PS RL EE EP	OR 2 TT	PS RL EE EP	PMC A/G	PRE SLEEP	SLEEP	POST SLEEP	
	CDR LINDSEY								
	PLT BOE					PRE SLEEP	SLEEP	LOG POST SLEEP	
	MS1 DREW					PRE SLEEP	SLEEP	LOG POST SLEEP	
	MS2 BOWEN					PRE SLEEP	SLEEP	POST SLEEP	
	MS3 BARRATT					PRE SLEEP	SLEEP	LOG POST SLEEP	
MS4 STOTT					PRE SLEEP	SLEEP	POST SLEEP		
STS	DAY/NIGHT	[Day/Night Cycle]							
	ORBIT	143	144	145	146	147	148	149	150
ISS	TDRS W E Z	[TDRS Activity]							
	TDRS AVAIL	[TDRS Availability]							
	ORB ATT	BIAS -XLV -ZVV							
	NOTES								

REPLANNED

GMT 03/05/11 (064)

MET Day 009

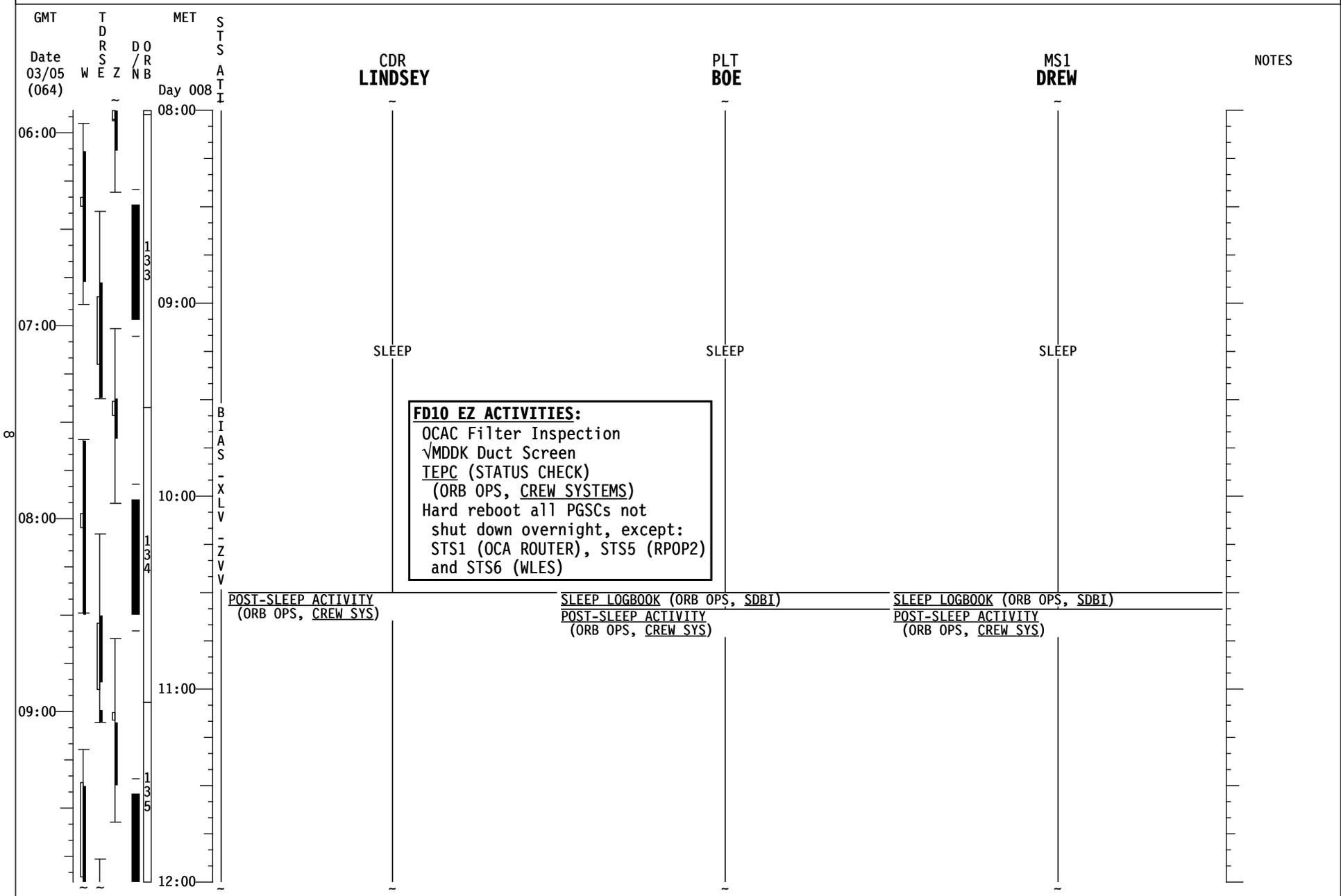


ISS	TDRS	AVAIL	Timeline (22-12)												
ISS	<b>FD10</b>		[Color-coded activity bars]												
	ISS CDR <b>S. KELLY</b>	PRE SLEEP-ISS	SLEEP						POST SLEEP						D P C
	FE-1 <b>KALERI</b>	PRE SLEEP-ISS	SLEEP						POST SLEEP						D P C
	FE-2 <b>SKRIPCHKA</b>	PRE SLEEP-ISS	SLEEP						POST SLEEP						D P C
	FE-4 <b>KONDRATYEV</b>	PRE SLEEP-ISS	SLEEP						POST SLEEP						D P C
	FE-5 <b>NESPOLI</b>	PRE SLEEP-ISS	SLEEP						POST SLEEP						D P C
FE-6 <b>COLEMAN</b>	PRE SLEEP-ISS	SLEEP						POST SLEEP						D P C	
DAY/NIGHT			[Day/Night cycle bars]												
ORBIT			143	144	145	146	147	148	149	150	151				
ALL VHF			[VHF activity bars]												
NOTES															

