

Flight Plan

STS-92

(STS-92 FRR Trajectory)

Mission Operations Directorate Operations Division

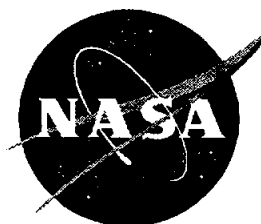
Final
September 18, 2000

For the latest working copy of the Flight Plan, visit
<https://mod.jsc.nasa.gov/do4/flightplan>

EVENT		MET		CST
Launch	0	00:00	Thu	10/05/00 20:30
Docking	1	18:38	Sat	10/07/00 15:08
Z1 Install	2	13:30	Sun	10/08/00 10:00
ISS Ingress 1	2	18:50	Sun	10/08/00 15:20
EVA 1	3	15:20	Mon	10/09/00 11:50
EVA 2 (PMA3 Install)	4	15:15	Tue	10/10/00 11:45
EVA 3	5	15:30	Wed	10/11/00 12:00
EVA 4	6	15:30	Thu	10/12/00 12:00
ISS Ingress 2	7	14:30	Fri	10/13/00 11:00
Undocking	8	14:55	Sat	10/14/00 11:25
Separation	8	15:57	Sat	10/14/00 12:27
Deorbit Burn	10	17:57	Mon	10/16/00 14:27
KSC Landing	10	18:57	Mon	10/16/00 15:27

National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas



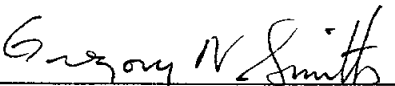
Verify this is the correct version for the pending operation (training, simulation, or flight).
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MISSION OPERATIONS DIRECTORATE

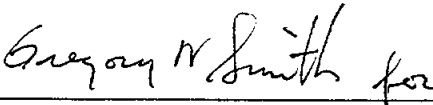
STS-92 FLIGHT PLAN

FINAL
September 18, 2000

PREPARED BY:



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Neisha T. Lopez
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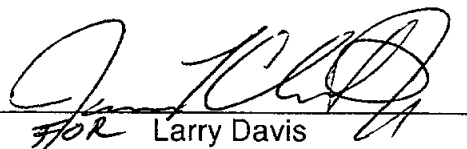
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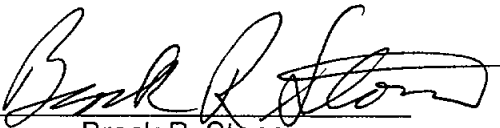
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Incorporates the following:	
482#:	FLT PLN – 1963
Exception #:	92-1 92-2 92-3

AREAS OF TECHNICAL RESPONSIBILITY

Book Manager/Lead FAO	DO4/G. Smith	281-244-1138
Lead Timeliner	DO4/N. Lopez	281-244-1022
Lead Pointer	DO4/K. Watts	281-244-5368

FLIGHT PLAN
STS-92

LIST OF EFFECTIVE PAGES

FINAL 09/18/00

Sign Off	* 92/FIN	3-14	92/FIN
ii	* 92/FIN	3-15	92/FIN
iii	* 92/FIN	3-16	92/FIN
iv	* 92/FIN	3-17	92/FIN
v	* 92/FIN	3-18	92/FIN
vi	* 92/FIN	3-19	92/FIN
vii	* 92/FIN	3-20	92/FIN
viii	* 92/FIN	3-21	92/FIN
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3-11	92/FIN	3-58	92/FIN
3-12	92/FIN	3-59	92/FIN
3-13	92/FIN	3-60	92/FIN

* - Omit from flight book

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3-69	92/FIN	3-123	92/FIN
3-70	92/FIN	3-124	92/FIN
3-71	92/FIN	3-125	92/FIN
3-72	92/FIN	3-126	92/FIN
3-73	92/FIN	3-127	92/FIN
3-74	92/FIN	3-128	92/FIN
3-75	92/FIN	3-129	92/FIN
3-76	92/FIN	3-130	92/FIN
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CC 11-4	*	92/FIN
CC 11-5	*	92/FIN
11-6	*	92/FIN

* - Omit from flight book

STS-92 FLIGHT PLAN FABRICATED ITEMS

<u>Title</u>	<u>Ref. Page</u>	<u>Item No.</u>
STS-92 GENERIC DAP A CONFIGURATION	CC 11-2	FLT PLN-1a/92/O/B
STS-92 GENERIC DAP B CONFIGURATION	CC 11-3	FLT PLN-1aa/92/O/B
STS-92 FLT SPECIFIC DAP A CONFIGURATION	CC 11-4	FLT PLN-1b/92/O/B
STS-92 FLT SPECIFIC DAP B CONFIGURATION	CC 11-5	FLT PLN-1bb/92/O/B

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INTRODUCTION

The STS-92 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 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-17462-92, STS-92 Flight Requirements Document
- NSTS-37326, Shuttle Crew Scheduling Constraints

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

The Basic STS-92 Flight Plan, as part of the Flight Data File, meets the specifications of the STS-92 Flight Initialization Data Pack, version 92flt-as.

The STS-92 Flight Plan was based on the Flight Cycle profile and a launch date of October 5, 2000, at 20:30 CST. Orbiter inertial attitudes are expressed relative to a mean of 1950 (M50) reference frame.

NSTS-37326, Shuttle Crew Scheduling Constraints (SCSC), Basic, July 1999, has been used to build the timelines contained in this Flight Plan.

The following SCSC Exceptions have been submitted, but not dispositioned. These exceptions are needed to accomplish category 1 mission objectives:

- 92-1 Pre- or Post-Sleep < 2 hr minimum
- 92-2 Aggregate Pre/Post-Sleep < 4 hr minimum
- 92-3 Unscheduled exercise

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

<https://mod.jsc.nasa.gov/do4/flightplan/>

OVERVIEW TIMELINE

STS-92 Overview Timeline

Launch Oct. 5, 2000 01:30 GMT

OVERVIEW
TIMELINE

0	1	2	3	4	5	6
ASC	PI	NC1	PS	SLP		

FD2																											
0/6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6			
SLEEP						POST SLEEP	EMU & RMS C/O, RNDZ PREP				☕	EMU, SAFER, OSVS & RNDZ TOOLS C/O				PRE SLEEP			SLEEP								

FD3																											
1/6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6			
SLEEP					P S	ISS RNDZ							NODE INGRESS				PRE SLEEP			SLEEP							

^Dock 1/18:38

FD4																											
2/6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6			
SLEEP					POST SLEEP	Z1 INSTALL						☕	ISS INGRESS #1				EVA TOOLS		PRE SLEEP		SLEEP						

^10.2 Depress

FD5																											
3/6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6			
SLEEP					POST SLEEP	EVA PREP		EVA 1 (6:30) Z1 UMBILICALS						POST EVA		EMU SWAP & PROC REV		PRE SLEEP		SLEEP							

FD6																											
4/6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6			
SLEEP					POST SLEEP	EVA PREP		EVA 2 (6:30) PMA3 INSTALL						POST EVA		EMU SWAP & PROC REV		PRE SLP (1 hr)		SLEEP							

FD7																											
5/6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6			
SLEEP					POST SLEEP	EVA PREP		EVA 3 (6:30) Z1 & PMA3 OUTFITTING						POST EVA		EMU SWAP & PROC REV		PRE SLP (1 hr)		SLEEP							

FD8																											
6/6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6			
SLEEP					POST SLEEP	EVA PREP		EVA 4 (6:30) Z1 OUTFITTING						POST EVA			PRE SLEEP			SLEEP							

FD9																											
7/6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6			
SLEEP					POST SLEEP	PRCS TEST		ISS INGRESS				☕	ISS EGRESS			UDK TAG UP		PRE SLEEP			SLEEP						

^14.7 Repress

FD10																											
8/6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6			
SLEEP					POST SLEEP	S / U	UDK		FLY ARND, S TRK		☕	P A O	OFF DUTY				PRE SLEEP			SLEEP							

^Undock 8/14:55

FD11																											
9/6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6			
SLEEP					POST SLEEP			CABIN STOW, MAGR TEST				☕	FCS C/O		RCS H/F, D/O BRIEF		OFF DUTY, COMM CK		PRE SLEEP			SLEEP					

FD12																											
10/6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6			
SLEEP					POST SLP		IMU		D/O PREP																		

^ KSC Landing 10/18:5

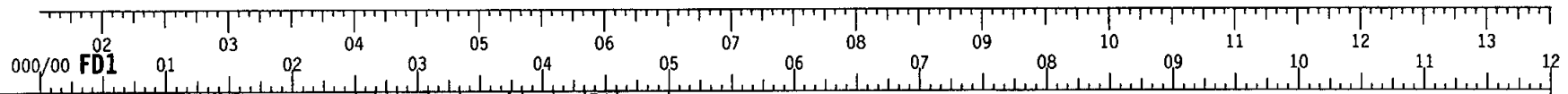
SUMMARY TIMELINE

SUMMARY TIMELINE

BETA ANGLE: +45.0

GMT 10/06/00

MET Day 000



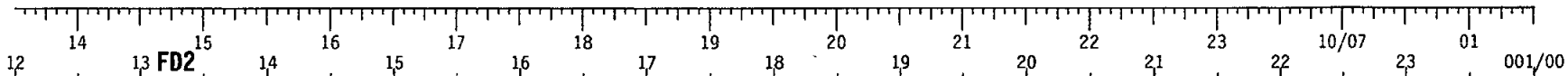
S T S	CDR DUFFY	PI	M-NZ V-LV	POST INSERT	IS C/B C/K	PMC	NC1 OMS BURN	MT NCS 1*	IG RWB DN	FL OAT UD RE	PRE SLEEP	SLEEP
	PLT MELROY			POST INSERTION	I C/B C	I M U	OMS BURN		A P U @		PRE SLEEP	SLEEP
E V A	MS5/R1 WAKATA	L A U N C H	O M S - 2	ODS ^A S/U	POST INSERTION	GIRA INSTALL					PRE SLEEP	SLEEP
	MS1/EV1 CHIAO			KU D ^A PY	POST INSERTION	O S C/ U C				PRE SLEEP	SLEEP	
	MS2/EV2 MCARTHUR			O C A S/ U	POST INSERTION	N S/ E/ U	O C A S/ U	S W I S/ S/ U	O M S B U R N		PRE SLEEP - GIRA	SLEEP
	MS3/EV3 WISOFF			O C A S/ U	POST INSERTION	N S/ E/ U	O C A S/ U	S W I S/ S/ U		PRE SLEEP	SLEEP	
	MS4/EV4 LOPEZ-ALEGRIA			POST INSERTION	O S C/ U C					PRE SLEEP	SLEEP	

GROUND	Δ	W A R M	W A R M	W A R M
DAY/NIGHT	2	3	4	5
ORBIT	6	7	8	
RUS GSTD	ISS SEE DAILY PLAN			
DAILY ORBIT	7	8	9	10
TDRS H/O	11	12	13	
E (-47)	-----			
W (-171)	-----			
Z (+85)	-----			
STS ATT	-ASCENT	-ZLV,+YVV	-NC1	BIAS -XSI (TCS C/O)
ISS ATT	+XPH +ZNN			
NOTES	♦RMS INIT @COLOR PRINTER SETUP ▼DDCU CHIA HTR ACT @DEACT/RECONFIG ΔPREWARM HTR RECONFIG *ATT WARMS H2O LINES & COOLS Z1 TRUSS @ TCS C/O 2 (COOL ATT FOR H2O LINES)			

BETA ANGLE: +45.4

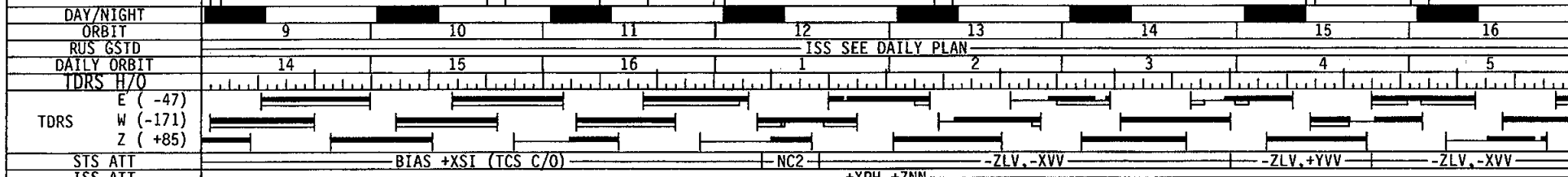
GMT 10/06/00

MET Day 000



STS	CDR DUFFY	SLEEP	POST SLEEP		CRYO 02 SNSR CK	ERGO S/U	NC2 ^A +X RCS BURN	M-NZLV	A-FMTR	P-CO	E-LV	MEAL	LD OAP D	NPC ^A MULTI AXIS BURN	M-NZLV	S-PN	ST-PEN	M-NZLV	PO PPT Y	RNDZ TOOLS C/O	ICBC3D
	PLT MELROY	SLEEP	POST SLEEP		CRYO 02 SNSR CK	ERGO S/U	+X RCS BURN	M-NZLV	φ	APCU C/O	EXERCISE	MEAL	LD OAP D	MULTI AXIS BURN	FILTER CLEANING	RNDZ PGSC S/U				RNDZ TOOLS C/O	FUEL CELL MON
	MS5/R1 WAKATA	SLEEP	POST SLEEP		RMS SHT R	P/TV20 SETUP	RP MWSR UP	RMS C/O	RMS PLB SURVEY	RP MWSR DN	P/TV09 SETUP OSVS	OP SWVR SUP	MEAL		OSVS C/O	OSVSDN	P/TV 02 SETUP	PO PPT Y			
EVA	MS1/EV1 CHIAO	SLEEP	POST SLEEP		A/L PREP *	P/TV20 SETUP	SEE S/U	A/L PREP	EMU C/O W/ GLVS		MEAL	EMU SWAP & RESIZE	EMU C/O W/ GLVS		SAFER C/O *						
	MS2/EV2 MCARTHUR	SLEEP	POST SLEEP - GIRA		RP MWSR UP	RMS C/O	RMS PLB SURVEY	RP MWSR DN	P/TV09 SETUP OSVS	MEAL	EMU SWAP & RESIZE	OSVS C/O	OSVSDN	EMU C/O W/ GLVS	SAFER C/O ▽	ODS RNG EXT					
	MS3/EV3 WISOFF	SLEEP	POST SLEEP		A/L PREP *	P/TV20 SETUP	P/TV22 SETUP	A/L PREP	EMU C/O W/ GLVS		MEAL	EMU SWAP & RESIZE	EMU C/O W/ GLVS		ICBC PGSC S/U	DP NRLE NK	ODS RNG EXT ◊				
	MS4/EV4 LOPEZ-ALEGRIA	SLEEP	POST SLEEP		MAGR UNSTOW	MAGR SETUP	RP MWSR UP	RMS C/O	A/L PREP	EMU C/O W/ GLVS		MEAL	DCS S/U	SSV S/U	EXERCISE	RNDZ PGSC S/U	RNDZ TOOLS C/O	PRE INGRS S/U			

GROUND	SWIS	WARM	FGB SCRUB ACT	SWIS	WARM	SWIS	WARM
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NOTES: *EMU, HLMT LT/PGT, & REBA recharge init φOIU ACT

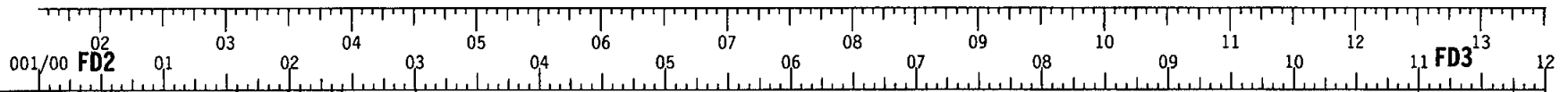
▲EXERCISE

•HLMT LT/PGT B
▽HLMT LT/PGT B
○VIDEO

BETA ANGLE: +45.7

GMT 10/07/00

MET Day 001

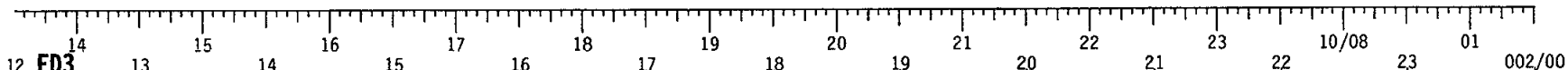


STS	CDR DUFFY	FC*PMC OCA	PRE SLEEP	NCS +X RCS BURN	M-N Z-L V-R V-U	PRE SLEEP	SLEEP	POST SLEEP	GP RW PR BU P
	PLT MELROY	FC*	PRE SLEEP	+X RCS BURN	M-N Z-L V-R V-U	PRE SLEEP	SLEEP	POST SLEEP	GP RW PR BU P
	MS5/R1 WAKATA		PRE SLEEP				SLEEP	POST SLEEP	
EVA	MS1/EV1 CHIAO		PRE SLEEP				SLEEP	POST SLEEP	
	MS2/EV2 MCARTHUR		PRE SLEEP	+X RCS BURN		PRE SLEEP - GIRA	SLEEP	POST SLEEP - GIRA	
	MS3/EV3 WISOFF	VPL ILDY EB OK	PRE SLEEP				SLEEP	POST SLEEP	
	MS4/EV4 LOPEZ-ALEGRIA		PRE SLEEP	MAGR		PRE SLEEP	SLEEP	POST SLEEP	
GROUND	SWISS			WARM			SWISS	WARM	SWISS
DAY/NIGHT	[Day/Night Cycle: 17h light, 18h dark, 19h light, 20h dark, 21h light, 22h dark, 23h light, 24h dark]								
ORBIT	17 18 19 20 21 22 23 24								
RUS GSTD	ISS SEE DAILY PLAN								
DAILY ORBIT	5 6 7 8 9 10 11 12 13								
TDRS H/O	[Timeline of TDRS H/O events]								
TDRS	E (-47) W (-171) Z (+85)								
STS ATT	-ZLV, -XVV NCS -ZLV, -XVV								
ISS ATT	+XPH +ZNN								
NOTES	*PURGE-MANUAL *WSB CONTROLLER SWAP								

BETA ANGLE:+45.7

GMT 10/07/00

MET Day 001



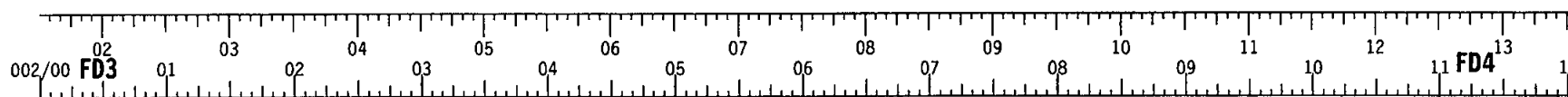
STS	CDR DUFFY	NH	NC4	Ti	RBAR	FINAL APPROACH	MNVR -XPH -ZNN	GPWRD N	PREP	GREEN	EXERCISE	PMCOCA	DIAP											
	PLT MELROY	ISS RNDZ				ODS PREP FOR DOCK	ISS RNDZ	ES/PCS	AA PCT U	PMA2 INGRS1	NODE 1 INGR #1	PI M N A G R S	EXERCISE											
	MS5/R1 WAKATA	*	ISS RNDZ		P/TV20 OPS		ES/PCS	AA PCT U	RMS SHTR	PGSC S/U RMS	EXERCISE	RP M W S R U P	RMS PLB SURVEY	RP M W S R D N	OP S W R U P									
EVA	MS1/EV1 CHIAO	ISS RNDZ				EXERCISE	DP NR L E N P K	VP I L D Y E B O K	TRANSFER PREP		TRANSFER OPS													
	MS2/EV2 MCARTHUR	S D W I S A B L	ISS RNDZ			ODS PREP FOR DOCK	ISS RNDZ	GPWRD N	PREP	GREEN	ODS/PMA2 PRESS	PGSC S/U RMS	RP M W S R U P	RMS PLB SURVEY	RP M W S R D N									
	MS3/EV3 WISOFF	ISS RNDZ		P/TV20 OPS			S R W E I S T O R	ODS PREP FOR INGRS	P/TV21 SETUP	P/TV21 OPS ISS	EXERCISE													
	MS4/EV4 LOPEZ-ALEGRIA	ISS RNDZ				EXERCISE	ODS PREP FOR INGRS	ODS/PMA2 PRESS	PMA2 INGRS1	NODE 1 INGR #1	PI M N A G R S	TRANSFER OPS												
GROUND	WARM	CONF IG	ACS*	MNVR	IN AT T	PWRD N	FTHR	CONF IG	ACS*	FREE	LK CK	CONF IG	ACS*	SUNC TRK*	M C I U S	R P C M	RECOV	WACAB FAN ACT	⊕	ECSTT	ECSP/D	SWARMS		
DAY/NIGHT	[Bar chart showing day/night cycle]																							
ORBIT	24	25	26	27	28	29	30	31	32															
REGUL GSTD	[Bar chart showing regular ground station activity]																							
DAILY ORBIT	13	14	15	1	2	3	4	5	6															
TDRS H/O	[Bar chart showing TDRS handover]																							
TDRS	[Bar chart showing TDRS activity with E (-47), W (-171), Z (+85) labels]																							
STS ATT	[Bar chart showing STS attention]																							
ISS ATT	[Bar chart showing ISS attention]																							
NOTES	*MCIU FLTR +XPH +ZNN RNDZ +XLV +ZVV M50 XPOP EQUIV BIAS -XPH, -ZNN																							
	*NODE1 HTRS PWRDWN *ACS PRE ARRIVAL MOD *DOCKING 1/18:38 *ACS ARRIVAL MOD *ACS POST ARRIVAL MOD *GO 4 ND1 PWRUP ⊕IMV VLV RECONFIG ⊕RPCM RESET																							

