

Flight Plan

STS-116

(12-7-06 R1 Trajectory)

Mission Operations Directorate Operations Division

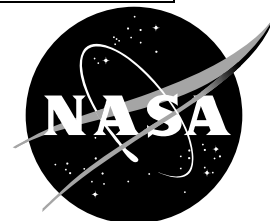
Final
November 7, 2006

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<http://mod.jsc.nasa.gov/do4/flightplan/main/fp.cfm?id=116>

EVENT	FD	MET	LOCAL DATE	CST	GMT
Launch	01	0/00:00	12/07/2006	20:39	342/02:39
OBSS Survey	02	0/18:05	12/08/2006	14:44	342/20:44
ISS Docking	03	1/21:23	12/09/2006	17:48	343/23:48
Hatch Open	03	1/23:25	12/09/2006	20:04	344/02:04
EVA 1	04	2/18:50	12/10/2006	15:29	344/21:29
P6 4B SA Retract	05	3/17:25	12/11/2006	14:04	345/20:04
EVA 2	06	4/18:20	12/11/2006	14:59	346/20:59
EVA 3	08	6/17:50	12/14/2006	14:29	348/20:29
Hatch Close	10	8/16:20	12/16/2006	12:59	350/18:59
Undock	10	8/19:00	12/16/2006	15:39	350/21:39
MEPSI Deploy	10	8/21:33	12/16/2006	18:12	351/00:12
RAFT Deploy	10	8/23:04	12/16/2006	19:43	351/01:43
ANDE Deploy	11	9/20:20	12/17/2006	16:59	351/22:59
Deorbit	12	10/18:27	12/18/2006	15:06	352/21:06
Landing	12	10/19:30	12/18/2006	16:09	352/22:09

National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas




Verify this is the correct version for the pending operation (training, simulation or flight).
Electronic copies of FDF books are available. URL: <http://mod.jsc.nasa.gov/do3/FDF/index.html>

MISSION OPERATIONS DIRECTORATE

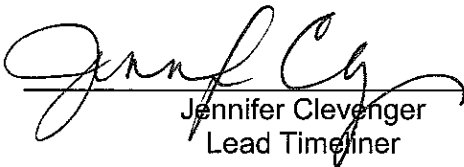
**FLIGHT PLAN
STS-116**

FINAL
November 7, 2006

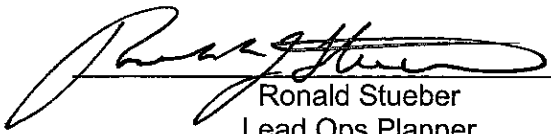
PREPARED BY:



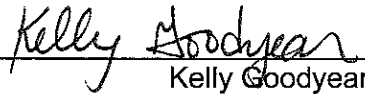
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Lead RPE



Mark Blanton
Lead Pointer

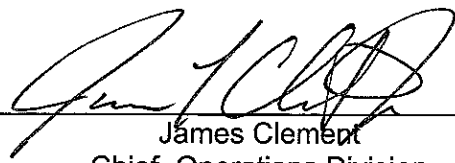
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482#: FLT PLN-2038

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Lead Ops Planner	DO4/R. Stueber	281-244-1089
Lead RPE	DO4/K. Goodyear	281-244-6468

FLIGHT PLAN
STS-116

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3-64	116/FIN	3-121	116/FIN
3-65	116/FIN	3-122	116/FIN
3-66	116/FIN	3-123	116/FIN
3-67	116/FIN	3-124	116/FIN
3-68	116/FIN	3-125	116/FIN
3-69	116/FIN	3-126	116/FIN
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INTRODUCTION

The STS-116 Flight Plan is the Flight Data File article that contains the on-orbit timeline. It does not contain the detailed timelines that are covered in the Ascent, Post Insertion, Deorbit Prep, and Entry Checklists. The detailed rendezvous and undocking timelines and procedures are contained in the Rendezvous Checklist. The detailed EVA task timelines and procedures are contained in the EVA Checklist.

This Flight Plan satisfies the mission requirements specified in the following documents:

- NSTS-07700 Vol III, Flight Definition and Requirements Document
- NSTS-17462-116, STS-116 Flight Requirements Document
- NSTS-37326, Shuttle Crew Scheduling Constraints
- NSTS-21504, ISS 12A.1 Mission Integration Plan

The timeline formats used in this Flight Plan are based on JSC-19933, Timeline Format Definitions and Standard Notes, Rev C, May 1990.

The STS-116 Flight Plan is based on a launch date of December 7, 2006 at 20:39 CST. Orbiter inertial attitudes are expressed relative to a mean of 1950 (M50) reference frame.

The following SCSC Exceptions have been submitted in order to meet Category 1 objectives:

None

The Flight Plan and other related mission information are available on the following Space Shuttle Flight Planning web site:

<http://mod.jsc.nasa.gov/do4/flightplan/main/fp.cfm?id=116>

OVERVIEW TIMELINE

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STS-116/12A.1 Overview Timeline (11+(1)+2)

MET		13	14	15	16	17	18	19	20	21	22	23	00/	1	2	3	4	5	6	7	8	9	10	11	12
FD1	STS	MT at WS#8 with SSRMS in pre-h/o position										ASC	POST INSERT.	SHAB	PTV01 S/U	RMS C/O	Pre Slp	Sleep							
	ATT											BIAS -ZLV-YVV				-ZLV -XVV									
	MCC	^ SHAB ACT																							

MET		13	14	15	16	17	18	19	20	21	22	23	01/0	1	2	3	4	5	6	7	8	9	10	11	12
FD2	STS	Slp	Post Sleep		OBSS Survey - Stbd, Nose EMU C/O, ETVCG					Meal	OBSS Port, Upper Surface, EVA Xfr Prep			RNDZ Tools	Pre Sleep		Sleep								
	ATT	-ZLV -XVV			+YSI		+XSI		-YSI		BIAS -ZLV -XVV			-YLV		-ZLV -XVV									
	MCC																								

MET		13	14	15	16	17	18	19	20	21	22	23	02/0	1	2	3	4	5	6	7	8	9	10	11	12	
FD3	STS	Slp	Pst Slp	ISS RNDZ								Dock	Hatch Hello	P5 Unberth & H/O		EVA	PS/EVA PB		Sleep							
	ISS	Slp	Pst Slp	D	Meal			RPM	Dock		Hatch Hello	IELK (1)		SSRMS	Prp/Rvw	D	Pre Slp	Sleep								
	ATT	-ZLV +YVV			RNDZ								H		BIAS -XLV -ZVV											
MCC	^ Simo Dump Dock 1/21:09 ^ ^ Hatch Open																									

MET		13	14	15	16	17	18	19	20	21	22	23	03/0	1	2	3	4	5	6	7	8	9	10	11	12
FD4	STS	Slp	PS	EVA Prep/ Campout Protocol			EVA 1 (P5 Inst, PVRGF Rel, CP3 Cam R&R)					Pst EVA	O2 Init	Pre Sleep		Sleep									
	ISS	Slp	PS	SSRMS EVA Support/ Handover			SSRMS EVA Support/ Handover					Pst EVA	D	Pre Sleep		Sleep									
	ATT											BIAS -XLV -ZVV													
MCC											WS#3				SPCH* (4B--4A)										

MET		13	14	15	16	17	18	19	20	21	22	23	04/0	1	2	3	4	5	6	7	8	9	10	11	12
FD5	STS	S	Post Sleep		Transfer					Meal	EVA Prep/Xfr/O2 Term			EVA2	Pre Sleep/EVA PB		Sleep								
	ISS	Slp	Pst Slp	D	P6 Retract			P6 Retract/Handover		Rvw	DPC	Pre Sleep		Sleep											
	ATT	P6 Retract			P SARJ/TRRJ			P6 Retract			Cfg for P6 4B↓														
MCC	^Ops LAN pwrdown ^ Loop B NH3 Fill ^Ops LAN pwrup GO for P4 SARJ OPS ^																								

MET		13	14	15	16	17	18	19	20	21	22	23	05/0	1	2	3	4	5	6	7	8	9	10	11	12
FD6	STS	S	Pst Slp	EVA Prep/ Campout Protocol			EVA 2 (Rcnfg MBSU 2/3, CETA Carts, QD Bag)					Post EVA	Pre Sleep		Sleep										
	ISS	S	PS	D	SSRMS EVA Support/ TVIS Gyro R&R			SSRMS EVA Support/ TVIS Gyro R&R		Post EVA	DPC	Pre Sleep		Sleep											
	ATT	CH 2/3↓			MBSU/Loop B Act			BIAS -XLV -ZVV				CH 2/3↑													
MCC	^Ops LAN pwrdown ^Z1 CPP Rcnfg ^Ops LAN pwrup																								

MET		13	14	15	16	17	18	19	20	21	22	23	06/0	1	2	3	4	5	6	7	8	9	10	11	12
FD7	STS	Post Sleep		Xfr/N1 Y Jmpr Instl			Meal	Crew Conf	Off Duty			EVA3	Pre Sleep/EVA PB		Sleep										
	ISS	S	Pst Slp	D	EMU Resize/ORCA			Handover		Rvw	DPC	Pre Sleep		Sleep											
	ATT	BIAS -XLV -ZVV			H SARJ String Swap			H		BIAS -XLV -ZVV															
MCC	^ Loop A NH3 Fill ^Simo Dump																								

MET		13	14	15	16	17	18	19	20	21	22	23	07/0	1	2	3	4	5	6	7	8	9	10	11	12
FD8	STS	Pst Slp	EVA Prep/ Campout Protocol			EVA 3 (Rcnfg MBSU 1/4, SMDP, Pwr rcnfg, AGB)					Post EVA	Pre Sleep		Sleep											
	ISS	S	PS	SRMS EVA Suprt/Xfr/CDRA/N1 Y Jmp Rmv			SRMS EVA Suprt/Xfr/CDRA/N1 Y Jmp Rmv		Post EVA	DPC	Pre Sleep		Sleep												
	ATT	CH 1/4↓			MBSU/Loop A Act			BIAS -XLV -ZVV				CH 1/4↑													
MCC	^Ops LAN pwrdown ^Z1 CPP Rcnfg ^Ops LAN pwrup																								

MET		13	14	15	16	17	18	19	20	21	22	23	08/0	1	2	3	4	5	6	7	8	9	10	11	12
FD9	STS	Post Slp		Transfer			Meal	Transfer/ALTEA			Pre Sleep		Sleep												
	ISS	PS	DPC	Transfer, Handover			Transfer, Handover		DPC	Pre Sleep		Sleep													
	ATT	WS#2			BIAS -XLV -ZVV																				
MCC																									

MET		13	14	15	16	17	18	19	20	21	22	23	09/0	1	2	3	4	5	6	7	8	9	10	11	12
FD10	STS	Pst Slp	Transfer		Undock Prep			UNDOCK/ Flyaround	Meal/Deploys	EVA Ent Prp	Pre Sleep		Sleep												
	ISS	PS	D	UNDOCK			MEPSI/RAFT	-ZLV +YVV	Pre Sleep		Sleep														
	ATT	BIAS -XLV -ZVV			H -XLV -ZVV			UNDOCK		MEPSI/RAFT		-ZLV +YVV		-ZLV -XVV											
MCC	Hatch Close ^ ^ Undock 8/19:00 ^ Simo Dump																								

MET		13	14	15	16	17	18	19	20	21	22	23	10/0	1	2	3	4	5	6	7	8	9	10	11	12
FD11	STS	Post Slp	FCS C/O, RCS HF, PLT OPS		Cabin Stow	PAO/ Meal	D/O Brief	Cabin Stow/Deploy	Off Duty	Pre Sleep		Sleep													
	ATT	-ZLV -XVV			ANDE		-ZLV -XVV																		
	MCC																								

MET		13	14	15	16	17	18	19	20	21	22	23	11/0	
FD12	STS	SHAB	IMU	D/O PREP				LDG						
	ATT	IMU	-XSI	COMM		ENTRY								
	MCC	^ SHAB Entry Prep ^ KSC LANDING 10/19:30												

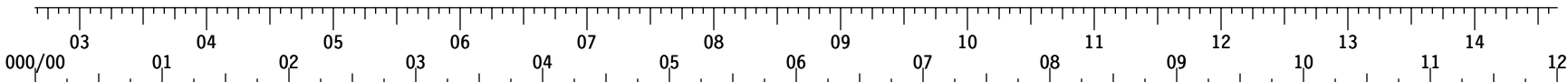
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SUMMARY TIMELINE AND ISS SHORT TERM PLAN

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GMT 12/08/06 (342)

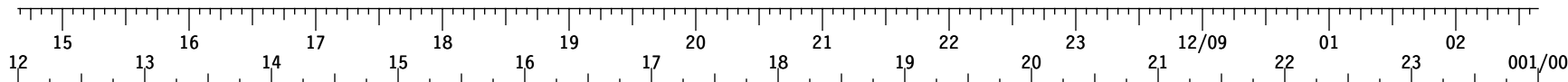
MET Day 000



STS-116	FD01	CDR POLANSKY	ASCENT	POST INSERTION	RMS* AFT CO I EVM PKU NC1A OMS BURN ZLVV RPMW SRUP RMS C/O	PRE SLEEP	ASSUMPTIONS: 1. DECEMBER 8, 2006 02:38 GMTLO SLEEP 2. SSRMS Pre-launch C/O @ L-48hrs (MT @ WS#8 with SSRMS in Pre-Handoff Position) 3. ISS SAFER C/Os completed. SLEEP 4. ISS EMUs temp stowed in Node. SLEEP 5. MTL & LTL ITCS sample complete. 6. MS5 Rotation with ISS FE-2 7. ISS N2 venting at ~launch +2 hours SLEEP	
		PLT OEFELEIN	ASCENT	POST INSERTION	PRE SLEEP OMS BURN GPRW PRDN GIRA INSTALL	PRE SLEEP		
		MS1 PATRICK	ASCENT	POST INSERTION	RMS* P/TV01 VIDEO SETUP	RPMW SRUP RMS C/O		PRE SLEEP
		MS2 CURBEAM	ASCENT	POST INSERTION	SHAB ACT	TEPCON SEE SETUP PRE SLEEP		PRE SLEEP
		MS3 FUGLESANG	ASCENT	POST INSERTION	PGSC SETUP (PART I)	WLES S/U		PRE SLEEP
		MS4 HIGGINBOTHAM	ASCENT	POST INSERTION	SHAB ACT	OSCEATCUP		PRE SLEEP - SHAB
		MS5 WILLIAMS	ASCENT	POST INSERTION	PGSC SETUP (PART I)	TIDPMSALG ERY		PRE SLEEP
DAY/NIGHT								
ORBIT								
TDRS								
ORB ATT								
NOTES		*ON-ORBIT INIT ^PWRDN *RECONFIG						

GMT 12/08/06 (342)

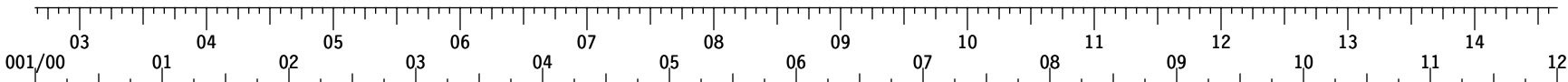
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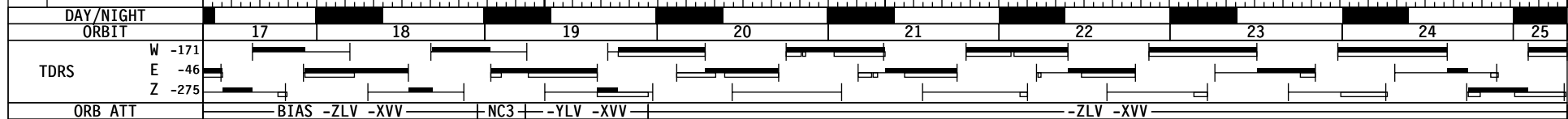
STS-116	FD02	SLEEP	POST SLEEP	NC2A OMS BURN	OBSS UNBERTH	FLAT FIELD	MSNT VBRD	OBSS STBD SURVEY	MNO VSE	NOSE CAP SURVEY	MEAL	M E A L	OBSS PORT SURVEY	M E A L
	PLT OEFELEIN	SLEEP	POST SLEEP	LOAD DAPS	OMS BURN	FLAT FIELD	OBSS STBD SURVEY	NOSE CAP SURVEY	MEAL	OBSS PORT SURVEY				
	MS1 PATRICK	SLEEP	POST SLEEP			OBSS UNBERTH	FLAT FIELD	OBSS STBD SURVEY	NOSE CAP SURVEY	MEAL	OBSS PORT SURVEY			
	MS2 CURBEAM	SLEEP	POST SLEEP			P/TV01 VIDEO SETUP	EMU C/O PREP	EMU C/O	ETVCG ASSBLY	C/L CAMR INST	ODS RING EXT	MEAL	EMU & EVA XFER PREP	
	MS3 FUGLESANG	SLEEP	POST SLEEP	PGSC SETUP (PART II)		P/TV01 VIDEO SETUP	EMU C/O PREP	EMU C/O	ETVCG ASSBLY	C/L CAMR INST	ODS RING EXT	MEAL	EMU & EVA XFER PREP	
	MS4 HIGGINBOTHAM	SLEEP	POST SLEEP - SHAB			TRANSFER PREP			ERG SETUP	EXERCISE	MEAL			
	MS5 WILLIAMS	SLEEP	POST SLEEP	PGSC SETUP (PART II)		TRANSFER PREP		EMU C/O	ERG SETUP		MEAL		H2O CWC S/U	
DAY/NIGHT	[Bar chart showing day/night cycle]													
ORBIT	[Bar chart showing orbit parameters]													
TDRS	W -171	[Bar chart showing TDRS window]												
	E -46	[Bar chart showing TDRS window]												
	Z -275	[Bar chart showing TDRS window]												
ORB ATT	-ZLV -XVV BIAS -ZLV -XVV BIAS +YSI BIAS +XSI BIAS -YSI													
NOTES														

GMT 12/09/06 (343)

MET Day 001



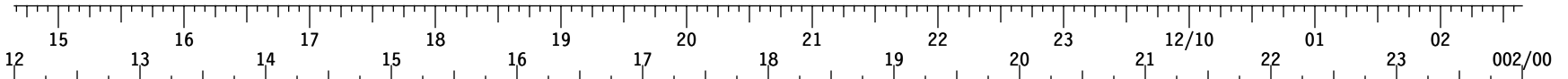
STS-116	FD02	CDR POLANSKY	OBSS BERTH	IMU	UPPER SURFACE SURVEY	NC3Δ	RCS BURN	MNR	PSLEEP	PMC A/G	PRE SLEEP	ZTLMVVR	PRE SLEEP	SLEEP
		PLT OEFELIN	EMU & EVA XFER PREP		HTRCFCG		RCS BURN		PSLEEP		PRE SLEEP	FCMS OPS	PRE SLEEP	SLEEP
		MS1 PATRICK	OBSS BERTH	OMS POD SURV		UPPER SURFACE SURVEY					SURVEY PLBK		PRE SLEEP	SLEEP
		MS2 CURBEAM	EMU & EVA XFER PREP		EXERCISE		OIU ACT				OIU*		PRE SLEEP	SLEEP
		MS3 FUGLESANG	EMU & EVA XFER PREP		EXERCISE								PRE SLEEP	SLEEP
		MS4 HIGGINBOTHAM		FILTER CLEANING		TURP ADNA STFR	HHL C/O	WLES	RNDZ TOOLS C/O				PRE SLEEP - SHAB	SLEEP
		MS5 WILLIAMS											PRE SLEEP	SLEEP



NOTES *CNTLR SWAP *MANUAL PURGE *DEACT

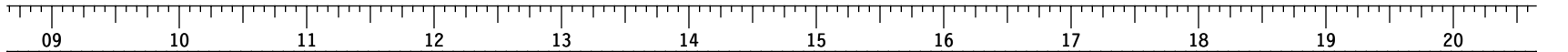
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MET Day 001

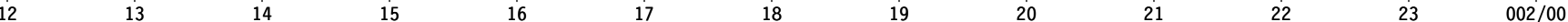


S T S - 1 1 6	FD03 CDR POLANSKY	SLEEP	POST SLEEP	GRWB PRUP BU	ISS RNDZ OPS				APPROACH T/L	MNVR TEA	GRWB PRDN BN	A T H O	W L C M	SFTY BRF	PTV06			
	PLT OEFELIN	SLEEP	POST SLEEP	SIM INIT	POST SLEEP	GRWB PRUP BU	SIM TERM	ISS RNDZ OPS				APPROACH T/L	DA OU CK KI O	GRWB PRDN BN	EXERCISE	W L C M	SFTY BRF	ETVCG
	MS1 PATRICK	SLEEP	POST SLEEP	S D E H	POST SLEEP	M C I U *	POST SLEEP	EXERCISE	ISS RNDZ OPS		APPROACH T/L	POST RNDZ PGSC CNFG	P/TV 04 S/U	HATCH OPEN	W L C M	SFTY BRF	P S T E V T O U S P	
	MS2 CURBEAM	SLEEP	POST SLEEP			ISS RNDZ OPS		D F I L D L	EMU RMVL	EXERCISE	APPROACH T/L	HATCH LEAK CK	ODS PREP	HATCH OPEN	W L C M	SFTY BRF	EMU EVA TOOL XFR	
	MS3 FUGLESANG	SLEEP	POST SLEEP			EXERCISE		D F I L D L	EMU RMVL	O I U P /TV02 S/U	P/TV02 DOCK OPS	HATCH LEAK CK	ODS PREP		W L C M	SFTY BRF	EMU EVA TOOL XFR	
	MS4 HIGGINBOTHAM	SLEEP	POST SLEEP - SHAB			EXERCISE	SHAB PREP FOR DOCK	ISS RNDZ OPS		APPROACH T/L	POST RNDZ PGSC CNFG	SHAB POST DOCK RCNFG		W L C M	SFTY BRF	ETVCG		
U P	FE-2 WILLIAMS	SLEEP	POST SLEEP			COND CWC S/U	ISS RNDZ OPS		APPROACH T/L	*DOCKING		EXERCISE		W L C M	SFTY BRF	IELK		
E X P 1 4	ISS CDR LOPEZ-ALEGRIA	SLEEP (8.5)	POST SLEEP	PREP WORK	D P C	R W S	I W I S /U	EXERCISE RED	MIDDAY-MEAL	I T I T I T E E E R R O	D V O I C D K E O		HATCH OPEN	W L C M	SFTY BRF	B I N S S M T U L		
	FE-1 TYURIN	SLEEP (8.5)	POST SLEEP	PREP WORK	D P C	C T T C	R U S S I A N O P S	EXERCISE CEVIS	P/TV VFY	MIDDAY-MEAL	4 O B I A L R M	P M A 2 A R V L C F G	C T T C	A S K M P L	HATCH OPEN	W L C M	SFTY BRF	
D N	FE-2 REITER	SLEEP (8.5)	POST SLEEP	PREP WORK	D P C	I M S E D I T	EXERCISE TVIS	P/TV VFY	MIDDAY-MEAL	8 O B I A L R M		HATCH L K - I S S	EXERCISE TVIS	W L C M	SFTY BRF	IELK		
DAY/NIGHT																		
ORBIT																		
TDRS																		
ORB ATT																		
NOTES		*FILTER CK *LAB WNDW CLS *PWRDN *DOCKING *RPM CAM DEACT (01/21:09)																

CT 12/09/06 (343)



MET Day 001



FD03 GMT 12/09/06 (343)



ISS DAY/NIGHT

DAILY ORBIT

TDRS AVAIL

C&T-UHF-ACT
 C&T-AUDIO-CNFG

DPC
 MSS-P/U
 MELFI-DEWAR-CMD

C&T-VIDEO-CNFG
 C&T-CVIU-P/U
 CDH-INH VALID-CK

ACS-GPS-ATT-SEL-INH
 ACS-CMG-DATA-DUMP

ACS-H/O-USOS-TO-RS
 LOCK-OPS-RECORDER

SPS-DKNG-PWRDN
 KU-BD-MASK-ENA

ACS-PRE-ARVL-THRSTR
 PPS-SARJ/BGA-FTHR

SDMS-DATA-TAKE
 SHUTTLE-600FT

SHUTTLE-400FT
 C&T-H/L AUDIO-CNFG

ISS/STS-DOCK-SCRIPT
 ACS-PMA2-ARVL-THRSTR

DOCK
 C&DH-DOCK-CNFG

ACS-POST-ARVL-THRSTR
 PPS-SARJ/BGA-N CNFG

ACS-GNC-PPL-U/D
 KU-BD-RNDZ MASK-DIS

RAP-DEPRESS-INH
 SPS-NOM PWR-CONFIG

C&T-UHF-DEACT
 ACS-POS-CMG-GIMBL

ACS-STS/CMG ATT-H/O
 C&T-AUDIO-DCNFG

THC-IMV-DEP ENA
 ACS-MM-USING-USTO

LOCK-OPS-RECORDER
 OCA-RPM-IMAGE-D/L

ACS-CMG-DATA-DUMP

ACS-H/O-USOS-TO-RS
 ISS-PROX OPS-XTION

ACS-PRE-ARVL-THRSTR
 SHUTTLE-600FT

SHUTTLE-400FT
 ACS-PMA2-ARVL-THRSTR

DOCK
 ISS-STAND MODE-XTION

ACS-STS/CMG ATT-H/O

СЗП-АБ-FULL CHRГ
 ACS-PRE-ARVL-THRSTR

СУДН-ОГНИ-ОН
 С-СОСБ-FTHR

Φ-СОСБ-FTHR
 ACS-PMA2-ARVL-THRSTR

С-СОСБ-MODE
 Φ-СОСБ-MODE

СУДН-ОГНИ-OFF
 СЗП-АБ-PARTIAL CHRГ

MELFI-DEWAR 1-OPS
 MELFI-DEWAR 2-OPS
 ALTEA-DOS1-OPS
 EXPRS4-SYS-PWR/THERM

DOCKING *

2-7

(01/21:09)

MELFI-DEW
 MELFI-DEW
 ALTEA-DOS
 EXPRS4-SY

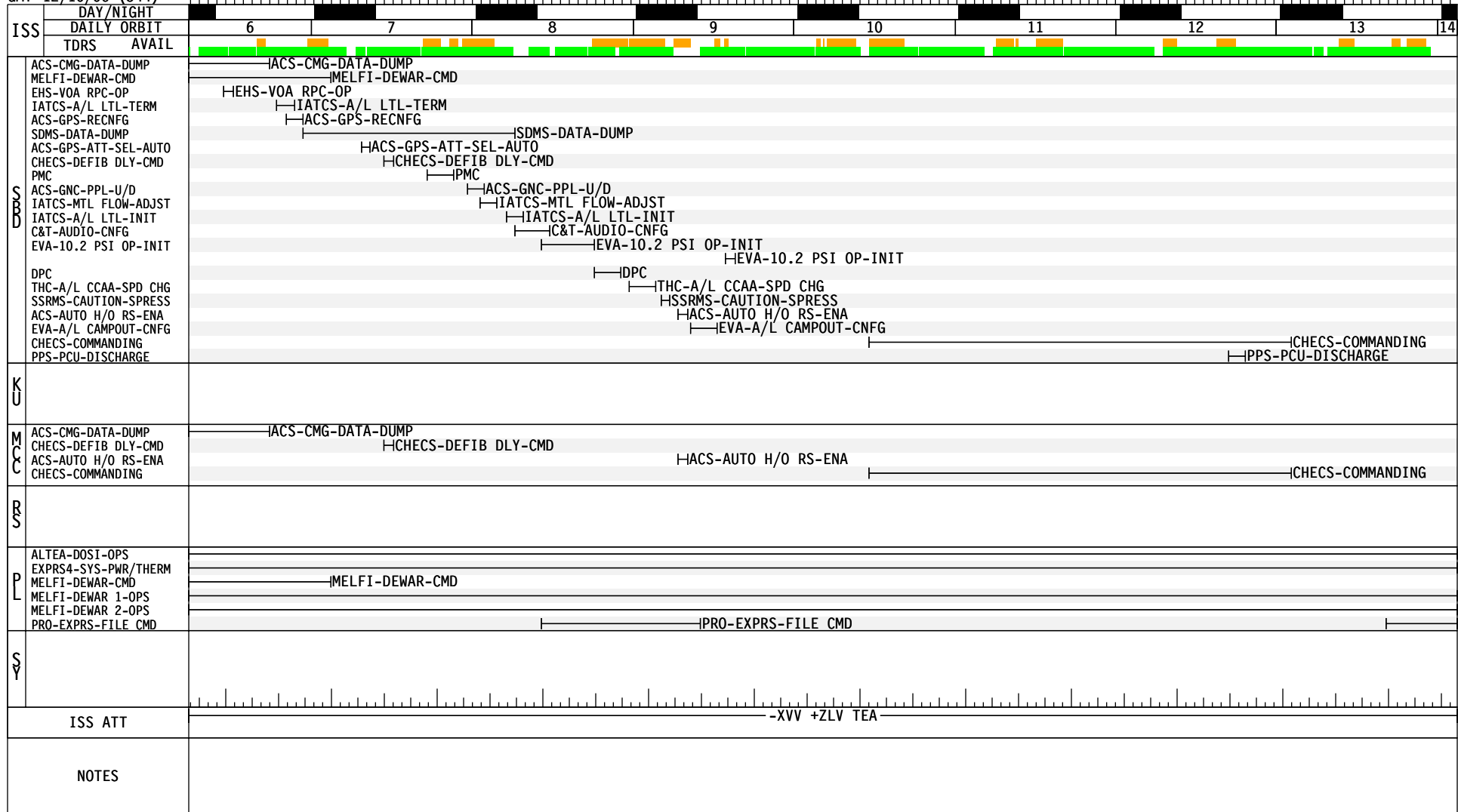
GMT 12/10/06 (344)

MET Day 002

		03		04		05		06		07		08		09		10		11		12		13		14		12	
S T S - 1 1 6	FD03 CDR POLANSKY	PP 5 R P L	P5 UN- BERTH	P5 H/O	PU 5 N G P L	02 P/B CONFIG	EVA PROCEDURE REVIEW	PS R L E E P	PMC A/G	PRE SLEEP								SLEEP									
	PLT OEFELIN	EMU EVA TOOL XFR			PRE SLEEP			O I U *	EVA PROCEDURE REVIEW	MASK PB/ TOOL CONFG	PRE SLEEP								SLEEP								
	MS1 PATRICK	PP 5 R P L	P5 UN- BERTH	P5 H/O	PU 5 N G P L	DP OL CY K B K	PP 5 L Y B K	PRE SLEEP								ISS A/L Campout @ 10.2 psi											
	MS2 CURBEAM	EMU EVA TOOL XFR			PRE SLEEP			EVA PROCEDURE REVIEW	MASK PB/ TOOL CONFG	PB/ 10.2 DPRS	TC O O N L F G	PRE SLEEP								SLEEP							
	MS3 FUGLESANG	EMU EVA TOOL XFR			PRE SLEEP			EVA PROCEDURE REVIEW	MASK PB/ TOOL CONFG	PB/ 10.2 DPRS	TC O O N L F G	PRE SLEEP								SLEEP							
	MS4 HIGGINBOTHAM	SSRMS VIEW			G P L P 5	S O F D E R	PRE SLEEP - SHAB		EVA PROCEDURE REVIEW	PRE SLEEP - SHAB								SLEEP									
U P	FE-2 WILLIAMS	IELK			G P L P 5	I E L K	S L O K O K	S L E E P	EMC PREP WORK	EVA PROCEDURE REVIEW	DPC	PRE SLEEP								SLEEP (8.5)							
E X P 1 4	ISS CDR LOPEZ-ALEGRIA	ID W E V I A O S C A T	EXERCISE TVIS		G P L P 5	S O F D E R	02 P/B CONFIG		EVA PROCEDURE REVIEW	DPC	PRE SLEEP								SLEEP (8.5)								
	FE-1 TYURIN	EVA DCS CNFG	EXERCISE RED			E X D L	COX MNT	PREP WORK	EVA PROCEDURE REVIEW	DPC	PRE SLEEP								SLEEP (8.5)								
D N	FE-2 REITER	IELK			I E L K	PREP WORK		EVA PROCEDURE REVIEW	DPC	PRE SLEEP								SLEEP (8.5)									
DAY/NIGHT		[Day/Night Cycle]																									
ORBIT		[Orbit Cycle]																									
TDRS	W -171	[TDRS W -171]																									
	E -46	[TDRS E -46]																									
	Z -275	[TDRS Z -275]																									
ORB ATT		*DEACT BIAS -XLV -ZVV																									
NOTES																											

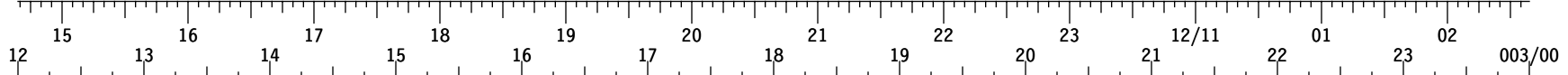
CT 12/09/06 (343)

MET Day 002 002/00
FD03
GMT 12/10/06 (344)



GMT 12/10/06 (344)

MET Day 002



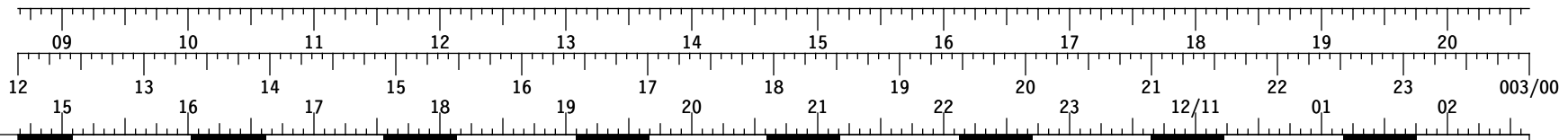
S T S - 1 1 6	FD04 CDR/R2 POLANSKY	SLEEP	POST SLEEP	POST SLEEP	EXERCISE	P/TV 07 S/U	P/TV07 EVA OPS	MEAL	P/TV07 EVA OPS					
	PLT/IV OEFELIN	SLEEP	POST SLEEP	CAMPOUT EVA PREP		EMU PBRTHE	C/L DPRS	IV SUPPORT						
	MS1/R1 PATRICK	SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	EXERCISE	C/L DPRS	CX WCR	MEAL		TRANSFER			
	MS2/EV1 CURBEAM	SLEEP	POST SLEEP	HYGN BREAK/ PREBRTHE	CAMPOUT EVA PREP	EMU PBRTHE	C/L DPRS	PI DGRSS	P5-LAUNCH LOCK-RMVL	P5 TO P4 ATTACHMENT	PVRGF TRANSFER KEEL	CP3 CAMERA R&R		
	MS3/EV2 FUGLESANG	SLEEP	POST SLEEP	HYGN BREAK/ PREBRTHE	CAMPOUT EVA PREP	EMU PBRTHE	C/L DPRS	PI DGRSS	P5-LAUNCH LOCK-RMVL	P5 TO P4 ATTACHMENT	PVRGF TRANSFER KEEL	CP3 CAMERA R&R		
	MS4 HIGGINBOTHAM	SLEEP	POST SLEEP - SHAB		SSRMS TO PREINST S/U	EXERCISE	PI RNE -T L	SSRMS LOCK RMVL OPS	P5 ON P4-INSTL	USXP NSLR GRAE RMT PSE	TRANSFER			
D N	FE-2 REITER	SLEEP (8.5)	POST SLEEP	PREP WORK	DPC	EXERCISE TVIS	SS TOK OWL	MIDDAY-MEAL	GL VIE	ST OW	COX MNT	EXERCISE TVIS	H/O	
E X P 1 4	ISS CDR LOPEZ-ALEGRIA	SLEEP (8.5)	POST SLEEP	CAMPOUT EVA PREP		EMU PBRTHE	C/L DPRS	PI RNE -T L	SSRMS LOCK RMVL OPS	P5 ON P4-INSTL	UN GR P	EXERCISE RED	EXER TVIS	
	FE-1 TYURIN	SLEEP (8.5)	POST SLEEP	PREP WORK	DPC	EXERCISE TVIS	PI MT D I W SS	MIDDAY-MEAL	RUSSIAN OPS	TRANSFER				
U P	FE-2/EV3 WILLIAMS	SLEEP (8.5)	POST SLEEP	SSRMS TO PREINST S/U		PVPS MLM/ DCDU IRIS SOS	PMDIS EXP	ADAPT	PI RNE -T L	SSRMS LOCK RMVL OPS	P5 ON P4-INSTL	USXP NSLR GRAE RMT PSE	ADAPTATION	H/O
DAY/NIGHT		[Bar chart showing day/night cycle]												
ORBIT		[Bar chart showing orbit parameters]												
TDRS		[Bar chart showing TDRS events]												
ORB ATT		BIAS -XLV -ZVV												
NOTES		*FILTER CK												

CT 12/10/06 (344)

MET Day 002

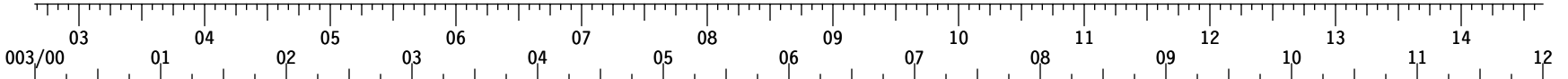
FD04

GMT 12/10/06 (344)



ISS	DAY/NIGHT	DAILY ORBIT	TDRS	AVAIL
S B D	C&T-VIDEO-CNFG			
	VDS-ETVCG-DEACT			
	PPS-BGA 4A-LOCK			
	C&T-UHF-ACT			
	C&T-AUDIO-CNFG			
	EVA-HYG BRK/PREBRTHE			
	ACS-AUTO H/O RS-INH			
	VDS-VTR-ACT			
	SSRMS-CAUTION-ENABLE			
	DPC			
EVA1 INHIBIT PAD				
PPS-PCU FDIR-ENA				
EVA-RAP DPRS-INH				
VDS-WETA-ACT				
EVA-10.2 PSI OP-TERM				
THC-A/L CCAA-SPD CHG				
PPS-BGA 2A-LOCK				
ACS-PCA VRIV-OP				
ACS-PCA VRIV-CL				
VDS-WETA-CONFIG				
VDS-ETVCG-INH				
ACS-GNC-PPL-U/D				
VDS-ETVCG-ACT				
K				
M C	ACS-AUTO H/O RS-INH			
	EVA1 INHIBIT PAD			
R S	GTS-OFF-PRD400			
P L	ALTEA-DOSI-OPS			
	EXPRS4-SYS-PWR/THERM			
	MELFI-DEWAR 1-OPS			
	MELFI-DEWAR 2-OPS			
PRO-EXPRS-FILE CMD				
S Y				
ISS ATT				
NOTES				

GMT 12/11/06 (345)

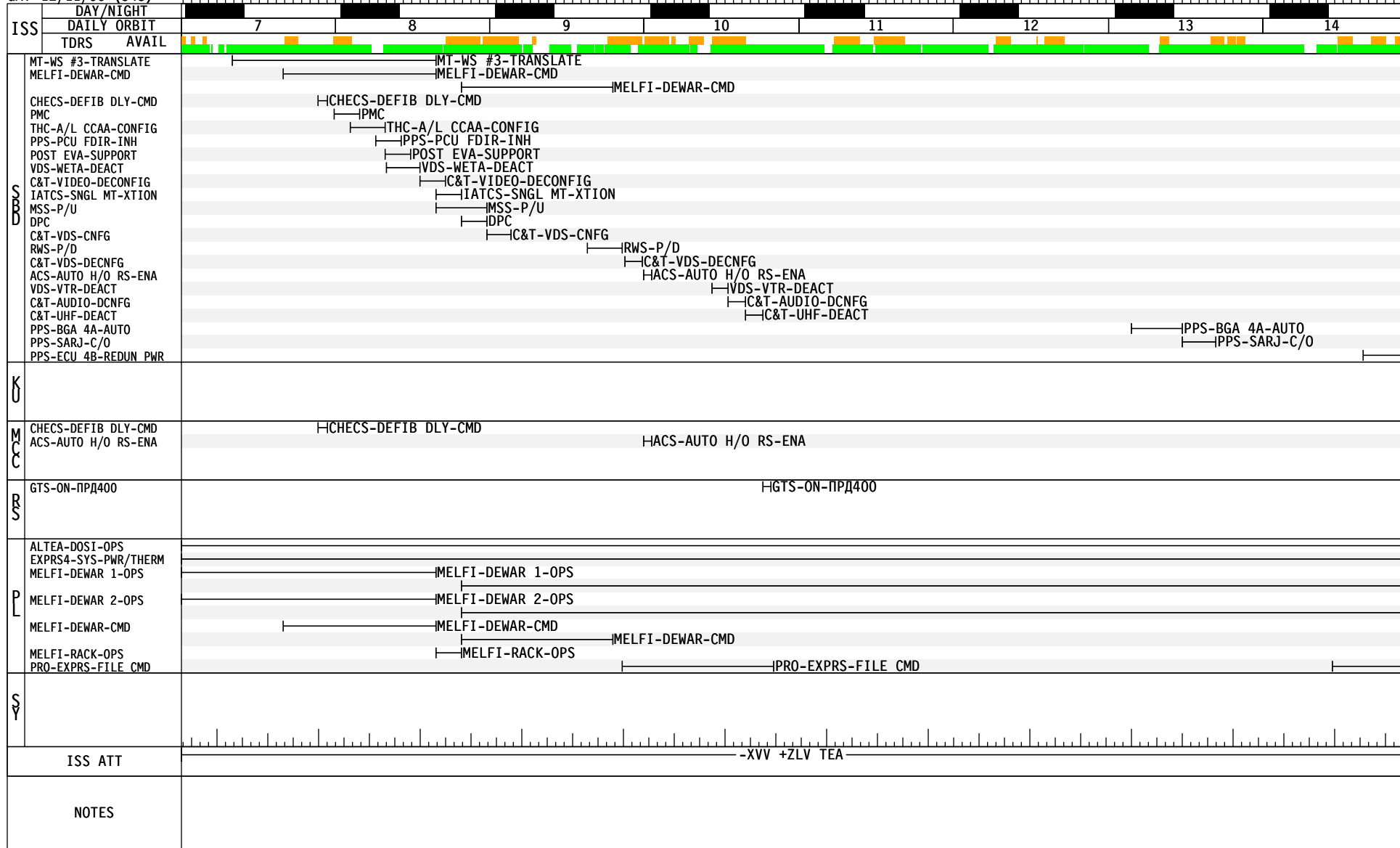


MET	Day 003	03	04	05	06	07	08	09	10	11	12	13	14	12	
S T S - 1 1 6	FD04 CDR/R2 POLANSKY	P/TV07 EVA OPS	IMU	PRE SLEEP	COM MCA	PS R L E E P	02 XFER S/U	02*	PRE SLEEP	SLEEP					
	PLT/IV OEFELIN	IV SUPPORT	PRE R P R S	POST EVA W/H2O	BSA INIT	PRE SLEEP			SLEEP						
	MS1/R1 PATRICK	TRANSFER	PRE M W R D N	OIU*	PRE SLEEP			SLEEP							
	MS2/EV1 CURBEAM	* C U L P E A N	I N G R S	PRE R P R S	POST EVA W/H2O	TOOL CONFG	PRE SLEEP			SLEEP					
	MS3/EV2 FUGLESANG	⊕ C U L P E A N	I N G R S	PRE R P R S	POST EVA W/H2O	TOOL CONFG	PRE SLEEP			SLEEP					
	MS4 HIGGINBOTHAM	TRANSFER	X T F A R E R U R E P	B F E I R E F	PRE SLEEP - SHAB	P6 RET VIEW	PRE SLEEP - SHAB			SLEEP					
D N	FE-2 REITER	H/O	TRANSFER	⊕ X T F A R E R U R E P	PREP WORK	PRE SLEEP	DPC	02 XFER S/U	02*	PRE SLEEP	SLEEP (8.5)				
E X P 1 4	ISS CDR LOPEZ-ALEGRIA	EXER TVIS	POST EVA W/H2O		PW	DPC	PREP WORK	PRE SLEEP			SLEEP (8.5)				
	FE-1 TYURIN	TRANSFER	EXERCISE RED		E X D L	PREP WORK	DPC	PREP WORK	PRE SLEEP			SLEEP (8.5)			
U P	FE-2/EV3 WILLIAMS	H/O	ADAPTATION	PMC	PREP WORK	DPC	PS R L E E P	P6 RET VIEW	PRE SLEEP			SLEEP (8.5)			
DAY/NIGHT															
ORBIT		49 50 51 52 53 54 55 56													
TDRS	W -171														
	E -46														
	Z -275														
ORB ATT		BIAS -XLV -ZVV													
NOTES		*CP3 CAMERA R&R @EVA D/L *INIT @CP3 CAMERA R&R @P/TV-DCS BATT-CHRG *DEACT													

CT 12/10/06 (344)

MET Day 003 003/00
FD04

GMT 12/11/06 (345)

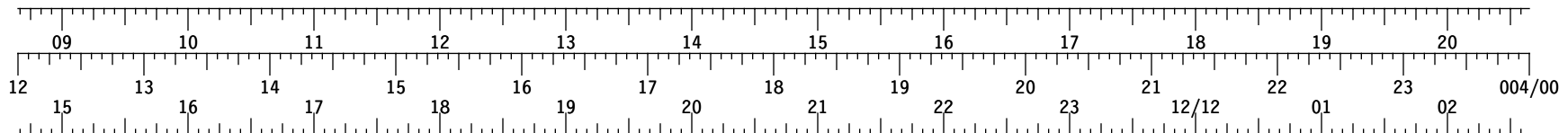


		No Exercise																		No Exercise		No Exercise	
GMT 12/11/06 (345)		12	15	16	17	18	19	20	21	22	23	21	12/12	22	01	23	02	004/00					
MET Day 003		12	13	14	15	16	17	18	19	20	21	22	23	21	22	23	02	004/00					
STS-116	FD05 CDR/R2 POLANSKY	SLEEP	POST SLEEP		POST SLEEP	MCI UI*	IOU ACT	J P/TV 10 S/U	3 B A Y	RTRCT SRVEY	TO 1 BAY	SABB UNLCH	MEAL	02*	02 XFER RCNFG	FR UT LR CL CT	N2 XFER INIT						
	PLT/IV OFELEIN	SLEEP	POST SLEEP		POST SLEEP	LI OH RPL CINIT	EM U BATT RPLC INIT	ET VCG DIS ASSMBL	PWR FILL	EXERCISE	PX W F R E R	TRANSFER	MEAL	TRANSFER				PE A V E N T					
	MS1/R1 PATRICK	SLEEP	POST SLEEP		POST SLEEP	RP M W S U P	RP M S *	J P/TV 10 S/U	TRANSFER		EXERCISE		MEAL	TRANSFER				PE A V E N T					
	MS2/EV1 CURBEAM	SLEEP	POST SLEEP		EXERCISE	ETVCG DISASSMBL		TRANSFER		E/L PREP	MEAL	STBD QD BAG PACK	PORT QD BAG PACK	TP LA /C PK M	TRANSFER			PE A V E N T					
	MS3/EV2 FUGLESANG	SLEEP	POST SLEEP		EXERCISE	3 B A Y		RTRCT SRVEY	TO 1 BAY	TRANSFER	E/L PREP	MEAL	B S A *	STBD QD BAG PACK	PORT QD BAG PACK	TP LA /C PK M	XFER	PAO P/TV S/U	PE A V E N T				
	MS4 HIGGINBOTHAM	SLEEP	POST SLEEP - SHAB		TRANSFER	3 B A Y		RTRCT SRVEY	TO 1 BAY	TRANSFER	EXERCISE	MEAL	TRANSFER						PE A V E N T				
DN	FE-2 REITER	SLEEP (8.5)	POST SLEEP	PREP WORK	DPC PW	TRANSFER		ODHT PRELIM	EXERCISE TVIS	TRANSFER		MIDDAY-MEAL	02*	02 XFER RCNFG	N2 XFER INIT		XFER						
EXP 14	ISS CDR LOPEZ-ALEGRIA	SLEEP (8.5)	POST SLEEP	PREP WORK	DPC PW	OPS LAN P/D	P R E P	PAO	TRANSFER	EXERCISE RED	CCAA SWAP	MIDDAY-MEAL	HANDOVER		HANDOVER								
	FE-1 TYURIN	SLEEP (8.5)	POST SLEEP	PREP WORK	DPC PW	S / U	P R E P	PAO	ODHT PRELIM	TRANSFER		MIDDAY-MEAL	TRANSFER	EXERCISE VELO									
UP	FE-2/EV3 WILLIAMS	SLEEP (8.5)	POST SLEEP	PREP WORK	DPC PW	ADAPTATION		3 B A Y	RTRCT SRVEY	TO 1 BAY	ADAPTATION	SABB UNLCH	CCAA SWAP	MIDDAY-MEAL	HANDOVER		FR UT LR CL CT	HANDOVER					
DAY/NIGHT		[Visual representation of day/night cycle]																					
ORBIT		[Visual representation of orbit parameters]																					
TDRS		[Visual representation of TDRS coverage]																					
ORB ATT		[Visual representation of orbit attitude]																					
NOTES		*HTR *FILTER CK *MNV BIAS -XLV -ZVV *TERM*TERM																					

CT 12/11/06 (345)

MET Day 003

FD05
GMT 12/11/06 (345)



ISS	DAY/NIGHT	[Day/Night Bar]								
	DAILY ORBIT	14	15	16	1	2	3	4	5	6
	TDRS AVAIL	[Green Bar]								

D	PPS-ECU 4B-REDUN PWR	[Timeline]					
	VDS-ACT	[Timeline]					
	C&T-VDS-CNFG	[Timeline]					
	SPS-4B-PWRDN	[Timeline]					
	ACS-AUTO H/O RS-INH	[Timeline]					
	PPS-4B TO 4A-SPCH	[Timeline]					
	PPS-BGA 4B-SAFE/LOCK	[Timeline]					
	PPS-4B-CHARGE BOOST	[Timeline]					
	ACS-GPS-ATT-SEL-INH	[Timeline]					
	PPS-SA 4B RTRCT-PREP	[Timeline]					
DPC	[Timeline]						
PAO-EVENT	[Timeline]						
PPS-4B 3 BAYS-RETRCT	[Timeline]						
EPS-4B SA RTRCT-SRVY	[Timeline]						
PPS-4B 1 BAY-RETRACT	[Timeline]						
PPS-BGA 4B-UNLATCH	[Timeline]						
PPS-P4 SA-FTHR	[Timeline]						
PPS-PRT SARJ-AUTOTRK	[Timeline]						
PPS-P6 SA SABB-UNLCH	[Timeline]						
ETCS-P TRRJ 1/4-AUTO	[Timeline]						
VDS-ISS VTR-D/L	[Timeline]						
PPS-BGA 4A/2A-AUTO	[Timeline]						
THC-LAB CCAA-SWAP	[Timeline]						
ETCS-LP B-NH3 FILL	[Timeline]						
PPS-4B CNT SCRPT-U/L	[Timeline]						
SPS-4B/4A-PWRUP	[Timeline]						
THC-A/L CCAA-CONFIG	[Timeline]						
PPS-4B FULL-RETRACT	[Timeline]						
MELFI-DEWAR-CMD	[Timeline]						
ORCA-P/D	[Timeline]						

K	PAO-EVENT	[Timeline]					
	PPS-4B 3 BAYS-RETRCT	[Timeline]					
	EPS-4B SA RTRCT-SRVY	[Timeline]					
	PPS-4B 1 BAY-RETRACT	[Timeline]					
	PPS-P6 SA SABB-UNLCH	[Timeline]					
	VDS-ISS VTR-D/L	[Timeline]					
PPS-4B SA-CONT INSP	[Timeline]						
PPS-4B FULL-RETRACT	[Timeline]						

M	SPS-4B-PWRDN	[Timeline]					
	ACS-AUTO H/O RS-INH	[Timeline]					
	NO EXERCISE	[Timeline]					
	VDS-ISS VTR-D/L	[Timeline]					
SPS-4B/4A-PWRUP	[Timeline]						

SPS		[Timeline]					
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P	ALTEA-DOSI-OPS	[Timeline]					
	EXPRS4-SYS-PWR/THERM	[Timeline]					
	MELFI-DEWAR 1-OPS	[Timeline]					
	MELFI-DEWAR 2-OPS	[Timeline]					
PRO-EXPRS-FILE CMD	[Timeline]						
MELFI-DEWAR-CMD	[Timeline]						

S		[Timeline]					
	ISS ATT	[Timeline]					

-XVV +ZLV TEA

2-15 FLT PLN/116/FIN

NOTES

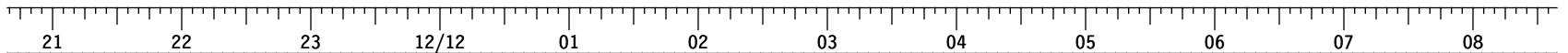
No Exercise

GMT 12/12/06 (346)

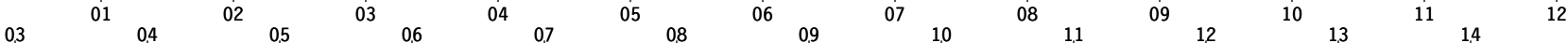
MET Day 004

		03		04		05		06		07		08		09		10		11		12		13		14		12	
S T S - 1 1 6	FD05 CDR/R2 POLANSKY	EXERCISE		SABB LATCH	EVA PROCEDURE REVIEW		PRE SLEEP	PMC OCA	PRE SLEEP						SLEEP												
	PLT/IV OEFELIN	TRANSFER			EVA PROCEDURE REVIEW		PRE SLEEP		MASK PB/ TOOL CFG	PRE SLEEP		SLEEP															
	MS1/R1 PATRICK	TRANSFER			R M S *	R M S *	O I U *	M O N I T R	PRE SLEEP						SLEEP												
	MS2/EV1 CURBEAM	PRE SLEEP		EVA PROCEDURE REVIEW		PRE SLEEP		MASK PB/ TOOL CFG	PB/ 10.2 DPRS	T C O O N L F G	P S R L E E P	SLEEP															
	MS3/EV2 FUGLESANG	TRANSFER	PRE SLEEP	EVA PROCEDURE REVIEW		PRE SLEEP		MASK PB/ TOOL CFG	PB/ 10.2 DPRS	T C O O N L F G	P S R L E E P	SLEEP															
	MS4 HIGGINBOTHAM	TRANSFER		EVA PROCEDURE REVIEW		X T F A E G R U P	X T F A E G R U P	B I R E F	PRE SLEEP - SHAB						SLEEP												
D N	FE-2 REITER	X F E R	COX MNT	IMS EDIT	EVA PROCEDURE REVIEW		X T F A E G R U P	P R E P W O R K	D P C	P W O R K	PRE SLEEP						SLEEP (8.5)										
E X P 1 4	ISS CDR LOPEZ-ALEGRIA	EXERCISE CEVIS		A R C L N F G	EVA PROCEDURE REVIEW		O P S L A N P U	P W O R K	D P C	P W O R K	PRE SLEEP						SLEEP (8.5)										
	FE-1 TYURIN	EXERCISE VELO		E X D L	EVA PROCEDURE REVIEW		P R E P W O R K	D P C	P W O R K	PRE SLEEP						SLEEP (8.5)											
U P	FE-2/EV3 WILLIAMS	E H X / E O R	IMS EDIT	EVA PROCEDURE REVIEW		P R E P W O R K	D P C	PMC	PRE SLEEP						SLEEP (8.5)												
DAY/NIGHT		[Bar chart showing day/night cycle]																									
ORBIT		[Bar chart showing orbit parameters]																									
TDRS		[Bar chart showing TDRS events]																									
ORB ATT		[Bar chart showing orb att parameters]																									
NOTES		*PCS P/D *MNVR *DEACT @PCS P/U ♦HMS-DEFIB PDIM-OFF BIAS -XLV -ZVV																									

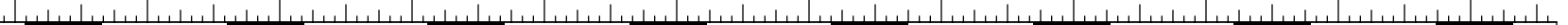
CT 12/11/06 (345)



MET FD05 Day 004 004/00



GMT 12/12/06 (346)



ISS	DAY/NIGHT	[Bar chart showing day/night cycle]													
	DAILY ORBIT	[Bar chart showing orbit data]													
	TDRS	[Bar chart showing TDRS data]													
	AVAIL	[Bar chart showing availability]													

S B R S	ETCS-LP B-NH3 FILL	ETCS-LP B-NH3 FILL													
	MELFI-DEWAR-CMD	MELFI-DEWAR-CMD													
	IATCS-SNGL LT-XTION	IATCS-SNGL LT-XTION													
	A/L-MDM-P/D	A/L-MDM-P/D													
	C&T-VIDEO-DECONFIG	C&T-VIDEO-DECONFIG													
	IATCS-A/L LTL-TERM	IATCS-A/L LTL-TERM													
	ACS-A/L PCA-DEACT	ACS-A/L PCA-DEACT													
	SPS-A/L EPS-DEACT	SPS-A/L EPS-DEACT													
	EPS-A/L AV PWR-RCNFG	EPS-A/L AV PWR-RCNFG													
	PPS-P6 SA SABB-LATCH	PPS-P6 SA SABB-LATCH													
	PPS-BGA 4B-DP 0	PPS-BGA 4B-DP 0													
	SPS-A/L EPS-ACT	SPS-A/L EPS-ACT													
	ACS-A/L PCA-ACT	ACS-A/L PCA-ACT													
	A/L-MDM-P/U	A/L-MDM-P/U													
	PPS-BGA 4B-DORMANT	PPS-BGA 4B-DORMANT													
	VDS-ISS VTR-D/L	VDS-ISS VTR-D/L													
	CHECS-DEFIB DLY-CMD	CHECS-DEFIB DLY-CMD													
	C&T-AUDIO-CNFG	C&T-AUDIO-CNFG													
	ACS-GPS-ATT-SEL-AUTO	ACS-GPS-ATT-SEL-AUTO													
	IATCS-A/L LTL-INIT	IATCS-A/L LTL-INIT													
	MSS-P/D	MSS-P/D													
	DPC	DPC													
	EVA-10.2 PSI OP-INIT	EVA-10.2 PSI OP-INIT													
	PMC	PMC													
	MSS-P/U	MSS-P/U													
	THC-A/L CCAA-SPD CHG	THC-A/L CCAA-SPD CHG													
	ACS-AUTO H/O RS-ENA	ACS-AUTO H/O RS-ENA													
	EVA-A/L CAMPOUT-CNFG	EVA-A/L CAMPOUT-CNFG													
	PRO-EXPRS4 DEACT-CMD	PRO-EXPRS4 DEACT-CMD													

K	PPS-4B SA-CONT INSP	PPS-4B SA-CONT INSP													
	PPS-P6 SA SABB-LATCH	PPS-P6 SA SABB-LATCH													
	VDS-ISS VTR-D/L	VDS-ISS VTR-D/L													

M C C	NO EXERCISE	NO EXERCISE													
	VDS-ISS VTR-D/L	VDS-ISS VTR-D/L													
	CHECS-DEFIB DLY-CMD	CHECS-DEFIB DLY-CMD													
	ACS-AUTO H/O RS-ENA	ACS-AUTO H/O RS-ENA													
	ISS-ORU-PREHEAT	ISS-ORU-PREHEAT													

R S	ALTEA-DOSI-OPS	ALTEA-DOSI-OPS													
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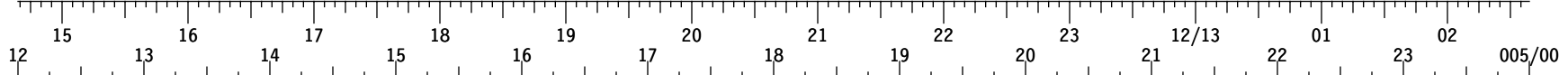
P	EXPRS4-SYS-PWR/THERM	EXPRS4-SYS-PWR/THERM													
	MELFI-DEWAR 1-OPS	MELFI-DEWAR 1-OPS													
	MELFI-DEWAR 2-OPS	MELFI-DEWAR 2-OPS													
	MELFI-DEWAR-CMD	MELFI-DEWAR-CMD													
	MELFI-RACK-OPS	MELFI-RACK-OPS													
	PRO-EXPRS-FILE CMD	PRO-EXPRS-FILE CMD													
	PRO-EXPRS4-VFY	PRO-EXPRS4-VFY													
	PRO-ALTEA-CMD	PRO-ALTEA-CMD													
	PRO-EXPRS4 DEACT-CMD	PRO-EXPRS4 DEACT-CMD													

S		2-17													
		FLT PLN/116/FIN													

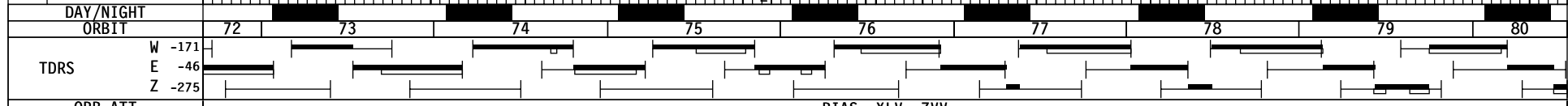
ISS ATT		-XVV +ZLV TEA													
		*PWRDN													

GMT 12/12/06 (346)

MET Day 004



S T S - 1 1 6	FD06 CDR/R2 POLANSKY	SLEEP	POST SLEEP	POST SLEEP	POST SLEEP	EXERCISE	P/TV 07 S/U	MEAL	P/TV07 EVA OPS								
	PLT/IV OEFELIN	SLEEP	POST SLEEP	CAMPOUT EVA PREP		EMU PBRTHE	C/L DPRS	IV SUPPORT									
	MS1/R1 PATRICK	SLEEP	POST SLEEP	14.7 RPRS	10.2 DPRS	JIRM PSRT	14.7 RPRS	OIU ACT	RP MWR SUP	CIN WRCI #2	CT WE CR #2	CET MA	MEAL	CX FE ER	6:00 Hours	EXERCISE	XFER
	MS2/EV1 CURBEAM	SLEEP	POST SLEEP	HYGN BREAK/ PREBRTHE	CAMPOUT EVA PREP		EMU PBRTHE	C/L DPRS	DEGRSS	CH 2/3 PWR RECONFIG	CETA CART 2 RELOCATE		CETA CART 1 RELOCATE	FMS MLI INST	ZR 1C N P F G	CUL P E A N	IT N G R S
	MS3/EV2 FUGLESANG	SLEEP	POST SLEEP	HYGN BREAK/ PREBRTHE	CAMPOUT EVA PREP		EMU PBRTHE	C/L DPRS	DEGRSS	CH 2/3 PWR RECONFIG	CETA CART 2 RELOCATE		CETA CART 1 RELOCATE	EVA BAG INSTL	CUL P E A N	IT N G R S	
	MS4 HIGGINBOTHAM	SLEEP	POST SLEEP - SHAB			XU FP RD AT	FILTER CLEANING	EXERCISE	SSRMS-S/U	MEAL	CETA CART 2 RELOCATE	CETA CART 1 RELOCATE		XFER			
D N	FE-2 REITER	SLEEP (8.5)		POST SLEEP	PREP WORK	DPC	OPS LAN P/D	EXERCISE TVIS	MIDDAY-MEAL	LAB DDCU CONFIG	TVIS GYRO R&R		TVIS ACO				
E X P 1 4	ISS CDR LOPEZ-ALEGRIA	SLEEP (8.5)		POST SLEEP	CAMPOUT EVA PREP		EMU PBRTHE	C/L DPRS	MIDDAY-MEAL	TVIS GYRO R&R							
	FE-1 TYURIN	SLEEP (8.5)		POST SLEEP	PREP WORK	DPC	JIRM PSRT	RUSSIAN OPS	EXERCISE VELO	LAB DDCU CONFIG	MIDDAY-MEAL	RUSSIAN OPS	COX MNT				
U P	FE-2/EV3 WILLIAMS	SLEEP (8.5)		POST SLEEP	CAMPOUT EVA PREP		EMU PBRTHE	C/L DPRS	SSRMS-S/U	MIDDAY-MEAL	CETA CART 2 RELOCATE	CETA CART 1 RELOCATE					

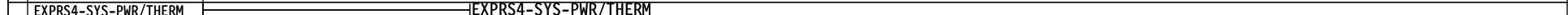
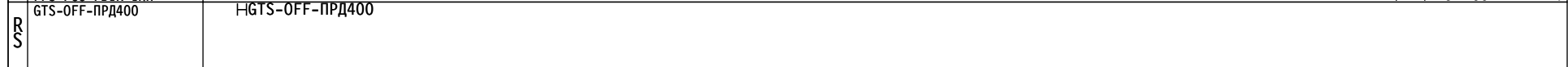
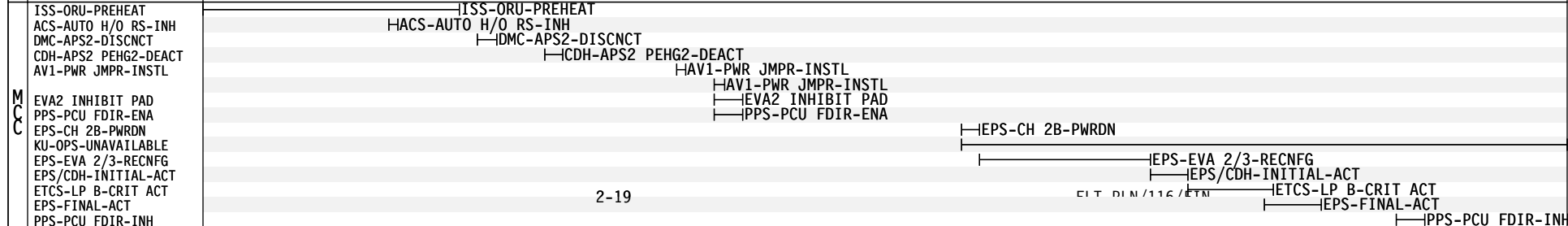
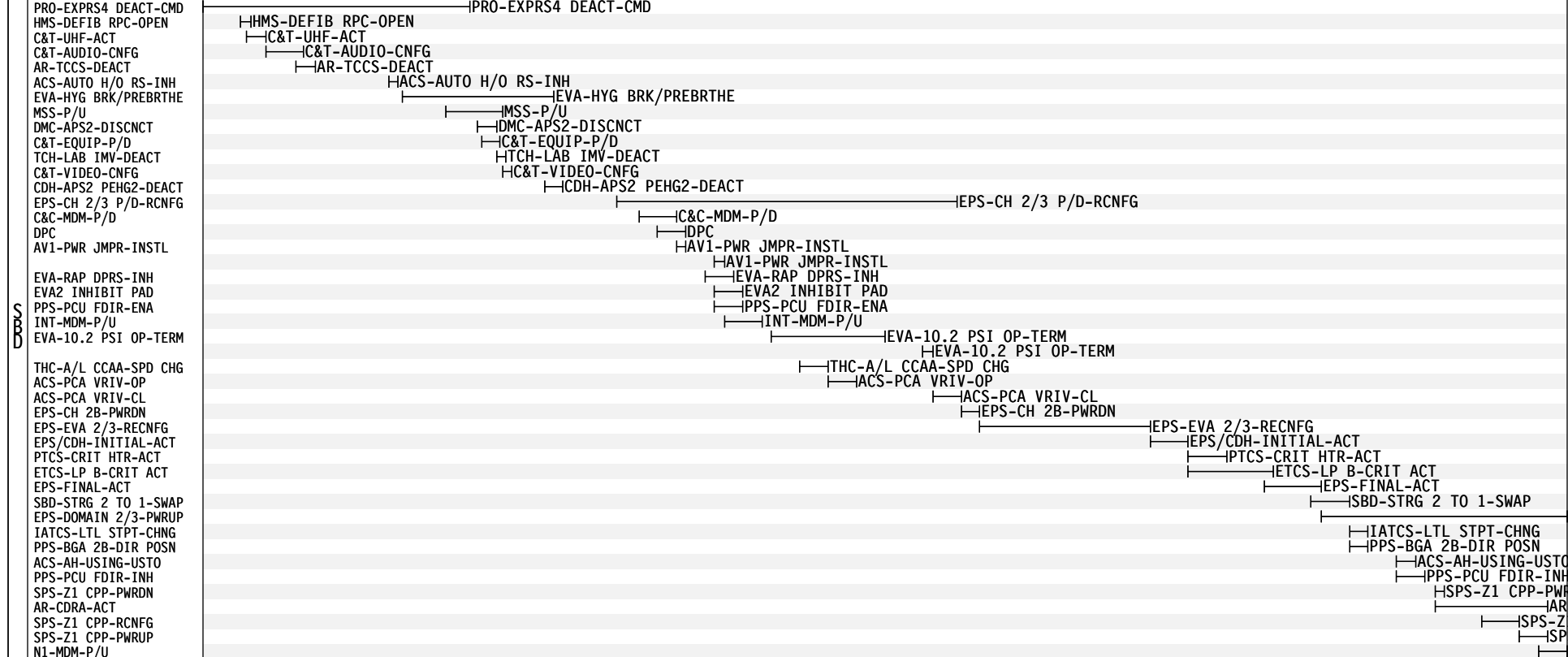
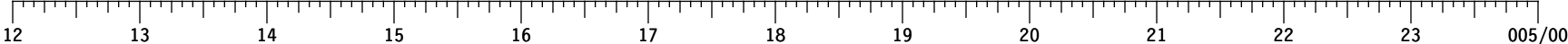


ORB ATT	*TERM	*HTR	BIAS -XLV -ZVV	*RELOCATE VIEW	@CDRA ACT	*MS EDIT
NOTES			*CB OFF			

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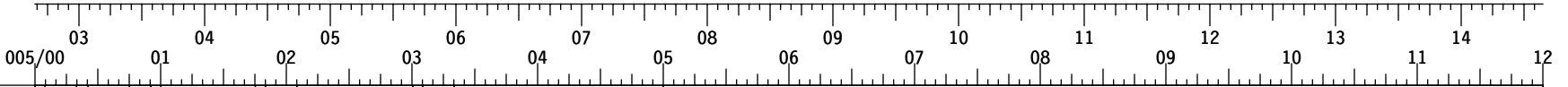
MET Day 004
FD06

GMT 12/12/06 (346)



GMT 12/13/06 (347)

MET Day 005



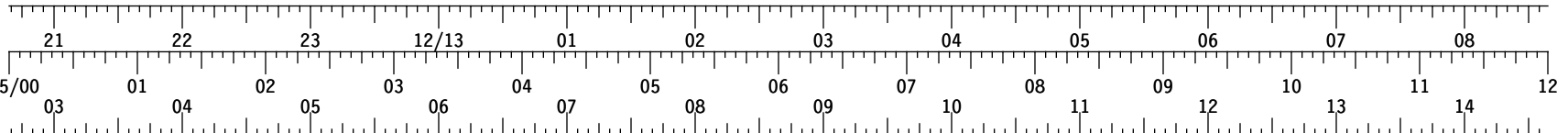
STS - 1 1 6	FD06	CDR/R2 POLANSKY	PRE SLEEP	PRE SLEEP	SLEEP				
	PLT/IV OEFELIN	POST EVA W/H2O	BSA INIT	PRE SLEEP	PRE SLEEP	SLEEP			
	MS1/R1 PATRICK	XFER	JR MM PV	XFER	PRE SLEEP	SLEEP			
	MS2/EV1 CURBEAM	INGRS	PRE PPRS	POST EVA W/H2O	TOOL CONFG	PRE SLEEP	SLEEP		
	MS3/EV2 FUGLESANG	INGRS	PRE PPRS	POST EVA W/H2O	TOOL CONFG	PRE SLEEP	SLEEP		
	MS4 HIGGINBOTHAM	XFER	XT FAGE RURP	XT FAGE RURP	PRE SLEEP - SHAB	SLEEP			
DN	FE-2 REITER	TVIS ACO	SAFER C/O	PREP WORK	DPC LAN P/U	PRE SLEEP	SLEEP (8.5)		
	ISS CDR LOPEZ-ALEGRIA	EXERCISE RED	PREP WORK	DPC	PREP WORK	PRE SLEEP	SLEEP (8.5)		
EXP 1 4	FE-1 TYURIN	IMS EDIT	JR MM PV	EXERCISE VELO	PREP WORK	DPC EX DL	PREP WORK	PRE SLEEP	SLEEP (8.5)
	FE-2/EV3 WILLIAMS	POST EVA W/H2O	PMCP	PREP WORK	DPC	PREP WORK	PRE SLEEP	SLEEP (8.5)	
DAY/NIGHT		[Day/Night bar chart]							
ORBIT		[Orbit bar chart]							
TDRS	W -171	[W -171 bar chart]							
	E -46	[E -46 bar chart]							
	Z -275	[Z -275 bar chart]							
ORB ATT		BIAS -XLV -ZVV							
NOTES		*IV SUPPORT@WARN BOOK *INIT @EVA D/L *FILTER CK *P/TV-DCS_BATT-CHRG *RELOCATE VIEW 2-20							

CT 12/12/06 (346)

MET
FD06

Day 005 005/00

GMT 12/13/06 (347)



ISS	DAY/NIGHT	
	DAILY ORBIT	TDRS AVAIL
S B D	EPS-DOMAIN 2/3-PWRUP	IEPS-DOMAIN 2/3-PWRUP
	N1-MDM-P/U	I-N1-MDM-P/U
	ACS-MM-USING-USTO	I-ACS-MM-USING-USTO
	INT-MDM-P/D	I-INT-MDM-P/D
	SBD-STRG 1 TO 2-SWAP	I-SBD-STRG 1 TO 2-SWAP
	AV1-PWR JMPR-RMV	I-AV1-PWR JMPR-RMV
		I-AV1-PWR JMPR-RMV
	SBD-STRING 1-DEACT	I-SBD-STRING 1-DEACT
	PPS-BGA 2B-AUTOTRACK	I-PPS-BGA 2B-AUTOTRACK
	C&C-MDM-P/U	I-C&C-MDM-P/U
	C&T-EQUIP-P/U	I-C&T-EQUIP-P/U
	THC-A/L CCAA-RCNFG	I-THC-A/L CCAA-RCNFG
	MSS-P/D	I-MSS-P/D
	POST EVA-SUPPORT	I-POST EVA-SUPPORT
	PPS-PCU FDIR-INH	I-PPS-PCU FDIR-INH
C&T-VIDEO-DECONFIG	I-C&T-VIDEO-DECONFIG	
C&C-B/U MDM-SWAP	I-C&C-B/U MDM-SWAP	
PMC	I-PMC	
THC-LAB IMV-ACT	I-THC-LAB IMV-ACT	
DPC	I-DPC	
C&T-AUDIO-DCNFG	I-C&T-AUDIO-DCNFG	
C&T-UHF-DEACT	I-C&T-UHF-DEACT	
EPS-RPCM-POR	I-EPS-RPCM-POR	
ACS-AUTO H/O RS-ENA	I-HACS-AUTO H/O RS-ENA	
CDH-APS2 PEHG2-ACT	I-CDH-APS2 PEHG2-ACT	
DMC-APS2-CNCT	I-DMC-APS2-CNCT	
CHECS-COMMANDING	I-CHECS-COMMANDING	
PRO-EXPRS4 ACT-CMD	I-PRO-EXPRS4 ACT-CMD	
K	OCA-OPS-UNAVAILABLE	I-OCA-OPS-UNAVAILABLE
	KU-OPS-UNAVAILABLE	I-KU-OPS-UNAVAILABLE
M C	KU-OPS-UNAVAILABLE	I-KU-OPS-UNAVAILABLE
	AV1-PWR JMPR-RMV	I-AV1-PWR JMPR-RMV
		I-AV1-PWR JMPR-RMV
	PPS-PCU FDIR-INH	I-PPS-PCU FDIR-INH
	EPS-RPCM-POR	I-EPS-RPCM-POR
ACS-AUTO H/O RS-ENA	I-HACS-AUTO H/O RS-ENA	
CDH-APS2 PEHG2-ACT	I-CDH-APS2 PEHG2-ACT	
DMC-APS2-CNCT	I-DMC-APS2-CNCT	
CHECS-COMMANDING	I-CHECS-COMMANDING	
R S	GTS-ON-PRD400	I-HGTS-ON-PRD400
P L	MELFI-DEWAR 1-OPS	
	MELFI-DEWAR 2-OPS	I-CDH-APS2 PEHG2-ACT
S Y	CDH-APS2 PEHG2-ACT	
	PRO-EXPRS4 ACT-CMD	
	EXPRS4-SYS-PWR/THERM	
ISS ATT	-XVW +ZLV TEA	
NOTES	*PWRDN	
	2-21	FLT PLN/116/FIN