\*СОГС-ЭЛКТ-АФ-БК-МОН  
⊕POST SLEEP

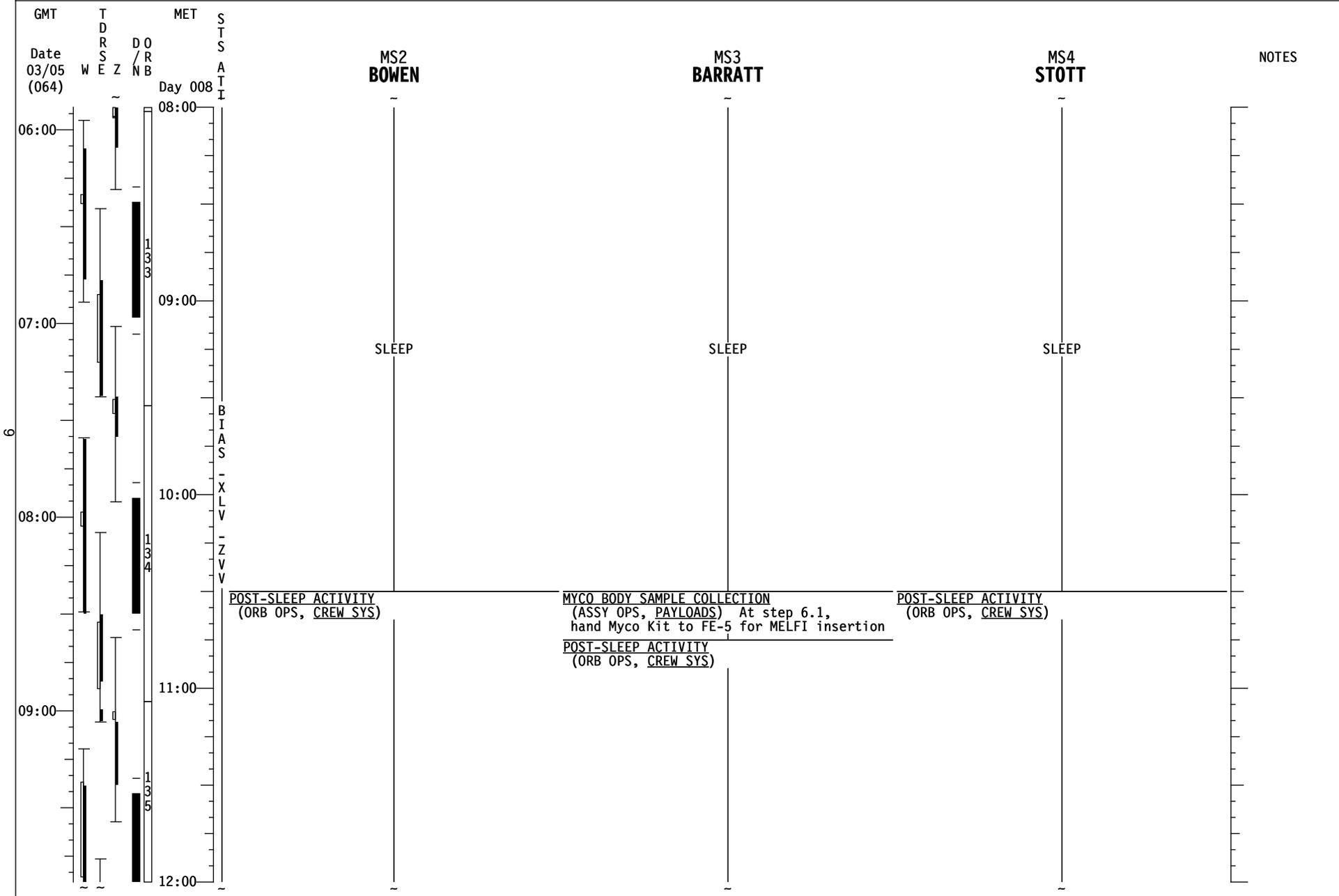
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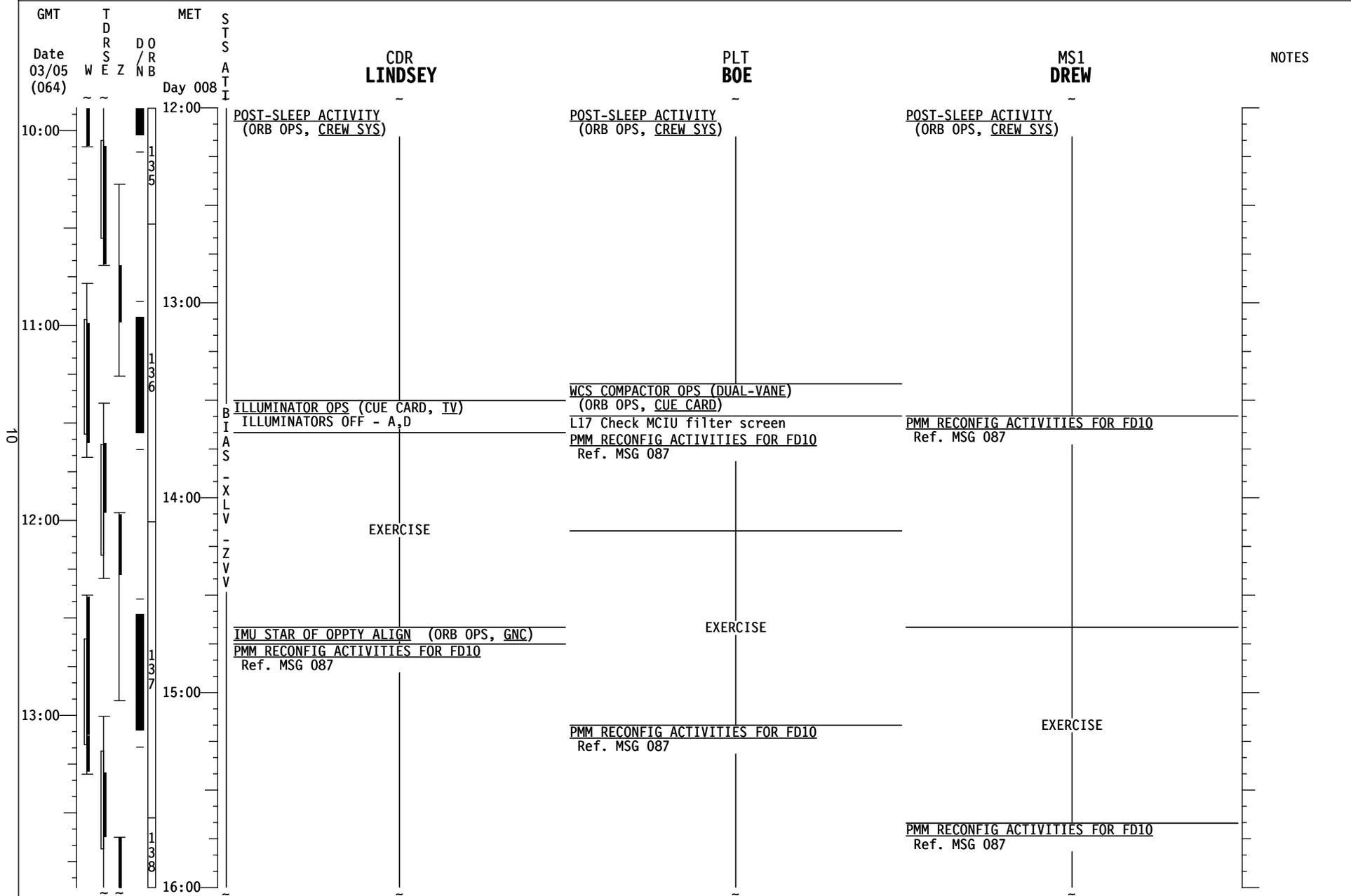
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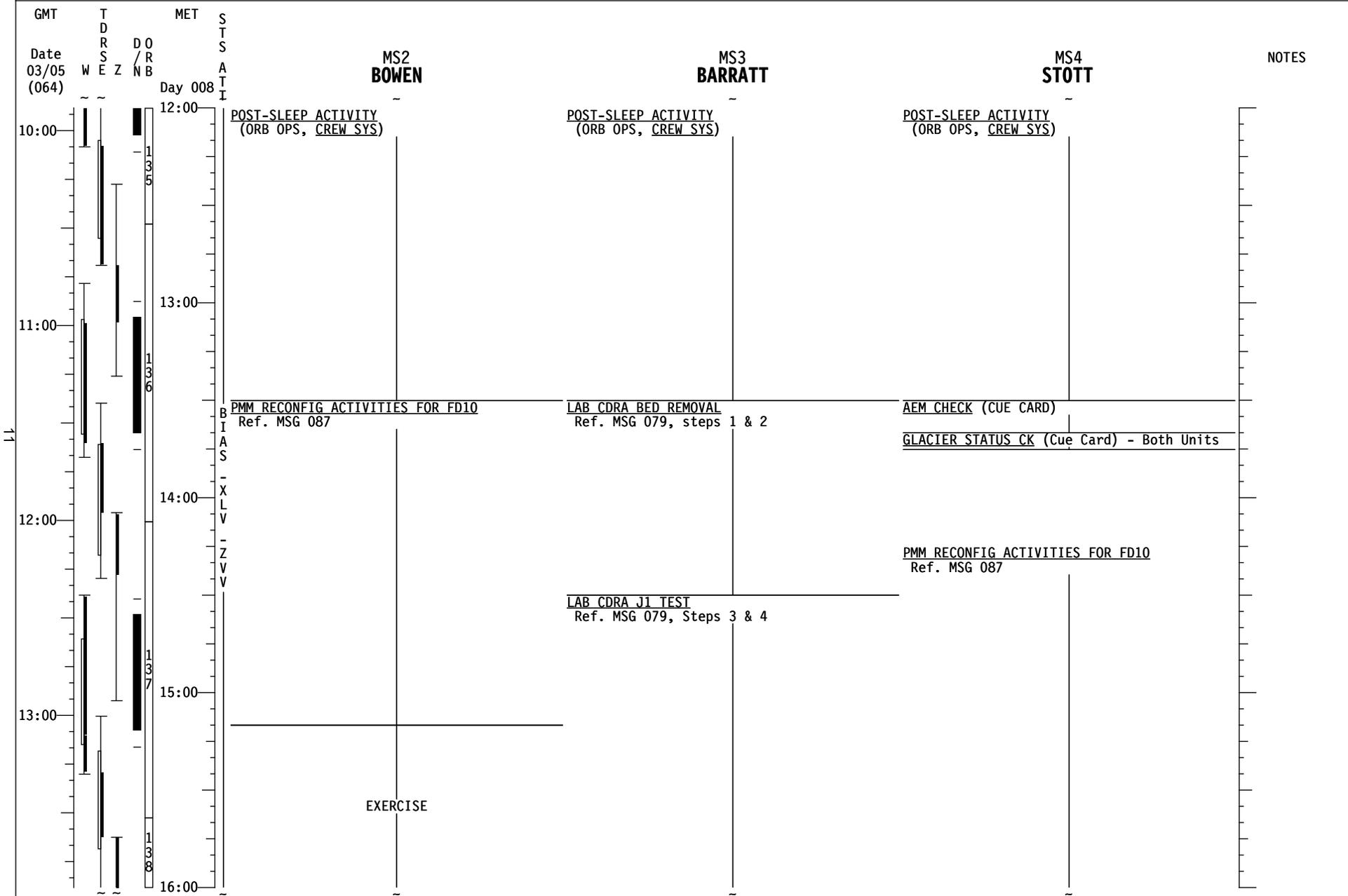
# STS-133 FD (10)