H A O R D I N G I M A G E *

BETA ANGLE: +45.7

GMT 10/08/00

MET Day 002

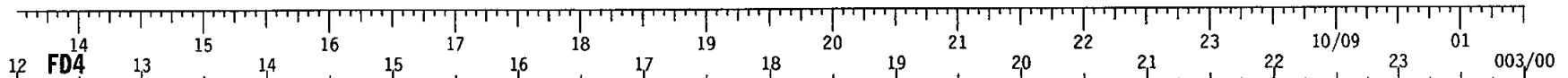


S T S	CDR DUFFY	PRE SLEEP		SLEEP						POST SLEEP	M D N U V M R P				
	PLT MELROY	PRE SLEEP		SLEEP						POST SLEEP					
	MS5/R1 WAKATA	PRE SLEEP		SLEEP						POST SLEEP					
E V A	MS1/EV1 CHIAO	PRE SLEEP		SLEEP						POST SLEEP					
	MS2/EV2 MCARTHUR	PRE SLEEP - GIRA		SLEEP						POST SLEEP - GIRA					
	MS3/EV3 WISOFF	PRE SLEEP		SLEEP						POST SLEEP					
	MS4/EV4 LOPEZ-ALEGRIA	PRE SLEEP	M A G R	PRE SLEEP	SLEEP						POST SLEEP				
GROUND	S W I T C H	O T S E V S T	W A R M	S W I T C H	E C S T T	E C S T T	R B D C T M	S W I T C H	W A R M	S W I T C H	NODE1 ZEN CBM PREP	S W I T C H	H P T R R D W N	S W I T C H	
DAY/NIGHT	[Bar chart showing day/night cycle]														
ORBIT	32	33	34	35	36	37	38	39	40						
REGUL GSTD															
DAILY ORBIT	6	7	8	9	10	11	12	13	14						
TDRS H/O	[Timeline with TDRS H/O markers]														
TDRS	[Timeline with TDRS E (-47), W (-171), Z (+85) markers]														
(ISS)STACK ATT	BIAS -XPH, -ZNN														
NOTES															

BETA ANGLE: +45.3

GMT 10/08/00

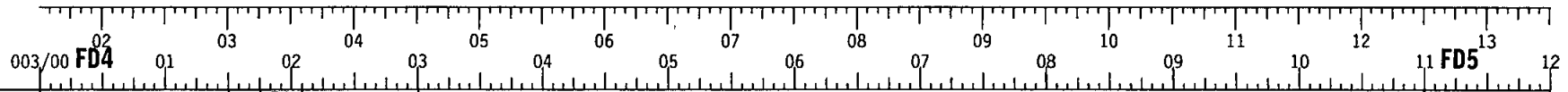
MET Day 002



STS	CDR DUFFY	SINIMOT	POST SLEEP	STEIRROM	MNVR -XPH -ZNN	POST SLEEP	ICBC3D	VEARP	FCR3D	FCR3D	FCR3D	MNVR +ZNN*	FCR3D	FCR3D	DAP	DAP	MEAL	PINAGRS	FGB INGRESS	GRPNRS	FGB NODIMV	FGB EGRS	NODE 1 EGRESS #1	PMA2 EGRS1	PREP	10.2 DEPRESS	CNFG
	PLT MELROY	POST SLEEP		NODE1 ACBM PREP										ABCOLTS	BOLT LOADING	MEAL	Z1 INGR	Z1 OUTFITTING #1	Z1 GRSS	EXERCISE		PREP	10.2 DEPRESS	CNFG			
	MS5/R1 WAKATA	POST SLEEP	RM SHTR	POST SLEEP	RMWRUP	ZGRAPL	UNBRTH	LOW HVR	HIGH	ZOSEVTUP	Z1	INSVSTL	MNVR TO RTL POSN	UNGGPL	RMWRDN	MEAL	TRANSFER OPS		P/TV21 OPS ISS								
EVA	MS1/EV1 CHIAO	POST SLEEP										XFER PREP		MEAL	P/TV21 OPS ISS		MDDK PREP	PINBIT	EVA TOOL CONFIG	PGE/BRM							
	MS2/EV2 MCARTHUR	POST SLEEP - GIRA	P/TV22 OSVS SETUP							ZOSEVTUP	Z1	INSVSTL	OSVSDN	MEAL	YS/AUBLE	CMG JUMPER INSTALL	EXERCISE	MDDK PREP	PINBIT	EVA TOOL CONFIG	PGE/BRM						
	MS3/EV3 WISOFF	POST SLEEP		PS/TUV22	POPTV22			CCTV						MEAL	Z1 INGR	Z1 OUTFITTING #1	Z1 GRSS	P/TV21 OPS ISS									
	MS4/EV4/R2 LOPEZ-ALEGRIA	POST SLEEP		RMWRUP	ZGRAPL	UNBRTH	LOW HVR	HIGH	ZOSEVTUP	Z1	INSVSTL	MNVR TO RTL POSN	UNGGPL	RMWRDN	MEAL	PINAGRS	FGB INGRESS	XFER OPS	GRPNRS	FGB NODIMV	FGB EGRS	NODE 1 EGRESS #1	PMA2 EGRS1	EXERCISE			
GROUND	SWISS		HRTRVY	SWISS	HPTRDWN			SWISS		KBDOP	FGBRUCT	DEBRUCT	SWISS	KBDOP	ECSPU	HRTRVY	SWISS	UBACT	IMVACT	SWISS	KBDACL	UBACT	SWISS	HSWARM	IMVVLV	SWISS	
DAY/NIGHT	40		41		42		43		44		45		46		47		48										
REGUL GSTD	14		15		16		1		2		3		4		5		6										
DAILY ORBIT	14		15		16		1		2		3		4		5		6										
TDRS H/O	E (-47)		W (-171)		Z (+85)																						
(ISS) STACK ATT	-B +ZLV, -YVV		BIAS -XPH, -ZNN		*Z1 THRML		@2ND STAGE CAPTURE		φMCC-H GO QIB FAN ACT		BIAS -XPH, +ZNN		▲IMV DEACT														
NOTES			Z1 INSTALL PROC C/L (Pg 4-2)		▲INSTL		φMCC-H GO TO MCC-M																				

BETA ANGLE: +44.9

GMT 10/09/00
MET Day 003



S T S	CDR DUFFY	PRE SLEEP	PMC OCA	FLU TAU D R E	PRE SLEEP	SLEEP										POST SLEEP
	PLT MELROY	PRE SLEEP				SLEEP										POST SLEEP
	MS5/R1 WAKATA	PROC REVIEW	PRE SLEEP			SLEEP										POST SLEEP
E V A	MS1/EV1 CHIAO	PROC REVIEW	PRE SLEEP			SLEEP										POST SLEEP
	MS2/EV2 MCARTHUR	PROC REVIEW	PRE SLEEP - GIRA			SLEEP										POST SLEEP - GIRA
	MS3/EV3 WISOFF	PROC REVIEW	PRE SLEEP			SLEEP										POST SLEEP
	MS4/EV4 LOPEZ-ALEGRIA	PROC REVIEW	M A G R	PRE SLEEP			SLEEP									
GROUND		S W I S	E C S T T	E C S P / D	S W I S	H S W A R M	S W I S	E C S T T	E C S T T	S W I S	H S W A R M	S W I S	N C S C O N F I G	L S O H A E D 7	H S W A R M	S W I S
DAY/NIGHT	█		█		█		█		█		█		█		█	
ORBIT	48	49		50		51		52		53		54		55		56
REGUL GSTD	-															
DAILY ORBIT	6	7		8		9		10		11		12		13		14
TDRS H/O	-															
TDRS																
(ISS) STACK ATT	BIAS -XPH,+ZNN								BIAS -XPH,-ZNN							
NOTES	VEXERCISE								ØFUT LOADED BIAS -XPH,-ZNN A/L COLD SOAK ATT FOR EVA							

BETA ANGLE:+44.3

GMT 10/09/00

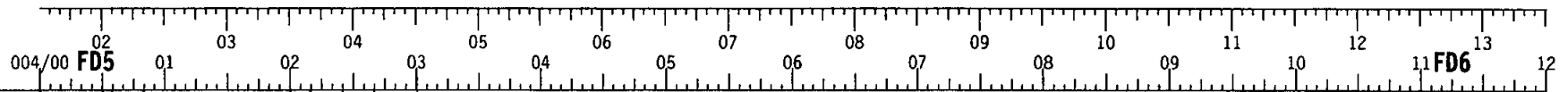
MET Day 003

		12	13	14	15	16	17	18	19	20	21	22	23	10/10	23	01		
STS	CDR DUFFY	DA P PMC OCA	POST SLEEP		MNVR -XPH +ZNN	EXERCISE			MEAL							MNVR +ZLV +XVV		
	PLT MELROY	10:2	POST SLEEP	EXERCISE				MEAL										
	MS5/R1 WAKATA		POST SLEEP			PAD SETUP	Z1 STRING 1 UMB	SASA RELOCATE	Z1 STRING 2 UMB	SGANT DISH INSTALL		PORT ETS	PAD CLEAN UP			EXERCISE		
EVA	MS1/EV1 CHIAO		EVA PREP	EMU PURGE P/B		SETUP	Z1 STRING 1 UMB	SASA RELOCATE	Z1 STRING 2 UMB	SGANT DISH INSTALL	SBD GOL NMY T	PORT ETS INSTALL	CLEAN UP		POST EVA W H2O	EMU BATT/ LIOH		
	MS2/EV2 MCARTHUR		EVA PREP	EMU PURGE P/B		SETUP	Z1 STRING 1 UMB	SASA RELOCATE	Z1 STRING 2 UMB	SGANT DISH INSTALL	SBD GOL NMY T	PORT ETS INSTALL	CLEAN UP		POST EVA W H2O	EMU BATT/ LIOH		
	MS3/EV3 WISOFF		EVA PREP		EVA CHECK	EVA # 1 (6:30) EVA SUPPORT										POST EVA W H2O	EMU SWAP	EMU EQU SWAP
	MS4/EV4/R2 LOPEZ-ALEGRIA		POST SLEEP	P/TV22 SETUP	P/TV22 OPS		PAD SETUP	Z1 STRING 1 UMB	SASA RELOCATE	Z1 STRING 2 UMB	SGANT DISH INSTALL		PORT ETS	PAD CLEAN UP		POST EVA W H2O	EMU SWAP	EMU EQU SWAP
GROUND																		
DAY/NIGHT																		
ORBIT		56	57	58	59	60	61	62	63									
REGUL GSTD																		
DAILY ORBIT		14	15	1	2	3	4	5	6									
TDRS H/O																		
TDRS		E (-47)																
		W (-171)																
		Z (+85)																
(ISS) STACK ATT		BIAS -XPH, -ZNN				BIAS -XPH, +ZNN												
NOTES		*CAB FAN DEACT		*N1-1 PRE UMB			*POST UMB-BD HTR ACT			*HTR RECOVERY								
		*PRE UMB			*ECS HTR ACT			@POST UMB			@RPCM RESET							
					@PRE UMB													

BETA ANGLE: +43.5

GMT 10/10/00

MET Day 004

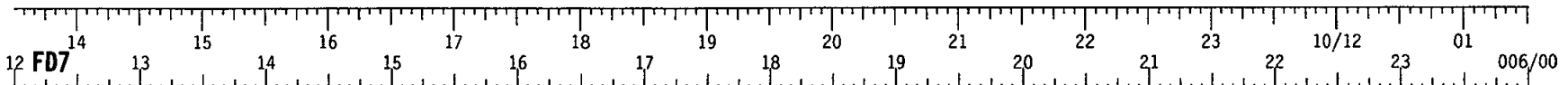


STS	CDR DUFFY	RE BOOST	M+N Z V R N	PRE SLEEP	10.2 PMA	FLO TA U D E	SLEEP										POST SLEEP	
	PLT MELROY	RE BOOST	PRE SLEEP			SLEEP										POST SLEEP		
	MS5/R1 WAKATA	PRE SLEEP	PROC REVIEW	PRE SLEEP	SLEEP										POST SLEEP			
EVA	MS1/EV1 CHIAO	SAFER C/O	PROC REVIEW	PRE SLEEP	SLEEP										POST SLEEP			
	MS2/EV2 MCARTHUR	SAFER C/O	PROC REVIEW	PRE SLEEP - GIRA	SLEEP										POST SLEEP - GIRA			
	MS3/EV3 WISOFF	EVA TOOL CONFIG	PROC REVIEW	PRE SLEEP	SLEEP										POST SLEEP			
	MS4/EV4 LOPEZ-ALEGRIA	EVA TOOL CONFIG	PROC REVIEW	M A G R	PRE SLEEP	SLEEP										POST SLEEP		
GROUND	H S W A R M	S W I S	HTR RECOVERY	S W I S	HTR RECOVERY	S B D C/O	E C S T I T	H S W A R M	S R P D T	B P D T	E C S T I T	P C L O S E	S W I S	S W I S	H S W A R M	S W I S	NODE1 NADIR CBM PREP	S W I S
DAY/NIGHT	[Shaded bars indicating day/night cycle]																	
ORBIT	64 65 66 67 68 69 70 71																	
REGUL GSTD	[Shaded bars]																	
DAILY ORBIT	6 7 8 9 10 11 12 13 14																	
TDRS H/O	[Shaded bars]																	
E (-47)	[Shaded bars]																	
W (-171)	[Shaded bars]																	
Z (+85)	[Shaded bars]																	
(ISS) STACK ATT	BIAS -XPH,+ZNN BIAS -XPH,-ZNN																	
NOTES	©EPS PREP FOR PMA3 ©FUT LOADED BIAS -XPH,-ZNN A/L COLD SOAK ATT FOR EVA																	

BETA ANGLE: +40.3

GMT 10/11/00

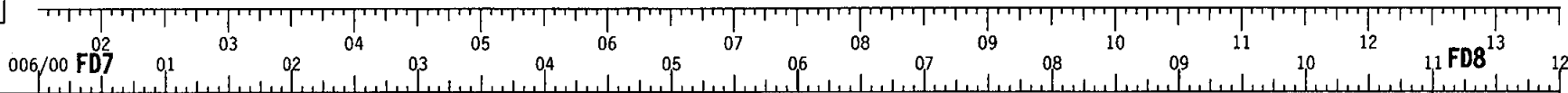
MET Day 005



STS	CDR DUFFY	PSOL SETTEP	PMC OCA	IMAX3D FILMING	IFU MALL XMO 3AD	DAP	IMAX3D LOAD FILM	MEAL	ICBC 3D	DDCU Z14B HTR ACT	ICBC 3D	DDCU Z13B HTR ACT	DDCO	ICBC 3D	DDCO	IMAX3D SCENE SETUP	DDCO	MNVR +ZLV +XVV	RE BOOST	MNVR -XPH, +ZNN	IMAX3D FILMING	EXERCISE	
	PLT MELROY	POST SLEEP	10 :2	POST SLEEP	ADPE CACT		MEAL			DDCU Z14B HTR ACT		DDCU Z13B HTR ACT	DDCO	DDCO	DDCO	IMAX3D SCENE SETUP	EXERCISE	RE BOOST		10 :2	IMAX3D FILMING	IFU MALL XMO 3AD DD	
	MS5/R1 WAKATA	POST SLEEP	RM SHTR	IMAX3D FILMING		RP MWR SUP	PAD SETUP	DDCU-HP 4B INSTALL	DDCU-HP 3B INSTALL	FINAL Z1 UMBS	STBD ETSD INSTALL	FINAL PMA3 UMB	Z1 KEEL RELOCATE	PAD CLEAN UP	RP MWR SDN								EXERCISE
EVA	MS1/EV1 CHIAO	POST SLEEP		EVA PREP	EMU PURGE P/B	DP RST	SETUP	DDCU-HP 4B INSTALL	DDCU-HP 3B INSTALL	FINAL Z1 UMBS	STBD ETSD INSTALL	FINAL PMA3 UMB	Z1 KEEL RELOCATE	CLEAN UP	RP RPS						POST EVA W H2O		EB MA UTT
	MS2/EV2 MCARTHUR	POST SLEEP - GIRA		EVA PREP	EMU PURGE P/B	DP RST	SETUP	DDCU-HP 4B INSTALL	DDCU-HP 3B INSTALL	FINAL Z1 UMBS	STBD ETSD INSTALL	FINAL PMA3 UMB	OHTS BAG RELOCATE	CLEAN UP	RP RPS						POST EVA W H2O		EB MA UTT
	MS3/EV3 WISOFF	POST SLEEP		EVA PREP		EVA CK	EVA # 3 (6:30) EVA SUPPORT										RP RPS				POST EVA W H2O	EMU SWAP	EE QU UI P
	MS4/EV4/R2 LOPEZ-ALEGRIA	POST SLEEP		P/TV22 SETUP	EXERCISE	PO /TS V22	PAD SETUP	DDCU-HP 4B INSTALL	DDCU-HP 3B INSTALL	FINAL Z1 UMBS	STBD ETSD INSTALL	FINAL PMA3 UMB	Z1 KEEL RELOCATE	PAD CLEAN UP									EMU SWAP
GROUND			WARM	SWISS		SWISS		WARM	SWISS		DDCU C/O	SWISS		SWISS	HP TRD WN		WARM	ECSTT		HR TCW RYS	BSP P/D		SWISS
DAY/NIGHT	[Bar chart showing day/night cycle]																						
ORBIT	87	88	89	90	91	92	93	94	95														
REGUL GSTD	[Bar chart showing regular ground station contact]																						
DAILY ORBIT	15	16	1	2	3	4	5	6	7														
TDRS H/O	[Bar chart showing TDRS handover]																						
TDRS	[Bar chart showing TDRS contact]																						
(ISS) STACK ATT	BIAS -XPH, -ZNN B +XLV BIAS -XPH, +ZNN																						
NOTES	*Z14B CHIA HTR OFF *Z13B CHIA HTR OFF																						

BETA ANGLE: +39.0

GMT 10/12/00
MET Day 006

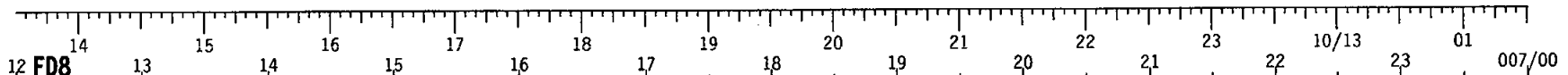


S T S	CDR DUFFY	PRE SLEEP		10:20 PMC OCA	FL UO TA UD RE	PRE SLEEP	SLEEP					POST SLEEP			
	PLT MELROY	PRE SLEEP					SLEEP					POST SLEEP			
	MS5/R1 WAKATA	PRE SLEEP	PROC REVIEW	PRE SLEEP		SLEEP					POST SLEEP				
E V A	MS1/EV1 CHIAO	EB MA UT T	SAFER C/O	PROC REVIEW	PRE SLEEP		SLEEP					POST SLEEP			
	MS2/EV2 MCARTHUR	EB MA UT T	SAFER C/O	PROC REVIEW	PRE SLEEP - GIRA		SLEEP					POST SLEEP - GIRA			
	MS3/EV3 WISOFF	EE MQ UU IP	EVA TOOL CONFIG	PROC REVIEW	PRE SLEEP		SLEEP					POST SLEEP			
	MS4/EV4 LOPEZ-ALEGRIA	EE MQ UU IP	EVA TOOL CONFIG	PROC REVIEW	M A G R	PRE SLEEP		SLEEP					POST SLEEP		
ISS EXTERNAL SURVEY															
GROUND	W A R M		S W I T S		P/TV24 SETUP RBOOST	W A R M		E C S T T	E C S T T	B S P P / U	S W I T S		W A R M	W A R M	
DAY/NIGHT	95		96		97		98		99		100		101		102
REGUL GSTD	7		8		9		10		11		12		13		14
DAILY ORBIT	7		8		9		10		11		12		13		14
TDRS H/O	7		8		9		10		11		12		13		14
TDRS	E (-47)		W (-171)		Z (+85)		E (-47)		W (-171)		Z (+85)		E (-47)		W (-171)
(ISS) STACK ATT	BIAS -XPH,+ZNN										BIAS -XPH,-ZNN				
NOTES											ØFUT LOADED BIAS -XPH,-ZNN A/L COLD SOAK ATT FOR EVA				