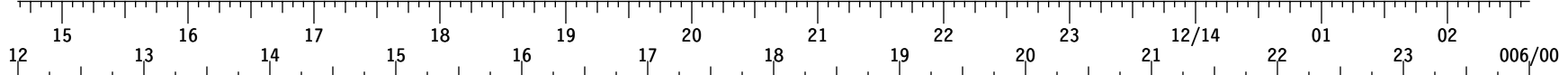
PRO-EXPRS

MELFI-DEV
MELFI-DEV

PRO-EXPRS
EXPRS4-SY

GMT 12/13/06 (347)

MET Day 005

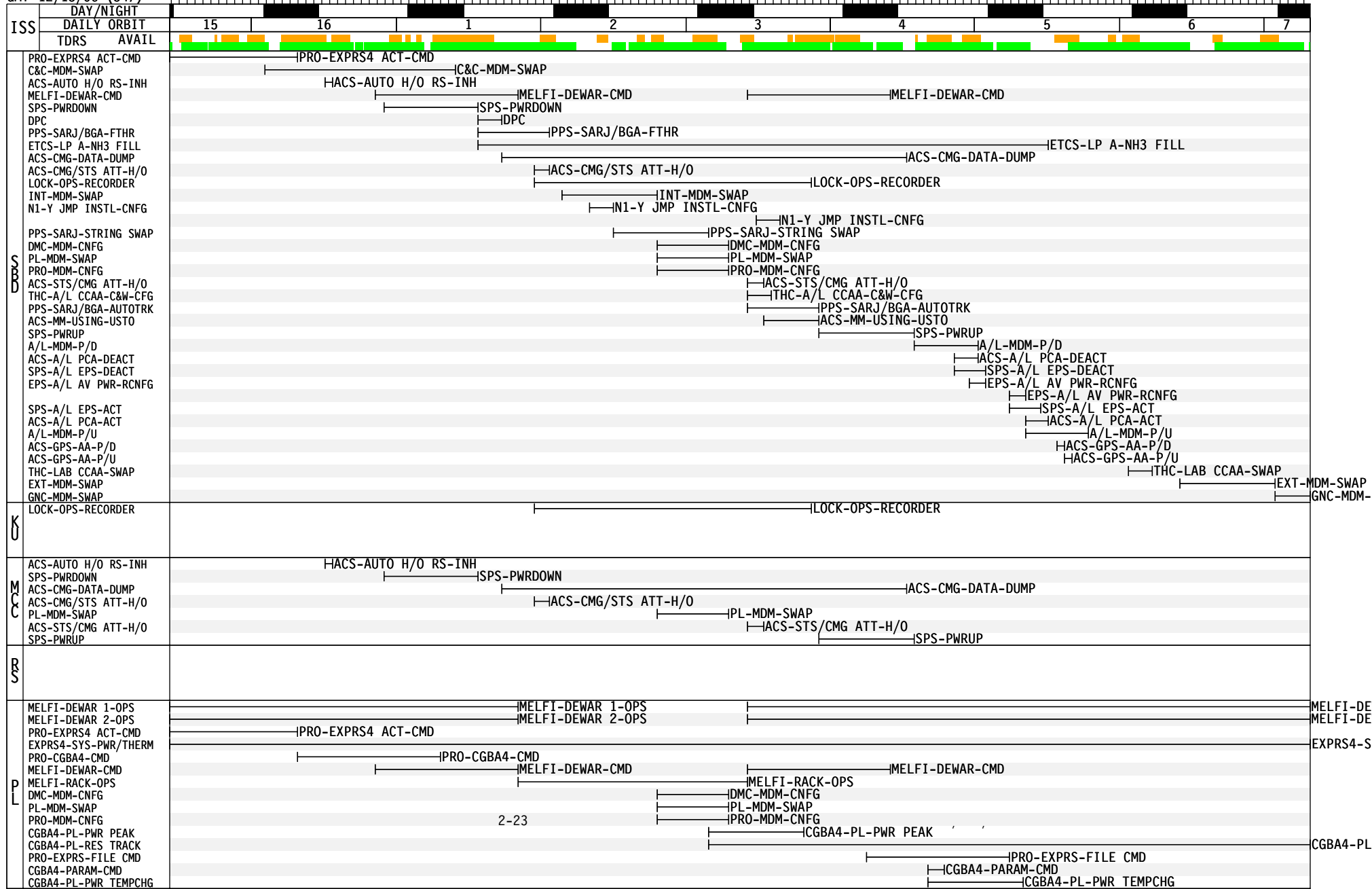
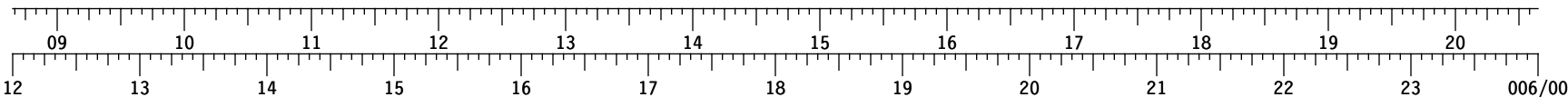


S T S - 1 1 6	FD07 CDR/R2 POLANSKY	SLEEP	POST SLEEP		ATHO MNTVR	SIMOM INITU	EXERCISE	ATHO MNTVR	CSWAP MCIU*	MEAL	CPH EOWT O	CREW CONF	OFF DUTY	PFC OCA	OFF DUTY				
	PLT/IV OFELEIN	SLEEP	POST SLEEP		ATHO MNTVR	EXERCISE	TRANSFER	SIMO TERM	XFER	MEAL	CPH EOWT O	CREW CONF	OFF DUTY	PFC OCA	OFF DUTY				
	MS1/R1 PATRICK	SLEEP	POST SLEEP	PFC OCA	POST SLEEP	EXERCISE	OIU*	N1 Y JUMPER INSTL		P/TV 05 S/U	MEAL	CPH EOWT O	CREW CONF	OFF DUTY					
	MS2/EV1 CURBEAM	SLEEP	POST SLEEP			EXERCISE	MET XPLC*	LIHO E/L PREP	MEAL	CPH EOWT O	CREW CONF	OFF DUTY		PFC OCA	OFF DUTY				
	MS3/EV2 FUGLESANG	SLEEP	POST SLEEP			EMU RESIZE	EXERCISE	BSA*	ESAPAO	MEAL	CPH EOWT O	CREW CONF	OFF DUTY		PFC OCA	OFF DUTY			
	MS4 HIGGINBOTHAM	SLEEP	POST SLEEP - SHAB			XU FRD AT	TRANSFER	EXERCISE	MEAL	CPH EOWT O	CREW CONF	OFF DUTY							
D N	FE-2 REITER	SLEEP (8.5)	POST SLEEP	PW RO PK	DPC C & W	PW RO PK	ORCA R&R	N1 Y JUMPER INSTL		S/ U	ESAPAO	MIDDAY-MEAL	CPH EOWT O	CREW CONF	ARC /LN FG	CCAA SWAP	COX MNT	EXER TVIS	
E X P 1 4	ISS CDR LOPEZ-ALEGRIA	SLEEP (8.5)	POST SLEEP	PW RO PK	DPC P W RO PK	RSP C/O	CBA R&R	XFER	EXERCISE CEVIS	MIDDAY-MEAL	CPH EOWT O	CREW CONF	HANDOVER		EXER RED				
	FE-1 TYURIN	SLEEP (8.5)	POST SLEEP	PW RO PK	DPC P W RO PK	TRANSFER			MIDDAY-MEAL	CPH EOWT O	CREW CONF	EXERCISE VELO	EXERCISE TVIS	IMS EDIT					
U P	FE-2/EV3 WILLIAMS	SLEEP (8.5)	POST SLEEP	PW RO PK	DPC P W RO PK	EMU RESIZE	CGBA XFER	EH X/ EO R	E/L PREP	MIDDAY-MEAL	CPH EOWT O	CREW CONF	HANDOVER		EH X/ EO R	ADAPT			
DAY/NIGHT		[Shaded bars indicating day/night cycle]																	
ORBIT		[Shaded bars indicating orbit parameters]																	
TDRS		[Shaded bars indicating TDRS events]																	
ORB ATT		BIAS -XLV -ZVV																	
NOTES		*HMS-DEFIB PDIM-ON *TERM *FILTER CK *PCS P/D *DEACT *TERM *PCS P/U																	

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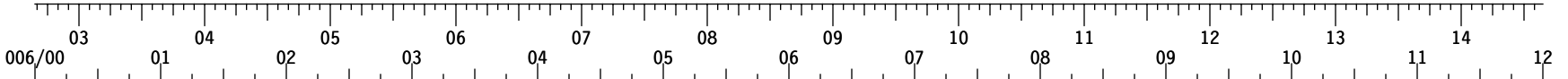
MET Day 005
FD07

GMT 12/13/06 (347)



GMT 12/14/06 (348)

MET Day 006

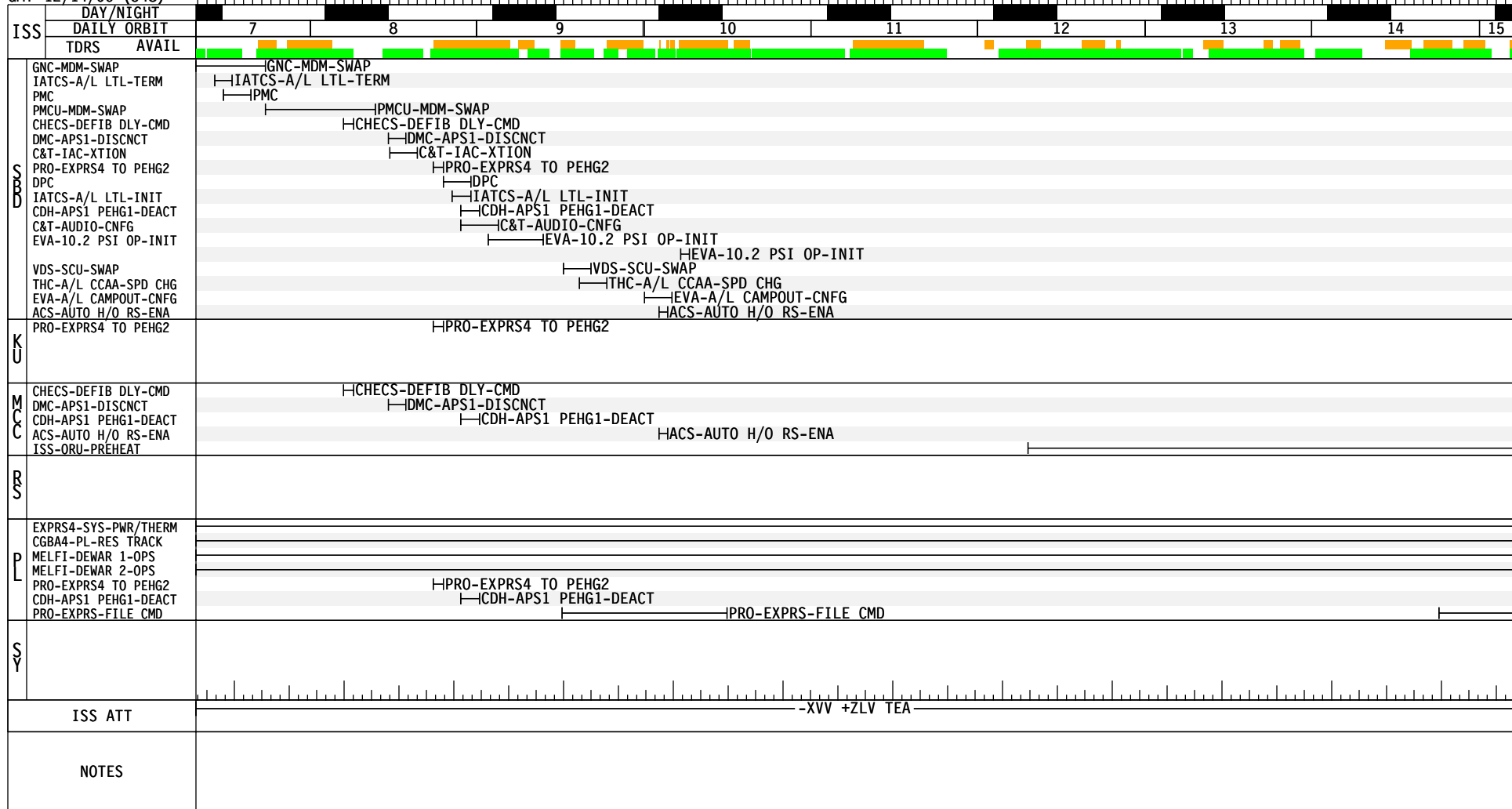


S T S - 1 1 6	FD07	CDR/R2 POLANSKY	OFF DUTY	COM M2	EVA PROCEDURE REVIEW	ION LUM	PS RL EE EP	PMC OCA	PRE SLEEP				ISS EXTERNAL SURVEY			
		PLT/IV OEFELIN	OFF DUTY		EVA PROCEDURE REVIEW		PRE SLEEP		MASK PB/ TOOL CONFG	PRE SLEEP		SLEEP				
		MS1/R1 PATRICK	OFF DUTY		EVA PROCEDURE REVIEW		PRE SLEEP				ISS A/L Campout @ 10.2 psi					
		MS2/EV1 CURBEAM	OFF DUTY		EVA PROCEDURE REVIEW		PRE SLEEP		MASK PB/ TOOL CONFG	PB/ 10.2 DPRS	TC ON LFG	PS RL EE EP	SLEEP			
		MS3/EV2 FUGLESANG	OFF DUTY		EVA PROCEDURE REVIEW		PRE SLEEP				SLEEP					
		MS4 HIGGINBOTHAM	OFF DUTY	PFC OCA	EVA PROCEDURE REVIEW	XT FA EG RUP	XT FR EIR EP	PRE SLEEP - SHAB				SLEEP				
D N		FE-2 REITER		EXER TVIS		XT FA EG RUP	PREP WORK	DPC	PREP WORK	PRE SLEEP			SLEEP (8.5)			
E X P 1 4		ISS CDR LOPEZ-ALEGRIA	EXER RED		EVA PROCEDURE REVIEW		PREP WORK	DPC	PREP WORK	PRE SLEEP			SLEEP (8.5)			
		FE-1 TYURIN	IMS EDIT		EVA PROCEDURE REVIEW	EX IDL	PREP WORK	DPC	PREP WORK	PRE SLEEP			SLEEP (8.5)			
U P		FE-2/EV3 WILLIAMS	ADA PT	PMC	EVA PROCEDURE REVIEW		PRE SLEEP		MASK PB/ TOOL CONFG	PB/ 10.2 DPRS	TC ON LFG	PS RL EE EP	SLEEP			
DAY/NIGHT		[Timeline with shaded day/night periods]														
ORBIT		[Timeline with orbit data]														
TDRS	W -171	[Timeline with W data]														
	E -46	[Timeline with E data]														
	Z -275	[Timeline with Z data]														
ORB ATT		BIAS -XLV -ZVV														
NOTES																

CT 12/13/06 (347)

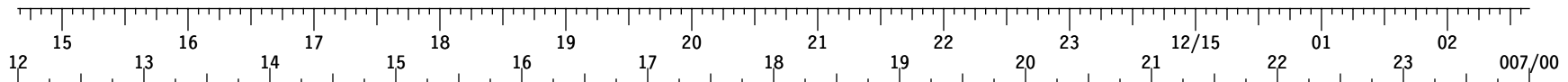
MET Day 006 006/00

F007
GMT 12/14/06 (348)

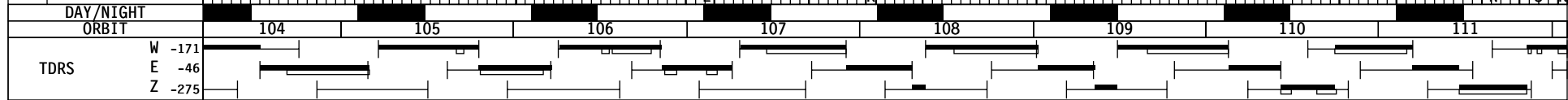


GMT 12/14/06 (348)

MET Day 006



S T S - 1 1 6	FD08 CDR/R2 POLANSKY	SLEEP	POST SLEEP	PMCM A/GM	POST SLEEP	FE S T	POST SLEEP	OFF L U M	IP F H D T	EXERCISE		RMS *	MEAL		ATT H O	P/TV07 EVA OPS	FE S T	P/TV07 EVA OPS	ATT H O	P/TV07 EVA OPS			
	PLT/IV OFELEIN	SLEEP	POST SLEEP	CAMPOUT EVA PREP				EP M U R G E	EMU PBR	THE	C/L DPRS	P - D P R	IV SUPPORT								P - D P R		
	MS1/R1 PATRICK	SLEEP		POST SLEEP	14.7 RPRS	10.2 DPRS		J I M P S R T	O I U A C T	14.7 RPRS	P/TV 07 S/U	M C I U *	EXERCISE	R P M W S U P	R M S *	MEAL	SRMS EVA SUPPORT		R P M W S R D N	TRANSFER		N I Y J M P R R M V	
	MS2/EV1 CURBEAM	SLEEP	POST SLEEP	HYGN BREAK/ PREBRTHE		CAMPOUT EVA PREP			EP M U R G E	EMU PBR	THE	C/L DPRS	P - D P R	DEGRSS	CH 1/4 PWR RECONFIG	SMDP TRANSFER		*	R S P W R C N F G	AGB T R A N S F E R	C U L P E A N	I N G R S	P - D P R
	MS3/EV2 FUGLESANG	SLEEP	POST SLEEP	CAMPOUT EVA PREP				EP M U R G E	EMU PBR	THE	C/L DPRS	P/TV07 EVA OPS				TRANSFER							
	MS4 HIGGINBOTHAM	SLEEP	POST SLEEP - SHAB				EXERCISE			X U F P R D A T	TRANSFER		MEAL		TRANSFER								
D N	FE-2 REITER	SLEEP (8.5)		POST SLEEP		PREP W O R K	D P C	J I M P S R T	O P S L A N P /D	ODHT FINAL			C R E M V I S	LAB DDCU C O N F I G	C I E N S I T I L	MIDDAY-MEAL		TRANSFER		EXERCISE T V I S	N I Y J M P R R M V		
E X P 1 4	ISS CDR LOPEZ-ALEGRIA	SLEEP (8.5)		POST SLEEP		CAMPOUT EVA PREP			EP M U R G E	EMU PBR	THE	C/L DPRS	EXERCISE RED		MIDDAY-MEAL		CDRA R&R		EXERCISE C E V I S				
	FE-1 TYURIN	SLEEP (8.5)		POST SLEEP		PREP W O R K	D P C	R U S S I A N O P S	ODHT FINAL		EXERCISE T V I S		LAB DDCU C O N F I G	I E M D S I T	MIDDAY-MEAL		CDRA R&R		COX MNT	EXERCISE R E D			
U P	FE-2/EV3 WILLIAMS	SLEEP	POST SLEEP	HYGN BREAK/ PREBRTHE		CAMPOUT EVA PREP			EP M U R G E	EMU PBR	THE	C/L DPRS	P - D P R	DEGRSS	CH 1/4 PWR RECONFIG	SMDP TRANSFER		R S P W R C N F G	AGB T R A N S F E R	C U L P E A N	I N G R S	P - D P R	

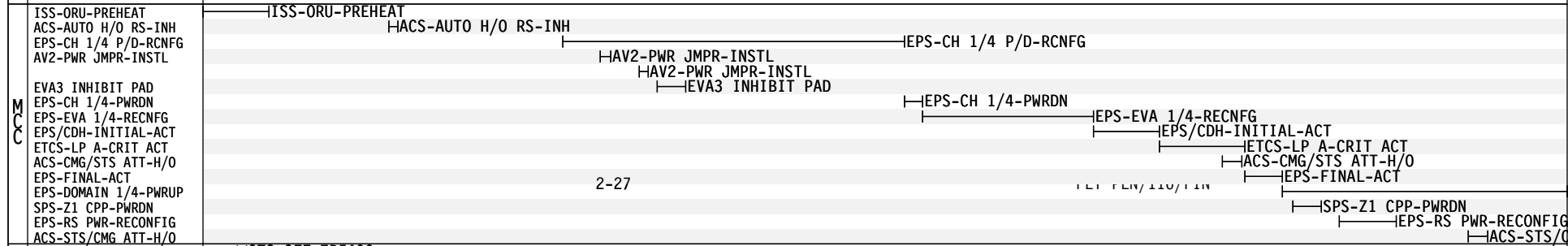
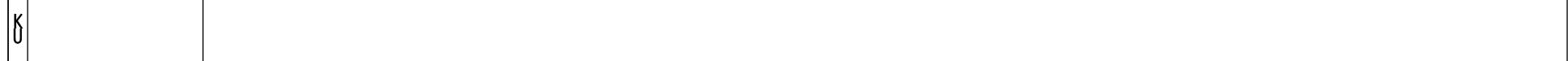
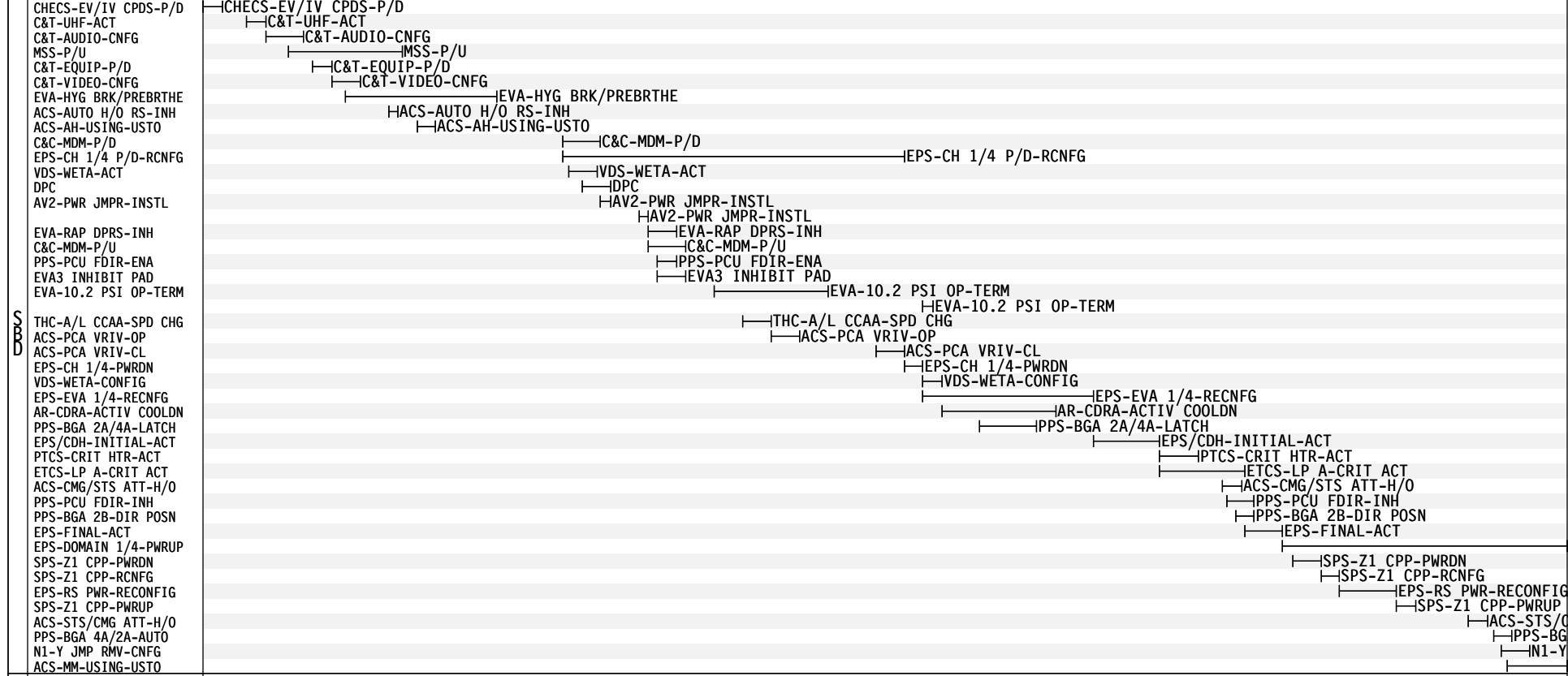
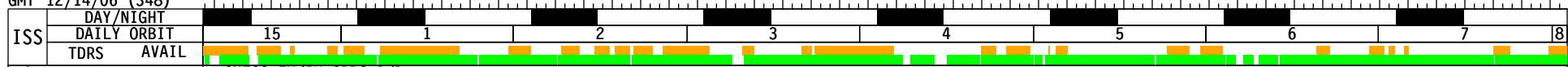
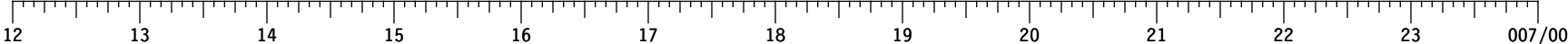


ORB ATT	BIAS -XLV -ZVV																		
NOTES	*HTR										*MNVR					*Z1 PP RCNFG			
	*FILTER CK										*MNVR								

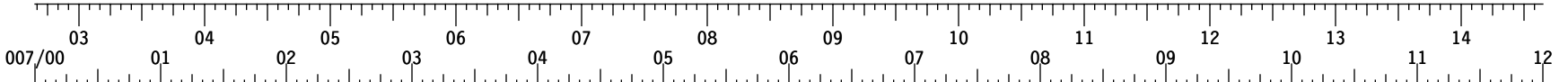
CT 12/14/06 (348)

MET Day 006

ISS
FD08
GMT 12/14/06 (348)



GMT 12/15/06 (349)



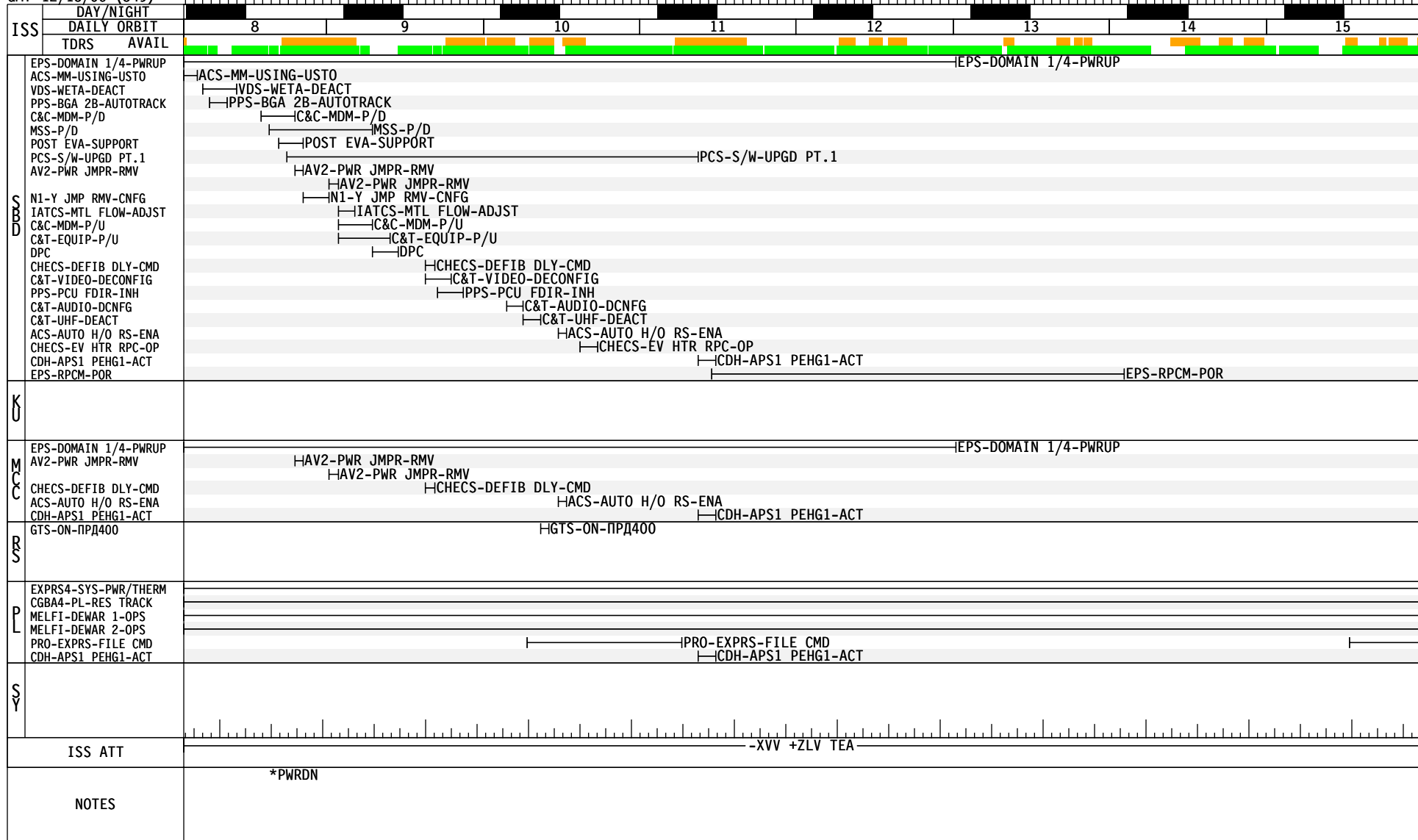
S T S - 1 1 6	FD08	CDR/R2 POLANSKY	WCS*	COMM	ION MLUM	PRE SLEEP	PMCA	PRE SLEEP	SLEEP ISS EXTERNAL SURVEY		
		PLT/IV OEFELIN	REPRS	POST EVA W/H2O		PRE SLEEP		SLEEP			
		MS1/R1 PATRICK	N1 Y JMPR RMV	JRMPV	PRE SLEEP		SLEEP				
		MS2/EV1 CURBEAM	REPRS	POST EVA W/H2O	TOOL CONFIG	PRE SLEEP		SLEEP			
		MS3/EV2 FUGLESANG	POST EVA W/H2O		PRE SLEEP		SLEEP				
		MS4 HIGGINBOTHAM	TRANSFER	XTX FAFR EGE RURE PIF	PRE SLEEP - SHAB		SLEEP				
D N	FE-2 REITER	N1 Y JMPR RMV	JRMPV*	OPSLAN P/U	DPC	PREP WORK	PRE SLEEP		SLEEP (8.5)		
E X P 1 4	ISS CDR LOPEZ-ALEGRIA	⊕	POST EVA W/H2O		PREP WORK	DPC	PREP WORK	PRE SLEEP		SLEEP (8.5)	
	FE-1 TYURIN	EXERCISE RED	IMS EDIT	XTX FAFR EGE RURE PIF	PREP WORK	DPC	PREP WORK	PRE SLEEP		SLEEP (8.5)	
U P	FE-2/EV3 WILLIAMS	REPRS	POST EVA W/H2O	TOOL CONFIG	PRE SLEEP		SLEEP (8.5)				
DAY/NIGHT		[Timeline bars for Day/Night]									
ORBIT		[Timeline bars for Orbit]									
TDRS	W -171	[Timeline bars for W -171]									
	E -46	[Timeline bars for E -46]									
	Z -275	[Timeline bars for Z -275]									
ORB ATT		BIAS -XLV -ZVV									
NOTES		⊕EXERCISE CEVIS *EVA D/L *COMPACT									

CT 12/14/06 (348)

MET
FD08

Day 007 007/00

GMT 12/15/06 (349)



GMT 12/15/06 (349)

MET Day 007

12 15 16 17 18 19 20 21 22 23 12/16 22 01 23 02 008/00

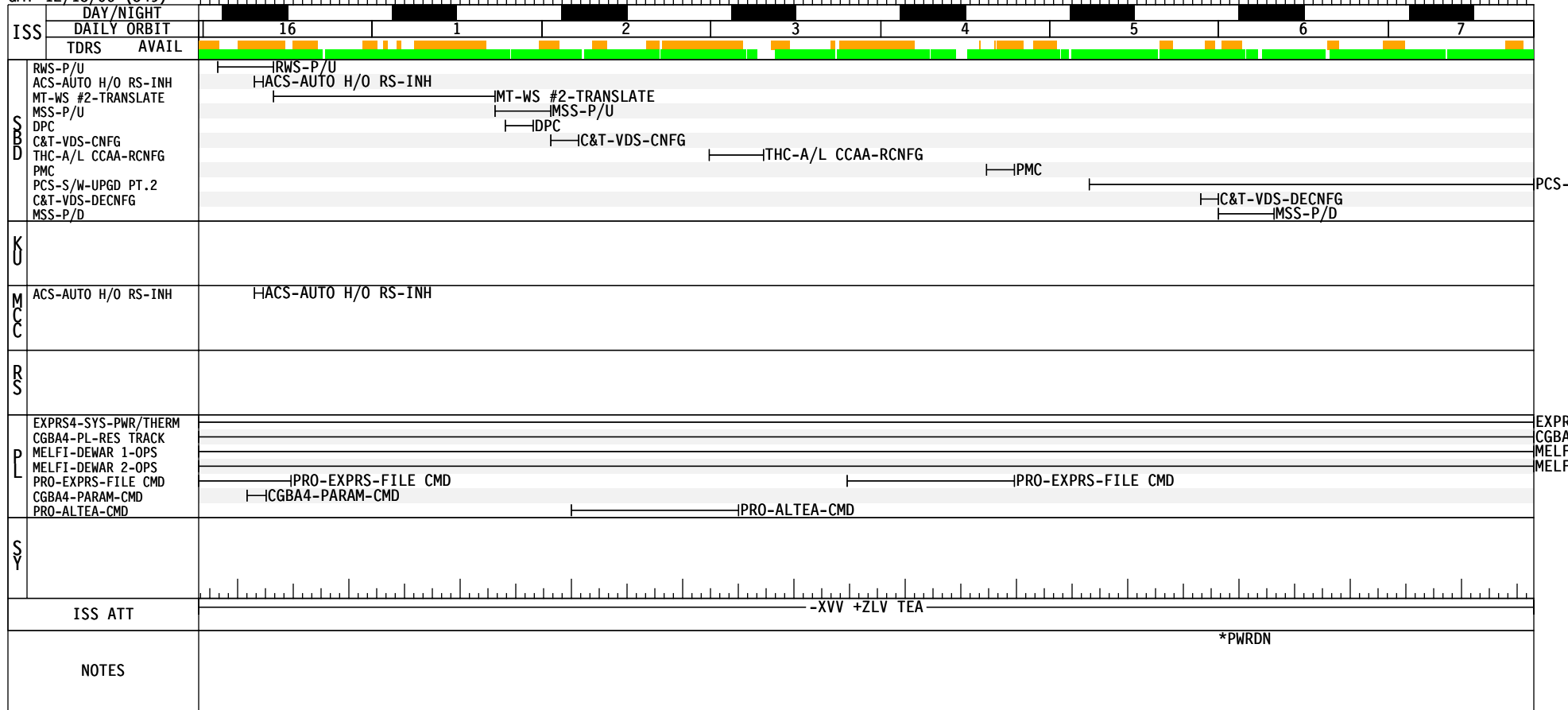
STS - 116	FD09	CDR/R2 POLANSKY	SLEEP	POST SLEEP	IFLFLUM	N2 XFER TERM	MCIUM*	OIU*	TRANSFER	TRANSFER	EXERCISE	MEAL	TRANSFER	PEAVENT	XFER			
STS - 116		PLT/IV OEFELIN	SLEEP	POST SLEEP	PWR FILL	PWR FILL	PWR (2) XFER		TRANSFER		MEAL		TRANSFER	PEAVENT	TRANSFER			
		MS1/R1 PATRICK	SLEEP	POST SLEEP				TRANSFER	EXERCISE	TRANSFER	MEAL	PTV 08 S/U	P/TV08 OPS	TRANSFER	PAO P/TV S/U	PEAVENT	APR 1EPP	TRANSFER
		MS2/EV1 CURBEAM	SLEEP	POST SLEEP	PGT TOOL C/O			TRANSFER	EMU RCNFG & XFER		MEAL		TRANSFER	EXERCISE	PEAVENT	XFER		
		MS3/EV2 FUGLESANG	SLEEP	POST SLEEP		EXERCISE		TRANSFER	EMU RCNFG & XFER		MEAL		TRANSFER	ALTEA SETUP	ALTEA EXPERIMENT OPS	PEAVENT	ADALTA	XFER
		MS4 HIGGINBOTHAM	SLEEP	POST SLEEP - SHAB	XUFRDAT	TRANSFER	EXERCISE	STAGE VIEW	TRANSFER		MEAL		TRANSFER		PEAVENT	XFER		
	DN	FE-2 REITER	SLEEP (8.5)	POST SLEEP	PWROPERK	DPC	PWROPERK	N2 XFER TERM	EXERCISE TVIS	TRANSFER	* POEMS	MIDDAY-MEAL	ODHT FINAL	ALTEA	TROPI PACK	BIOMED PACK	ALTEA	⊕
EXP 14	ISS CDR LOPEZ-ALEGRIA	SLEEP (8.5)	POST SLEEP	PWROPERK	DPC		HANDOVER	STAGE VIEW	TRANSFER	EXERCISE CEVIS	PLCK	MIDDAY-MEAL		HANDOVER		EXERCISE RED		
	FE-1 TYURIN	SLEEP (8.5)	POST SLEEP	PWROPERK	DPC	PWROPERK		TRANSFER	CSA-CP RSPLY	EXERCISE VELO		MIDDAY-MEAL	DRCCSNFG	ODHT FINAL	TRANSFER	EXERCISE TVIS		
UP	FE-2/EV3 WILLIAMS	SLEEP (8.5)	POST SLEEP	PWROPERK	DPC		HANDOVER	EMU RCNFG & XFER	PMC	MIDDAY-MEAL		HANDOVER			EXER CEVIS			
DAY/NIGHT ORBIT			[Timeline bars for Day/Night and Orbit]															
TDRS			[Timeline bars for TDRS W, E, Z]															
ORB ATT			[Timeline bars for Orb Att]															
NOTES			<p>*DEACT *FILTER CK</p> <p>BIAS -XLV -ZVV</p> <p>*WARN BOOK *INIT *INIT</p>															

CT 12/15/06 (349)

MET Day 007

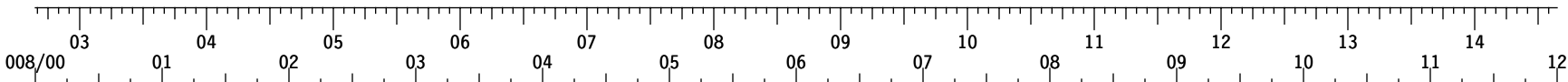
FD09

GMT 12/15/06 (349)



GMT 12/16/06 (350)

MET Day 008

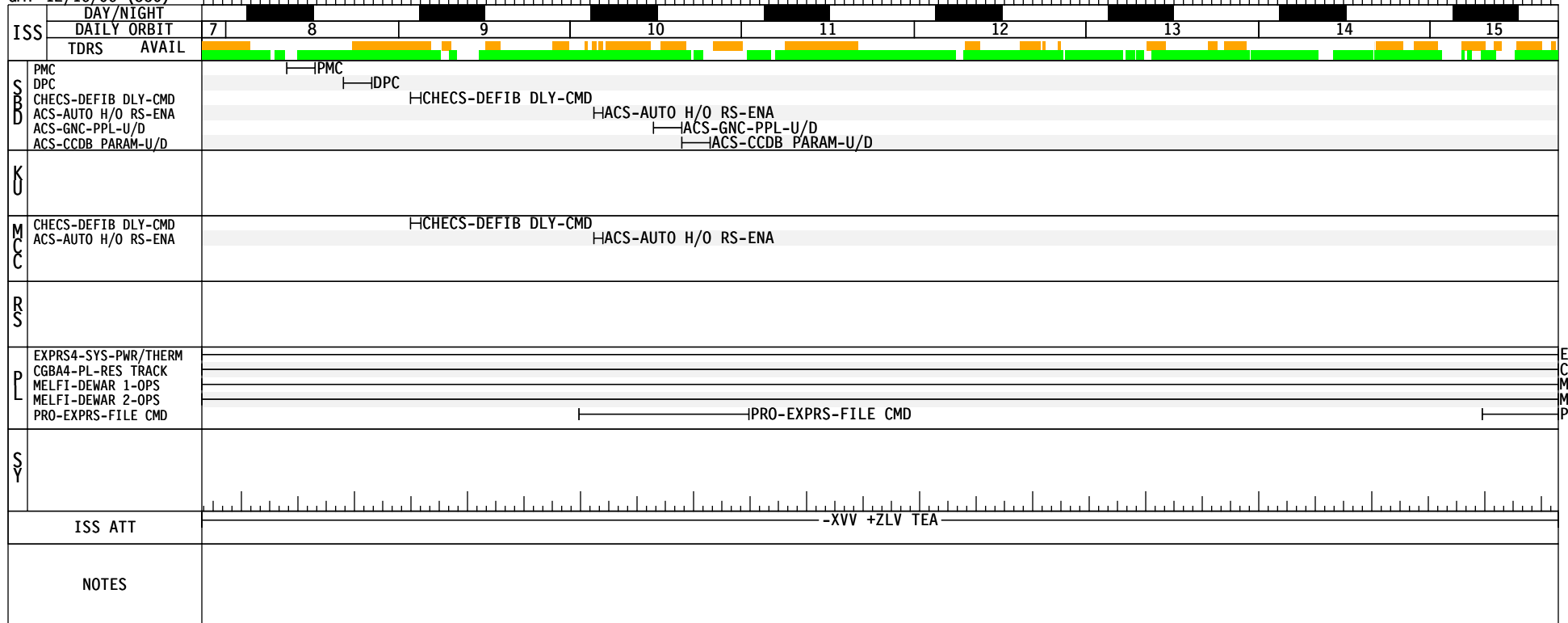


STSS-116	FD09	CDR/R2 POLANSKY	PRE SLEEP	SLEEP	ISS EXTERNAL SURVEY
		PLT/IV OEFELIN	EXERCISE	PRE SLEEP	SLEEP
		MS1/R1 PATRICK	RNDZ TOOLS C/O	PRE SLEEP	SLEEP
		MS2/EV1 CURBEAM	XFER	PRE SLEEP	SLEEP
		MS3/EV2 FUGLESANG	XFER	PRE SLEEP	SLEEP
		MS4 HIGGINBOTHAM	XFER	PRE SLEEP - SHAB	SLEEP
DN		FE-2 REITER	IMS EDIT	PRE SLEEP	SLEEP (8.5)
EXP 14		ISS CDR LOPEZ-ALEGRIA	EXERCISE RED	PRE SLEEP	SLEEP (8.5)
		FE-1 TYURIN	COX MNT	PRE SLEEP	SLEEP (8.5)
UP		FE-2/EV3 WILLIAMS	COX MNT	PRE SLEEP	SLEEP (8.5)
DAY/NIGHT		[Bar chart showing day/night cycle]			
ORBIT		[Bar chart showing orbit parameters]			
TDRS		[Bar chart showing TDRS coverage]			
ORB ATT		BIAS -XLV -ZVV			
NOTES					

CT 12/15/06 (349)

MET Day 008 008/00

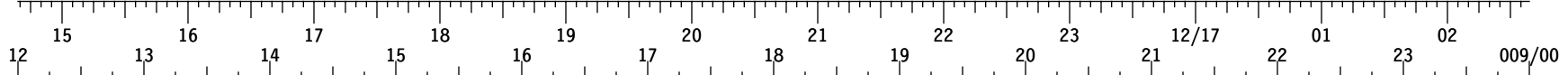
FD09
GMT 12/16/06 (350)



EXPRS4-S
CGBA4-PL
MELFI-DE
MELFI-DE
PRO-EXPR

GMT 12/16/06 (350)

MET Day 008



S T S - 1 1 6	FD10 CDR/R2 POLANSKY	POST SLEEP		TRANSFER	02 XFER TEARDOWN	ADDITIONS	ATHO	EXERCISE	MUNN VDRK	UNDOCK OPS	FLYAROUND	MEAL	PS R S L E E P			
	PLT/IV OEFELIN	POST SLEEP		EXERCISE		ADDITIONS	HATCH CLOSE	FD MPLY	GP R R U P	UNDOCK OPS	FLYAROUND	MEAL	PS R S L E P			
	MS1/R1 PATRICK	POST SLEEP		TRANSFER	P/TV 04 S/U	ADDITIONS	P/TV03 S/U	C/L CAMR INST	EXERCISE	P/TV03 UNDOCK OPS	FLYAROUND	MEAL	PS R S L E P			
	MS2/EV1 CURBEAM	POST SLEEP		TRANSFER		ADDITIONS	HATCH CLOSE	ODS LEAK CHECK	EI M S T L	UNDOCK OPS	FLYAROUND	EXERCISE	MEAL	PST ISS EVA ENT PREP		
	MS3/EV2 FUGLESANG	POST SLEEP		EXERCISE	ALL T I E A	ADDITIONS	HAB LU/ DO IO	ODS LEAK CHECK		UNDOCK OPS	FLYAROUND	MEPSI	MEAL	RAFT DEPLOY	PST ISS EVA ENT PREP	
	MS4 HIGGINBOTHAM	POST SLEEP - SHAB		TRANSFER	X T F A F R I E R U P	ADDITIONS	TRANSFER CLEANUP		EXERCISE		FLYAROUND	MEPSI	MEAL	RAFT DEPLOY	S D S O A C T F I L T E R C L E A N I N G	
D N	FE-2 REITER	SLEEP (8.5)	POST SLEEP	PREP WORK	DPC			TRANSFER CLEANUP			FLYAROUND	EXERCISE	MEAL			
E X P 1 4	ISS CDR LOPEZ-ALEGRIA	SLEEP (8.5)	POST SLEEP	PREP WORK	DPC*		ADDITIONS	IWIS S/U	EXERCISE RED	UV N I D D K E O	MIDDAY-MEAL	PMA2-DEPRESS	EXERCISE CEVIS	PLI M K N A C K	IWIS I D E A C T	R W S
	FE-1 TYURIN	SLEEP (8.5)	POST SLEEP	PREP WORK	DPC	02 XFER TEARDOWN	ADDITIONS	HATCH CLOSE	M E T X *	EXERCISE TVIS	PMA2 DPRT CNFG	MIDDAY-MEAL	IMS EDIT VTR CBL	EXERCISE VELO	COX MNT	
U P	FE-2/EV3 WILLIAMS	SLEEP (8.5)	POST SLEEP	PREP WORK	DPC	02 XFER TEARDOWN	ADDITIONS				MIDDAY-MEAL			PMC	EXERCISE TVIS	

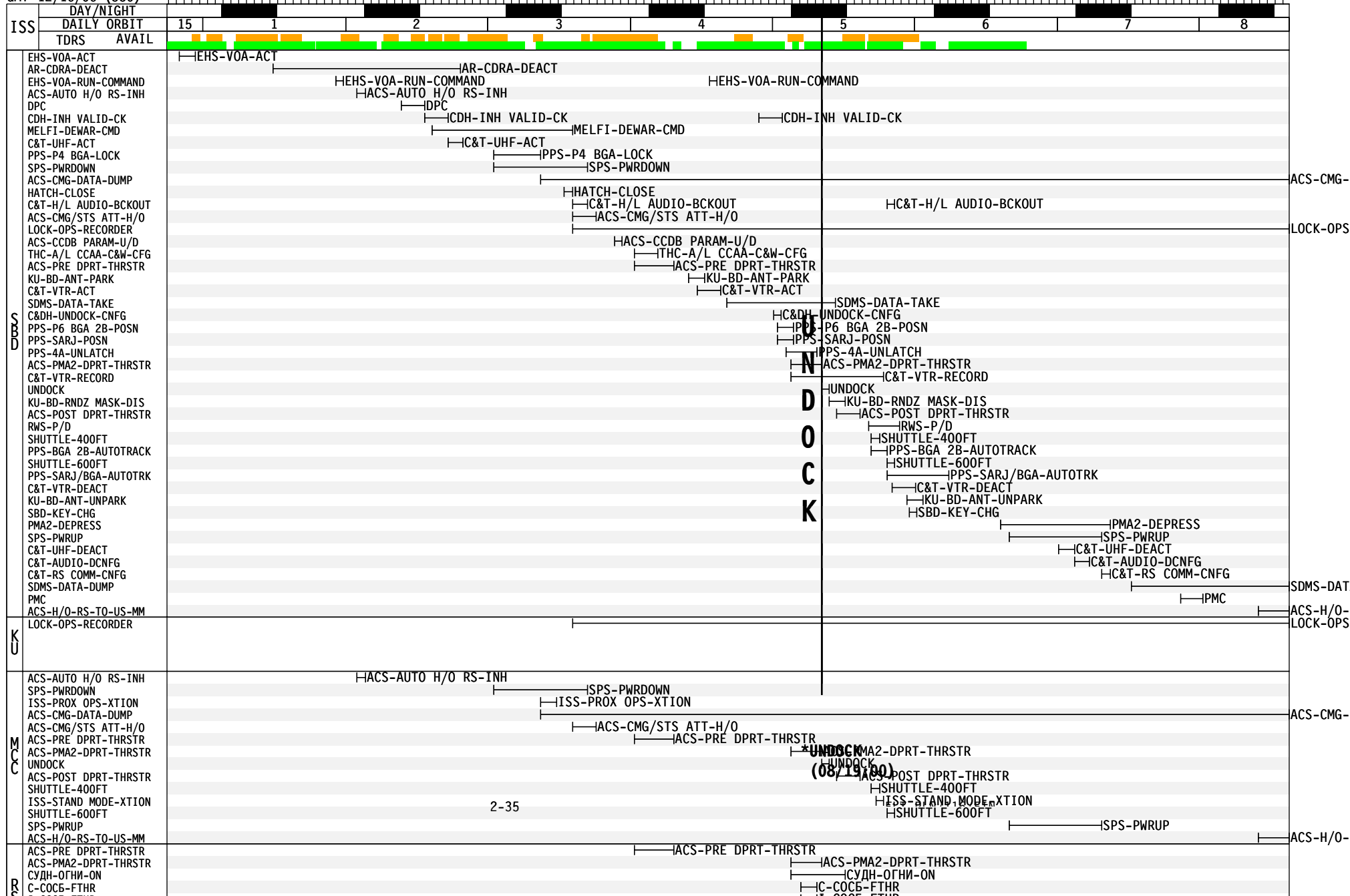
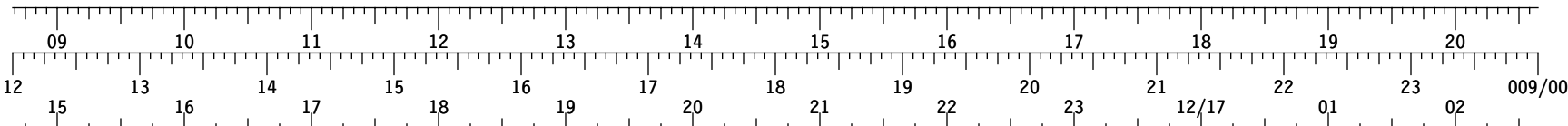
UNDOCK*

DAY/NIGHT	[Shaded bars indicating day/night cycle]													
ORBIT	135	136	137	138	139	140	141	142	143					
TDRS	W -171	[Timeline bars]												
	E -46	[Timeline bars]												
	Z -275	[Timeline bars]												
ORB ATT	BIAS -XLV -ZVV *LAB WNDW CLS *TERM -XLV +ZVV UNDOCK/FLYAROUND MEPSI RAFT													
NOTES	*UNDOCK (08/19:00) *DEPLOY MNVR *REG RCNFG *ON *PMA2 LK C													

CT 12/16/06 (350)

MET Day 008
FD10

GMT 12/16/06 (350)



DOCK

UNDOCK
(08/19/00)

2-35

ACS-CMG-D

LOCK-OPS

SDMS-DATA

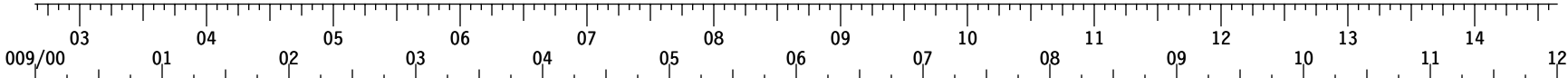
ACS-H/O-F

LOCK-OPS

ACS-CMG-D

ACS-H/O-F

GMT 12/17/06 (351)



MET Day 009

S T S - 1 1 6	FD10	CDR/R2 POLANSKY	PRE SLEEP	-ZLV MPMC UOCA	PRE SLEEP	SLEEP	POST SLEEP
	PLT/IV OEFELIN	PRSLP	SIMO TERM	PRE SLEEP	SLEEP	POST SLEEP	
	MS1/R1 PATRICK			PRE SLEEP	SLEEP	POST SLEEP	
	MS2/EV1 CURBEAM			PRE SLEEP	SLEEP	POST SLEEP	
	MS3/EV2 FUGLESANG			PRE SLEEP	SLEEP	POST SLEEP	
	MS4 HIGGINBOTHAM			PRE SLEEP - SHAB	SLEEP	POST SLEEP - SHAB	
D N	FE-2 REITER			PRE SLEEP	SLEEP	POST SLEEP	
E X P 1 4	ISS CDR LOPEZ-ALEGRIA	* PREP WORK	DPC	PREP WORK	PRE SLEEP	SLEEP (8.5)	
	FE-1 TYURIN	EXD PREP WORK	DPC	PREP WORK	PRE SLEEP	SLEEP (8.5)	
U P	FE-2/EV3 WILLIAMS	PREP WORK	DPC	PREP WORK	PRE SLEEP	SLEEP (8.5)	
DAY/NIGHT		[Timeline with shaded blocks]					
ORBIT		143 144 145 146 147 148 149 150 151					
TDRS		W -171 E -46 Z -275					
ORB ATT		-ZLV -XVV					
NOTES		*PMA2 LK CK TERM @EXERCISE TVIS †CDRA DCNCT					

CT 12/16/06 (350)

MET Day 009 009/00

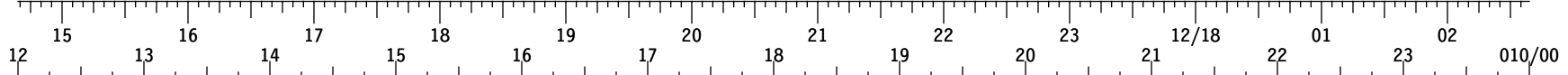
FD10
GMT 12/17/06 (351)

		21	22	23	12/17	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	
		03	04	05	06	07	08	09	10	11	12	13	14	15	16							
ISS	DAY/NIGHT																					
	DAILY ORBIT	8	9	10	11	12	13	14	15	16												
		TDRS	AVAIL																			
S D	ACS-CMG-DATA-DUMP	IACS-CMG-DATA-DUMP																				
	LOCK-OPS-RECORDER	HLOCK-OPS-RECORDER																				
	SDMS-DATA-DUMP	HSDMS-DATA-DUMP																				
	ACS-H/O-RS-TO-US-MM	IACS-H/O-RS-TO-US-MM																				
	MELFI-DEWAR-CMD	HMELFI-DEWAR-CMD																				
	IATCS-PMA2 HTR-RCNFG	HIATCS-PMA2 HTR-RCNFG																				
	DPC	HDPC																				
ACS-GPS-RECNG	HACS-GPS-RECNG																					
IATCS-LTL STPT-CHNG	HIATCS-LTL STPT-CHNG																					
CHECS-DEFIB DLY-CMD	HCHECS-DEFIB DLY-CMD																					
K U	LOCK-OPS-RECORDER	HLOCK-OPS-RECORDER																				
M C	ACS-CMG-DATA-DUMP	IACS-CMG-DATA-DUMP																				
	ACS-H/O-RS-TO-US-MM	IACS-H/O-RS-TO-US-MM																				
	CHECS-DEFIB DLY-CMD	HCHECS-DEFIB DLY-CMD																				
R S	ACS-H/O-RS-TO-US-MM	IACS-H/O-RS-TO-US-MM																				
P L	EXPRS4-SYS-PWR/THERM																					
	CGBA4-PL-RES TRACK																					
	ALTEA-DOSI-OPS																					
	MELFI-RACK-OPS	HMELFI-RACK-OPS																				
	MELFI-DEWAR-CMD	HMELFI-DEWAR-CMD																				
	MELFI-DEWAR 1-OPS																					
MELFI-DEWAR 2-OPS																						
PRO-EXPRS-FILE CMD	HPRO-EXPRS-FILE CMD																					
S Y																						
ISS ATT		+XVV +ZLV TEA																				
NOTES																						

EXPRS4-SYS
CGBA4-PL-RES
ALTEA-DOSI-OPS
MELFI-DEWAR-CMD
MELFI-DEWAR 1-OPS
MELFI-DEWAR 2-OPS

GMT 12/17/06 (351)

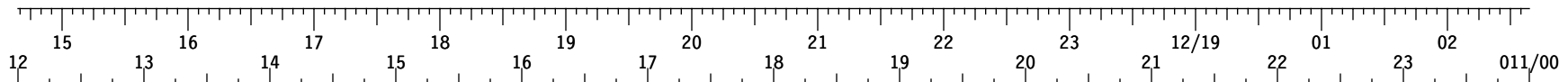
MET Day 009



STS-116	FD11	CDR POLANSKY	POST SLEEP	POST SLEEP	CABIN STOW	FCS C/O	RCS H/F	PILOT OPS	EXERCISE	CABIN STOW	PEAVOENT	MEAL	D/O BRIEF	FDM SLV RY	LCOM	FEI	CABIN STOW	OFF DUTY
	PLT OEFLEIN	POST SLEEP	FCS C/O	RCS H/F	PILOT OPS	CABIN STOW	EXERCISE	PEAVOENT	MEAL	D/O BRIEF	CABIN STOW	XXVVV	CABIN STOW	ERG STOW	OFF DUTY			
	MS1 PATRICK	POST SLEEP	CABIN STOW	SD SE VACT	EXERCISE	MCIU*	CABIN STOW	PAO P/TV S/U	PEAVOENT	MEAL	D/O BRIEF	EV NTD REYO	PTV 11	CABIN STOW	WDL EASCT	OFF DUTY		
	MS2 CURBEAM	POST SLEEP	FCS C/O	RCS H/F	EXERCISE	CABIN STOW	TRANSFER CLEANUP	PEAVOENT	MEAL	D/O BRIEF	CABIN STOW	OFF DUTY						
	MS3 FUGLESANG	POST SLEEP	CABIN STOW	EXERCISE	CABIN STOW	PEAVOENT	MEAL	D/O BRIEF	ANDE DEPLOY	CABIN STOW	ERG STOW	OFF DUTY						
	MS4 HIGGINBOTHAM	POST SLEEP - SHAB	EXERCISE	CABIN STOW	TRANSFER CLEANUP	PEAVOENT	MEAL	D/O BRIEF	ANDE DEPLOY	LAUNCH ENTRY SUIT CK	RCMBNT SEAT S/U	OFF DUTY						
	MS5 REITER	POST SLEEP	CABIN STOW	EXERCISE	CABIN STOW	PEAVOENT	MEAL	D/O BRIEF	CABIN STOW	LAUNCH ENTRY SUIT CK	RCMBNT SEAT S/U	OFF DUTY						
DAY/NIGHT	ORBIT	151	152	153	154	155	156	157	158	159								
TDRS	W -171																	
	E -46																	
	Z -275																	
ORB ATT																		
NOTES		*HEATER ACT			-ZLV -XVV			*FILTER CK			*STOW			*ON				

GMT 12/18/06 (352)

MET Day 010



STS-116	FD12 CDR POLANSKY	POST SLEEP	PMC A/G	GP R P U P	IMU ALIGN & VERIF	-X S I	DEORBIT PREP	D E O R B I T	K S C L A N D I N G
	PLT OEFLEIN	POST SLEEP		GP R P U P		FS M T K O W	DEORBIT PREP		
	MS1 PATRICK	POST SLEEP			GS IT R O A W	S C T A O *	DEORBIT PREP		
	MS2 CURBEAM	POST SLEEP			P D G S C C T R	P S A N O T R	DEORBIT PREP		
	MS3 FUGLESANG	POST SLEEP	SHAB ENTRY PREP				DEORBIT PREP		
	MS4 HIGGINBOTHAM	POST SLEEP - SHAB	SHAB ENTRY PREP				DEORBIT PREP		
	MS5 REITER	POST SLEEP					DEORBIT PREP		
DAY/NIGHT									
ORBIT									
TDRS									
ORB ATT									
NOTES		<p style="text-align: center;">*TEPC PWRDN</p> <p style="text-align: center;">DEORBIT TIG (10/18:27) LANDING (10/19:30)</p> <p style="text-align: center;">*MIDODRINE</p>							

DETAILED TIMELINE

DETAILED
TIMELINE

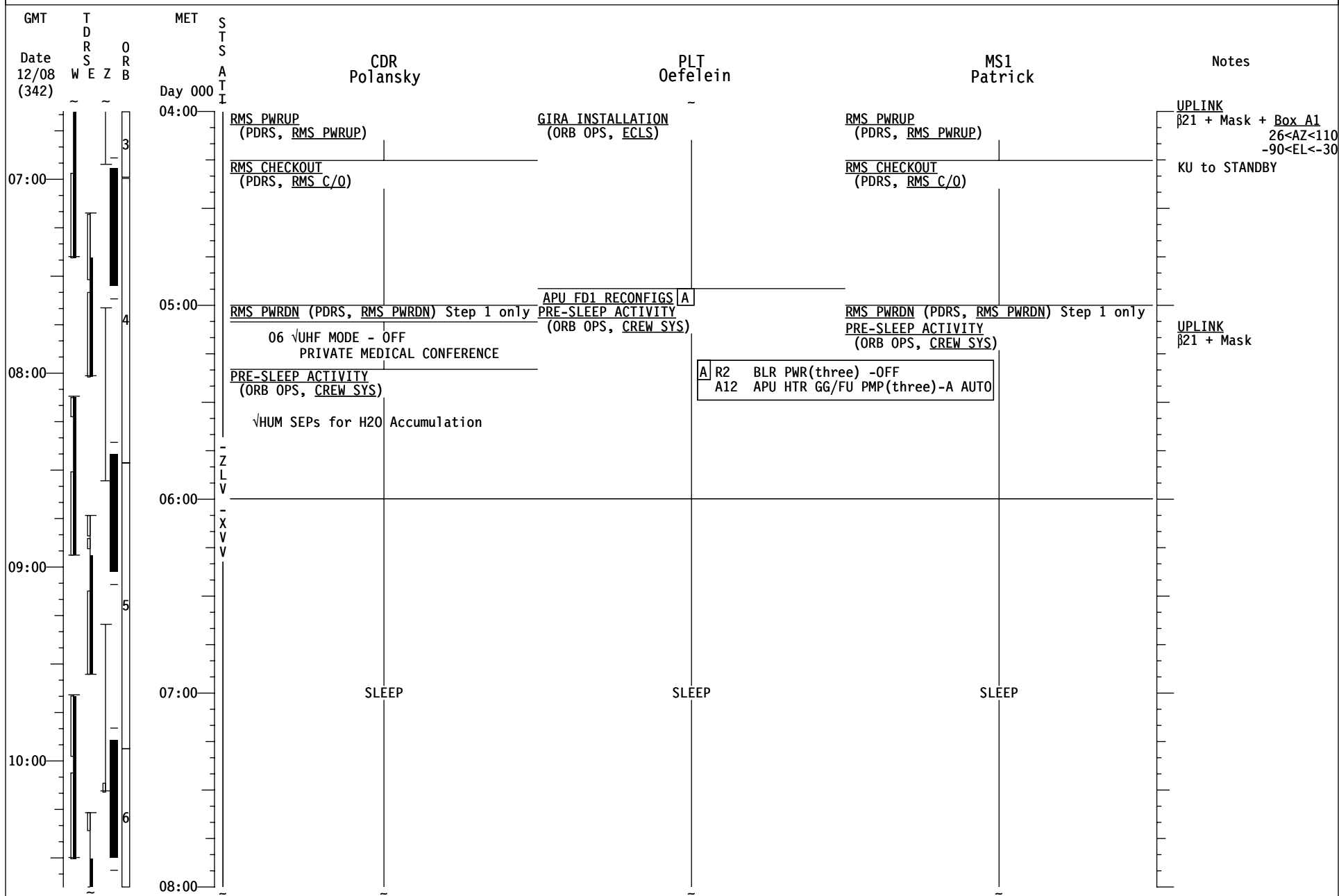
STS-116 FD01

GMT	TDRS ORB	MET	SATS	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/08 (342)	W E Z B	Day 000	ASCENT				
00:00							
ACTIVITIES PRIOR TO 00/02:30 ARE IN THE ASCENT AND POST INSERTION CHECKLISTS. THE ORBITER SHOULD BE IN A BIAS -ZLV -YVV ATTITUDE UPON ENTERING THE FLIGHT PLAN							
01:00				FD01 EZ ACTIVITES PCS 1(2) CONFIG (ORB OPS, ECLS) Config using PCS 2 leaving both 14.7 Cab Reg Inlets closed SMK DETN CKT TEST (ORB OPS, ECLS) LAMP TEST (ORB OPS, EPS) CSA-CP CHECKOUT AND ZERO CAL OPS (ORB OPS, CSA-CP) DATE/TIME SET (PHOTO/TV, DCS 760) VTR CLOCK SET (PHOTO/TV, DTV) if not performed for PLBD rec			
02:00			BIAS	POST INSERTION	POST INSERTION	POST INSERTION	UPLINK β21 + Mask
03:00			YVV	ON-ORBIT INITIALIZATION (PDRS, ON-ORBIT INIT)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	ON-ORBIT INITIALIZATION (PDRS, ON-ORBIT INIT)	
				AFT CONTROLLER C/O (ORB OPS, GNC)		P/TV01 VIDEO SETUP (PHOTO/TV, SCENES)	
				ELEVON PARK, GNC 201 (ORB OPS, GNC)			
				IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)			
04:00				ON-ORBIT OMS BURN (ORB OPS, OMS)	ON-ORBIT OMS BURN (ORB OPS, OMS)		UPDATE ORBITAL MNVR PAD
				< NC1 TIG (03:35)			
				MNVR (TRK) -ZLV -XVV TG=2 BV=3 OM=0 A1/AUTO/VERN Init TRK	PRTY PWRDN GRP B (ORB PKT, PRIOR PWRDN) Omit Steps 3,7,13 (Single G2) (In Step 12, IMU 3 STBY-ITEM 23 EXEC)		
					GIRA INSTALLATION (ORB OPS, ECLS)		

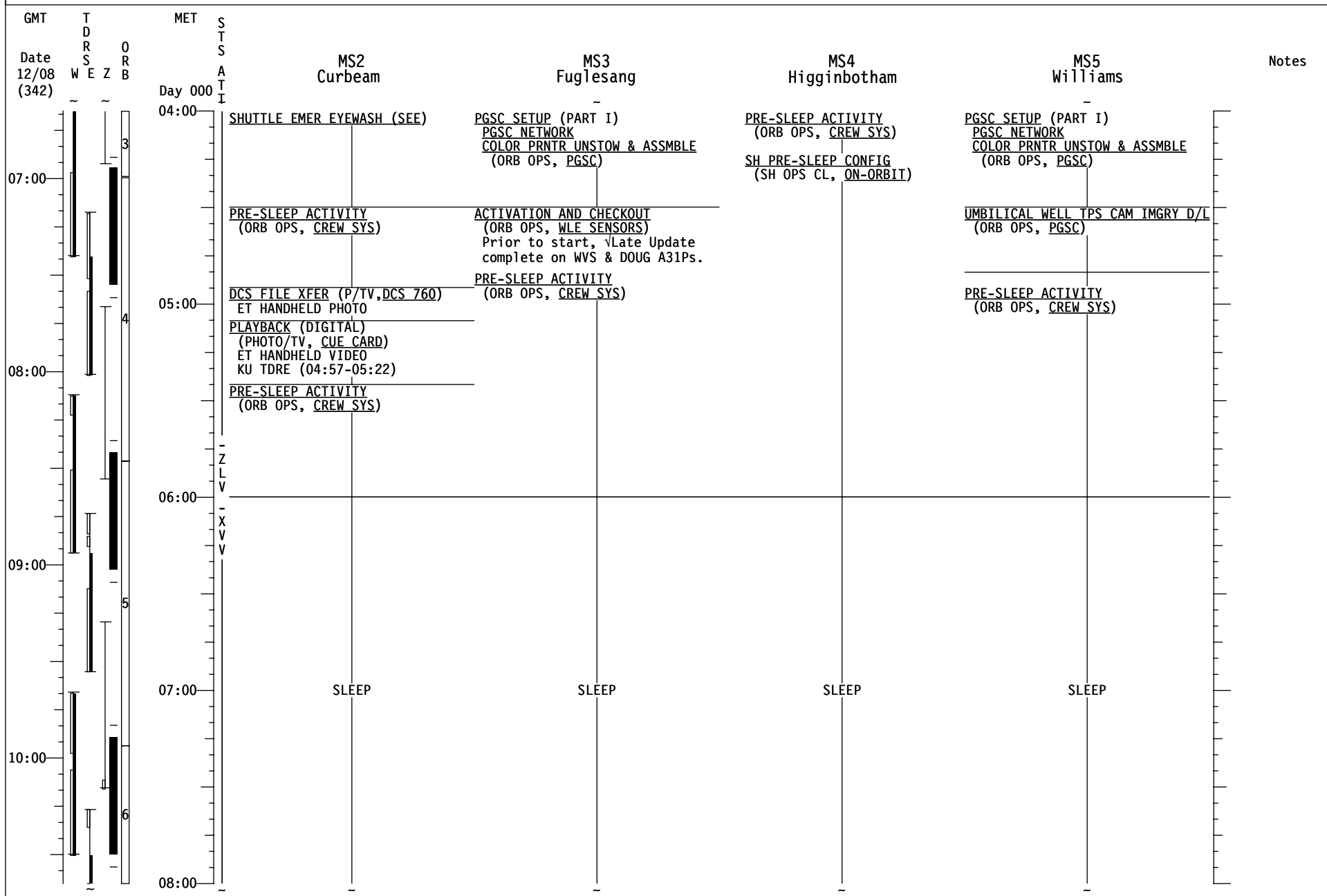
STS-116 FD01

GMT	T D R S O D R S E Z W E Z B	MET	S T S A T T	MS2 Curbeam	MS3 Fuglesang	MS4 Higginbotham	MS5 Williams	Notes
Date 12/08 (342)		Day 000	A S C E N T					
03:00			A S C E N T					
04:00			A S C E N T	POST INSERTION	POST INSERTION	POST INSERTION	POST INSERTION	
05:00			B I A S - Z					
06:00			L V - Y V V	<u>SHAB ACTIVATION</u> <u>ON-ORBIT SYSTEM CONFIG</u> <u>BOOSTER FAN BYPASS SETUP</u> <u>FOR SHAB</u> <u>TUNNEL CONFIG</u> <u>MODULE CONFIG</u> (SH OPS CL, ACTIVATION)	<u>PGSC SETUP (PART I)</u> At minimum, setup and run Late Update on WVS, KFX, DOUG, & OCA Router per PGSC Usage Chart. Start KFX on KFX & WVS PGSCs. <u>PGSC NETWORK</u> <u>COLOR PRNTR UNSTOW & ASSMBLE</u> (ORB OPS, PGSC)	<u>SHAB ACTIVATION</u> <u>ON-ORBIT SYSTEM CONFIG</u> <u>BOOSTER FAN BYPASS SETUP</u> <u>FOR SHAB</u> <u>TUNNEL CONFIG</u> <u>MODULE CONFIG</u> (SH OPS CL, ACTIVATION)	<u>PGSC SETUP (PART I)</u> At minimum, setup and run Late Update on WVS, KFX, DOUG, & OCA Router per PGSC Usage Chart. Start KFX on KFX & WVS PGSCs. <u>PGSC NETWORK</u> <u>COLOR PRNTR UNSTOW & ASSMBLE</u> (ORB OPS, PGSC)	
			T	<u>TISSUE EQUIV PRPRT COUNTER(TEPC)</u> (ORB OPS, CREW SYSTEMS) Perform POWER ON		<u>OCAC SETUP</u> (ORB OPS, CREW SYS)		
04:00			T					