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# STS-133 FD (10)

**REPLANNED**



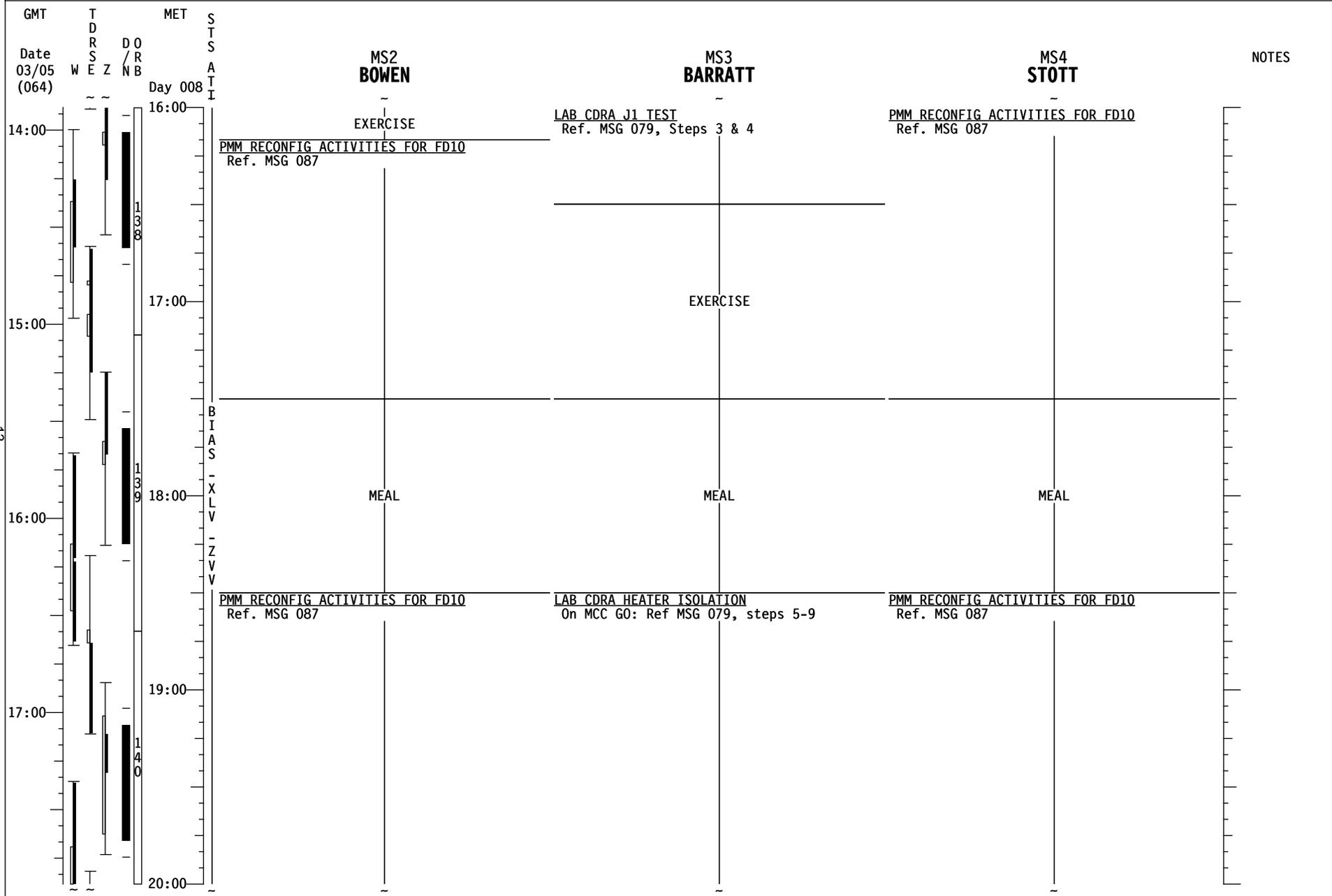
# STS-133 FD (10)

**REPLANNED**

GMT	T D R S W E Z	MET D O R B N B	S T S A T T I	CDR <b>LINDSEY</b>	PLT <b>BOE</b>	MS1 <b>DREW</b>	NOTES
Date 03/05 (064)	Day 008						
14:00				<u>PMM RECONFIG ACTIVITIES FOR FD10</u> Ref. MSG 087	<u>PMM RECONFIG ACTIVITIES FOR FD10</u> Ref. MSG 087	<u>PMM RECONFIG ACTIVITIES FOR FD10</u> Ref. MSG 087	
15:00							
16:00							
17:00							
18:00				MEAL	MEAL	MEAL	
19:00				<u>PMM RECONFIG ACTIVITIES FOR FD10</u> Ref. MSG 087	<u>PMM RECONFIG ACTIVITIES FOR FD10</u> Ref. MSG 087	<u>CWC-I FILL (ORB OPS, ECLS)</u> Fill CWC-I #12, Perform Parts D & E Ref. MSG 073	
20:00						<u>CWC-I FILL (ORB OPS, ECLS)</u> Fill CWC-I #13, Perform Parts D & E Ref. MSG 073	
						<u>PMM RECONFIG ACTIVITIES FOR FD10</u> Ref. MSG 087	