BETA ANGLE: +37.5

GMT 10/12/00

MET Day 006

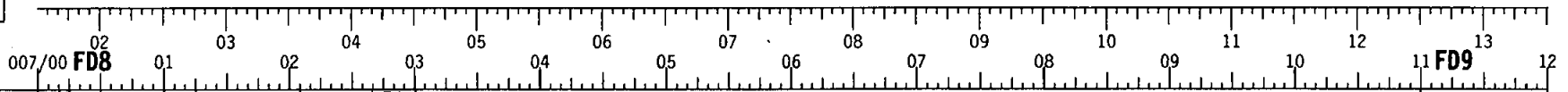


STS	CDR DUFFY	POST SLEEP		EXERCISE	MEAL	XFER PREP		MNVR +ZLV +XVV	RE BOOST	MNVR DUMP	SINIMOT				
	PLT MELROY	PSOLSEP	10.2	POST SLEEP	EXERCISE	PS/TUV 2.4	MEAL	XFER PREP		P/TV24 ISS SURVEY					
	MS5/R1 WAKATA	POST SLEEP		RMSHTR	RPW SRUP	PAD SETUP	Z1 FRGF	Z1 TRAY DEPLOY	4A APFR RELOC	PAD CLEAN UP	SAFER DTO	RPW SRDN	EXERCISE		
EVA	MS1/EV1 CHIAO	POST SLEEP	EVA PREP		EVA CK	EVA SUPPORT EVA # 4 (6:30)					RPW SRDN	POST EVA W H2O	EMU BATT/LI0H		
	MS2/EV2/R2 MCARTHUR	POST SLEEP - GIRA		P/TV22 SETUP	POP/TSV 2.2	RPW SRUP	PAD SETUP	Z1 FRGF	Z1 TRAY DEPLOY	*	PAD CLEAN UP	SAFER DTO	10.2	POST EVA W H2O	EMU BATT/LI0H
	MS3/EV3 WISOFF	POST SLEEP	EVA PREP	EMU PURGE P/B	DPOST	SETUP	RTAS LATCH CYCLE	Z1 TRAY DEPLOY	MBM CYCLE	4A APFR RELOC	CLEAN UP	SAFER DEMO	INCAP CREW DEMO	RPW SRDN	POST EVA W H2O
	MS4/EV4 LOPEZ-ALEGRIA	POST SLEEP	EVA PREP	EMU PURGE P/B	DPOST	SETUP	Z1 FRGF RELOC	Z1 TRAY DEPLOY	Z1 TRAY PREP	4A APFR RELOC	CLEAN UP	SAFER DEMO	INCAP CREW DEMO	RPW SRDN	POST EVA W H2O
GROUND	SHTS		SHTS		SHTS		SHTS		SHTS		SHTS		SHTS		
DAY/NIGHT	103		104		105		106		107		108		109		110
REGUL GSTD	---		---		---		---		---		---		---		---
DAILY ORBIT	15		1		2		3		4		5		6		7
TDRS H/O	E (-47)		W (-171)		Z (+85)		E (-47)		W (-171)		Z (+85)		E (-47)		W (-171)
(ISS) STACK ATT	BIAS -XPH, -ZNN		BIAS -XPH, -ZNN		BIAS -XPH, -ZNN		BIAS -XPH, -ZNN		BIAS -XPH, -ZNN		BIAS -XPH, -ZNN		BIAS -XPH, -ZNN		BIAS -XPH, -ZNN
NOTES									*MDDK EMU BATT TERM		B +XLV		@CLEANUP		◆CLEANUP

BETA ANGLE: +36.0

GMT 10/13/00

MET Day 007



S T S	CDR DUFFY	STE MOM	MNVR +ZNN	PMC OCA	PRE SLEEP	FL UO TA UD RE	SLEEP	POST SLEEP					
	PLT MELROY	PRE SLEEP			1 0 2	PRE SLEEP	SLEEP	POST SLEEP					
	MS5/R1 WAKATA	PRE SLEEP				SLEEP	POST SLEEP						
E V A	MS1/EV1 CHIAO	PRE SLEEP				SLEEP	POST SLEEP						
	MS2/EV2 MCARTHUR	PRE SLEEP - GIRA				SLEEP	POST SLEEP - GIRA						
	MS3/EV3 WISOFF	PRE SLEEP				SLEEP	POST SLEEP						
	MS4/EV4 LOPEZ-ALEGRIA		M A G R	PRE SLEEP		SLEEP	POST SLEEP						
GROUND		B S P P / D		W A R M	S W I S	E C S T E S	B S P P / U	W A R M	S H I S	P/TV24 SETUP RBOOST	W A R M	K B D O P	
DAY/NIGHT	[Shaded bars indicating day/night cycle]												
ORBIT	110	111	112	113	114	115	116	117	118				
REGUL GSTD													
DAILY ORBIT	7	8	9	10	11	12	13	14	15				
TDRS H/O	[Horizontal bars indicating TDRS H/O events]												
TDRS	[Horizontal bars indicating TDRS E (-47), W (-171), Z (+85) events]												
(ISS) STACK ATT	BIAS +ZLV, -YVV			BIAS -XPH, +ZNN				BIAS -XPH, -ZNN					
NOTES	ØFUT LOADED BIAS +XPH, -ZNN A/L COLD SOAK ATT FOR EVA												

BETA ANGLE: +34.4

GMT 10/13/00

12 FD9

MET Day 007

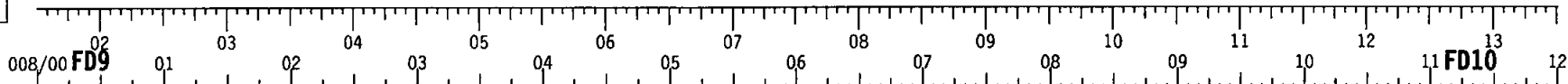
008/00

	14	15	16	17	18	19	20	21	22	23	10/14	01										
STS	CDR DUFFY	POST SLEEP	MNTOR	PRCS TEST	MNVR -XPH, -ZNN	PINAGRS 2	INDGR INGR	14.7 REPRS	O2 RPRS	FGB XFER OPS	POAPPTY	MEAL	FGB EGRESS	CREW PHOTO	POAPPTY	ND1	DEGR	MNVR +ZLV +XV	RE BOOST	MNVR -XPH, +ZNN	UNDCK TAGUP	
	PLT MELROY	POST SLEEP	PRCS TEST	14.7 P			ZINGR	Z1 OUTFIT #2		POAPPTY	MEAL	Z1 OUTFIT #2	Z1 EGRS	CREW PHOTO	POAPPTY		TRGT INSTL		RE BOOST		UNDCK TAGUP	
	MS5/R1 WAKATA	POST SLEEP			RMSHTR	EXERCISE	RPWRSUP	RMS PHOTO CLOSEOUT		RPWRSUP	FGB XFER OPS	POAPPTY	MEAL	P/TV21 OPS ISS	RMSHTR	CREW PHOTO	POAPPTY	RPWRSUP	RMS PHOTO CLOSEOUT	RPWRSUP	UNDCK TAGUP	
EVA	MS1/EV1 CHIAO	POST SLEEP		CTHRRGM		EXERCISE				® P/TV21 OPS ISS	POAPPTY	MEAL		CREW PHOTO	POAPPTY		P/TV21 OPS ISS				UNDCK TAGUP	
	MS2/EV2 MCARTHUR	POST SLEEP - GIRA				N14B Y CABLE INSTALL		CMG C/O (W/DAT)			POAPPTY	MEAL		CREW PHOTO	POAPPTY		TRGT INSTL		EXERCISE	SDWIACT	UNDCK TAGUP	
	MS3/EV3 WISOFF	POST SLEEP	PS//TV 24	P/TV24 ISS SURVEY		P/TV21 SETUP	EXERCISE			Z1 OUTFIT #2	POAPPTY	MEAL	Z1 OUTFIT #2	Z1 EGRS	CREW PHOTO	POAPPTY		ND1 EGRS	PEMARS 2	ODS PMA2 DPRS LK CK	UNDCK TAGUP	
	MS4/EV4 LOPEZ-ALEGRIA	POST SLEEP			PINAGRS 2	INDGR INGR	FGB XFER OPS	O2 RPRS		FGB XFER OPS	POAPPTY	MEAL	FGB EGRESS		CREW PHOTO	POAPPTY	ND1	DEGR	ND1 EGRS	PEMARS 2	ODS PMA2 DPRS LK CK	UNDCK TAGUP
GROUND		HPTRDWN	SWISS	ECSTRV/D	HRCTVY	NRACUC	NRACUC	UBACCT	RECOV	RECOV		RECOV	RECOV	HRCTVY	WARM		KBDACT	KBDACT	HPTRDWN	IMVACT	HRCTVY	
DAY/NIGHT																						
ORBIT	118	119	120	121	122	123	124	125	126													
REGUL GSTD																						
DAILY ORBIT	15	16	1	2	3	4	5	6	7													
TDRS H/O																						
TDRS	E (-47)																					
	W (-171)																					
	Z (+85)																					
(ISS) STACK ATT		DT0 1								BIAS -XPH, -ZNN												
NOTES				*N1-1 to OFF				*N1-1 to SEC	♥RPCM RESET												< 3 CMN in ISS until Node Cab Fan Act	ΔIMV DEACT

BETA ANGLE: +32.6

GMT 10/14/00

MET Day 008

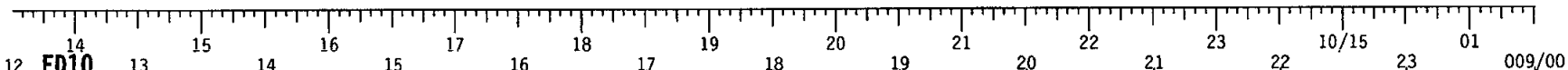


S T S	CDR DUFFY	PRE SLEEP	PMC OCA	FL UO TA UD R E	PRE SLEEP	SLEEP	POST SLEEP
	PLT MELROY	PRE SLEEP				SLEEP	POST SLEEP
	MS5/R1 WAKATA	PRE SLEEP				SLEEP	POST SLEEP
E V A	MS1/EV1 CHIAO	PRE SLEEP				SLEEP	POST SLEEP
	MS2/EV2 MCARTHUR	PRE SLEEP - GIRA				SLEEP	POST SLEEP - GIRA
	MS3/EV3 WISOFF	PRE SLEEP				SLEEP	POST SLEEP
	MS4/EV4 LOPEZ-ALEGRIA	PRE SLEEP	M A G R	PRE SLEEP		SLEEP	POST SLEEP
GROUND							CN O1 NM FD IM GS
DAY/NIGHT	[Day/Night Cycle Bar]						
ORBIT	126	127	128	129	130	131	132 133 134
REGUL GSTD	[Regul GSTD Bar]						
DAILY ORBIT	7	8	9	10	11	12	13 14 15
TDRS H/O	[TDRS H/O Bar]						
TDRS	E (-47) W (-171) Z (+85)						
(ISS) STACK ATT	BIAS -XPH,+ZNN						
NOTES							

BETA ANGLE: +30.8

GMT 10/14/00

MET Day 008



STS	CDR DUFFY	POST SLEEP	GNNDROCK GPRRUP	UNDOCK	SEP A	-Y STAR TRKR DTO	GPRRDN	PAO OPPTY	M-NZVLCB RVD	MEAL	EXERCISE	OFF DUTY PFC	OFF DUTY
	PLT MELROY	POST SLEEP	GNNDROCK GPRRUP	UNDOCK	SEP A	FILTER CLEANING	GPRRDN	PAO OPPTY		MEAL	OFF DUTY	EXERCISE	OFF DUTY PFC OFF DUTY
	MS5/R1 WAKATA	POST SLEEP		UNDOCK	SEP A			PAO OPPTY		MEAL	OFF DUTY	EXERCISE	OFF DUTY PFC OFF DUTY
EVA	MS1/EV1 CHIAO	POST SLEEP		P/TV20 SETUP	P/TV20 UNDOCK		DPNRENK	PAO OPPTY		MEAL	OFF DUTY	EXERCISE	OFF DUTY PFC OFF DUTY
	MS2/EV2 MCARTHUR	POST SLEEP - GIRA	RNDZ PGSC S/U	UNDOCK	SEP A	ESTCON SW	GRNRS	COMM 1	PAO OPPTY	MEAL	PFC	OFF DUTY	EXERCISE OFF DUTY
	MS3/EV3 WISOFF	POST SLEEP	RNDZ PGSC S/U	P/TV20 SETUP	P/TV20 UNDOCK	ESTCON SW	ODIEACT	P/TV 02 SETUP	PAO OPPTY	VIDEO PLYBK	MEAL	OFF DUTY PFC	OFF DUTY EXERCISE OFF DUTY
	MS4/EV4 LOPEZ-ALEGRIA	POST SLEEP		EXERCISE	UNDOCK	SEP A			PAO OPPTY	MEAL	OFF DUTY	PFC	OFF DUTY

GROUND	* P EGRS HTR RECON	IDMEACT	N1MDS	MNV R	FTHR	ACS@	SUN TRK	RECOV	CN1MDFIM	ACS*
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DAY/NIGHT	ORBIT	REGUL GSTD	DAILY ORBIT	TDRS H/O	TDRS E (-47)	TDRS W (-171)	TDRS Z (+85)	STS ATT	ISS ATT	NOTES
	134	135	136	137	138	139	140	141		
	15	1	2	3	4	5	6	7	8	
	M50 XPOP EQUIV	-ZLV	FLYAROUND	-Y ST DTO	-ZLV, -XVV					
	BIAS -XPH, -ZNN	-ZLV	FLYAROUND							SEE SHORT-TERM PLAN
	*NODE1 FAN	ΦIMV VLV RECONFIG	@ACS DEPART	*CAB TEMP CNTL	*ACS POST DEPARTURE MOD					*UNDOCK 8/14:55

DEACT

BETA ANGLE: +28.9

CT 10/14/00

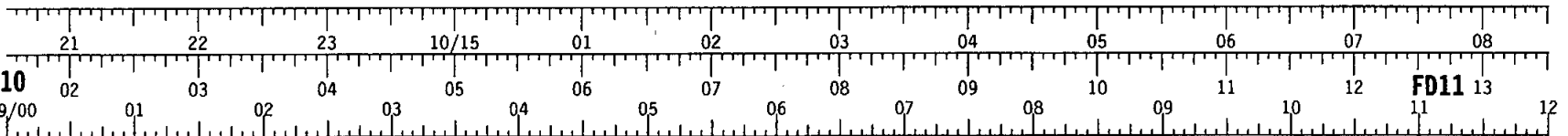
GMT 10/15/00

MET Day 009

FD10

009/00

FD11



S T S	CDR DUFFY	PMC OCA	PRE SLEEP	SLEEP	POST SLEEP
	PLT MELROY		PRE SLEEP	SLEEP	POST SLEEP
	MS5/R1 WAKATA		PRE SLEEP	SLEEP	POST SLEEP
E V A	MS1/EV1 CHIAO		PRE SLEEP	SLEEP	POST SLEEP
	MS2/EV2 MCARTHUR		PRE SLEEP - GIRA	SLEEP	POST SLEEP - GIRA
	MS3/EV3 WISOFF		PRE SLEEP	SLEEP	POST SLEEP
	MS4/EV4 LOPEZ-ALEGRIA		PRE SLEEP	SLEEP	POST SLEEP

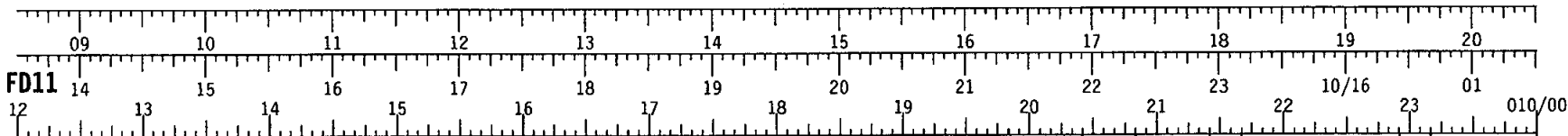
DAY/NIGHT	142		143		144		145		146		147		148		149	
RUS GSTD	ISS SEE DAILY PLAN															
DAILY ORBIT	8		9		10		11		12		13		14		15	
TDRS H/O	[Timeline bars for E (-47), W (-171), Z (+85)]															
TDRS	[Timeline bars for E (-47), W (-171), Z (+85)]															
GSTD	-VAN		-VAN VAN		MIL -MIL -VAN VAN		-MIL -VAN		MIL -MIL -MIL -VAN		-VAN					
STS ATT	-ZLV, -XVV															
NOTES																

BETA ANGLE: +27

CT 10/15/00

GMT 10/15/00

MET Day 009



STS	CDR DUFFY	POST SLEEP	M-NZ V-LRV	EXERCISE	M-NZ V-LRV	CABIN STOW	APU HTR ACT	P S E L T O U P	PILOT O P S	C O M M 2	MEAL	FCS C/O	RCS H/F	CREW CONF	D/O BRIEF	CABIN STOW	L C - O 1 M M	OFF DUTY	L C - O 1 M M	OFF DUTY	
	PLT MELROY	POST SLEEP	S I N I M I T		S T I E R O M	CABIN STOW		PILOT S E T U P	PILOT O P S	C O M M 2	MEAL	FCS C/O	RCS H/F	CREW CONF	D/O BRIEF	OFF DUTY		EXERCISE	L C - O 1 M M	▽	K S U T O W
	MS5/R1 WAKATA	POST SLEEP		EXERCISE		CABIN STOW						MEAL	CABIN STOW	CREW CONF	D/O BRIEF			OFF DUTY			
EVA	MS1/EV1 CHIAO	POST SLEEP			CABIN STOW						MEAL	POST EVA E N T P R E P		CREW CONF	D/O BRIEF		OFF DUTY		EXERCISE		OFF DUTY
	MS2/EV2 MCARTHUR	POST SLEEP - GIRA			CABIN STOW						MEAL	FCS C/O		CREW CONF	D/O BRIEF	OFF D U T Y	L C - O 1 M M		EXERCISE		K S U T O W
	MS3/EV3 WISOFF	POST SLEEP			CABIN STOW			S D S E V A S C T	D D C E A C T		MEAL	POST EVA E N T P R E P	P/TV O2 S E T U P	CREW CONF	D/O BRIEF		EXERCISE		OFF DUTY		O C A S - B D S /U
	MS4/EV4 LOPEZ-ALEGRIA	POST SLEEP		MAGR O P S 2 T E S T		CABIN STOW			EXERCISE		MEAL	CABIN STOW	MAGR E N T R Y S /U	CREW CONF	D/O BRIEF	M A B R			OFF DUTY		

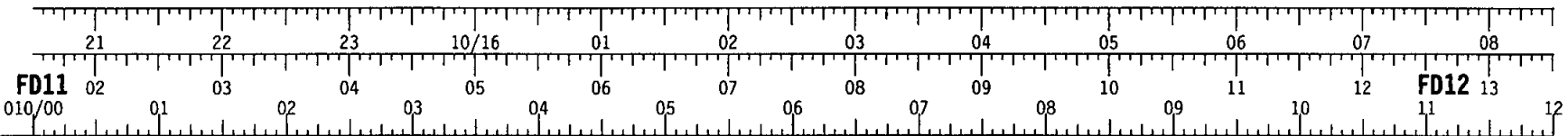
DAY/NIGHT																					
ORBIT		150		151		152		153		154		155		156		157					
RUS GSTD																					
DAILY ORBIT		1		2		3		4		5		6		7		8					
TDRS H/O																					
E (-47)																					
W (-171)																					
Z (+85)																					
GSTD																					
STS ATT		-ZLV, -XVV		-ZLV, +YVV																	
NOTES																					

BETA ANGLE: +25

CT 10/15/00

GMT 10/16/00

MET Day 010



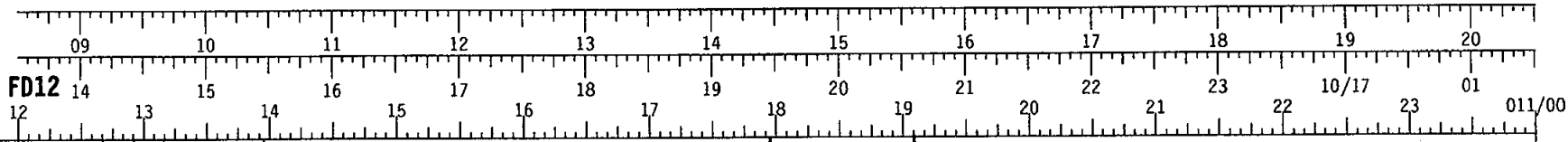
STS	CDR	PRE SLEEP	PMC A/G	PRE SLEEP	SLEEP	POST SLEEP					
	PLT	PRE SLEEP			SLEEP	POST SLEEP					
	MS5/R1	PRE SLEEP			SLEEP	POST SLEEP					
EVA	MS1/EV1	PRE SLEEP			SLEEP	POST SLEEP					
	MS2/EV2	PRE SLEEP - GIRA			SLEEP	POST SLEEP - GIRA					
	MS3/EV3	PRE SLEEP			SLEEP	POST SLEEP					
	MS4/EV4	PRE SLEEP			SLEEP	POST SLEEP					
DAY/NIGHT		[Day/Night Cycle Bar]									
ORBIT		157	158	159	160	161	162	163	164	165	
RUS GSTD		ISS SEE DAILY PLAN									
DAILY ORBIT		8	9	10	11	12	13	14	15	16	
TDRS H/O		[TDRS H/O Bar]									
TDRS		E (-47) W (-171) Z (+85)									
GSTD		-VAN	-VAN	-MIL -VAN -VAN	-MIL -VAN -VAN	-MIL -VAN	-VAN	-VAN	-VAN	-VAN	
STS ATT		-ZLV, -XVV									
NOTES											