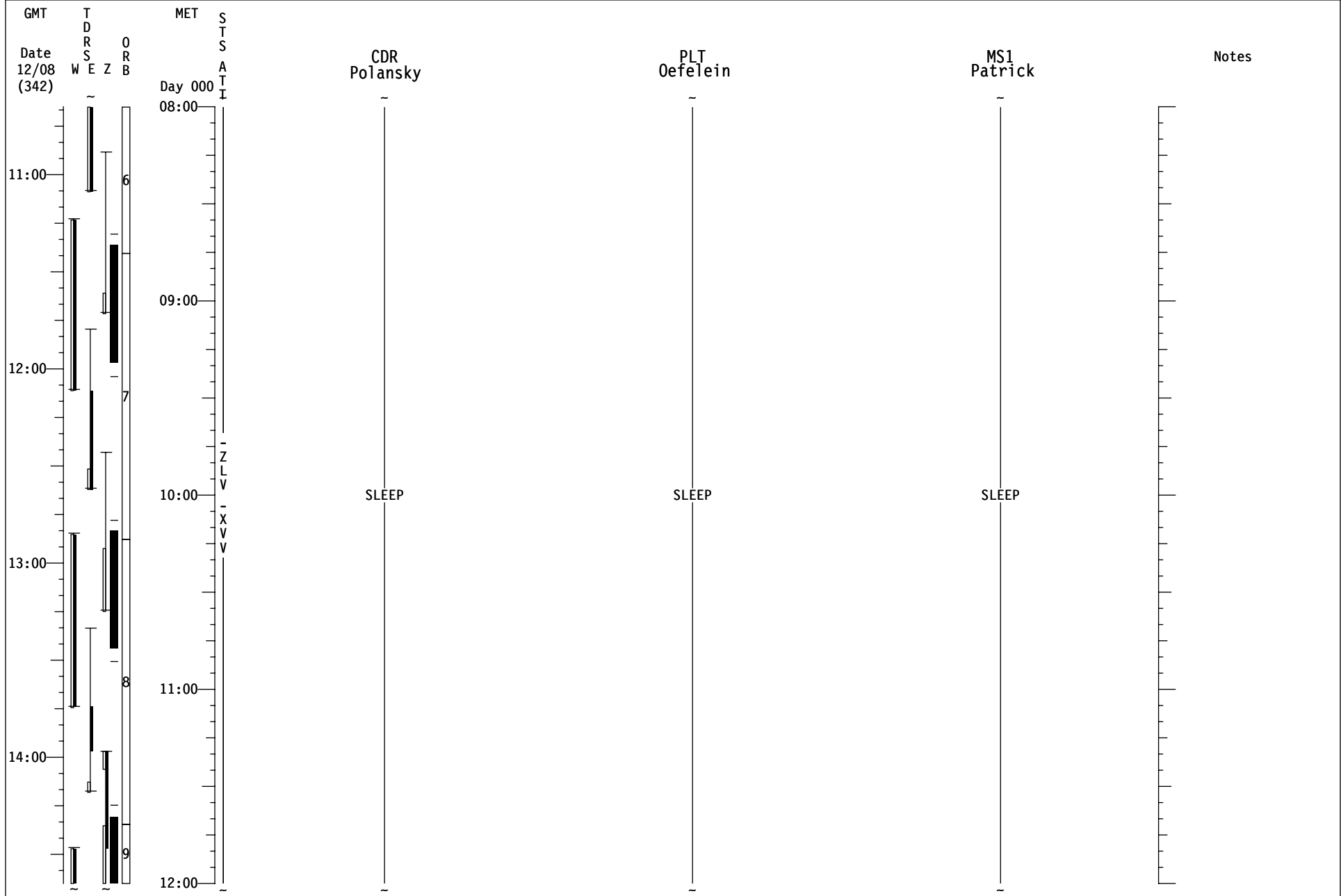
STS-116 FD01



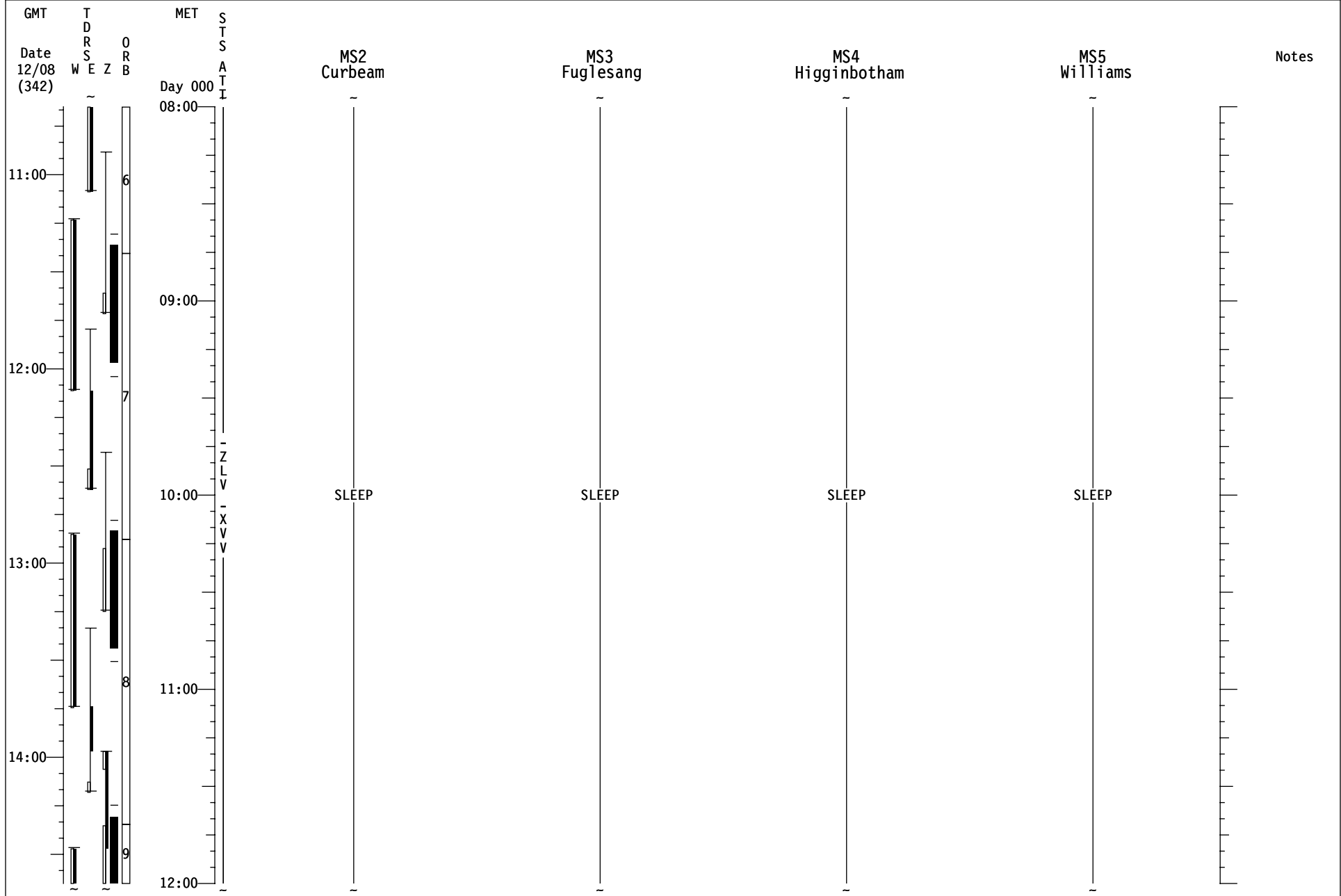
STS-116 FD01



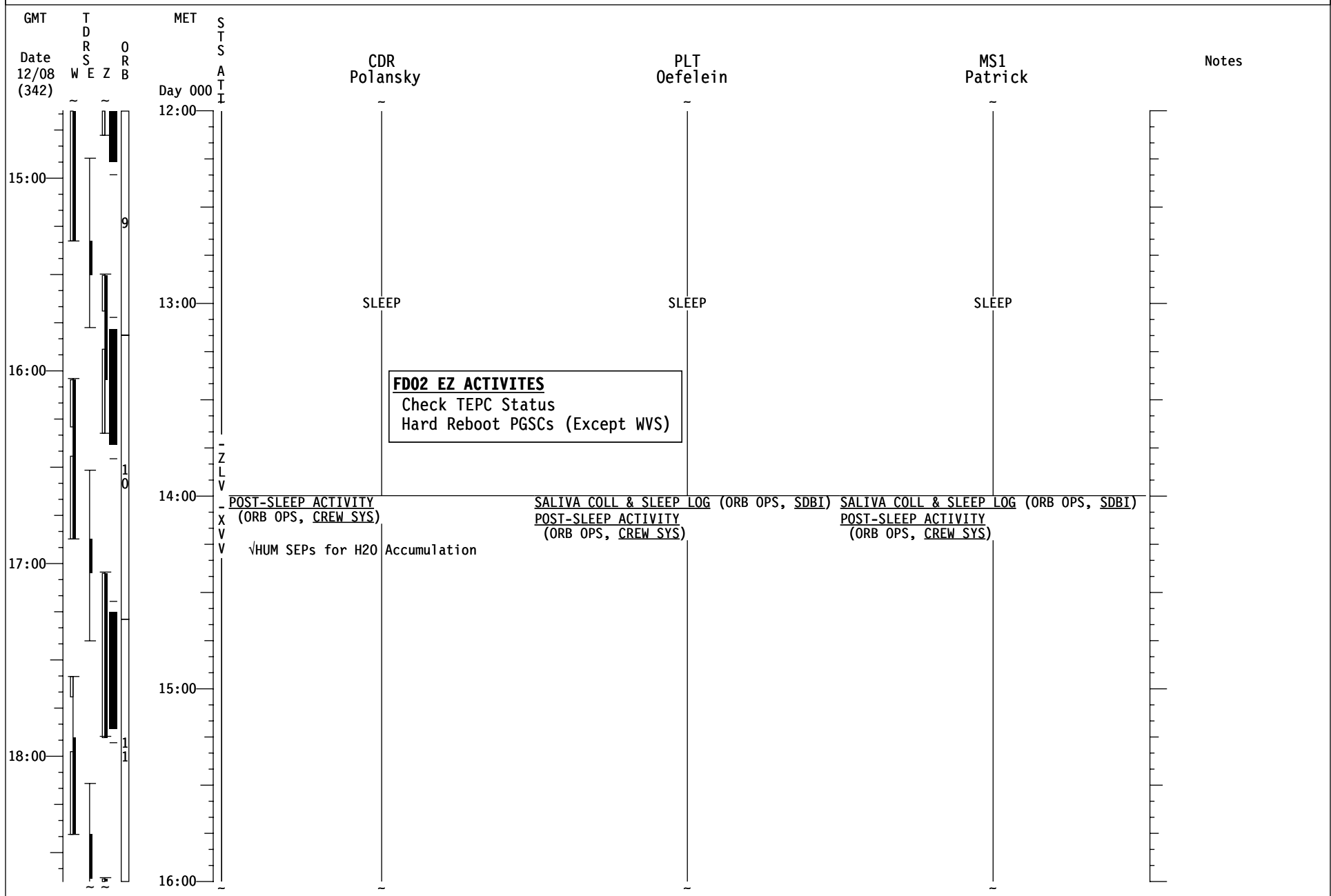
STS-116 FD01



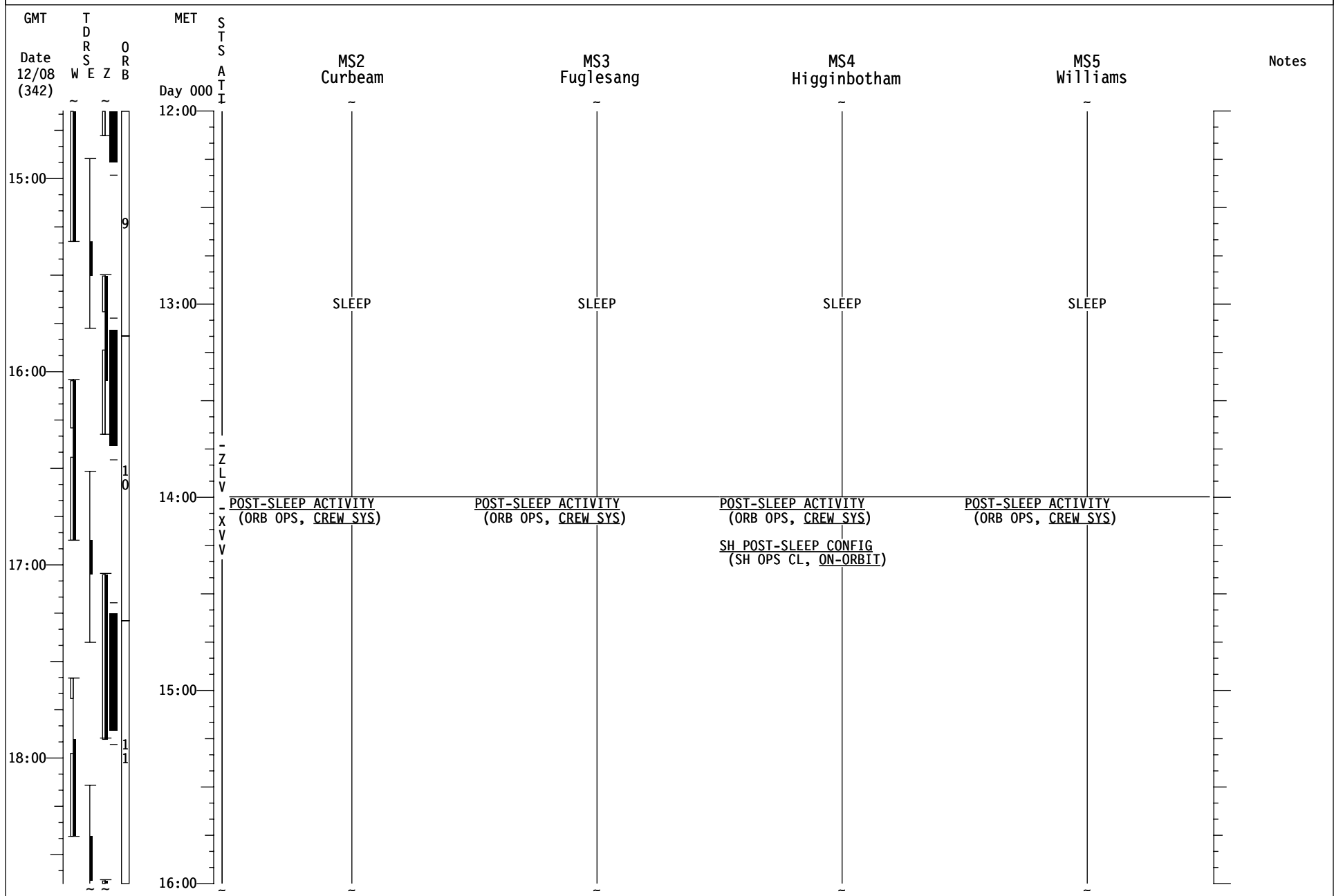
STS-116 FD01



STS-116 FD02



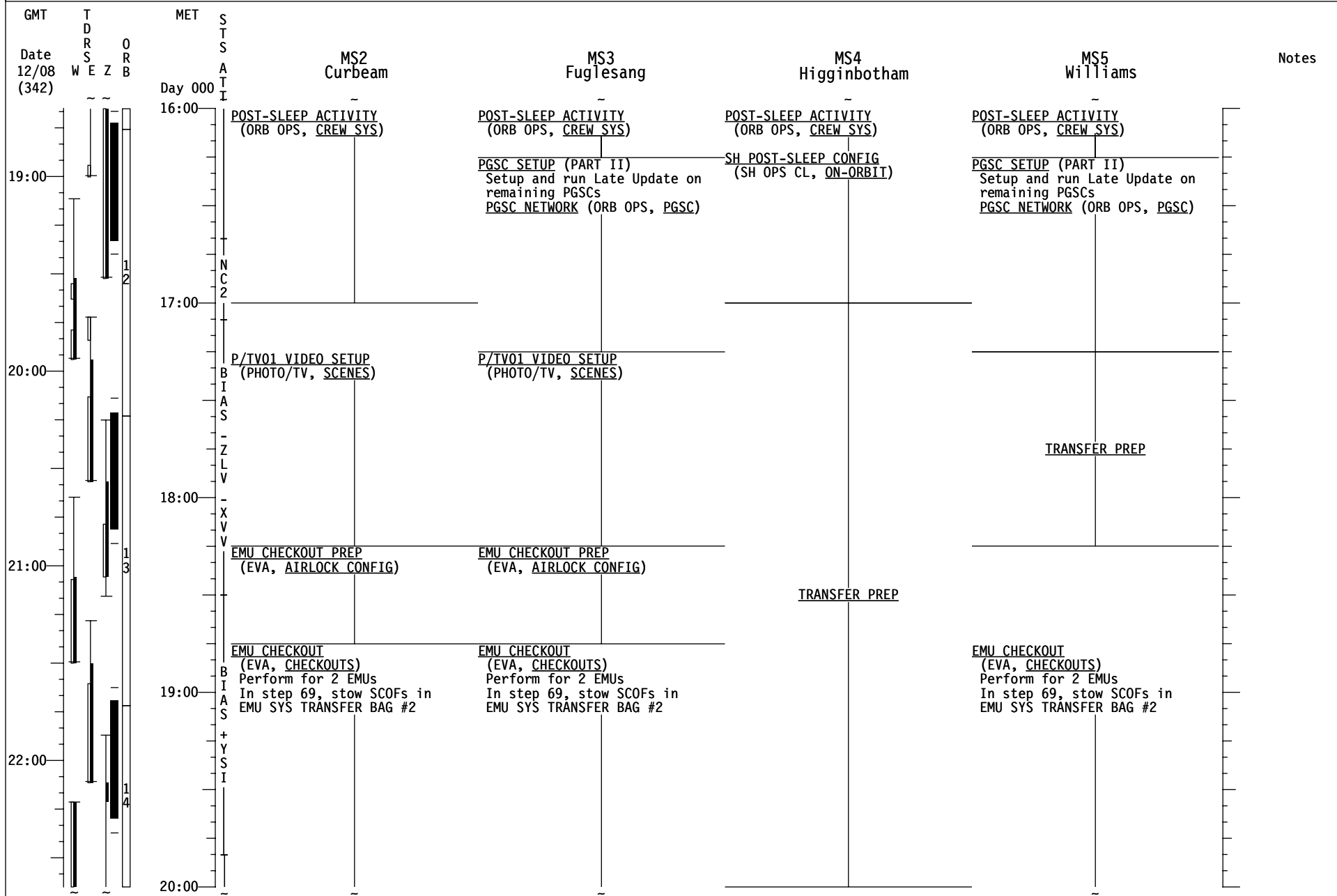
STS-116 FD02



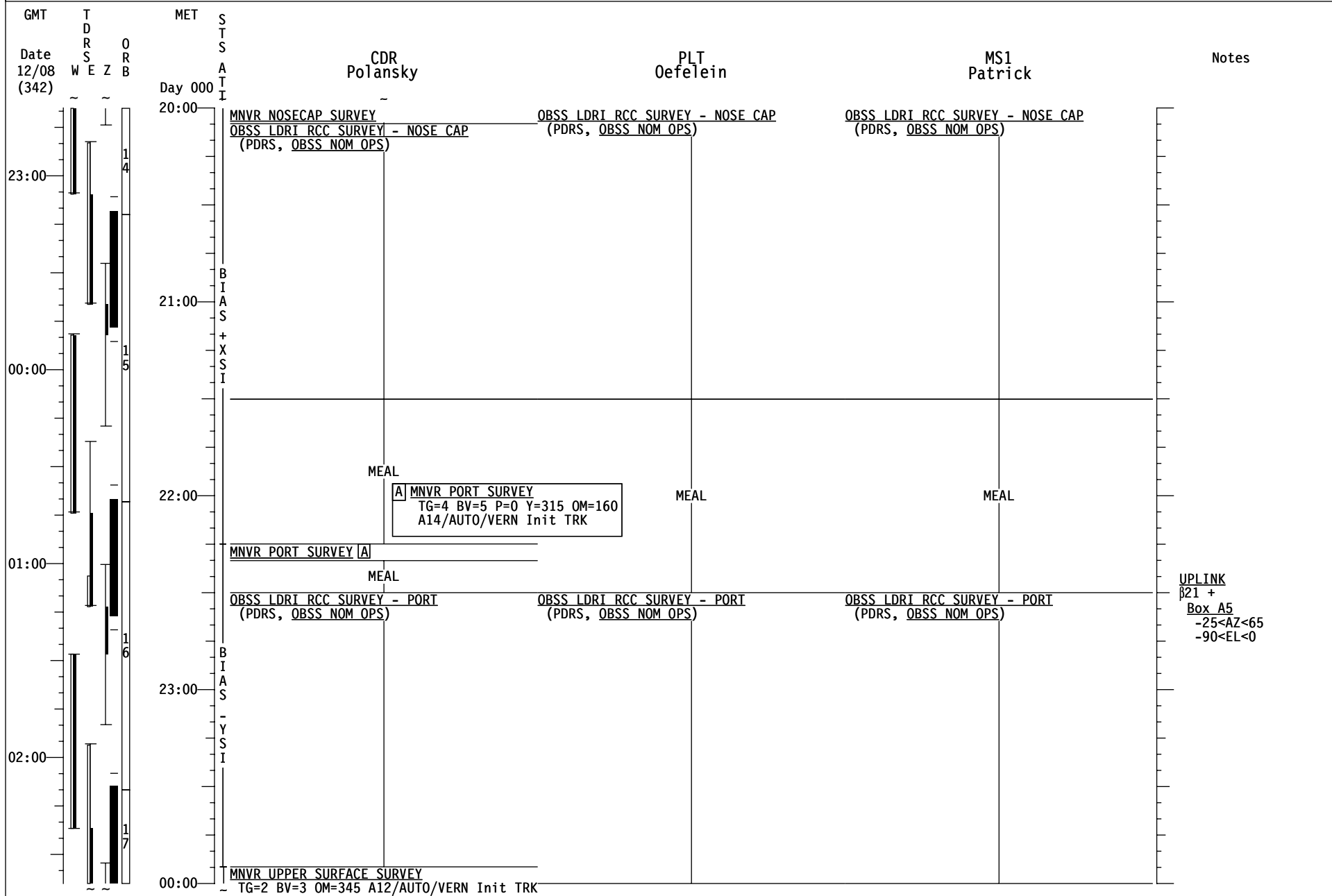
STS-116 FD02

GMT	T D R S O W E Z B	MET	S T S A T I	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/08 (342)		Day 000					
16:00				POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
19:00					STS-116 DAP A(B) CONFIGS (ORB OPS, DAP TABLE) Load Flight Specific A&B DAPS		
				ON-ORBIT OMS BURN (ORB OPS, OMS)	ON-ORBIT OMS BURN (ORB OPS, OMS)		UPDATE ORBITAL MNVR PAD
17:00			N C 2	< NC2 TIG (16:58)			
20:00				OBSS UNBERTH (PDRS, OBSS NOM OPS)	MNVR (TRK) BIAS -ZLV -XVV (FLAT FIELD) TG=2 BV=3 OM=70 A14/AUTO/VERN Init TRK CRYO 02 TK HTR SNSR CK (ORB OPS, EPS)	OBSS UNBERTH (PDRS, OBSS NOM OPS)	UPLINK β21 + Box A2 -90<AZ<110 -90<EL<0
			B I A S - Z L V				
18:00				OBSS ITVC/LDRI FLAT FIELDS (PDRS, OBSS NOM OPS)	OBSS ITVC/LDRI FLAT FIELDS (PDRS, OBSS NOM OPS)	OBSS ITVC/LDRI FLAT FIELDS (PDRS, OBSS NOM OPS)	
21:00			X V V				
				MNVR STARBOARD SURVEY TG=4 BV=5 P=0 Y=45 OM=78 A14/AUTO/VERN Init TRK	OBSS LDRI RCC SURVEY - STBD (PDRS, OBSS NOM OPS)	OBSS LDRI RCC SURVEY - STBD (PDRS, OBSS NOM OPS)	UPLINK β21 + Box A3 -120<AZ<80 - 90<EL<45
			B I A S +	OBSS LDRI RCC SURVEY - STBD (PDRS, OBSS NOM OPS)			
19:00							
22:00			Y S I				
20:00				MNVR NOSE CAP SURVEY TG=4 BV=5 P=315 Y=0 OM=120 A14/AUTO/VERN Init TRK			UPLINK β21 + Box A4 -36<AZ<70, -48<EL<32

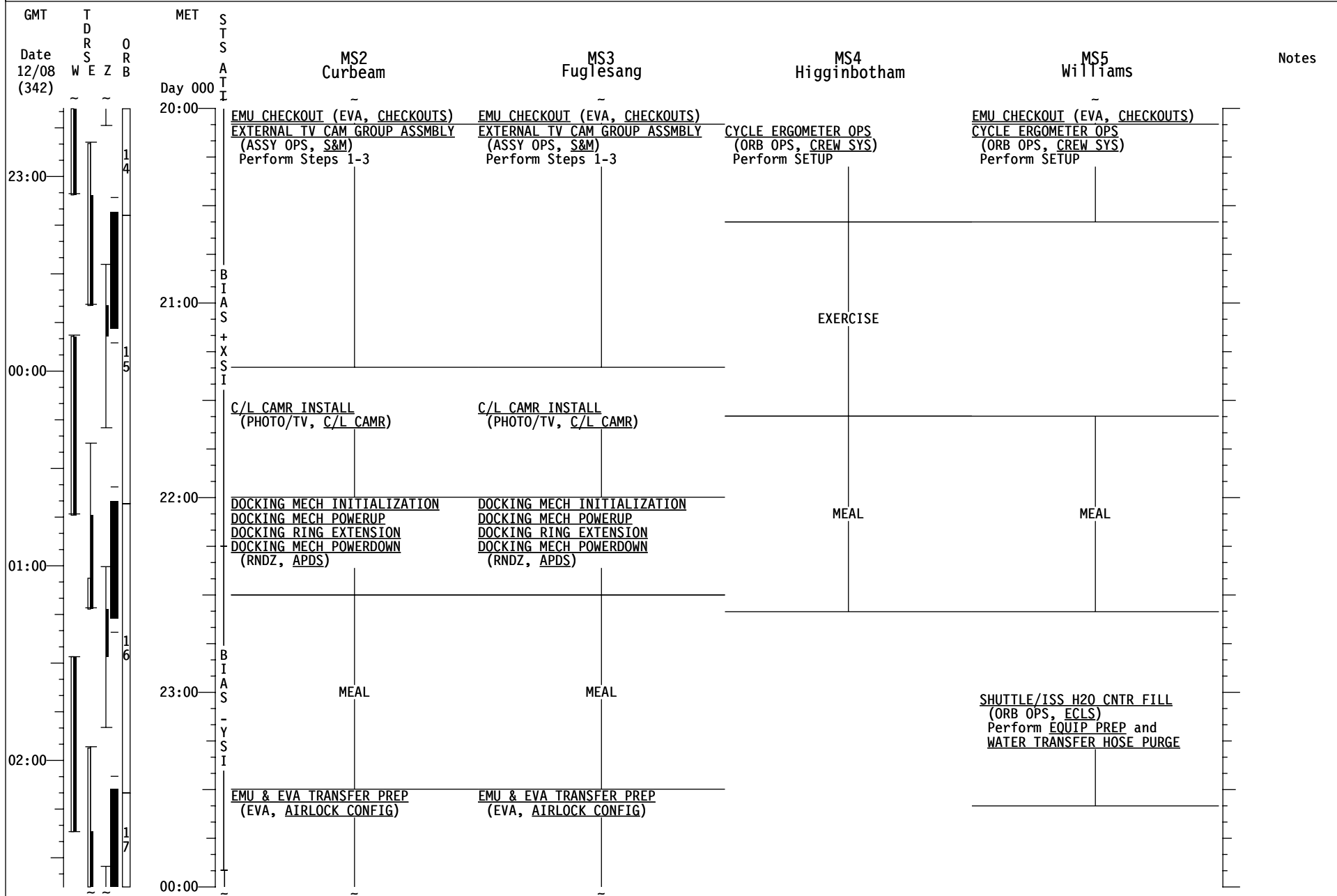
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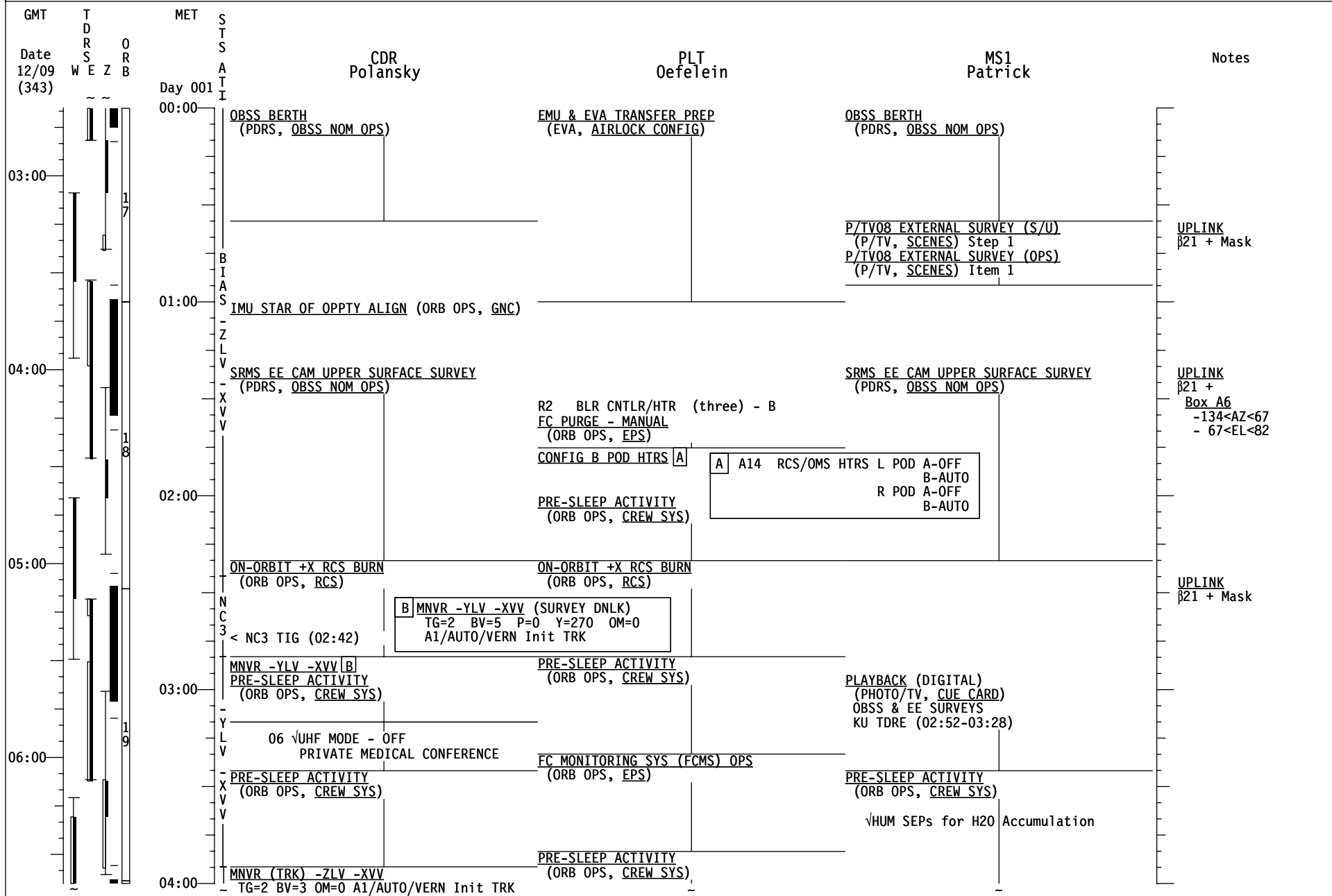
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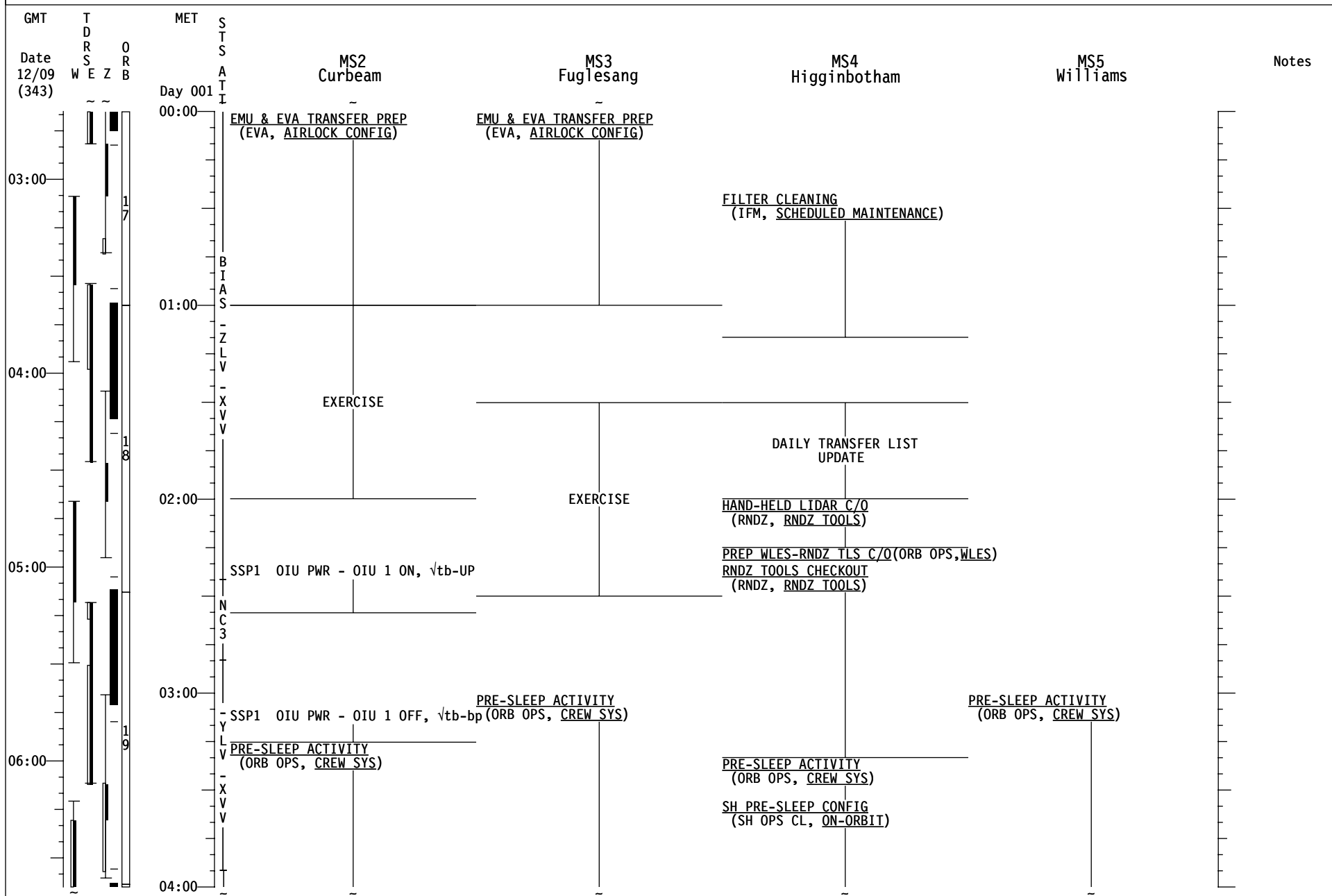
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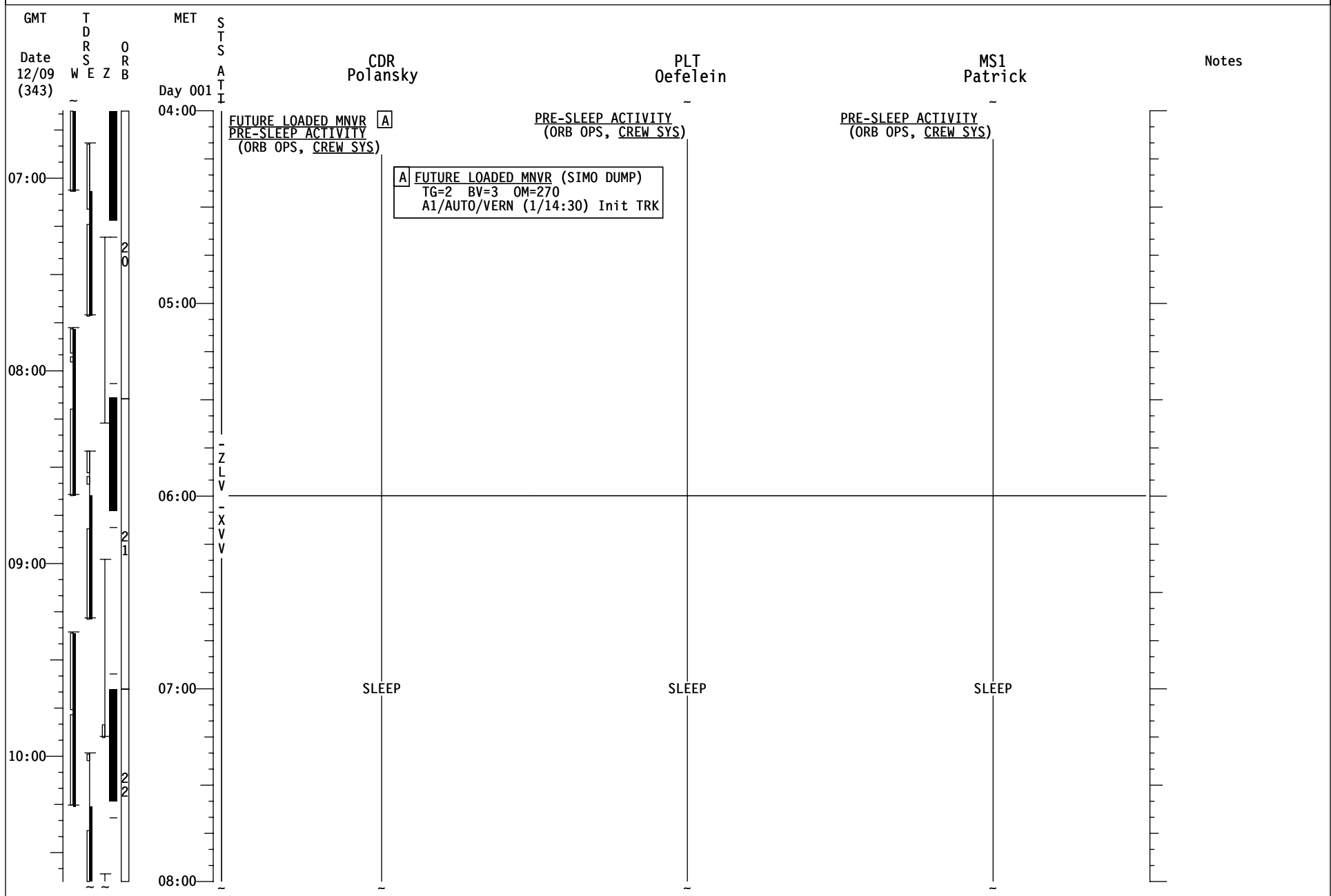
STS-116 FD02



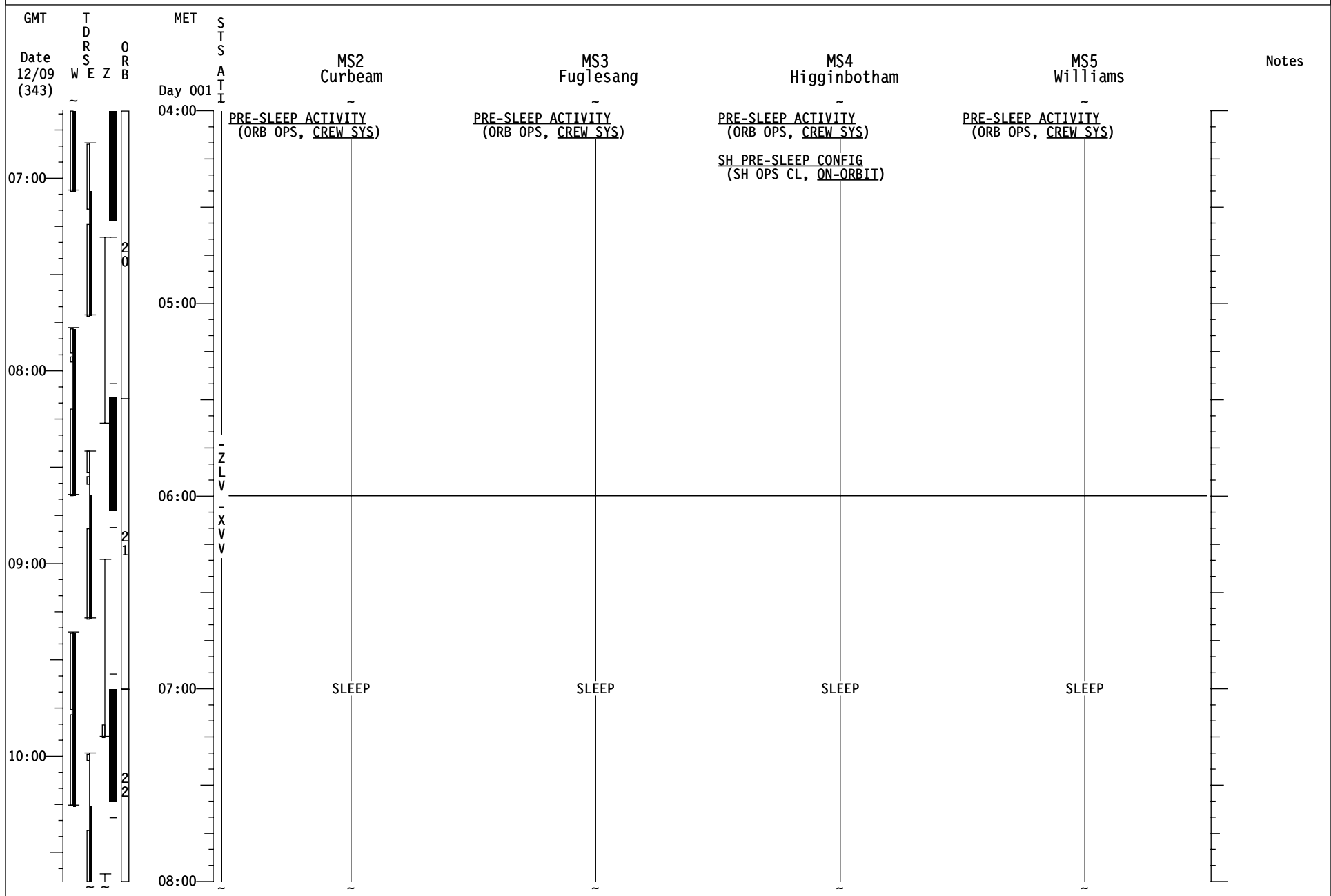
STS-116 FD02



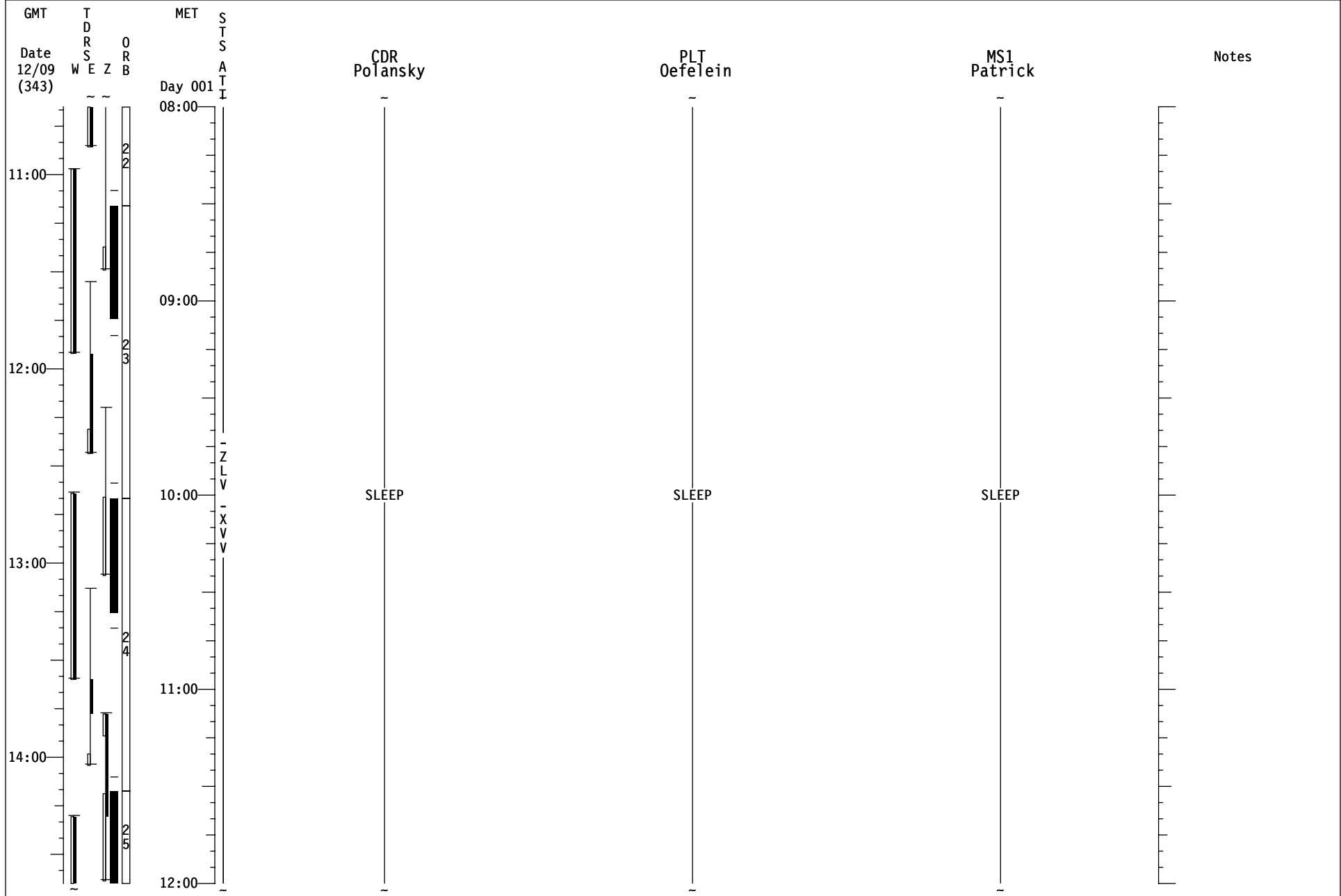
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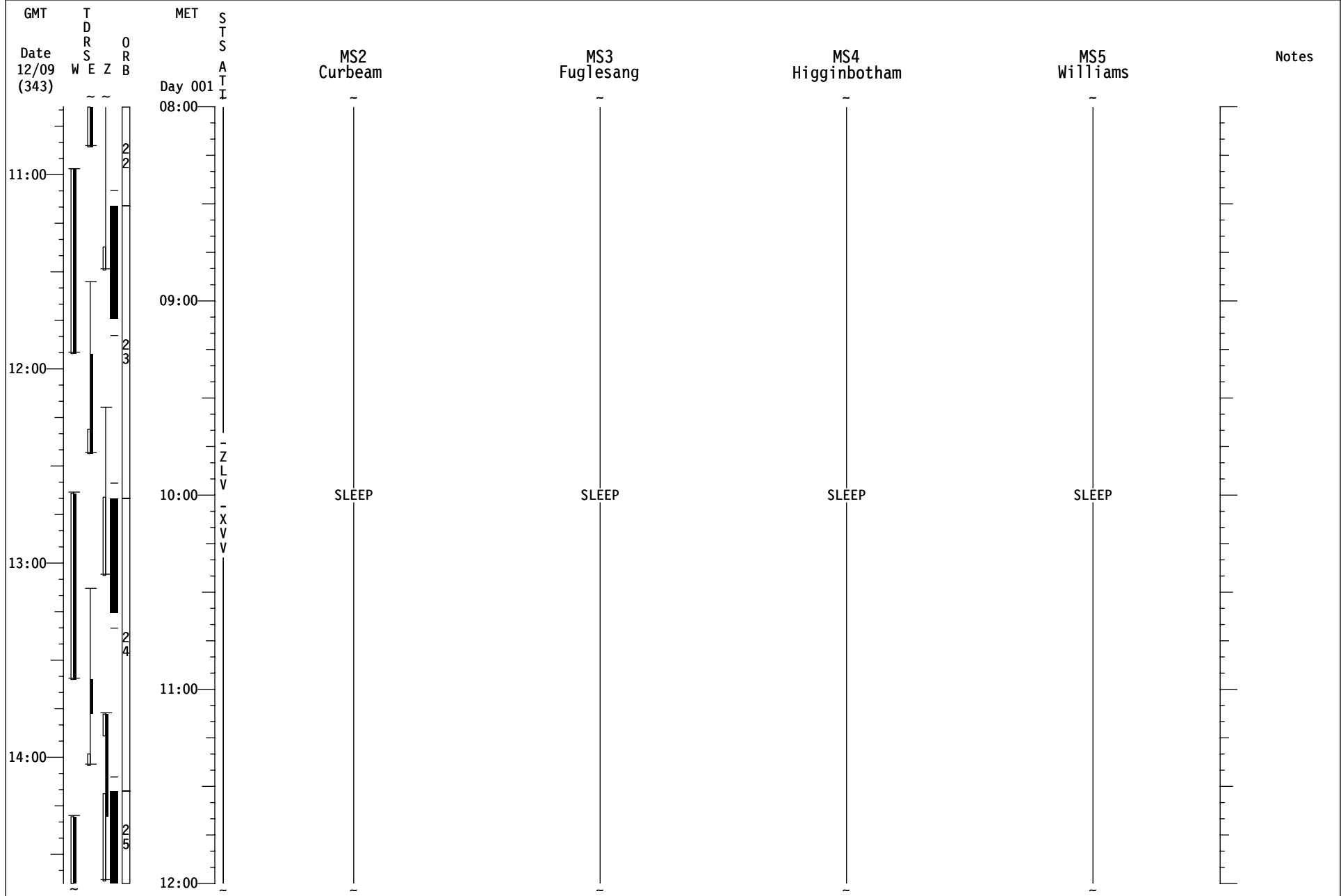
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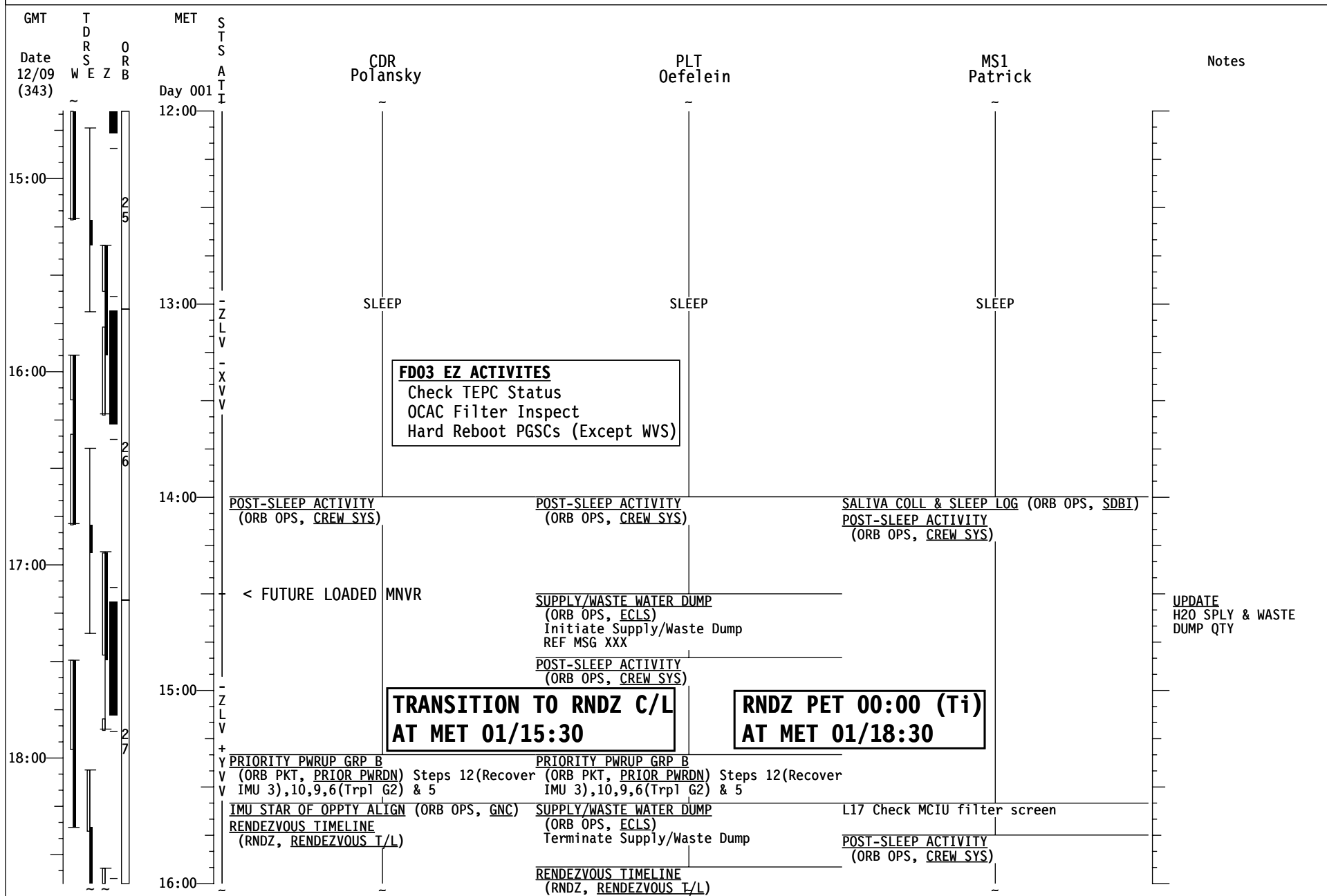
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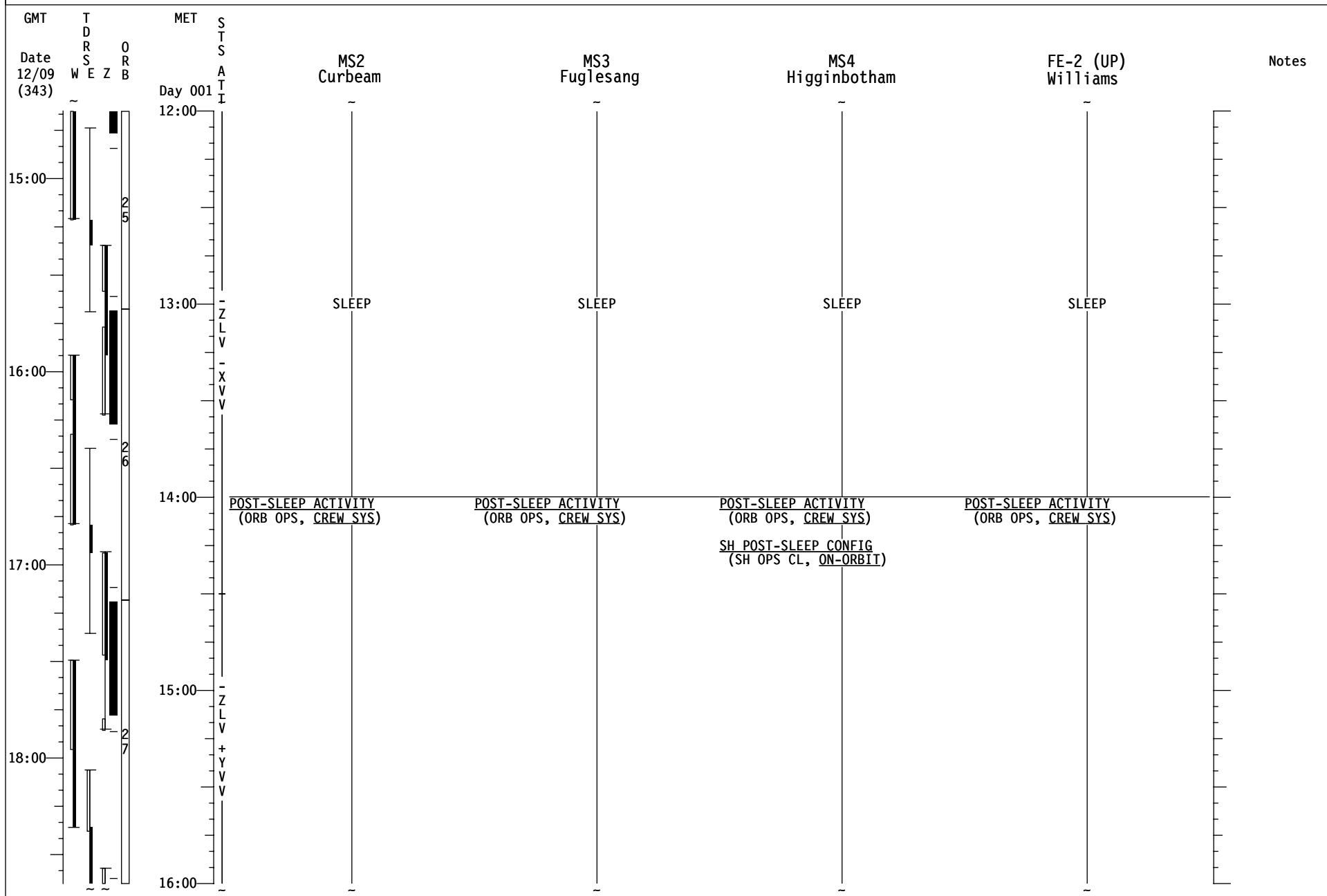
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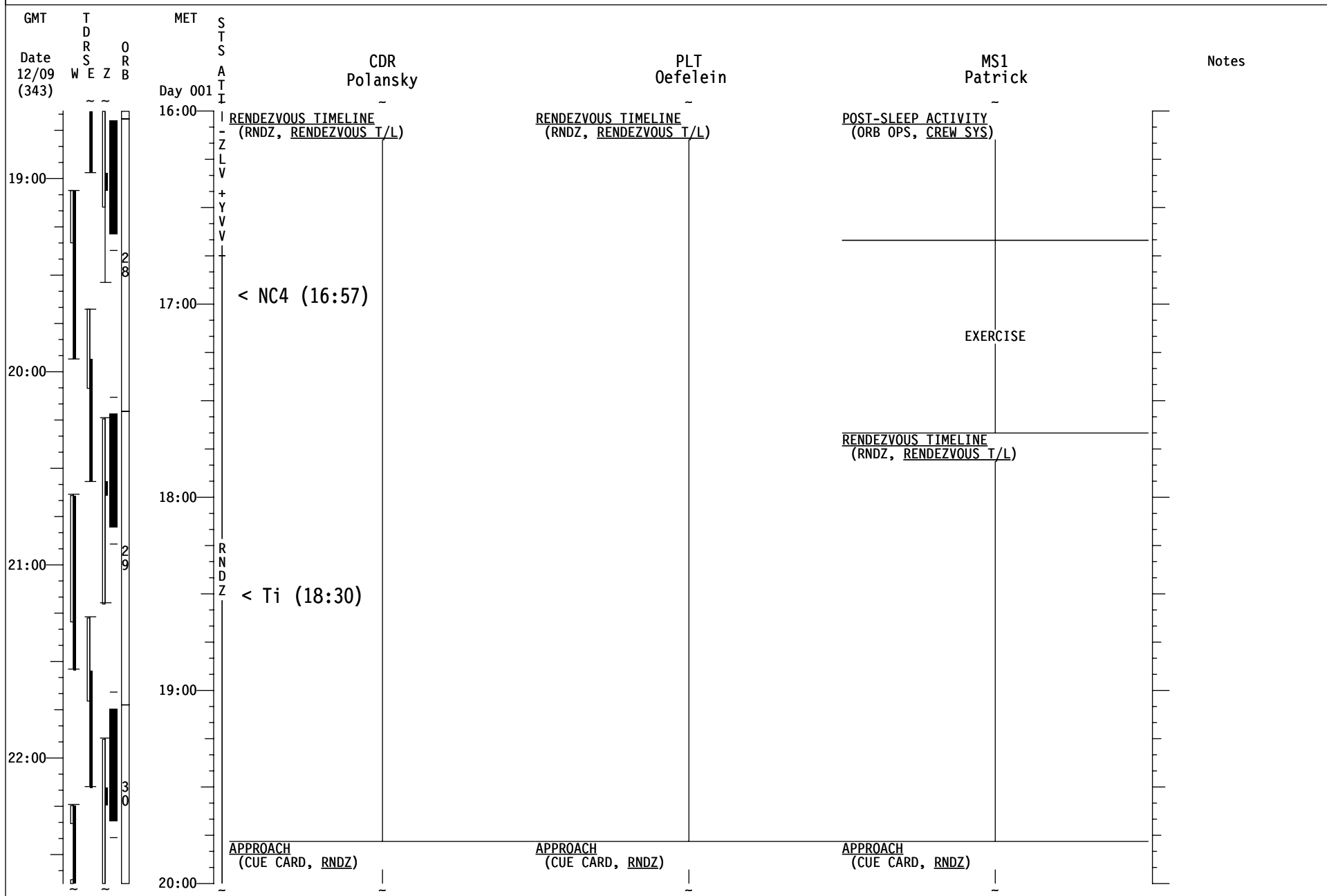
STS-116 FD03



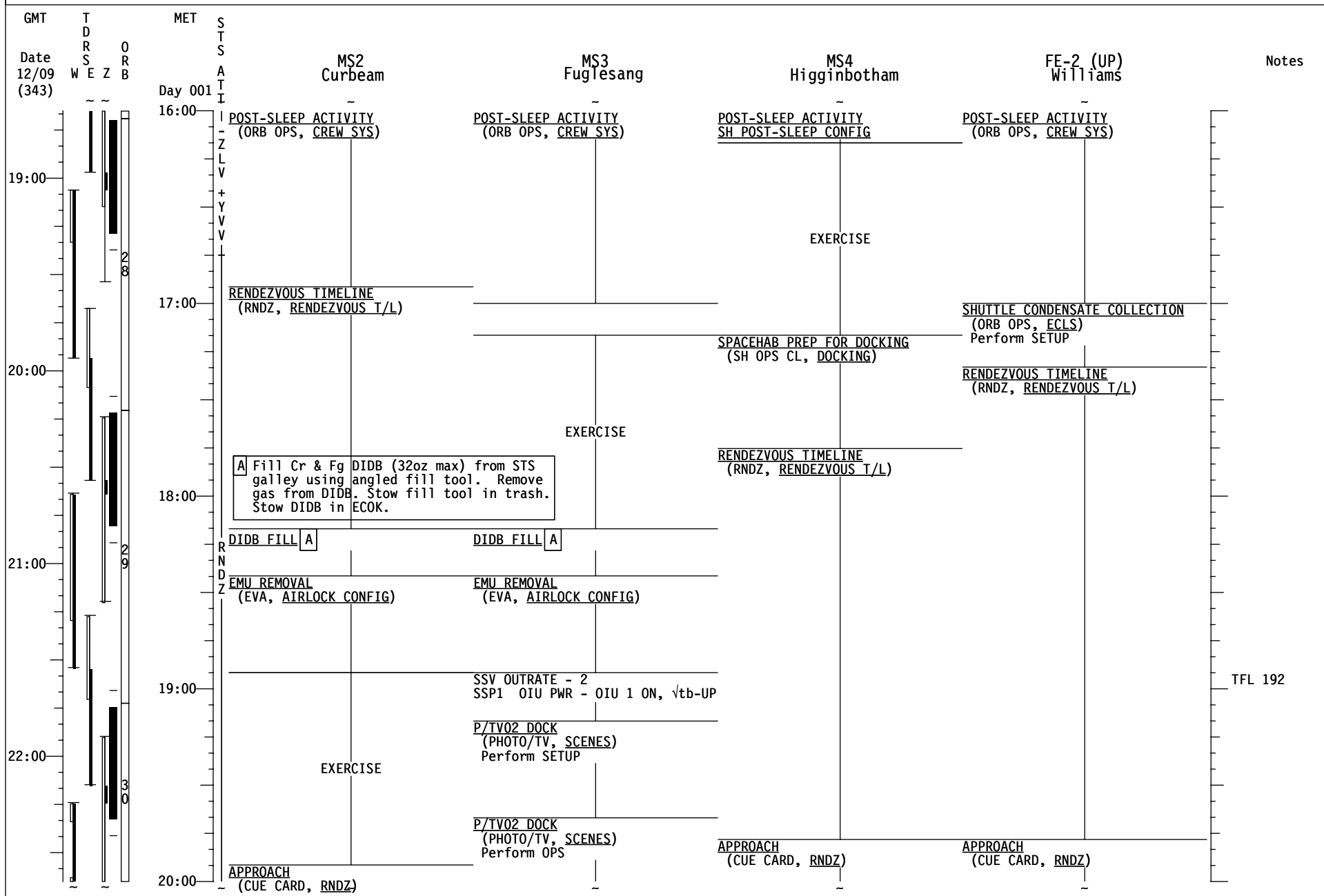
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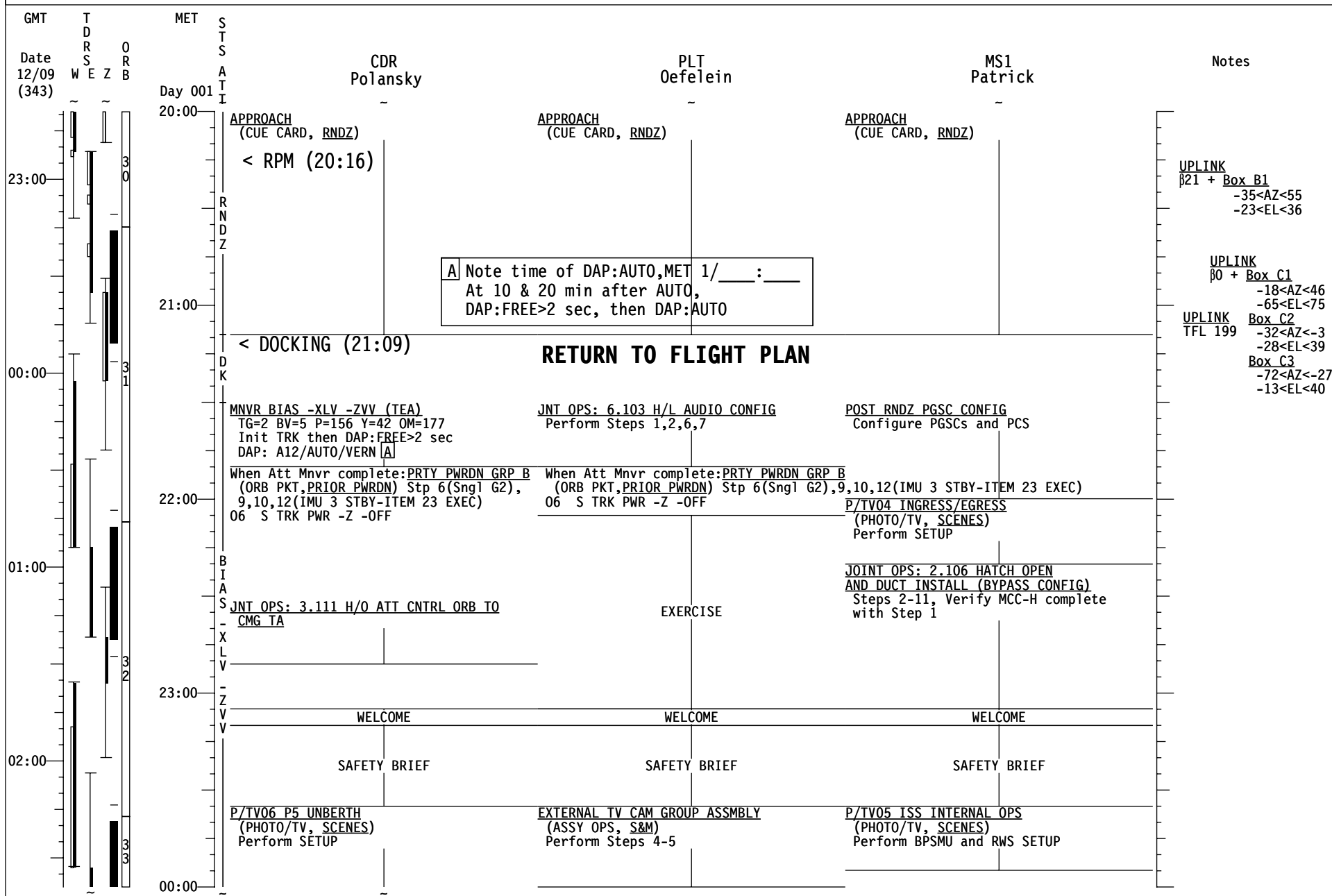
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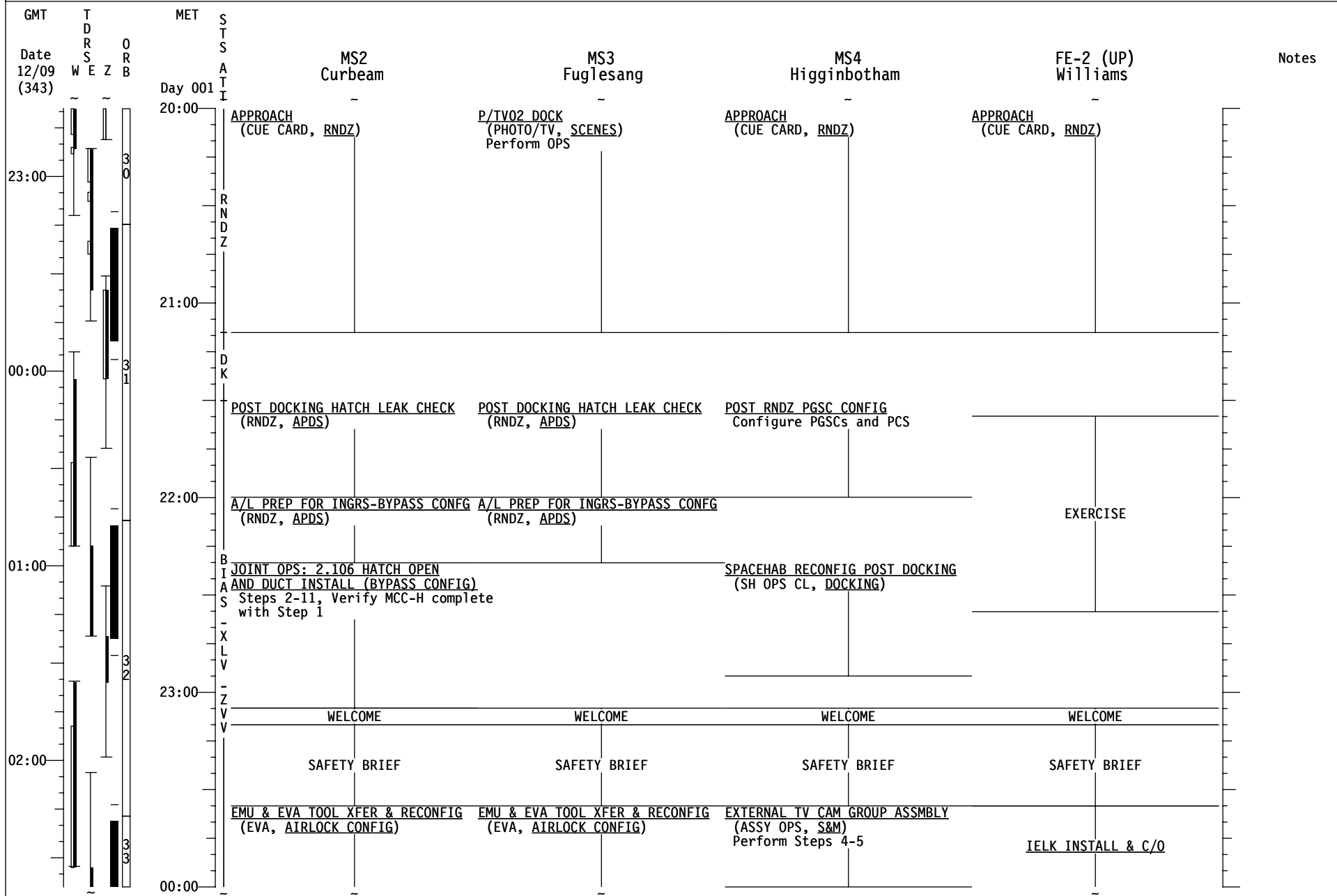
STS-116 FD03



STS-116 FD03



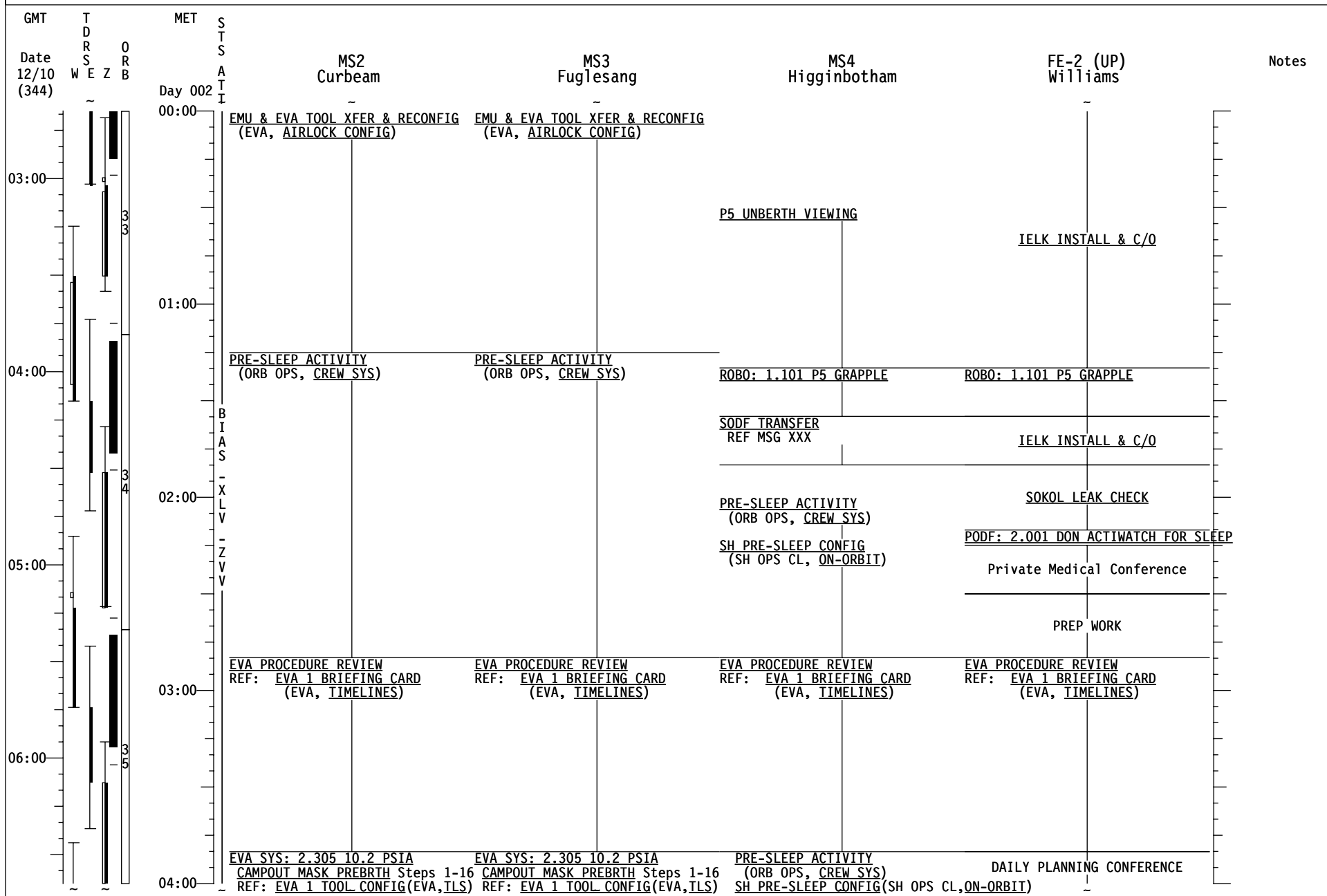
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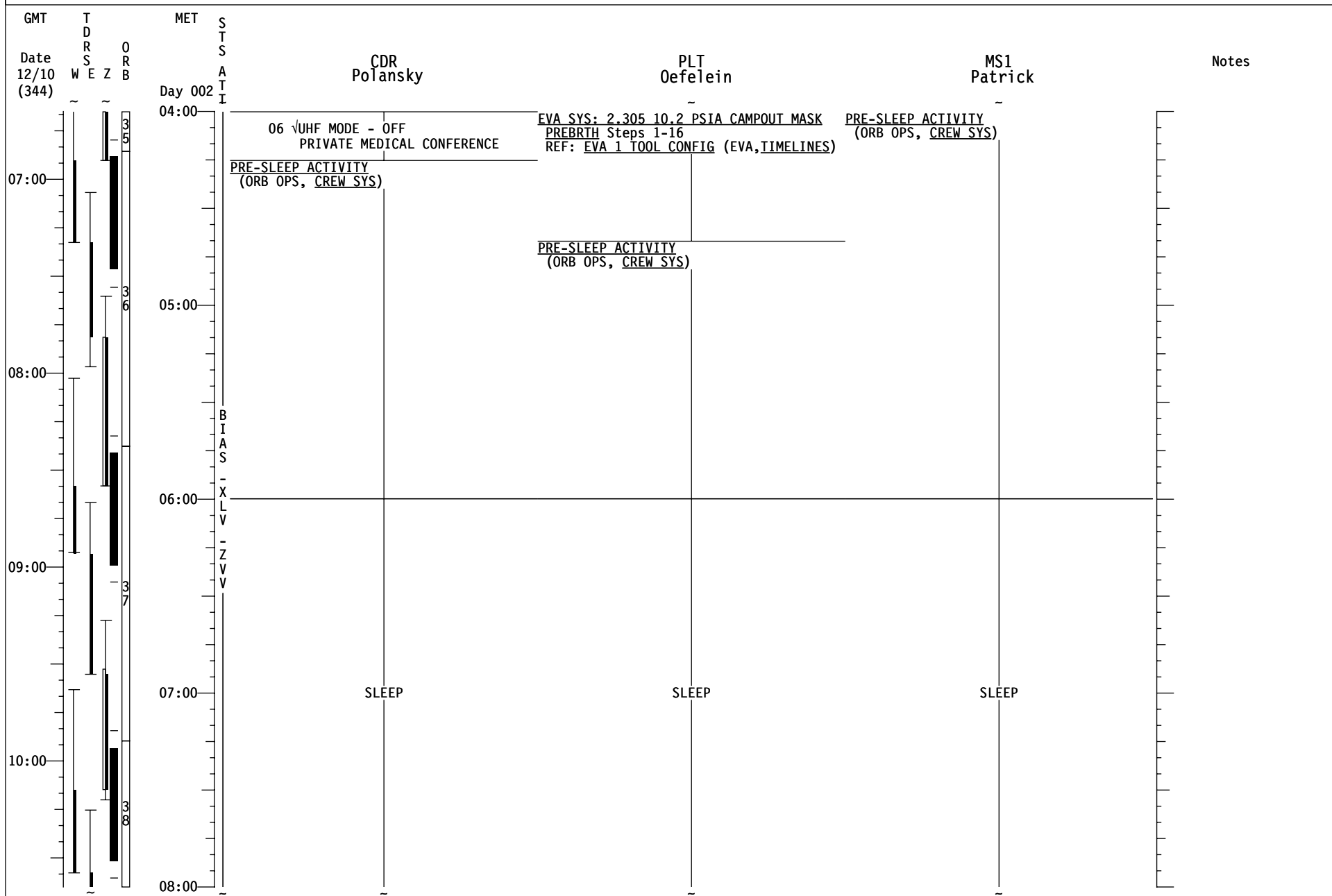
STS-116 FD03