# STS-133 FD (10)

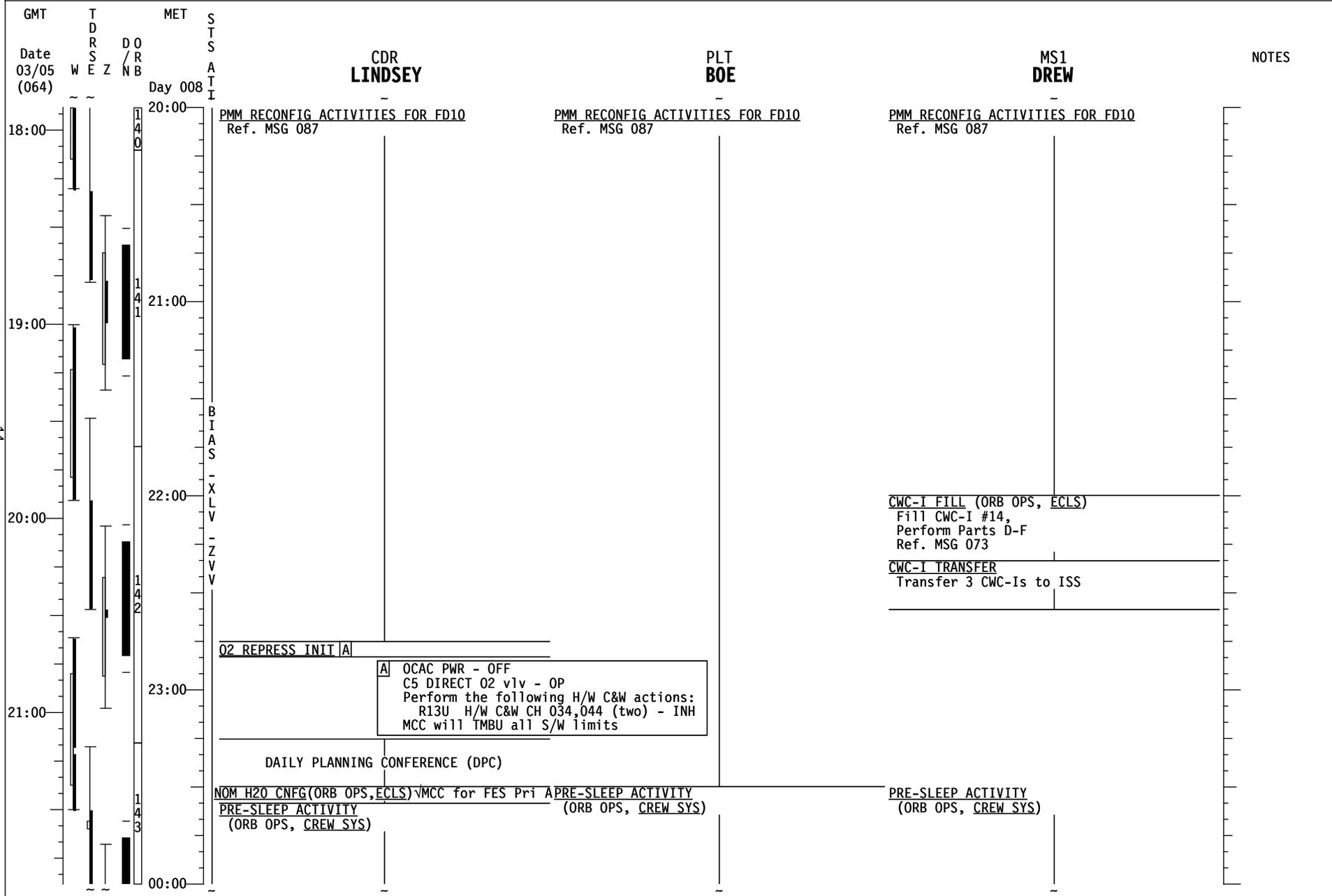
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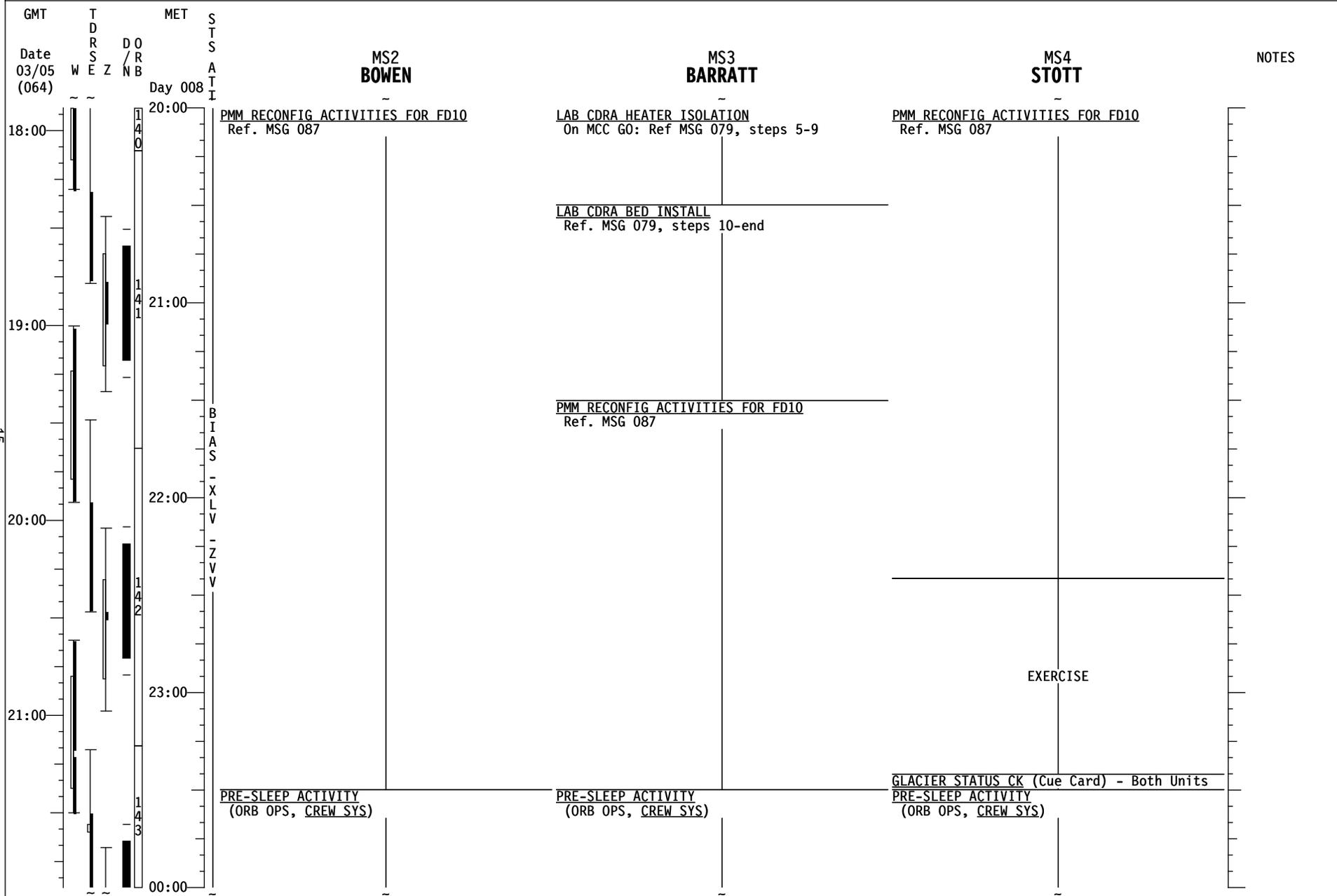
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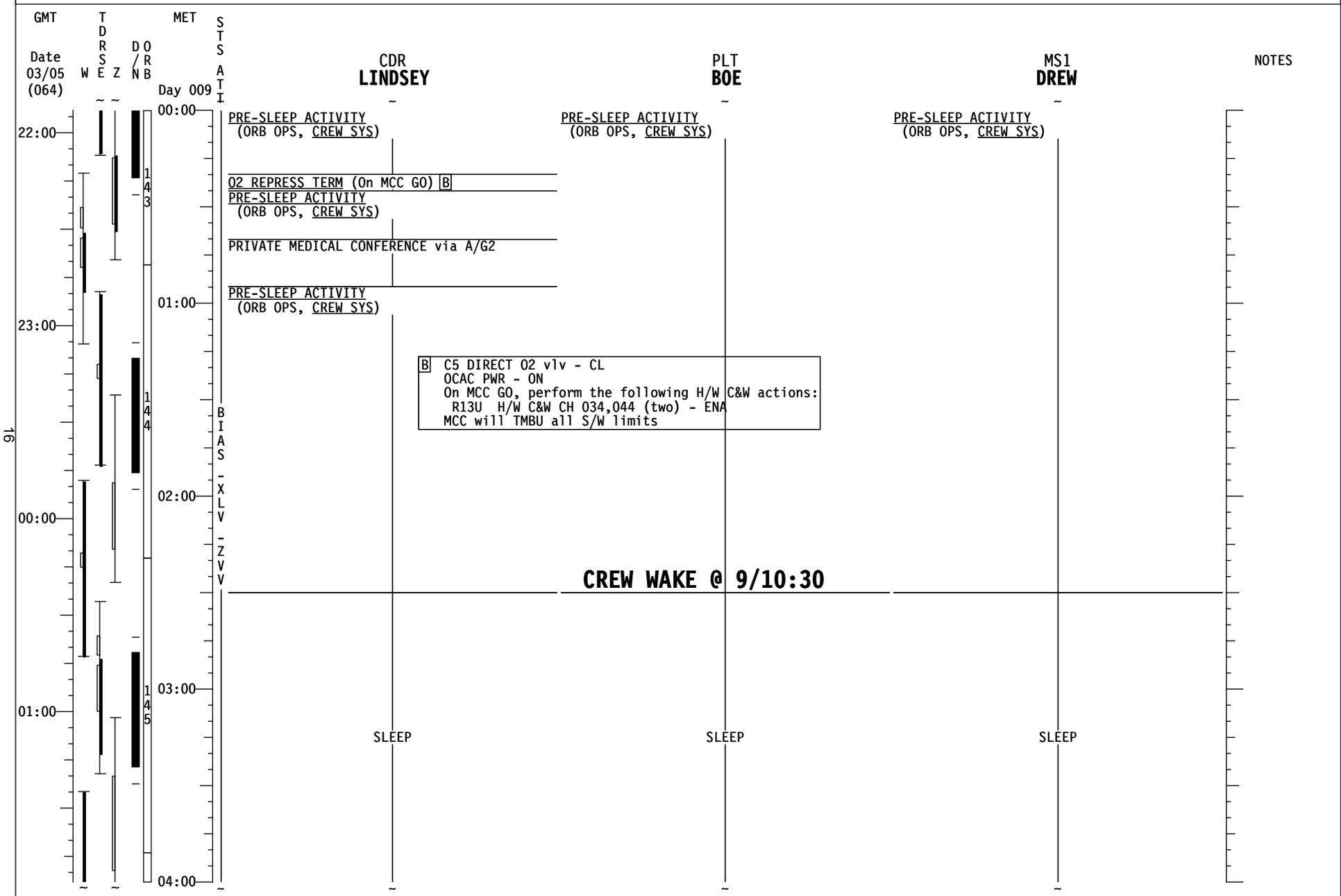
# STS-133 FD (10)