BETA ANGLE: +23

CT 10/16/00

GMT 10/16/00

MET Day 010



FD12

S T S	CDR	POST SLEEP	PMC A/G	GP RWR PR UP B	IMU ALIGN /VERIF	DEORBIT PREP	D E O R B I T	K S C
	PLT	POST SLEEP	◇	GP RWR PR UP B	IMU ALIGN /VERIF	DEORBIT PREP		
	MS5/R1	POST SLEEP				DEORBIT PREP		
E V A	MS1/EV1	POST SLEEP		T P E C	ERGO STOW	DEORBIT PREP	B U R N	L A N D I N G *
	MS2/EV2	POST SLEEP - GIRA	PGSC STOW	O S T A O C W	GIRA STOW	DEORBIT PREP		
	MS3/EV3	POST SLEEP	S P R O N T R	P O /7 T S /U	ERGO STOW	DEORBIT PREP		
	MS4/EV4	POST SLEEP		O S T A O C W	GIRA STOW	DEORBIT PREP		

DAY/NIGHT	[Shaded bars]								
ORBIT	165	166	167	168	169	170	171	172	173
RUS GSTD	ISS SEE DAILY PLAN								
DAILY ORBIT	16	1	2	3	4	5	6	7	8
TDRS H/O	[Timeline with horizontal bars]								
TDRS	E (-47) W (-171) Z (+85)								
GSTD	-MIL -MIL -MIL -VAN								
STS ATT	-ZLV, -XVV IMU -XSI COMM D/O								
NOTES	◇TCBC3D DEACT *AIR SAMPLE				* DEORBIT BURN 10/17:57		* KSC LANDING 10/19:04		

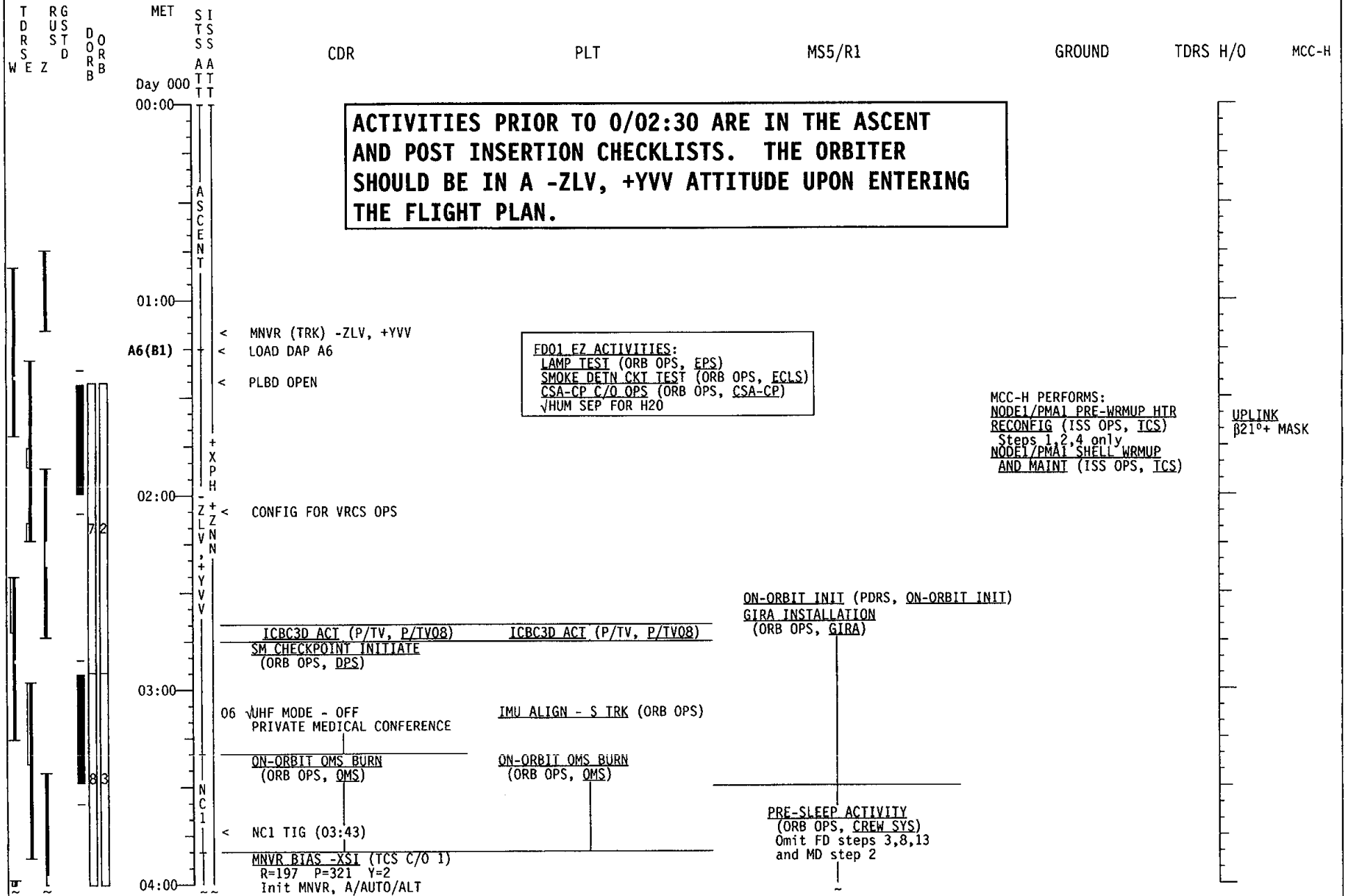
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DETAILED TIMELINE

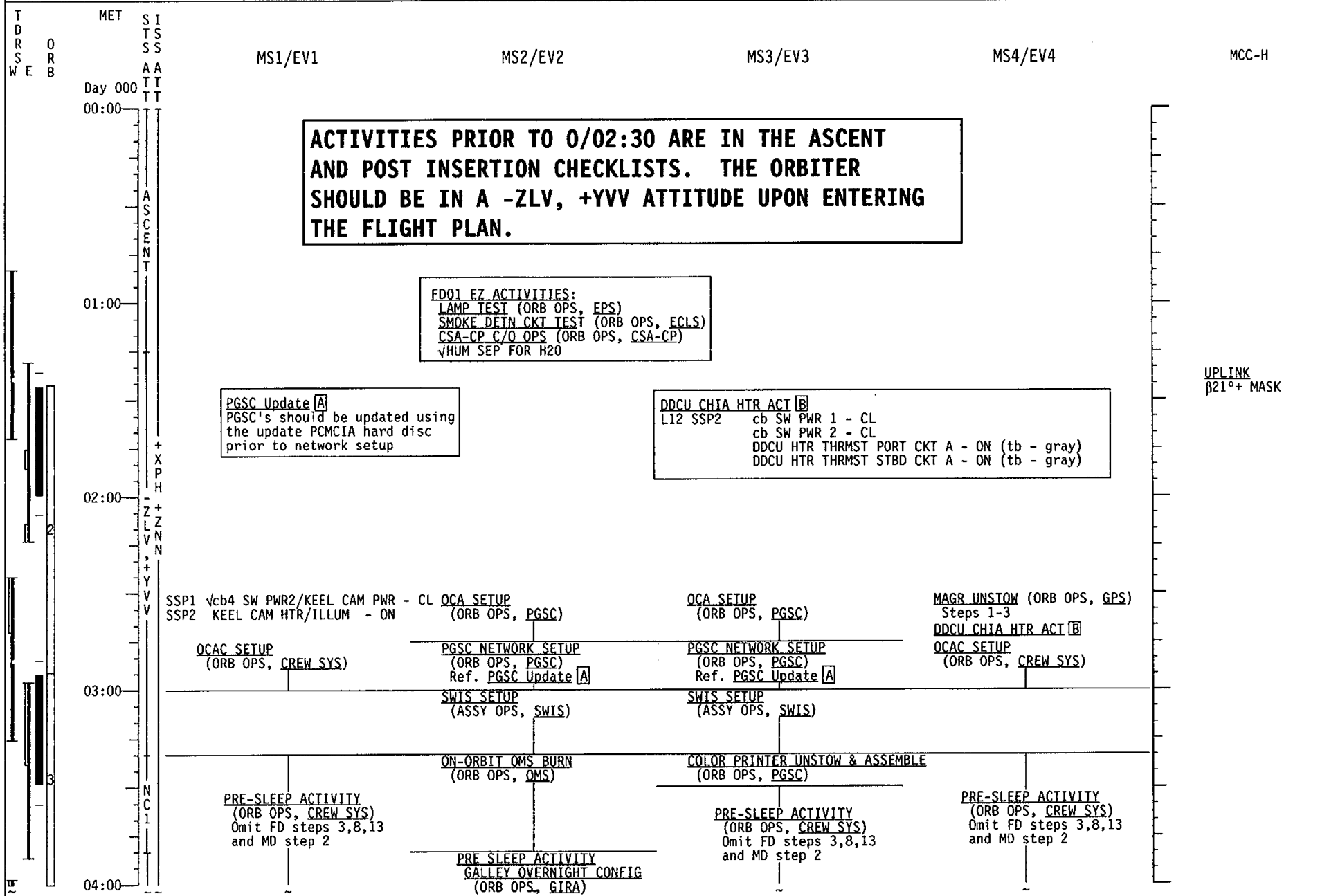
**DETAILED
TIMELINE**

DETAILED TIMELINE

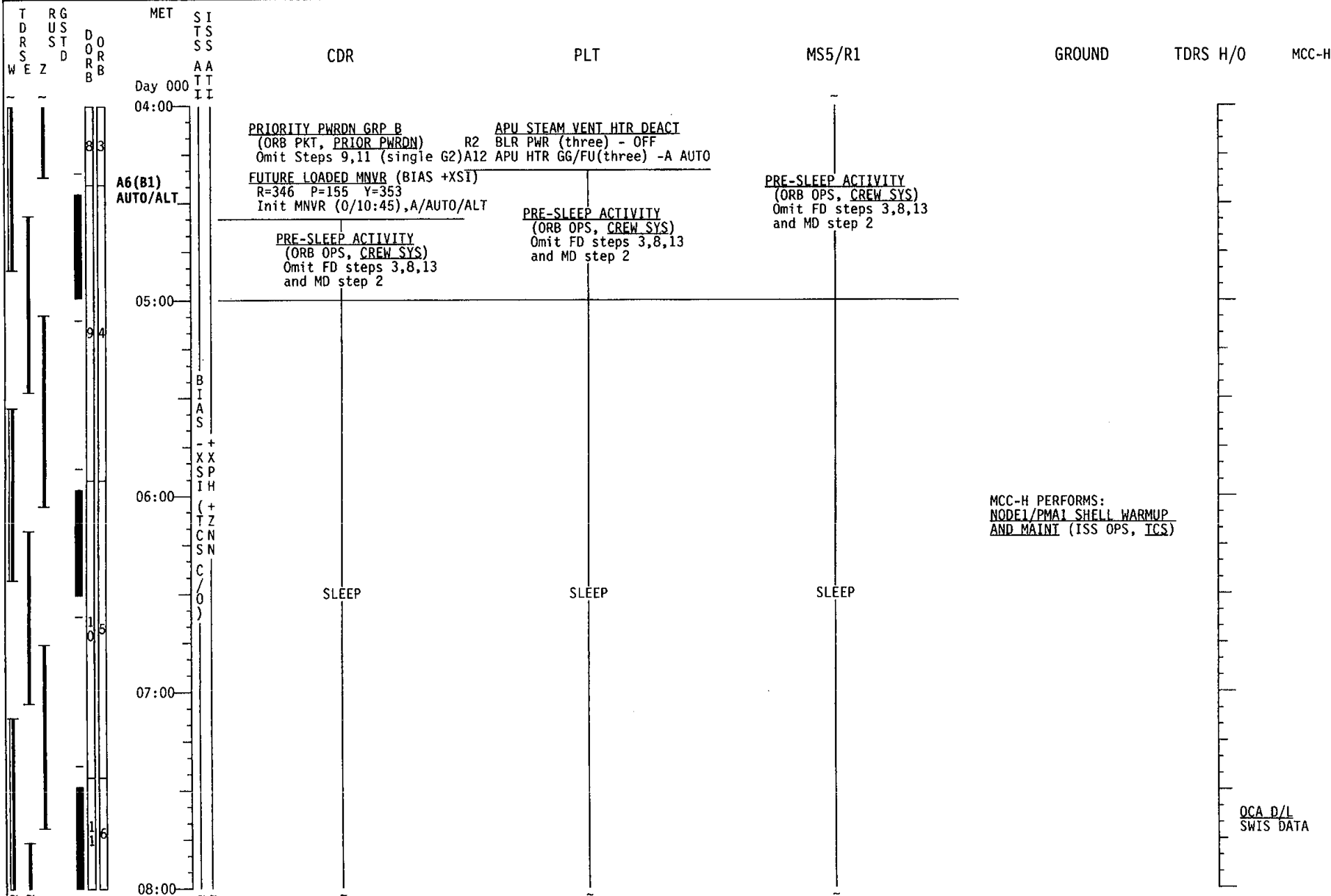
STS-92 (FD 01)



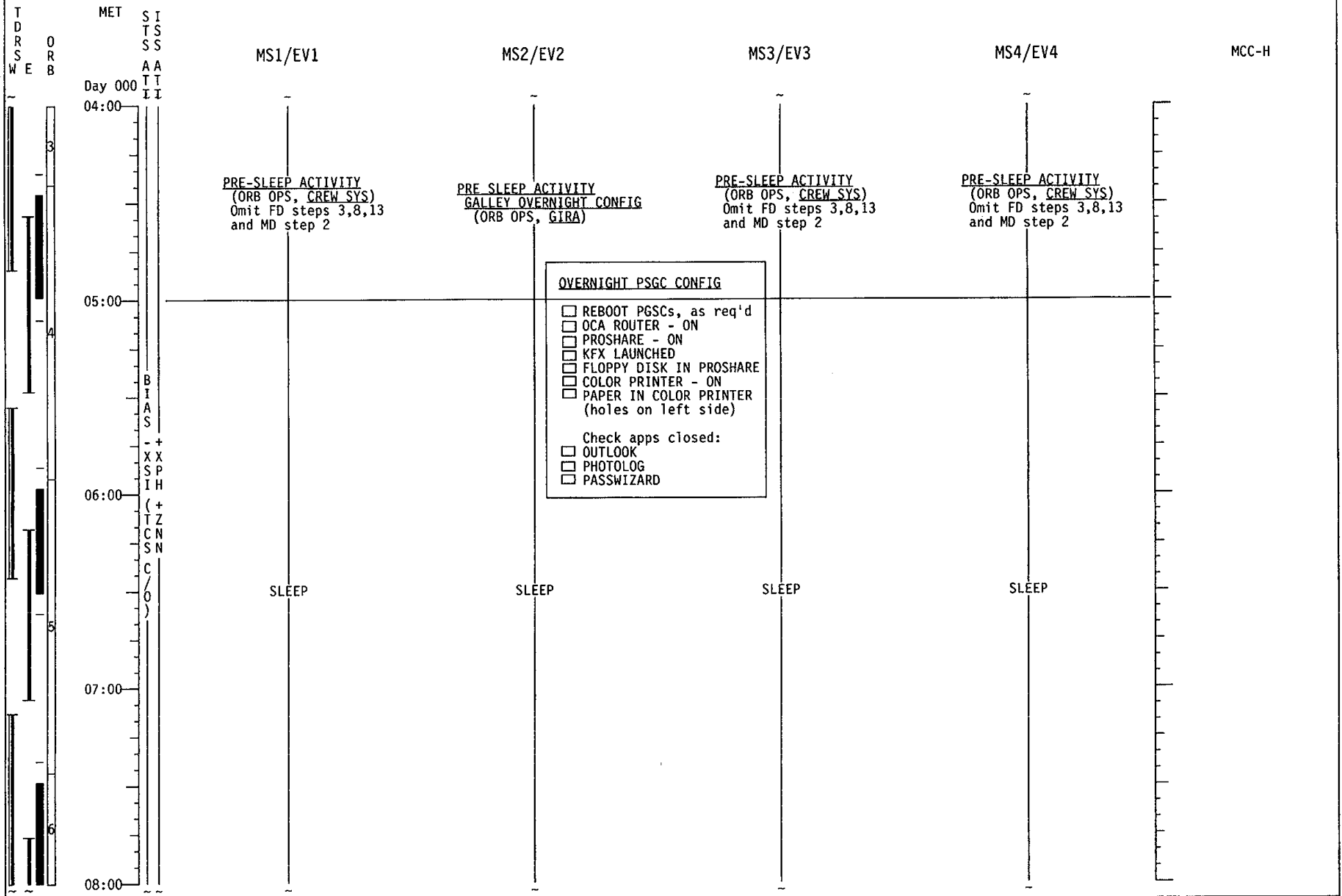
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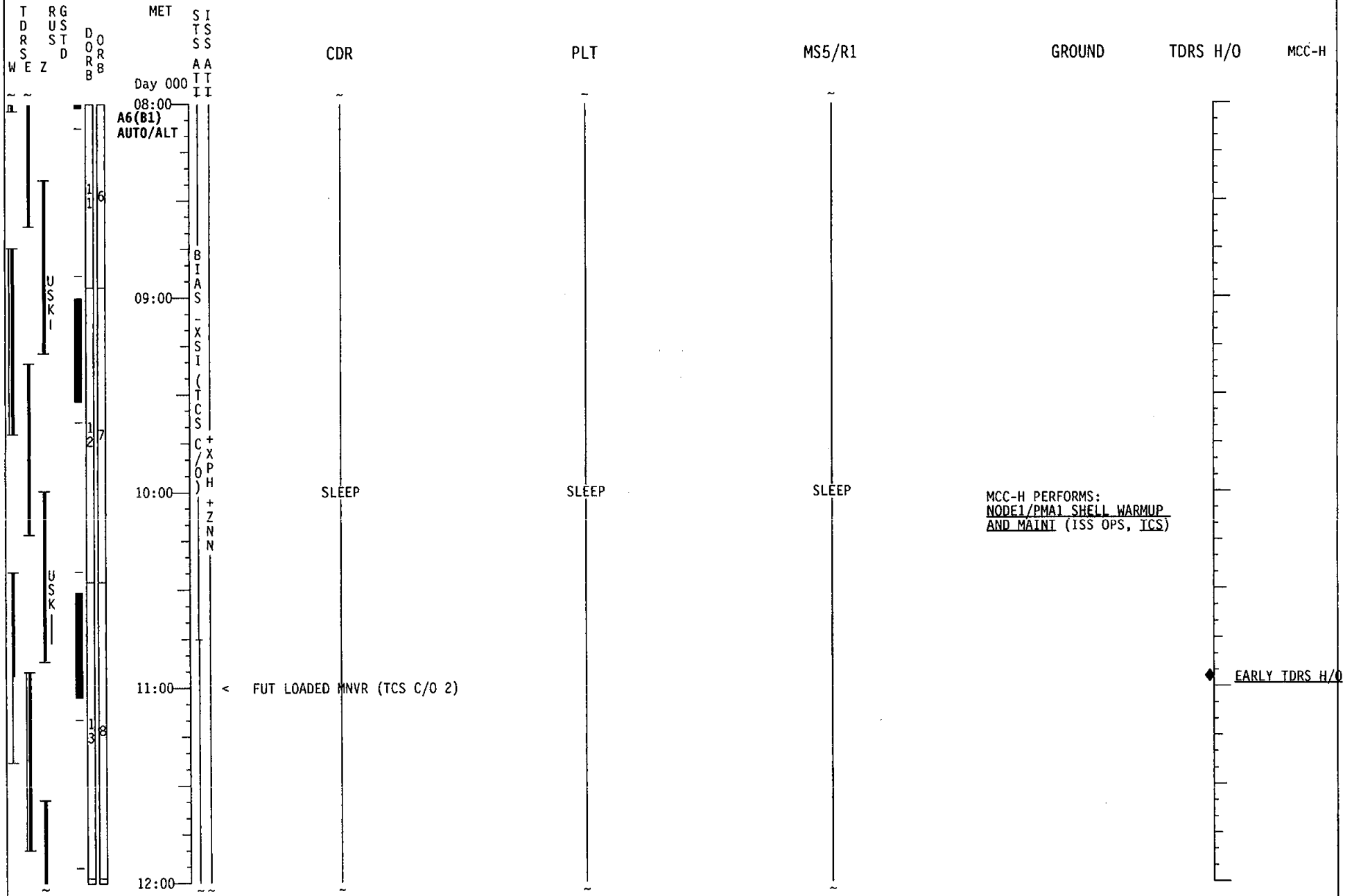
STS-92 (FD 01)