GMT	TDRS W E Z	ORB B	MET Day 002	S T S A T I	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
00:00					P/TV06 P5 UNBERTH (PHOTO/TV, SCENES) P5 GRAPPLE (PDRS, NOM P5 OPS)	EMU & EVA TOOL XFER & RECONFIG (EVA, AIRLOCK CONFIG)	P5 GRAPPLE (PDRS, NOM P5 OPS)	
03:00					P5 UNBERTH (PDRS, NOM P5 OPS)		P5 UNBERTH (PDRS, NOM P5 OPS)	
01:00					P5 HANDOFF (PDRS, NOM P5 OPS)		P5 HANDOFF (PDRS, NOM P5 OPS)	
04:00						PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		
02:00					IMU STAR OF OPPTY ALIGN (ORB OPS, GNC) P5 UNGRAPPLE (PDRS, NOM P5 OPS)		P5 UNGRAPPLE (PDRS, NOM P5 OPS)	
					JNT OPS: 3.120 PREBRTH USING SHUTTLE 02 S/U		PLAYBACK (ANALOG) (PHOTO/TV, CUE CARD) DOCKING KU TDRZ (01:53-02:34)	
05:00							PLAYBACK (ANALOG) (PHOTO/TV, CUE CARD) P5 HANDOFF KU TDRZ (01:53-02:34)	
03:00					EVA PROCEDURE REVIEW REF: EVA 1 BRIEFING CARD (EVA, TIMELINES)	SSV OUTFATE - 3 SSP1 OIU PWR - OIU 1 OFF, √tb-bp EVA PROCEDURE REVIEW REF: EVA 1 BRIEFING CARD (EVA, TIMELINES)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	UPLINK TFL 184
06:00					PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
04:00						EVA SYS: 2.305 10.2 PSIA CAMPOUT MASK PREBRTH Steps 1-16 REF: EVA 1 TOOL CONFIG (EVA, TIMELINES)		

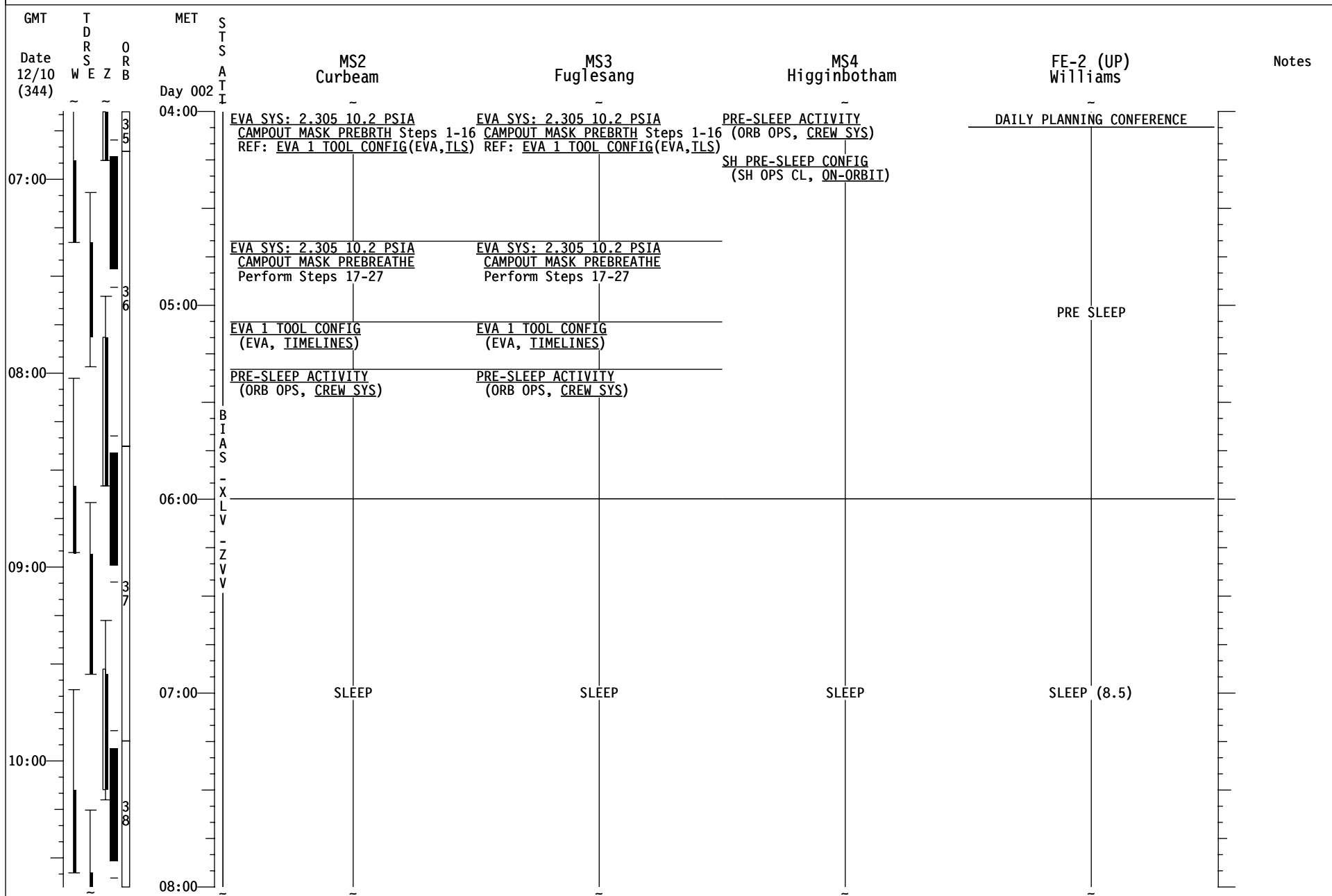
STS-116 FD03



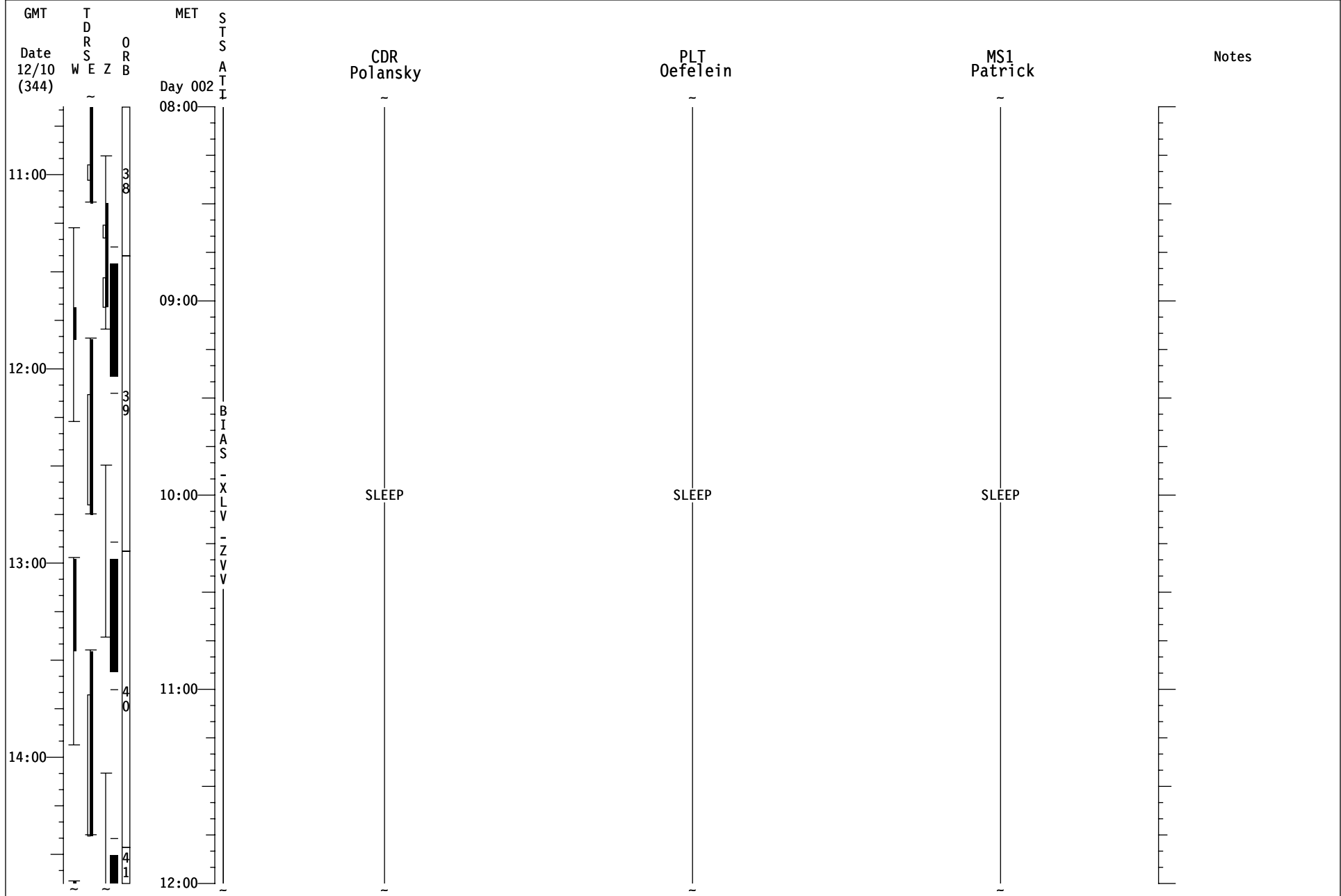
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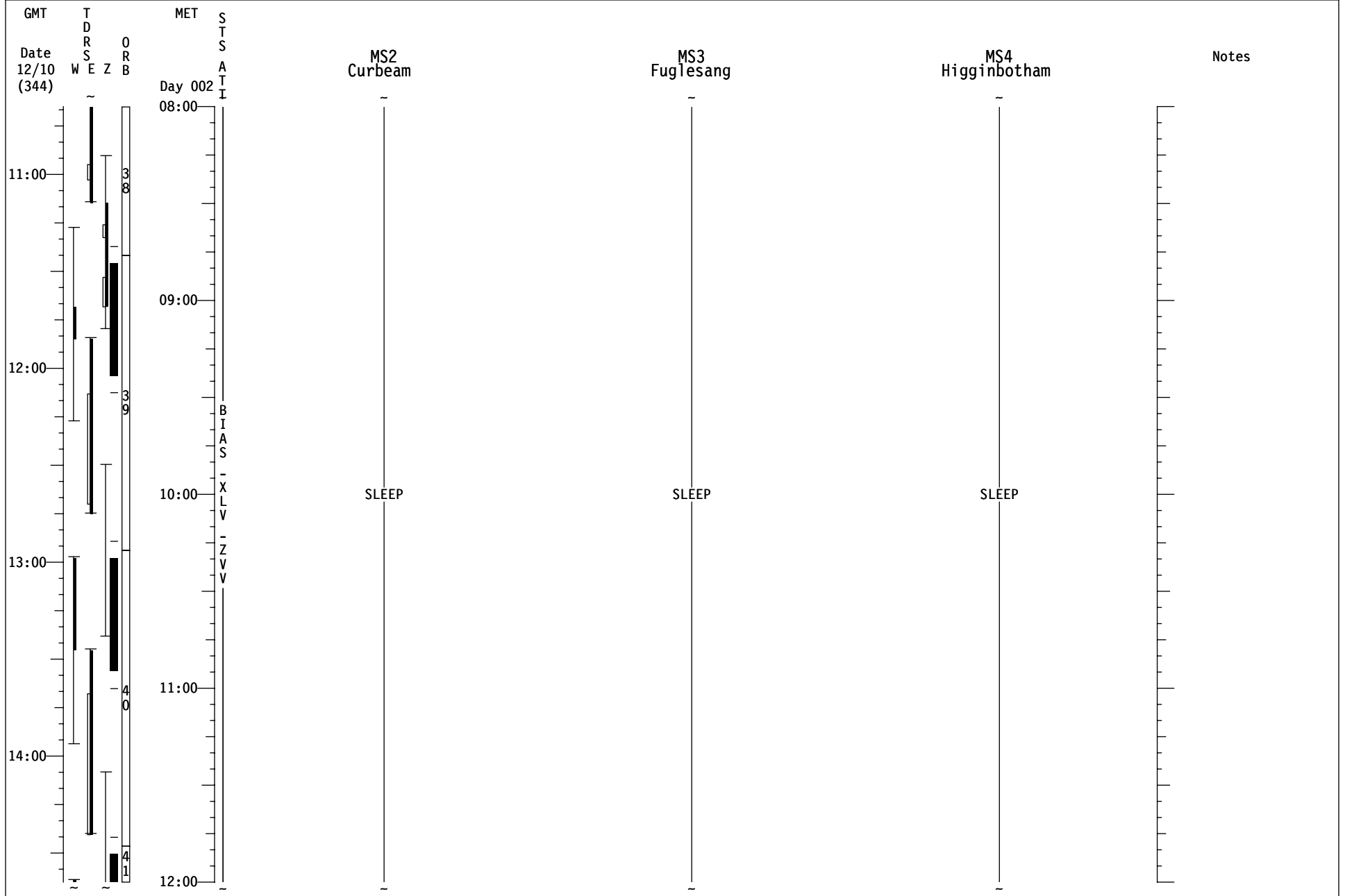
STS-116 FD03



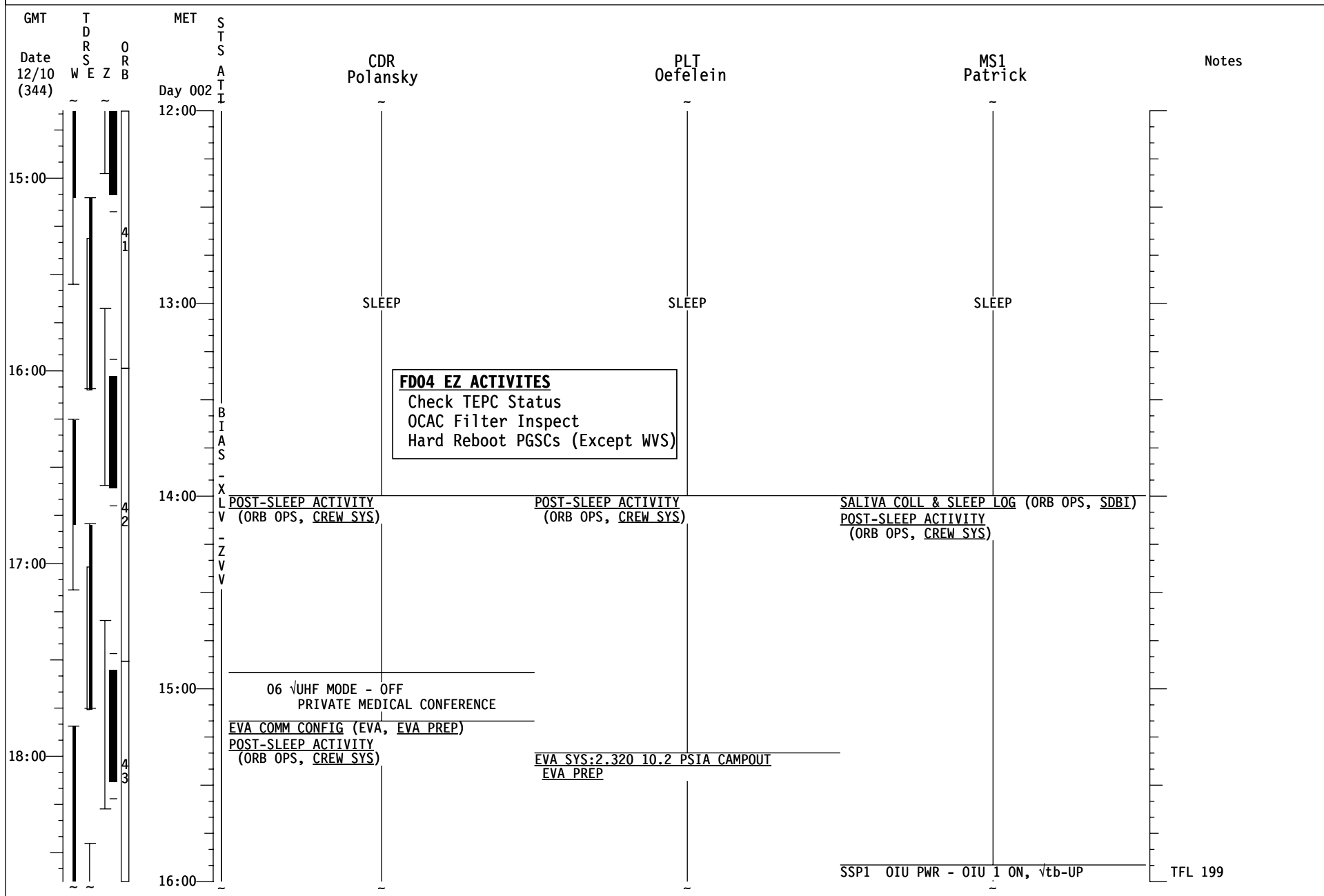
STS-116 FD03



STS-116 FD03

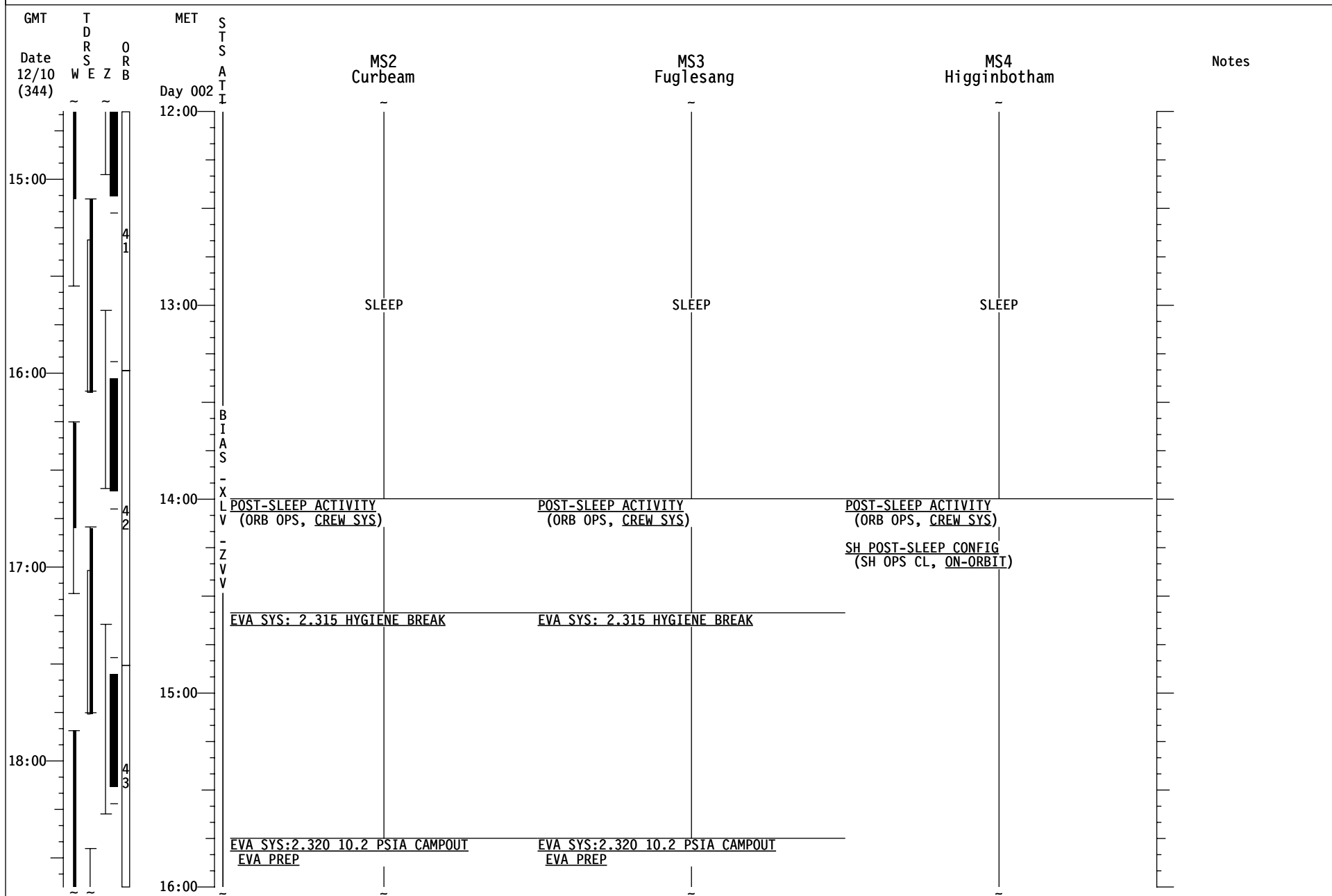


STS-116 FD04



FD04 EZ ACTIVITES
 Check TEPC Status
 OCAC Filter Inspect
 Hard Reboot PGSCs (Except WVS)

STS-116 FD04



STS-116 FD04

GMT	T D R S O W E Z B	MET	S T S A T I	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/10 (344)		Day 002					
16:00				POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	EVA SYS: 2.320 10.2 PSIA CAMPOUT EVA PREP	SSP1 OIU PWR - OIU 1 ON, √tb-UP	TFL 199
19:00				EVA1 INHIBIT PAD (EVA, TIMELINES)		POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	UPLINK β0 + Box C1 -18<AZ<46 -65<EL<75
20:00				EXERCISE	EVA SYS: 1.220 EMU PURGE	L17 Check MCIU filter screen	Box C2 -32<AZ<-3 -28<EL<39
					EVA SYS: 1.225 EMU PREBREATHE	SHUTTLE/ISS H2O CNTR FILL (INIT) (ORB OPS, ECLS) REF MSG XXX	Box C3 -72<AZ<-27 -13<EL<40
18:00						EXERCISE	Box E1 -103<AZ<125 - 25<EL<62
21:00				P/TV07 EVA (PHOTO/TV, SCENES) Perform SETUP	EVA SYS: CREWLOCK DPRSS/RPRSS CUE CARD	SHUTTLE/ISS H2O CNTR FILL (ORB OPS, ECLS) Perform FILL TERMINATION	
19:00				P/TV07 EVA (PHOTO/TV, SCENES) Perform OPS	POST DEPRESS IVA SUPPORT EVA 1 (EVA, TIMELINES)	CWC TRANSFER (1 BAG) Transfer 1 CWC bag to ISS	
22:00							
20:00							

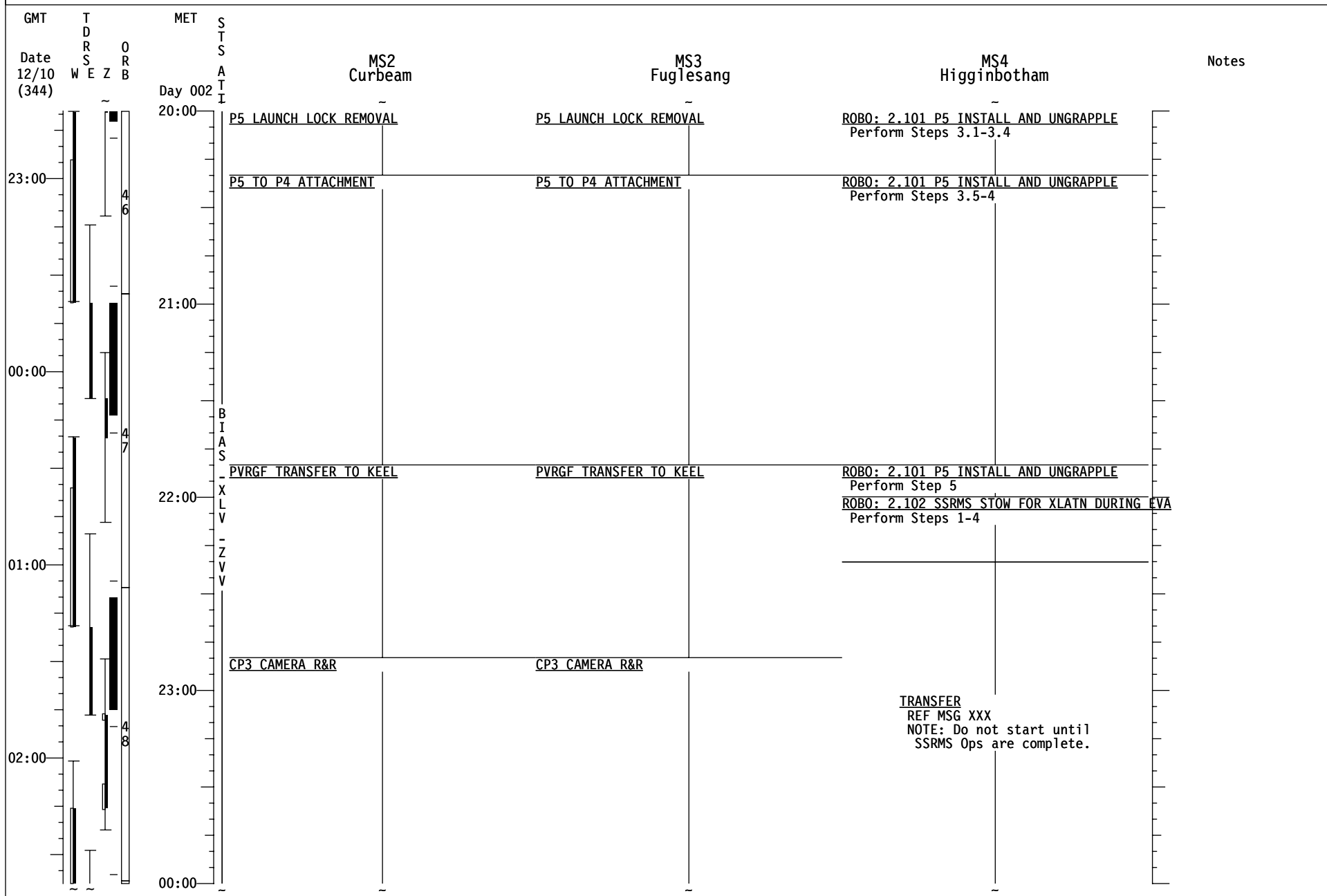
STS-116 FD04

GMT	T D R S W E Z	MET	S T S A T I	MS2 Curbeam	MS3 Fuglesang	MS4 Higginbotham	Notes
Date 12/10 (344)	~	Day 002	I				
16:00	43			<u>EVA SYS:2.320 10.2 PSIA CAMPOUT</u> <u>EVA PREP</u>	<u>EVA SYS:2.320 10.2 PSIA CAMPOUT</u> <u>EVA PREP</u>	<u>POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)</u> <u>SH POST-SLEEP CONFIG(SH OPS CL,ON-ORBIT)</u> <u>ROBO: 2.101 P5 INSTALL AND UNGRAPPLE</u> Perform Steps 1-2.2	
17:00	44						
20:00	44			<u>EVA SYS: 1.220 EMU PURGE</u>	<u>EVA SYS: 1.220 EMU PURGE</u>	<u>DAILY TRANSFER LIST UPDATE</u>	
				<u>EVA SYS: 1.225 EMU PREBREATHE</u>	<u>EVA SYS: 1.225 EMU PREBREATHE</u>		
18:00							
21:00				<u>EVA SYS: CREWLOCK DPRSS/RPRSS</u> <u>CUE CARD</u>	<u>EVA SYS: CREWLOCK DPRSS/RPRSS</u> <u>CUE CARD</u>	<u>EXERCISE</u>	
				<u>POST DEPRESS</u> <u>EGRESS</u>	<u>POST DEPRESS</u> <u>EGRESS</u>		
19:00						<u>ROBO: 2.101 P5 INSTALL AND UNGRAPPLE</u> Perform Step 2.3	
22:00				<u>P5 LAUNCH LOCK REMOVAL</u>	<u>P5 LAUNCH LOCK REMOVAL</u>	<u>ROBO: 2.101 P5 INSTALL AND UNGRAPPLE</u> Perform Steps 3.1-3.4	
20:00	46						

STS-116 FD04

GMT Date 12/10 (344)	T D R S W E Z	O R B	MET Day 002	S T S A T I T I	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
		~	20:00			~		
								IVA SUPPORT EVA 1 (EVA, TIMELINES)
		4 6			MEAL		MEAL	
			21:00					
								P/TV07 EVA (PHOTO/TV, SCENES) Perform OPS
		4 7		B I A S				
			22:00					
				X L V				
			01:00					
				Z V V				
		4 8						
			23:00					
								TRANSFER REF MSG XXX NOTE: Do not start until SSRMS Ops are complete.
			02:00					
			00:00					

STS-116 FD04



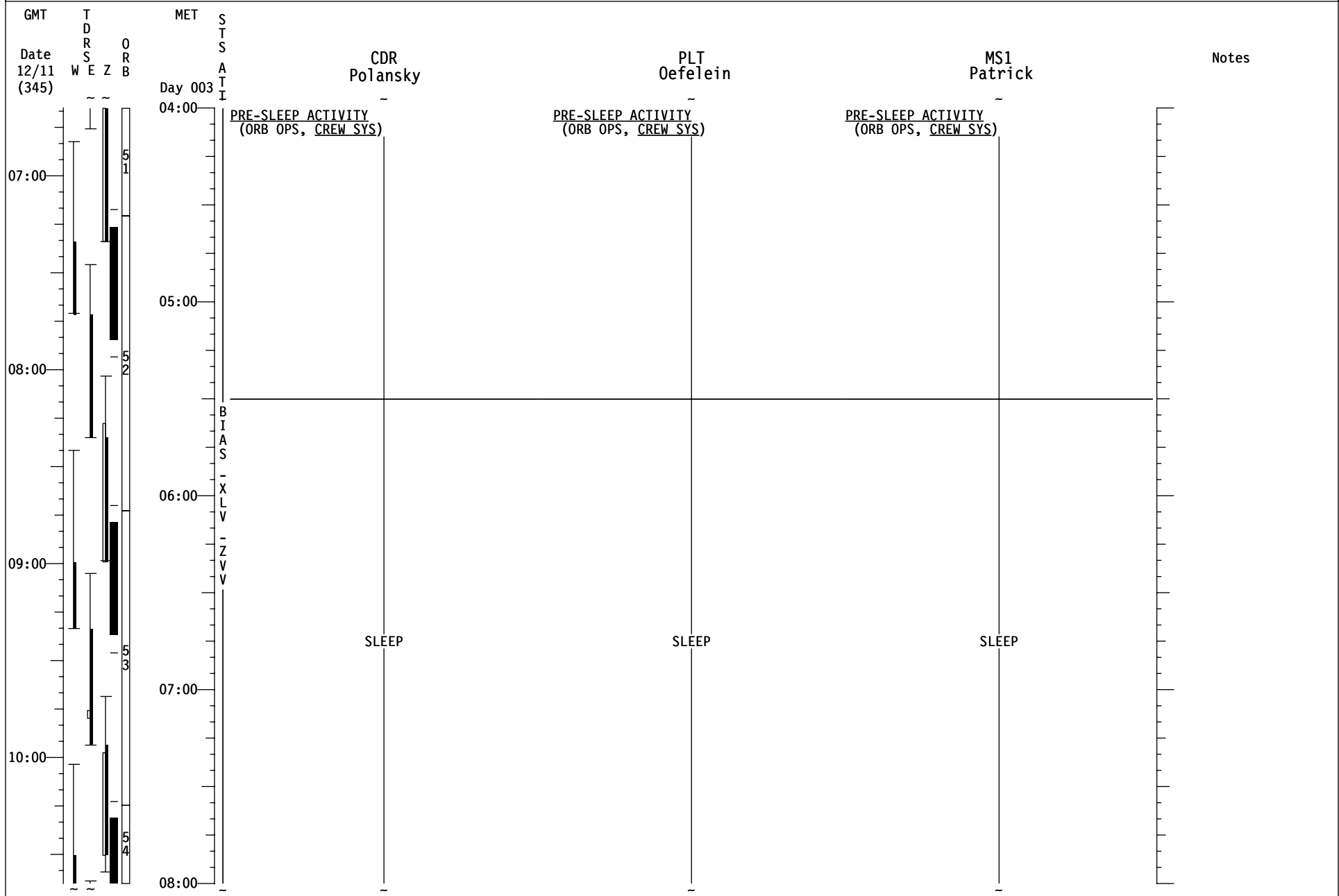
STS-116 FD04

GMT	T D R S O W E Z B Date 12/11 (345)	MET Day 003	S T S A T I CDR Polansky	P L T Oefelein	M S 1 Patrick	Notes
00:00			P/TV07 EVA (PHOTO/TV, SCENES) Perform OPS	IVA SUPPORT EVA 1 (EVA, TIMELINES)		
03:00					TRANSFER REF MSG XXX NOTE: Do not start until SSRMS Ops are complete.	
01:00			IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)	PRE-REPRESS EVA SYS: CREWLOCK DPRSS/RPRSS CUE CARD	RMS PWRDN (PDRS, RMS PWRDN) Do not stow MPMS	
04:00				EVA SYS: 1.240 POST EVA Perform step 39 (H2O Recharge) Do not perform steps 40-42 (Metox Regen) REF: LOGISTICS CC	SSPI OIU PWR - OIU 1 OFF, vtb-bp	NO SHUTTLE EXERCISE DURING MT TRANSLATION
02:00			PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
05:00			EVA COMM DECONFIG (EVA, EVA PREP) PMC:NETMEETING VID CNFRNC (ORB OPS,PGSC) Omit VLHS item in Step 1, Omit Step 3 Use A/G 2 for audio & KFX PGSC		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
03:00			JNT OPS: 3.123 O2 XFER SETUP (POST PREBREATHE USING SHUTTLE O2)	EVA SYS 1.605 BSA BATTERY RECHARGE Perform INITIATE for PGT, REBA, & HL batteries. In step 7, leave BC1 off. REF: LOGISTICS CC		UPLINK β21 + Box C1 -18<AZ<46,-65<EL<75 Box C2 -32<AZ<-3,-28<EL<39 Box C3 -72<AZ<-27,-13<EL<40 Box D1 -55<AZ<125,-22<EL<62
06:00			JNT OPS: 3.117 LOW PRESSURE TANK O2 XFER Steps 3.2 & 3.4	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		
04:00			PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			

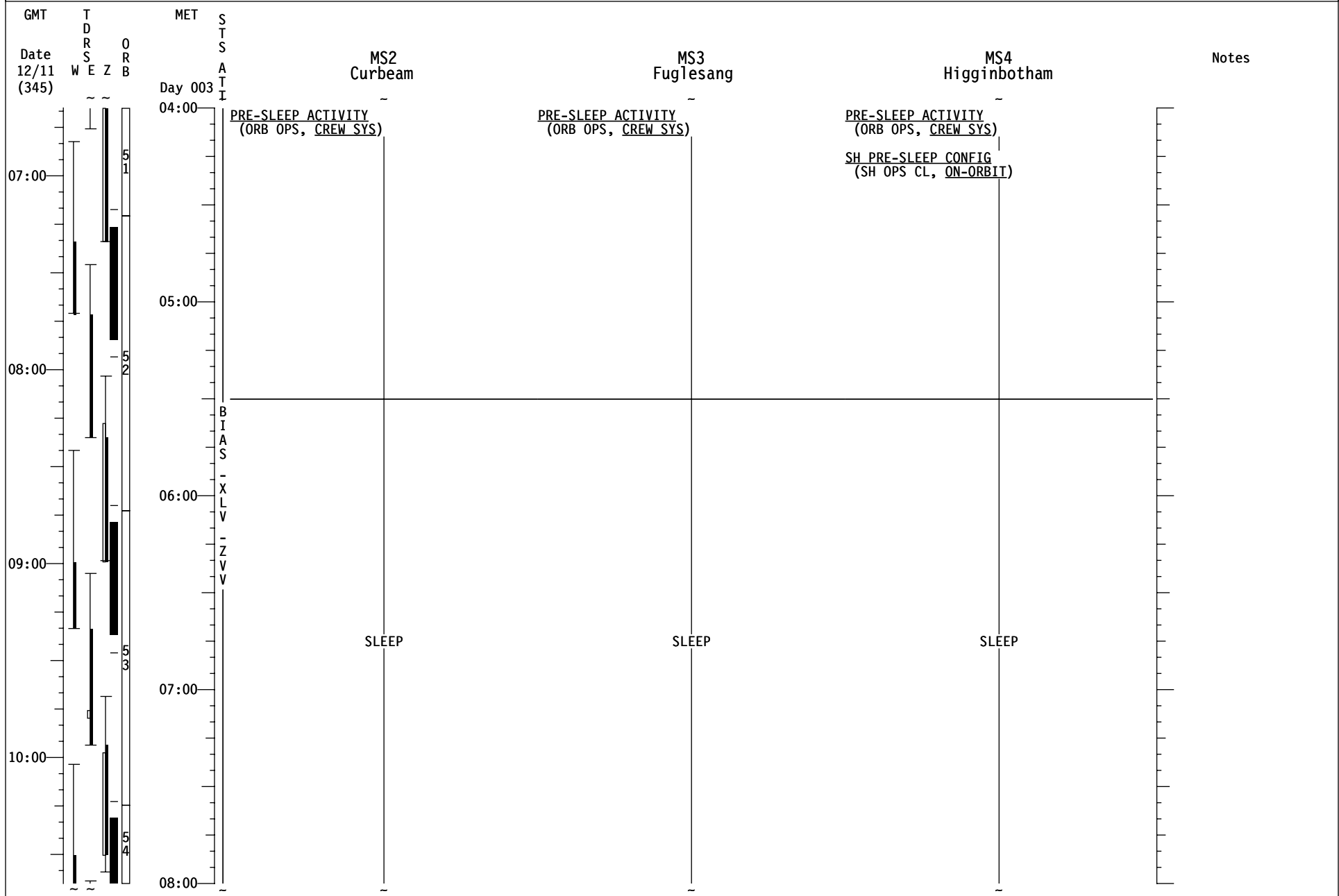
STS-116 FD04

GMT	T D R S O W E Z B Date 12/11 (345)	MET Day 003	S T S A T I	MS2 Curbeam	MS3 Fuglesang	MS4 Higginbotham	Notes
00:00				<u>CP3 CAMERA R&R</u>	<u>CP3 CAMERA R&R</u>		
03:00				<u>CLEANUP</u>	<u>CLEANUP</u>		
				<u>INGRESS</u>	<u>INGRESS</u>	<u>TRANSFER</u> REF MSG XXX NOTE: Do not start until SSRMS Ops are complete.	
01:00				<u>PRE-REPRESS</u> <u>EVA SYS: CREWLOCK DPRSS/RPRSS</u> <u>CUE CARD</u>	<u>PRE-REPRESS</u> <u>EVA SYS: CREWLOCK DPRSS/RPRSS</u> <u>CUE CARD</u>		
04:00				<u>EVA SYS: 1.240 POST EVA</u> Perform step 39 (H2O Recharge) Do not perform steps 40-42 (Metox Regen) REF: LOGISTICS CC	<u>EVA SYS: 1.240 POST EVA</u> Perform step 39 (H2O Recharge) Do not perform steps 40-42 (Metox Regen) REF: LOGISTICS CC		
						<u>DAILY STS/ISS CREW</u> <u>TRANSFER TAGUP</u>	NO SHUTTLE EXERCISE DURING MT TRANSLATION
						<u>DAILY TRANSFER</u> <u>BRIEFING</u>	
02:00				<u>EVA 2 TOOL CONFIG</u> (EVA, TIMELINES)	<u>EVA 2 TOOL CONFIG</u> (EVA, TIMELINES)	<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)	
05:00						<u>SH PRE-SLEEP CONFIG</u> (SH OPS CL, ON-ORBIT)	
				<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)	<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)		
03:00							
06:00						<u>ROBO: 2.102 SSRMS STOW FOR</u> <u>TRANSLATION DURING EVA</u> Perform Steps 5-7	
						<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)	
04:00						<u>SH PRE-SLEEP CONFIG</u> (SH OPS CL, ON-ORBIT)	

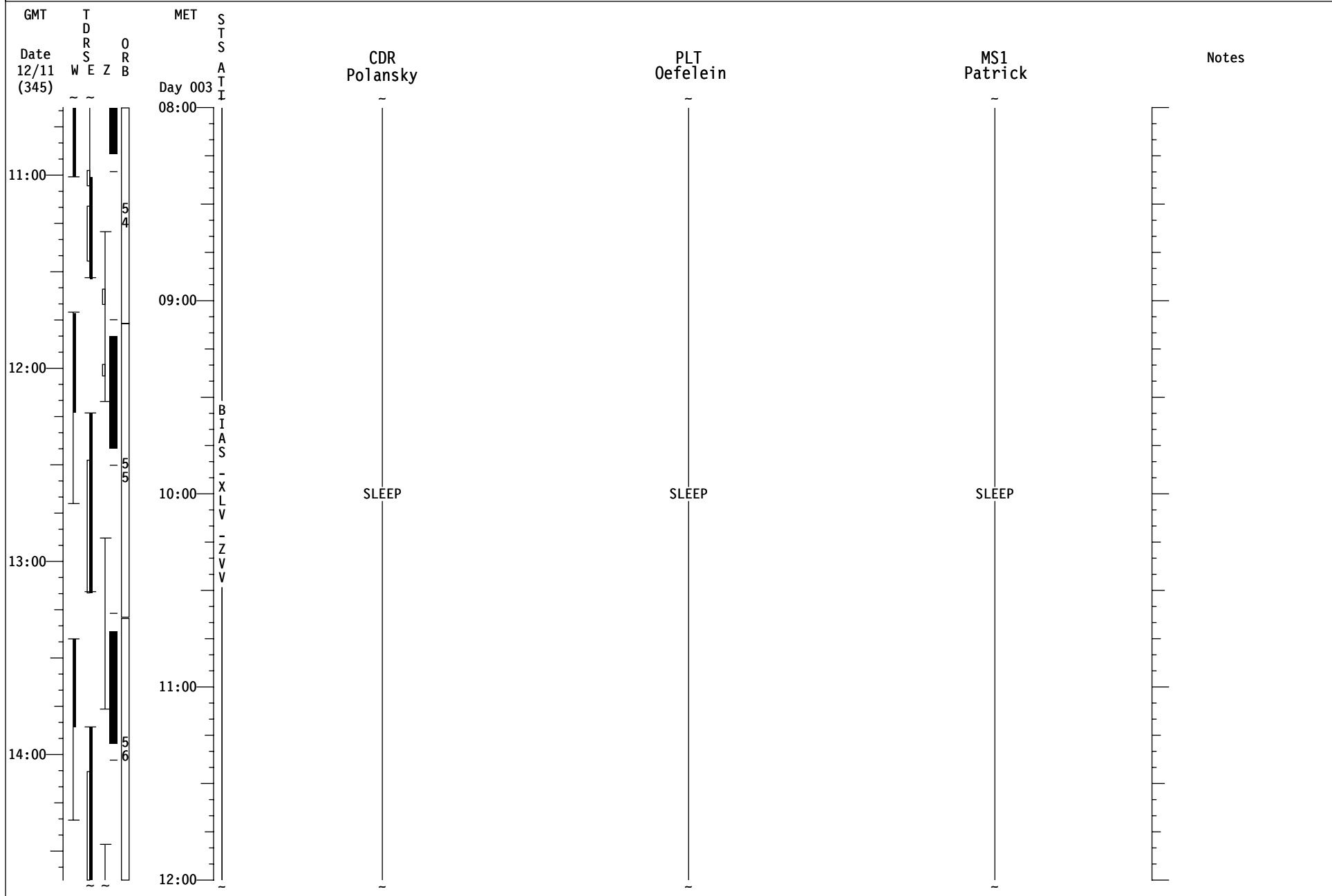
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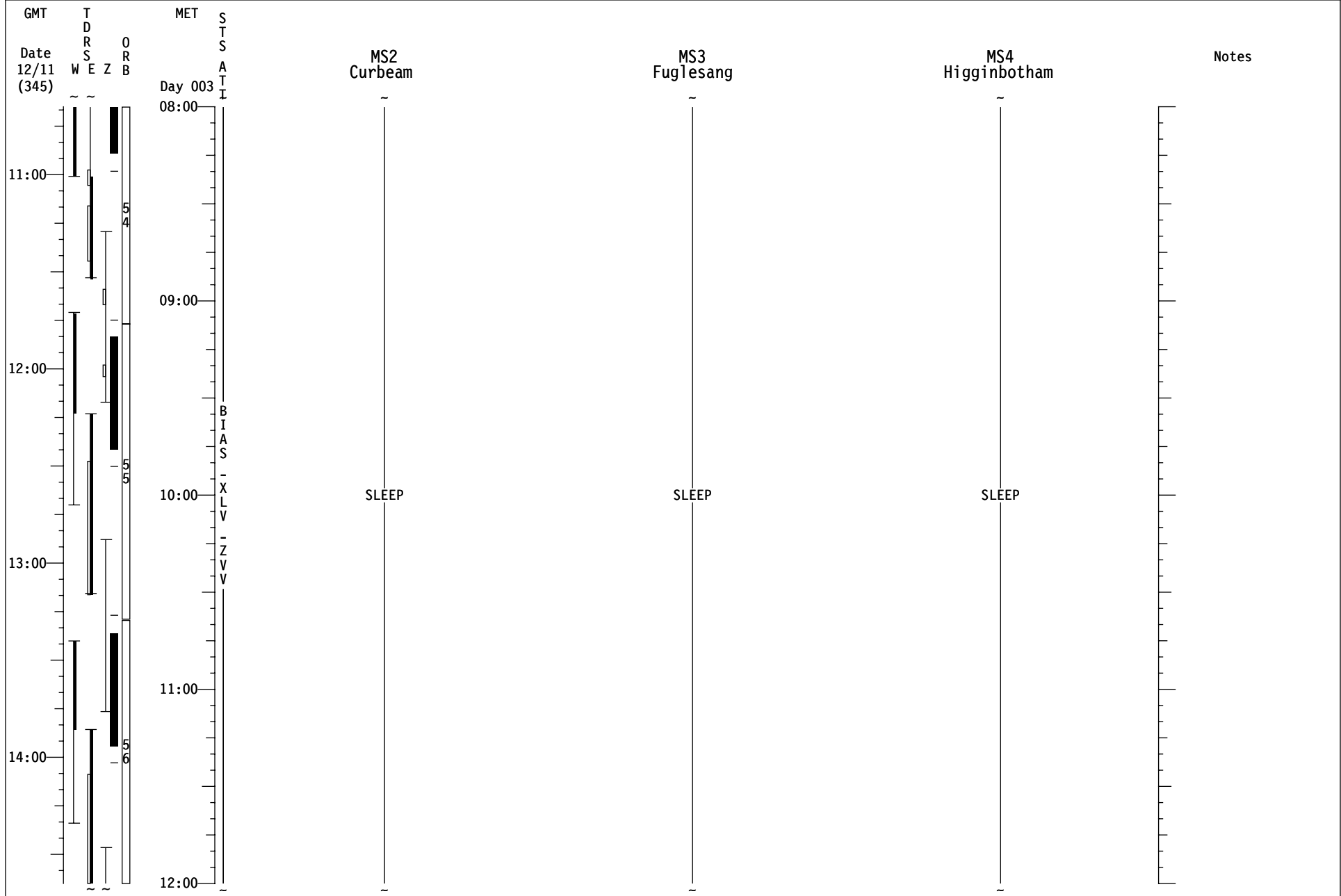
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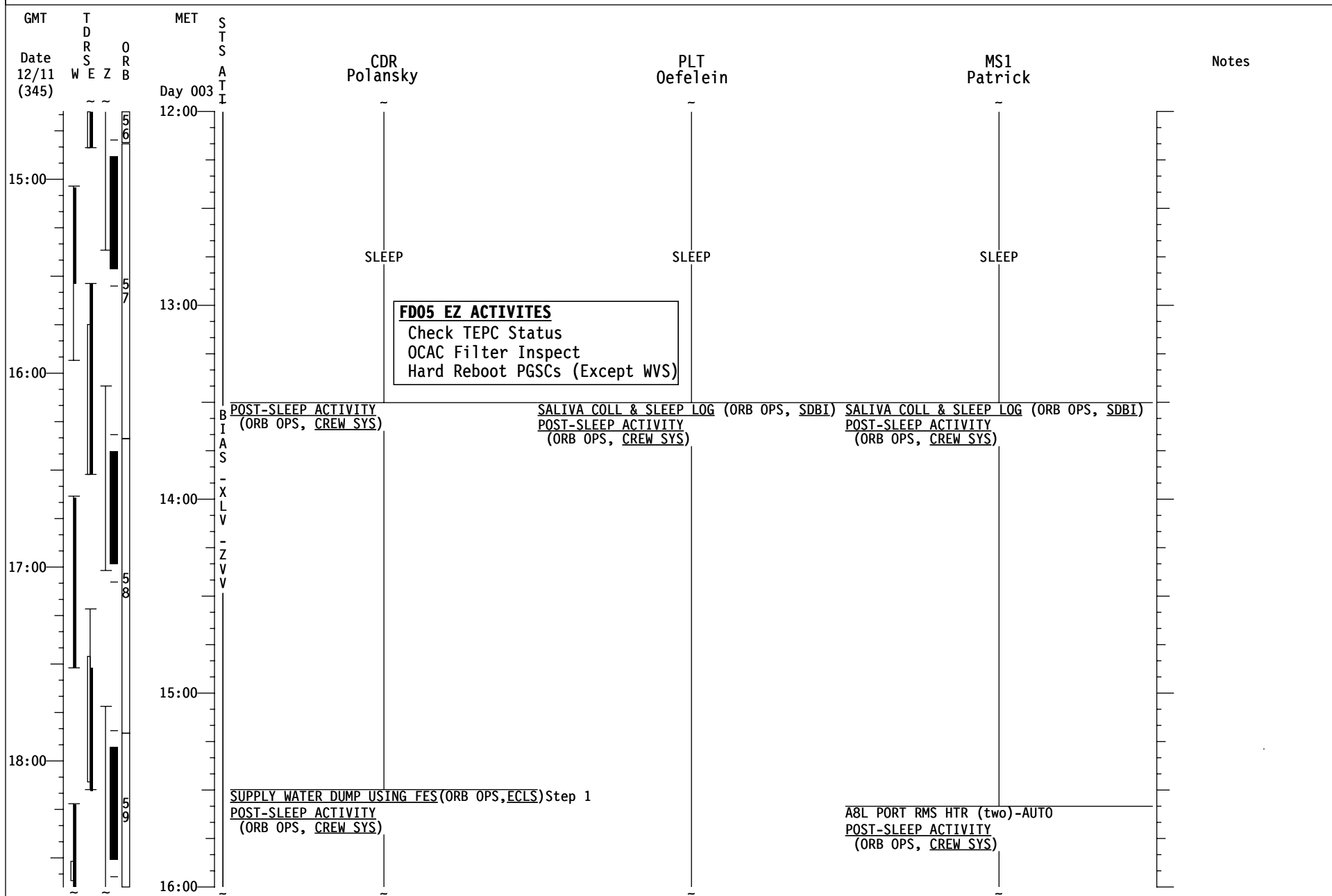
STS-116 FD04



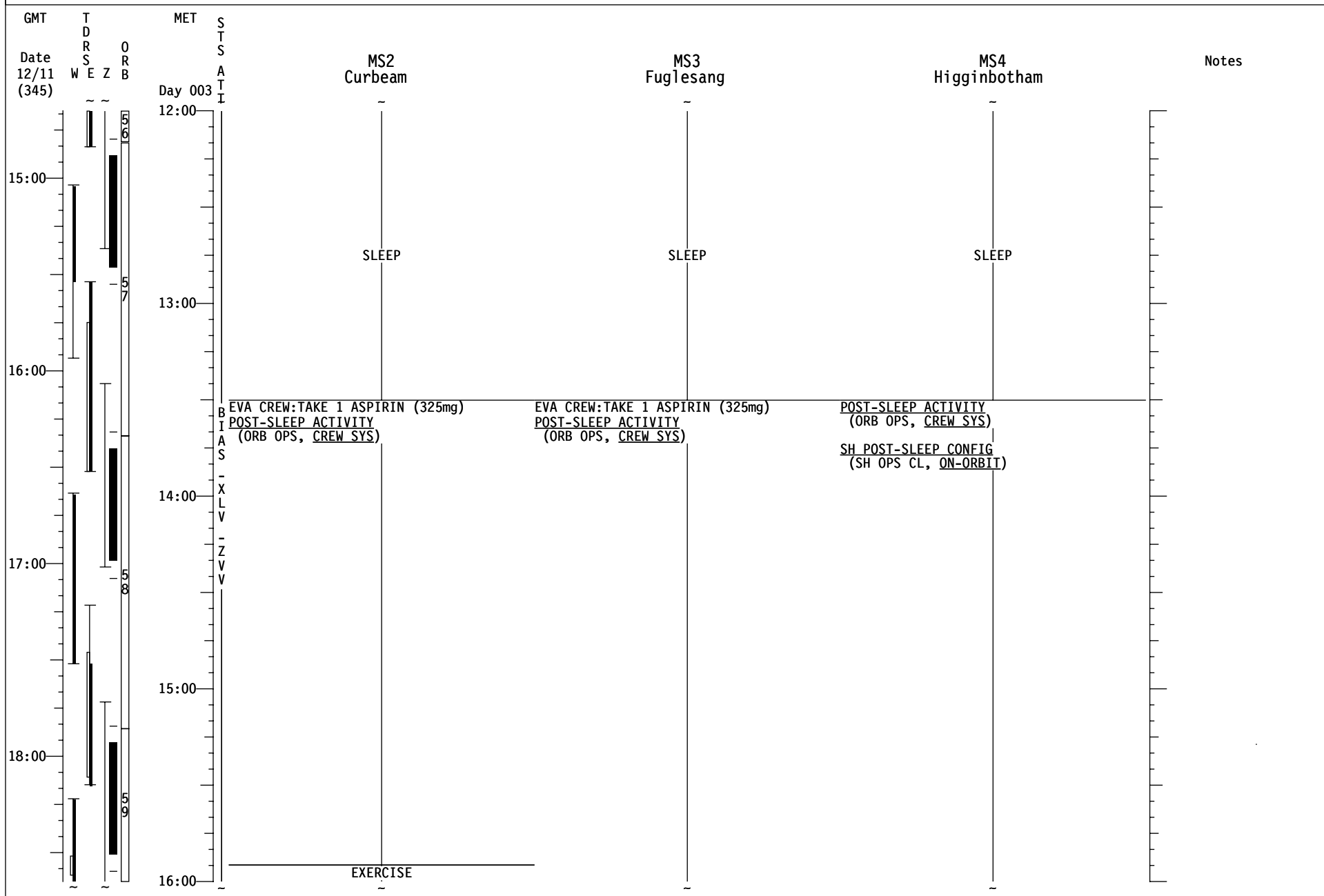
STS-116 FD 04



STS-116 FD05



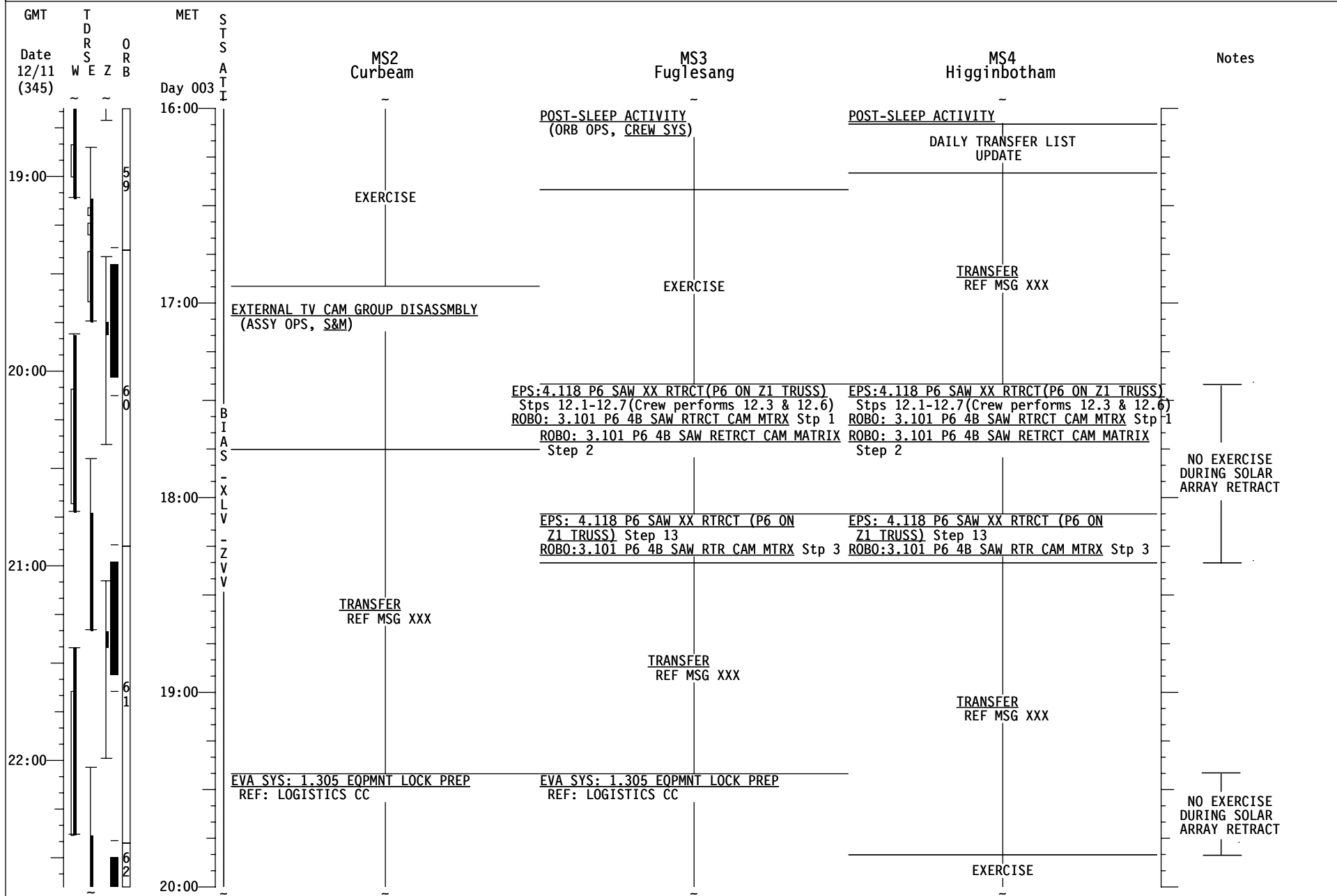
STS-116 FD05



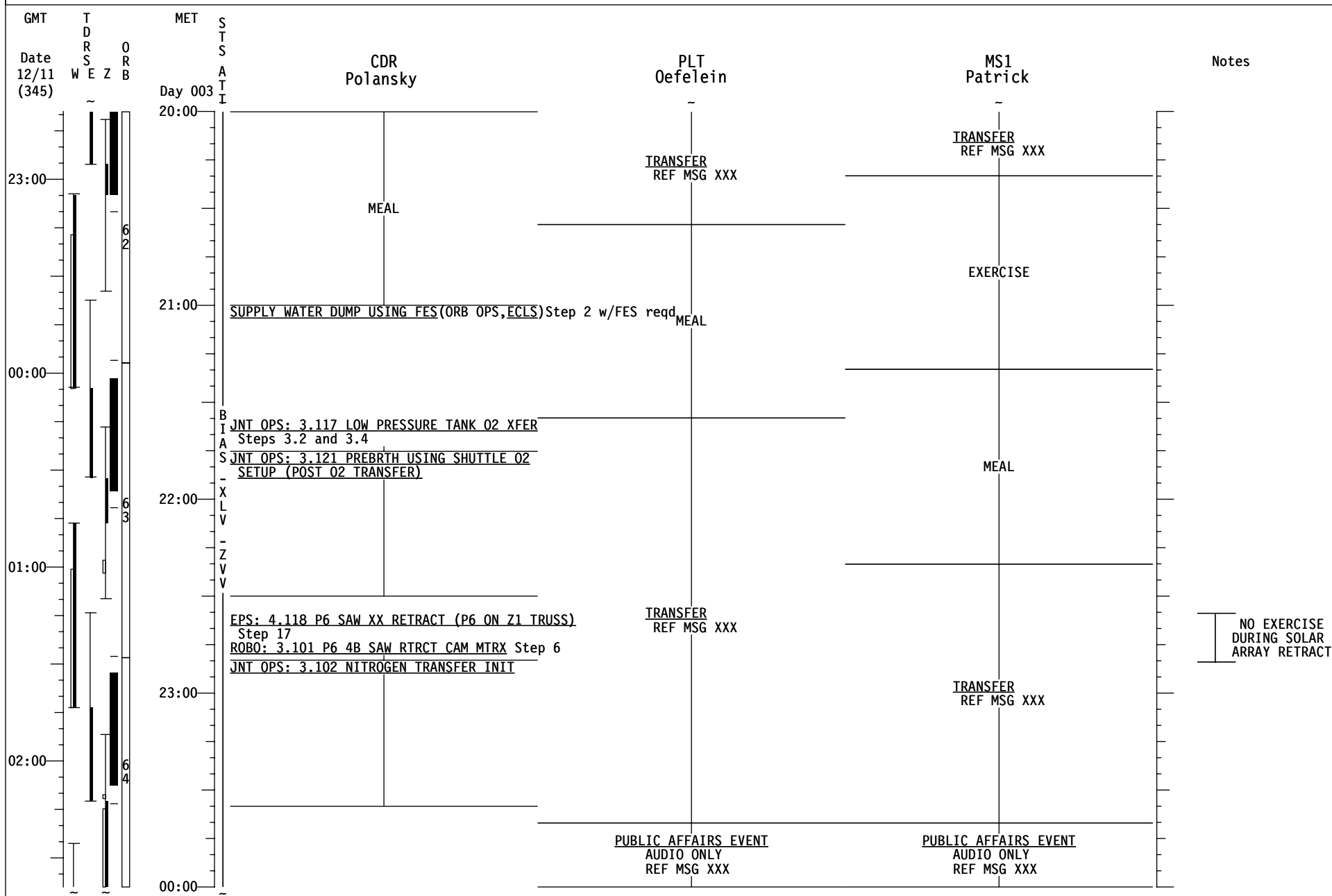
STS-116 FD05

GMT	TDRS ORB	MET	SATS	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/11 (345)	W E Z B	Day 003	A T I				
16:00				<u>POST-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)	<u>POST-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)	<u>POST-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)	
19:00				L17 Check MCIU filter screen			
				SSP1 OIU PWR - OIU 1 ON, vtb-UP	<u>EVA SYS: 1.515 METOX/LIOH/BTTRY REPLCMNT</u> Perform Steps 1-10, 15-17 Stow used LIOH in EMU SYS Xfr Bag #1 REF: LOGISTICS CC		TFL 199
					<u>EMU BATTERY RECHARGE</u> (EVA, EMU MAINT/RECHRG) Perform INITIATE REF: LOGISTICS CC	<u>RMS PWRUP</u> (PDRS, RMS PWRUP)	
17:00				<u>IMU STAR OF OPPTY ALIGN</u> (ORB OPS, GNC)	<u>EXTERNAL TV CAM GROUP DISASSMBLY</u> (ASSY OPS, S&M)	<u>4B SAW RTRCT VIEWING</u> (PDRS, VIEWING SUPT) Perform Steps 1-2	
				<u>P/TV10 SAW RETRACTION</u> (PHOTO/TV, SCENES) Perform SETUP		<u>P/TV10 SAW RETRACTION</u> (PHOTO/TV, SCENES) Perform SETUP	
20:00				<u>EPS:4.118 P6 SAW XX RTRCT(P6 ON Z1 TRUSS)</u> Steps 12.1-12.7(Crew performs 12.3 & 12.6)			
				<u>ROBO: 3.101 P6 4B SAW RTRCT CAM MTRX Stp 1</u>			
				<u>ROBO: 3.101 P6 4B SAW RETRCT CAM MATRIX</u> Step 2	<u>PWR FILL</u> (ORB OPS, ECLS) Perform <u>WATER FILL #X</u> Fill SN TBS (Barcode #TBS) Fill dur ~30 min		NO EXERCISE DURING SOLAR ARRAY RETRACT
18:00				<u>EPS: 4.118 P6 SAW XX RTRCT (P6 ON Z1 TRUSS)</u> Step 13			
				<u>ROBO:3.101 P6 4B SAW RTR CAM MTRX Stp 3</u>			
21:00							
					EXERCISE		
19:00						<u>TRANSFER</u> REF MSG XXX	
22:00				<u>EPS: 4.118 P6 SAW XX RETRACT (P6 ON Z1 TRUSS)</u> Steps 14-15	<u>PWR TRANSFER</u> Transfer 1 PWR to ISS		
				<u>ROBO: 3.101 P6 4B SAW RETRACT CAM MATRIX</u> Step 4			NO EXERCISE DURING SOLAR ARRAY RETRACT
					<u>TRANSFER</u> REF MSG XXX		
20:00							

STS-116 FD05



STS-116 FD05



NO EXERCISE
DURING SOLAR
ARRAY RETRACT

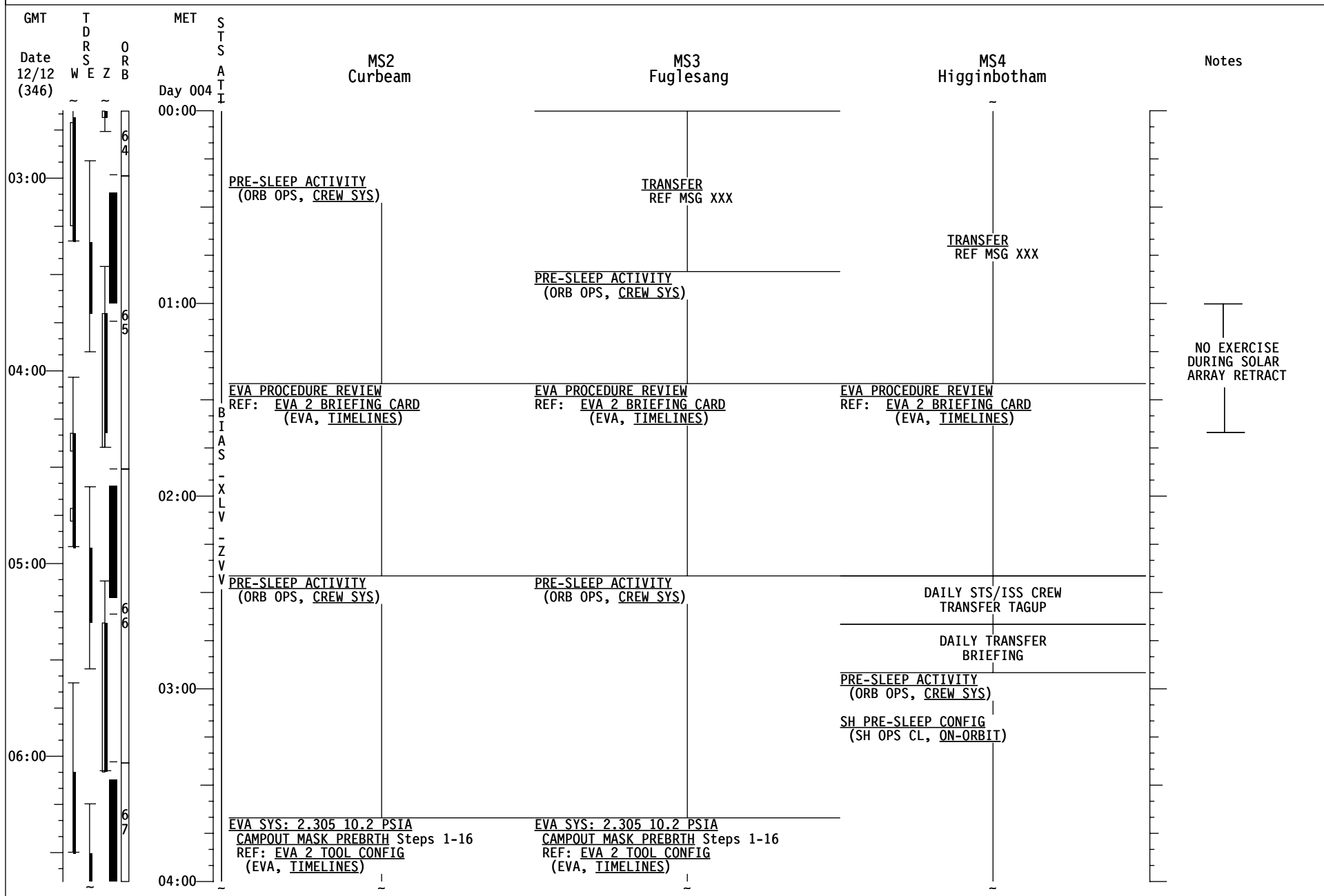
STS-116 FD05

GMT	T D R S O W E Z B	MET	S T S A T I	MS2 Curbeam	MS3 Fuglesang	MS4 Higginbotham	Notes
Date 12/11 (345)		Day 003					
23:00				EVA SYS: 1.305 EQPMNT LOCK PREP REF: LOGISTICS CC	EVA SYS: 1.305 EQPMNT LOCK PREP REF: LOGISTICS CC		
				MEAL	MEAL	EXERCISE	
00:00				STBD OD BAG PACK (EVA, TOOLS & STOWAGE)	EVA SYS: 1.605 BSA BATTERY RECHARGE Perform TERM. Stow HL & PGT batts in EVA3 Mesh Bag. REF: LOGISTICS CC STBD OD BAG PACK (EVA, TOOLS & STOWAGE)	MEAL	
				PORT OD BAG PACK (EVA, TOOLS & STOWAGE)	PORT OD BAG PACK (EVA, TOOLS & STOWAGE)		
01:00				VTE BAG AND PUMP MODULE JUMPER BAG PACK (EVA, TOOLS & STOWAGE)	VTE BAG AND PUMP MODULE JUMPER BAG PACK (EVA, TOOLS & STOWAGE)		
					TRANSFER REF MSG XXX	TRANSFER REF MSG XXX	
02:00				PUBLIC AFFAIRS EVENT AUDIO ONLY REF MSG XXX	PUBLIC AFFAIRS EVENT AUDIO ONLY REF MSG XXX		
00:00							NO EXERCISE DURING SOLAR ARRAY RETRACT

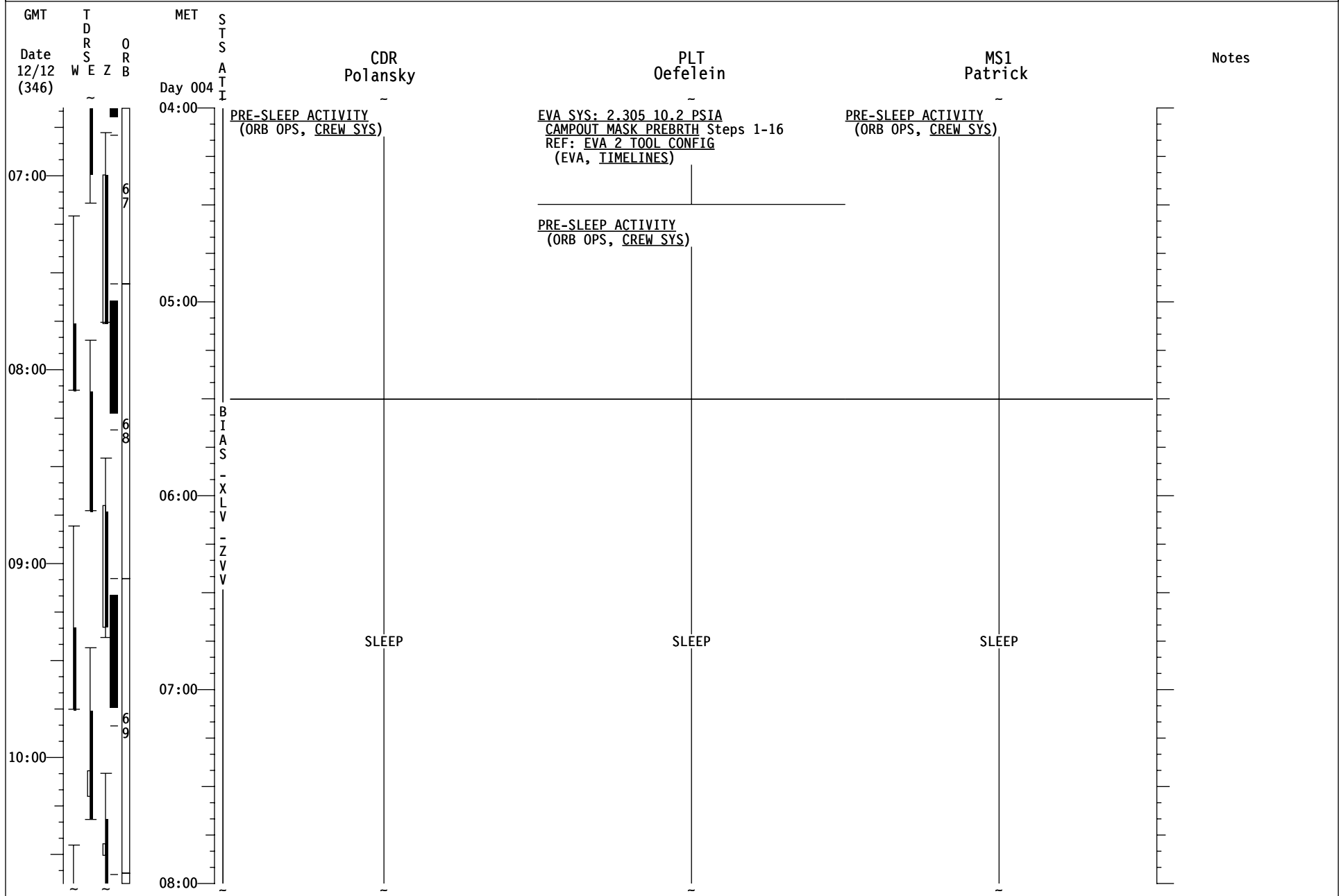
STS-116 FD05

GMT	TDRS WSEZ	ORB	MET	STS ATTI	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/12 (346)			Day 004					
00:00								
03:00					EXERCISE			
						TRANSFER REF MSG XXX		
							TRANSFER REF MSG XXX	
01:00					EPS: 4.118 P6 SAW XX RTRCT (P6 ON Z1 TRUSS) Steps 18-19 ROBO: 3.101 P6 4B SAW RTRCT CAM MATRIX Step 8			
04:00						EVA PROCEDURE REVIEW REF: EVA 2 BRIEFING CARD (EVA, TIMELINES)		NO EXERCISE DURING SOLAR ARRAY RETRACT
					EVA PROCEDURE REVIEW REF: EVA 2 BRIEFING CARD (EVA, TIMELINES)		4B SAW RTRCT VIEWING (PDRS, VIEWING SUPT) Perform Step 3	
							RMS PWRDN (PDRS, RMS PWRDN) Do not stow MPMS	
02:00							SSPI OIU PWR - OIU 1 OFF, vtb-bp	TFL 184
05:00							A7 VID OUT MON 2 pb - PUSH IN RMS pb - PUSH	
					PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
03:00								
06:00					PMC:NETMEETING VID CNFRNC (ORB OPS,PGSC) Omit VLHS item in Step 1, Omit Step 3 Use A/G 2 for audio & KFX PGSC			
					PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
						EVA SYS: 2.305 10.2 PSIA CAMPOUT MASK PREBRTH Steps 1-16 REF: EVA 2 TOOL CONFIG (EVA, TIMELINES)		
04:00								