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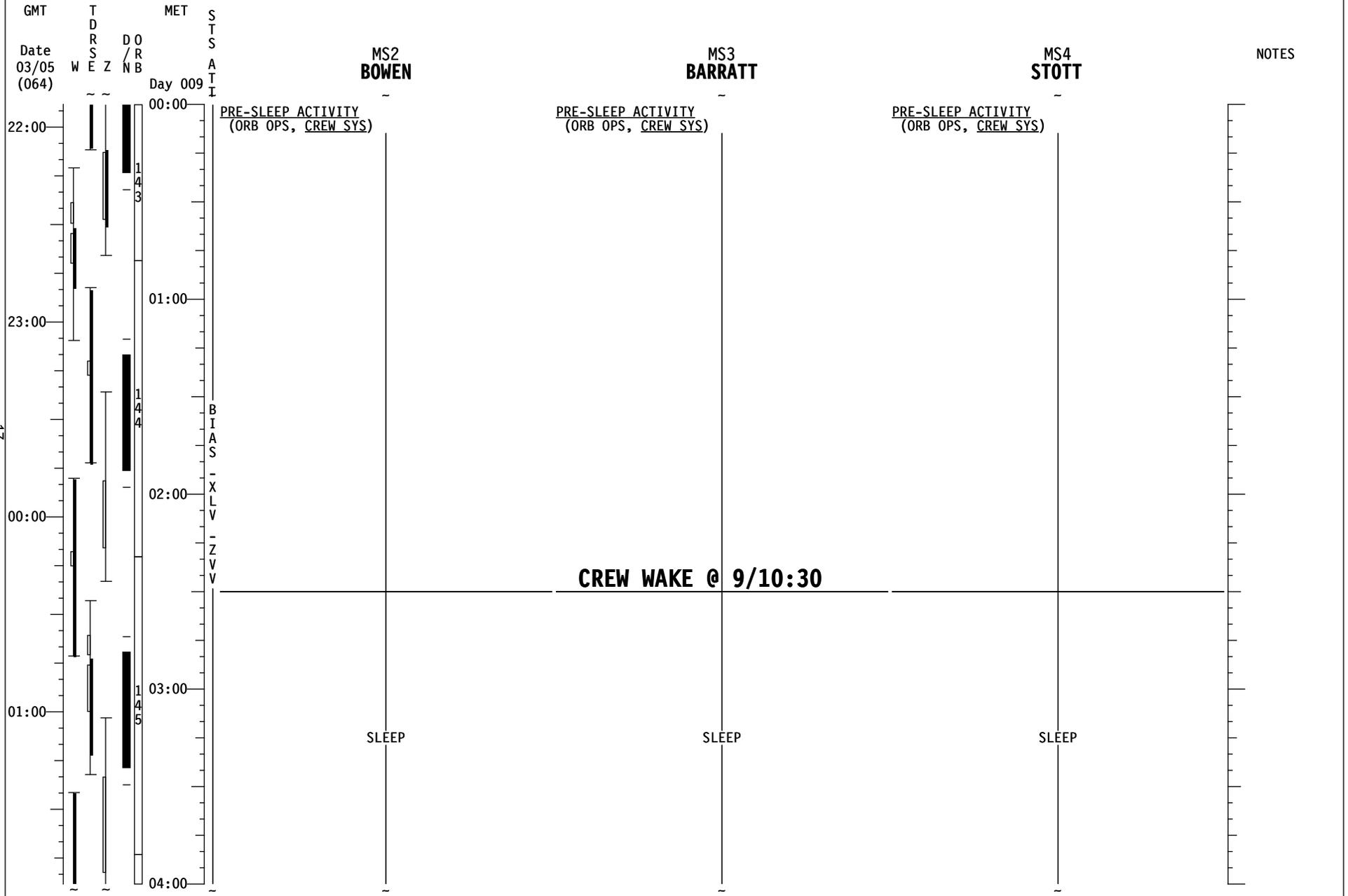
# STS-133 FD (10)

REPLANNED



STS-133 FD (10)

REPLANNED



MSG 081 - FD10 MISSION SUMMARY

1  
2 Good Morning Discovery. Hope you are enjoying your extended stay in your out of this  
3 world accommodations, the inn keeper says you can stay a couple more days if you behave.  
4  
5

6  
7 YOUR CURRENT ORBIT IS: 195 X 185 NM  
8

9 NOTAMS - (NO CHANGE)

10  
11 EDW - EDW 22L/04R IN USE. EDT 22R/04L EMERGENCY DAY USE ONLY.  
12 EDW - LAKEBED RWYS RED.  
13 NOR - LAKEBED RWYS GREEN.  
14 ZZA - NOT USABLE. UNDER CONSTRUCTION.  
15 MRN - MRN20 ALS OTS.  
16 BEN - NOT USABLE. NOT SUPPORTED.  
17 NTU - RWY 05R/23L CLSD.  
18 WAL - TACAN SBY49 DME ONLY.  
19 YYT - TACAN UYT23 DME ONLY.  
20 YQX - TACAN YQX74 DME ONLY.  
21 LAJ - RWY 15/33 CLSD 2200-0900 GMT DAILY.  
22 FFA - NOT USABLE. IN CARETAKER STATUS.  
23 ESN - DME BAG78 OTS.  
24 IKF - NOT USABLE. NO AGREEMENT.  
25

26 NEXT 2 PLS OPPORTUNITIES:

27  
28 NOR17 ORB141 – 8/21:03 SCT200 7 130/05P06  
29 EDW22 ORB157 – 9/21:28 SCT150 BKN250 7 **240/18P27**  
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MSG 081 - FD10 MISSION SUMMARY

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OMS TANK FAIL CAPABILITY:

L or R OMS FAILS: NO

LEAKING OMS PRPLT BURN:

L or R OMS LEAK: ALWAYS BURN RETROGRADE

OMS QUANTITIES(%)

L OMS OX = 35.15 R OMS OX = 34.46

FU = 34.77 FU = 34.48

FOR CURRENT QTYS, SUBTRACT INCN'T COUNTER

DELTA V AVAILABLE:

OMS	359 FPS
<u>ARCS (TOTAL ABOVE QTY1)</u>	<u>37 FPS</u>
TOTAL IN THE AFT	396 FPS
ARCS (TOTAL ABOVE QTY2)	70 FPS
FRCS (ABOVE QTY 1)	13 FPS
AFT QTY 1	75 %
AFT QTY 2	37 %

There are no Failure/Impact/Work Arounds for Today.

# MSG 082 (26-0967) - FD10 TRANSFER MESSAGE

Page 1 of 1

1  
2 Good morning Mike & Nicole!

3  
4 Although you are not scheduled for transfer ops today, you will be receiving additional  
5 samples from the ISS crew's FD10 activities, and based on our Transfer Brief last night we  
6 know you have already filled up the fresh food lockers. The overflow samples work into the  
7 priority for the consolidated clothing trays, so we wanted to provide you with the whole  
8 picture since you may be continuing those consolidations today. You are not required to do  
9 these items today, but we wanted you to have all the information you needed, just in case.

10  
11  
12 **Clothing Trays #1 & #2:** MF71C – This clothing locker has already been used for item 733  
13 as you reported last night.

14  
15 **Clothing Tray #3:** This tray should be designated for the overflow samples. You can place  
16 all samples you receive today in this location – generated by the ISS crew in their EDB &  
17 OGS sampling. The EDB samples are item 717. The OGS sample is a late addition and is  
18 not on your list but it is approved for return. If you have additional overflow, they continue to  
19 take priority over the remaining items. (You reported that you had one sample already that  
20 did not fit in MF14E or G. You can add that sample to this overflow tray also.)

21  
22 **Clothing Tray #4:** Item 743 should go into this tray. In addition, a new item has been  
23 designated to share this space – ACTEX Cartridge S/N 2003, currently stowed in NOD2D2  
24 inside 1.0 CTB S/N 1177. If you stow this item today, please wrap it in soft goods for  
25 protection, and fill out any remaining voids in the tray to prevent hardware from shifting. If  
26 both items do not fit into the same tray, please let us know. The ACTEX takes priority over  
27 item 743 since it is needed for ULF6.

28  
29 **Clothing Trays #5 & #6:** Item 734 is next in the priorities, although this is totally dependent  
30 on the space available. Within item 734, both LCVGs have the same priority, so if only one  
31 tray is available here, either LCVG is acceptable.