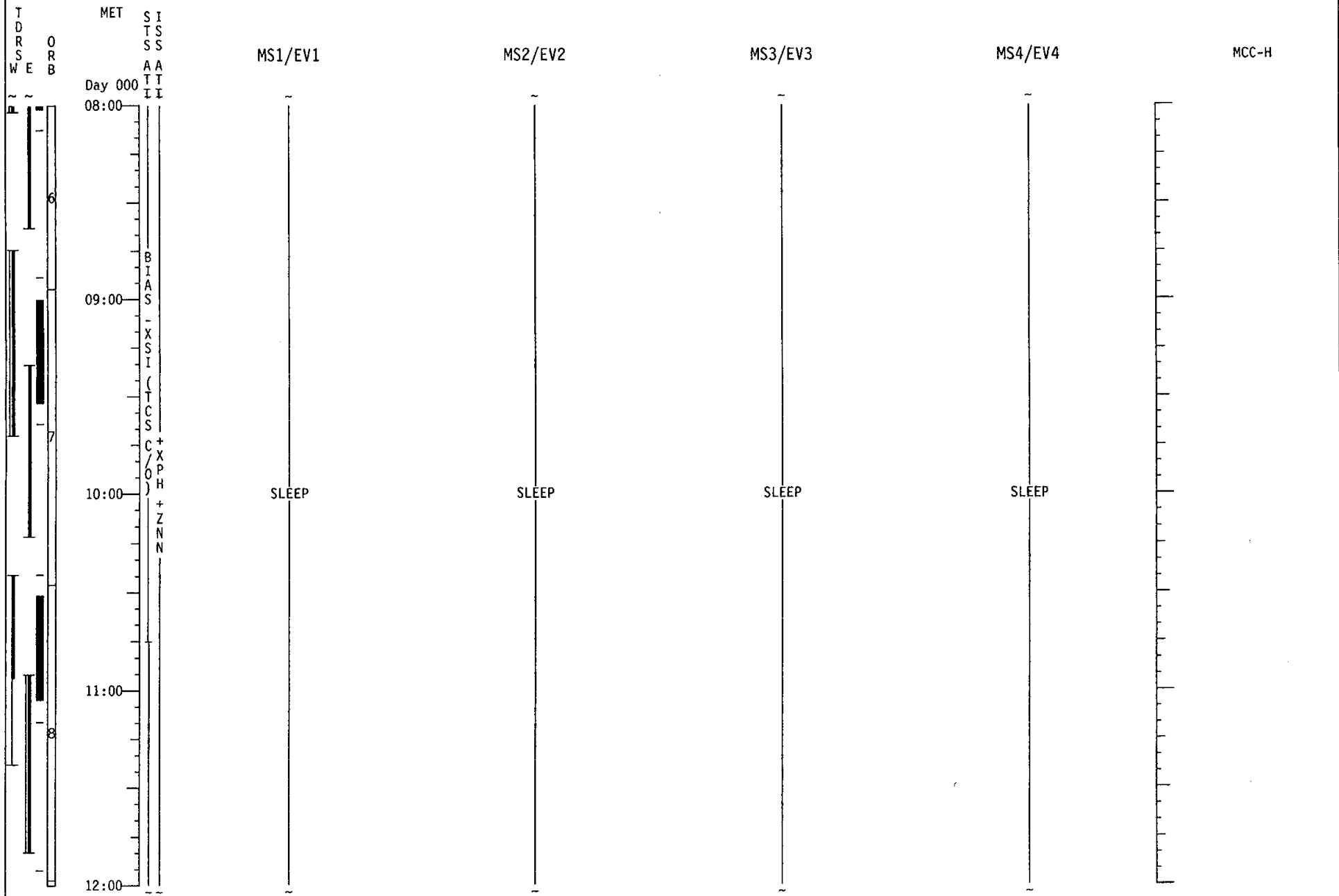
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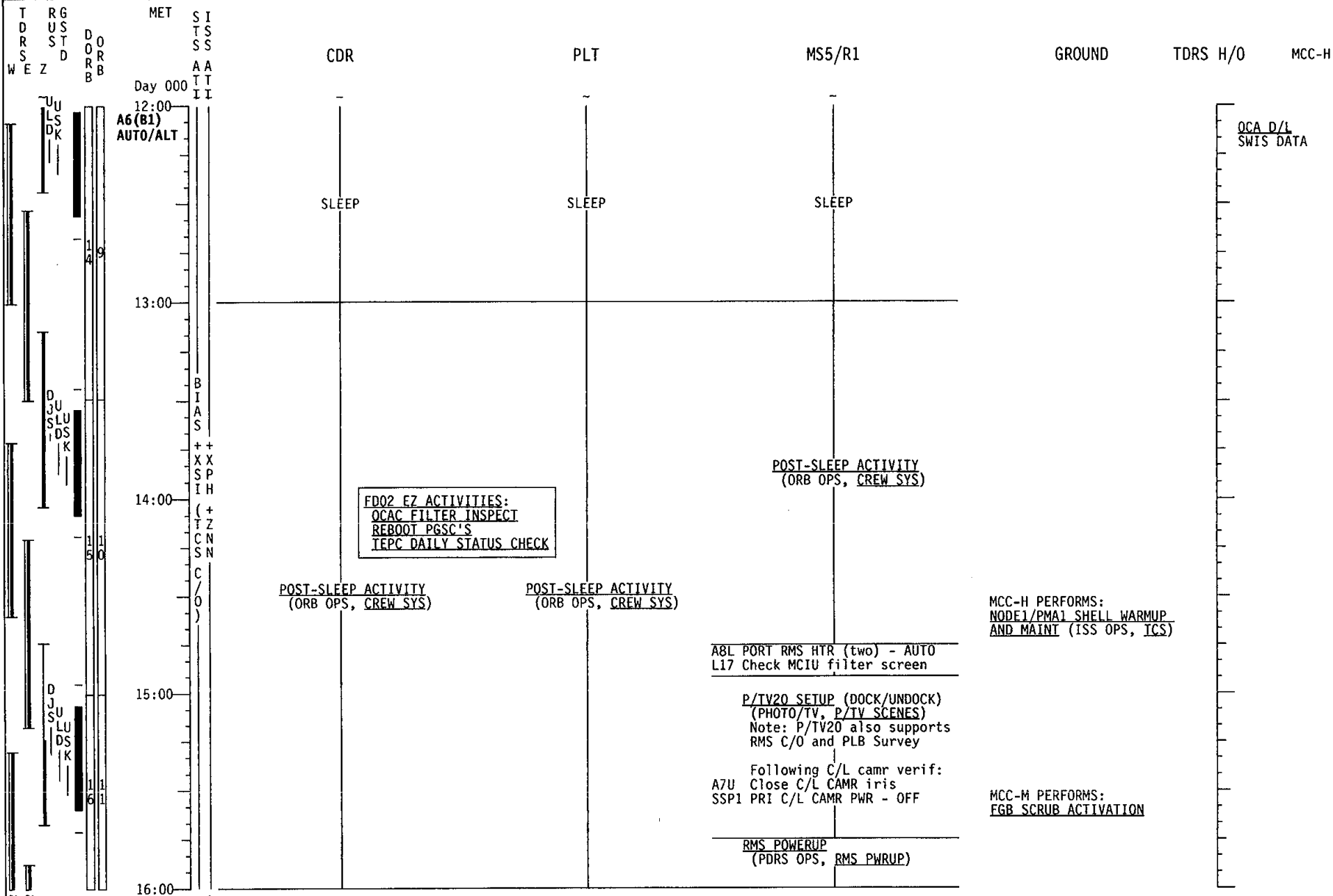
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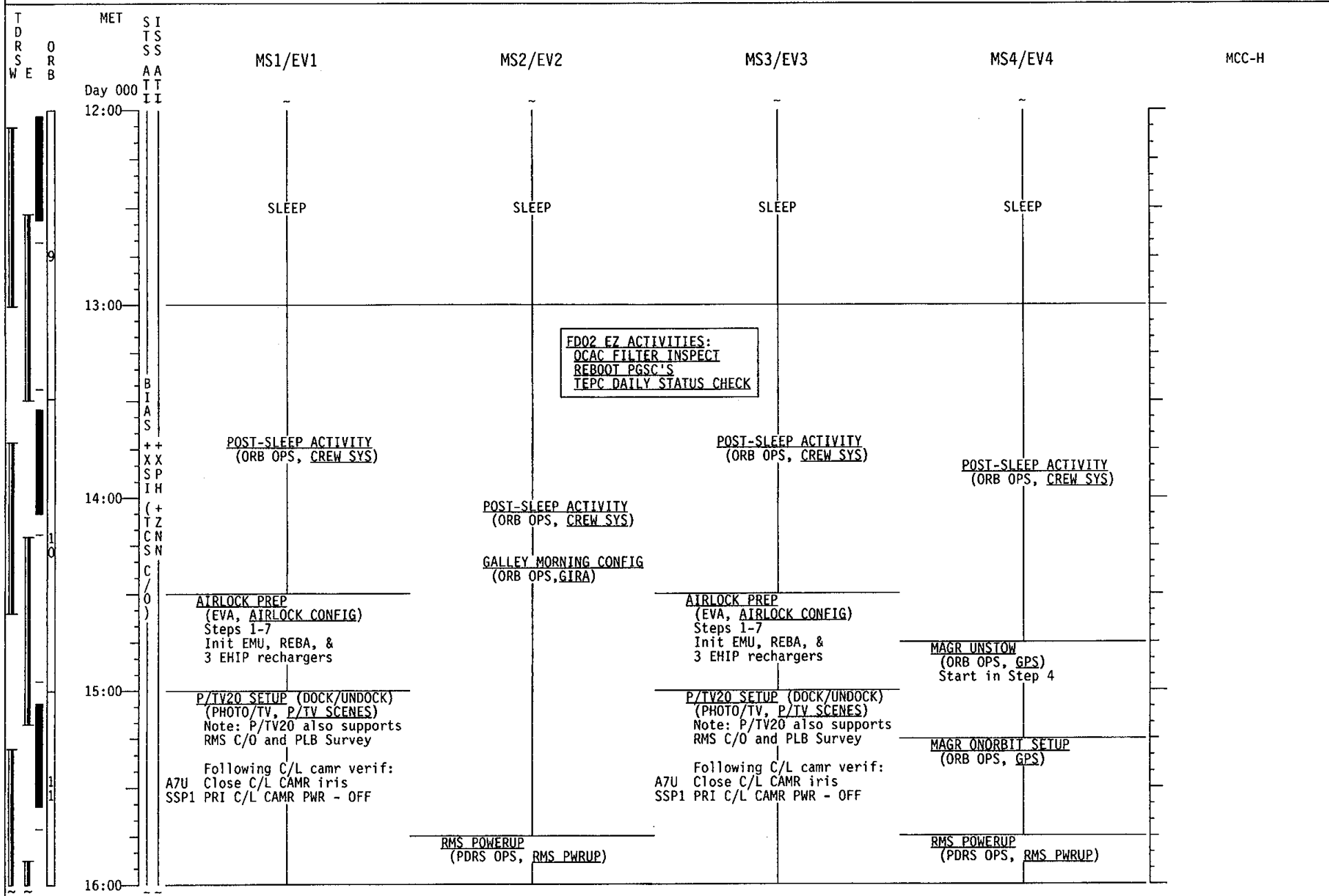
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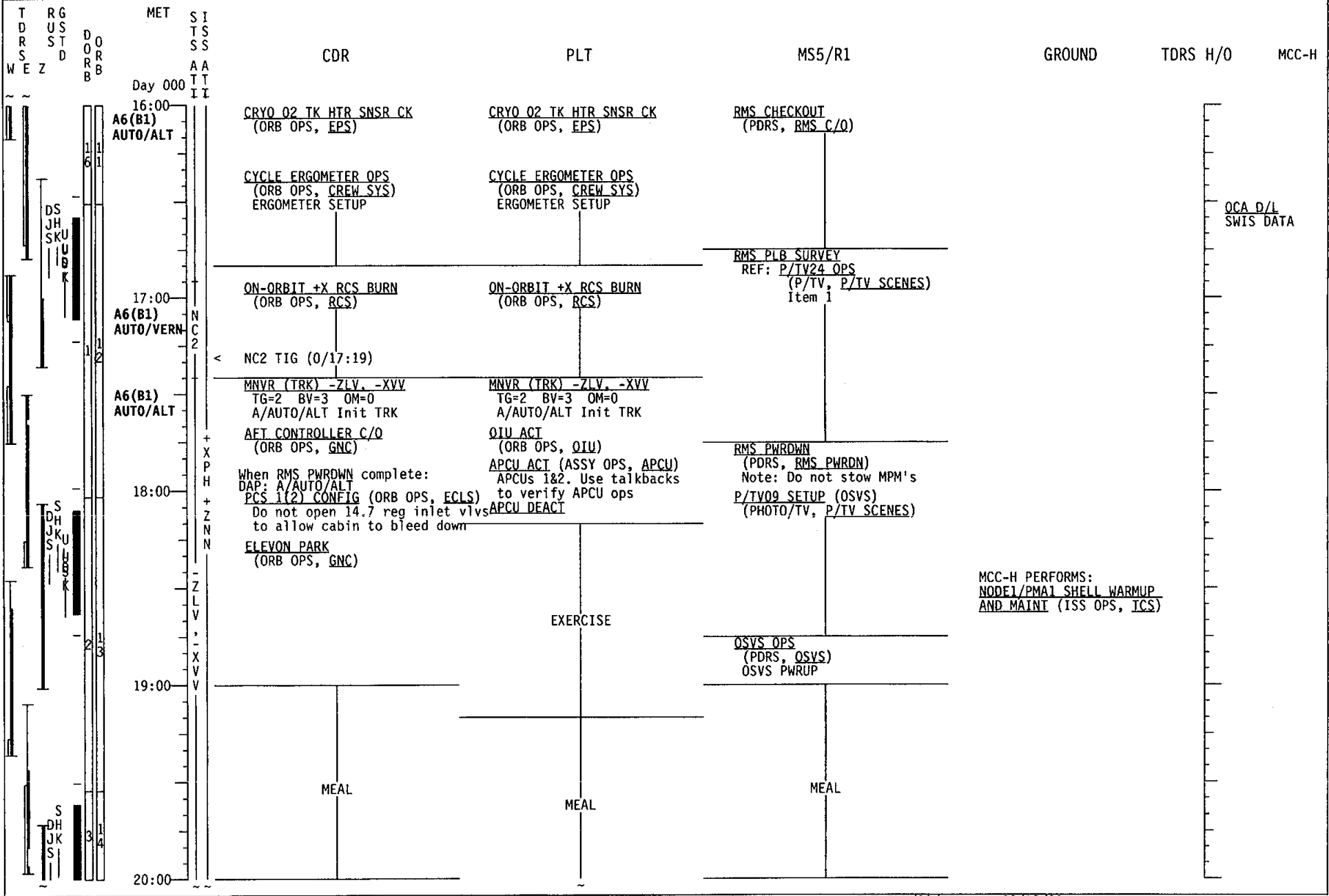
STS-92 (FD 02)