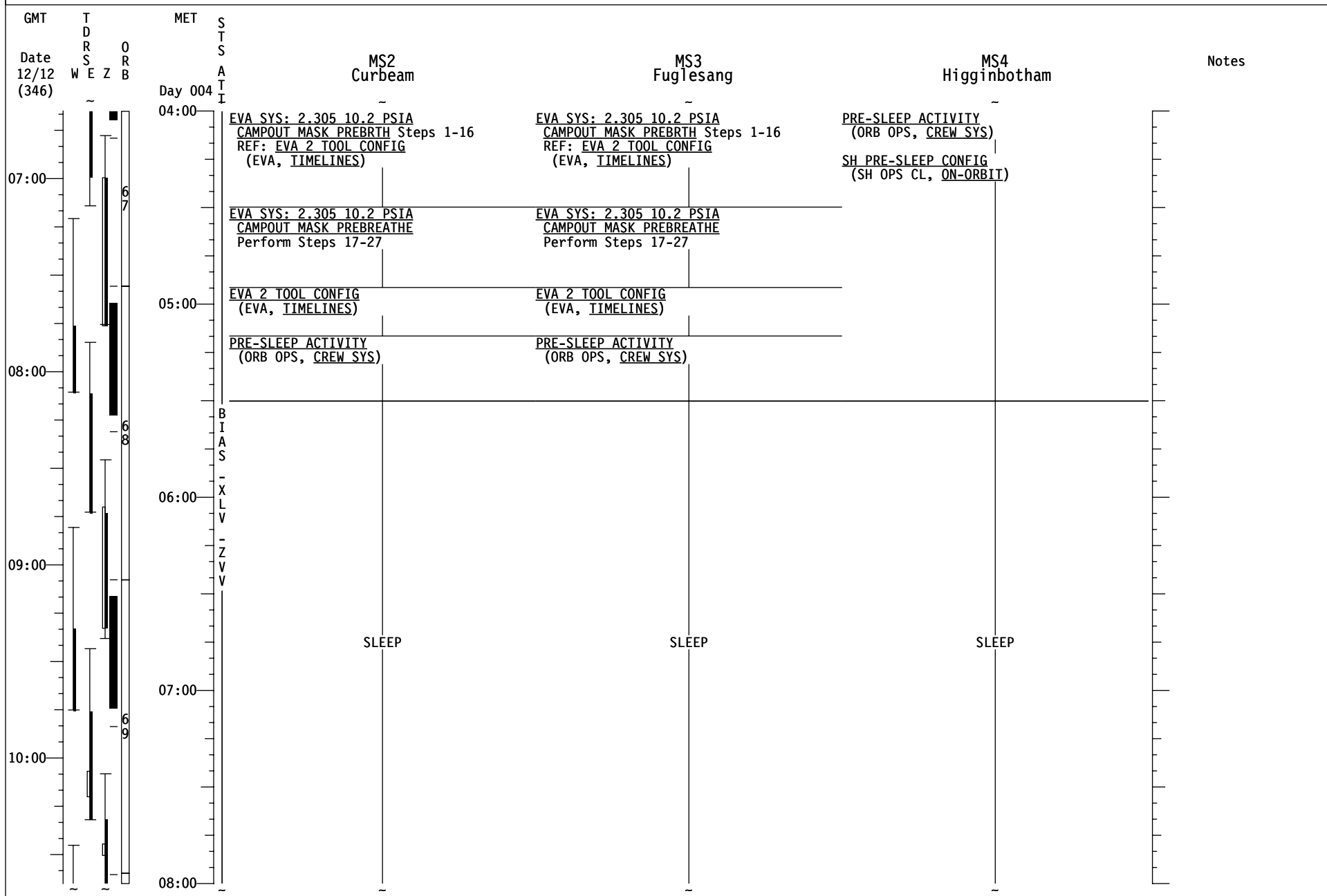
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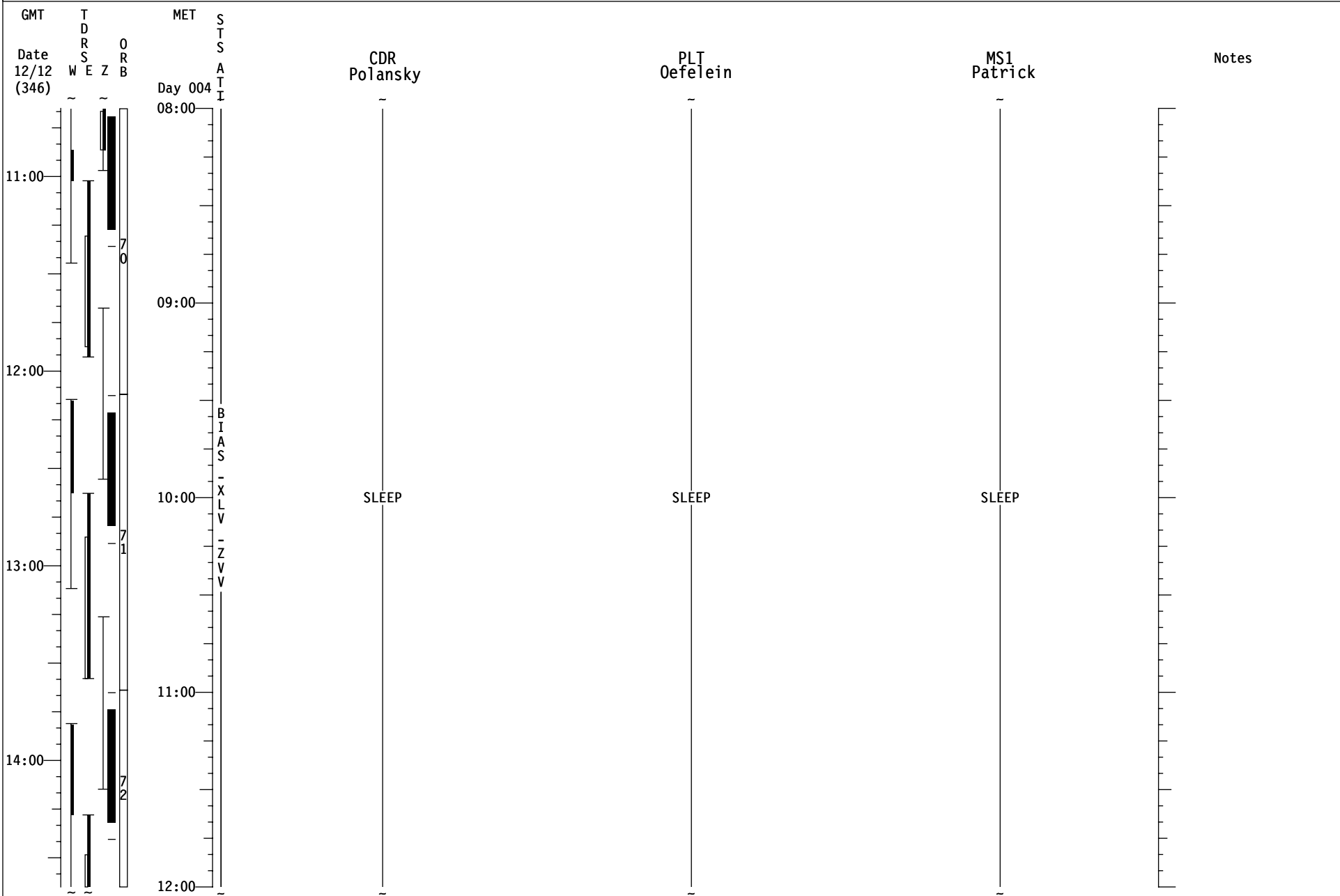
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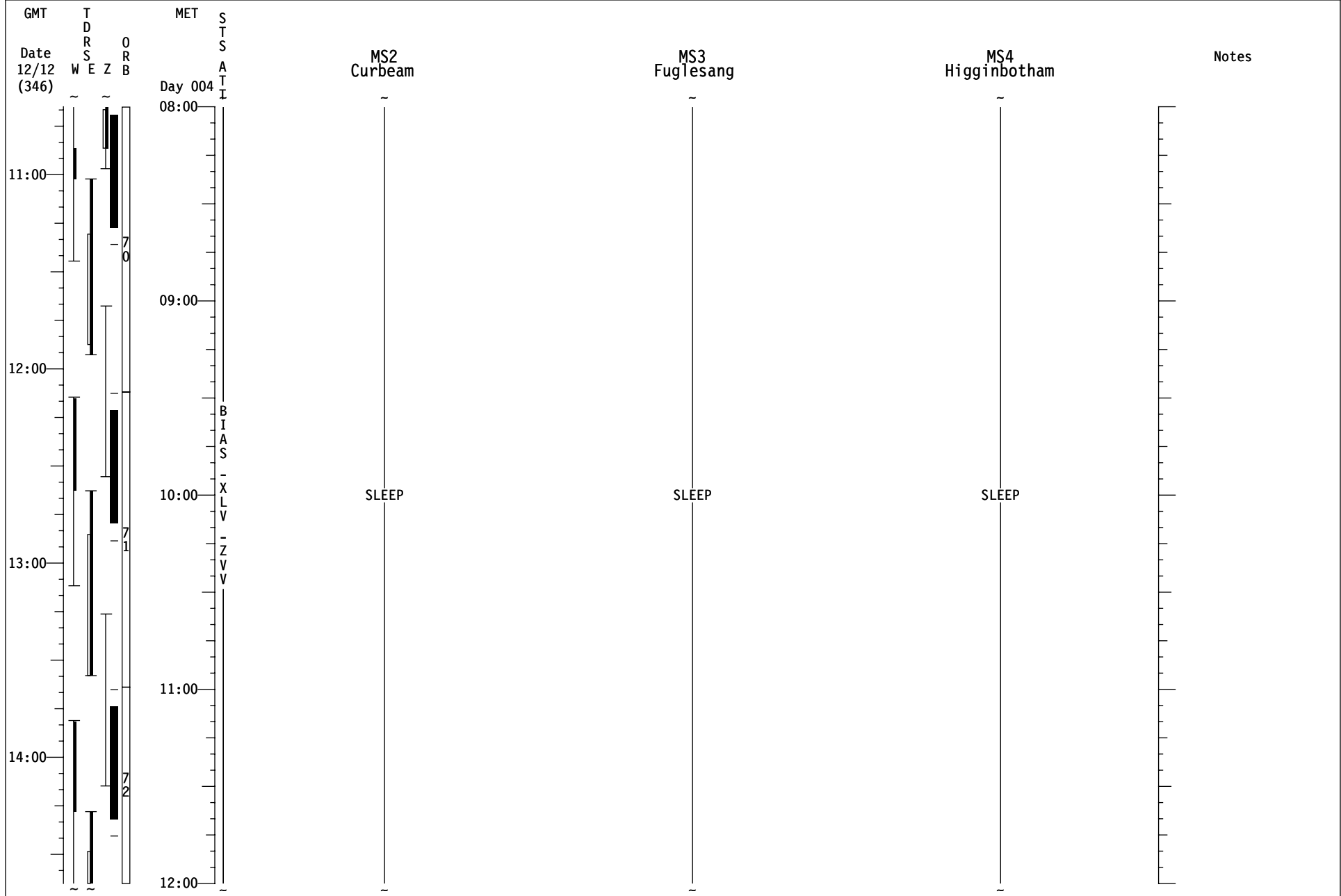
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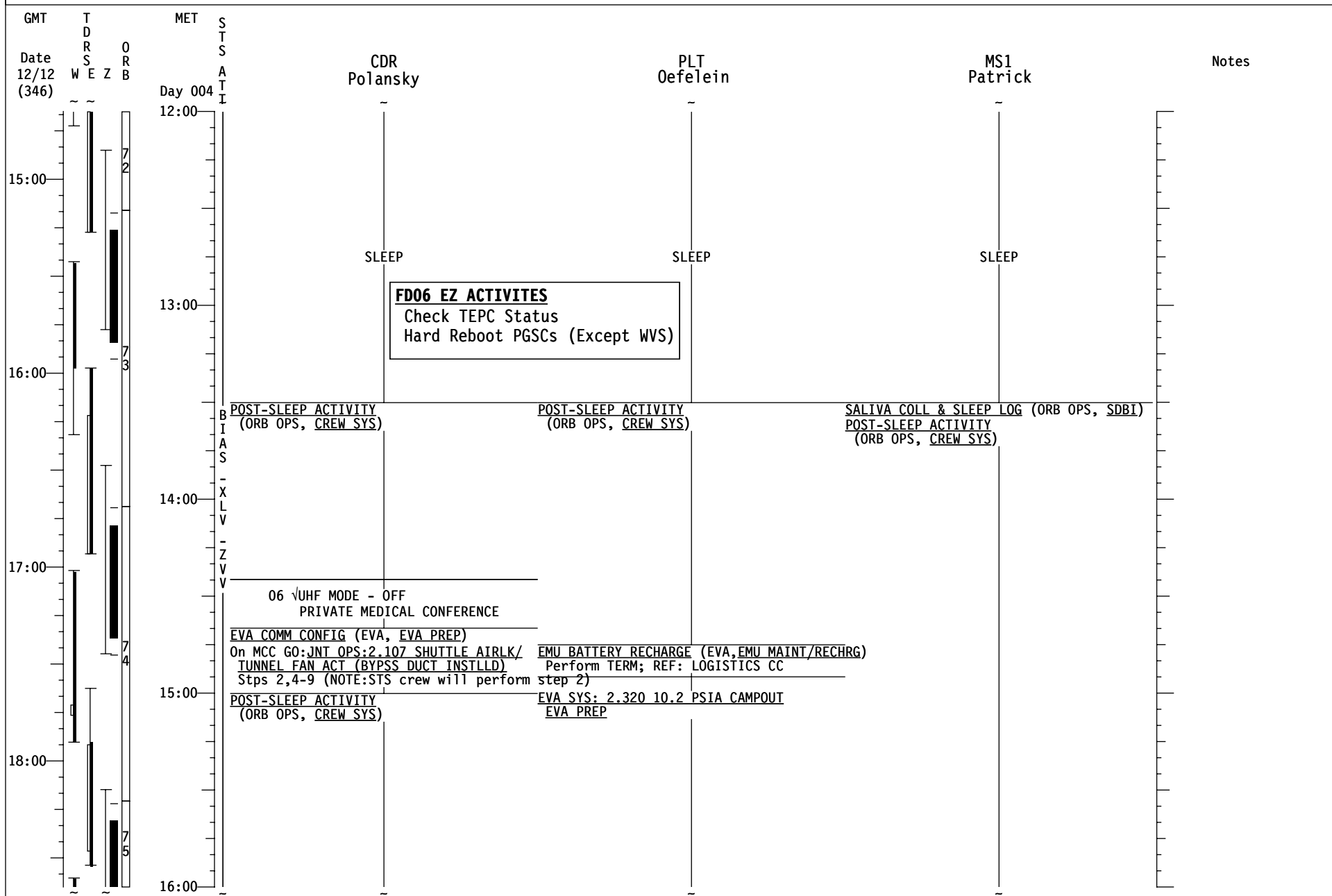
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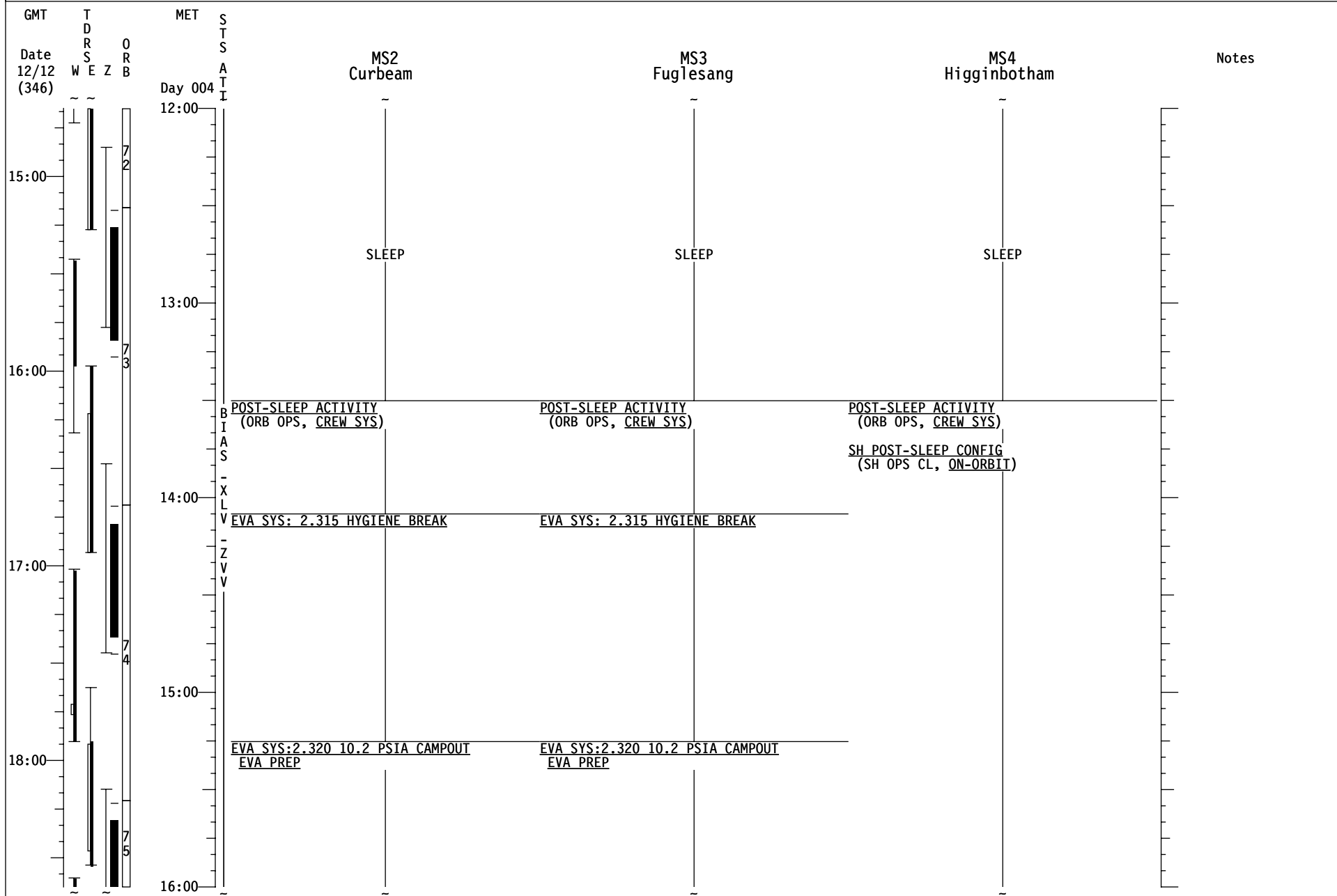
STS-116 FD05



STS-116 FD06



STS-116 FD06



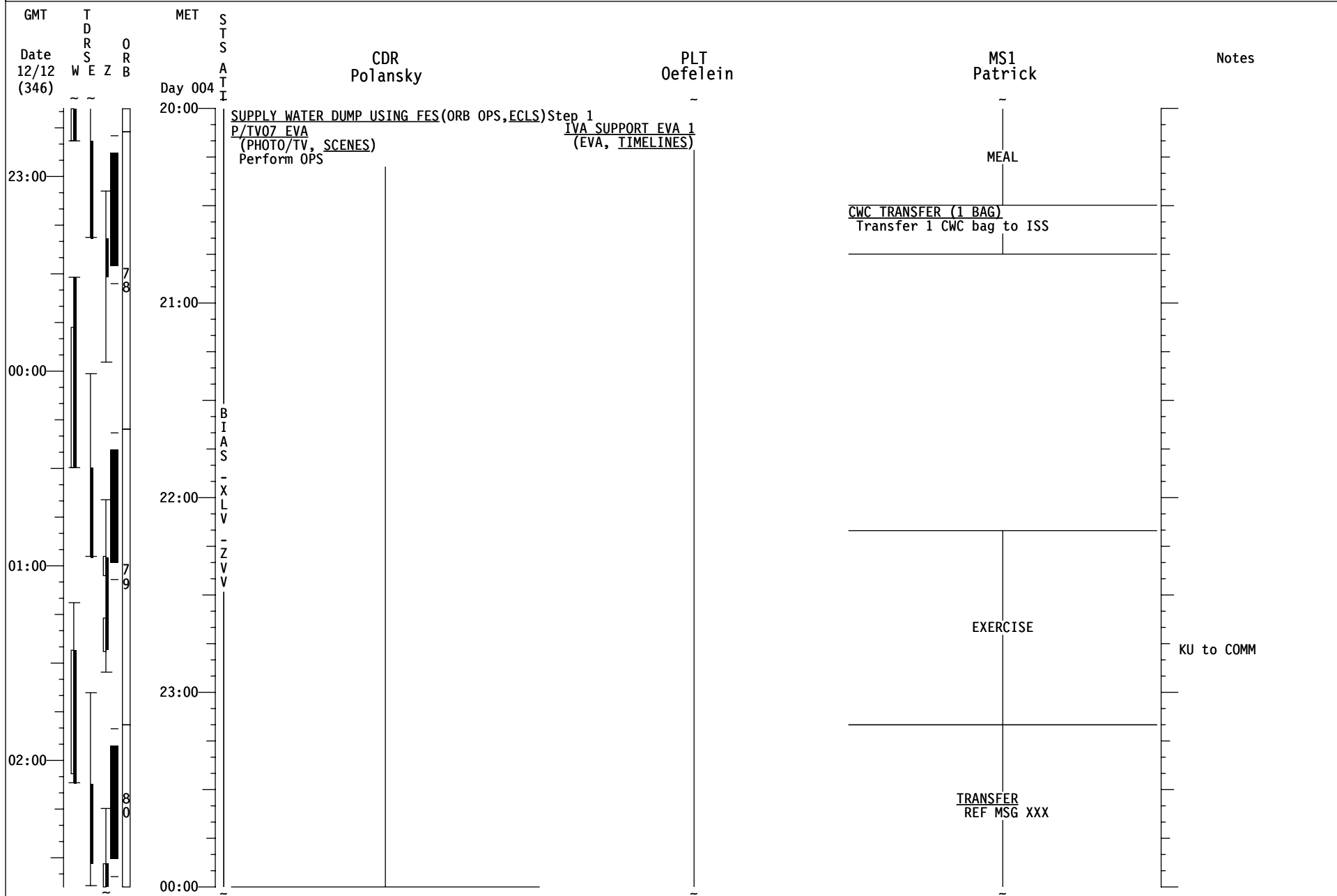
STS-116 FD06

GMT	T D R S O W E Z B	MET	S T S A T I	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
		Day 004					
16:00				POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	EVA SYS: 2.320 10.2 PSIA CAMPOUT EVA PREP	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
19:00				EVA2 INHIBIT PAD (EVA, TIMELINES)		S&M: LAB SYSTEM RACK POWER JUMPER INSTALLATN LAB1D3 TO LAB1D5 (AV1 RACK) Perform steps 2 & 4 A8L PORT RMS HTR (two)-AUTO	
					EVA SYS: 1.220 EMU PURGE		
				EXERCISE	EVA SYS: 1.225 EMU PREBREATHE		
20:00						SSP1 OIU PWR - OIU 1 ON, √tb-UP	TFL 199
						RMS PWRUP (PDRS, RMS PWRUP)	
					EVA SYS: CREWLOCK DPRSS/RPRSS CUE CARD	SHUTTLE/ISS H2O CNTR FILL (INIT) (ORB OPS, ECLS) REF MSG XXX	UPLINK BO + Box C1 -18<AZ<46 -65<EL<75 Box C2 -32<AZ<-3 -28<EL<39 Box C3 -72<AZ<-27 -13<EL<40 Box E1 -103<AZ<125 -25<EL<62
18:00				P/TV07 EVA (PHOTO/TV, SCENES) Perform SETUP			
21:00					POST DEPRESS IVA SUPPORT EVA 1 (EVA, TIMELINES)		
				PRLA CLOSE (ORB OPS, PRLA)			
19:00						SHUTTLE/ISS H2O CNTR FILL (ORB OPS, ECLS) Perform FILL TERMINATION CETA CART RELOCATION VIEWING (PDRS, VIEWING SUPT) Perform Steps 1-2	
22:00				MEAL		MEAL	KU to STANDBY
20:00							

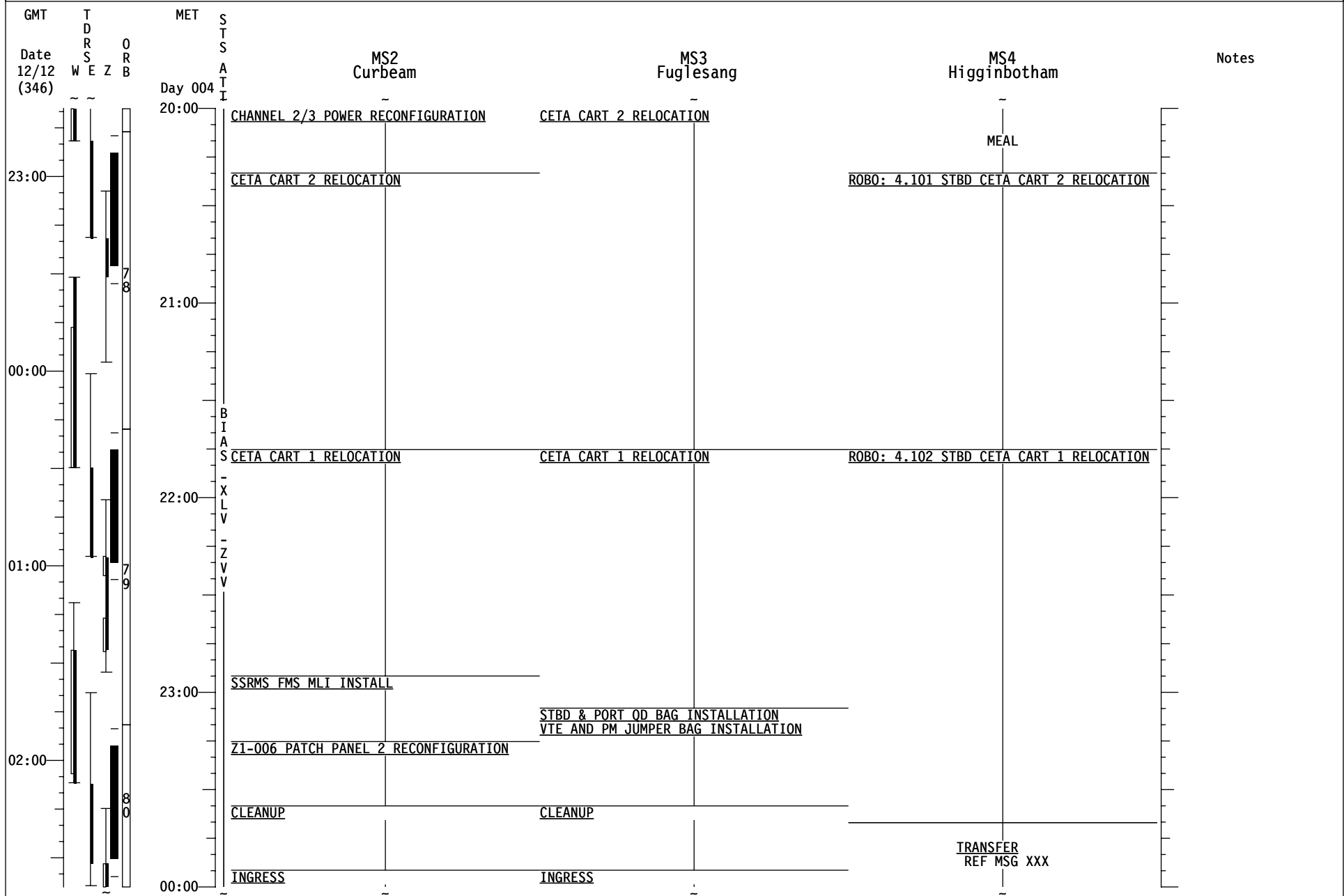
STS-116 FD06

GMT	T D R S O W E Z B	MET	S T S A T I	MS2 Curbeam	MS3 Fuglesang	MS4 Higginbotham	Notes
Date 12/12 (346)		Day 004					
16:00				<u>EVA SYS:2.320 10.2 PSIA CAMPOUT</u> <u>EVA PREP</u>	<u>EVA SYS:2.320 10.2 PSIA CAMPOUT</u> <u>EVA PREP</u>	<u>POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)</u> <u>SH POST-SLEEP CONFIG(SH OPS CL,ON-ORBIT)</u>	
19:00						DAILY TRANSFER LIST UPDATE	
				<u>EVA SYS: 1.220 EMU PURGE</u>	<u>EVA SYS: 1.220 EMU PURGE</u>	<u>FILTER CLEANING</u> <u>(IFM, SCHEDULED MAINTENANCE)</u>	
17:00				<u>EVA SYS: 1.225 EMU PREBREATHE</u>	<u>EVA SYS: 1.225 EMU PREBREATHE</u>		
20:00						EXERCISE	
				<u>EVA SYS: CREWLOCK DPRSS/RPRSS</u> <u>CUE CARD</u>	<u>EVA SYS: CREWLOCK DPRSS/RPRSS</u> <u>CUE CARD</u>		
18:00							
21:00				<u>POST DEPRESS</u> <u>EGRESS</u>	<u>POST DEPRESS</u> <u>EGRESS</u>	<u>ROBO: 4.101 STBD CETA CART 2 RELOCATION</u> Perform Steps 1-3	
				<u>CHANNEL 2/3 POWER RECONFIGURATION</u>	<u>CHANNEL 2/3 POWER RECONFIGURATION</u>		
19:00							
22:00						MEAL	
					<u>CETA CART 2 RELOCATION</u>		
20:00							

STS-116 FD06



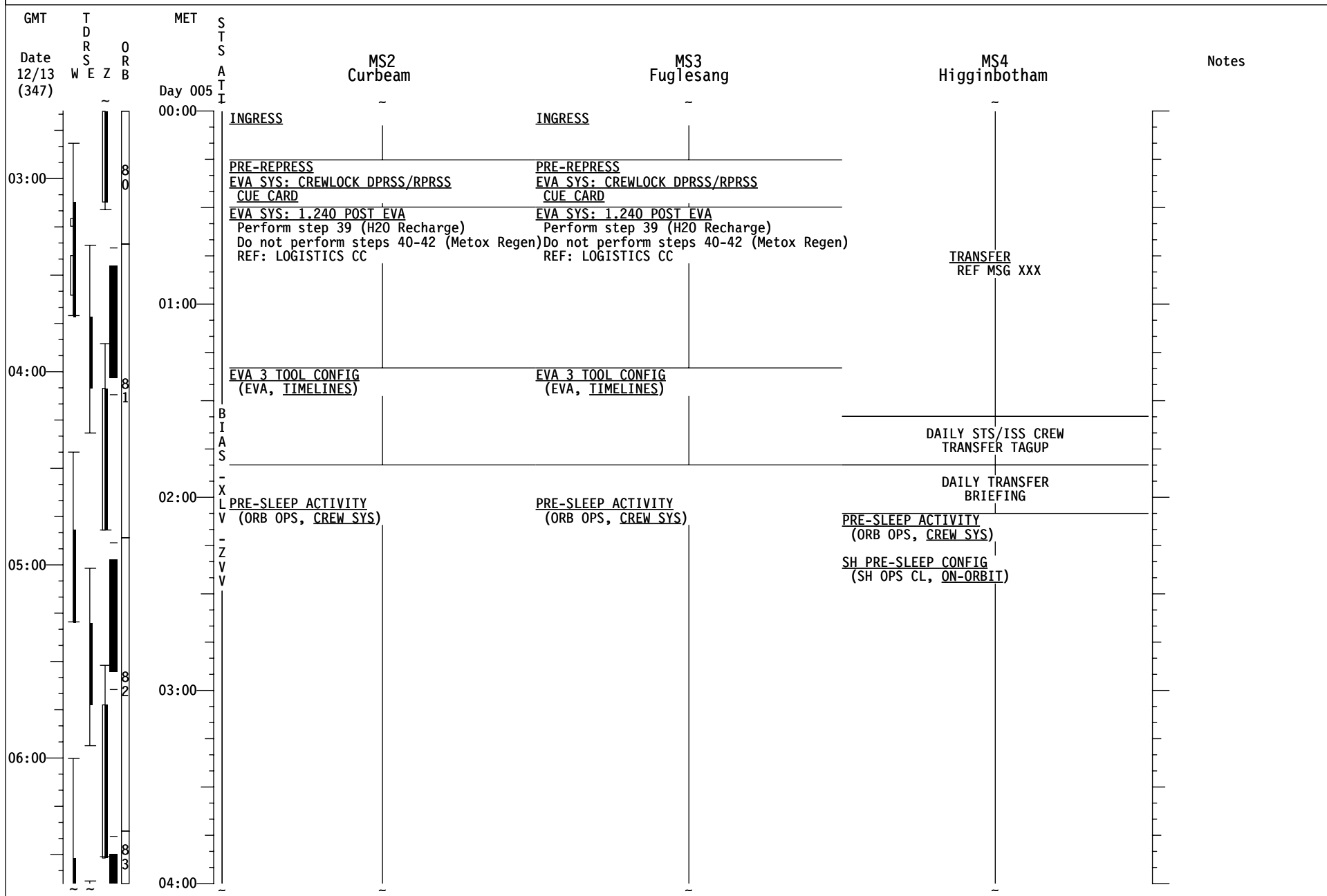
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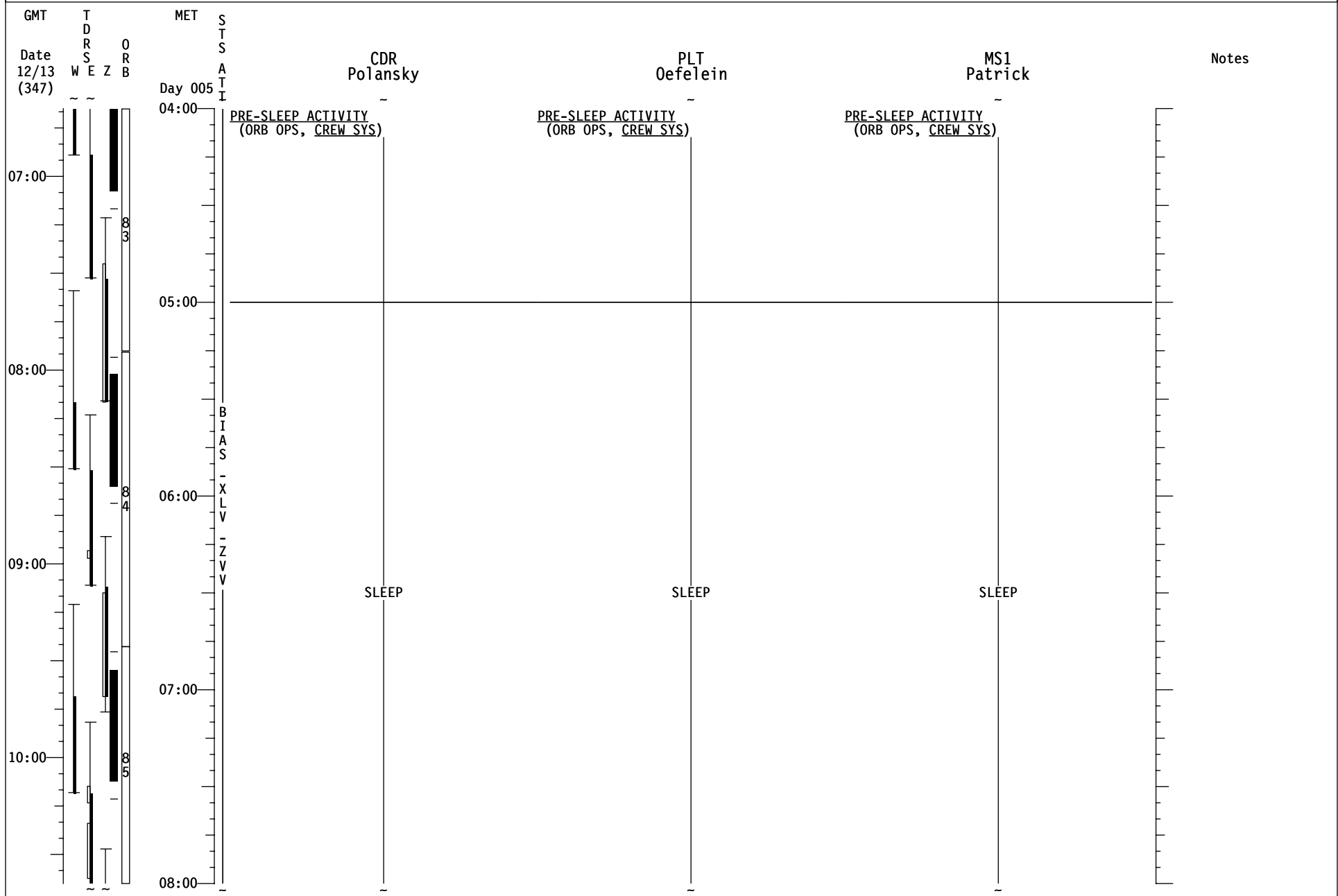
STS-116 FD06

GMT	TDRS ORB	MET	SATS	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/13 (347)	W E Z B	Day 005	A T I				
00:00				WCS CRADLE - AUTO INHIBIT Inspect hose block filter, change if req'd WCS CRADLE - AUTO	<u>IVA SUPPORT EVA 1</u> (EVA, <u>TIMELINES</u>)		
03:00				<u>CABIN TEMP CONTROLLER RECFG 2(1)</u> (ORB OPS, <u>ECLS</u>)	<u>PRE-REPRESS</u> <u>EVA SYS: CREWLOCK DPRSS/RPRSS</u> <u>CUE CARD</u> <u>EVA SYS: 1.240 POST EVA</u> Perform step 39 (H2O Recharge) Do not perform steps 40-42 (Metox Regen) REF: LOGISTICS CC	<u>TRANSFER</u> REF MSG XXX	<u>UPLINK</u> B21 + <u>Box C1</u> -18<AZ<46 -65<EL<75 <u>Box C2</u> -32<AZ<-3 -28<EL<39 <u>Box C3</u> -72<AZ<-27 -13<EL<40 <u>Box D1</u> -55<AZ<125 -22<EL<62
01:00				<u>COMM STRING 1 C/O (PART A)</u> (ORB OPS, <u>COMM/INST</u>) <u>EVA COMM DECONFIG (EVA, EVA PREP)</u>		<u>TRANSFER</u> REF MSG XXX	
04:00						<u>CETA CART RELOCATION VIEWING</u> (PDRS, <u>VIEWING SUPT</u>) Perform Step 3	
02:00				<u>S IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)</u> <u>JNT OPS: 2.108 SHUTTLE AIRLK/TUNNEL FAN DEACT</u> (<u>BYPSS DUCT INSTLLD</u>) Steps 3-9 (NOTE: Shuttle crew will perform step 3) Inform MCC when complete		<u>RMS PWRDN</u> (PDRS, <u>RMS PWRDN</u>) Do not stow MPMs	
05:00				<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, <u>CREW SYS</u>)	<u>EVA SYS 1.605 BSA BATTERY RECHARGE</u> Perform INITIATE for PGT, REBA, & HL batteries. In step 7, leave BC1 off. REF: LOGISTICS CC		
03:00				<u>SUPPLY WATER DUMP USING FES (ORB OPS, ECLS)</u> Step 2 w/FES reqd <u>PMC: NETMEETING VID CNFRNC (ORB OPS, PGSC)</u> Omit VLHS item in Step 1, Omit Step 3 Use A/G 2 for audio & KFX PGSC	<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, <u>CREW SYS</u>)		
06:00				<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, <u>CREW SYS</u>)	<u>EVA SYS: 1.510 METOX REGENERATION</u> Perform INITIATE Canisters: S/N 0012 & 0013, B/C 7812J & 7794J <u>PRE-SLEEP ACTIVITY</u> (ORB OPS, <u>CREW SYS</u>)		
04:00							

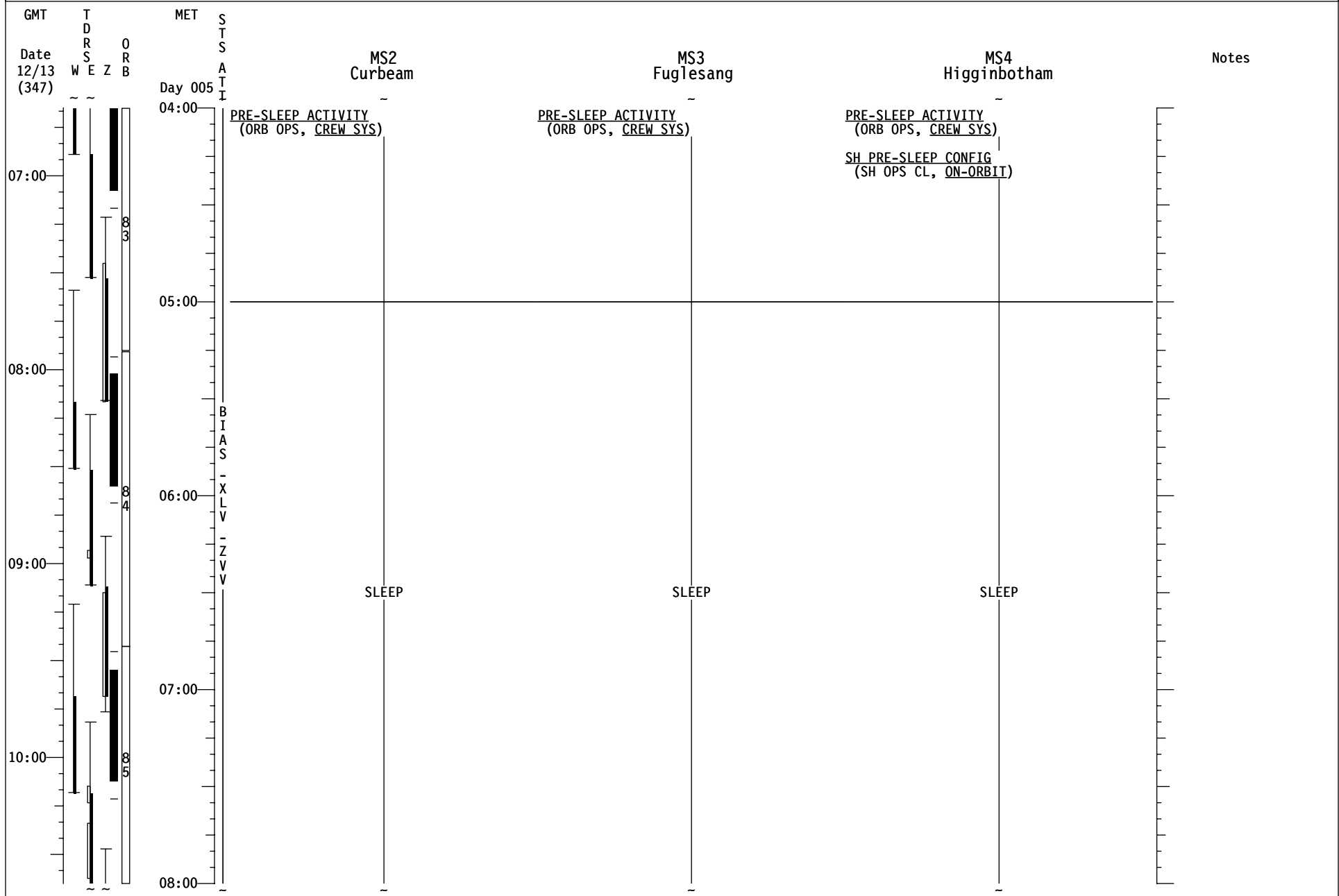
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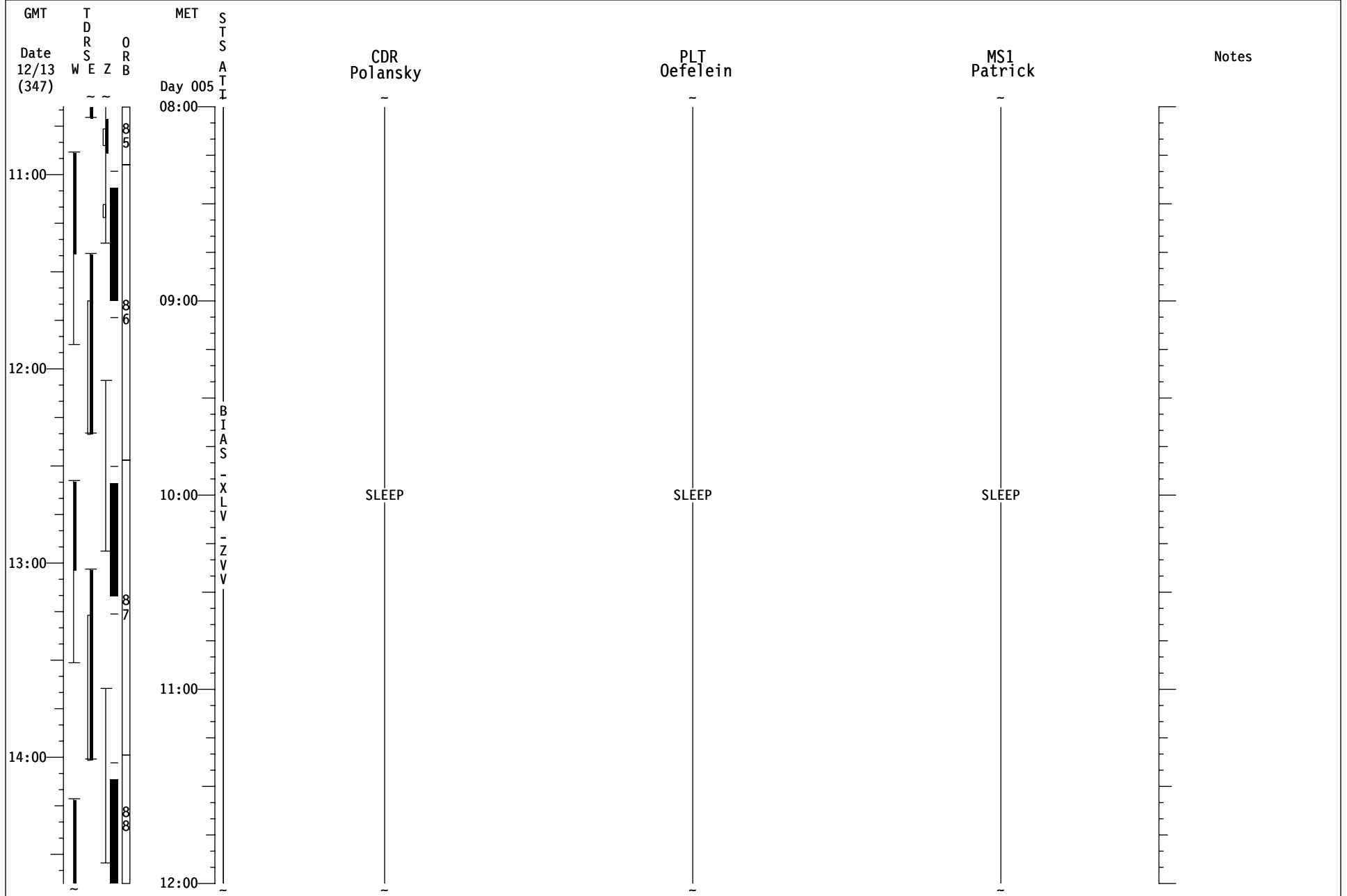
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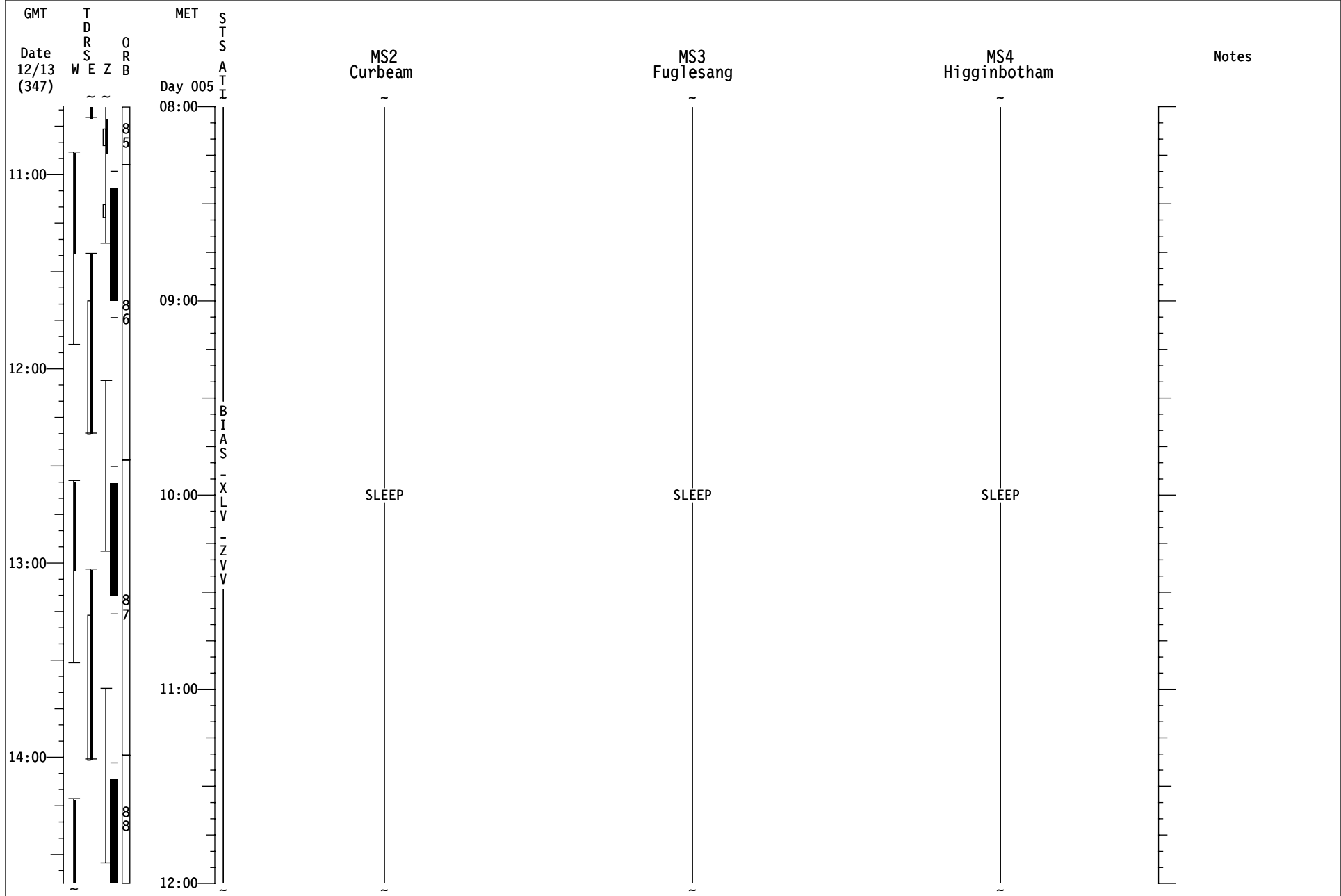
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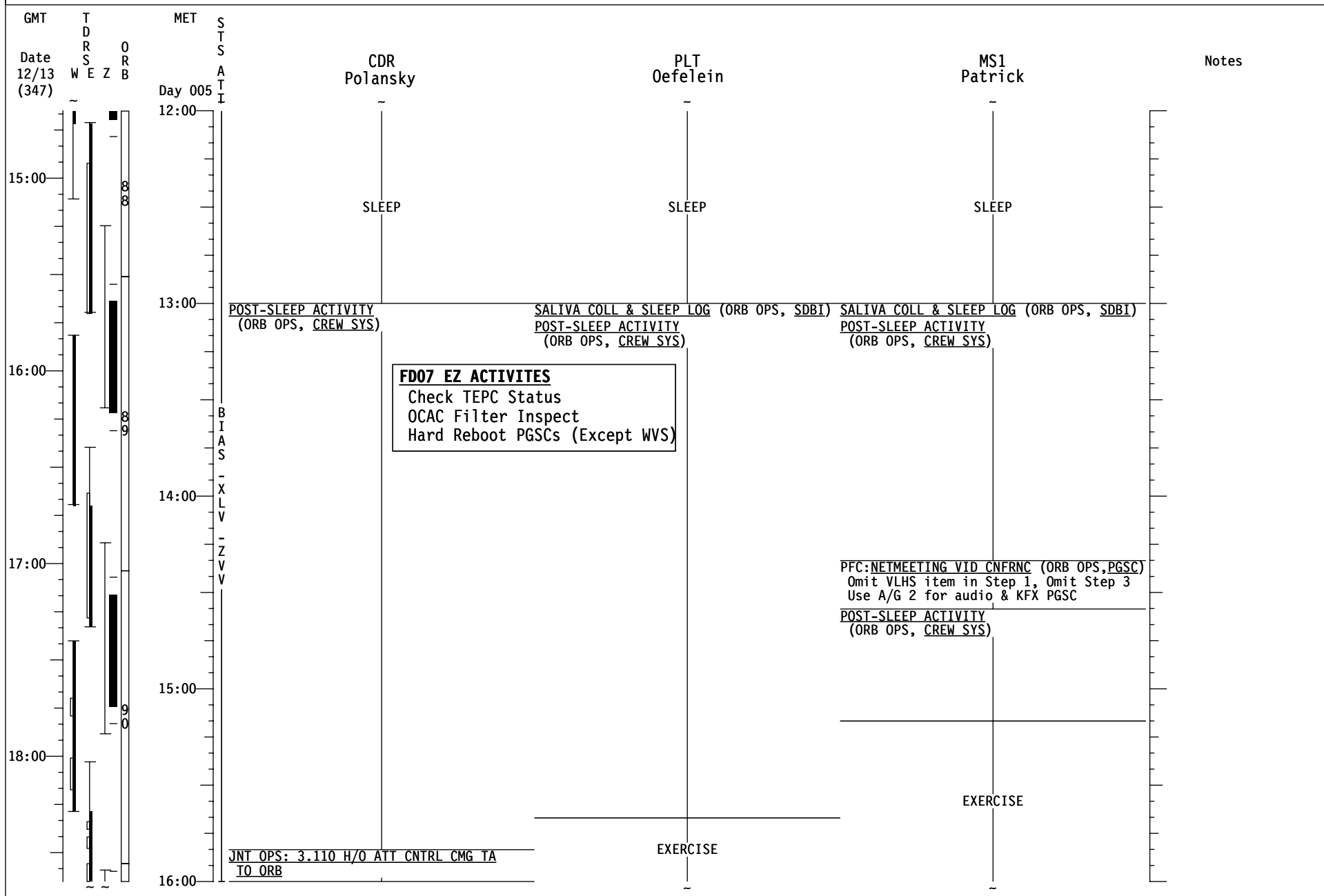
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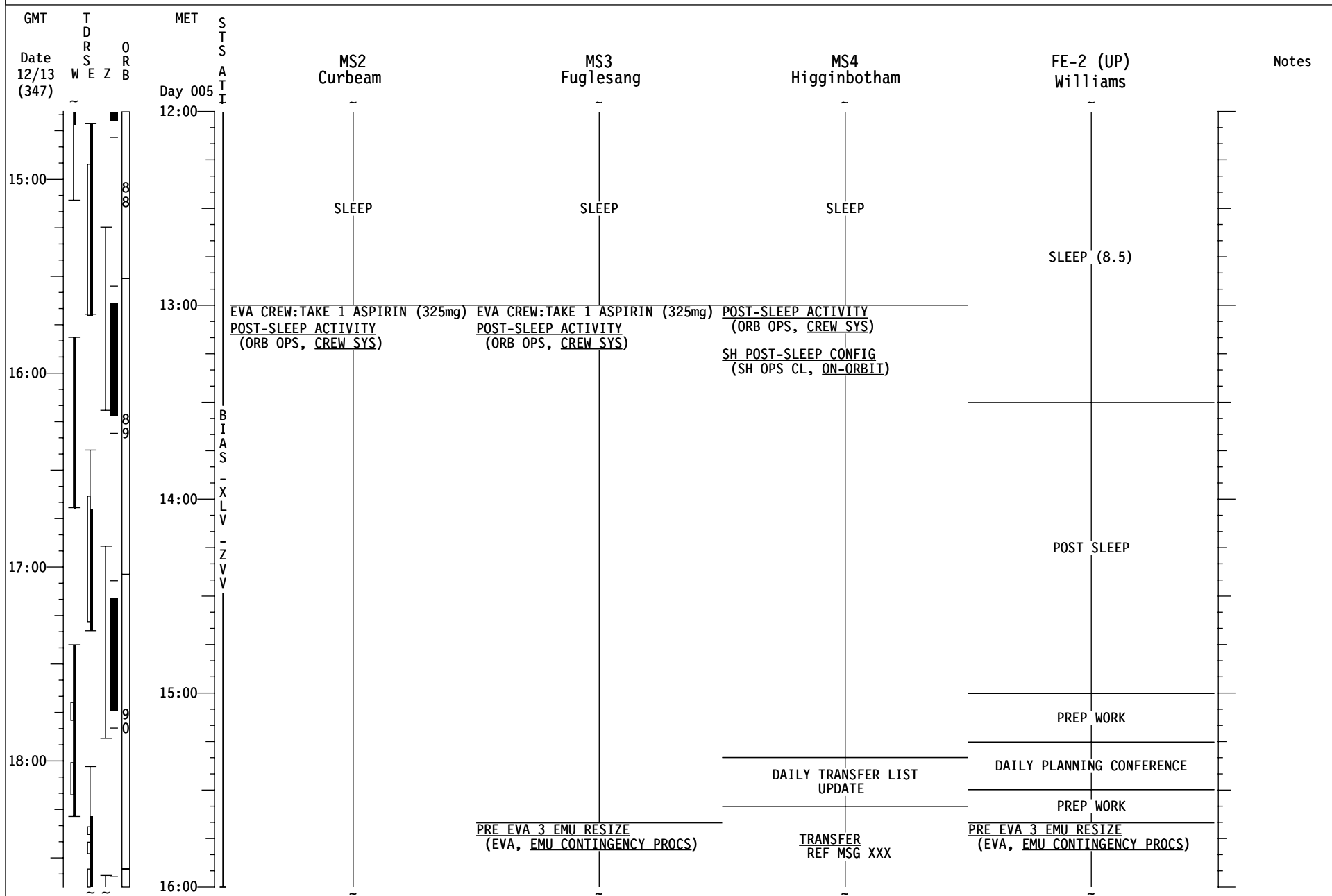
STS-116 FD06



STS-116 FD07



STS-116 FD07



STS-116 FD07

GMT	T D R S O W E Z B	MET	S T S	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/13 (347)		Day 005	A T T				
16:00				<u>MNVR BIAS -XLV -ZVV [A]</u> <u>SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS)</u> Initiate Supply/Waste Dump		<u>EXERCISE</u>	
19:00				<u>IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)</u>	<u>EXERCISE</u>		
17:00							<u>IFM: 2.3.402 N14B Y-JUMPER INSTALLATION/REMOVAL</u> Perform Steps 1-3,6
20:00				<u>EXERCISE</u>	<u>TRANSFER</u> REF MSG XXX		
18:00							<u>SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS)</u> Terminate Supply/Waste Dump
21:00				<u>MNVR BIAS -XLV -ZVV [B]</u> <u>JNT OPS: 3.111 H/O ATT CNTRL ORB TO CMG TA</u> <u>SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS)</u> Perform CHANGEOUT	<u>TRANSFER</u> REF MSG XXX		<u>P/TV05 ISS INTERNAL OPS (PHOTO/TV, SCENES)</u> Perform PA0 Event SETUP
19:00							
22:00				<u>MEAL</u>	<u>MEAL</u>	<u>MEAL</u>	
20:00				<u>CREW PHOTO</u>	<u>CREW PHOTO</u>	<u>CREW PHOTO</u>	

A MNVR BIAS -XLV -ZVV (SIMO DUMP)
On MCC Go:
TG=2 BV=5 P=163 Y=0 OM=193
A12/AUTO/VERN Init TRK

B MNVR BIAS -XLV -ZVV (TEA)
On MCC Go:
TG=2 BV=5 P=156 Y=42 OM=177
A12/AUTO/VERN Init TRK

STS-116 FD07

GMT	TDRS ORB	MET	SATS	MS2 Curbeam	MS3 Fuglesang	MS4 Higginbotham	FE-2 (UP) Williams	Notes
Date 12/13 (347)	W E Z B	Day 005	A T T					
16:00				POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE EVA 3 EMU RESIZE (EVA, EMU CONTINGENCY PROCS)		PRE EVA 3 EMU RESIZE (EVA, EMU CONTINGENCY PROCS)	
19:00			B I A S	EXERCISE		TRANSFER REF MSG XXX		
20:00			X L V				CGBA TRANSFER	
			Z V V	EVA SYS: 1.510 METOX REGENERATION Perform TERM. Stow Metox in M-02 bag.	EXERCISE		CEVIS EXERCISE HANDOVER	
				EVA SYS: 1.515 METOX/LIOH/BTRY REPLCMNT Perform Steps 1-8,11,12,15-17 REF: LOGISTICS CC			EVA SYS: 1.305 EOPMNT LOCK PREP REF: LOGISTICS CC	
21:00			B I A S	EVA SYS: 1.305 EOPMNT LOCK PREP REF: LOGISTICS CC	EVA SYS:1.605 BSA BATTERY RECHRG Perform TERM Stow HL & PGT batts in M-02 bag. REF: LOGISTICS CC	EXERCISE REF: LOGISTICS CC		
			X L V		PUBLIC AFFAIRS EVENT KU TDRW (18:10-18:54) REF MSG XXX			
22:00			Z V V	MEAL	MEAL	MEAL	MIDDAY-MEAL	
				CREW PHOTO	CREW PHOTO	CREW PHOTO	CREW PHOTO	
20:00								

STS-116 FD07

GMT	TDRS W E Z	ORB	MET	S T S A T I	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/13 (347)			Day 005					
23:00		93			CREW CONFERENCE KU TDRW (19:49-20:36)	CREW CONFERENCE KU TDRW (19:49-20:36)	CREW CONFERENCE KU TDRW (19:49-20:36)	
					OFF DUTY	OFF DUTY		
00:00		94						
					<u>PFC:NETMEETING VID CNFRNC (ORB OPS,PGSC)</u> Omit VLHS item in Step 1, Omit Step 3 Use A/G 2 for audio & KFX PGSC			
01:00								
						<u>PFC:NETMEETING VID CNFRNC (ORB OPS,PGSC)</u> Omit VLHS item in Step 1, Omit Step 3 Use A/G 2 for audio & KFX PGSC	OFF DUTY	
02:00		95			OFF DUTY	OFF DUTY		
00:00		96						

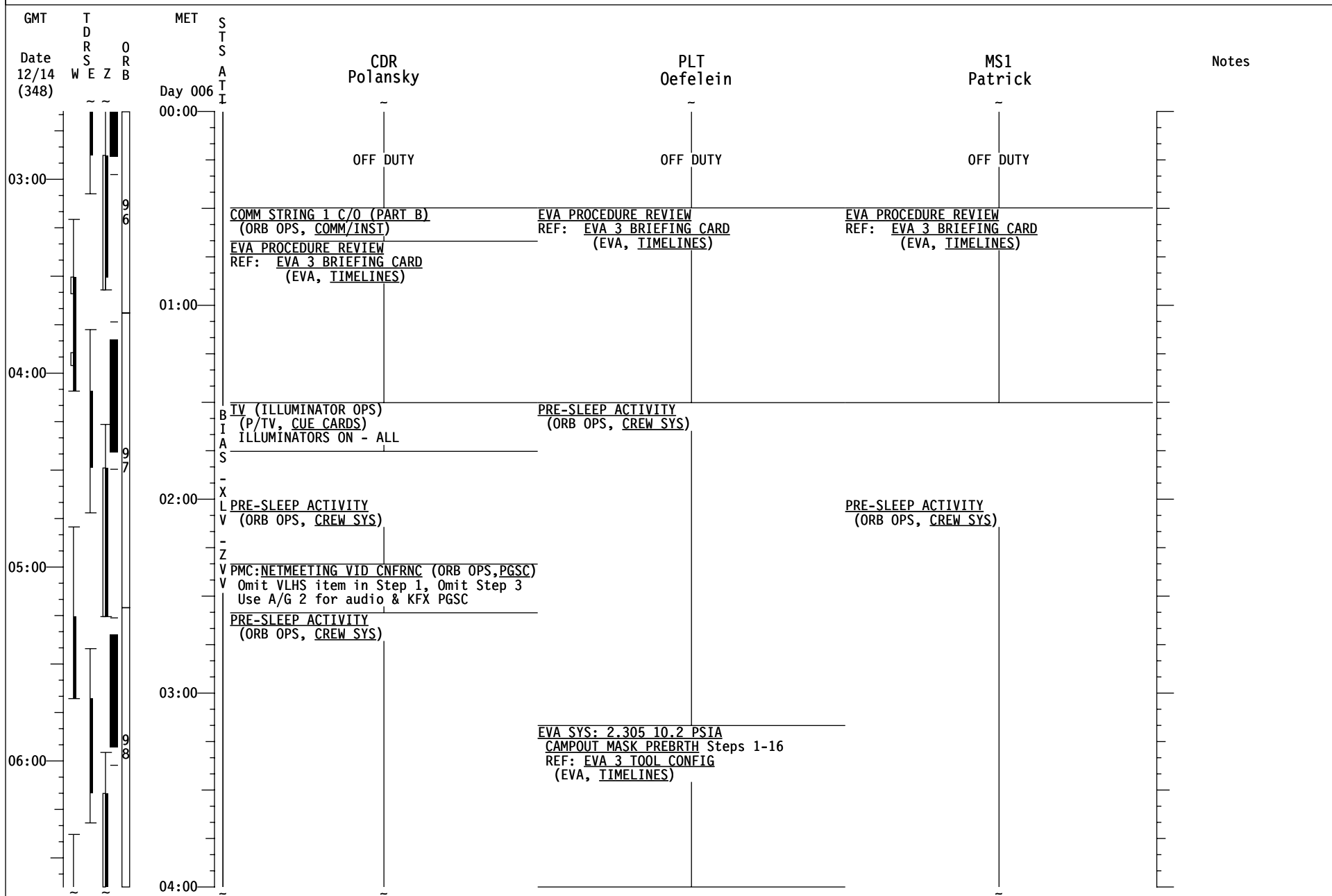
STS-116 FD07

GMT	TDRS W E Z	MET Day 005	S T S A T I	MS2 Curbeam	MS3 Fuglesang	MS4 Higginbotham	FE-2 (UP) Williams	Notes
20:00				CREW CONFERENCE KU TDRW (19:49-20:36)	CREW CONFERENCE KU TDRW (19:49-20:36)	CREW CONFERENCE KU TDRW (19:49-20:36)	CREW CONFERENCE KU TDRW (19:49-20:36)	
21:00							PL CK	
22:00				OFF DUTY	OFF DUTY		CREW HANDOVER: E13-E14	
23:00				OFF DUTY	OFF DUTY		RED EXERCISE HANDOVER	
00:00					OFF DUTY	OFF DUTY		
01:00								
02:00				OFF DUTY	OFF DUTY		ADAPTATION	
03:00								

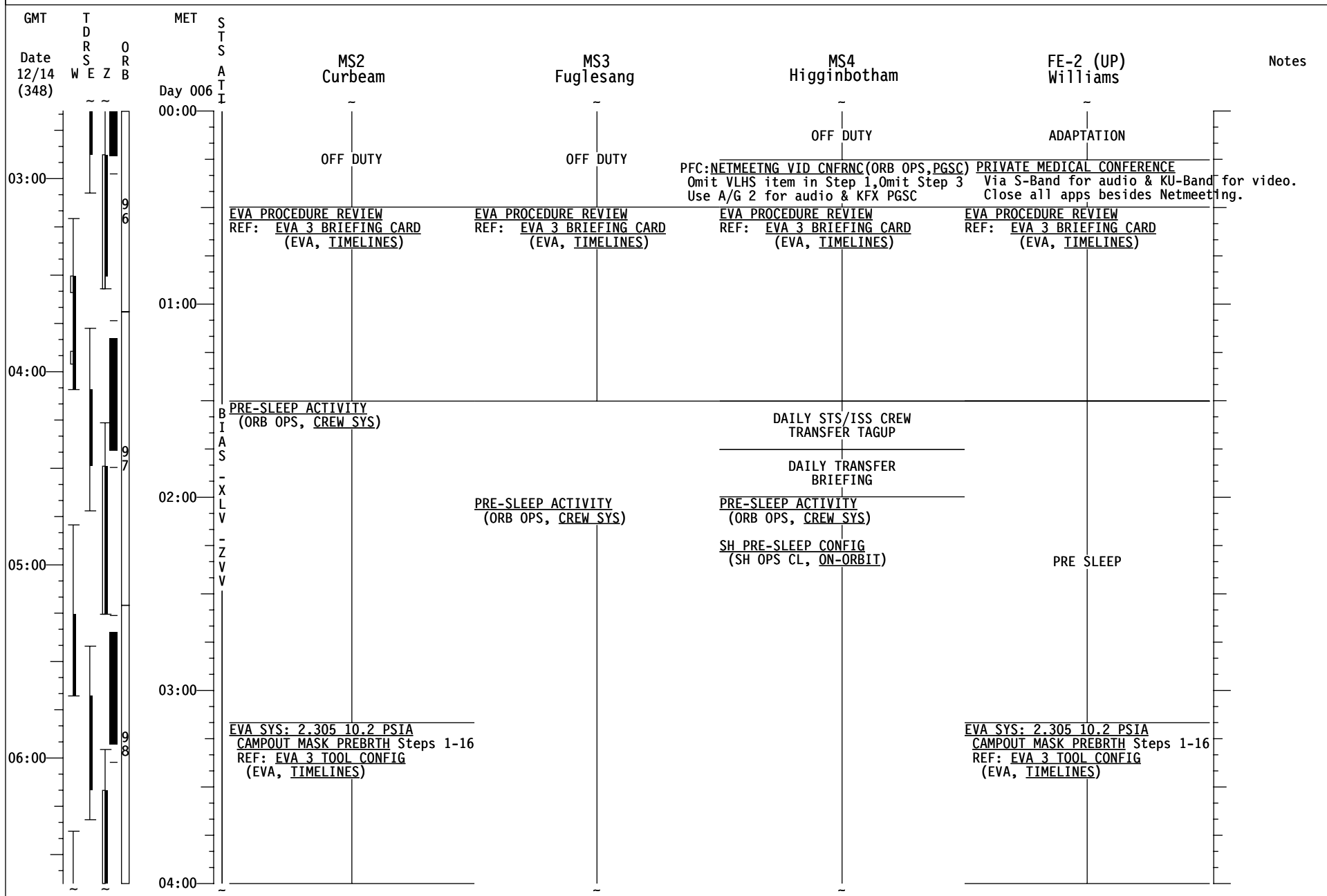
PFC:NETMEETING VID CNFRNC (ORB OPS,PGSC)
Omit VLHS item in Step 1, Omit Step 3
Use A/G 2 for audio & KFX PGSC

PFC:NETMEETING VID CNFRNC (ORB OPS,PGSC)
Omit VLHS item in Step 1, Omit Step 3
Use A/G 2 for audio & KFX PGSC