## 32 33 34 **FD10 (PMM Outfitting) Choreography**

- 35 • Transfer returning RSP fences per PMM1A2 & A3 h/w removal activities (Items 903 &  
36 904)
- 37 • Kelly: Transfer returning OGA samples per OGS-LK CK-2 SMPL-DRW
- 38 • Kelly: Transfer returning EDB samples per RS-EDB URINE-SMPL (Item 717)

39  
40  
41 By the way – you are 89 percent complete...so close! Have a great day & please call us if  
42 you have questions, there is no scheduled Transfer Brief tonight.

43  
44 - The ULF5 Transfer Team  
45  
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48  
49  
50  
51

## AR1 CDRA Bed 202 Failed Heater Isolation and Recovery - Big Picture Words

### TASK OVERVIEW:

Today you will be helping us fix the Lab CDRA (again!). The CDRA bed has 12 primary and 12 secondary heaters. Today you will be helping us to identify and isolate a failed CDRA heater in Bed 202. Mike - this is the same set of operations that you performed on a CDRA bed during E20, shortly after 2JA. You did such a great job, we thought maybe you'd like to do it again.

Your day will begin by removing the AR1 (LAB) CDRA Bed 202. Once you've got the bed out of the rack, we've put a step in the procedure for you to secure it on the maintenance work area. Because of all the PMM work and transfer going on, we suggest that you do this in Node 2 or the JEM.

Once the CDRA Bed has been removed, you will use the multimeter to take several measurements on the CDRA Bed J1 connector. With the results of these measurements, we can then identify which heater sheet is failed. While we are figuring that out, you can continue on your timeline for the day.

For your next task, we will let you know that we have identified the failed heater inside the bed, and you can press in the procedure with accessing the wire harness housing. This housing was not meant to be accessed on-orbit, so you will need to use your leatherman to remove the RTV sealing the housing. When removing the faceplate, be aware that there is a very important O-ring sealing the faceplate to the housing. This housing is exposed to vacuum, so maintaining the integrity of the O-ring is important. We do not have an easily accessible spare for that O-Ring.

We will call up to you which Heater sheet is failed and which wires you will need to cut in order to remove that heater sheet from the system. We have a couple of multimeter checks in this step to verify the correct wires. Each wire will then be insulated and secured with Kapton Tape. With the cutting complete, you'll replace the housing face plate and insulation. You will finish the day by replacing the CDRA Bed back in to the AR1 (LAB) 202 location.

### PROCEDURES:

{Uplinked Procedures; US SODF: IFM; 26-0950A (MSG 079A) AR1 CDRA BED 202 FAILED HEATER ISOLATION AND RECOVERY}

**PMM Reconfig Activities for FD10**

**Cady, Eric, Al, Steve B, Mike & Nicole,**

Please pass on our thanks to everyone on ISS for the outstanding work in the PMM. We appreciate the Shuttle guys sticking around for another day of PMM fun. We are very pleased with your progress and we see PMM transforming before our eyes. We're getting close to restoring order.

As you can see on the timeline we did not timeline any specific activities, just gave you blocks of time where you will execute off this message. The only step you need to do first is #1 (PMM Tool Gather), then each step is organized by rack location, substeps will need to be completed in order.

**Steve L., Eric, Al, & Nicole** –Today you will be helping Cady dismantle four Resupply Stowage Platforms (RSPs). We only have two '#10 Torq' type tools onboard so you will need to be aware of this constraint. One Torq Driver is located in the Shuttle IFM Tool Locker Tray 3 and it is called '#10 Torq Driver, 3/8" Drive'. The other is in the Shuttle IFM Tool Locker Tray 4 and is called 'Torq Tip Screwdriver: #10'. On FD7 Boe reported that the #10 Torq Driver is missing from the ISS IVA Toolbox Drawer 3. PMM reconfiguration tasks have a dedicated set of tools, but if you need duplicate tools, the other Ratchets, 1/4" Drive will be in use for CDRA and OGS maintenance.

The focus for today is the fence/strut removal on 4 RSPs, unbolting of two ISPs from the PMM, COL1F2 ZSR install and cargo moves to reduce the overall clutter on ISS. For the general stowage moves...you get to choose your own adventure. All the items under #8 are options for each crewmember to pick from when tool unavailability or spatial restrictions prevent you from completing steps 1-7, or steps 1-7 are completed. If you choose ULF5 unpack or HTV2 Cargo unload you will be executing from other messages but you can find the references in this message.

Here's a summary of your options:

- PMM Endcone cleanout: 3 hours
- ULF5 Unpack: 2.5 hours
- HTV2 Cargo Unload: 10.5 hours, but it's in 4 parts
- EMU & PDGF Relocate: 45 min
- NOD2D2 Partial Cleanup: 1.25 hours
- JPM1A5 Rack Front Cleanup: 1.5 hours
- RFTA Consolidation and Relocate: 1.5 hours

As always, call down anytime with questions or comments.  
Your ISO and OSO teams

Today's activities:

- 1) **PMM Tool Gather:** Gather and temp stow tools for FD10 PMM activities per stowage note.
- 2) **PMM1F3 Activities**
  - a. **PMM1F3 ISP Removal** (i.e – Unbolt me from the PMM structure): Perform US SODF; Struc and Mech: 1. Nominal: 1.2 Rack; (MSG 071) 1.248 INTEGRATED STOWAGE PLATFORM (ISP) REMOVAL; Steps 2-end.
  - b. **Temp Stow ISP in PMM Endcone or HTV2** depending on the state of HTV2. Add a brown label with “HTV2 Trash Item #1202”.
- 3) **PMM1P3 Activities**
  - a. **Perform Stowage Moves** per Table A to clear the ISP before ISP removal.

Table A: PMM1P3 ISP Contents

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	1a	PMM1P3	3.0 CTB: PDGF/IPU/RET	1054	004239J	1	Unpack hardware only. Leave all foam cushions in the 3.0 CTB.	HTV Endcone, in front of Beta Cloth
	1b		PDGF Adapter	201	00131102J	1	For ULF6 EVA	A/L in mesh bag for pre-ULF6
	1c		IPU Power Supply	1002	IPUIPSM2N	1		JPM102_A1 3.0 CTB S/N 0004
	1d		Eq Hk RET w/Pip Pin	4392 4393 4394 4395 4396	-	5		A/L tether staging area
	1e		Lg-Eq RET	4414 4415 4416 4417 4418 4419 4420 4421	-	8		

23

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	1f		Eq Hk RET	4408 4409 4410 4411 4412	-	5		
	1g		J601/602 Grounding Cap	201 202	-	2	For ULF6 EVA	A/L in mesh bag for pre-ULF6
	2	PMM1P3	V-GUIDE Clamshell	N/A	-	1	Add brown label to cushion with "HTV2 Trash Item #1702". Temp stow in endcone...after ISP is removed, V-guides in clamshell will be restowed in this rack bay.	PMM Endcone

24

- b. **PMM1P3 ISP Removal:** Perform US SODF; Struc and Mech: 1. Nominal: 1.2 Rack; (MSG 071) 1.248 INTEGRATED STOWAGE PLATFORM (ISP) REMOVAL; Steps 2-end.
  - c. **Temp Stow ISP in PMM Endcone.** Add a brown label with "HTV2 Trash Item #1203".
  - d. **Restow V-guides** in clamshell at PMM1P3.
- 4) **COL1F2 ZSR INSTALL:**
- a. You need to temp stow the double coldbags that are in COL1F2 at COL1O2 rack front. If there are leftover non-return items you need to relocate those too. US items can be relocated to NOD2D2. Russian items should be handed back to the Russian crew.
  - b. Perform Uplinked Procedures; US SODF: IFM; 26-0776 (MSG 084) 9.5.109 ZSR Transfer and Deploy at COL1F2. Reference Stow Note.
- 5) **PMM1A3 Reconfig**
- a. **PMM1A3 Rotate Rack Down:** Uplinked Procedures; US SODF; IFM: 26-0771 (GMT 044) 9.5.102 PMM Rack Hardware Installation; Steps 3-6

b. **Perform Stowage Moves** per Table B to clear the fences for removal.