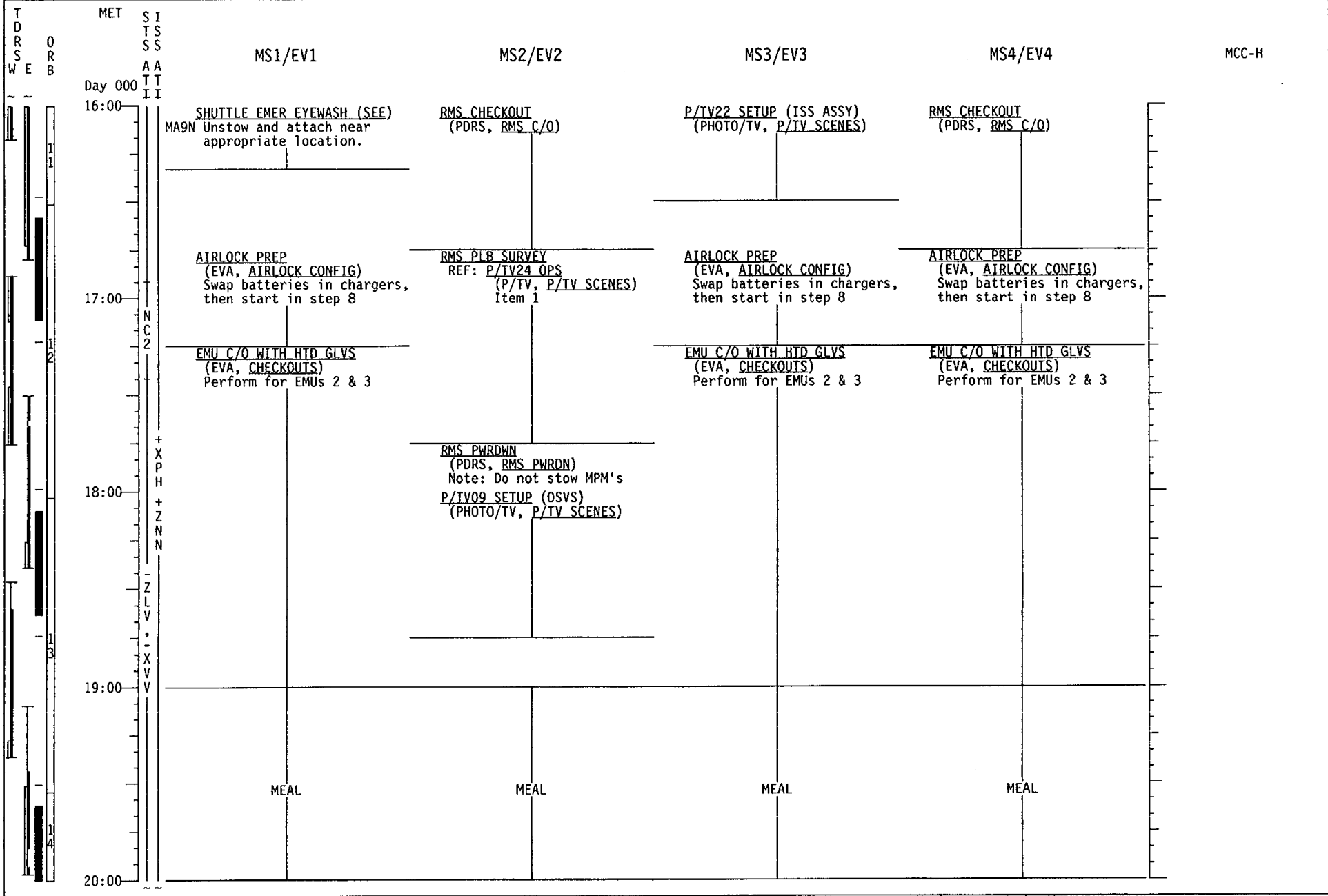
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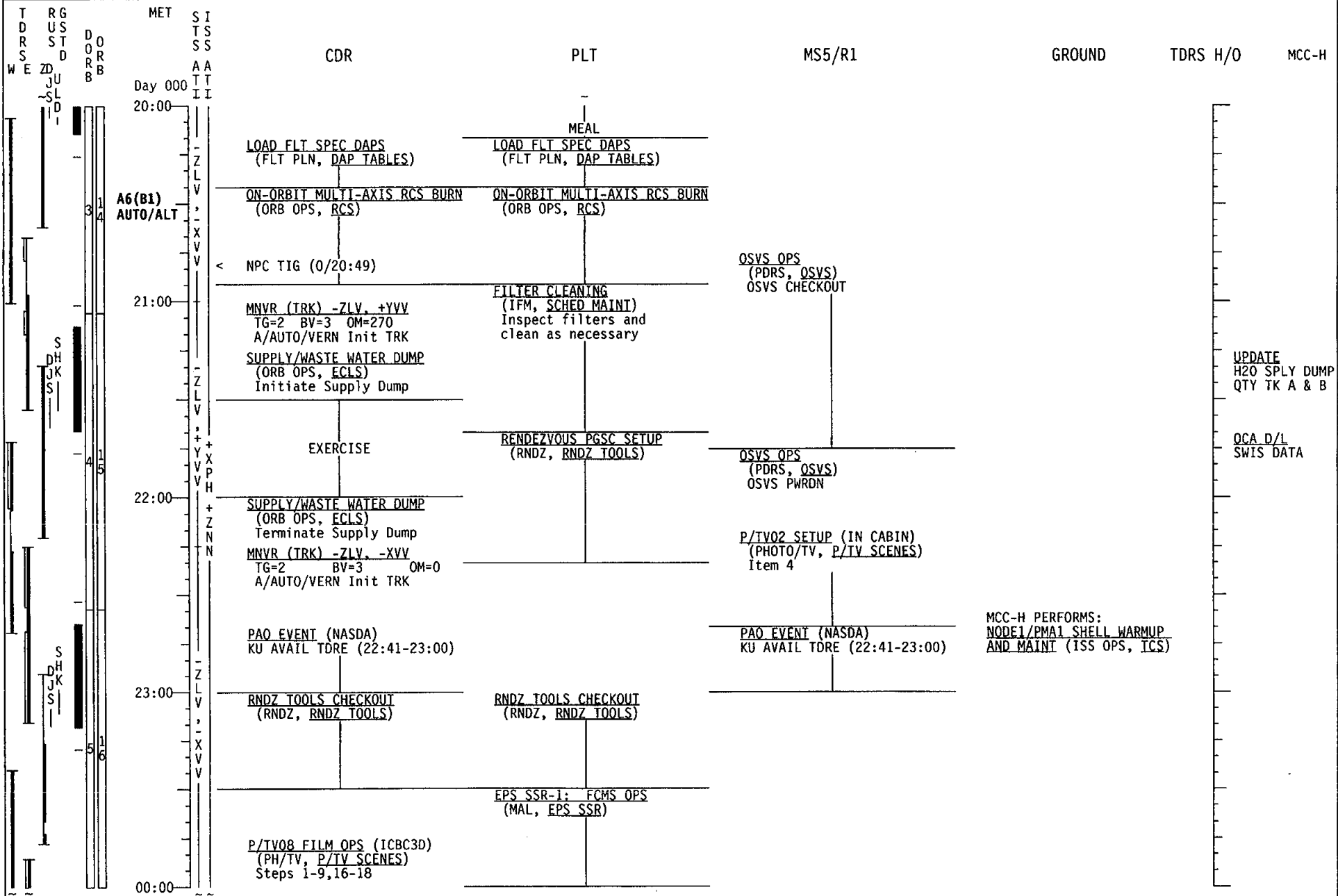
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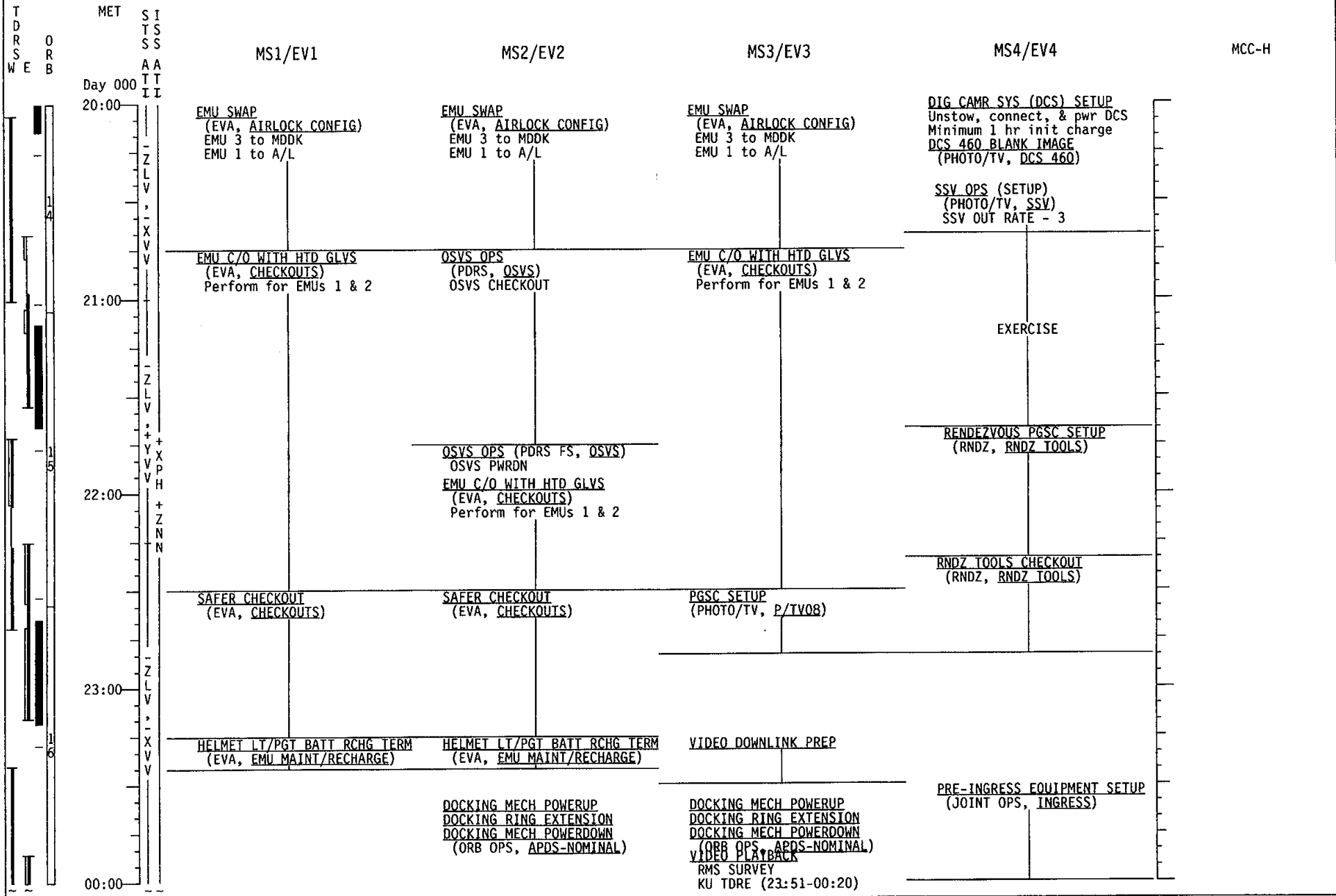
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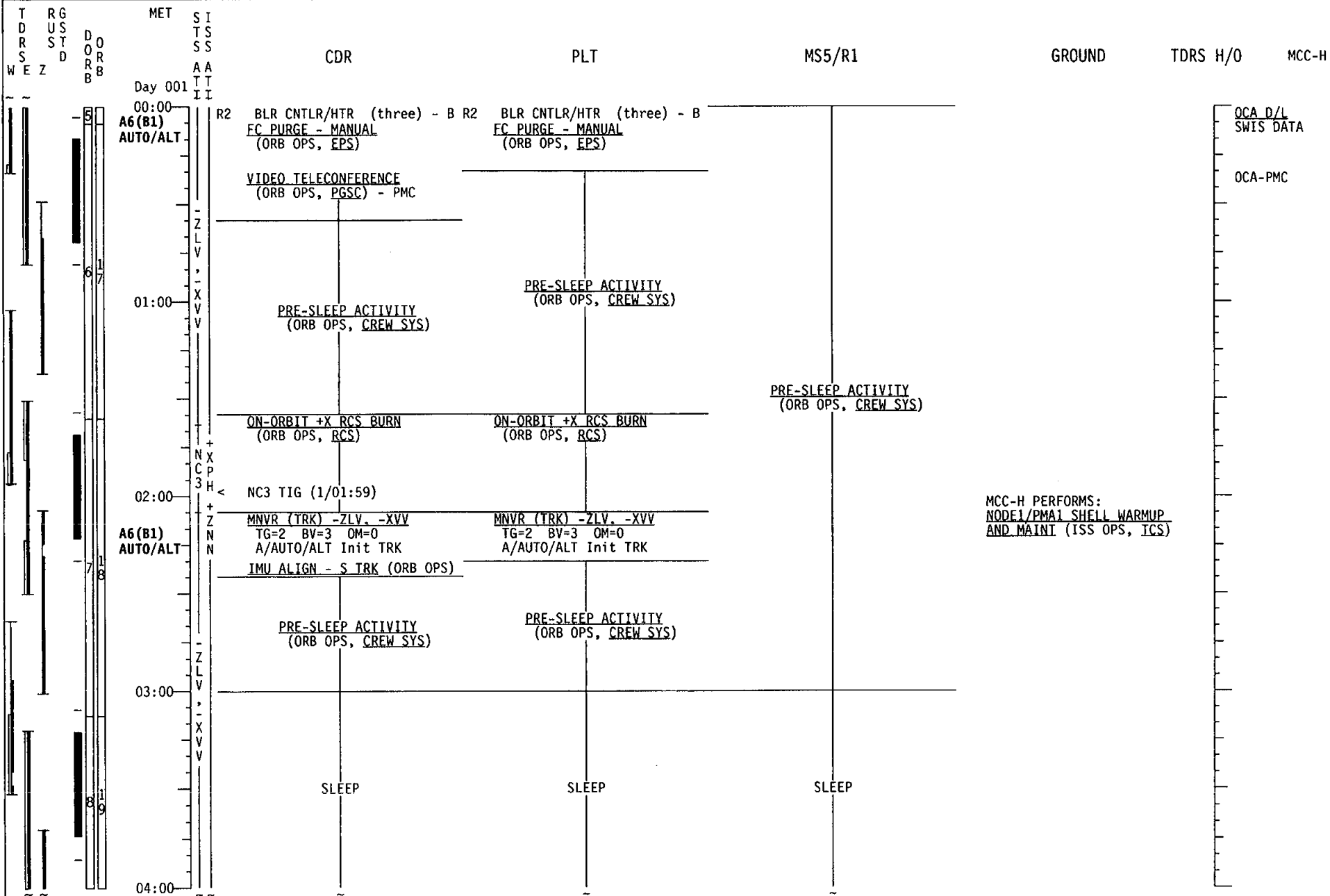
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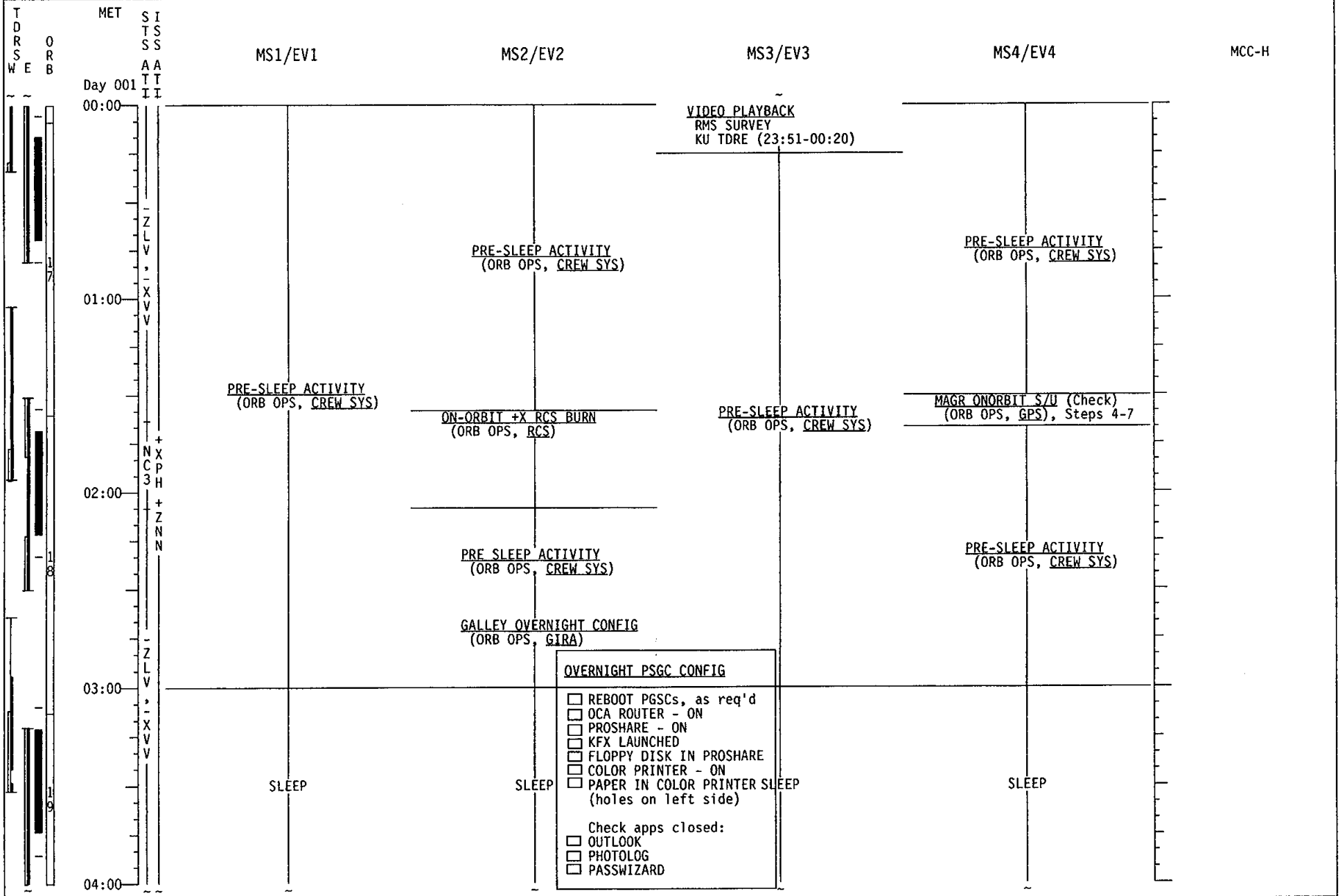
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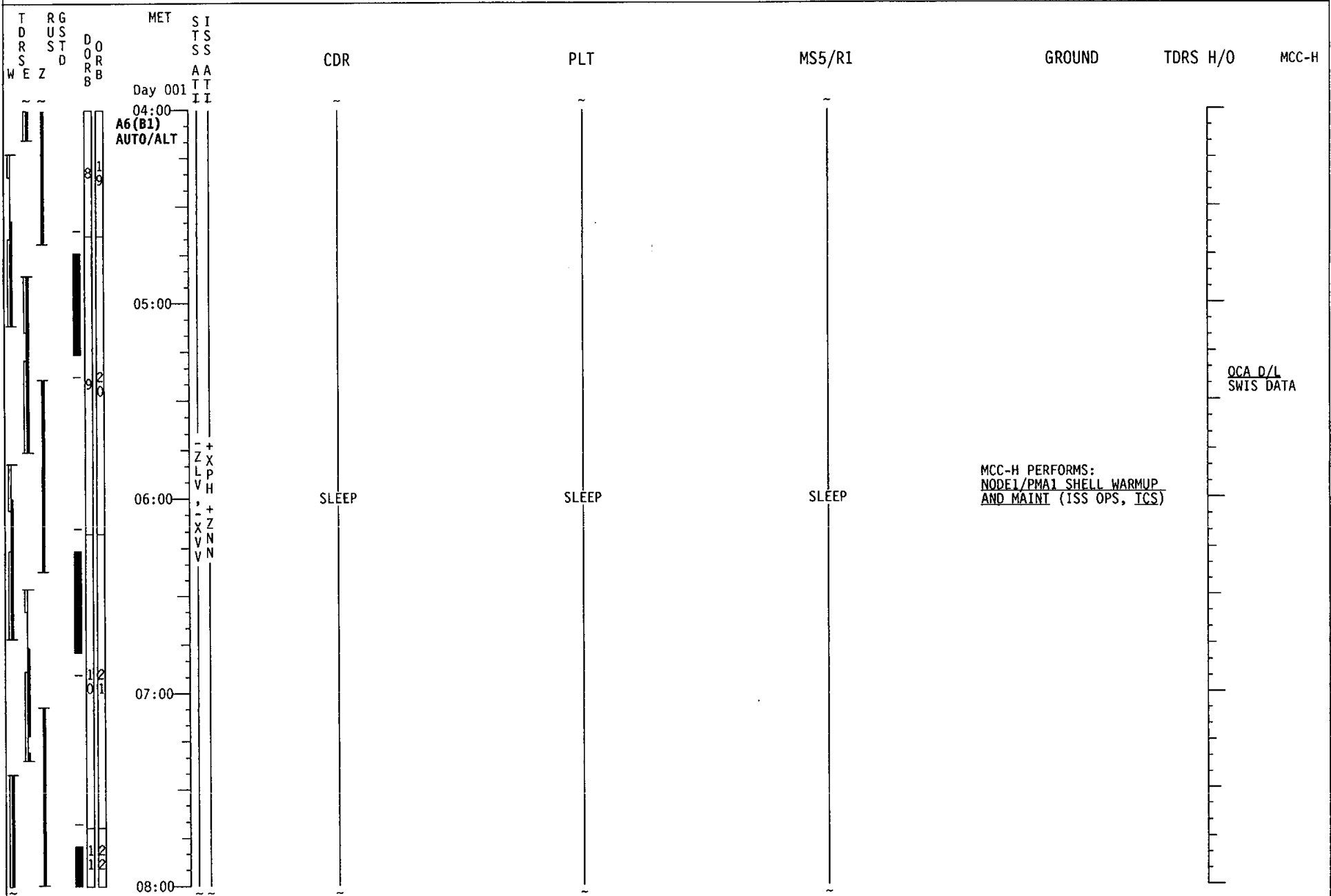
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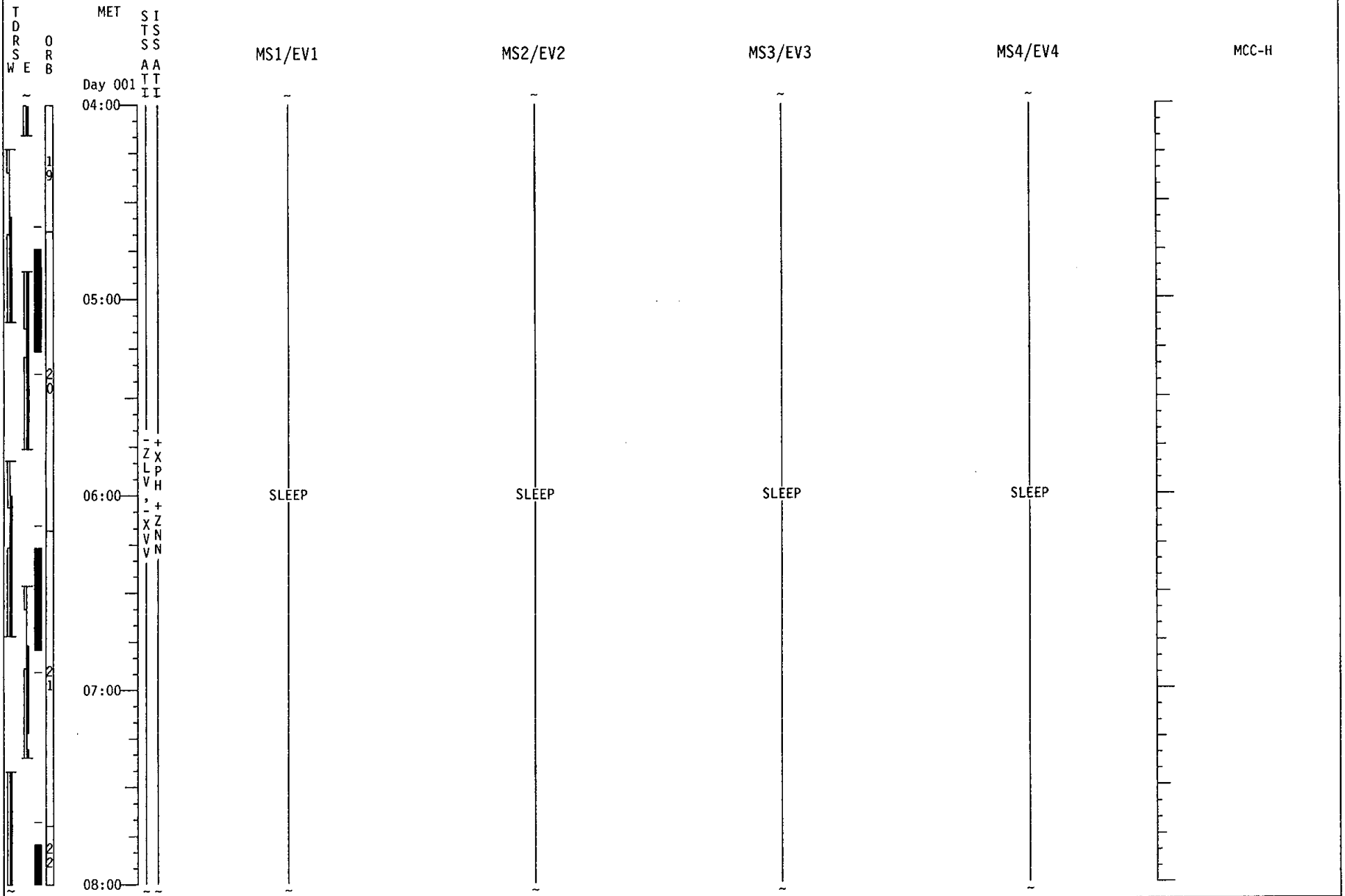
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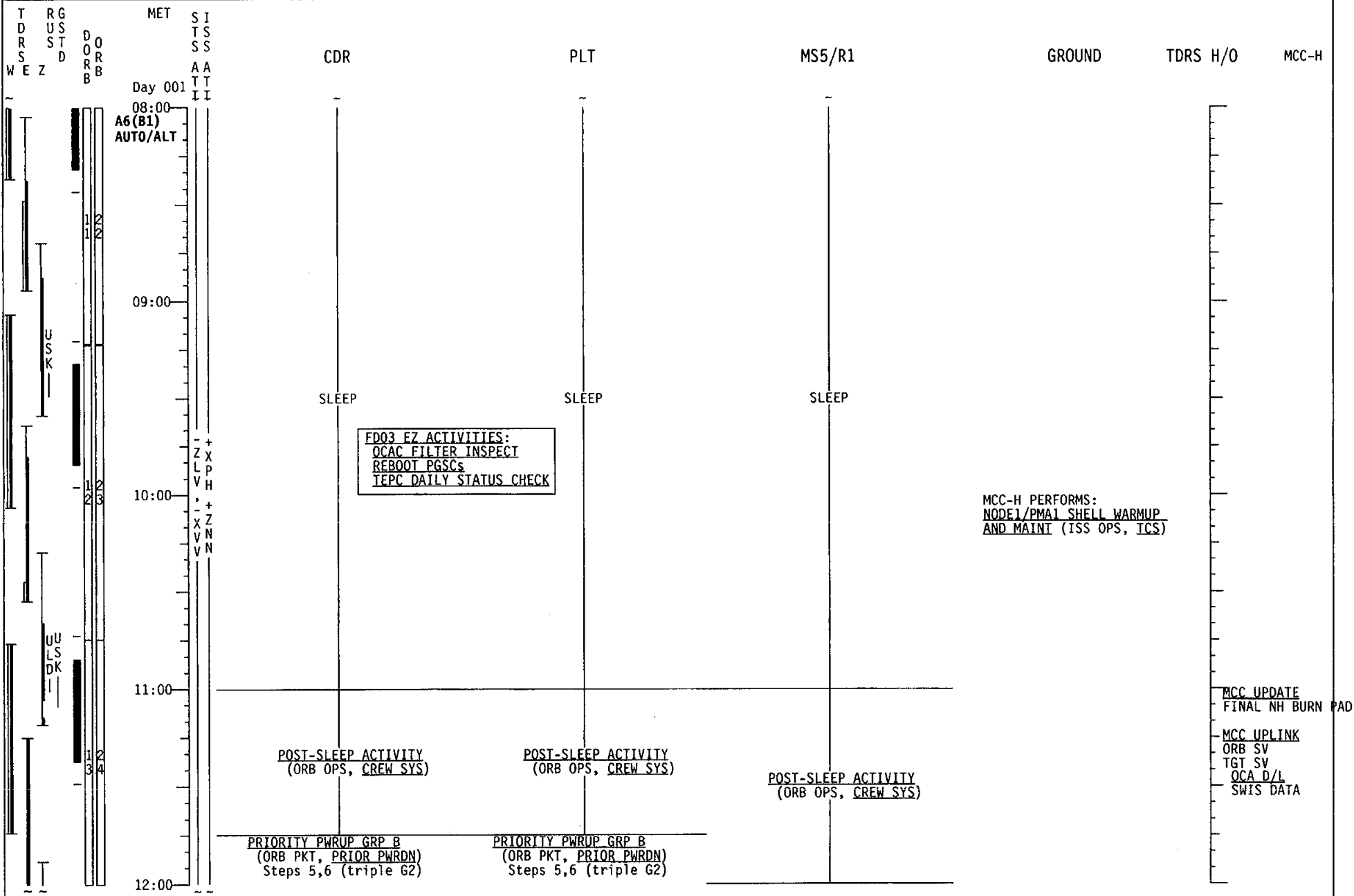
STS-92 (FD 02)