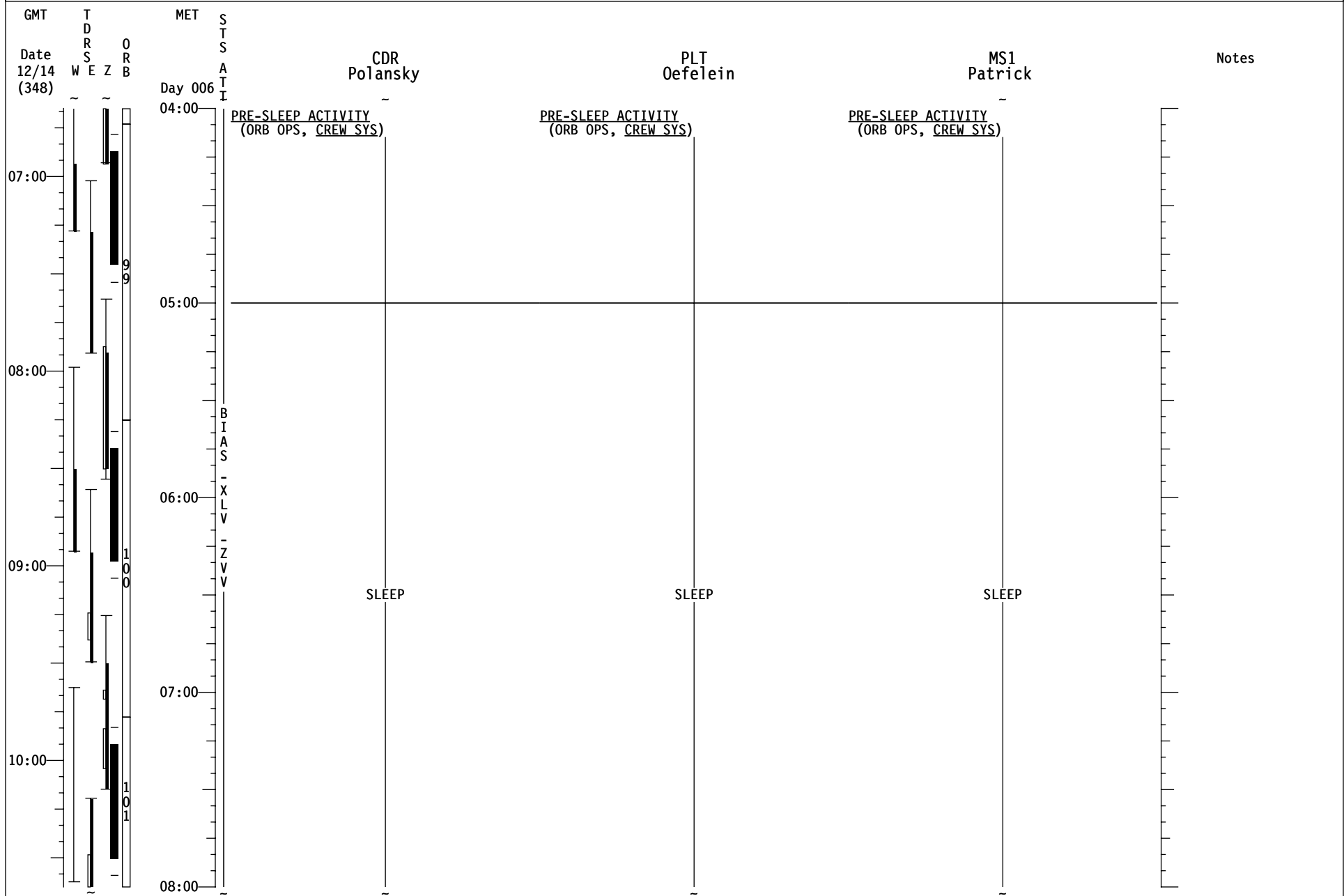
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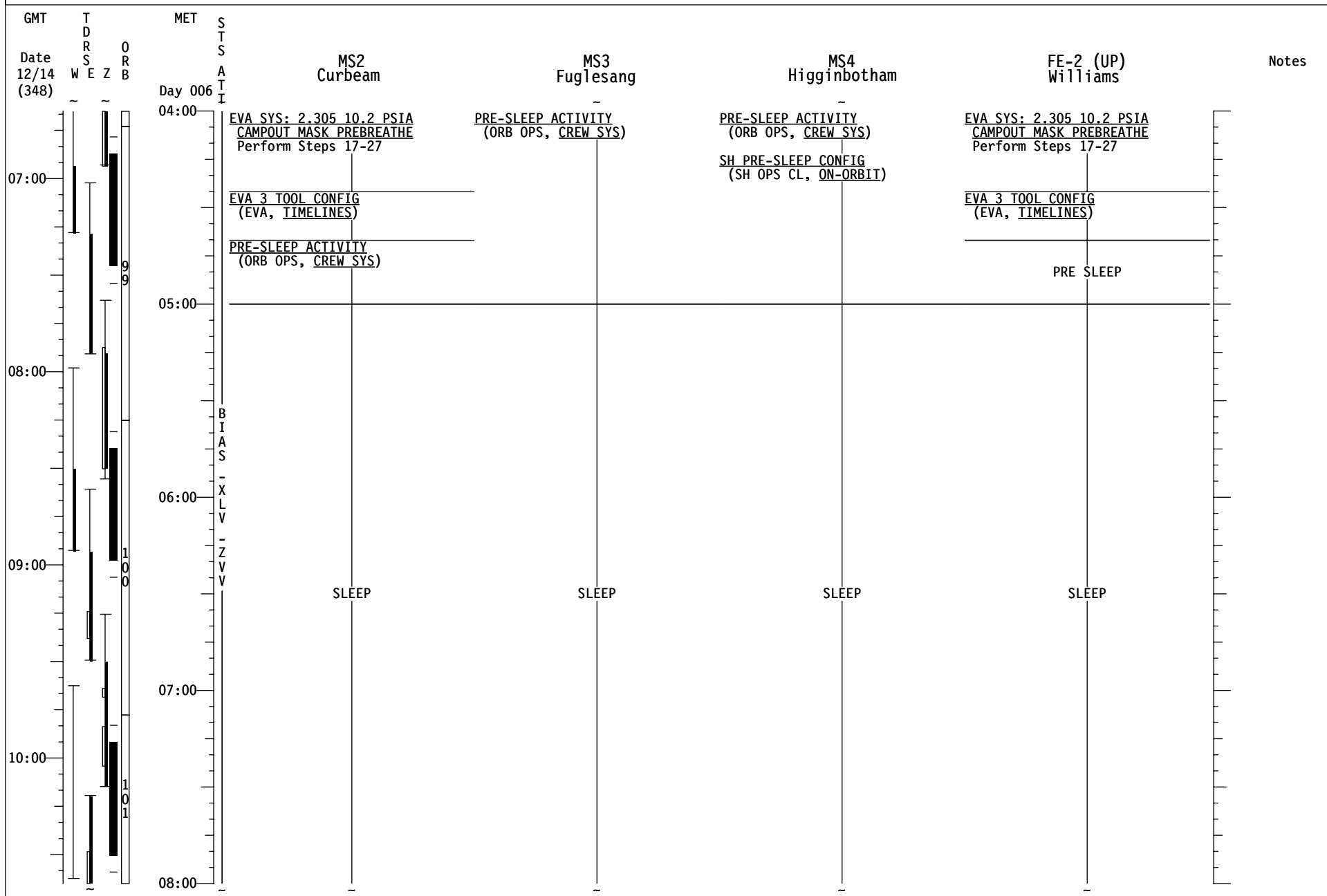
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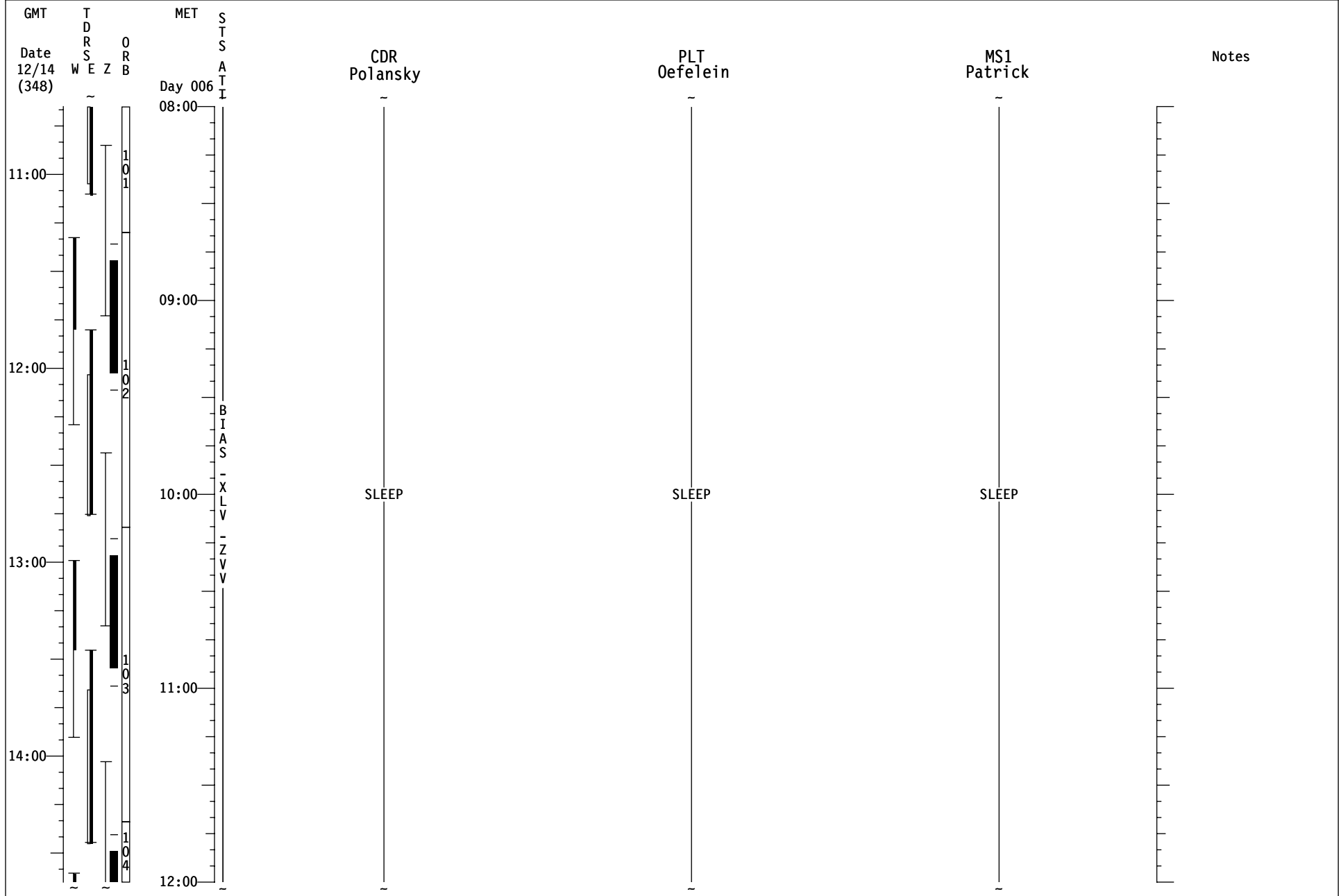
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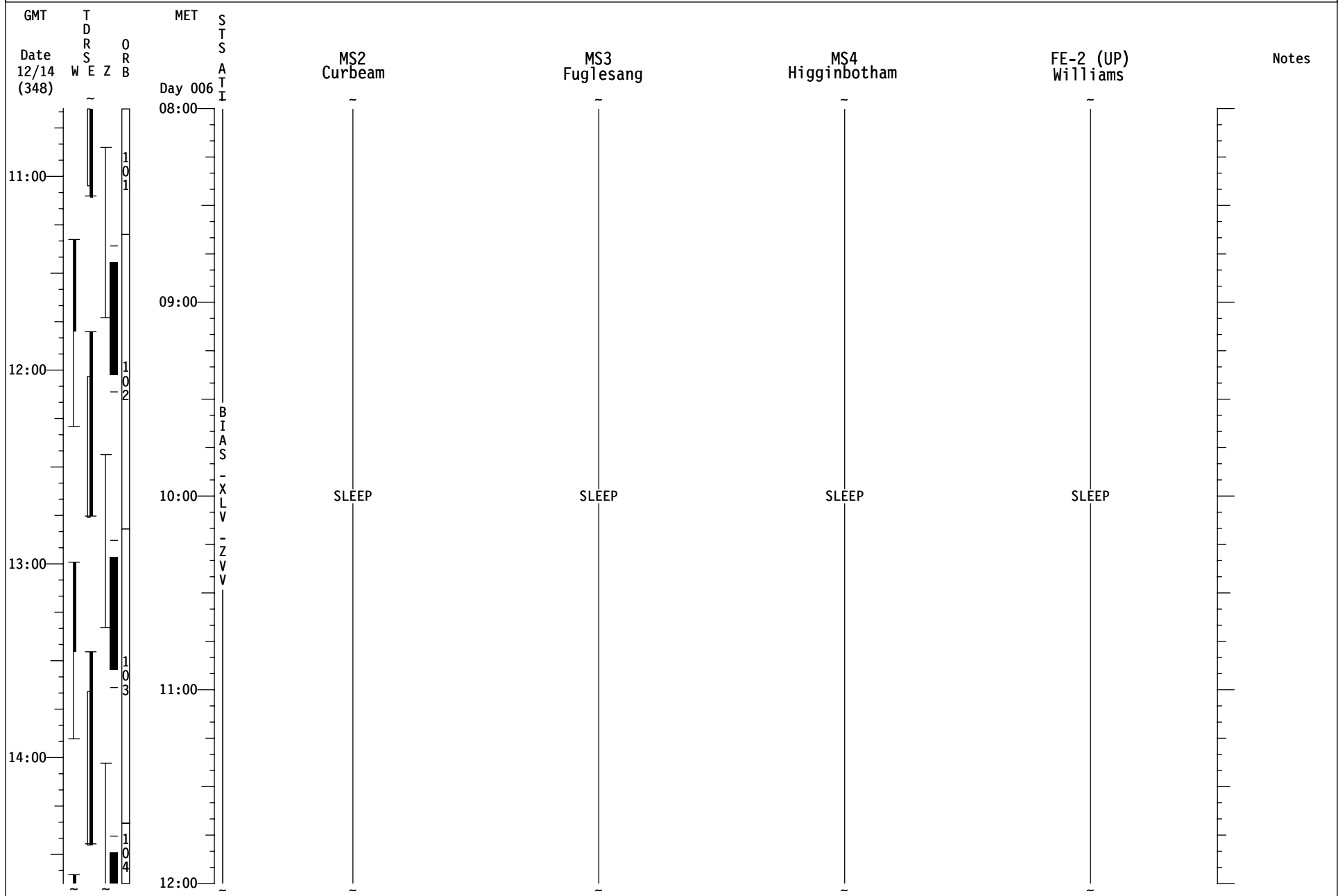
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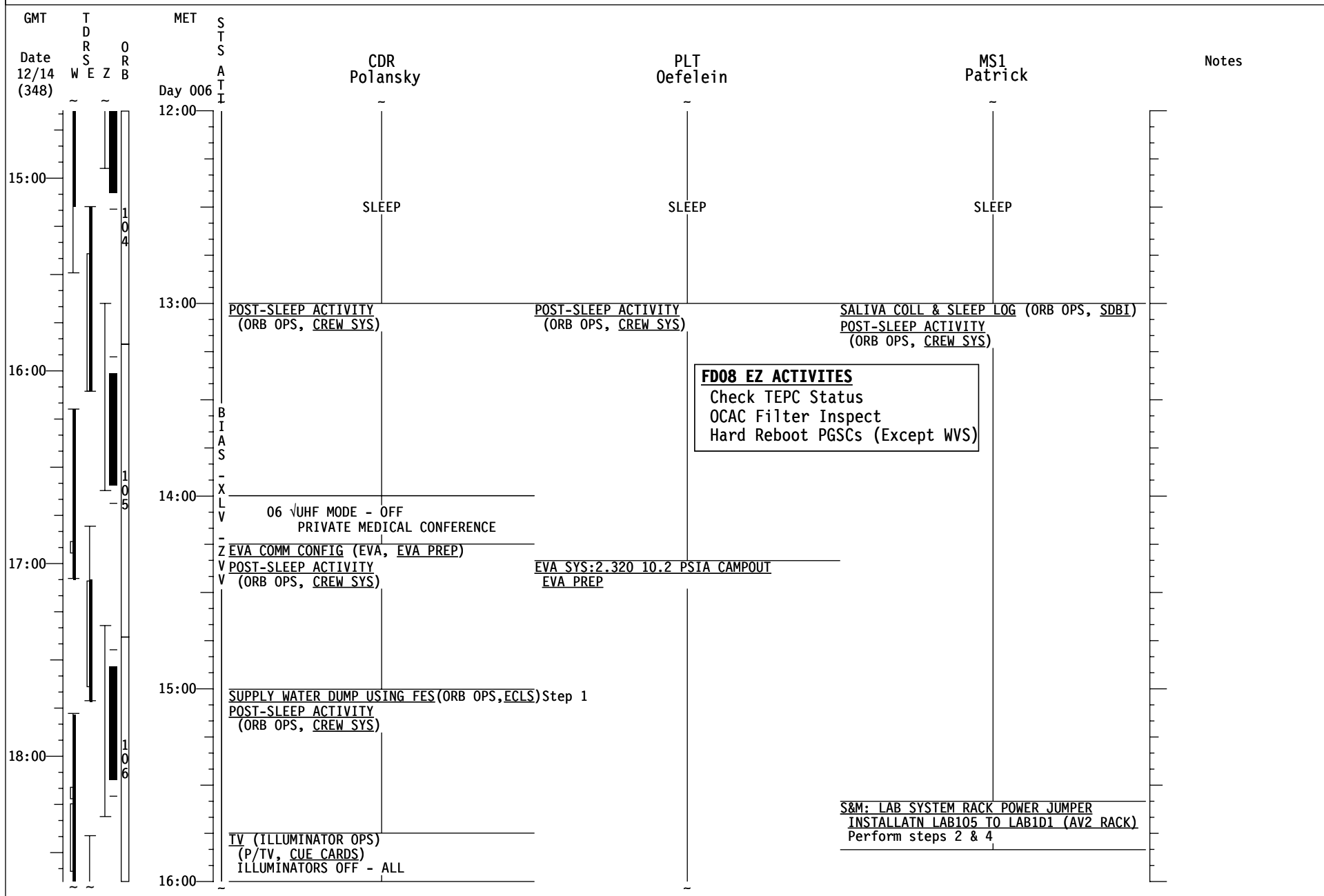
STS-116 FD07



STS-116 FD07

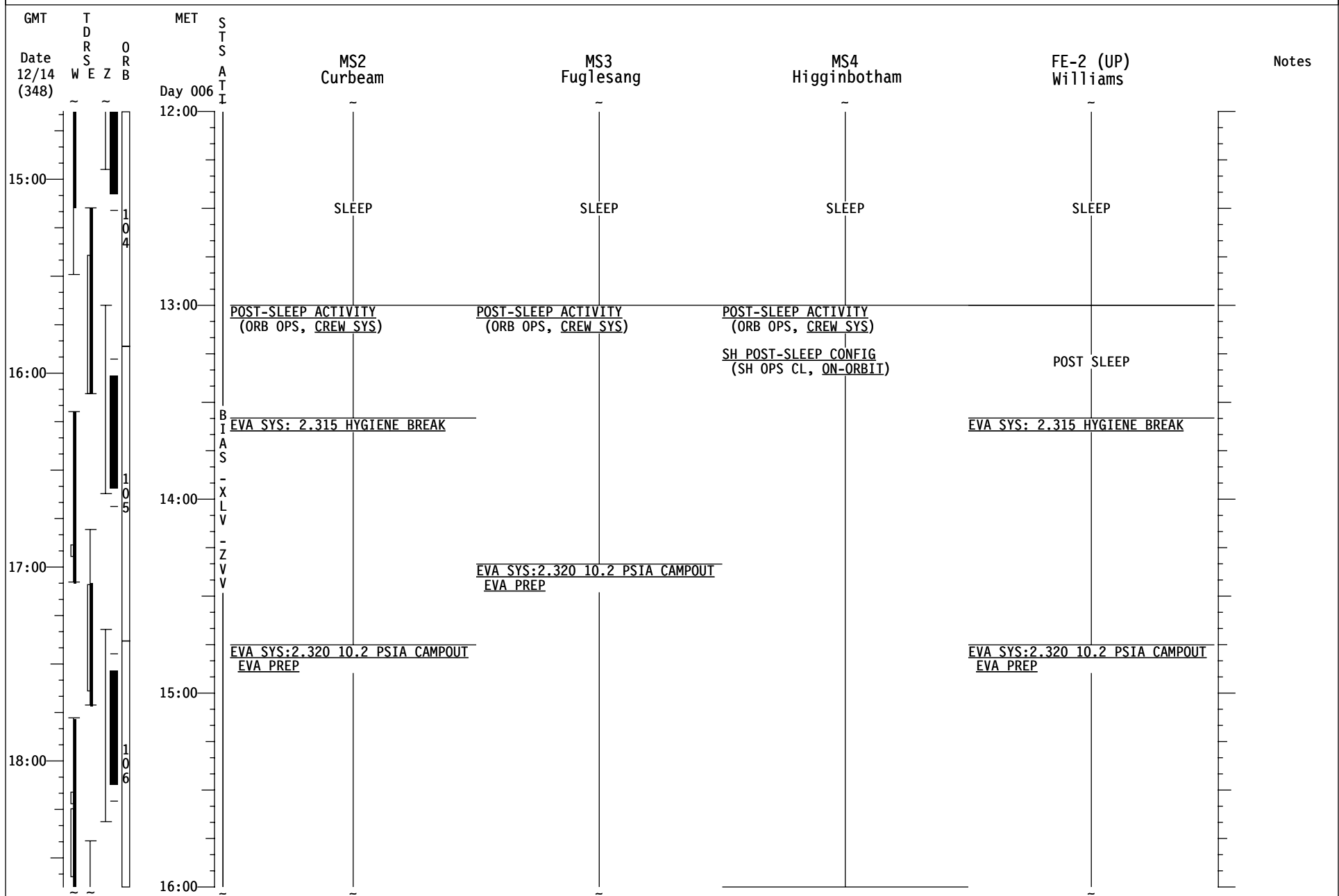


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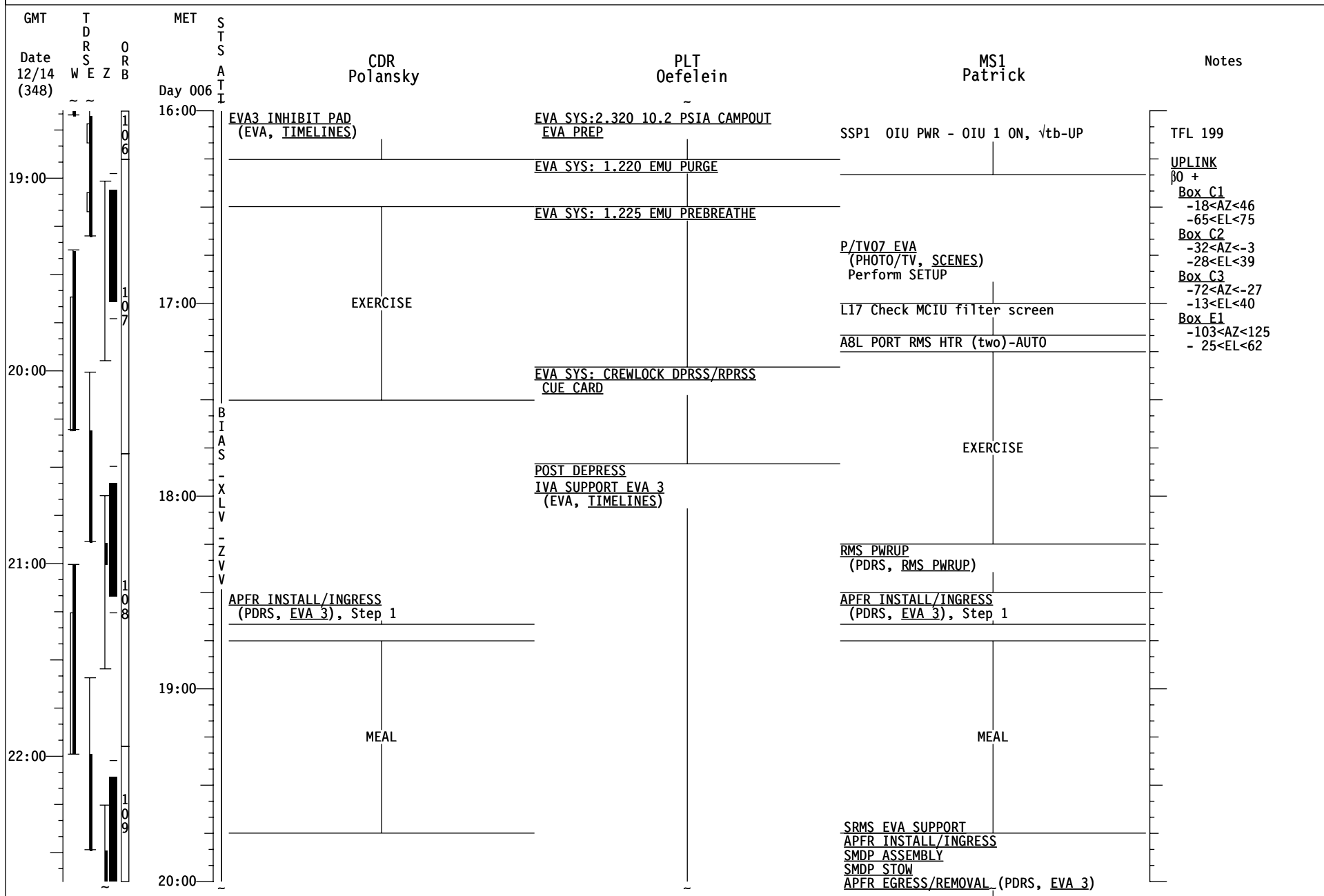


FD08 EZ ACTIVITES
 Check TEPC Status
 OCAC Filter Inspect
 Hard Reboot PGSCs (Except WVS)

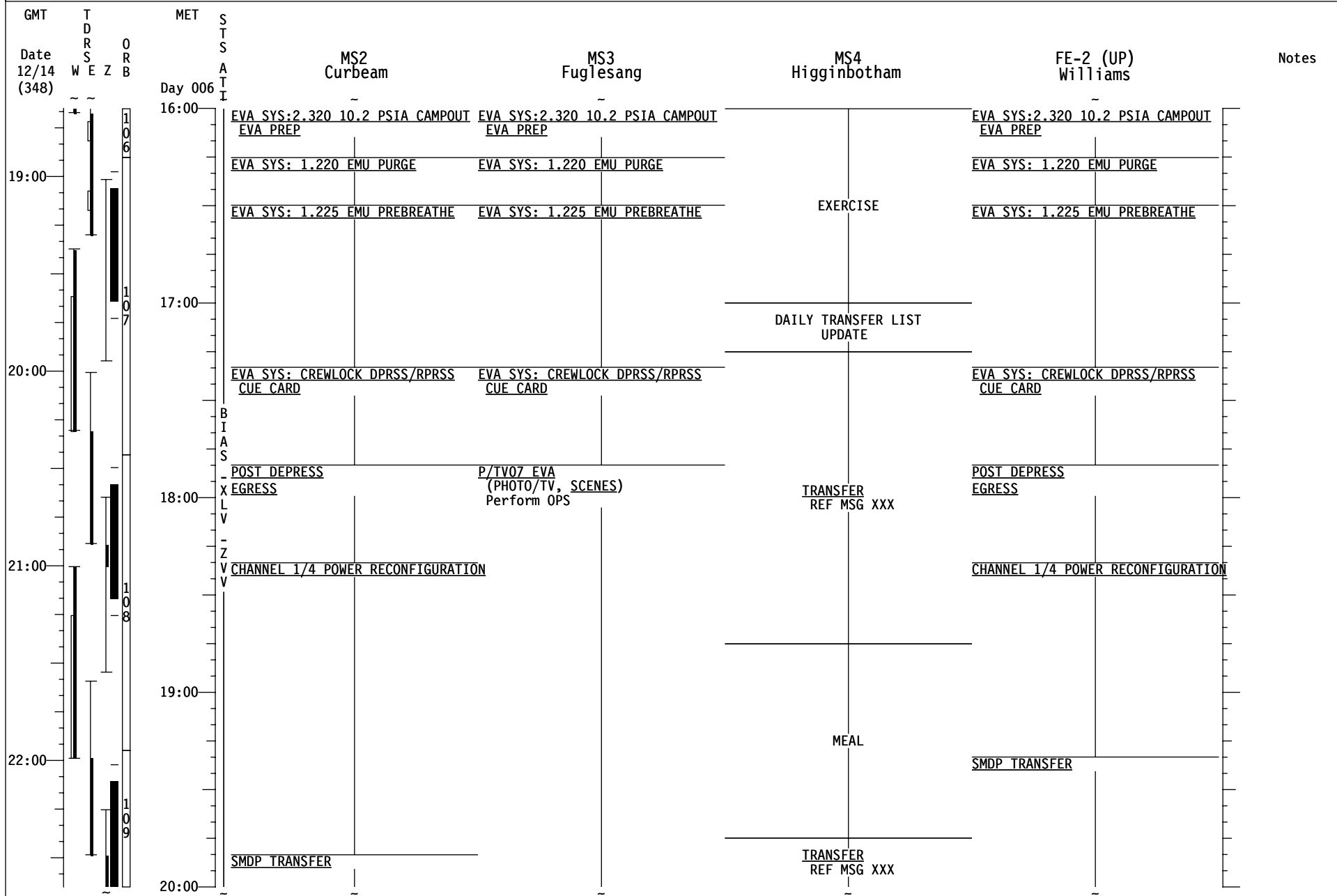
STS-116 FD08



STS-116 FD08



STS-116 FD08



STS-116 FD08

GMT	TDRS ORB	MET	STS	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/14 (348)	W E Z B	Day 006	A T I				
20:00					<u>I/A SUPPORT EVA 3</u> (EVA, <u>TIMELINES</u>)		
23:00							
00:00							
01:00							
02:00							
00:00					<u>PRE-REPRESS</u>		
21:00							
22:00							
23:00							
00:00							
01:00							
02:00							

I/A SUPPORT EVA 3
(EVA, TIMELINES)

SRMS EVA SUPPORT
APFR INSTALL/INGRESS
SMDP ASSEMBLY
SMDP STOW
APFR EGRESS/REMOVAL
(PDRS, EVA 3)

JNT OPS: 3.110 H/O ATT CNTRL CMG TA TO ORB

P/TV07 EVA
(PHOTO/TV, SCENES)
Perform OPS

RMS PWRDN
(PDRS, RMS PWRDN)
Do not stow MPMS

V SUPPLY WATER DUMP USING FES(ORB OPS,ECLS)Step 2 w/FES reqd

P/TV07 EVA
(PHOTO/TV, SCENES)
Perform OPS

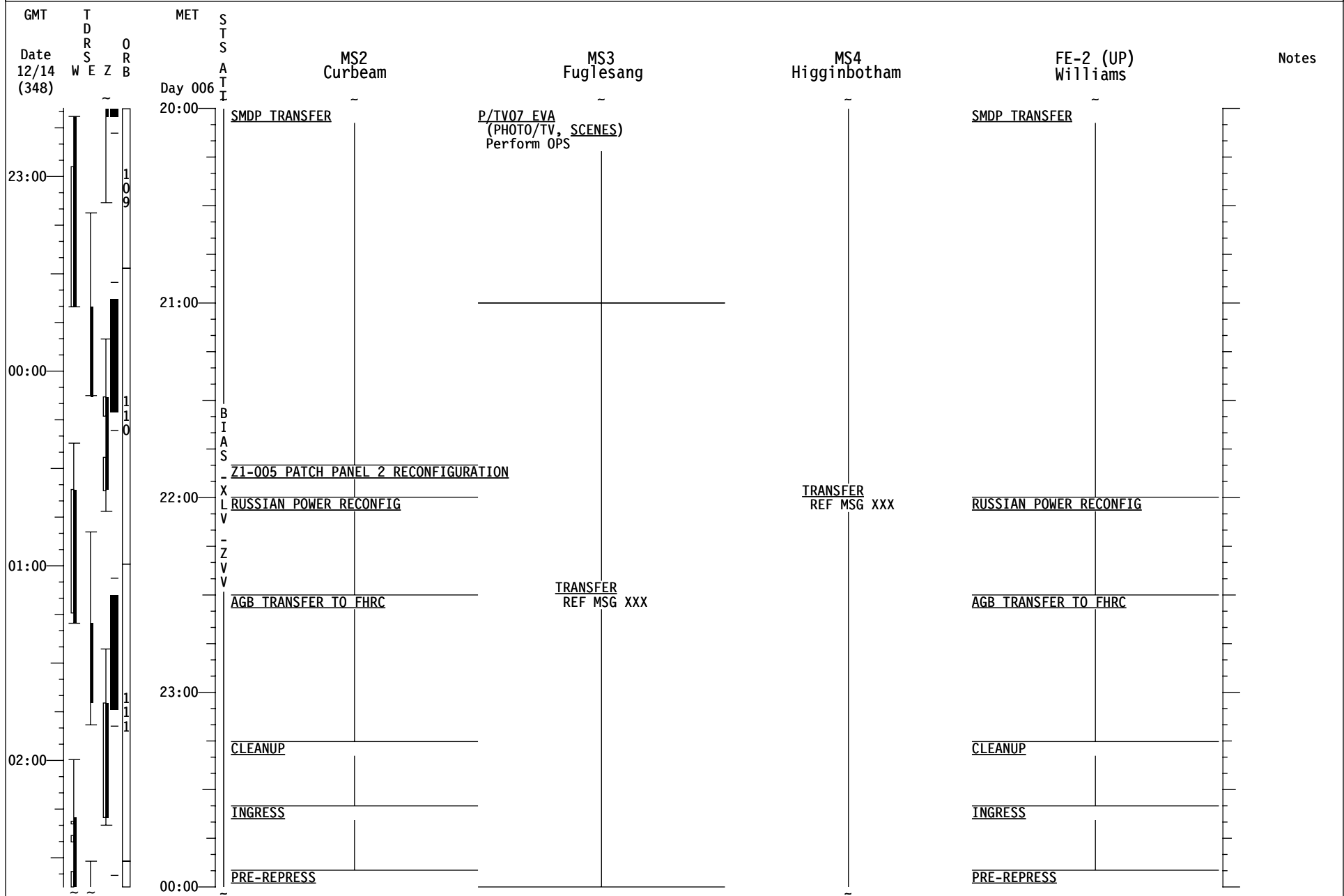
TRANSFER
REF MSG XXX

JNT OPS: 3.111 H/O ATT CNTRL ORB TO CMG TA

P/TV07 EVA
(PHOTO/TV, SCENES)
Perform OPS

IFM: 2.3.402 N14B Y-JUMPER INSTALLATION/REMOVAL
Perform Steps 1,4-6

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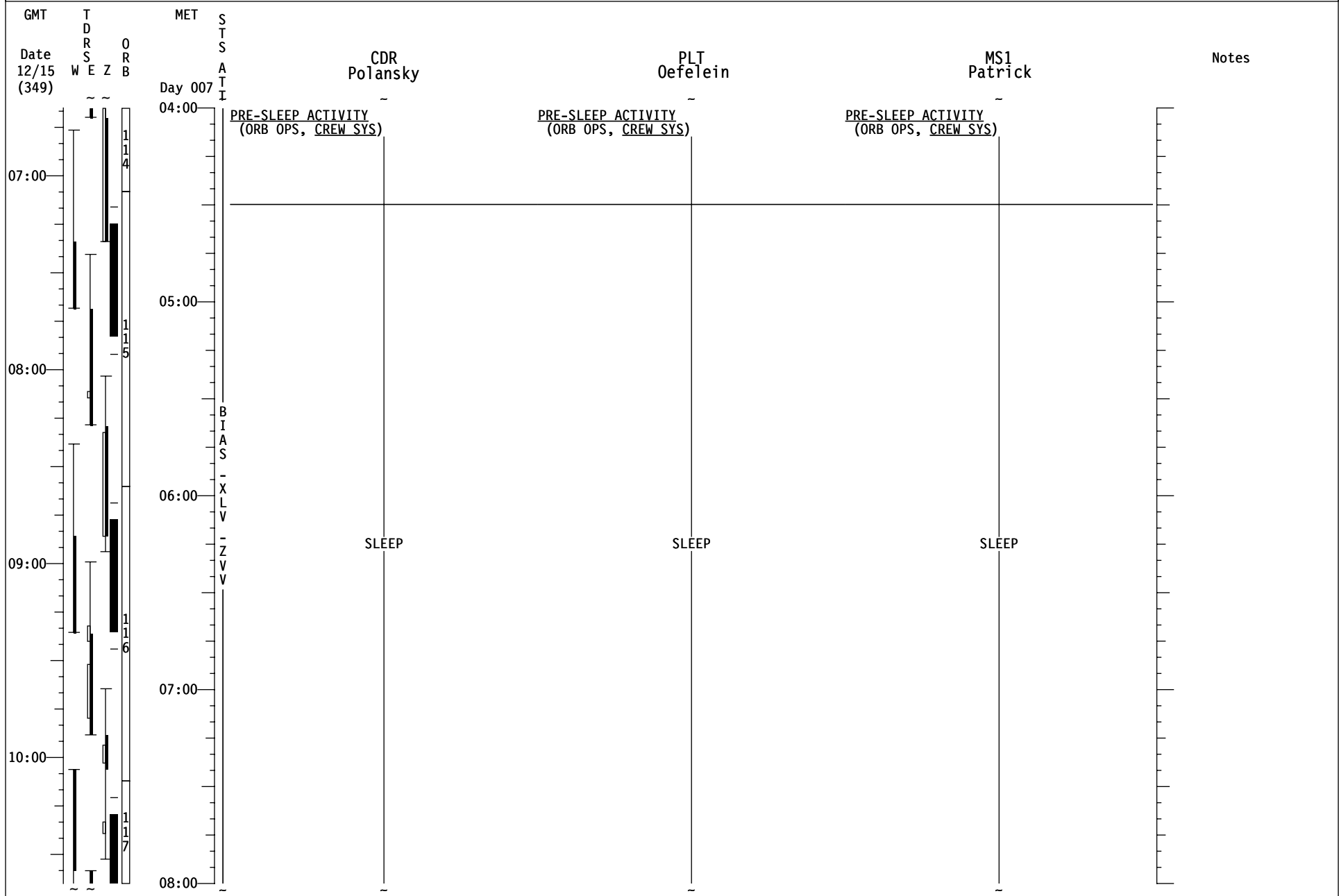
STS-116 FD08

GMT	T D R S O W E Z B	MET	S T S	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/15 (349)		Day 007	A T I				
00:00					<u>EVA SYS: CREWLOCK DPRSS/RPRSS</u> <u>CUE CARD</u> <u>EVA SYS: 1.240 POST EVA</u> Perform step 39 (H2O Recharge) Do not perform steps 40-42 (Metox Regen) REF: LOGISTICS CC	<u>IFM: 2.3.402 N14B Y-JUMPER INSTALLATION/REMOVAL</u> Perform Steps 1,4-6	<u>UPLINK</u> β21 + <u>Box C1</u> -18<AZ<46 -65<EL<75 <u>Box C2</u> -32<AZ<-3 -28<EL<39 <u>Box C3</u> -72<AZ<-27 -13<EL<40 <u>Box D1</u> -55<AZ<125 -22<EL<62
03:00				<u>WCS COMPACTOR OPS</u> (CUE CARD, <u>DUAL-VANE</u>)			
01:00				<u>EVA COMM DECONFIG (EVA, EVA PREP)</u>			
04:00				<u>IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)</u> <u>TV (ILLUMINATOR OPS)</u> (P/TV, CUE CARDS) ILLUMINATORS ON - ALL		<u>S&M: LAB SYSTEM RACK POWER JUMPER</u> <u>REMOVAL LAB105 TO LAB1D1 (AV2 RACK)</u> Perform steps 2 & 4	
				<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, <u>CREW SYS</u>)		<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, <u>CREW SYS</u>)	
02:00					<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, <u>CREW SYS</u>)		
05:00				<u>PMC:NETMEETING VID CNFRNC (ORB OPS,PGSC)</u> V Omit VLHS item in Step 1, Omit Step 3 Use A/G 2 for audio & KFX PGSC			
				<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, <u>CREW SYS</u>)			
06:00							
04:00							

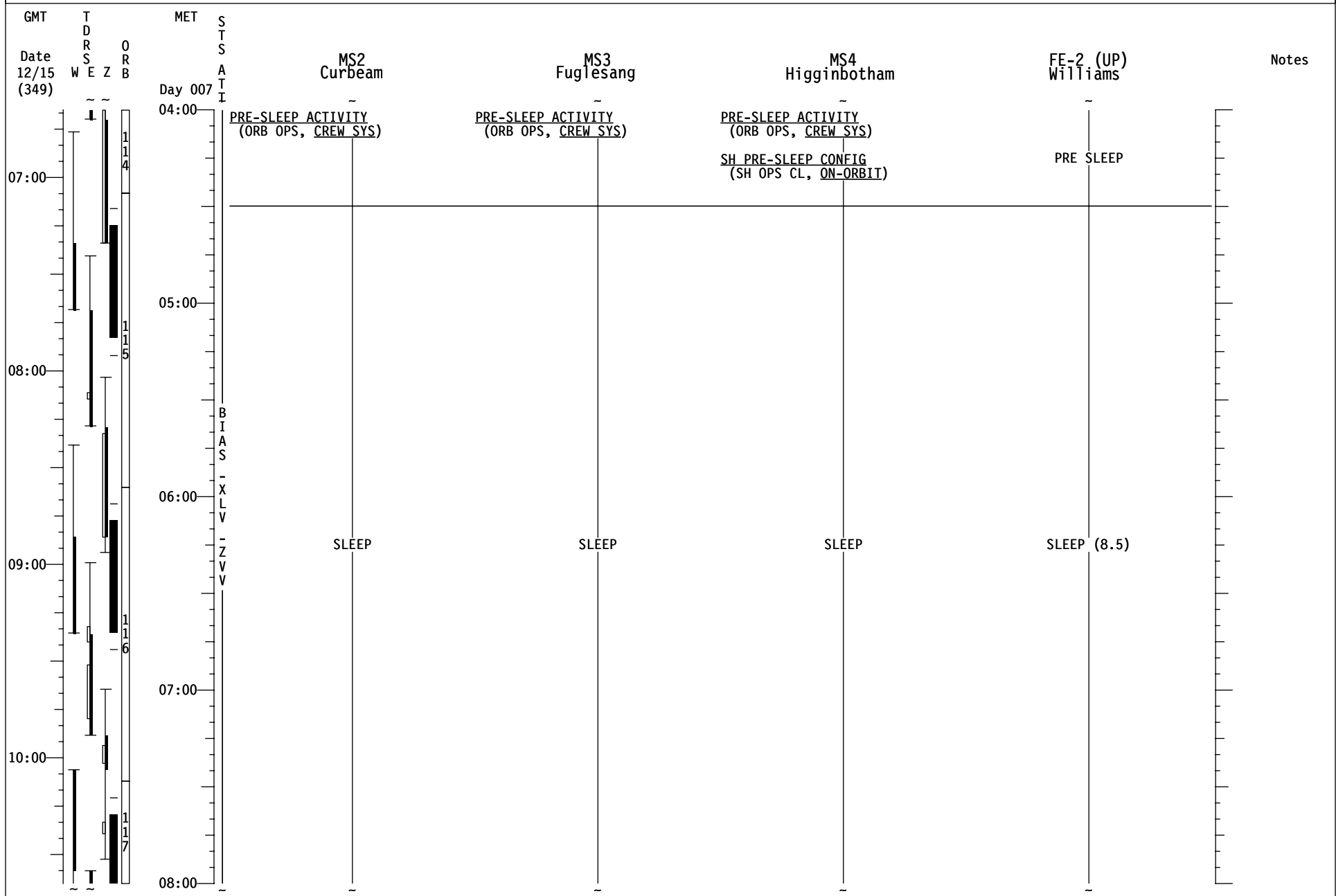
STS-116 FD08

GMT	T D R S O W E Z B	MET Day 007	S T S A T I	MS2 Curbeam	MS3 Fuglesang	MS4 Higginbotham	FE-2 (UP) Williams	Notes
00:00				<u>EVA SYS: CREWLOCK DPRSS/RPRSS</u> <u>CUE CARD</u>			<u>EVA SYS: CREWLOCK DPRSS/RPRSS</u> <u>CUE CARD</u>	
03:00				<u>EVA SYS: 1.240 POST EVA</u> Perform step 39 (H2O Recharge) Do not perform steps 40-42 (Metox Regen) REF: LOGISTICS CC	<u>EVA SYS: 1.240 POST EVA</u> Perform step 39 (H2O Recharge) Do not perform steps 40-42 (Metox Regen) REF: LOGISTICS CC	<u>TRANSFER</u> REF MSG XXX	<u>EVA SYS: 1.240 POST EVA</u> Perform step 39 (H2O Recharge) Do not perform steps 40-42 (Metox Regen) REF: LOGISTICS CC	
01:00				<u>EVA TOOL CONFIG</u> (EVA, TIMELINES) Post EVA Tool Stow		DAILY STS/ISS CREW TRANSFER TAGUP	<u>EVA TOOL CONFIG</u> (EVA, TIMELINES) Post EVA Tool Stow	
04:00						DAILY TRANSFER BRIEFING		
				<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)	<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)	<u>PRE-SLEEP ACTIVITY</u> (ORB OPS, CREW SYS)		
						<u>SH PRE-SLEEP CONFIG</u> (SH OPS CL, ON-ORBIT)		
02:00								
05:00								
							PRE SLEEP	
03:00								
06:00								
04:00								

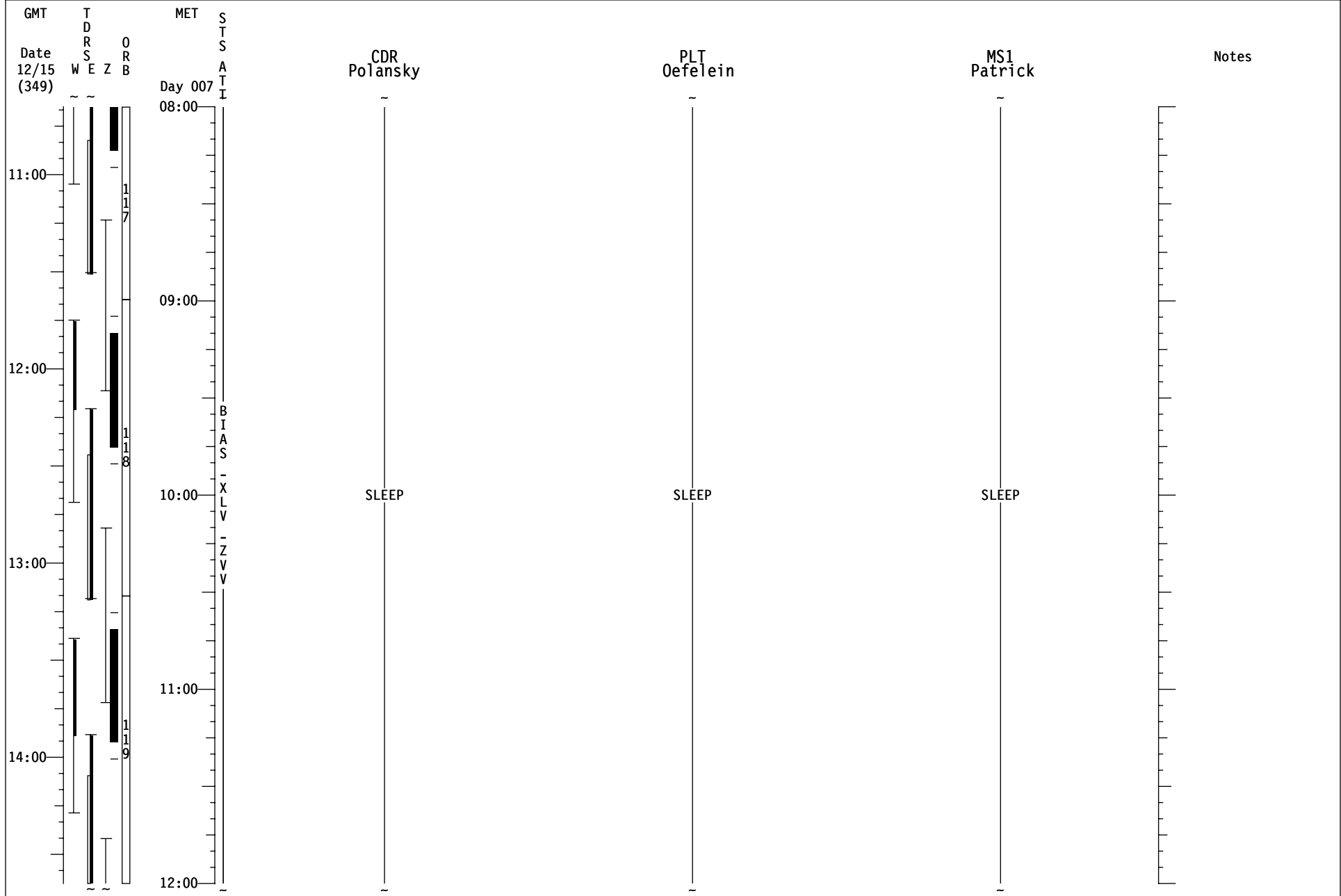
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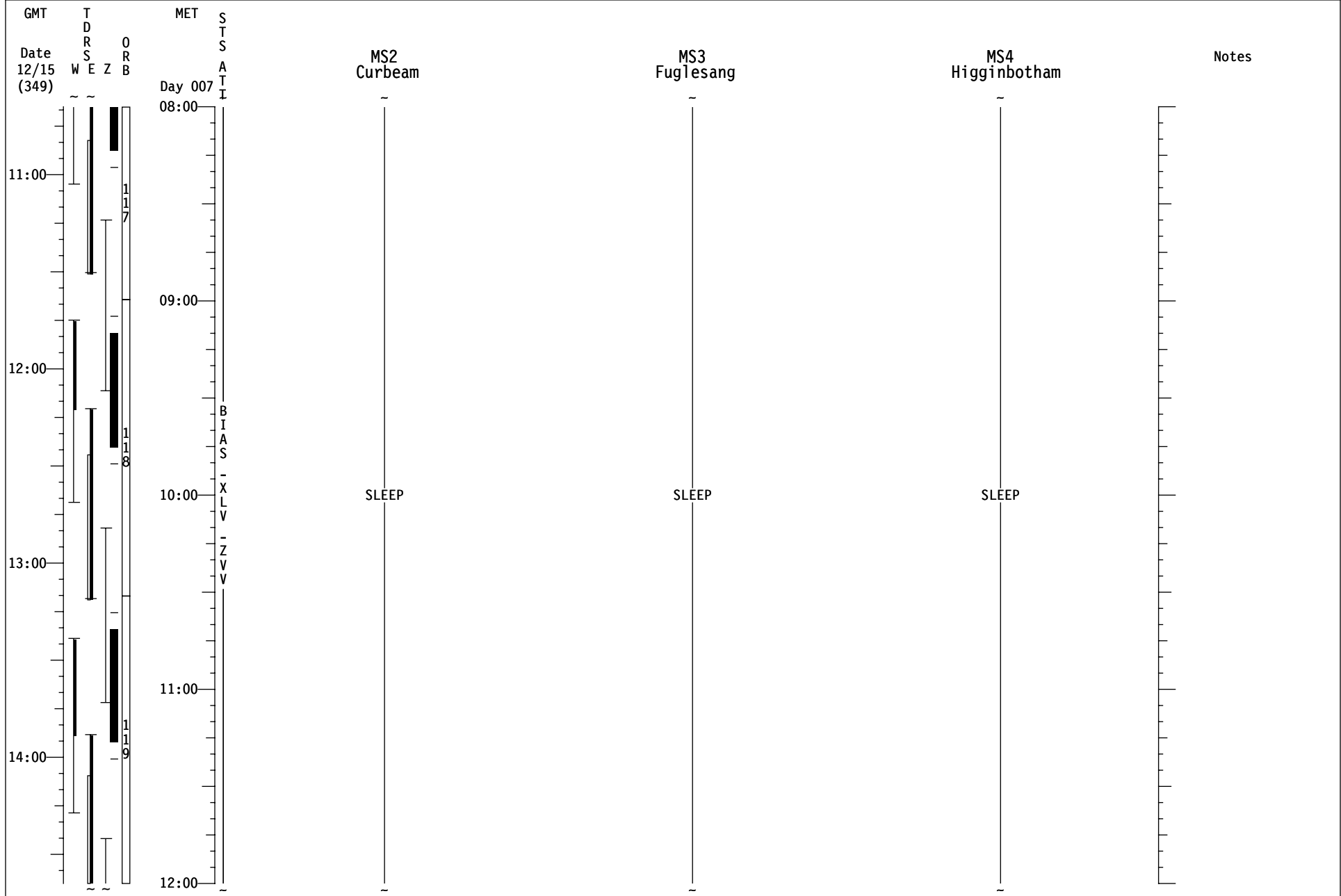
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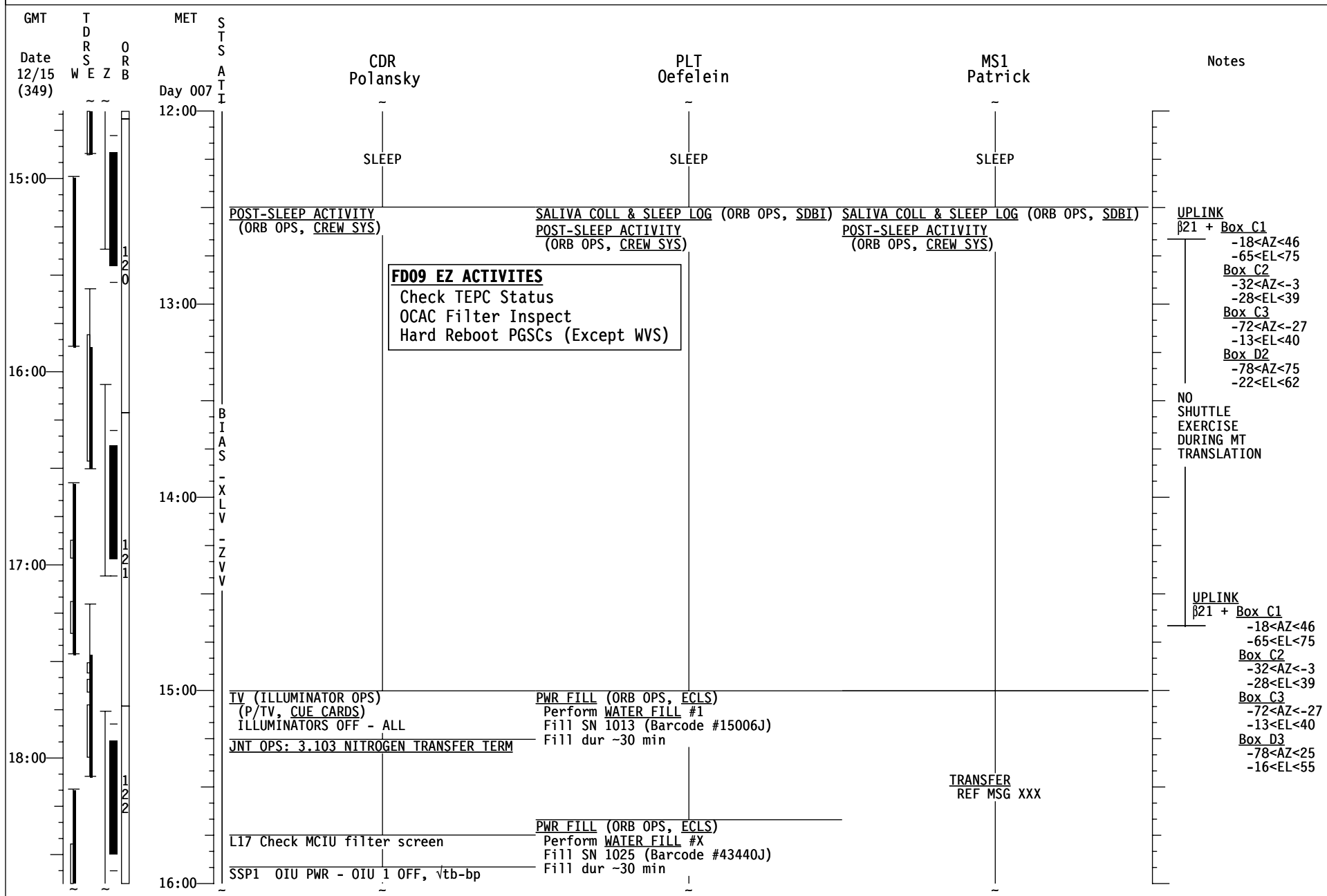
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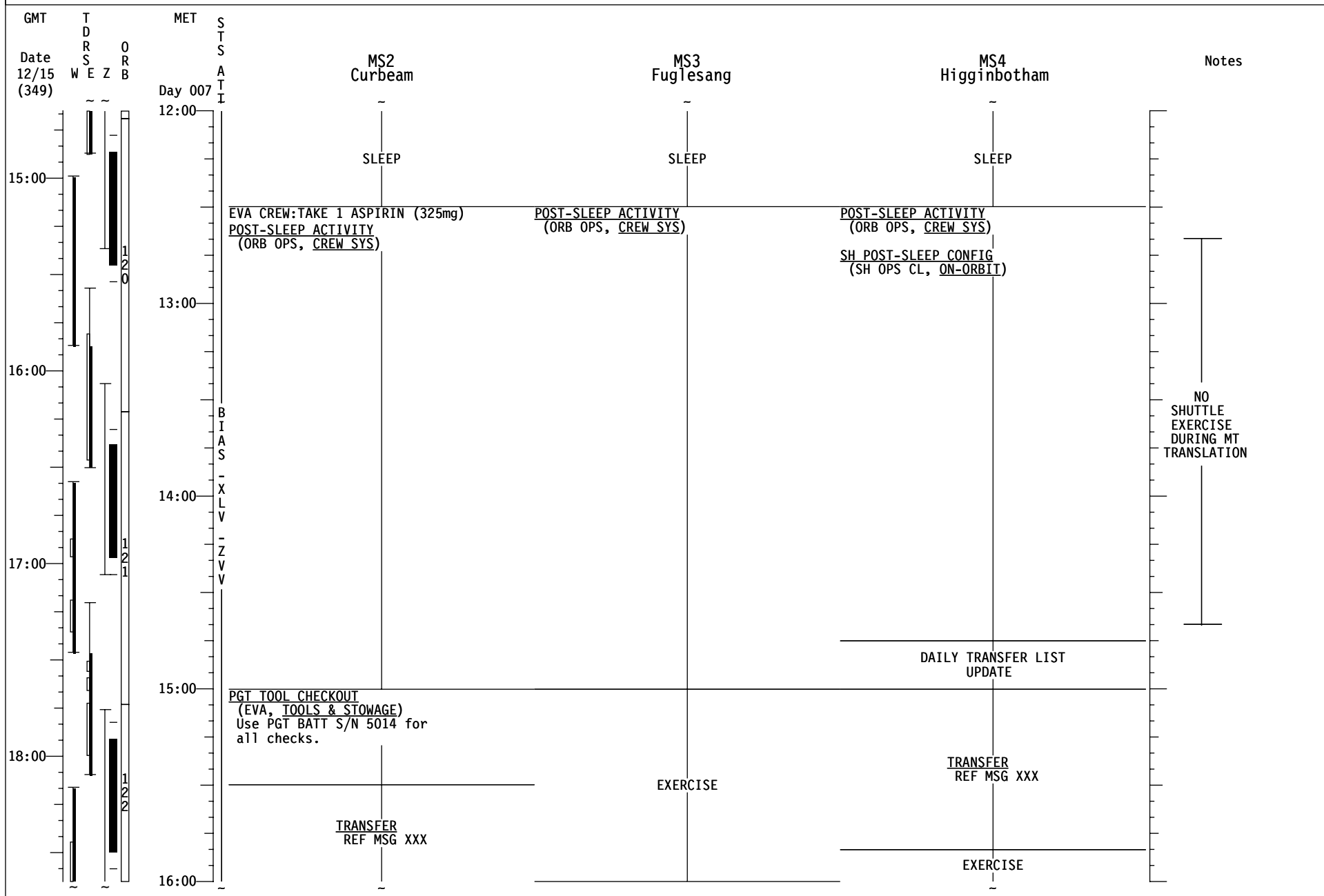
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STS-116 FD09



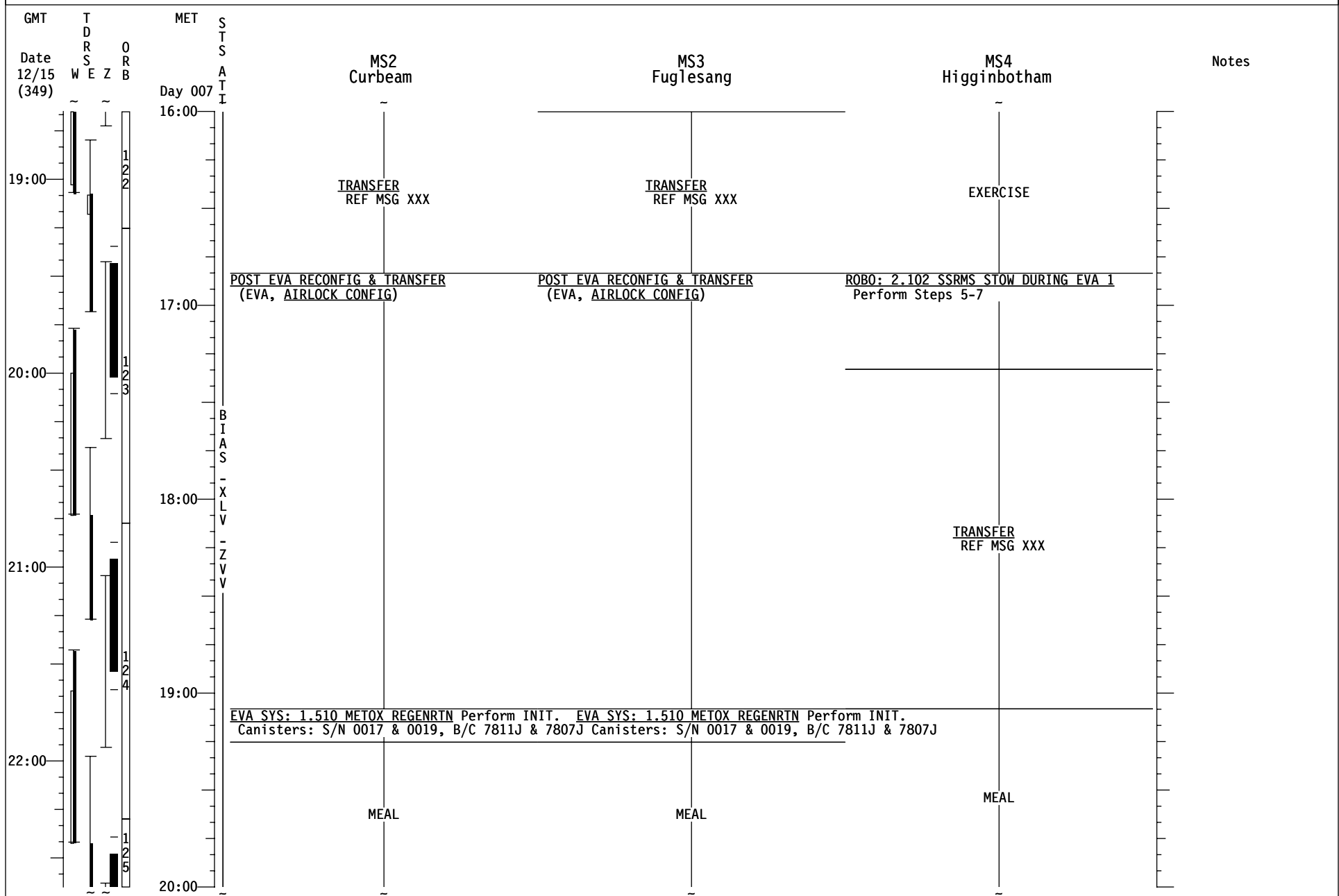
STS-116 FD09



STS-116 FD09

GMT	T D R S E Z	MET	S T S	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/15 (349)	W E Z B	Day 007	A T I				
16:00				SSP1 OIU PWR - OIU 1 OFF, √tb-bp	PWR FILL (ORB OPS, ECLS) Perform WATER FILL #X Fill SN 1025 (Barcode #43440J) Fill dur ~30 min		
19:00				TRANSFER REF MSG XXX	PWR TRANSFER Transfer 2 PWRs to ISS	TRANSFER REF MSG XXX	
17:00				SUPPLY WATER DUMP USING FES (ORB OPS, ECLS) Step 1			
20:00				TRANSFER REF MSG XXX			
18:00					TRANSFER REF MSG XXX	EXERCISE	
21:00				EXERCISE		TRANSFER REF MSG XXX	
19:00							
22:00				MEAL	MEAL	MEAL	
20:00							

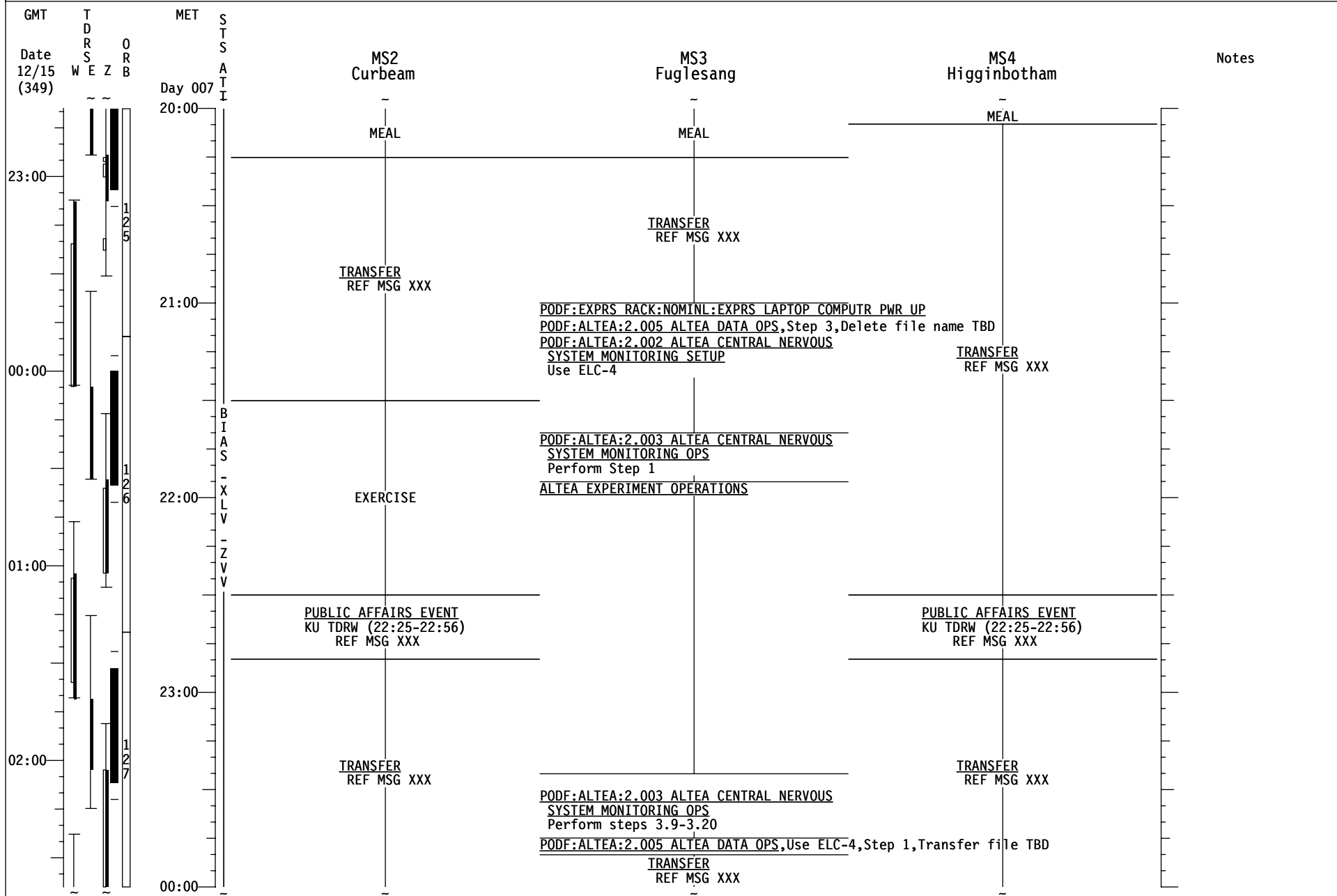
STS-116 FD09



STS-116 FD09

GMT	TDRS W E Z	ORB	MET Day 007	S T S A T I	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
20:00					MEAL	MEAL	MEAL	
23:00							<u>P/TV08 EXTERNAL SURVEY</u> (PHOTO/TV, SCENES) Perform SETUP <u>P/TV08 EXTERNAL SURVEY</u> (PHOTO/TV, SCENES) Perform OPS, Item 2	
00:00					TRANSFER REF MSG XXX	TRANSFER REF MSG XXX	TRANSFER REF MSG XXX	
01:00							ANALOG PAO CC (PHOTO/TV, SONY PD100)	
22:00					PUBLIC AFFAIRS EVENT KU TDRW (22:25-22:56) REF MSG XXX	PUBLIC AFFAIRS EVENT KU TDRW (22:25-22:56) REF MSG XXX	PUBLIC AFFAIRS EVENT KU TDRW (22:25-22:56) REF MSG XXX	
23:00							PREP WLES LAPTOP FOR TRANSFER (ORB OPS, WLE SENSORS)	
02:00					TRANSFER REF MSG XXX	TRANSFER REF MSG XXX	PGSC TRANSFER REF MSG XXX	
00:00								

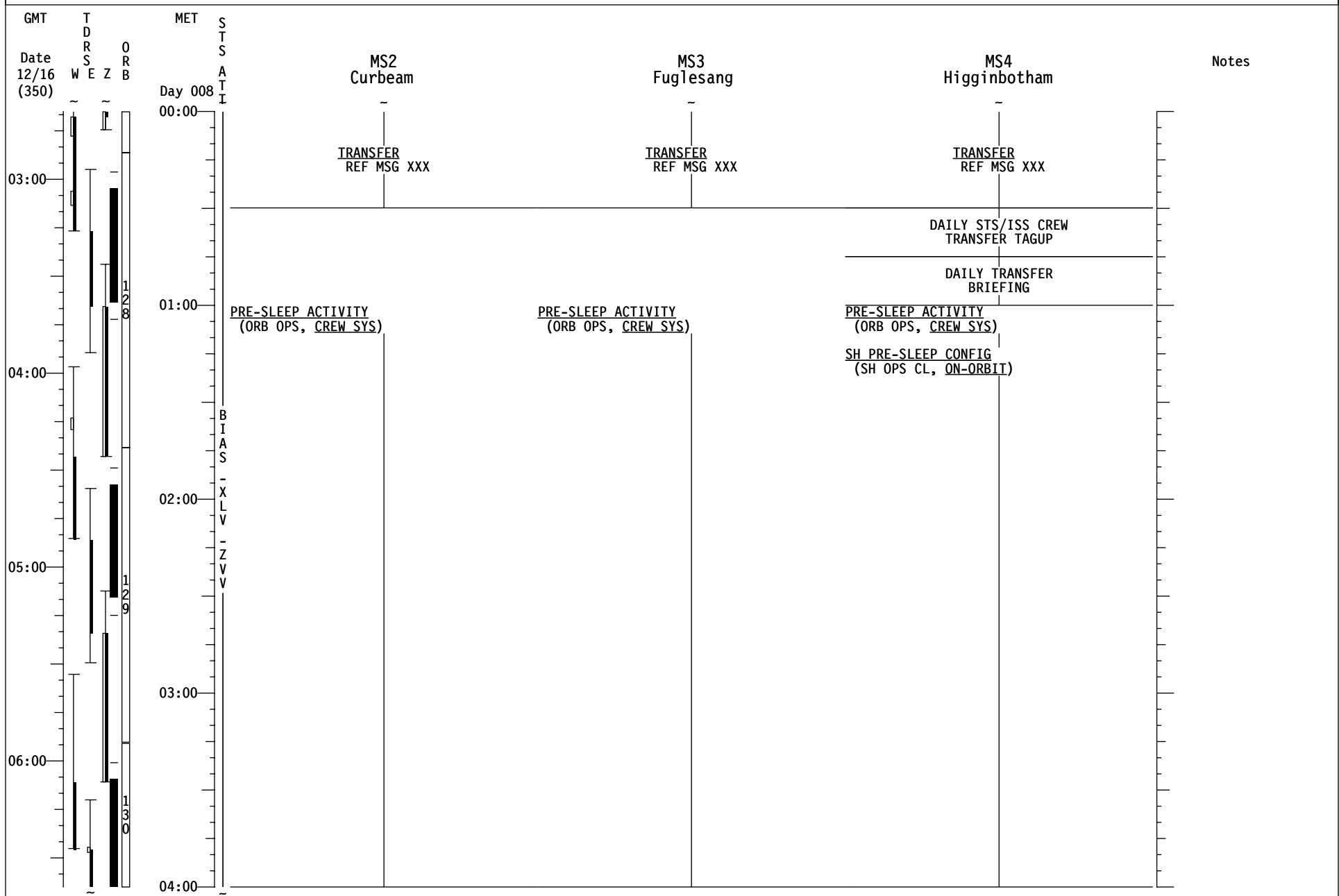
STS-116 FD09



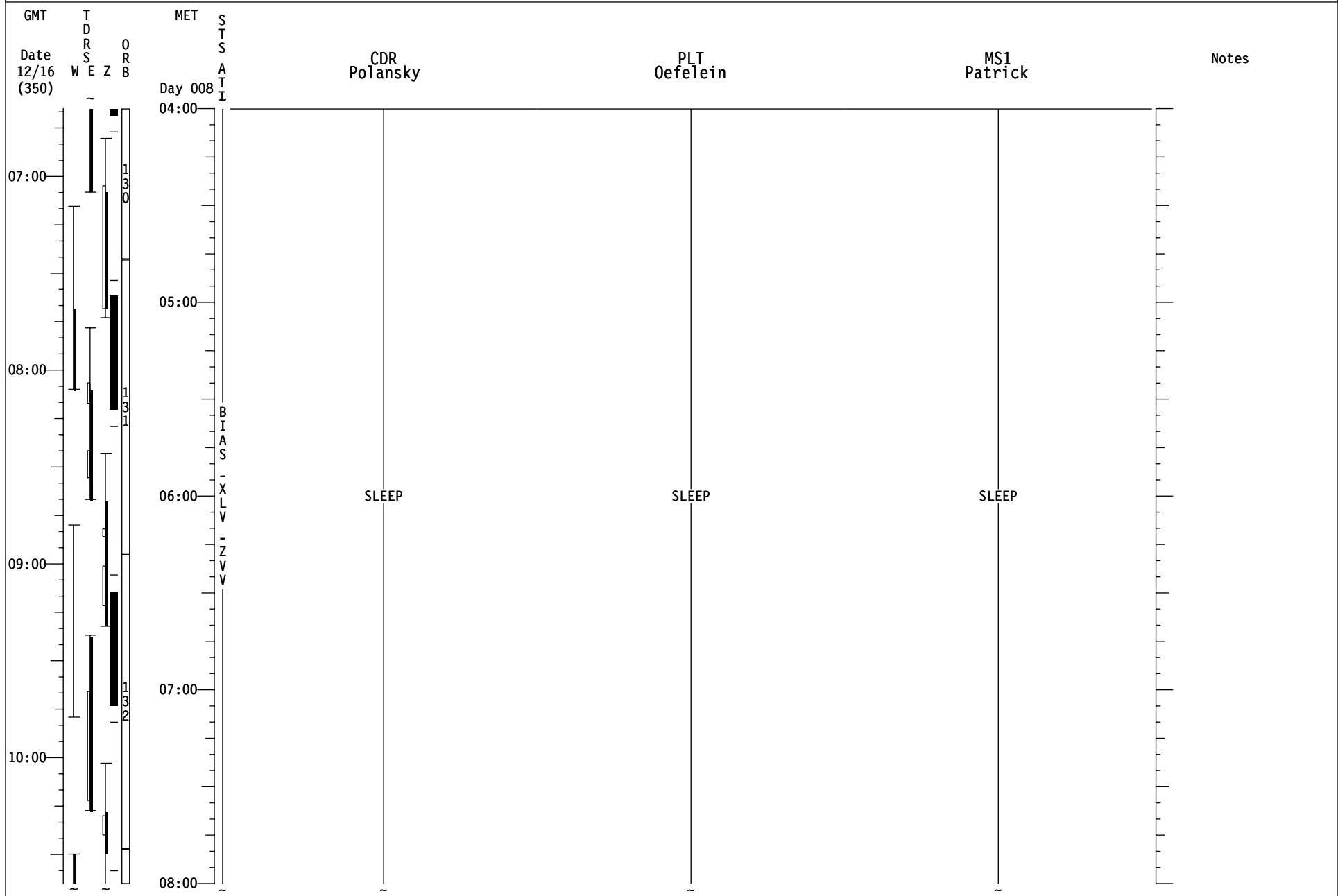
STS-116 FD09

GMT	T D R S O W E Z B	MET	S T S	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/16 (350)		Day 008	A T I				
00:00				SUPPLY WATER DUMP USING FES (ORB OPS, ECLS) Step 2 w/FES reqd		RNDZ TOOLS CHECKOUT (RNDZ, RNDZ TOOLS)	
03:00					EXERCISE		
01:00				IMJ STAR OF OPPTY ALIGN (ORB OPS, GNC) TV (ILLUMINATOR OPS) (P/TV, CUE CARDS) ILLUMINATORS ON - ALL			
04:00				PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
02:00				PMC: NETMEETING VID CNFRNC (ORB OPS, PGSC) Omit VLHS item in Step 1, Omit Step 3 Use A/G 2 for audio & KFX PGSC			
05:00				PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
06:00							
04:00							