Table B: PMM1A3 launch cargo

Current Location	Item	Final Location	Notes
PMM1A3_AFT	M-01 Bag (RFTA)	PMM Endcone	Add purple label with "Restow in PMM1F2". Put in front layer.
	M-02 Bag (TOCA)	PMM Endcone	Add purple label with "Restow in PMM1A2". Put in front layer.

c. **PMM1A3 Hardware Removal:** Perform Uplinked Procedures; US SODF: IFM; 26-0772 (MSG 043) 9.5.103 Resupply Stowage Platform (RSP) Dismantle; Steps 4-5. Reference Stow Note and ULF5 Transfer List Item 904.

d. **Perform Stowage Moves** per Table C to repack the rack bay.

Table C: PMM1A3 final stowage config

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	1a	PMM Endcone	FLIPPA clamshell	1001	N/A	1	Add brown label with "HTV2 Trash Item #1203.1".	PMM endcone
	1b		Pump Package in support frame	107-D0006	00120174J	1	Remove from foam clamshell.	PMM1A3
	2a	PMM Endcone	FLEIO clamshell	1001	N/A	1	Add brown label with "HTV2 Trash Item #1204.1".	PMM endcone
	2b		Inlet ORU in support frame	0007	00136943J	1	Remove from foam clamshell.	PMM1A3
	3	PMM Endcone	M-02 Bag: VTR/OOR/Food	1013	004380J	1		PMM1A3
	4	PMM Endcone	3.0 CTB: Mixed Stuff Bag	1046	004231J	1		PMM1A3
	5	JLP1_P2 rack front	OGS Feedwater System Housing	-	00069660J	1		PMM1A3
	6	NOD2D2	2.0 CTB: CBM CPAs (from PMM)	1084	010672J	1		PMM1A3
	7	NOD1D4	2.0 CTB: Cupola CBM CPAs	1118	010706J	1		PMM1A3

25

- e. **PMM1A3 Rotate Rack Up:** Perform Uplinked Procedures; US\_SODF; IFM: 26-0772 (MSG 043) 9.5.103 Resupply Stowage Platform (RSP) Dismantle; Step 6

6) **PMM1A2 Reconfig**

- a. **PMM1A2 Rotate Rack Down:** Perform Uplinked Procedures; US\_SODF; IFM: 26-0771 (MSG 044) 9.5.102 PMM Rack Hardware Installation; Steps 3-5. In Step 6.2 rotate PMM1A2 RSP down to a controlled stop.
- b. **PMM1A2 Hardware Removal:** Perform Uplinked Procedures; US SODF: IFM; 26-0772 (MSG 043) 9.5.103 Resupply Stowage Platform (RSP) Dismantle; Steps 4-5. Reference Stow Note and ULF5 Transfer List Item 903.
- c. **Perform Stowage Moves** per Table D to consolidate the two M-bags that contain Particulate Filters.

Table D: M-02 Bags with Particulate Filters

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	1a	<b>PMM Endcone</b>	M-02 Bag: Particulate Filter	1039	003021J	1	Unpack per 1b-c ONLY.	<b>PMM Endcone</b>
	1b		Jettison Stowage Bag (Contained in 24 x 24 ziplock)	All	All	12		<b>JPM103_B1 in 1.0 CTB: Payload Hardware S/N 1356</b>
	1c		PFS Gas Cylinder	1002	HRF08029J	1		<b>COL102_G</b>
	1d		Foam Cushions	-	-	2	There are a total of 11 cushions in this bag, but we are only planning to have you remove the chunk at the top and the one on the side of the particulate filter.	<b>HTV2 endcone</b>
	1e		Particulate Filter ORU			1	KEEP IN THIS M-BAG.	<b>Hold for restow in PMM1A2</b>
	1a	<b>PMM Endcone</b>	M-02 bag: Particulate Filter ORU	1027	004393J	1	Unpack per 1b-d. This M-02 bag will be reused later for HTV2 cargo post ULF5.	<b>PMM endcone</b>
	1b		Nitrile gloves	All	All	12	Get a new half CTB. REPORT S/N used. Label "Nitrile gloves".	<b>PMA1 in new half CTB</b>

26

	<b>1c</b>		ORU Large Transfer Bag	1016	00089146J	1		<b>A/L1 Attic</b>
	<b>1d</b>		Particulate Filter	00006	00130089J	1		<b>M-02 Bag S/N 1039 in PMM Endcone</b>

d. **Perform Stowage Moves** per Table E to replace cargo in PMM1A2.

Table E: PMM1A2 Final Stowage Config

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	<b>1a</b>	<b>PMM Endcone</b>	M-02 Bag (FPMU)	1040	003020J	<b>1</b>		<b>PMM1A2_AFT</b>
	<b>1b</b>		M-02 Bag (IAPS)	1043	003024J	<b>1</b>		
	<b>1c</b>		M-02 Bag (TOCA)	1019	004399J	<b>1</b>		
	<b>1d</b>		M-02 Bag (Particulate Filter)	1039	003021J	<b>1</b>		

e. **PMM1A2 Rotate Rack Up:** Perform Uplinked Procedures; US\_SODF; IFM: 26-0772 (MSG 043) 9.5.103 Resupply Stowage Platform (RSP) Dismantle; Step 6

7) **PMM1F1 Reconfig**

- a. **PMM1F1 Pivot Fitting Install:** Perform Uplinked Procedures; US SODF: IFM; 26-0771 (MSG 044) 9.5.102 PMM Rack Hardware Installation; Step 1. Install Pivot Fittings at PMM1SF1 at base of F1 rack. Reference Stow Note.
- b. **PMM1F1 Rotate Rack Down:** Perform Uplinked Procedures; US\_SODF; IFM: 26-0771 (MSG 044) 9.5.102 PMM Rack Hardware Installation; Steps 3-6
- c. **Relocate M-01 Bag (RFTA) to PMM Endcone.** Add a purple label with "Restow in PMM".
- d. **PMM1F1 Hardware Removal:** Perform Uplinked Procedure; US SODF: IFM; 26-0772 (MSG 043) 9.5.103 RESUPPLY STOWAGE PLATFORM (RSP) DISMANTLE; Steps 4-5. Reference Stow Note.
- e. **PMM1F1 Rotate Rack Up:** Perform Uplinked Procedures; US\_SODF; IFM: 26-0772 (MSG043) 9.5.103 Resupply Stowage Platform (RSP) Dismantle; Step 6

8) **PMM1F2 Reconfig**

- a. **PMM1F2 Pivot Fitting Install:** Perform Uplinked Procedures; US SODF: IFM; 26-0771 (MSG 044) 9.5.102 PMM Rack Hardware Installation; Step 1. Install Pivot Fittings at PMM1SF2 at base of F2 rack. Reference Stow Note.
- b. **PMM1F2 Rotate Rack Down:** Perform Uplinked Procedures; US\_SODF; IFM: 26-0772 (MSG 043) 9.5.103 Resupply Stowage Platform (RSP) Dismantle; Step 6
- c. **Perform Stowage Moves** per Table F to clear the fences for removal.  
 Table F: PMM1F2 launch cargo

Current Location	Item	Final Location	Notes
PMM1A3_AFT	M-01 Bag (PLANAR HUT)	PMM Endcone	Temp stow at front of endcone pile..these bags are going back once the fences are removed.
	M-02 Bag (SARJ)	PMM Endcone	

- d. **PMM1F2 Hardware Removal:** Perform Uplinked Procedure 26-0772 (MSG 043) 9.5.103 RESUPPLY STOWAGE PLATFORM (RSP) DISMANTLE; Steps 4-5. Reference Stow Note.
- e. **Perform Stowage Moves** per Table G to replace cargo in PMM1F2 rack bay.  
 Table G: PMM1F2 Final Stowage Config

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	1a	PMM Endcone	M-01 Bag (RFTA)	1030	003007J	1	Remove all foam except end cap on RFTA. Keep RFTA in the M-01 bag. More RFTAs will be added.	PMM1F2
	1b		Foam cushions	N/A	N/A	13		PMM endcone
	2a	PMM Endcone	M-01 Bag (RFTA)	1008	004376J	1	Unpack per 2b-c.	PMM endcone
	2b		Foam cushions	N/A	N/A	13		PMM endcone
	2c		WRS Recycle Filter Tank Assembly	013	WRMRFT13 M	1		PMM1F2 in M-01 S/N 1030
	3a	PMM Endcone	M-01 Bag (RFTA)	1022	004375J	1	Unpack per 3b-c.	PMM endcone
	3b		Foam cushions	N/A	N/A	13		PMM endcone

28

	<b>3c</b>		WRS Recycle Filter Tank Assembly	017	WRMRFT17 M	1		<b>PMM1F2 in M-01 S/N 1030</b>
	<b>4</b>	<b>PMM Endcone</b>	M-01 Bag (PLANAR HUT)	1017	004366J	1		<b>PMM1F2</b>
	<b>5</b>	<b>PMM Endcone</b>	M-02 Bag (SARJ)	1044	003023J	1		<b>PMM1F2</b>

f. **PMM1F2 Rotate Rack Up:**. Uplinked Procedures; US SODF: IFM; 26-0772 (MSG 043) 9.5.103 Resupply Stowage Platform (RSP) Dismantle; Step 6.