STS-92 (FD 02)



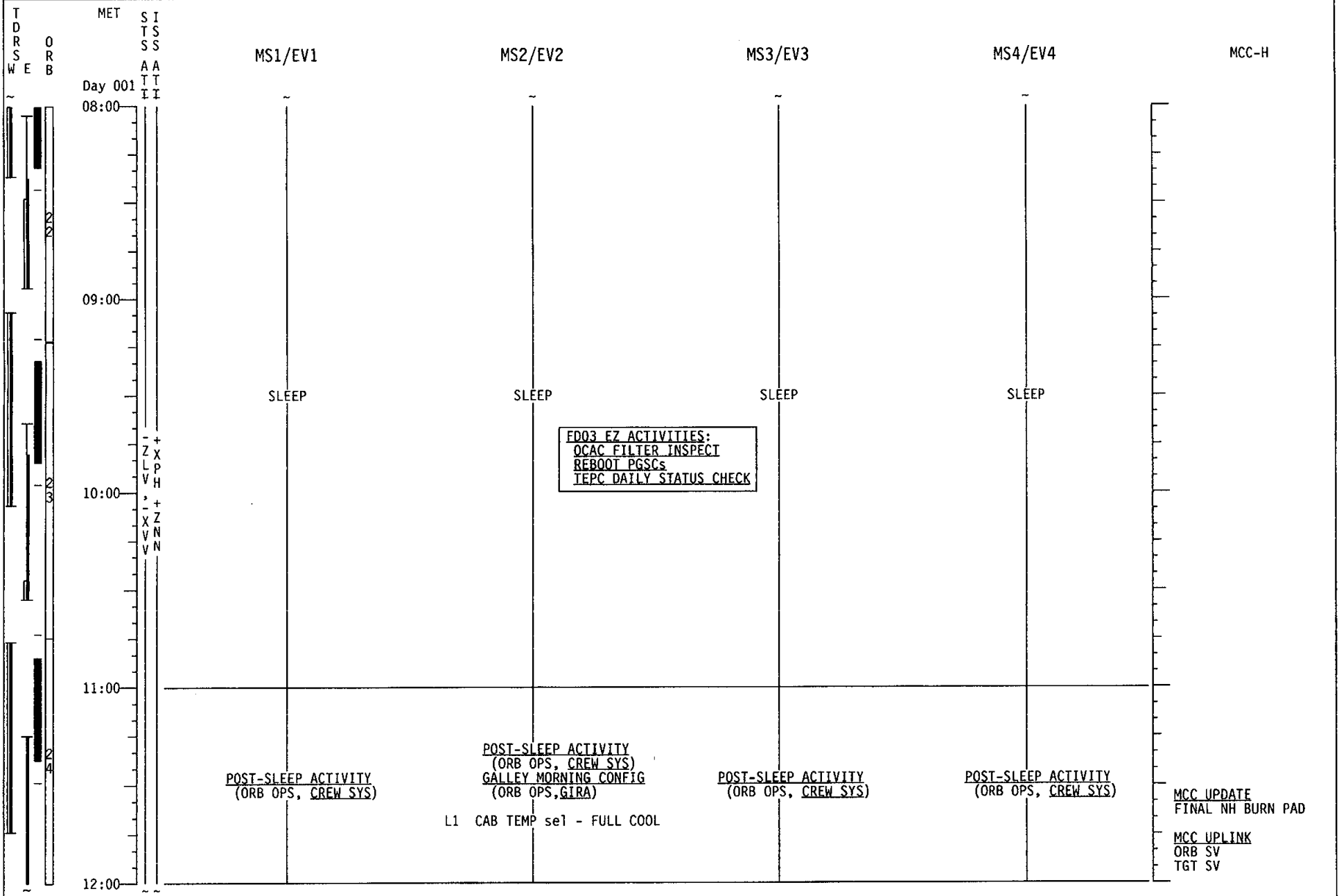
STS-92 (FD02)



FD03 EZ ACTIVITIES:
 OCAC FILTER INSPECT
 REBOOT PGSCs
 TEPC DAILY STATUS CHECK

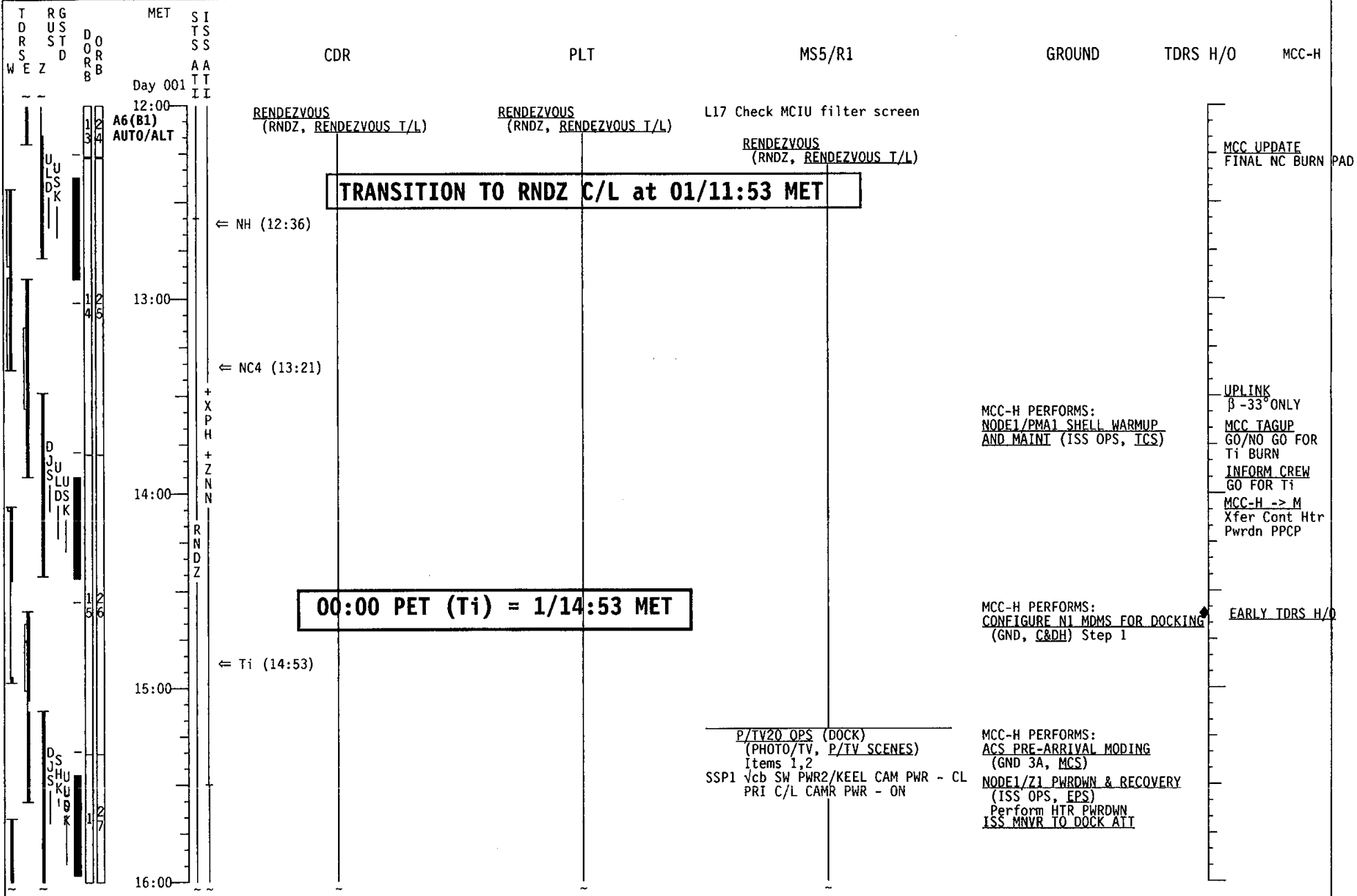
MCC-H PERFORMS:
 NODE1/PMAT SHELL WARMUP
 AND MAINT (ISS OPS, TCS)

STS-92 (FD02)

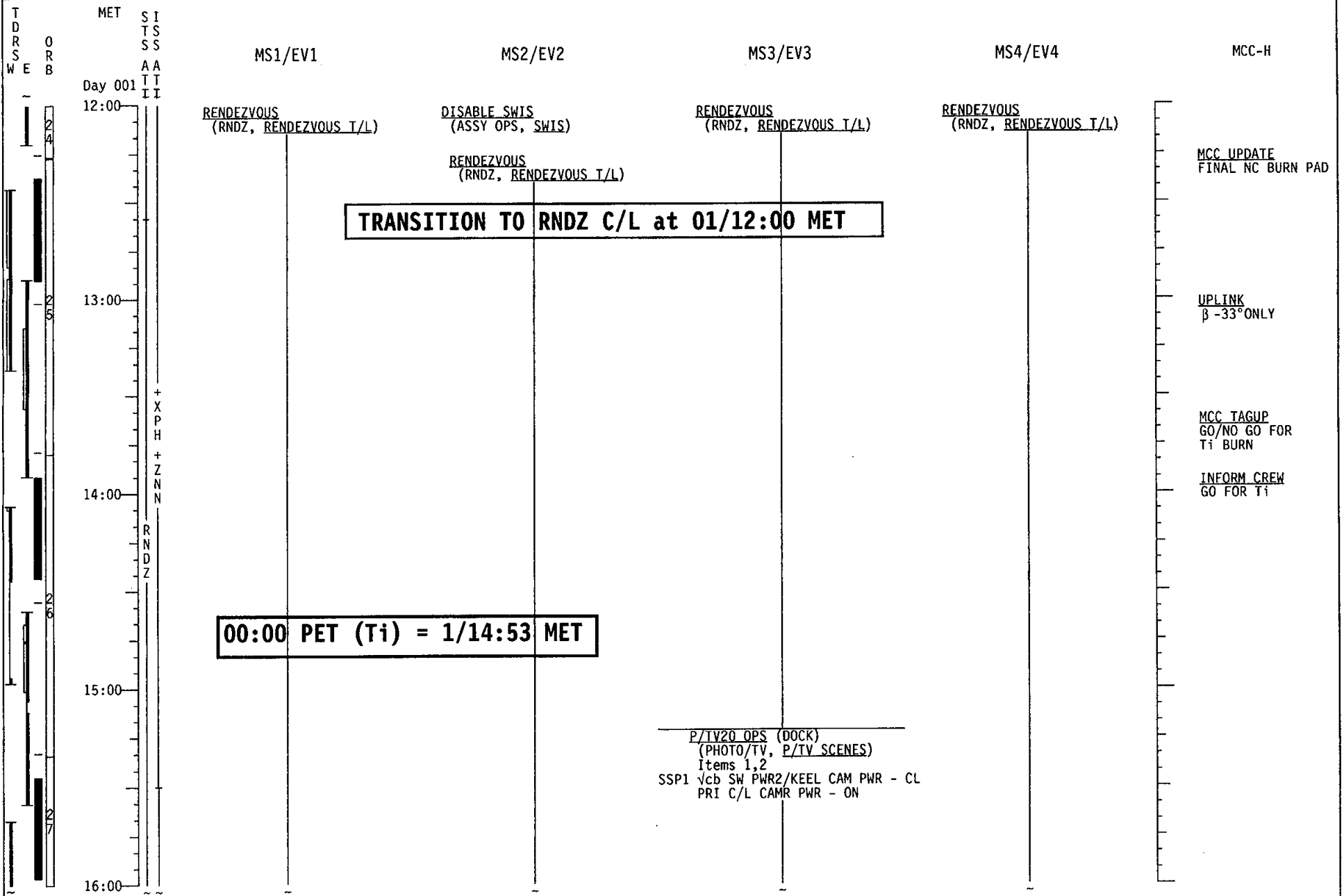


FD03 EZ ACTIVITIES:
 QCAC FILTER INSPECT
 REBOOT PGSCs
 TEPC DAILY STATUS CHECK

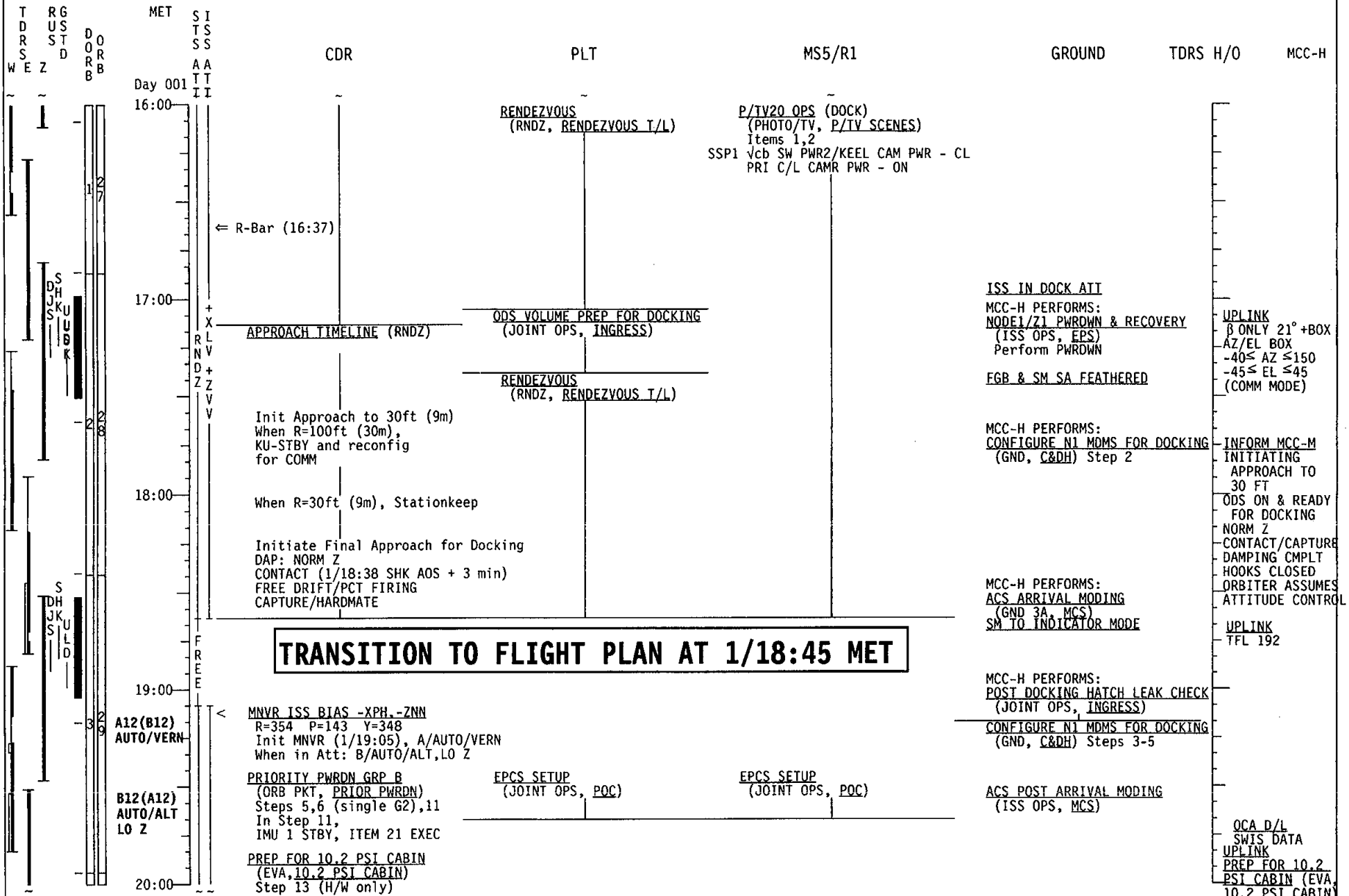
STS-92 (FD03)