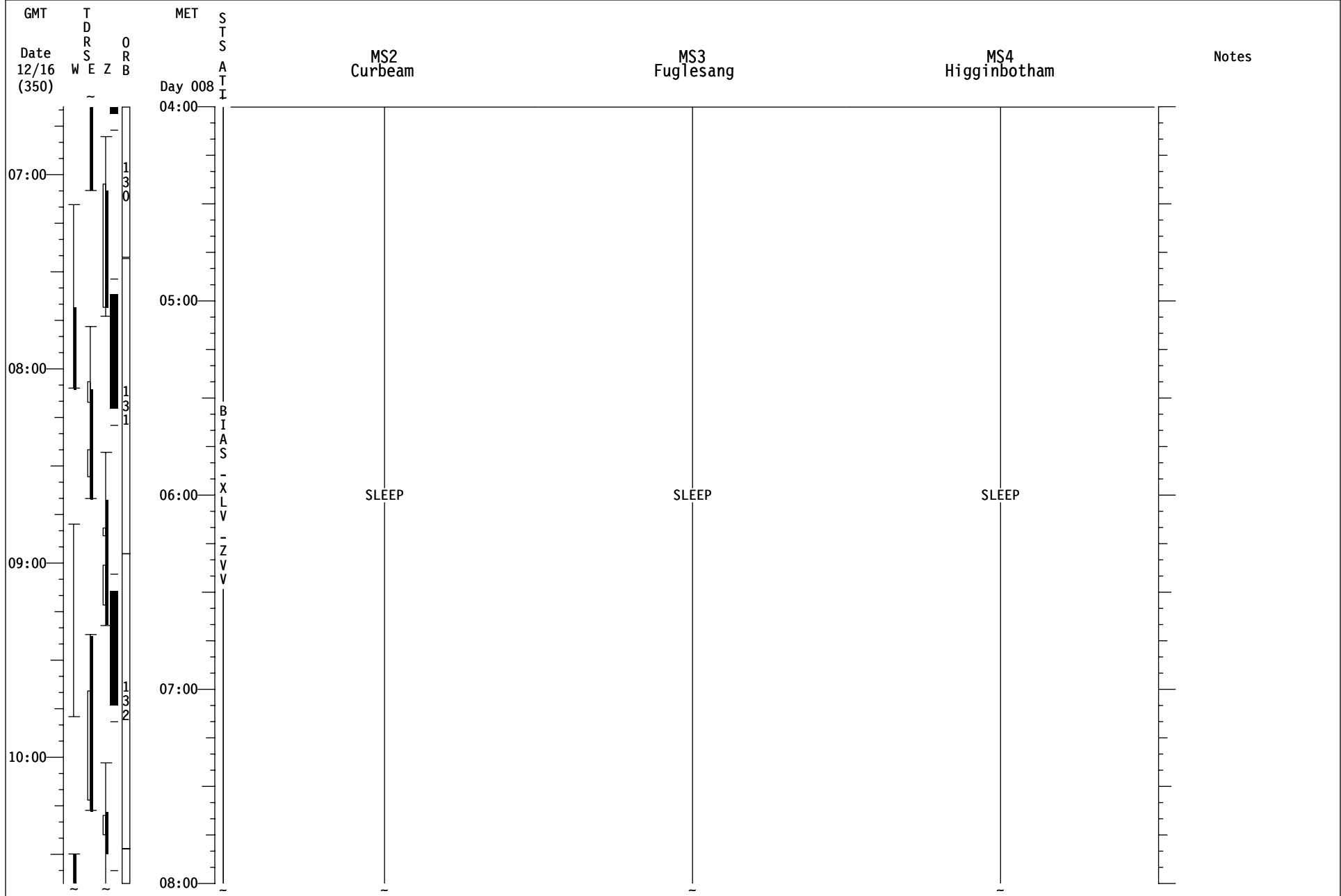
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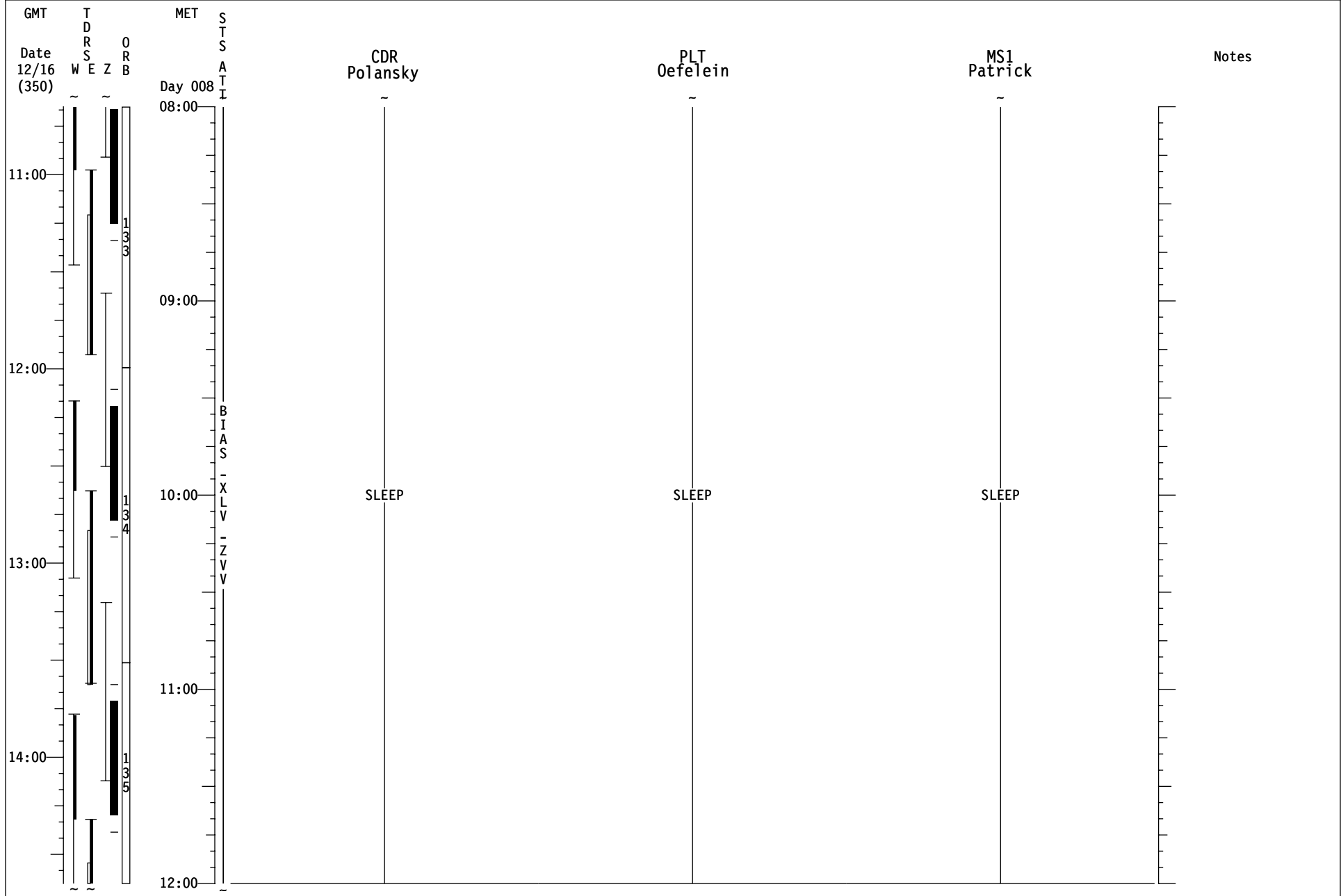
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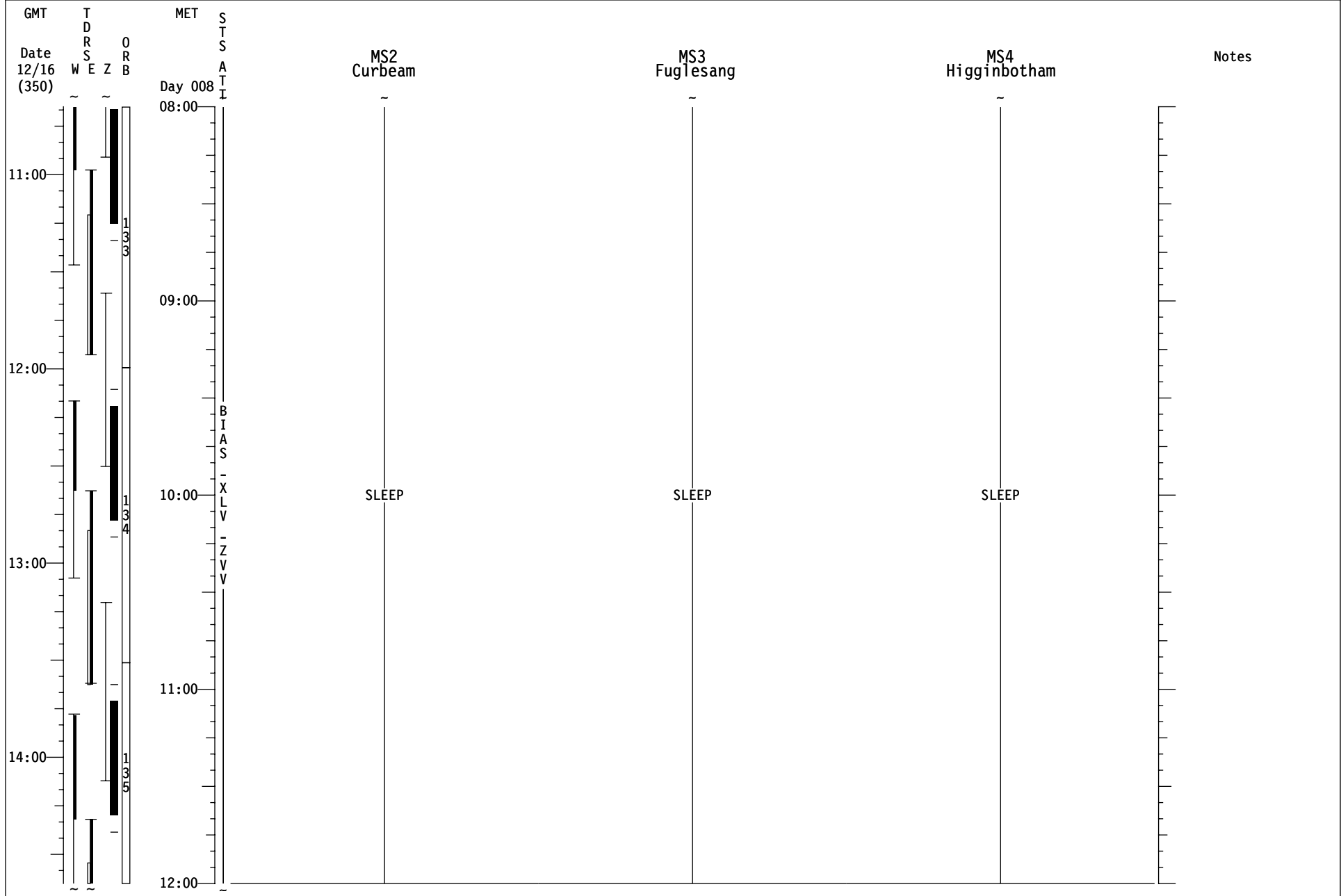
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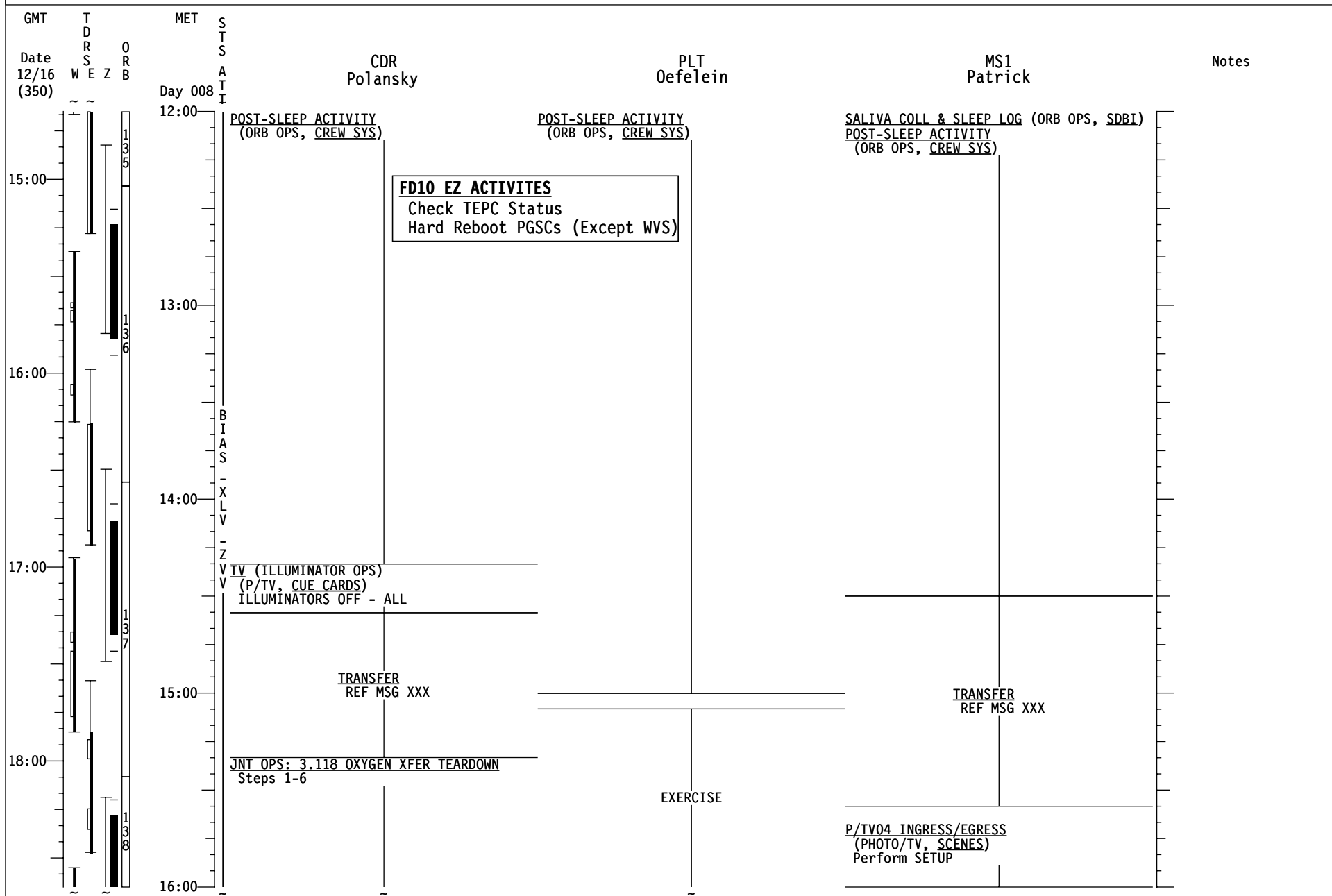
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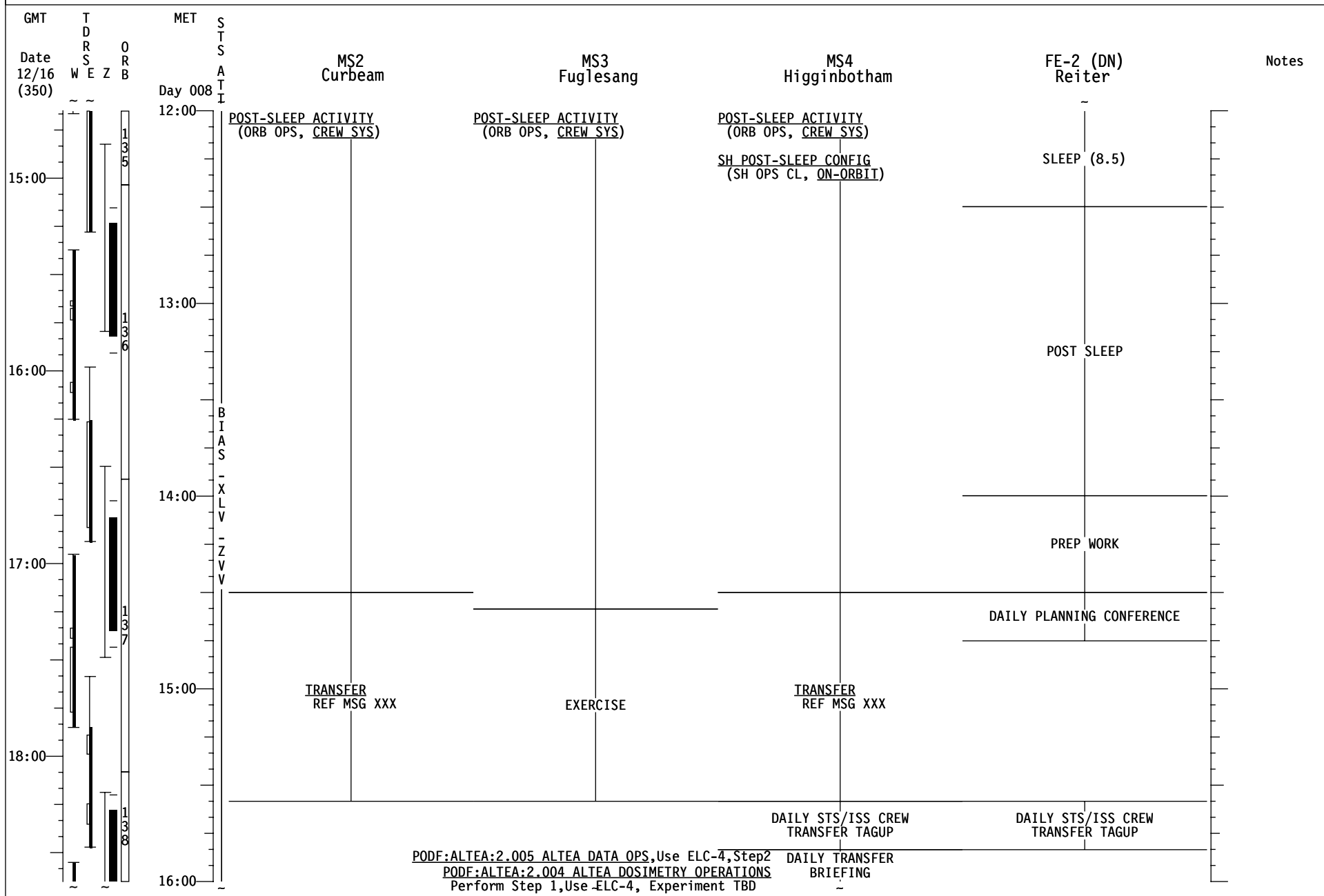
STS-116 FD 09



STS-116 FD 10



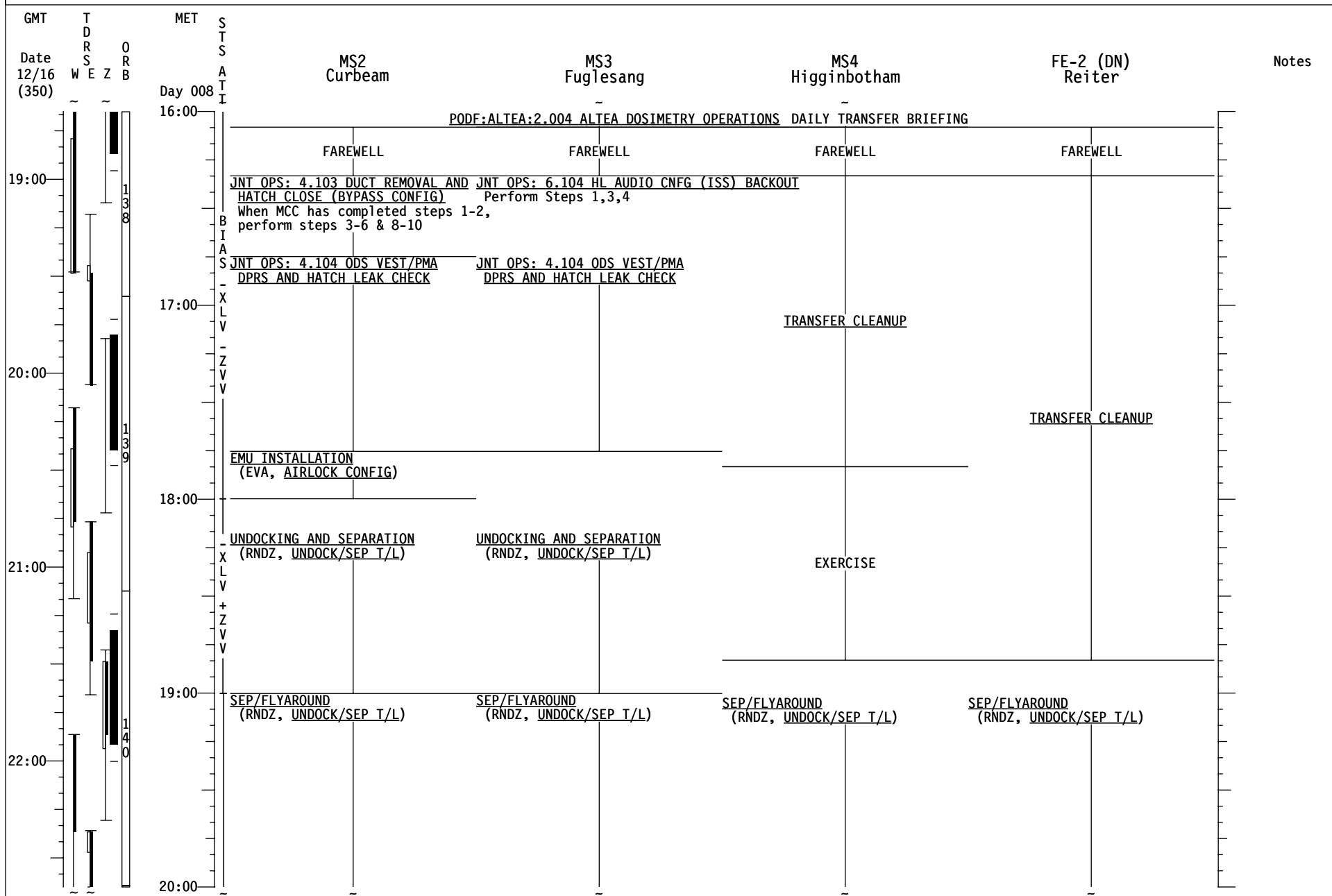
STS-116 FD10



STS-116 FD10

GMT	TDRS ORB	MET	STS	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
		Day 008	16:00				
				JNT OPS: 3.118 OXYGEN XFER TEARDOWN Steps 1-6	EXERCISE	DRAG THROUGH OD DEACT(P/TV,BPSMU)	
				FAREWELL	FAREWELL	FAREWELL	
			19:00	JNT OPS: 3.110 H/O ATT CNTRL CMG TA TO ORB	JNT OPS: 4.103 DUCT REMOVAL AND HATCH CLOSE (BYPASS CONFIG) When MCC has completed steps 1-2, perform steps 3-6 & 8-10	P/TV03 UNDOCK (PHOTO/TV, SCENES) Perform SETUP	
					FORMALDEHYDE MONITOR KIT (ORB OPS,CREW SYS) Perform Steps 1-6	C/L CAMR INSTALL (PHOTO/TV, C/L CAMR) Perform Step 1 Only	
			17:00	EXERCISE			
			20:00				
				MNVR -XLV +ZVV (UNDOCK) On MCC Go: TG=2 BV=5 P=180 Y=0 OM=0 DAP: FREE Config DAP A to A12 Init TRK - Item 19 EXEC (18:00) Wait 30 sec then - DAP: AUTO	O6 S TRK PWR -Z - ON PRIORITY PWRUP GRP B (ORB PKT, PRIOR PWRDN) Steps 12 (Recover IMU 3) and 6(Trp1 G2)	EXERCISE	
			18:00				
				UNDOCKING AND SEPARATION (RNDZ, UNDOCK/SEP T/L)	UNDOCKING AND SEPARATION (RNDZ, UNDOCK/SEP T/L)	P/TV03 UNDOCK (PHOTO/TV, SCENES) Perform OPS	
			21:00				
				< UNDOCKING (19:00) SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)		
			19:00				
			22:00				
			20:00				

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STS-116 FD10

GMT	T D R S W E Z	MET	S T S A T I	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
20:00		Day 008		SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	P/TV03 UNDOCK (PHOTO/TV, SCENES) Perform OPS	UPLINK β21 + Box B1 -35<AZ<55 -23<EL<36
21:00				Config DAP A,B to A1,B1 MNVR MEPSI (DEPLOY) TG=2 BV=5 P=329 Y=293 OM=216 A1/AUTO/VERN Init TRK	L1 FLASH EVAP CNTLR PRI A(B)-OFF SHUTTLE CONDENSATE COLLECTION (ORB OPS, ECLS) Perform TEARDOWN	P/TV03 UNDOCK (PHOTO/TV, SCENES) Perform DEACT, Step 3	UPLINK β21 + MASK
00:00				PRTY PWRDN GRP B (ORB PKT, PRIOR PWRDN) Steps 5,6(Single G2),9,10 & 12 (In Step 12, IMU 3 STBY-ITEM 23 EXEC)		P/TV11 DEPLOYABLE PAYLOADS (P/TV,SCENES) Perform OPS	
				FUTR LOADED MNVR RAFT (DEPLOY) TG=2 BV=5 P=270 Y=290 OM=316 A1/AUTO/VERN Init MNVR (22:15)		WLES RECFG PST DK/UNDK(ORB OPS,WLES)	
22:00				MEAL	MEAL	MEAL	UPLINK β0
01:00				RCS REG RCNFG (ORB OPS, RCS) HEATER RECONFIG-CONFIG B (ORB OPS, EPS)		P/TV11 DEPLOYABLE PAYLOADS (P/TV,SCENES) Perform OPS	
23:00					L1 FLASH EVAP CNTLR PRI A(B)-ON	PLAYBACK (DIGITAL) (PHOTO/TV, CUE CARD) UNDOCK KU TDRW (22:31-23:24)	UPLINK β21 + MASK
02:00				MNVR -ZLV +YVV (SIMO DUMP) TG=2 BV=5 P=90 Y=0 OM=220 A1/AUTO/VERN Init TRK	SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Initiate Supply/Waste Dump REF MSG XXX		
00:00				PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		

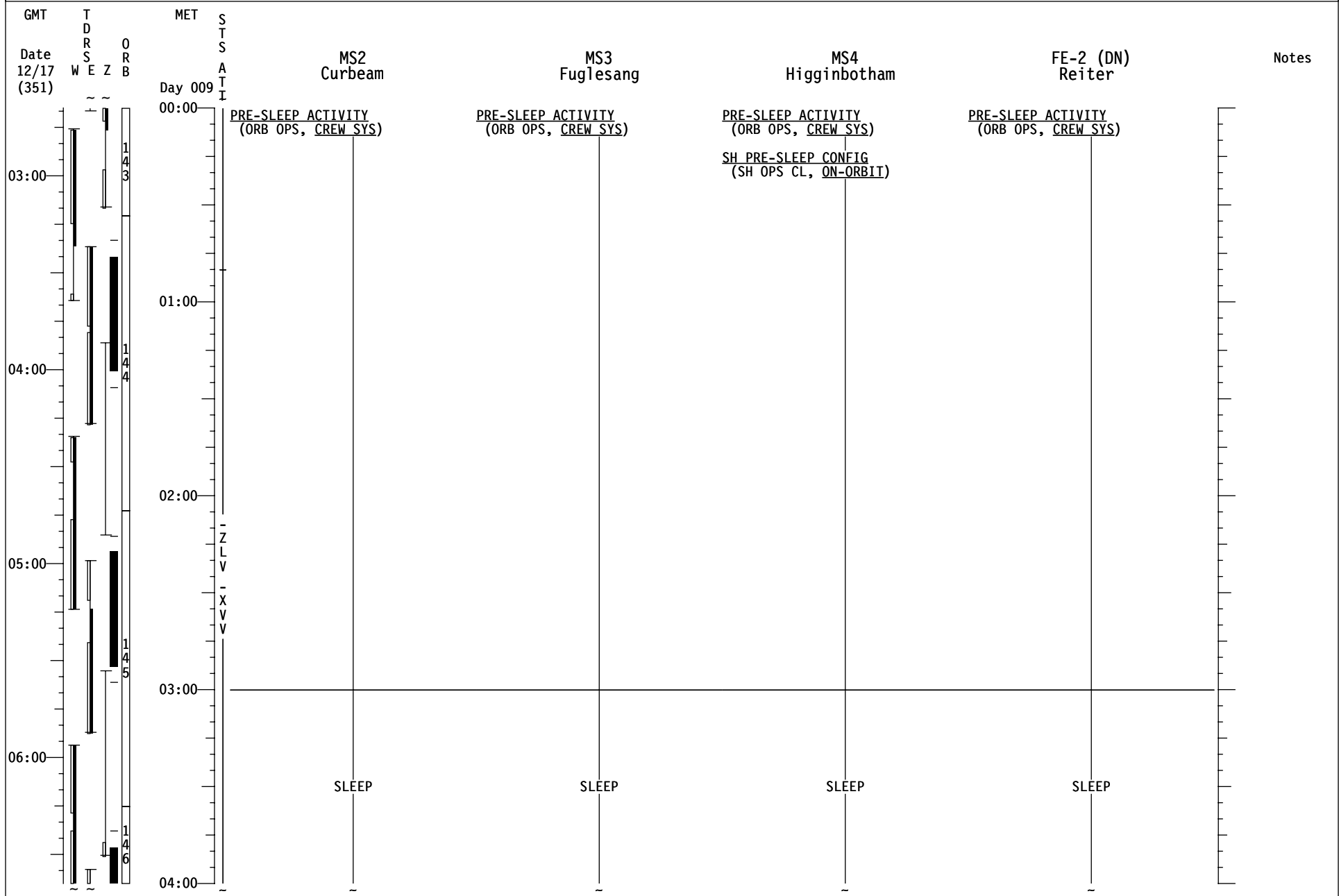
STS-116 FD10

GMT	TDRS ORB	MET	S T S	MS2 Curbeam	MS3 Fuglesang	MS4 Higginbotham	FE-2 (DN) Reiter	Notes
Date 12/16 (350)	W E Z B	Day 008	A T I					
20:00				SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	SEP/FLYAROUND (RNDZ, UNDOCK/SEP T/L)	
23:00								
00:00				EXERCISE	MEPSI DEPLOY (ASSY OPS, PAYLOAD)	MEPSI DEPLOY (ASSY OPS, PAYLOAD)		
01:00				MEAL	MEAL	MEAL	EXERCISE	
02:00					RAFT DEPLOY (ASSY OPS, PAYLOAD)	RAFT DEPLOY (ASSY OPS, PAYLOAD)		
						JNT OPS: 6.106 SSOR DEACTIVATION	MEAL	
				POST ISS EVA ENT PREP (EVA, POST EVA ENT PREP)	POST ISS EVA ENT PREP (EVA, POST EVA ENT PREP)	FILTER CLEANING (IFM, SCHEDULED MAINTENANCE)		
00:00								

STS-116 FD10

GMT	T D R S O W E Z B	MET	S T S A T I	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/17 (351)		Day 009					
00:00				PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
03:00							
01:00				MNVR (TRK) -ZLV -XVV TG=2 BV=3 OM=0 A1/AUTO/VERN Init TRK IMU STAR OF OPPTY ALIGN (ORB OPS, GNC) PMC:NETMEETING VID CNFRNC (ORB OPS, PGSC) Omit VLHS item in Step 1, Omit Step 3 Use A/G 2 for audio & KFX PGSC	SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Terminate Supply/Waste Dump		
04:00				PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		
05:00							
06:00				SLEEP	SLEEP	SLEEP	
04:00							

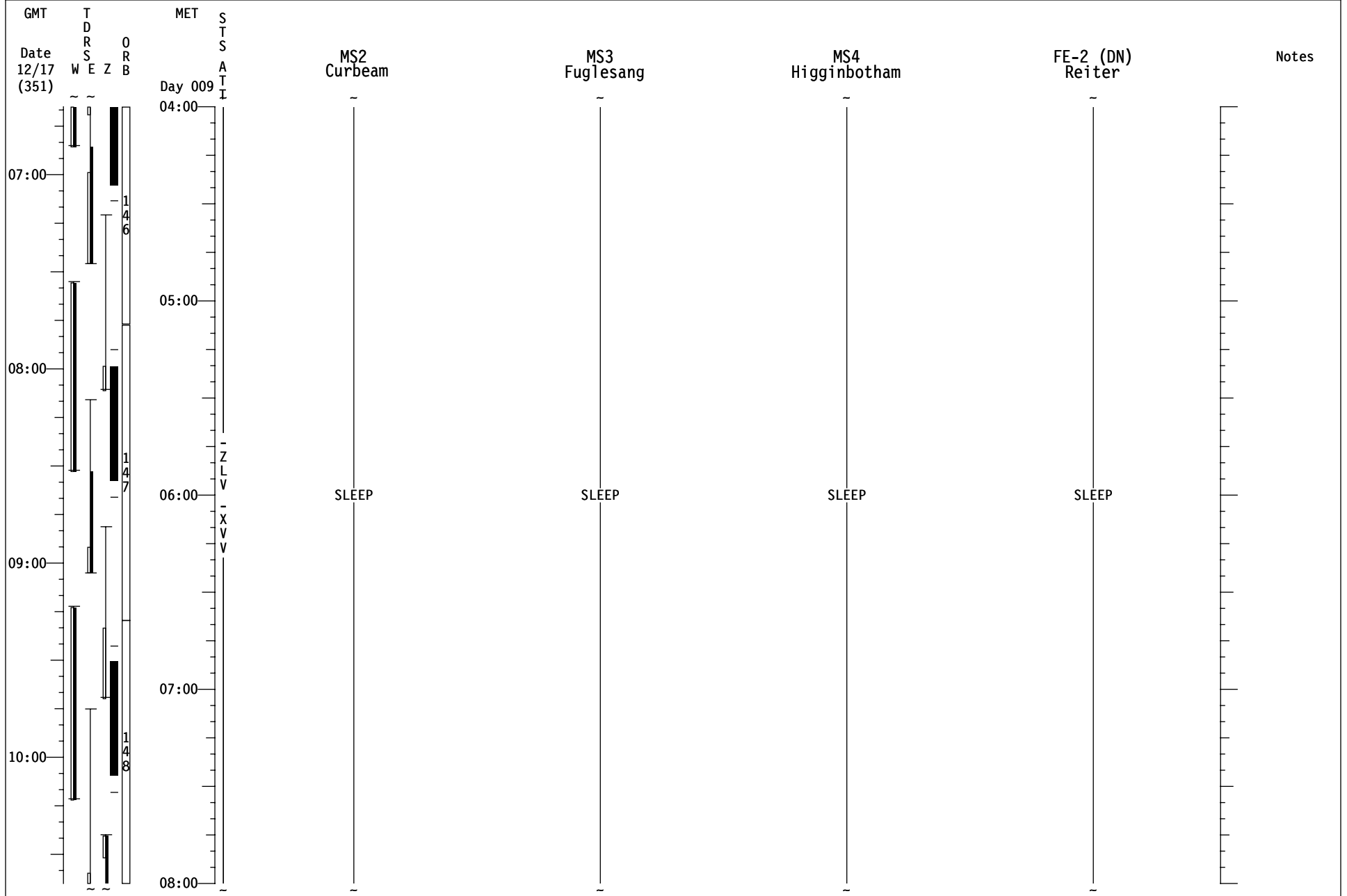
STS-116 FD 10



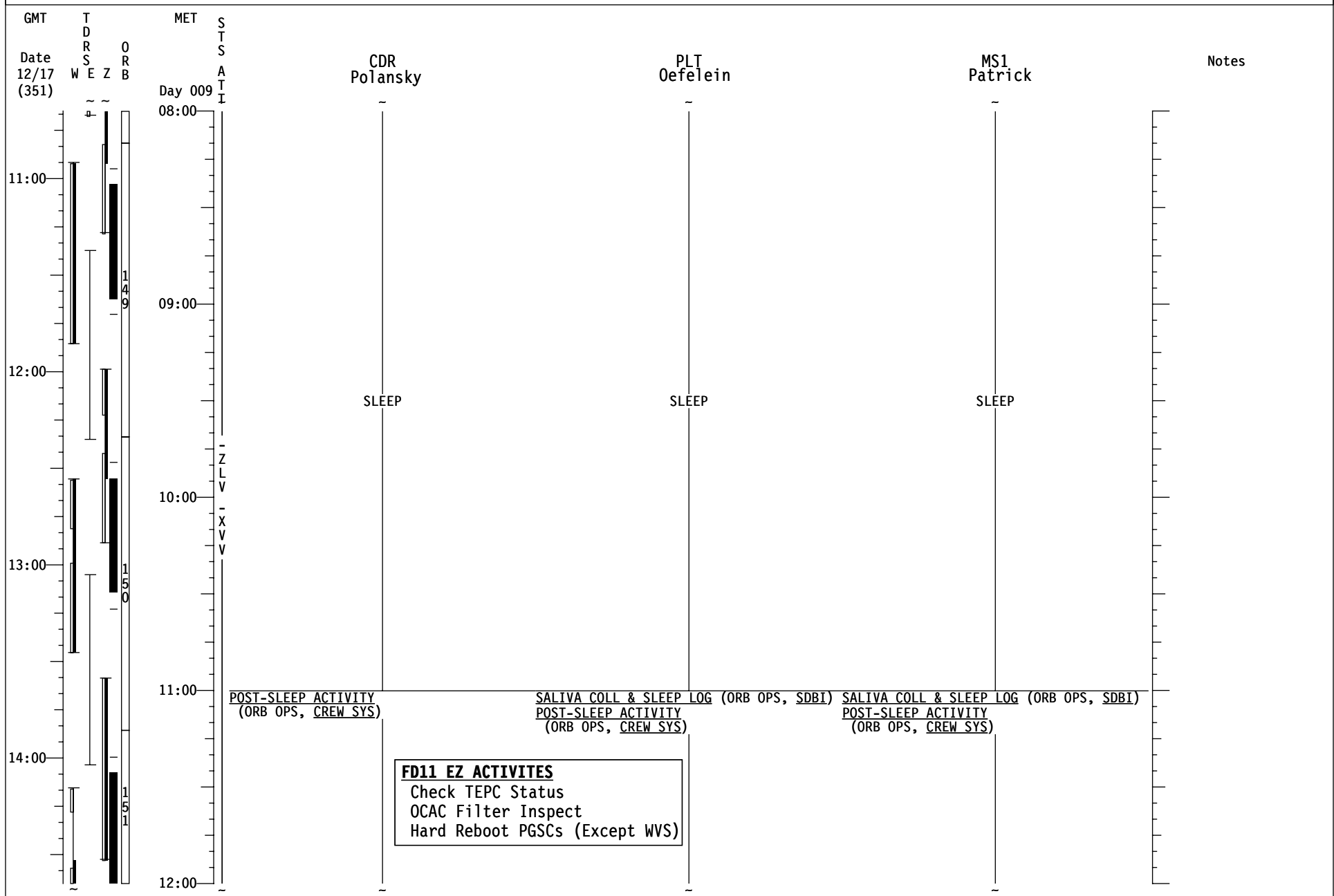
STS-116 FD 10

GMT	TDRS W E Z	ORB	MET Day 009	S T S A T I				Notes
04:00					CDR Polansky	PLT Oefelein	MS1 Patrick	
07:00		1446						
08:00		1447		Z L V	SLEEP	SLEEP	SLEEP	
09:00				X V V				
10:00		1448						
08:00								

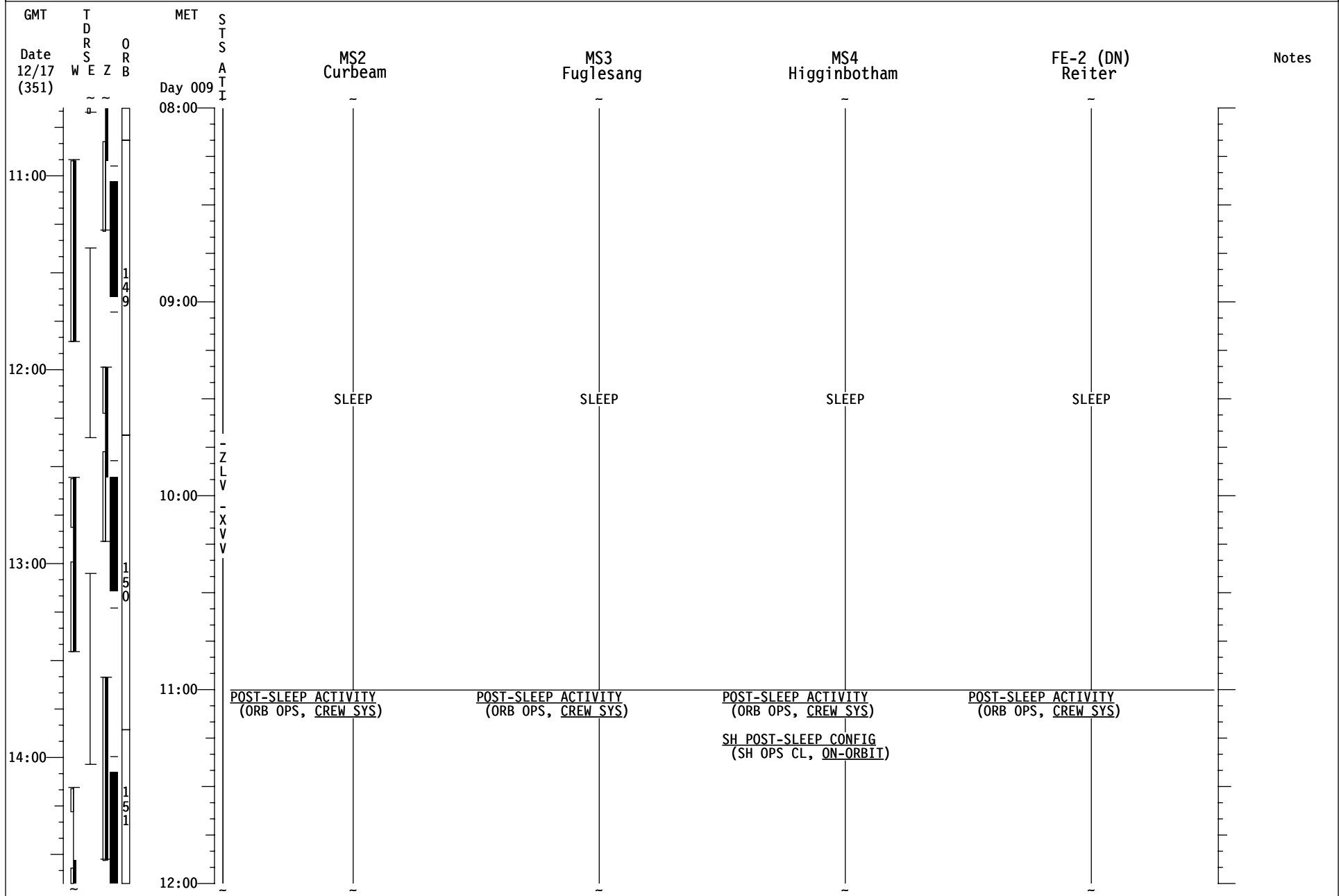
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STS-116 FD 11



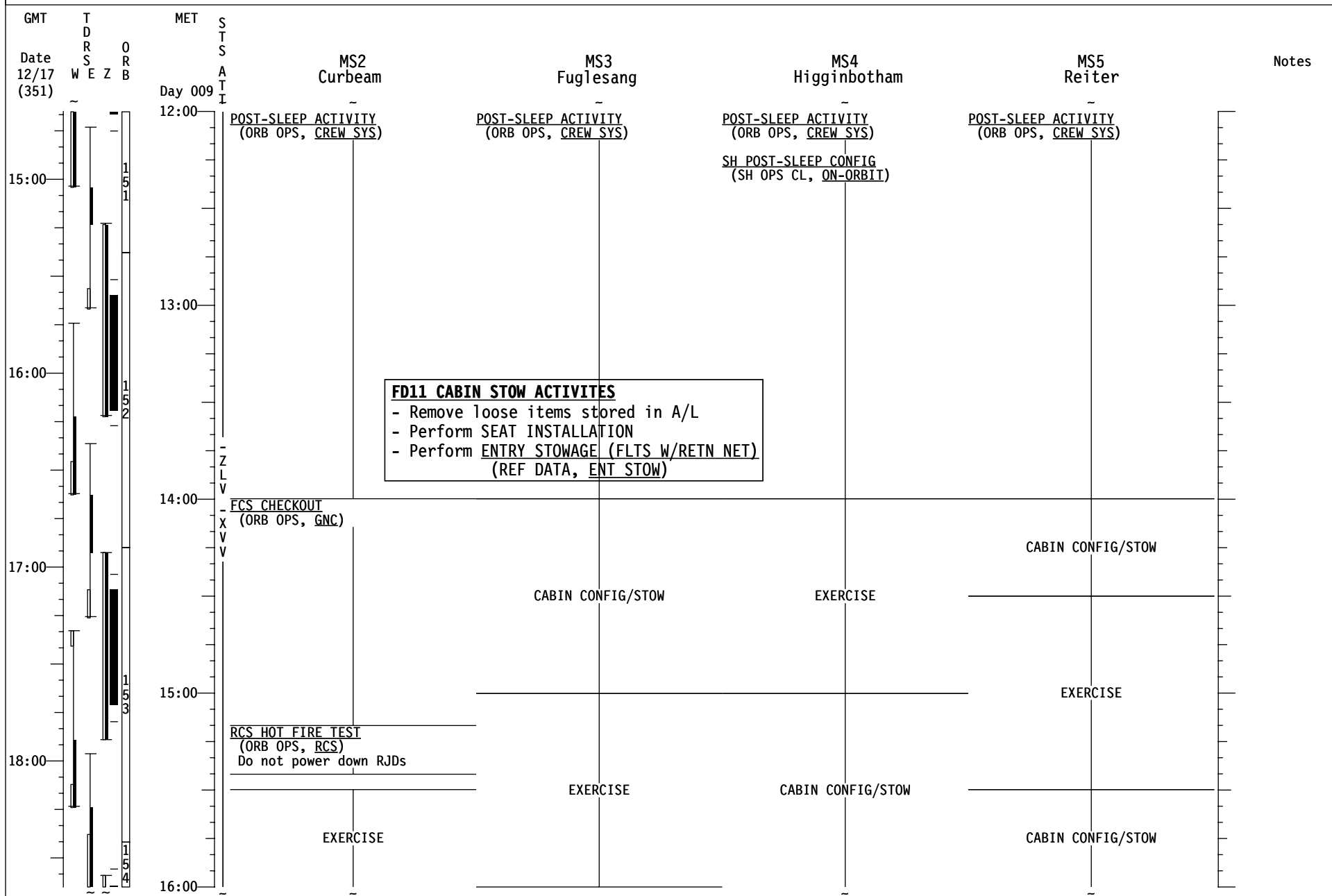
STS-116 FD 11



STS-116 FD 11

GMT	TDRS W E Z	MET Day 009	STS A T I	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
12:00				POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
13:00				W/B STEAM VENT HTR ACT R2 √BLR CNTLR/HTR(three) -B PWR (three) -ON POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
14:00				CABIN CONFIG/STOW	FCS CHECKOUT (ORB OPS, GNC)		TFL 161
15:00						CABIN CONFIG/STOW	
16:00				RCS HOT FIRE TEST (ORB OPS, RCS) Do not power down RJDs	RCS HOT FIRE TEST (ORB OPS, RCS) Do not power down RJDs		
17:00				PILOT WITH RHC (ORB OPS, PGSC)	PILOT WITH RHC (ORB OPS, PGSC)		TFL 184
18:00						SSV DEACTIVATION (PHOTO/TV, SSV)	

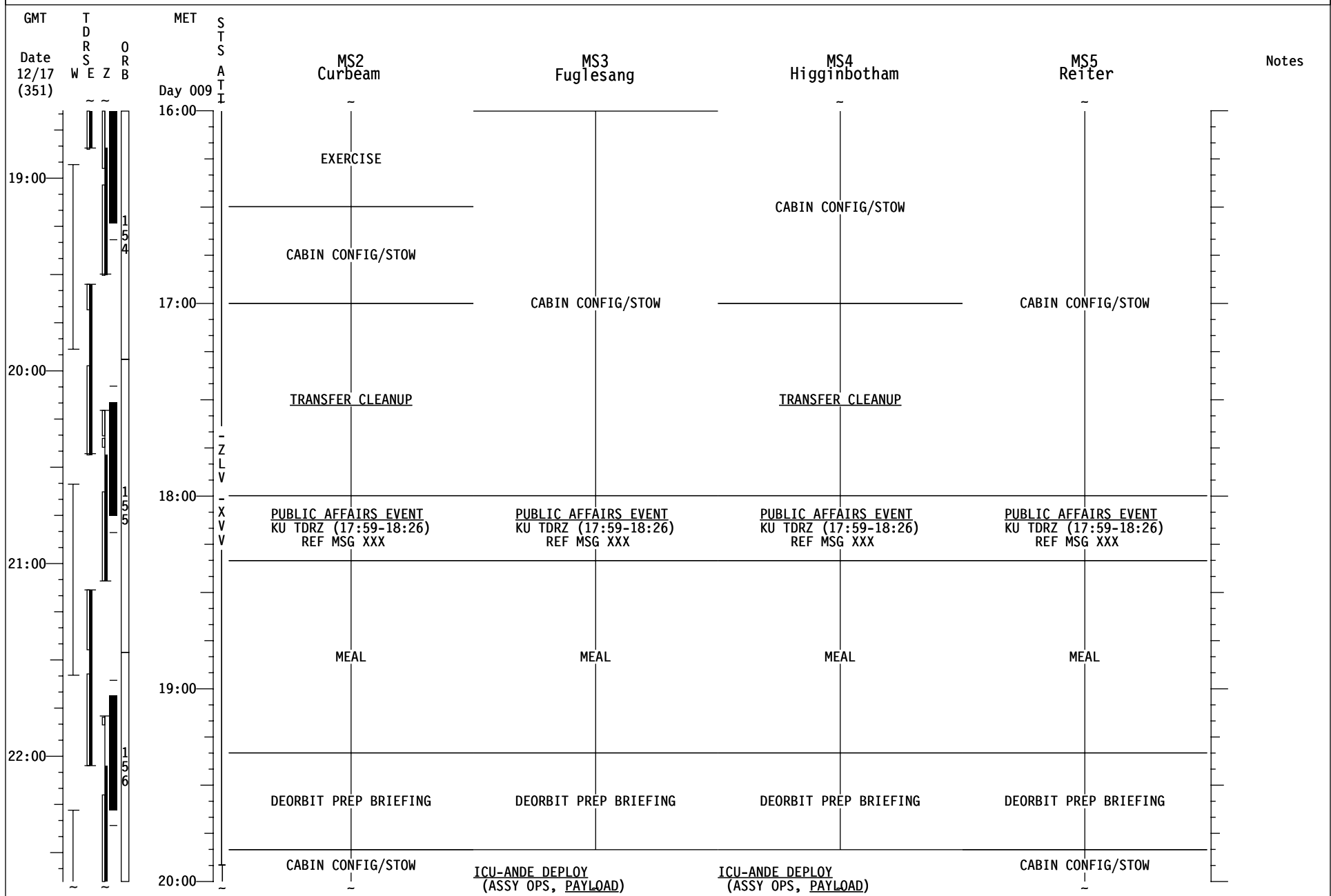
STS-116 FD 11



STS-116 FD 11

GMT	TDRS W E Z	ORB	MET Day 009	STS A T I	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
16:00					PILOT WITH RHC (ORB OPS, PGSC)	PILOT WITH RHC (ORB OPS, PGSC)		
17:00					EXERCISE	CABIN CONFIG/STOW	EXERCISE	
18:00					SUPPLY WATER DUMP USING FES(ORB OPS,ECLS) Step 1		L17 Check MCIU filter screen	
19:00					EXERCISE	EXERCISE	CABIN CONFIG/STOW	
20:00					CABIN CONFIG/STOW		ANALOG PAO CC (PHOTO/TV, SONY PD100)	
21:00					PUBLIC AFFAIRS EVENT KU TDRZ (17:59-18:26) REF MSG XXX	PUBLIC AFFAIRS EVENT KU TDRZ (17:59-18:26) REF MSG XXX	PUBLIC AFFAIRS EVENT KU TDRZ (17:59-18:26) REF MSG XXX	
22:00					MEAL	MEAL	MEAL	
					A When in attitude, A1/AUTO/VERN Power OFF RJDs (sixteen) 015 F RJDA 1A L2/R2 DRIVER - ON			
					DEORBIT PREP BRIEFING	DEORBIT PREP BRIEFING	DEORBIT PREP BRIEFING	
20:00					SUPPLY WATER DUMP USING FES(ORB OPS,ECLS) Step 2 w/FES OFF MNVF ICU-ANDE (DEPLOY)	CABIN CONFIG/STOW	ENTRY VIDEO (PHOTO/TV, MINI-CAM) Perform SETUP	UPLINK 80 + Box F1 0<AZ<-90 -90<EL<-25
					TG=2 BV=5 P=180 Y=0 OM=70 A1/AUTO/VERN Init TRK [A]			

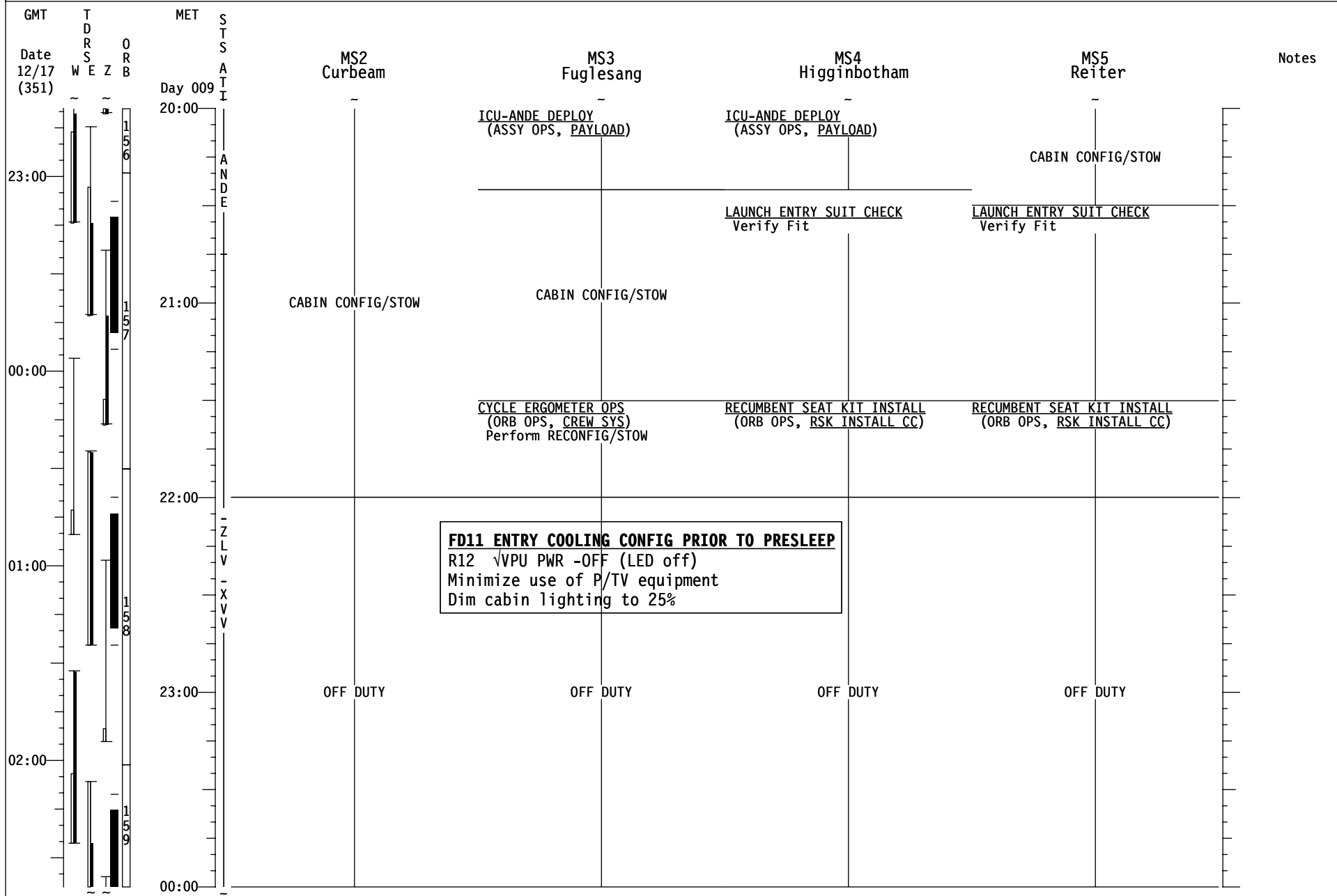
STS-116 FD 11



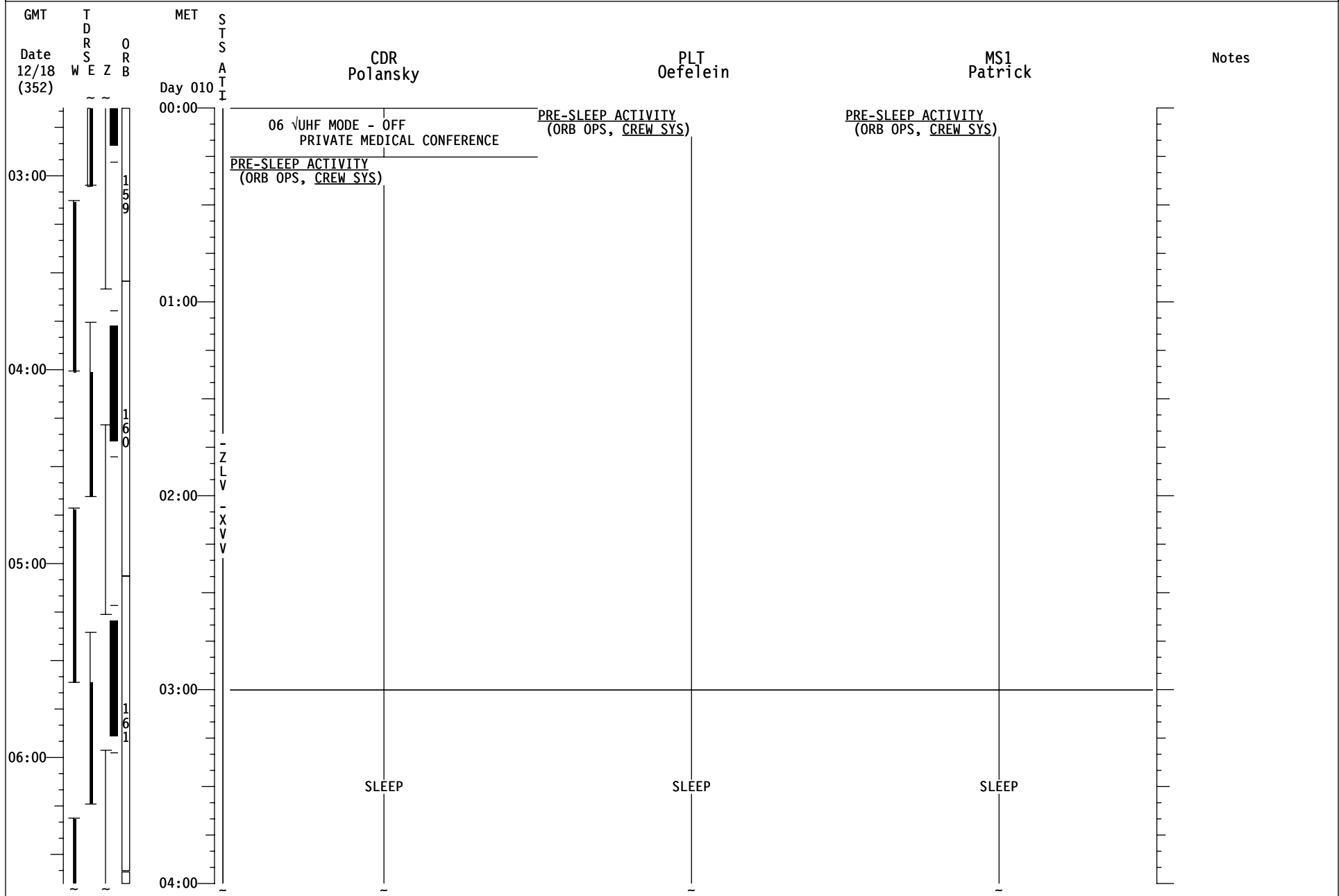
STS-116 FD11

GMT	TDRS WSEZ	ORB	MET	STS ATTI	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/17 (351)			Day 009					
23:00					MNVR ICU-ANDE (DEPLOY)		ENTRY VIDEO (PHOTO/TV, MINI-CAM) Perform SETUP	
					LANDING-1 COMM C/O (ORB OPS, COMM/INST) MLA AOS: 20:27 LOS:20:35	CABIN CONFIG/STOW	P/TV11 DEPLOYABLE PAYLOADS (P/TV, SCENES) Perform OPS	
					L1 FLASH EVAP CNTLR PRI A(B)-ON IMU STAR OF OPPTY ALIGN (ORB OPS, GNC) RMS PWRDN(PDRS, RMS PWRDN) Steps 3,5-7	MNVR -XVV -ZVV TG=2 BV=3 OM=0 A1/AUTO/VERN Init TRK		UPLINK β21 + MASK
00:00					CABIN CONFIG/STOW	CABIN CONFIG/STOW	CABIN CONFIG/STOW	
						CYCLE ERGOMETER OPS (ORB OPS, CREW SYS) Perform RECONFIG/STOW	DEACTIVATION AND TEARDOWN (ORB OPS, WLE SENSORS)	
22:00								
01:00								
23:00					OFF DUTY	OFF DUTY	OFF DUTY	
02:00								
00:00								

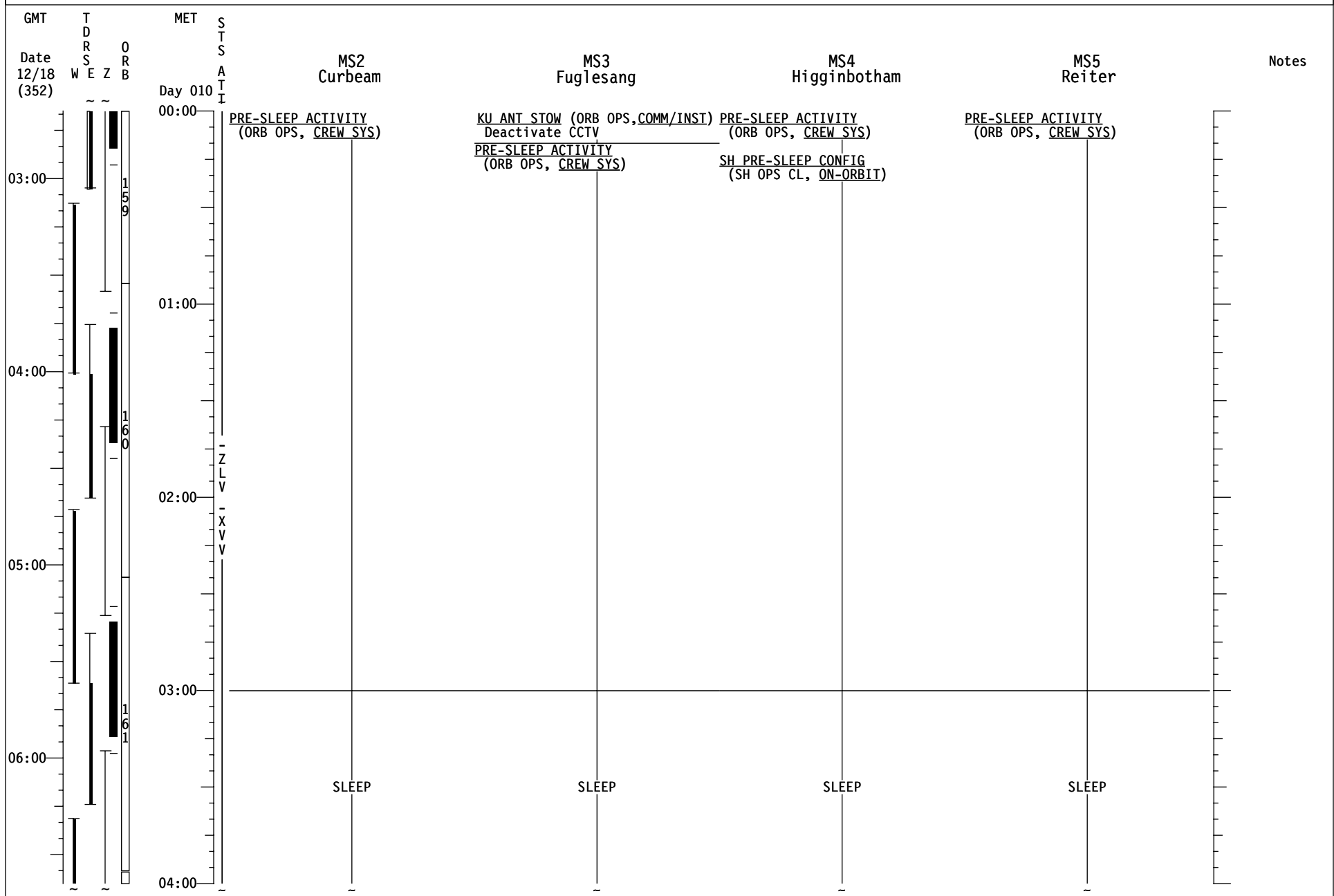
STS-116 FD 11



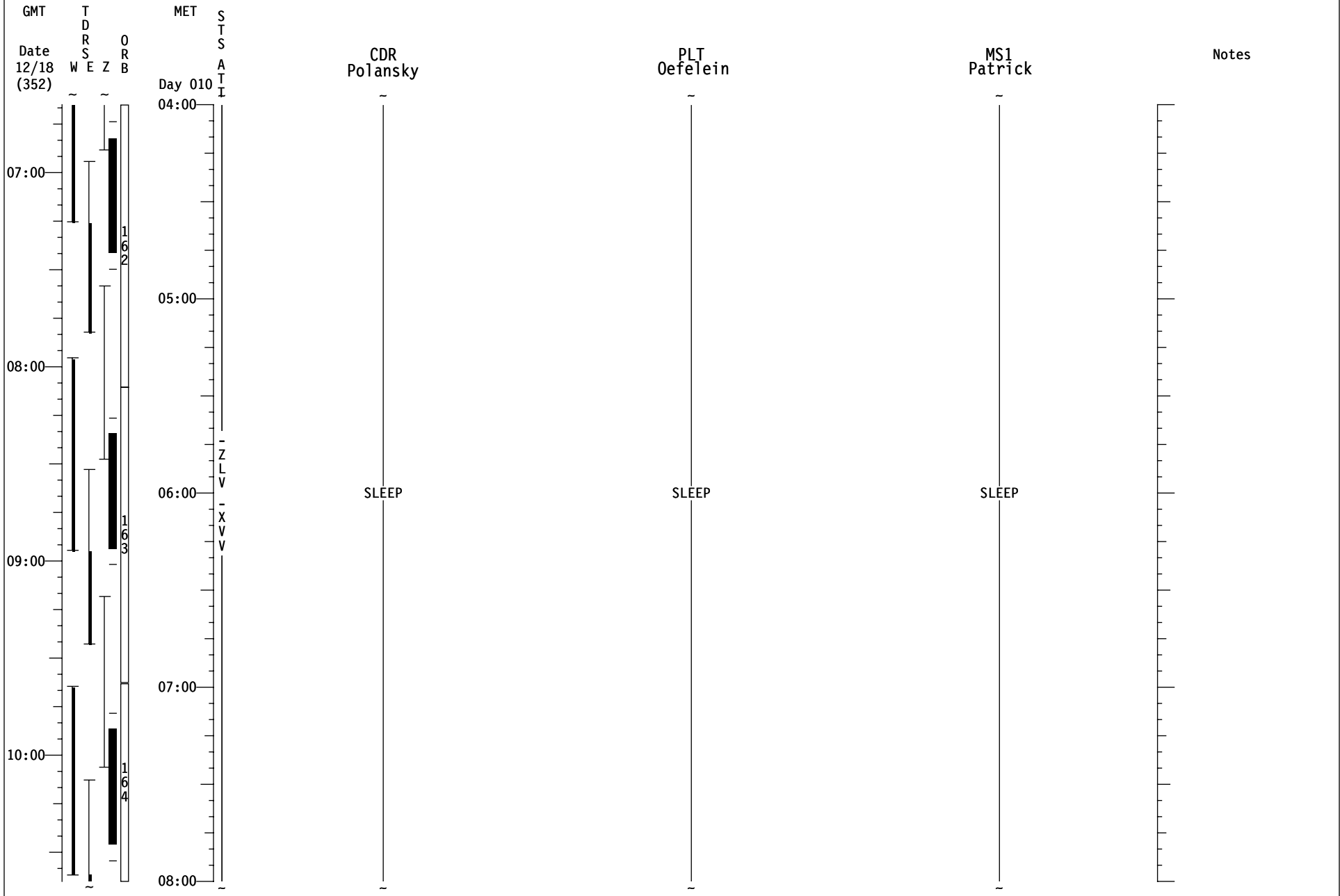
STS-116 FD 11



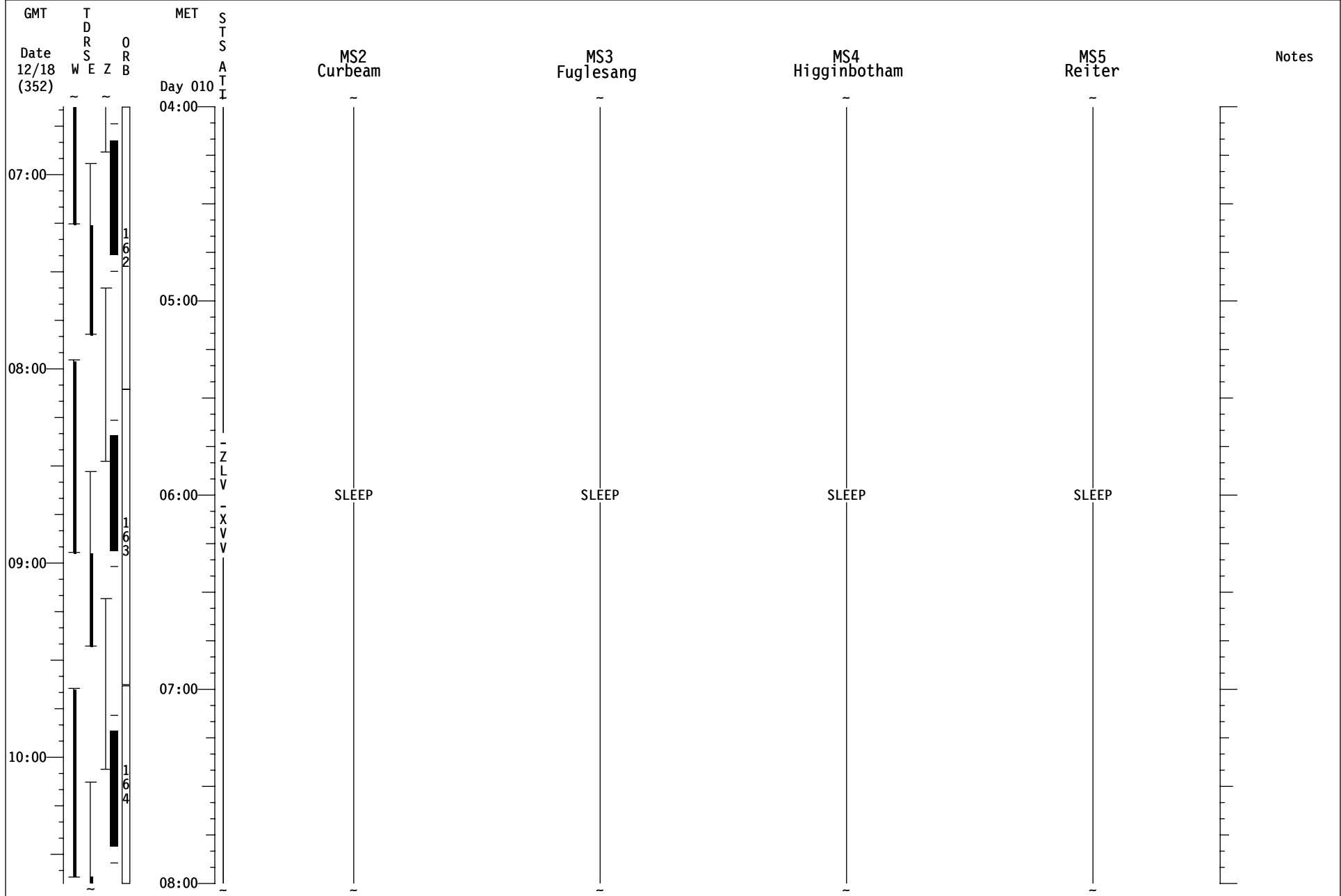
STS-116 FD11



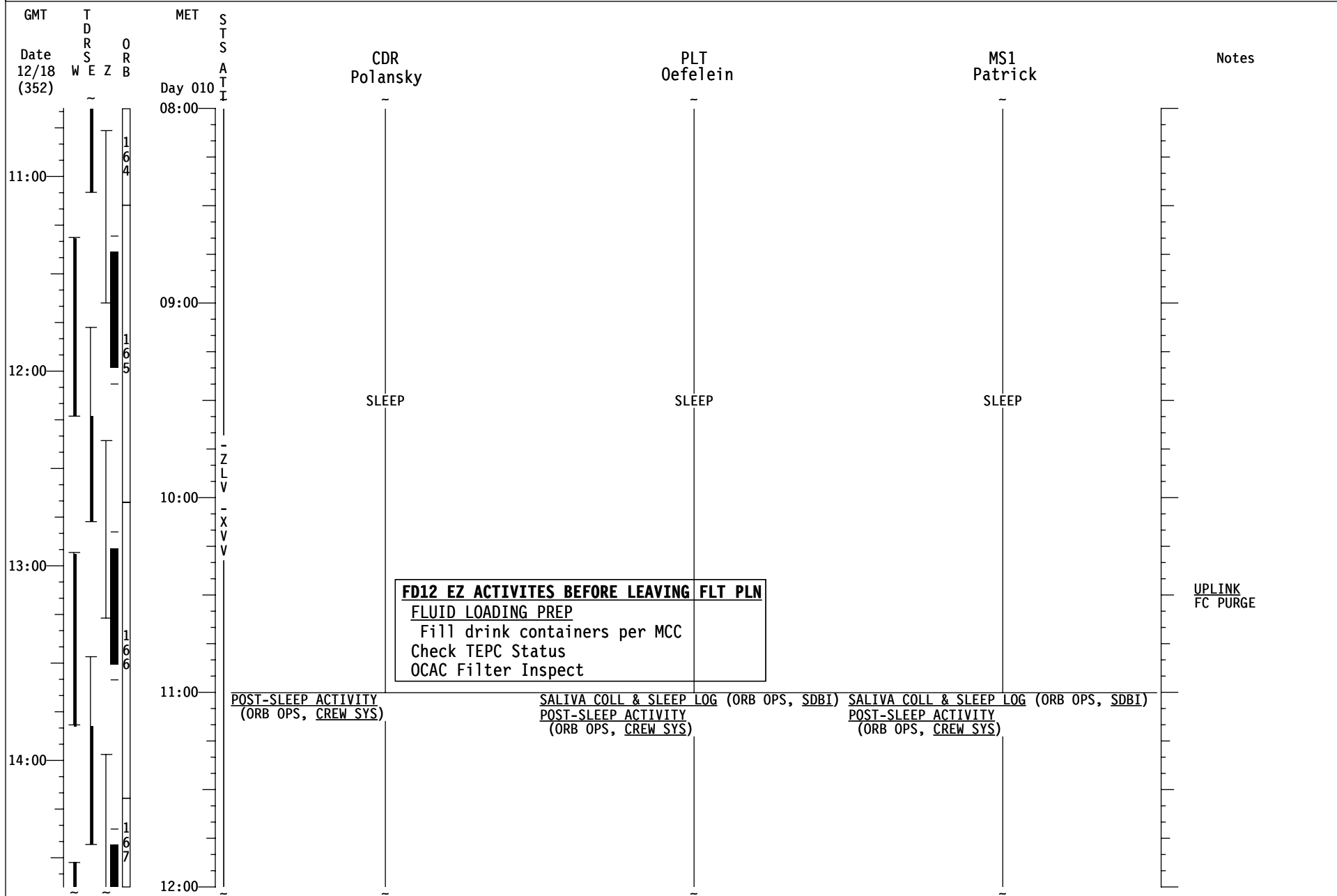
STS-116 FD11



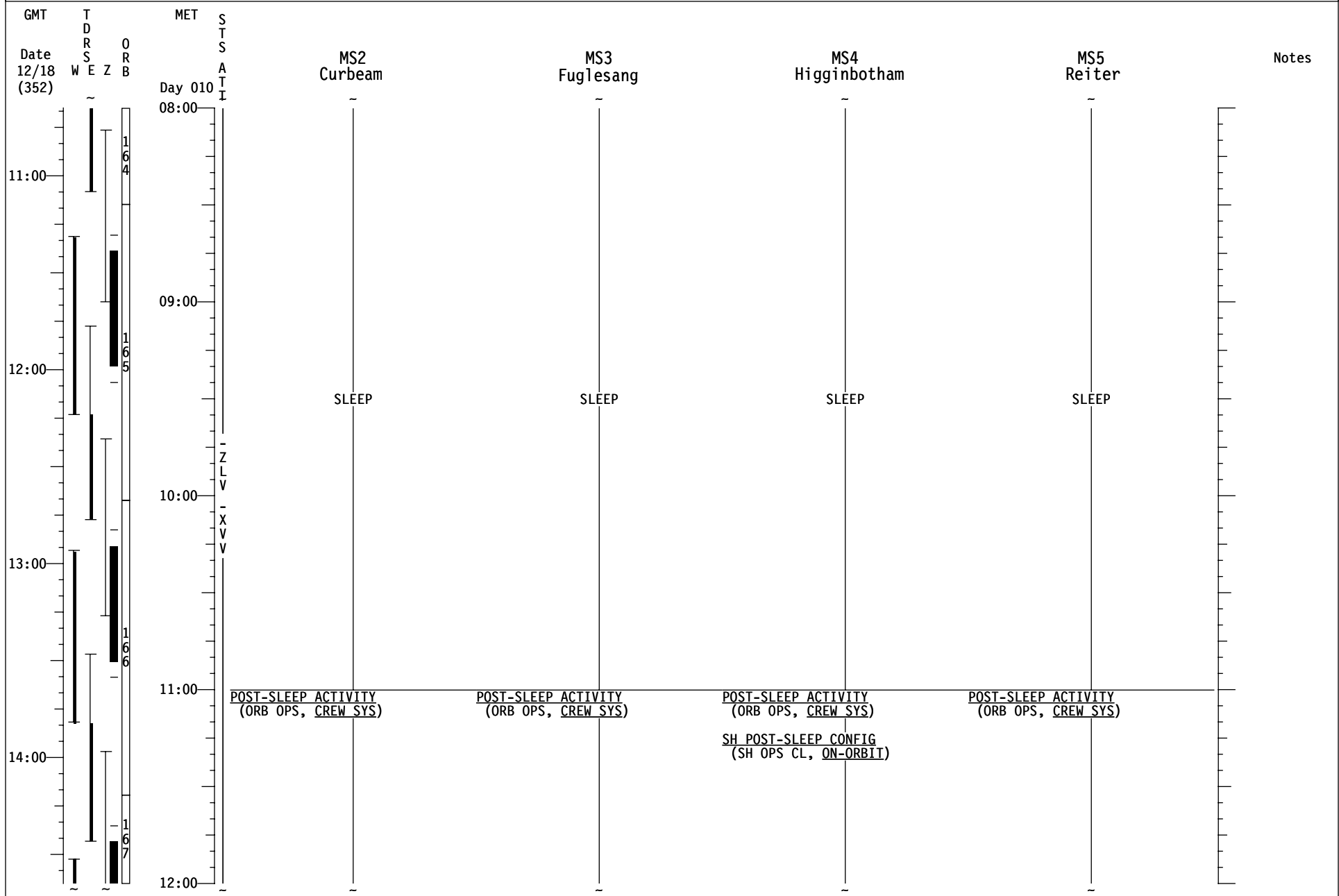
STS-116 FD11



STS-116 FD12



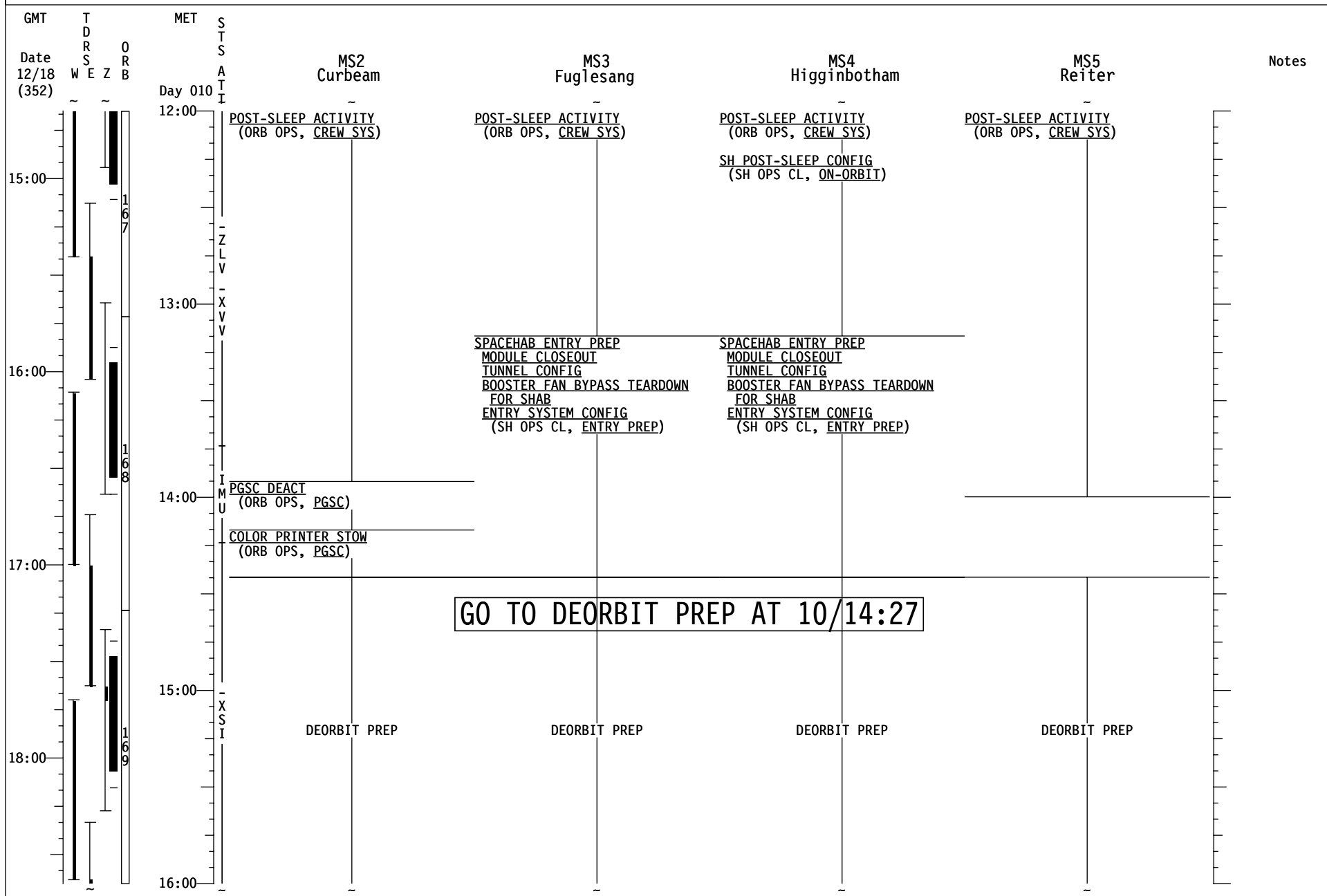
STS-116 FD12



STS-116 FD12

GMT	TDRS ORB	MET	STS	CDR Polansky	PLT Oefelein	MS1 Patrick	Notes
Date 12/18 (352)	W E Z B	Day 010	A T I				
12:00				POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
13:00							
16:00				06 VUHF MODE - OFF PRIVATE MEDICAL CONFERENCE			
				PRTY PWRUP GRP B (ORB PKT, PRIOR PWRDN) Dual G2 (In step 12, Recover IMU 3)	PRTY PWRUP GRP B (ORB PKT, PRIOR PWRDN) Dual G2 (In step 12, Recover IMU 3)		
				MNVR IMU STAR ALIGN ATT [A] (pg.3-130) A1/AUTO/VERN Init MNVR (13:44) IMU ALIGN - S TRK (ORB OPS, GNC)	AIR SAMPLE; Rcd MET and loc. on bottle		
14:00				MNVR IMU VERIF ATT [B] (pg.3-130) A1/AUTO/VERN Init MNVR IMU ALIGN - S TRK (ORB OPS,GNC),Step 5		GIRA STOWAGE (ORB OPS, ECLS)	
				MNVR (TRK) -XSI ATT TG=4 BV=5 P=184 Y=0 OM=270 A1/AUTO/VERN (14:14) Init TRK	FORMALDEHYDE MONITOR KIT (ORB OPS, CREW SYS) Perform Steps 7-11	OCAC STOWAGE (ORB OPS, CREW SYS)	
17:00				GO TO DEORBIT PREP AT 10/14:27			
						TISSUE EQUIVALENT PROPORTIONAL COUNTER (TEPC) (ORB OPS, CREW SYSTEMS) Perform POWERDOWN	
18:00				DEORBIT PREP	DEORBIT PREP	DEORBIT PREP	
16:00							