9) **OTHER PMM, ISS and HTV2 Stwg tasks:** For the purple blocks of time in today's schedule, you are go to perform any or all of these tasks as time permits. Any crewmember that feels comfortable with the moves can pick a table or message to perform and report results when complete. We want you to have the flexibility to design your day around the other major activities. For each activity below we provide a time estimate and information about worksites (at a module level) to help you make your selections.

a. **PMM Endcone Cleanout:** 3 hours of crew time for 1 crew

You can work in pairs if you want to. This may need to be done one bag at a time in between RSP dismantling as possible since all moves are in the PMM. Perform stowage moves per Table H.

Table H: PMM Endcone cleanout

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	<b>1a</b>	<b>PMM Endcone</b>	3.0 CTB: LHA/WIF Extender	1057	004242J	1	Unpack per 1b-e.	<b>NOD3A2</b>
	<b>1b</b>		Lamp Housing Assy	All	All	10		<b>PMM1S4_K2</b>
	<b>1c</b>		Wet wipes	All	All	16		<b>PMA1 in 1.0 CTB S/N 1042</b>
	<b>1d</b>		WIF Extender	1001	N/A	1		<b>PMM1F4_B2</b>

29

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	1e		1/2 boxes	103 104 105 106	MEFBH103 J MEFBH104 J MEFBH105 J MEFBH106 J	4	Repack into a 1.0 CTB. REPORT B/C. Add white label "MELFI 1/2 boxes".	PMM1F3
	2a	PMM Endcone	3.0 CTB: LiOH #32 - #40	1082	006739J	1	Unpack per 2b-d.	NOD3A2
	2b		LiOH	All	N/A	9		PMM1S4_D2
	2c		Disinfectant wipes	All	All	10		PMA1 in 0.5 CTB S/N 1212
	2d		Hygiene Towels (ziplocks)	All	All	5	Pack into a new half CTB. REPORT B/C. Add a white label "Hygiene Towels".	PMM1P2_AFT
	3a	PMM Endcone	M-02 Bag: Crew Provisions/Gas Separator ORU/Bonus Food	1041	003026J	1	Unpack per 3b.	PMM Endcone
	3b		Gas Separator ORU	00007	00130092J	1		PMM1P2_C2
	4a	PMM Endcone	M-02 Bag: Bacteria Filter/Gas Separator ORU/EVA ORU Bag	1020	004401J	1	Unpack per 4b-d.	PMM Endcone
	4b		Gas Separator ORU	00005	WRMWPG S5M	1		PMM1P2_B2
	4c		Bacteria Filter	0113 0117	BOE00161J BOE00165J	2		PMM1P2_G
	4d		Wet Wipes	All	All	20		PMM1P1_G

30

**b) ULF5 Unpack:**

2.5 hours of crew time

You are clearing items from JPM1F6 rack front and distributing in JPM1O2, JPM1O3, JLP1P1, JLP1A1 and a couple of other minor locations.

You can split this between crewmembers if you want to.

Perform 26-0837B (MSG 85B) ULF5 Unpack List and report results to MCC-H when complete.

**c) HTV2 Cargo Unload:**

10.5 hours of crew time total but split between 4 activities that need to be performed in the order listed below except Table D. Table D can be done at anytime.

Table A: Confirm Ballast Locations – 1.5 hours of crew time, recommend Cady perform.

Table B: HTV2 Unpack – 2.75 hours of crew time, recommend Cady handoff items to others for restow

Table C: Install and bolt down 2 HRR front panels and xfer ISPs to HTV2 – 1.25 hours of crew time, anybody who wants to move the ISP beasts, have at it.

Table D: Gather PMM RSR Foam to be trashed on HTV2

HTV2 Unpack moves cargo primarily to COL1F2 (new ZSR) and PMM1F1. Gather PMM RSR foam has you collecting the filler foam from all the PMM RSRs. Perform 26-0963A (MSG 086A) HTV2 Cargo Ops During ULF5.

**d) EMU & PDGF Relocate:**

45 min of crew time, we recommend Steve B, but anyone can do this

Relocate EMUs S/N 3005 & 3010 from JPM to A/L Crewlock. Relocate PDGF from JPM to A/L Crewlock. We will move the other two EMUs after the Shuttle crew clears their gear from the A/L.

**e) NOD2D2 Partial Cleanup:**

1.25 hours of crew time. Cargo moves involve NOD2D2, PMM, A/L and COL. Perform moves per Table I to partially reduce the pile at NOD2D2. We will finish the cleanout of NOD2D2 after the HTV2 hatch is closed and before the relocation.

Table I: NOD2D2 cargo

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	1	NOD2D2	Ziplock: (Isolators)	-	-	1	This PMM location will get more CHECS items from HTV2.	PMM1S4_K1
	2		0.5 CTB: OGS Hardware	1349	010530J	1		PMM1S3_B1
	3		1.0 CTB: OGS Hardware 2	1211	006707J	1		
	4		CWC	5069	-	1	Items for future return.	PMM1S3_AFT

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	5		0.5 CTB: (EMU Gloves)	1088	006537J	1		
	6		0.5 CTB: (AED and Pressure Valve)	1374	CTB00279J	1		
	7		1.0 CTB: (ORU, cartridge, and cables)	1177	006673J	1		
	8		2.0 CTB: (EMU Arms and Legs)	1076	004210J	1		<b>Crew Lock</b>
	9		ECOK: (Coleman and Nespoli)	-	-	2		
	10		Glenn Harness Containment Bag	008	HRF10373J	1	Planning for future disposal	<b>NOD3 Port Endcone</b>
	11		1.0 CTB: Ziplock Pantry	1104	004098J	1		<b>NOD2O1</b>
	12		Double Coldbag	1009	00050403J	1	Unzip shelf between the A2 & B2 compartments.	<b>COL1F2_A2/B2</b>

32

**f) JPM1A5 Rack Front Cleanup:**

1.5 hours of crew time. The cargo moves involve the JPM and COL. Perform moves per Table J. This will clear the JPM1A5 rack front and stow the BXF cargo in a good place.

Table J: JPM1A5 Rack Front Cargo

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	1	<b>JPM1A5 Rack front</b>	BXF Avionics Box	-	05BXF002M	1		<b>COL1F2_C1</b>
	2		BXF Avionics Box Mounting Plate	-	05BXF005M	1		
	3		BXF Containment Vessel Mounting Plate	-	05BXF004M	1	Unzip shelf between C2 and D2 compartments.	<b>COL1F2_C2/D2</b>
	4		BXF Containment Vessel in foam cushion	-	-	1		

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	5		BXF Camera Hardware in foam cushion	-	-	1		
	6		BXF Hard Drive in foam cushion	-	-	1		

g) **RFTA Consolidation and Relocate:**

1.5 hours of crew time. The cargo moves involve the PMM. Perform moves per Table K. The plan is to consolidate RFTAs into M-bags for stowage in the PMM.

Table K: RFTA Consolidation and Relocate

✓	Ref #	Current Location	Item	S/N	B/C	Qty	Notes	New Location
	1a	<b>PMM endcone</b>	M-02 Bag: RFTA	1018	004367J	1		<b>PMM1F1</b>
	1b		Foam Cushions	-	-	13	For HTV2 disposal	<b>PMM endcone</b>
	1c		WRS Recycle Filter Tank Assembly	018	WRMRFT18M	1	New	<b>Keep in M-02 bag</b>
	2	<b>HTV2 endcone</b>	WRS Recycle Filter Tank Assembly	019	WRMRFT19M	1	New	<b>PMM1F1 in M-02 Bag S/N 1018</b>
	3	<b>JLP1P1 rack front</b>	WRS Recycle Filter Tank Assembly	003	WRMRFT03M	1	Get an empty M-02 bag from the PMM endcone. REPORT S/N.	<b>PMM1P3 in new M-02 bag</b>
	4		WRS Recycle Filter Tank Assembly	009	WRMRFT09M	1		
	5	<b>JPM1A7 rack front</b>	WRS Recycle Filter Tank Assembly	005	WRMRFT05M	1		

33