STS-116 FD12



A	<u>IMU STAR ALIGN PAD</u>		
ID: -Y: 25, REGULUS MET (10/13:23 TO 10/14:12)			
-Z: 34, MIAPLACIDUS MET (10/13:39 TO 10/14:28)			
ANG DIFF: 82.3			
DUAL S TRKR ALIGNMENT		2nd ATTITUDE (SINGLE S TRKR) -Z: 25 -Y: 34	
R 160	R 091	226	
P 175	P 192	153	
Y 310	Y 300	305	
REQD ID:			
-Y: _____, -Z: _____, ANG ERR _____, _____			
ANG:	1	2	3
ΔX	() _____	() _____	() _____
ΔY	() _____	() _____	() _____
ΔZ	() _____	() _____	() _____
EXECUTION TIME: ____/____:____:____MET			

B	<u>IMU VERIFICATION STAR ALIGN PAD</u>		
ID: -Y: 48, ZUBENESCHEMALI MET (10/13:46 TO 10/14:35)			
-Z: 56, SUHAIL MET (10/13:32 TO 10/14:21)			
ANG DIFF: 85.2			
DUAL S TRKR ALIGNMENT		2nd ATTITUDE (SINGLE S TRKR) -Z: 48 -Y: 56	
R 040	R 306	125	
P 060	P 043	059	
Y 331	Y 331	346	
REQD ID:			
-Y: _____, -Z: _____, ANG ERR _____, _____			
ANG:	1	2	3
ΔX	() _____	() _____	() _____
ΔY	() _____	() _____	() _____
ΔZ	() _____	() _____	() _____
If any ΔX, ΔY, OR ΔZ > 0.1 Check MCC			
EXECUTION TIME: ____/____:____:____MET			

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ATTITUDE TIMELINE

ATTITUDE
TIMELINE

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ β		
1 000/00:30:00 M 342/03:08:46 G	M50 (CALC) INRTL R = 6.97 MNVR P = 114.65 PYR Y = 320.90 MNVR B1/AUTO/PRI HOLD (same)	RATE 0.5000 DB AT 3.00 DB RT 0.20 SUN R 273 P 24 β = 23	+X PYR R = 0.00 P = 16.00 Y = 0.00 LVLH 000/00:37:45 M 342/03:16:31 G	OMS-2 Heads Up DV = 98.3 ft/s TIG
2 000/00:40:00 M 342/03:18:46 G	STS-116 L/O 2006/342/02:38:46			
3 000/01:10:00 M 18:44 342/03:48:46 G 57:30	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 101.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 β = 23	LVLH R=180.00 P= 0.00 Y=281.00	-ZLV -YV BIASED PLBD Opening
4 000/03:20:00 M 342/05:58:46 G			MET 00/03:35:00	NC-1 Heads Down DV = ?. TIG
5 000/03:45:00 M 53:25 342/06:23:46 G 32:11	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 β = 24	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV
6 000/16:45:00 M 17:00:00 342/19:23:46 G 38:46	M50 (CALC) INRTL R = 161.62 MNVR P = 69.01 PYR Y = 325.09 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 141 P 43 β = 25	+X PYR R = 180.00 P = 16.00 Y = 0.00 LVLH 000/16:58:09 M 342/19:36:55 G	NC-2 Heads Down DV = 72.7 ft/s TIG
7 000/17:05:00 M 14:39 342/19:43:46 G 53:25	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 70.00 MNVR A14/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 3.000 DB RT 0.200 EARTH R 0 P 90 β = 25	LVLH R= 0.00 P=180.00 Y=290.00	-ZLV -XVV FLAT FIELD
8 000/17:39:39 M 342/20:18:25 G			MET 00/17:39:39	NPC Multi-Axis DV = 1.9 ft/s TIG
9 000/18:30:00 M 43:17 342/21:08:46 G 22:03	TGT= 4 BV = 5 P = 0.00 Y = 45.00 OM = 78.00 MNVR A14/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 3.000 DB RT 0.200 SUN R 90 P 45 β = 25	INRTL R=145.08 P=184.76 Y=322.74 RA= 254.630 DEC= -22.694S	+YSI BIASED STBD LDRI SURVEY
10 000/19:50:00 M 56:59 342/22:28:46 G 35:45	TGT= 4 BV = 5 P = 315.00 Y = 0.00 OM = 120.00 MNVR A14/AUTO/VERN HOLD A14/AUTO/ALT	RATE 0.2000 DB AT 3.000 DB RT 0.200 SUN R 180 P 45 β = 25	INRTL R=111.19 P= 88.19 Y=336.01 RA= 254.691 DEC= -22.700S	+XSI BIASED NOSE LDRI SURVEY

ALL ORBITER DATA IN
MEAN OF 1950 AND PYR EULER SEQUENCE

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ β		
11 000/22:15:00 M 21:52 343/00:53:46 G 01:00:38	TGT= 4 BV = 5 P = 0.00 Y = 315.00 OM = 160.00 MNVR A14/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 3.000 DB RT 0.200 SUN R 270 P 45 $\beta = 25$	INRTL R= 4.90 P=309.68 Y=288.00 RA= 254.801 DEC= -22.711S	-YSI BIASED PORT LDRI SURVEY
12 000/23:55:00 M 001/00:05:11 343/02:33:46 G 43:57	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 345.00 MNVR A14/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 3.000 DB RT 0.200 EARTH R 0 P 90 $\beta = 25$	LVLH R= 0.00 P=180.00 Y= 15.00	-ZLV -XV BIAS UPPER SURFACE
13 001/02:25:00 M 38:53 343/05:03:46 G 17:39	M50 (CALC) INRTL R = 209.38 MNVR P = 224.60 PYR Y = 26.30 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 30 P 119 $\beta = 26$	+X PYR R = 180.00 P = 16.00 Y = 0.00 LVLH 001/02:42:20 M 343/05:21:06 G	NC-3 Heads Down DV = 132.9 ft/s TIG
14 001/02:50:00 M 03:02:17 343/05:28:46 G 41:03	LVLH TRACK TGT = 2 P = 0.00 BV = 5 Y = 270.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 270 P 90 $\beta = 26$	LVLH R= 90.00 P=180.00 Y= 0.00	-YLV -XVV
15 001/03:55:00 M 04:02:30 343/06:33:46 G 41:16	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 26$	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV
16 001/14:30:00 M 37:30 343/17:08:46 G 16:16	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 270.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 26$	LVLH R= 0.00 P=180.00 Y= 90.00	-ZLV +YV Simo Dump
17 001/16:45:00 M 52:49 343/19:23:46 G 31:35	M50 (CALC) INRTL R = 163.27 MNVR P = 64.87 PYR Y = 324.92 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 139 P 44 $\beta = 26$	+X PYR R = 180.00 P = 16.00 Y = 0.00 LVLH 001/16:56:44 M 343/19:35:30 G	NC-4 Heads Down DV = 73.9 ft/s TIG
18 001/17:05:00 M 20:00 343/19:43:46 G 58:46	EPH TARGET TGT = 1 P = 90.00 BV = 3 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 $\beta = 26$	LVLH R=359.88 P=274.80 Y= 0.00 TGT VIDFILE: 116FIN_TGT VID #: 1	-Z EPH TGT TRK
19 001/18:20:00 M 25:14 343/20:58:46 G 21:04:00	M50 (CALC) INRTL R = 338.87 MNVR P = 56.58 PYR Y = 327.18 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 323 P 49 $\beta = 27$	+X PYR R = 0.00 P = 16.00 Y = 0.00 LVLH 001/18:29:49 M 343/21:08:35 G	Ti Heads Up DV = 8.9 ft/s
20 001/18:35:00 M 45:21 343/21:13:46 G 24:07	EPH TARGET TGT = 1 P = 90.00 BV = 3 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 $\beta = 27$	LVLH R=359.00 P=275.73 Y= 0.00 TGT VIDFILE: 116FIN_TGT VID #: 1	-Z EPH TGT TRK

ALL ORBITER DATA IN
MEAN OF 1950 AND PYR EULER SEQUENCE

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ β		
21 001/18:49:49 M 343/21:28:35 G				MC-1 Multi-axis DV = ?? ft/s
22 001/19:19:43 M 343/21:58:29 G				MC-2 Multi-axis DV = ?? ft/s
23 001/19:19:44 M 36:33 343/21:58:30 G 22:15:19	LVLH TRACK TGT = 2 P = 325.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.0068 DB AT 1.000 DB RT 0.020 EARTH R 180 P 35 $\beta = 27$	LVLH R= 0.00 P=305.00 Y= 0.00	-Z EPH TGT TRK Post MC-2
24 001/19:36:43 M 343/22:15:29 G				MC-3 Multi-axis DV = ?? ft/s
25 001/19:36:44 M 46:27 343/22:15:30 G 25:13	LVLH TRACK TGT = 2 P = 290.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.0600 DB AT 1.000 DB RT 0.020 EARTH R 180 P 70 $\beta = 27$	LVLH R= 0.00 P=340.00 Y= 0.00	-Z EPH TGT TRK Post MC-3
26 001/19:46:43 M 343/22:25:29 G				MC-4 Multi-axis DV = 1.3 ft/s
27 001/19:46:44 M 54:40 343/22:25:30 G 33:26	LVLH TRACK TGT = 2 P = 280.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.0210 DB AT 1.000 DB RT 0.020 EARTH R 180 P 80 $\beta = 27$	LVLH R= 0.00 P=350.00 Y= 0.00	-Z EPH TGT TRK Post MC-4
28 001/19:55:00 M 50 343/22:33:46 G 34:36	LVLH TRACK TGT = 2 P = 270.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 180 P 90 $\beta = 27$	LVLH R= 0.00 P= 0.00 Y= 0.00	+XVV +ZLV Establish +Rbar
29 001/20:19:00 M 22:00 343/22:57:46 G 23:00:46	LVLH TRACK TGT = 2 P = 180.00 BV = 5 Y = 0.00 OM = 0.00 MNVR B1/AUTO/PRI HOLD (same)	RATE 0.5000 DB AT 3.00 DB RT 0.20 EARTH R 72 P 180 $\beta = 27$	LVLH R= 0.00 P= 90.00 Y= 0.00	+ZVV -XLV RPM
30 001/20:22:00 M 25:00 343/23:00:46 G 03:46	LVLH TRACK TGT = 2 P = 90.00 BV = 5 Y = 0.00 OM = 0.00 MNVR B1/AUTO/PRI HOLD B1/AUTO/VERN	RATE 0.5000 DB AT 3.00 DB RT 0.20 EARTH R 0 P 90 $\beta = 27$	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV RPM

ALL ORBITER DATA IN
MEAN OF 1950 AND PYR EULER SEQUENCE

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ β		
31 001/20:25:00 M 28:00 343/23:03:46 G 06:46	LVLH TRACK TGT = 2 P = 0.00 BV = 5 Y = 0.00 OM = 0.00 MNVR B1/AUTO/PRI HOLD B1/AUTO/VERN	RATE 0.5000 DB AT 3.00 DB RT 0.20 EARTH R 129 P 0 $\beta = 27$	LVLH R= 0.00 P=270.00 Y= 0.00	+XLV -ZVV RPM
32 001/20:28:00 M 31:00 343/23:06:46 G 09:46	LVLH TRACK TGT = 2 P = 270.00 BV = 5 Y = 0.00 OM = 0.00 MNVR B1/AUTO/PRI HOLD B1/AUTO/VERN	RATE 0.5000 DB AT 3.00 DB RT 0.20 EARTH R 180 P 90 $\beta = 27$	LVLH R= 0.00 P= 0.00 Y= 0.00	+ZLV -XVV RPM
33 001/20:35:00 M 46:40 343/23:13:46 G 25:26	LVLH TRACK TGT = 2 P = 179.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A9/AUTO/VERN HOLD (same)	RATE 0.1300 DB AT 1.000 DB RT 0.020 EARTH R 0 P 179 $\beta = 27$	LVLH R= 0.00 P= 91.00 Y= 0.00	-XLV +ZVV TORVA
34 001/21:23:00 M 344/00:01:46 G				Docking
35 001/21:30:00 M 59:06 344/00:08:46 G 37:52	COE (CALC) TGT = 2 P = 156.00 BV = 5 Y = 42.00 OM = 177.00 MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 66 P 133 $\beta = 27$	ISS YPR R = 44.58 P = 17.59 Y = 193.59 LVLH 001/21:30:00 M 344/00:08:46 G	-XLV -ZVV BIAS Mated TEA ORB R = 163.21 LVLH P = 61.14 Y = 320.82
36 005/16:00:00 M 07:24 347/18:38:46 G 46:10	COE (CALC) TGT = 2 P = 163.00 BV = 5 Y = 0.00 OM = 193.00 MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 0 P 163 $\beta = 27$	ISS YPR R = 0.00 P = 17.00 Y = 193.00 LVLH 005/16:00:00 M 347/18:38:46 G	-XLV -ZVV BIAS Mated Dump ORB R = 167.55 LVLH P = 73.41 Y = 3.77
37 005/17:55:00 M 18:02:24 347/20:33:46 G 41:10	COE (CALC) TGT = 2 P = 156.00 BV = 5 Y = 42.00 OM = 177.00 MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 66 P 133 $\beta = 27$	ISS YPR R = 44.58 P = 17.59 Y = 193.59 LVLH 001/17:55:00 M 343/20:33:46 G	-XLV -ZVV BIAS Mated TEA ORB R = 163.21 LVLH P = 61.14 Y = 320.82
38 008/18:00:00 M 29:02 350/20:38:46 G 21:07:48	LVLH TRACK TGT = 2 P = 180.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A12/AUTO/VERN HOLD (same)	RATE 0.1000 DB AT 3.000 DB RT 0.050 EARTH R 127 P 180 $\beta = 22$	LVLH R= 0.00 P= 90.00 Y= 0.00	-XLV +ZVV Mated Undock
39 008/19:00:00 M 350/21:38:46 G				-XLV +ZVV Mated Undock
40 008/19:29:00 M 40:32 350/22:07:46 G 19:18	LVLH TRACK TGT = 2 P = 90.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A9/AUTO/VERN HOLD A9/AUTO/ALT	RATE 0.1300 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 22$	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV Flyaround Init

ALL ORBITER DATA IN
MEAN OF 1950 AND PYR EULER SEQUENCE

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ β		
41 008/19:40:32 M 52:04 350/22:19:18 G 30:50	LVLH TRACK TGT = 2 P = 0.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A9/AUTO/VERN HOLD (same)	RATE 0.1300 DB AT 1.000 DB RT 0.020 EARTH R 297 P 0 $\beta = 22$	LVLH R= 0.00 P=270.00 Y= 0.00	+XLV -ZVV Flyaround
42 008/19:52:04 M 20:03:36 350/22:30:50 G 42:22	LVLH TRACK TGT = 2 P = 270.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A9/AUTO/VERN HOLD (same)	RATE 0.1300 DB AT 1.000 DB RT 0.020 EARTH R 180 P 90 $\beta = 22$	LVLH R= 0.00 P= 0.00 Y= 0.00	+ZLV +XVV Flyaround
43 008/20:03:36 M 15:08 350/22:42:22 G 53:54	LVLH TRACK TGT = 2 P = 180.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A9/AUTO/VERN HOLD (same)	RATE 0.1300 DB AT 1.000 DB RT 0.020 EARTH R 297 P 180 $\beta = 22$	LVLH R= 0.00 P= 90.00 Y= 0.00	-XLV +ZVV SEP Burn Multi-axis
44 008/20:15:08 M 26:40 350/22:53:54 G 23:05:26	LVLH TRACK TGT = 2 P = 90.00 BV = 5 Y = 0.00 OM = 0.00 MNVR A9/AUTO/VERN HOLD (same)	RATE 0.1300 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 22$	LVLH R= 0.00 P=180.00 Y= 0.00 MET 00/20:43:00	-XLV +ZVV Flyaround Term DV = 4.0 ft/s TIG SEP2
45 008/20:55:00 M 21:06:47 350/23:33:46 G 45:33	LVLH TRACK TGT = 2 P = 329.00 BV = 5 Y = 293.00 OM = 216.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 258 P 70 $\beta = 22$	LVLH R=200.83 P=278.01 Y=289.77 SR 20:47 SS 21:43 Deploy 21:15	MEPSI MENLO PARK 24.9 23:10-23:18 AMOS 53.4 00:36-00:44
46 008/22:15:00 M 19:05 351/00:53:46 G 57:51	LVLH TRACK TGT = 2 P = 270.00 BV = 5 Y = 290.00 OM = 316.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 250 P 90 $\beta = 22$	LVLH R=290.00 P= 0.00 Y=316.00 SR 22:19 SS 23:14 Deploy 22:40	RAFT ANNAPOLIS 19.0 9/02:30 - 02:38
47 008/23:30:00 M 40:48 351/02:08:46 G 19:34	LVLH TRACK TGT = 2 P = 90.00 BV = 5 Y = 0.00 OM = 220.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 22$	LVLH R=180.00 P= 0.00 Y= 40.00	-ZLV +YVV BIAS Simo Dump
48 009/00:50:00 M 01:01:40 351/03:28:46 G 40:26	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 22$	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV
49 009/14:40:00 M 351/17:18:46 G	 HOLD A1/INRT/VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 337 P 67 $\beta = 20$	INRTL R=316.94 HOLD P=352.43 Y=326.44	INRTL FCS Checkout Start 14:00
50 009/14:45:00 M 46:39 351/17:23:46 G 25:25	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 $\beta = 20$	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV

ALL ORBITER DATA IN
MEAN OF 1950 AND PYR EULER SEQUENCE

Attitude Timeline

MET/GMT	ORBITER		REF ATT/REMARKS	EVENT
	MNVR OPTION	DAP E/S/ β		
51 009/15:10:00 M 351/17:48:46 G	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 β = 20	LVLH R= 0.00 P=180.00 Y= 0.00	INRTL RCS Hotfire
52 009/15:25:00 M 351/18:03:46 G	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 0.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 0 P 90 β = 20	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV
53 009/19:55:00 M 20:04:06 351/22:33:46 G 42:52	LVLH TRACK TGT = 2 P = 180.00 BV = 5 Y = 0.00 OM = 70.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 230 P 180 β = 20	LVLH R=290.00 P= 90.00 Y= 0.00 SR 19:38 SS 20:33 Deploy 20:15	ANDE MIT 63.0 20:30 - 20:39
54 009/20:20:00 M 351/22:58:46 G	 HOLD A1/LVLH/VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020 EARTH R 22 P 180 β = 20	LVLH R=290.00 HOLD P= 90.00 Y= 0.00	LVLH Post ANDE Deploy
55 009/20:45:00 M 54:06 351/23:23:46 G 32:52	LVLH TRACK TGT = 2 P = 90.00 BV = 3 Y = 0.00 OM = 0.00 MNVR A1/AUTO/PRI HOLD A1/AUTO/VERN	RATE 0.2000 DB AT 5.00 DB RT 0.20 EARTH R 0 P 90 β = 19	LVLH R= 0.00 P=180.00 Y= 0.00	-XVV -ZLV
56 010/13:44:00 M 55:00 352/16:22:46 G 33:46	INRTL R = 160.00 MNVR P = 175.00 Y = 310.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 72 P 40 β = 17	-Y: 25 AOS: 13:23 LOS: 14:12 -Z: 34 AOS: 13:39 LOS: 14:28	IMU ALIGN -Y: 25 -Z: 34 PAIR AOS: 13:39 PAIR LOS: 14:12
57 010/14:00:00 M 07:12 352/16:38:46 G 45:58	INRTL R = 40.00 MNVR P = 60.00 Y = 331.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 252 P 45 β = 17	-Y: 48 AOS: 13:46 LOS: 14:35 -Z: 56 AOS: 13:32 LOS: 14:21	IMU VERIF -Y: 48 -Z: 56 PAIR AOS: 13:46 PAIR LOS: 14:21
58 010/14:14:00 M 26:44 352/16:52:46 G 17:05:30	TGT= 4 BV = 5 P = 184.00 Y = 0.00 OM = 270.00 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 180 P 176 β = 17	INRTL R= 52.73 P=274.36 Y= 63.14 RA= 265.462 DEC= -23.380S	-XSI
59 010/16:07:00 M 17:15 352/18:45:46 G 56:01	M50 (CALC) INRTL R = 174.46 MNVR P = 273.30 PYR Y = 36.49 MNVR A1/AUTO/VERN HOLD (same)	RATE 0.2000 DB AT 1.000 DB RT 0.020 SUN R 90 P 150 β = 17	+Y PYR R = 0.00 P = 0.00 Y = 30.00 TCWIN 010/16:07:00 M 352/18:45:46 G	Comm Att.
60 010/18:02:00 M 06:56 352/20:40:46 G 45:42	M50 (CALC) INRTL R = 307.66 MNVR P = 300.58 PYR Y = 24.81 MNVR A1/AUTO/PRI HOLD (same)	RATE 0.5000 DB AT 5.00 DB RT 0.20 SUN R 334 P 137 β = 17	+X PYR R = 0.00 P = 196.00 Y = 0.00 LVLH 010/18:27:00 M 352/21:05:46 G	DO Burn TIG

ALL ORBITER DATA IN
MEAN OF 1950 AND PYR EULER SEQUENCE

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FLIGHT PLAN NOTES

FLIGHT PLAN NOTES
(CONSTRAINTS AND GUIDELINES)

A. FLIGHT DESCRIPTION

Orbiter: OV-103 Discovery
 Launch Window: 10 minutes
 Inclination: 51.6°
 Insertion Altitude: 123 nautical miles
 Rendezvous Altitude: 190 nautical miles
 Duration: 11+(1)+2

B. SHUTTLE AND STATION CREW

CDR –Mark Polansky
 PLT – William Oefelein
 MS1 – Nicholas Patrick
 MS2 – Robert Curbeam
 MS3 – Christer Fuglesang
 MS4 – Joan Higginbotham
 MS5up – Sunita Williams
 MS5down – Thomas Reiter
 ISS CDR – Michael Lopez-Alegria
 FE-1 – Mikhail Tyurin

C. MAJOR EVENTS

<u>EVENT</u>	<u>FD</u>	<u>MET</u>	<u>LOCAL DATE</u>	<u>CST</u>	<u>GMT</u>
Launch	01	0/00:00	12/07/2006	20:39	342/02:39
NC1	01	0/03:35	12/07/2006	00:14	342/06:14
NC2	02	0/16:58	12/08/2006	13:37	342/19:37
OBSS Survey	02	0/18:05	12/08/2006	14:44	342/20:44
NC3	02	1/02:42	12/08/2006	23:21	343/05:21
Ti	03	1/18:29	12/09/2006	15:08	343/21:08
ISS Docking	03	1/21:09	12/09/2006	17:48	343/23:48
Hatch Open	03	1/23:25	12/09/2006	20:04	344/02:04
EVA 1	04	2/18:50	12/10/2006	15:29	344/21:29
P6 4B SA Retract	05	3/17:25	12/11/2006	14:04	345/20:04
EVA 2	06	4/18:20	12/11/2006	14:59	346/20:59
Crew Conference	07	5/20:10	12/13/2006	16:49	347/22:49
EVA 3	08	6/17:50	12/14/2006	14:29	348/20:29
Hatch Close	10	8/16:20	12/16/2006	12:59	350/18:59
Undock	10	8/19:00	12/16/2006	15:39	350/21:39
MEPSI Deploy	10	8/21:33	12/16/2006	18:12	351/00:12
RAFT Deploy	10	8/23:04	12/16/2006	19:43	351/01:43
ANDE Deploy	11	9/20:20	12/17/2006	16:59	351/22:59
Deorbit	12	10/18:27	12/18/2006	15:06	352/21:06
Landing	12	10/19:30	12/18/2006	16:09	352/22:09

FLIGHT PLAN
NOTES

D. LANDING OPPORTUNITIES

	<u>Landing Orbit</u>		<u>Site</u>	<u>CST</u>	<u>MET</u>
Nominal	Primary	171	KSC	Mon Dec 18, 2006	10/19:30
	1 Rev Late	172	KSC	Mon Dec 18, 2006	10/21:05
	Weather Alt	173	EDW	Mon Dec 18, 2006	10/22:35
1 Day Late	Primary	186	KSC	Mon Dec 19, 2006	11/18:17
	1 Rev Late	187	KSC	Mon Dec 19, 2006	11/19:52
	Weather Alt	188	EDW	Mon Dec 19, 2006	11/21:22
2 Days Late	Primary	202	KSC	Mon Dec 20, 2006	12/18:39
	1 Rev Late	203	KSC	Mon Dec 20, 2006	12/20:14
	Weather Alt	204	EDW	Mon Dec 20, 2006	12/21:44

E. COMMUNICATIONS

The Summary Timeline contains several databands for ground site and TDRS events. The TDRS band reflects the three TDRS satellites that will be used for Orbiter coverage (East, West, and Z) and their longitudinal position. The data shown contains Ku-band coverage (unshaded bars) and S-band coverage (solid bars).

TDRS Z currently does not have the capability for DTV, therefore can not be used for critical damage detection. Nor is TDRS Z considered acceptable for PAO events. OCA downlink is limited to 2 Mbps on TDRS Z.

Prime TDRS Support: TDRS 46 (LON: -46° W), TDRS 171 (LON: -171° W), TDRS 275 (LON: -275° W)

Backup TDRS Support: TDRS 41 (LON: -41° W), TDRS 174 (LON: -174° W)

U.S. Ground Sites: MIL, WLP, and DFR

F. PAYLOADS

LAUNCH PACKAGE (LP) 12A.1

The LP consists of the ITS-P5 Short Spacer Truss Segment (SSTS) with a Photovoltaic Radiator Grapple Fixture (PVRGF) that has two Grapple Fixtures (GFs) attached to the structure, the ICC with a Passive Flight Releasable Attachment Mechanism (PFRAM), the STP-H2 Utilization payload installed, and the Service Module Debris Panels (SMDPs), the Spacehab SM and its stowed logistics and ISS Utilization payload items, and ISS hardware and Utilization payload items stowed in the Orbiter middeck lockers.

The SMDPs consist of three bundles of panels and an adapter. The three bundles will be attached to the adapter and the entire assembly will be transferred to Pressurized Mating Adatper-3 (PMA-3).

The PFRAM, installed on the ICC, will be utilized to support the contingency return of a failed Pump Module (PM).

Crew rotation equipment, Extravehicular Activity (EVA) equipment and hardware, water transfer equipment, logistics items, critical spares, photographic equipment and supplies will be launched in the Orbiter middeck and Spacehab SM, and will be transferred to the ISS to support crew rotation, and docked and steady state ISS operations.

G. SECONDARY PAYLOADS

1. Anomalous Long Term Effects in Astronauts' Central Nervous System (ALTEA) |

ALTEA will measure cosmic radiation passing through a crewmember's head, while measuring the brain electrophysiological activity and the performance of the visual system. Furthermore, ALTEA will measure the particle flux in the U.S. Lab, being able to discriminate the type of particles, to measure their trajectories and the delivered energies. This will provide in-depth information on the radiation level experienced and its impact on the nervous systems and visual perception. ALTEA will also develop possible countermeasures aimed at the possible functional central nervous system risks for long duration exploration missions.

2. Passive Observatories for Experimental Microbial Systems (POEMS) |

POEMS will evaluate the effect of stress in the spaceflight environment on the generation of genetic variation within model microbial cells. POEMS canisters are currently on the ISS, and will be removed from cold storage and transferred to the Shuttle for return to Earth on 12A.1.

3. Perceptual Motor Deficits in Space (PMDIS) |

The objective of PMDIS is to determine if perceptual motor deficits observed in previous missions are simply due to postural instability or actually represent central nervous system deficits.

4. Space Test Program-H2 (STP-H2) |

STP-H2 is comprised of three independent deployable payloads located on top of the 12A.1 Integrated Cargo Carrier (ICC). Atmospheric Neutral Density Experiment (ANDE) will determine total atmospheric density at low earth orbit altitudes, using two spheres, to enable better orbit determination and collision avoidance techniques. Microelectromechanical System (MEMS)-Based Pico Satellite Inspector (MEPSI) will provide a proof of concept for inspection, servicing, and protection of a host satellite. This flight will demonstrate a picosat propulsion system and camera inspection capability. Radar Fence Transponder (RAFT) will enable the Air Force-operated radar fence to calibrate transmit and receive signals with a cooperative picosat.

H. PAYLOADS OF OPPORTUNITY

1. Ram Burn Observation (RAMBO)

The objective of the RAMBO payload is to help calibrate the RAMBO satellite. This requires retrograde, posigrade, and out-of-plane burns. RAMBO will be performed only if propellant is available and a sufficient opportunity exists.

2. Maui Analysis of Upper-Atmospheric Injections (MAUI)

The objective of the MAUI payload is to obtain optical signatures of spacecraft plumes using optical telescope sensors and all-sky imagers at the Air Force Maui Optical and Supercomputing Site (AMOS). The MAUI payload may collect data during any encounter opportunity when the Orbiter support activities can be planned to meet the criteria defined.

No unique onboard hardware is required to establish the controlled conditions for the cooperative passes. The MAUI payload observes retrograde OMS engine firings,

various Angle-Of-Attack (AOA) PRCS and VRCS thruster firings, and Shuttle burns to reboost ISS. These burns can be dedicated to MAUI or required by Shuttle. MAUI will only be performed if propellant is available and a sufficient overflight opportunity exists.

I. ON ORBIT DETAILED TEST OBJECTIVES (DTOS)

1. Crosswind Landing Performance (DTO 805 – DTO of Opportunity)

The purpose is to demonstrate the capability to perform a manually controlled landing in the presence of a crosswind.

J. STATION DEVELOPMENT TEST OBJECTIVES (SDTOS)

NONE

K. SHORT DURATION BIOASTRONAUTICS INVESTIGATIONS (SDBIS)

1. Test of Midodrine as a Countermeasure Against Postflight Orthostatic Hypotension (SDBI 1503S)

To date, available countermeasures have not eliminated postflight orthostatic hypotension. This study is designed to evaluate a new pharmacological countermeasure for protection from postflight orthostatic hypotension. This experiment will measure the efficacy of midodrine in reducing the incidence and/or severity of orthostatic hypotension in returning astronauts. Efficacy will be evaluated with an expanded tilt test.

Protocol B will evaluate the efficacy of midodrine taken in-flight, between TIG and landing.

Space alters cardiovascular function and orthostatic hypotension is one of the alterations that negatively impacts crew safety. Susceptibility to orthostatic hypotension is individual, with some astronauts experiencing severe symptoms, while others are less affected. This countermeasure evaluation proposal, sponsored by the Countermeasures Evaluation and Validation Project, is the first phase of the evaluation of midodrine. It is designed to give the greatest opportunity of measuring the maximum efficacy of the drug.

2. Sleep-Wake Actigraphy and Light Exposure During Spaceflight (SDBI 1634)

The success and effectiveness of manned space flight depends on the ability of crew members to maintain a high level of cognitive performance and vigilance while operating and monitoring sophisticated instrumentation. Astronauts; however, commonly experience sleep disruption, together with misalignment of circadian phase during space flight. Both of these conditions are associated with insomnia and associated impairment of alertness and cognitive performance. Relatively little is known of the prevalence or cause of space flight-induced insomnia in short duration missions. This experiment will use state-of-the-art ambulatory technology to monitor sleep-wake activity and light exposure patterns obtained in-flight. These data should help us better understand the effects of space flight on sleep as well as aid in the development of effective countermeasures for both short and long-duration spaceflight.

Documenting sleep-wake and light exposure patterns on all crewmembers will lead to a better understanding of the effects of space flight on sleep, will enable objective evaluation of the effectiveness of current countermeasures for insomnia, will enable

objective evaluation of the effects, on sleep, of countermeasures taken to alleviate other untoward physiological effects of space flight (e.g. motion sickness), and will aid in the development of new countermeasures to more effectively alleviate the detrimental effects of space flight on sleep and circadian organization

3. Monitoring Latent Virus Reactivation and Shedding in Astronauts (SDBI 1493)

The objective of this SDBI is to determine the frequency of induced reactivation of latent viruses, latent virus shedding, and clinical disease after exposure to the physical, physiological, and psychological stressors associated with space flight.

Space flight-induced alterations in the immune response will become increasingly important on long duration missions, with one focus being the potential for reactivation and dissemination (shedding) of latent viruses. An example of a latent virus is herpes simplex type-1 (HSV-1), which infects 70-80 percent of all adults. Its manifestation is classically associated with the presence of cold sores, pharyngitis, and tonsillitis, and is usually acquired through contact with the saliva, skin, or mucous membranes of an infected individual. However, many recurrences are asymptomatic, resulting in shedding of the virus. Through an initial qualitative look at the reactivation and shedding of latent viruses, twenty subjects were studied for Epstein-Barr Virus (EBV). To continue a quantitative study of latent virus activity in microgravity, additional subjects were approved to focus on three viruses, EBV, Cytomegalovirus (CMV), and Varicella Zoster Virus (VZV).

FLIGHT PLAN WALKTHROUGH
(WITH RATIONALE)

Generic Items:

- ISS Activities completed prior to Shuttle Docking:
 - SSRMS Pre-launch C/O at L-48hrs (Mobile Transporter will be at WS#8 with SSRMS in pre handoff position)
 - ISS Safer C/O is completed
 - ISS EMUs temp stowed in Node
 - MTL & LTL ITCS sample complete
 - ISS N2 venting at L+2hrs
- A total of 2 CWCs and 2 PWRs are scheduled to be filled and transferred to ISS. CWCs and PWRs cannot be filled at the same time since EECOM would not be able to tell how much water is in each. PWR fills cannot occur during supply nozzle dumps.
- SIMO Dumps are scheduled for FD03 (pre-docking), FD07 (docked), and FD10 (post-undocking). (May add additional dump on FD09 due to reduced number of CWC fills or if Focused inspection is added on FD5 and FD7 is used to stow the OBSS).
- Numerous FES dumps will be required throughout the mission because of minimal water transfer, therefore, the FES will not be turned off post-docking to save cryo as in past flights.
- Transfer: 110 hrs are required. Transfer cannot be performed on SSRMS days until SSRMS activities are complete. Transfer Tagups and Briefs are scheduled every night and Transfer Updates every morning, throughout the docked timeframe beginning on FD04. Transfer tagups occur between MS4 and an ISS crew member. Transfer Briefs are conducted with crew and MCC, therefore comm must be available.
- The OIU will be activated any time that the SRMS will move so that the Shuttle can monitor the position of the SSRMS on DOUG. The OIU will also remain active during the sleep periods after the reconfiguration EVAs to assist with ISS powerup if required.
- All nominal EVAs are performed using the ISS Airlock and the Campout Prebreathe protocol. MS2 and MS3 will perform EVA 1 and EVA 2 while MS2 and FE-2 (Suni Williams) will perform EVA 3. The PLT is the IV Support personnel and the ISS CDR will provide additional EVA support while helping FE-2 prepare for EVA 3.
- MS4 is responsible for all SHAB activities including Activation, Deactivation, Contingencies and daily SHAB configs planned during her pre/post-sleep periods.
- MS4 is prime for all SSRMS Activities with FE-2 as the backup. CDR and MS1 are prime for all SRMS Activities. PLT is an additional backup
- PLT and MS1 are scheduled to log SDBI results daily. Only scheduled on days where the pre and post sleep aggregates are above minimum SCSC requirements.
- MS5 (Suni Williams) Rotation with ISS FE-2 (Reiter), therefore, Handover time will be scheduled throughout the docked timeframe. They will perform mandatory tasks consisting of Individual Equipment Liner Kit (IELK) install, Sokol suit checkout and the safety briefing, and the crew safety handover. A large portion of handover time is functional handover, where an experienced ISS crewmember will demonstrate real time ISS ops (OJT).

FD01 – Launch & Setup

- For an on-time launch, the NC-1 burn will be deleted if it can be combined with OMS-2.
- Following Ascent/Post Insertion the standard FD01 activities are scheduled: Aft Controller C/O, OMS Burn, Elevon Park, RMS On-Orbit Init, GIRA Install, APU Reconfig, Group B Powerdown, OCAC setup, GIRA Install, Tissue Equivalent Proportional Counter (TEPC) Power On and Shuttle Emergency Eyewash (SEE) setup.
- Part 1 of PCSG Setup will be performed which includes running a late update on WVS, KFX, RSAD, DOUG, & OCA Router. Part 2 of PGSC Setup is scheduled for FD02 although the crew will divide up the work and most of it might be completed on FD01 as a get-ahead. The Wireless Access Point and Color Printer are also required during FD1 PGSC Setup.

- P/TV01 video setup will be performed to prepare for inspection on FD2. If the mission slips into a daylight launch, ET Video Downlink, ET handheld Imagery Download and ET Umbilical Well Download will be performed.
- CDR and MS1 will perform RMS Powerup, C/O, and Powerdown.
- SHAB Activation will be completed.

FD02 – OBSS Surveys

- NC2 & 3 rendezvous burns are planned to allow adequate time for RMS Surveys. NPC is not scheduled as it will most likely be combined with NC2 or 3.
- Prior to crew sleep, the CDR will future load the maneuver for the FD03 SIMO dump. The maneuver will occur post sleep, prior to the dump.
- P/TV01 Video Setup (MS2/MS3) and Part 2 of PGSC Setup (MS3/MS5) are scheduled early in the to support inspection activities. These will be deleted if the setups are completed on FD1.
- OBSS Survey – Starboard & Nose, then Port & Upper Surface, OMS Pod Survey, and Survey Playback.
 - Scans of the starboard wing may not be performed while docked so this is scheduled first in the timeline. Three crew members are required continuously during the survey with two performing OBSS/SRMS ops and one monitoring the LDRI and situational awareness cameras. Only two crewmembers are required during unberthing and berthing (non-laser ops). The survey is scheduled to continue through the night passes due to time constraints, but the crew may elect to pause if the night time visuals are not sufficient.
 - The LDRI survey attitude requires no sun within +/- 10 -degree field of view (FOV) of the laser boresight Field of View, 20-degree FOV about the back side of the LDRI boresight, and to the greatest extent possible no sun on the face, 90-degree half-cone FOV about the boresight, of the LDRI.
 - Real-time Ku is required during the LDRI 3D calibration in OBSS unberth and during LDRI mode changes in Flat Fields. Each 90 minute surface scan requires as much real-time Ku as possible to downlink DTV. Inertial attitudes are scheduled to maximize Ku and to optimize LDRI lighting. Specifically, the wing attitudes put the sun on the wing in the X-Y plane ~60 degrees from the nose, and the nose cap attitude puts the sun on the nose pitched down 30 degrees to avoid sun in the crew's eyes. All maneuvers are scheduled to occur during SRMS/OBSS repositioning. If maneuvers are required during the survey, the scanning will be paused during mnvr init and term. VERN/ALT attitude hold is acceptable for LDRI. A special DAP (A14) is loaded in Unberth and used during the survey. Nose jets are disabled during the nose cap survey and ALT/tail only is selected per the procedure.
 - Replay of survey data not obtained real-time is scheduled prior to pre-sleep. INCO will provide LOS times in order to help the crew cue the tapes. A dedicated maneuver may be required in order to get enough LDRI downlink time. Note: TDRS Z does not have the capability for DTV, thus cannot be used to downlink critical damage data.
 - LCS notes: LCS will be used as a backup to LDRI (sensor pkg on end of OBSS). LCS has no lighting constraints and requires OCA downlink of data instead of video downlink. LCS requires masking from Ku radiation during surveys due to data degradation. LCS also requires certain S-Band antennas be inhibited during data takes but this is handled by the procedure.
 - P/TV08 will be setup for an OMS Pod survey followed by a survey playback.
 - SRMS is pre-cradled following survey completion (RMS Powerdown, Step 1) to save time on FD3.
- The ISS External Video Camera Group (ETVCG) assembly will be replaced on ISS camera during EVA 1. It is launched in several pieces so it needs to be assembled. The lighting assembly will be installed on the ETCVG after it transferred to ISS (the lights cannot be put on until after it is transferred to ISS because its increased size will not allow for transfer through the SHAB/ODS/PMA).

- Rendezvous Prep activities: C/L Camera Install and ODS Ring Extension cannot occur during OBSS Survey (camera view constraint). C/L Camera Install needs to occur before ODS Ring Extension. These activities are placed in a period when the OBSS inspection crewmembers are taking their midday meal, thus deconflicting the activities.
- MS4 will perform Hand-Held Lighting C/O. OIU Act/OIU Deact and Rendezvous Tools C/O (also cannot occur during OBSS Survey due to PGSC issue) need to occur at the same time because they share the same TFL.

FD03 – Docking

- A SIMO water dump will be performed as close to the start of ISS Rendezvous Ops as possible to minimize the amount of water dumped throughout the docked timeframe.
- The EMUs will be removed from the Shuttle Airlock to facilitate transfers after docking. MS2 and MS3 will fill EMU drink bags required for the EVAs prior to transfer.
- The Shuttle will rendezvous with the ISS. When the Shuttle is on the RBAR at 600 feet from the ISS, it will perform the RBAR Pitch Maneuver that will allow ISS crewmembers to photograph the belly of the Shuttle. The pictures will be downlinked through ISS OCA.
- The Shuttle will maneuver the stack into the Bias -XLV -ZVV (TEA) attitude. ISS will maintain attitude control during most of the docked timeframe using the Lab Control Moment Gyros (CMGs).
- After docking, leak checks will be performed on the PMA and ODS, the ODS will be prepared for ingress (centerline camera will be removed and ducting camera will be prepared), and hatches will be opened. P/TV04 will support hatch opening and ingress. A short ISS safety briefing will be given to the arriving Shuttle crew members.
- The SHAB will be powered down and the hatch closed prior to docking (SHAB prep). Postdocking, the SHAB will be powered back up.
- The PGSC network will be reconfigured from the rendezvous config post-docking.
- P/TV05 will config comm and video transfer between the ISS and Shuttle. P/TV06 will be set up post-docking to support P5 unberth activities.
- EMU EVA Tool Transfer performed to prepare for EVA 1 the next day. Most crew members will participate in EVA 1 procedure review.
- ETVCG will be transferred to the ISS A/L and the illuminators will be installed.
- SRMS will grapple P5, unberth and handoff to the SSRMS, then ungrapple. (P5 handoff can be postponed to the morning of FD04 prior to EVA 1 if needed.). The P5 will remain on the SSRMS overnight in the handoff position for thermal conditioning
- The SODF and ISS Laptop hard drives will be transferred to the ISS crew to support joint operations.
- The hardware for the O2 Prebreathe config will be set up. This allows use of Shuttle O2 in the ISS airlock to conserve ISS resources.
- EMU EVA Tool Transfer performed to prepare for EVA 1 the next day. Most crew members will participate in EVA 1 procedure review. The ISS Overnight Campout protocol will be used to support EVA 1. MS2 and MS3 will begin the Mask Prebreathe /tool configuration, followed by the ISS Airlock 10.2 psi depress. The two crew members will then sleep in the Airlock overnight. The EVA crewmembers cannot initiate repress until at least 8:40 has been spent at 10.2 psi.
- MS5 will complete Individual Equipment Linear Kit (IELK) Install & C/O and Sokol Leak Check. Completion of IELK marks the official handover of FE-2up as an ISS crewmember.

FD04 – EVA 1 (PET-6:30)

- Pre EVA Activities - EVA Prep/Campout Protocol - 35 minutes following crew wake, the airlock will be repressed to 14.7 psi. The EVA crew members will have 30 minutes, while wearing their Quick-Don masks, for a hygiene break and to gather breakfast. The EVA and IVA crewmembers will ingress the ISS airlock prior to closing the hatch. This will be followed by a 20 minute depress to 10.2 psi. The EVA crew will then doff the O2 masks and don their EMUs. The EMUs are then purged with pure O2 and the Airlock will be repressurized to 14.7 psi. The Node hatch may be opened at that time. The EVA crew

members will then perform a 60-minute in-suit prebreathe followed by Crew Lock hatch closing, Crew Lock depress, and lastly Post Depressurization, where the EVA crew will go off of the Service and Cooling Umbilical (SCU) and Phase Elapse Time (PET) clock begins. Crew Lock depress will utilize the depress pump down to 1.5 psi. At 3 psi, the Crew Lock valves will be opened to vacuum. Once Crew Lock depress is complete, EVA crew members will egress the Crew Lock and begin EVA setup. P/TV07 will support EVA activities.

- Pre-EVA PMC – The STS-115 crew recommend that the PMC occur prior to pre-breathe out of crew convenience, therefore, this activity will likely move up in the timeline accordingly. The crew also recommended to only schedule the PMC “as required” to allow the crew onboard the opportunity to make it a real-time call. A discussion with surgeon is in work.
- EVA 1
 - P5 Launch Lock Removal, P5 to P4 Attachment (P5 Install) - The crew is required to manually guide the P5 into place. All 4 bolts are required for attachment. After P5 install, the SSRMS will ungrapple the P5 and will be placed in the translate position.
 - Removal and repositioning of the PVRGF (grapple fixture) on the ITS P5 to a noninterference location on ISS.
 - R&R of the ETVCG camera at CP3 on the S1 truss at the Outboard Lower location.
- During cleanup, the MT is translated to WS#3 and the SSRMS maneuvered to the P6 Solar Array viewing position in prep for the P6 retract survey on FD5. If consumables allow, the SRMS will position in the SA Retract viewing position.
- Post EVA activities – When EVA clean up is complete, EVA crew members will ingress ISS Crew Lock and perform Pre-repress (EVA crew back on SCU and EVA complete), close the EVA hatch, and repress the Crew Lock. Post EVA procedures w/H2O and EVA preparation activities for the next EVA (Battery Stowage Assembly Init, Tool Config) will be performed. Camera teardown is also scheduled.
- If O2 is available for transfer, O2 Transfer Init will be performed such that mission duration plus an extension day is not affected.

FD05 – Solar Array Retract Day

- P/TV10 will be set up to support P6 retract surveys.
- The SRMS will be powered up and placed in position for SA retract viewing.
- P6 Retract – The crew is prime for observing the retract through the 1 Bay retract. The MCC will uplink commands to retract the P6 4B Solar Array (SA) to 3 bays, and the crew will perform a survey to inspect for unexpected damage. Once this is successfully completed, the MCC will retract the SA to 1 bay. The entire process should only take one orbit over a daylight pass if all goes well. After Retract to 1 Bay live Ku downlink from either ISS or Shuttle is highly desired, else playback will be required. Once it is retracted to 1 bay, the ground will unlatch the SA Blanket Boxes (SABB) (Ku is required). The ground will perform the first of 2 containment inspections to verify the MER is prepared to proceed with the full retract. The containment inspections will use SRMS cameras to view the retracted SA and the BB (the SABB will rotated via MCC command at 90 degree increments). The SA will be fully retracted, another containment inspection will be performed, and the blanket box will be latched. The crew is scheduled but not required for all activities that require mast motion after Retract to 1 Bay complete (unlatch, full retract, latch). SRMS is prime for the detailed viewing of retract and the SSRMS will be used for “big picture” viewing. All exercise is restricted during SA retract procedures including SABB Unlatch and Latch.
- EVA Prep activities performed: LiOH Replacement, EMU Batt recharge, DCS Battery recharge, Battery Stowage Assembly Term, EVA Procedure Review and EVA Camera Setup. The ISS Overnight Campout Protocol for MS2 and MS3 is the same as FD03.
- MS2 and MS3 will pack Stbd and Port QD bags to prep for EVA 2, then perform Equipment Lock Prep.
- The failed ETVCG removed on EVA 1 will be disassembled so that it can be moved and stowed in the SHAB for return.
- The Shuttle CDR and FE-1 will initiate an N2 Transfer to ISS. Terminate is planned for FD9 (approximately 50 pounds of N2 will be transferred.)

- O2 transfer will be terminated prior to beginning campout activities (noise constraint sleeping in airlock while ORCA is operating). Excess O2 over the +1 extension will be transferred to the ISS to replenish the A/L O2 tanks.
- Prior to FD06, ISS MCC will have performed a powerdown of ~1/2 of ISS resources powered by MBSU string 2/3. This includes the ISS Ku during the EVA time period on FD06 so ISS messages will be uplinked using shuttle assets (OCA).
- If focused inspection is required on FD05, the SSRMS will remove the OBSS from the shuttle and hand it off to the SRMS. Approximately 2 hours of Focused Inspection can be performed. After Focused Inspection is complete, SA retract (see above) will be completed through retract to 1 bay. Remaining retract activities will be performed during crew sleep or on a subsequent day. The OBSS will remain on the SRMS for the remainder of FD05 and all of FD06. It will be handed back to the SSRMS and stowed on FD07 (the water dump on FD07 will move to FD09). Exercise is restricted while both arms are grappled to the OBSS.

FD06 – EVA 2 (PET~6:30)

- See FD04 for pre and post EVA activities.
- After SSRMS S/U is complete, MS1 will position the SRMS in the CETA viewing position. An alternate CETA viewing position will be used if the OBSS is on the SRMS.
- EVA2 – Performed by MS2 & MS3.
 - MBSU Channel 2/3 power reconfig (reroutes power from P6 Solar Array to P4 Solar Array brought up on STS-115).
 - CETA Cart 2 & 1 Relocated out of the way for EVA3. Prior to CETA 1 relocate, a successful powerup of the MBSU, DDCU and Pump Module will be verified. Workarounds on EVA 2 can recover from MBSU & DDCU problems. A pump module failure will require backing out of the 2/3 reconfig and perform a Pump Module R&R EVA, followed by a 2/3 power reconfig EVA that includes PM stow for return (the 1/4 reconfig is not completed in this case).
 - QD Bag (STBD bag is higher priority), FMS MLI install, Z1 Patch Panel reconfig.
- The PRLA is closed (P5 retention hardware - needs to be closed during a KU LOS after P5 install (EVA1) but before EVA3). The SSRMS is used to assist with EVA CETA Cart Relocations.
- During EVA, the ISS Crew will perform TVIS Gyro R&R. The AV1 Jumper will be installed (will help regain A/L equipment) and the Ops LAN will be powered down (pre-EVA). Performing Ops LAN Powerdown will remove OCA capabilities from ISS, therefore, the Shuttle OCA will be utilized until OCA LAN Powerup is performed. PCS Powerdown, AV1 Jumper Removal and Ops LAN Powerup will be performed post-EVA.
- Post-EVA PMC using NetMeeting to verify operation for FD07 PFCs.

FD07 – Transfer/Off Duty Day

- Placement of the Simo Dump/MNVR was selected to coincide with a Solar Array string swap (which also requires the solar arrays to be in a fixed position). The solar arrays will be fixed during eclipse and will be commanded to start rotation when the sun is the same position as when the arrays are fixed. This will prevent large rotations on the SAs to track the sun. In between fixing the arrays, attitude control will be handed to the Shuttle, a maneuver to a retrograde attitude will be performed and as much water as possible will be dumped. The Shuttle will then maneuver the stack back to the TEA and hand attitude control back to the ISS. If the OBSS is on the Shuttle arm, the MNVR/DUMP will move to FD9 and the OBSS will be handed off to the SSRMS which will then berth the OBSS in the PLB (~2.5 hours).
- Condensate CWC will be swapped.
- MS1 – Transfer, P/TV 05 & EVA Camera S/U
- MS3 will perform EMU Resize with FE-2 Up who will be performing EVA 3.
- All ISS & STS crewmembers will support the Crew Conference and crew photo.
- The Shuttle crew will have 4 hours of Off-Duty that includes Private Family Conferences using NetMeeting.

- The crew will install the N1 Y Jumper to regain Node equipment during the overnight powerdown in preparation for EVA3.
- The ISS crew will exchange the Oxygen Recharge Compressor Assembly (ORCA) and transfer it to SHAB for return.
- Prior to FD8, ISS MCC will perform a powerdown of ~1/2 of ISS resources powered by MBSU string 1/4.
- Illuminators will be powered on overnight so that MCC can control cameras to perform an ISS survey overnight.

FD08 – EVA 3 (PET~6:10)

- See FD04 for pre and post EVA activities.
- The AV2 jumper is installed during the EVA to regain A/L equipment needed for the EVA.
- EVA 3 Activities
 - Reconfigure Main Bus Switching Unit (MBSU) CH 1/4, Service Module Debris Panel (SMDP) transfer from ICC to ISS which will increase ISS protection from potential impacts of micro-meteorites and orbital debris.
 - Prior to initiating SMDP Transfer (the EVA c/l will verify DDCU/MBSU operation before removal of the first SMDP bolt), MCC will verify that MBSU, DDCU & PM have powered up correctly. If the PM powerup does not go as planned, the crew will back out of the 1/4 Reconfiguration and perform a fourth EVA to R&R the pump module. In this situation, the failed PM remains on ISS and the 1/4 config is not performed.
 - The Service Module Debris Panels will be installed during the EVA using the SRMS.
 - The Russian (RS) Pwr Reconfig and Adjustable Grapple Bar (AGB) transfer will be performed.
- Contingency but likely to become the plan: CMG-3 has failed. The powerdown allows only CMG-2 to be operable. Therefore, the likely plan is to have the Shuttle hold attitude with VRCS. The Loads Analysis personnel are evaluating if solar arrays will have to be fixed in position while the Shuttle holds attitude.
- The N1 Y Jumper is removed.
- The Carbon Dioxide Removal Assembly (CDRA) R&R will be completed by the ISS crew.
- Depending on Shuttle O2 availability, O2 transfer Init will be performed (may be deferred to FD9). At this point of the mission, if everything had gone well previously, the only usage of O2 would be to add an extra day to the mission to add the Late Inspection. The Mission Management Team will decide if O2 or Late Inspection is higher priority.

FD09 – Transfer

- N2 Transfer will be terminated.
- P/TV08 will be used during a day pass to complete an external survey of the ISS using a digital camera.
- The spare and RSAD A31P laptops are transferred to ISS. RNDZ Tools C/O in prep for undocking will be performed.
- EMUs Reconfig & transferred back the Shuttle.
- MS3 will perform the ALTEA experiment will occasional assistance from FE2-down.
- Final transfer will occur as will POEMS transfer, Tropi Pack and Biomed Pack.

FD10 – Undock

- O2 Transfer will be terminated by the ground and the crew will tear down the hardware after O2 term is complete.
- Standard Undocking prep activities will be performed: Group B Powerup, EMU Install, Crew Farewell, hatch closure, leak checks, C/L Camera install, and Photo/TV setup.
- Attitude Control is handed over from the ISS CMGs to the Orbiter. ISS MCC will command solar arrays to be feathered at the appropriate times to avoid plume and undocking loads while maintaining an acceptable energy balance.
- The Formaldehyde Monitoring Kit (FMK) will be deployed after hatches are closed.

- After Undocking, the Orbiter will perform a one lap flyaround of the ISS, however, no flyaround will be performed if prop is not available or if late inspection and re-rendezvous requirements are added to the mission.
- Generic Post-undocking activities include Group B Powerdown, Condensate Teardown, Space to Space Orbiter Radio (SSOR) Deact and Post EVA Entry Prep.
- After final sep, the Orbiter maneuvers to the MEPSI deploy attitude (retrograde deploy). MEPSI deploy time is selected based on lighting and groundsite overflight constraints.
- The RAFT payload will be deployed with a retrograde component. Its deploy time is selected based on lighting and groundsite overflight constraints.
- After the deploys are complete, a simo dump will be performed.
- P/TV11 is used to monitor MEPSI and RAFT payload deploys.

FD11 – Cabin Stow/Off Duty Day

- Standard day before landing activities performed: FCS C/O, RCS Hot Fire, Pilot Ops, Cabin Stow, SSV Deact, D/O Brief, L-1 Comm Check, Entry Video Setup, SSV deact, Ergometer Stow, Ku-Band stow, MFX Setup (if required), WLES deact.
- P/TV11 is used to monitor ANDE payload deploy.
- The Orbiter maneuvers to the ANDE deploy attitude (retrograde deploy). ANDE deploy time is selected based on lighting and groundsite overflight constraints.
- After ANDE is deployed, the OBSS and RMS MPMs can be rolled in.
- Launch Entry Suit Check and Recumbent Seat Kit Install performed.

FD12 – Deorbit Prep, Entry, and Landing

- SHAB Entry Prep is completed.
- Standard day of Entry activities: FMK Stow, GIRA stow, OCAC stow, PGSC Deact and Printer stow, Group B Powerup for entry, IMU align and verification completed.
- After D/O Burn, MS1 will perform the Midodrine experiment (requires ingesting a tablet).
- D/O Prep, Entry, Landing at KSC!

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STS-116 KU BAND ANTENNA MASKING PLAN

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STS-116 KU BAND ANTENNA MASKING PLAN

APPROX. MET (ALL TIMES APPROXIMATE)	MODE	EVENT	DESCRIPTION
000/01:45:00	Beta 21 + Mask	Ku-band deploy	Standard mode used for Orbiter with all payloads within PLB envelope
000/04:00:00	Beta 21 + Mask with box: A1: $26 \leq AZ \leq 110$ $-90 \leq EL \leq -30$	SRMS Power-up, Checkout, and Power-down	Protects SRMS during checkout operations
000/04:15:00	Standby	RMS C/O	Crew designated arm trajectories
000/05:05:00	Beta 21 + Mask	Post Pre-cradle	Unmated
000/17:00:00	Beta 21 with box: A2: $-90 \leq AZ \leq 110$ $-90 \leq EL \leq 0$	SRMS Power-up, OBSS Unberth, and Flat Field Survey	Protects SRMS during survey operations
000/18:30:00	Beta 21 + Mask with box: A3: $-120 \leq AZ \leq 80$ $-90 \leq EL \leq 45$	Starboard Wing LDRI survey	Protects SRMS during survey operations
000/19:55:00	Beta 21 with box: A4: $-36 \leq AZ \leq 70$ $-48 \leq EL \leq 32$	Nose Cap LDRI survey	Protects SRMS during survey operations
000/22:25:00	Beta 21 with box: A5: $-25 \leq AZ \leq 65$ $-90 \leq EL \leq 0$	Port Wing LDRI survey and OBSS Berth	Protects SRMS during survey operations
001/00:35:00	Beta 21 + Mask	Post OBSS Berth	Protects STS and SRMS in Pre-cradle position
001/01:20:00	Beta 21 with box: A6: $-134 \leq AZ \leq 67$ $-65 \leq EL \leq 82$	Crew Cabin inspection and Pre-cradle	Protects SRMS during survey operations
001/02:25:00	Beta 21 + Mask	SRMS Post Pre-cradle	Unmated
001/20:15:00	Beta 21 with box: B1: $-35 \leq AZ \leq 55$ $-23 \leq EL \leq 36$	ISS at 765 ft	Post MC-2 to protect the ISS Ku-band antenna

KU BAND ANT
MASKING

APPROX. MET (ALL TIMES APPROXIMATE)	MODE	EVENT	DESCRIPTION
001/20:45:00	Beta 0 with box: C1: $-18 \leq AZ \leq 46$ $-65 \leq EL \leq 75$ C2: $-32 \leq AZ \leq -3$ $-28 \leq EL \leq 39$ C3: $-72 \leq AZ \leq -27$ $-13 \leq EL \leq 40$	ISS at 105 ft	Protects the ISS Ku-band antenna, ISS structure during approach, ISS structure while mated, and for use during P5 Install procedures
002/16:00:00	Beta 0 with box: C1: $-18 \leq AZ \leq 46$ $-65 \leq EL \leq 75$ C2: $-32 \leq AZ \leq -3$ $-28 \leq EL \leq 39$ C3: $-72 \leq AZ \leq -27$ $-13 \leq EL \leq 40$ E1: $-103 \leq AZ \leq 125$ $-25 \leq EL \leq 62$	EVA#1, SSRMS to Pre-Install Setup, SSRMS Stow, MT Translation to Worksite #3, and SRMS for P6 4B Retract	Protects ISS structure, EVA operations, and MT/SSRMS xlation to WS#3
003/03:00:00	Beta 21 with box: C1: $-18 \leq AZ \leq 46$ $-65 \leq EL \leq 75$ C2: $-32 \leq AZ \leq -3$ $-28 \leq EL \leq 39$ C3: $-72 \leq AZ \leq -27$ $-13 \leq EL \leq 40$ D1: $-55 \leq AZ \leq 125$ $-22 \leq EL \leq 62$	MT at Worksite #3 and SRMS for P6 4B Retract	Protects ISS structure, SSRMS while located at worksite #3, and SRMS for P6 4B Retract
004/17:45:00	Beta 0 with box: C1: $-18 \leq AZ \leq 46$ $-65 \leq EL \leq 75$ C2: $-32 \leq AZ \leq -3$ $-28 \leq EL \leq 39$ C3: $-72 \leq AZ \leq -27$ $-13 \leq EL \leq 40$ E1: $-103 \leq AZ \leq 125$ $-25 \leq EL \leq 62$	SRMS Power-up, EVA#2, and SRMS to CETA Cart Viewing position	Protects ISS structure while mated and for use during EVA#2

APPROX. MET (ALL TIMES APPROXIMATE)	MODE	EVENT	DESCRIPTION
~004/19:45:00 – 004/22:45	Ku to STANDBY	CETA Cart 1 & 2 Relocate	Due to large SSRMS maneuvers above the Ku- band dish, the Ku-band should be taken to standby while the arm is in motion
005/00:15:00	Beta 21 with box: C1: $-18 \leq AZ \leq 46$ $-65 \leq EL \leq 75$ C2: $-32 \leq AZ \leq -3$ $-28 \leq EL \leq 39$ C3: $-72 \leq AZ \leq -27$ $-13 \leq EL \leq 40$ D1: $-55 \leq AZ \leq 125$ $-22 \leq EL \leq 62$	Mated ISS, SSRMS, and MT at Worksite #3	Protects ISS structure and SSRMS while mated
006/17:15:00	Beta 0 with box: C1: $-18 \leq AZ \leq 46$ $-65 \leq EL \leq 75$ C2: $-32 \leq AZ \leq -3$ $-28 \leq EL \leq 39$ C3: $-72 \leq AZ \leq -27$ $-13 \leq EL \leq 40$ E1: $-103 \leq AZ \leq 125$ $-25 \leq EL \leq 62$	EVA #3	Protects ISS structure while mated and for use during EVA #3, the SRMS Power- up, SRMS use for SMDP transfer, and SRMS Power- down
007/00:00:00	Beta 21 with box: C1: $-18 \leq AZ \leq 46$ $-65 \leq EL \leq 75$ C2: $-32 \leq AZ \leq -3$ $-28 \leq EL \leq 39$ C3: $-72 \leq AZ \leq -27$ $-13 \leq EL \leq 40$ D1: $-55 \leq AZ \leq 125$ $-22 \leq EL \leq 62$	Mated ISS, SSRMS, and MT at Worksite #3	Protects ISS structure and SSRMS while mated

APPROX. MET (ALL TIMES APPROXIMATE)	MODE	EVENT	DESCRIPTION
007/12:30:00	Beta 21 with box: C1: $-18 \leq AZ \leq 46$ $-65 \leq EL \leq 75$ C2: $-32 \leq AZ \leq -3$ $-28 \leq EL \leq 39$ C3: $-72 \leq AZ \leq -27$ $-13 \leq EL \leq 40$ D2: $-78 \leq AZ \leq 75$ $-22 \leq EL \leq 62$	Mated ISS and MT Translation to Worksite #2	Protects ISS structure and SSRMS while mated; also protects SSRMS while in translation to Worksite #2
007/14:30:00	Beta 21 with box: C1: $-18 \leq AZ \leq 46$ $-65 \leq EL \leq 75$ C2: $-32 \leq AZ \leq -3$ $-28 \leq EL \leq 39$ C3: $-72 \leq AZ \leq -27$ $-13 \leq EL \leq 40$ D3: $-78 \leq AZ \leq 25$ $-16 \leq EL \leq 55$	MT at Worksite #2	Protects ISS structure and SSRMS while mated; also protects MT/SSRMS at Worksite #2
008/20:00:00	Beta 21 with box: B1: $-35 \leq AZ \leq 55$ $-23 \leq EL \leq 36$	ISS at 105 ft	Protects the ISS Ku-band antenna
008/20:30:00	Beta 21 + Mask	ISS Range > 765 ft	Unmated
008/22:10:00	Beta 0	RAFT Deploy	Protects RAFT from Deploy through Deploy + 8 seconds (Range > 100 ft)
008/23:15:00	Beta 21 + Mask	Post RAFT Deploy	Unmated
009/19:55:00	Beta 21 with box: F1: $0 \leq AZ \leq -90$ $-90 \leq EL \leq -25$	ANDE Deploy	Protects ANDE from Deploy through Deploy + 175 seconds (Range > 100 ft)
009/20:30:00	Beta 21 + Mask	Post ANDE Deploy	Unmated
010/00:00:00		Ku-band Stow	

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FLIGHT PLAN

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