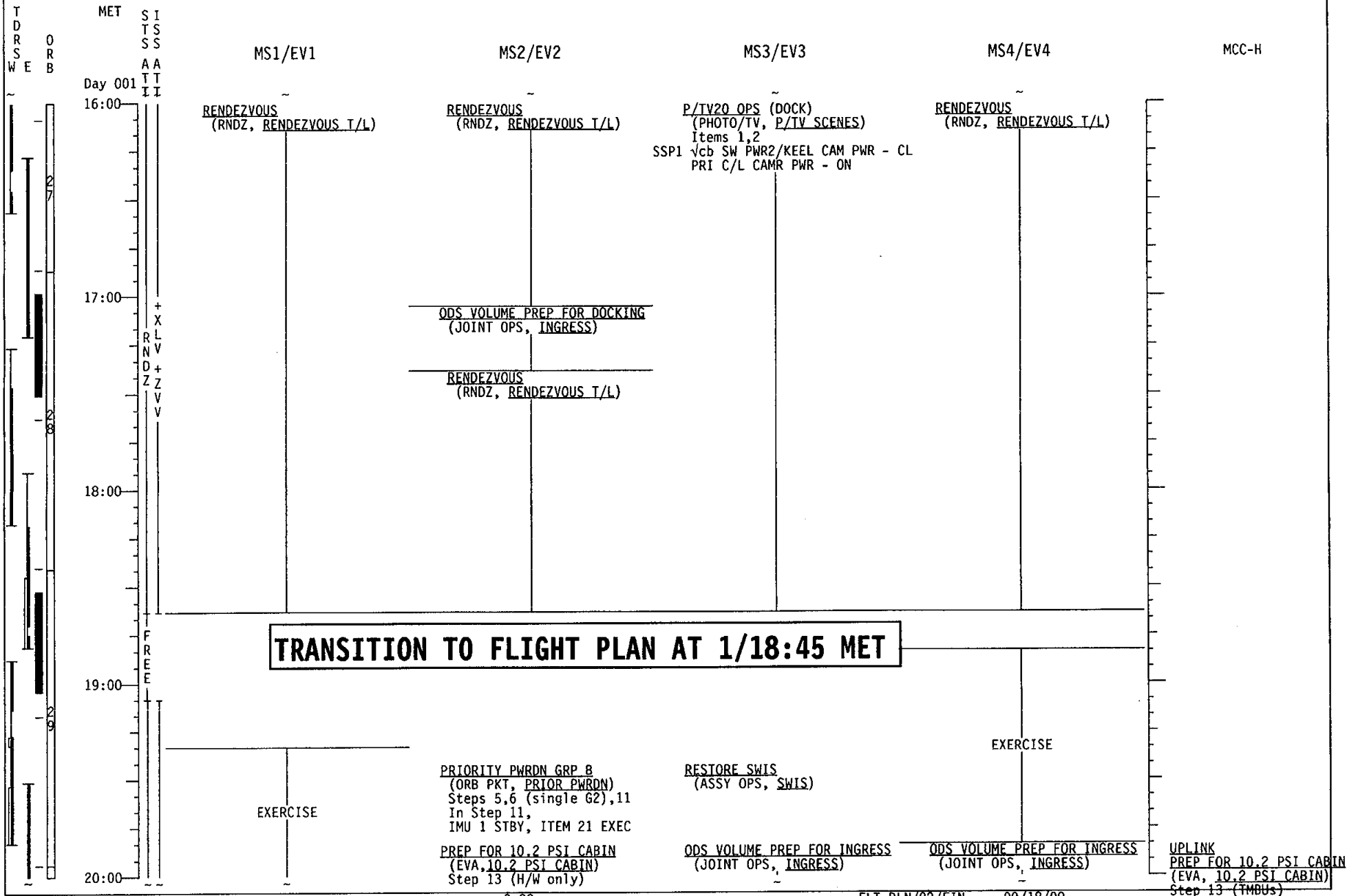
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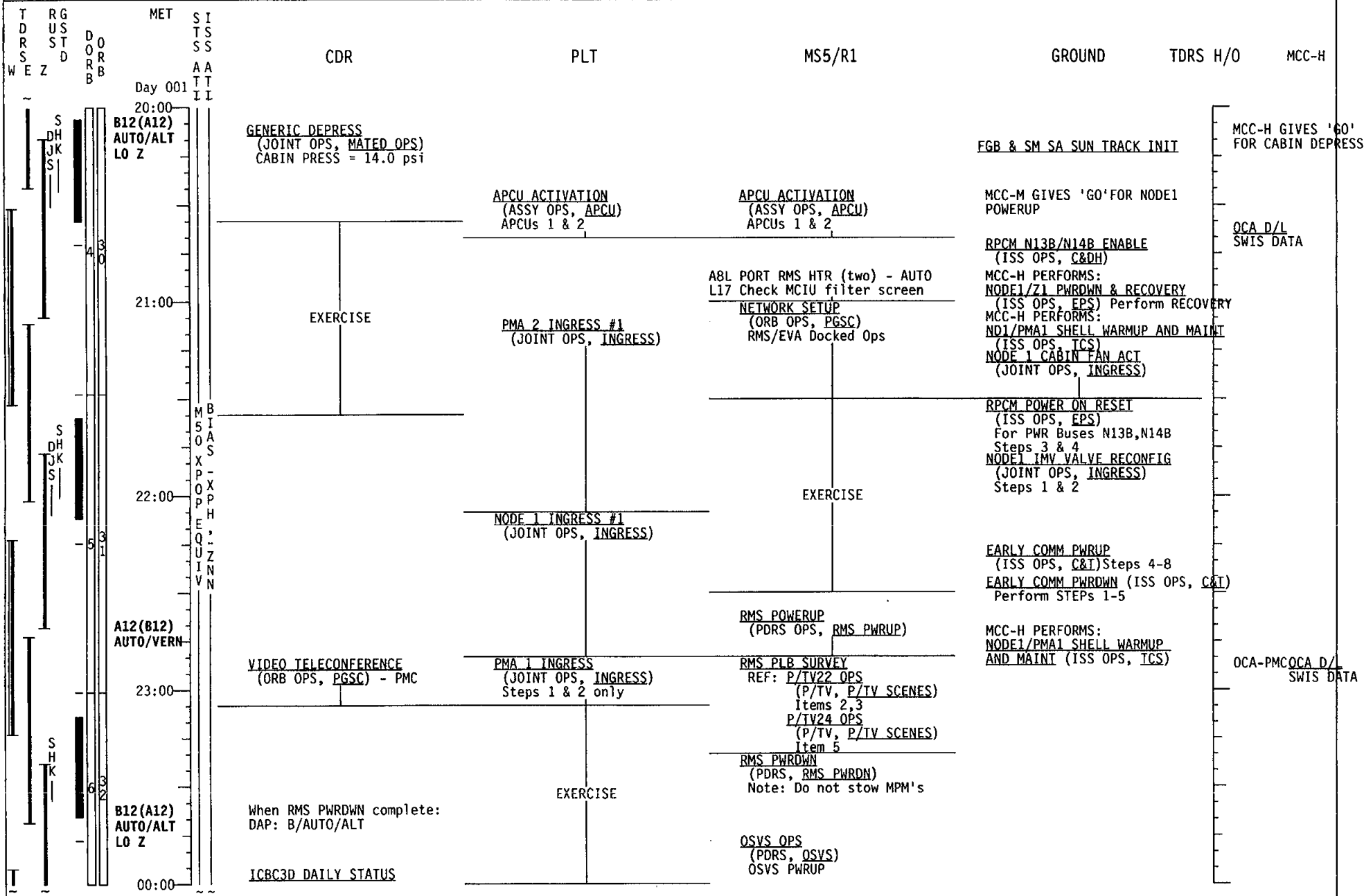
STS-92 (FD03)



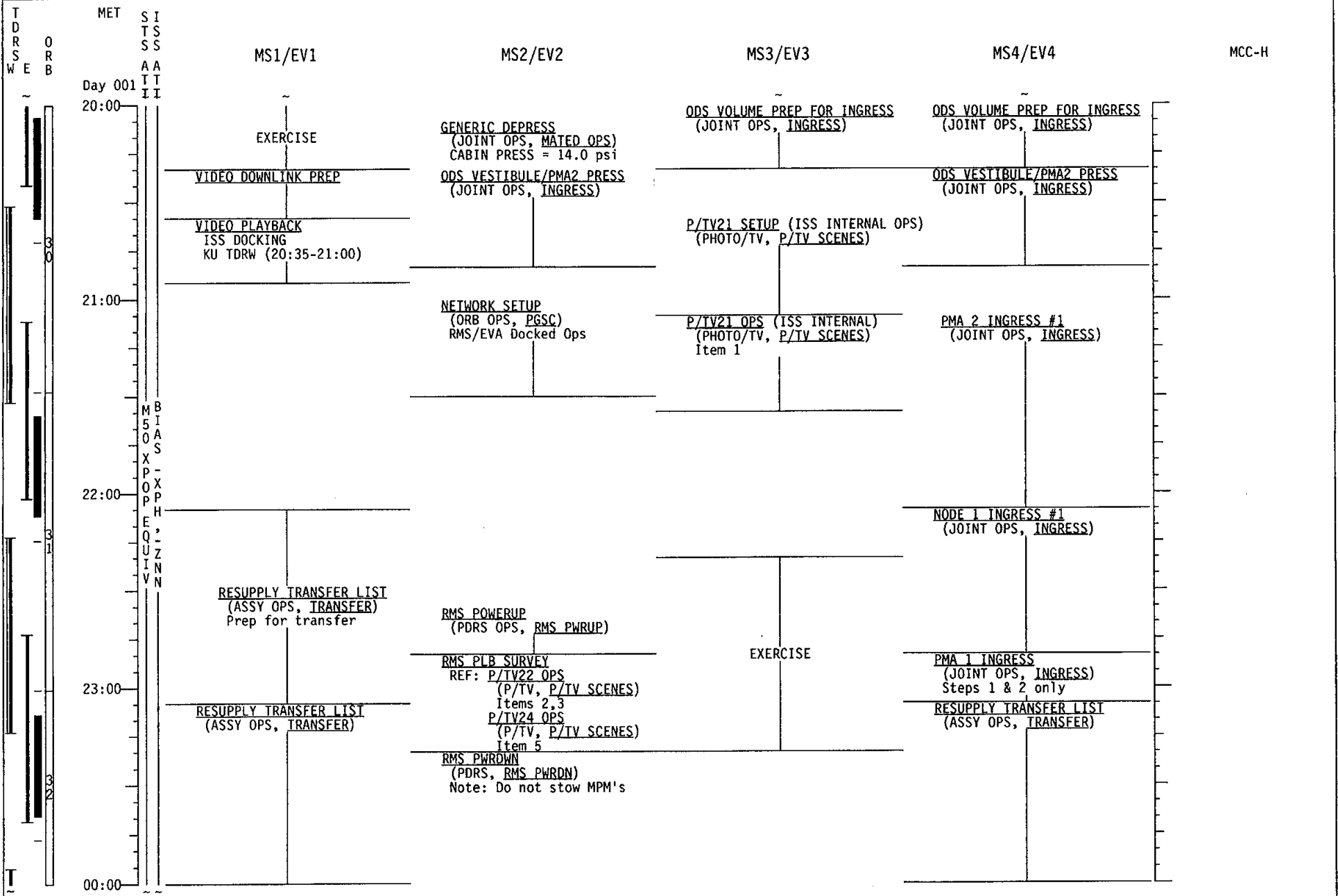
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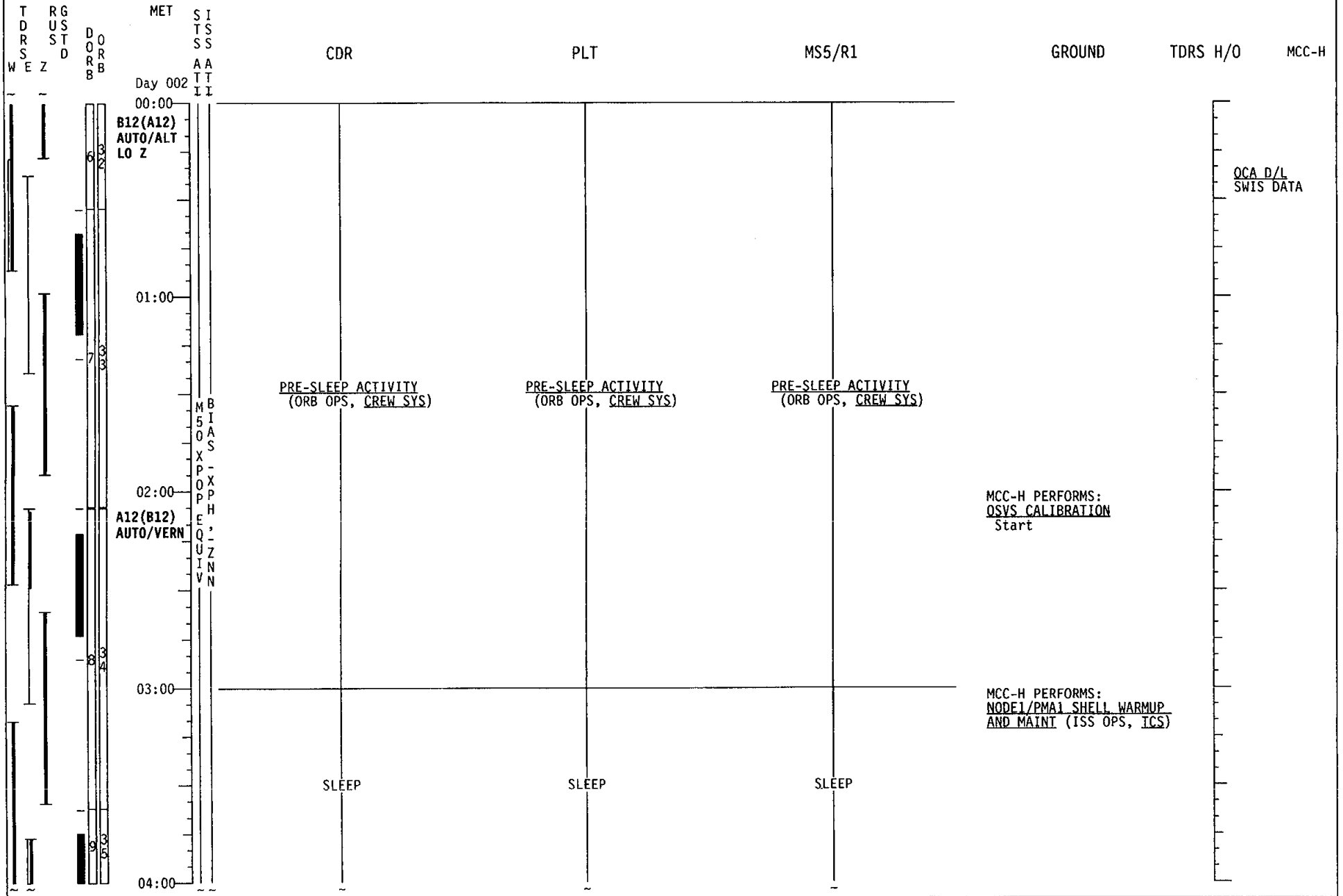
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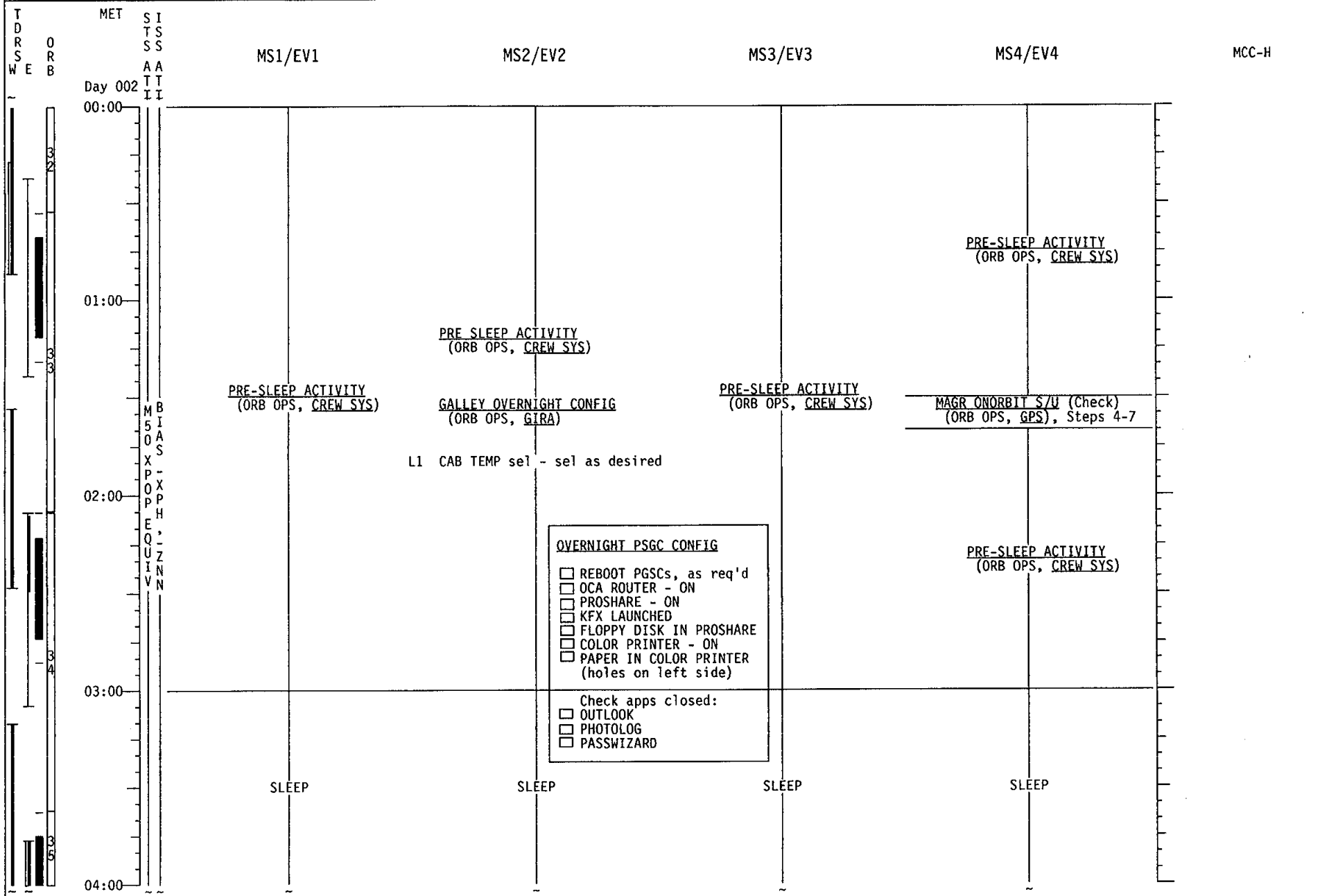
STS-92 (FD03)



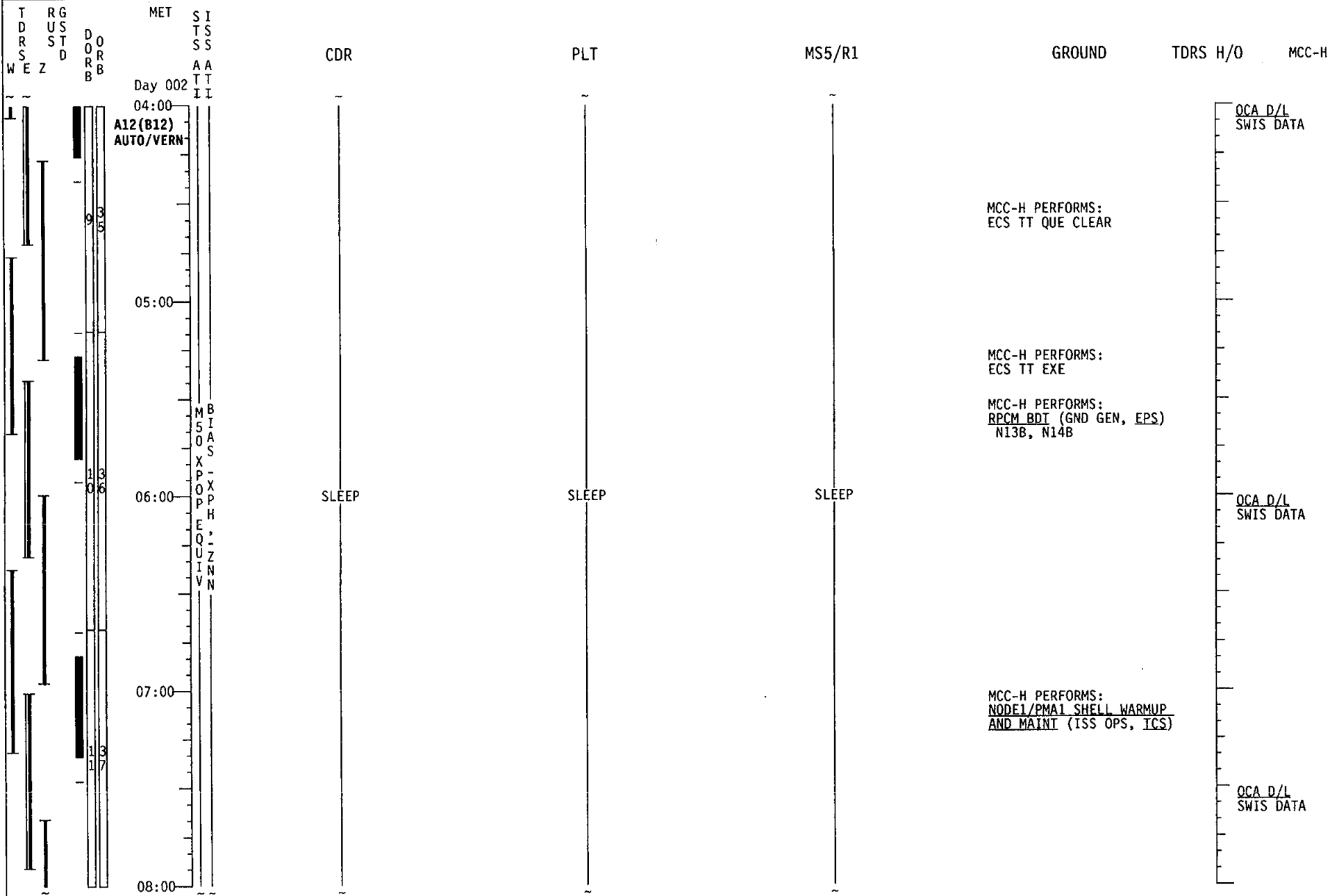
STS-92 (FD03)



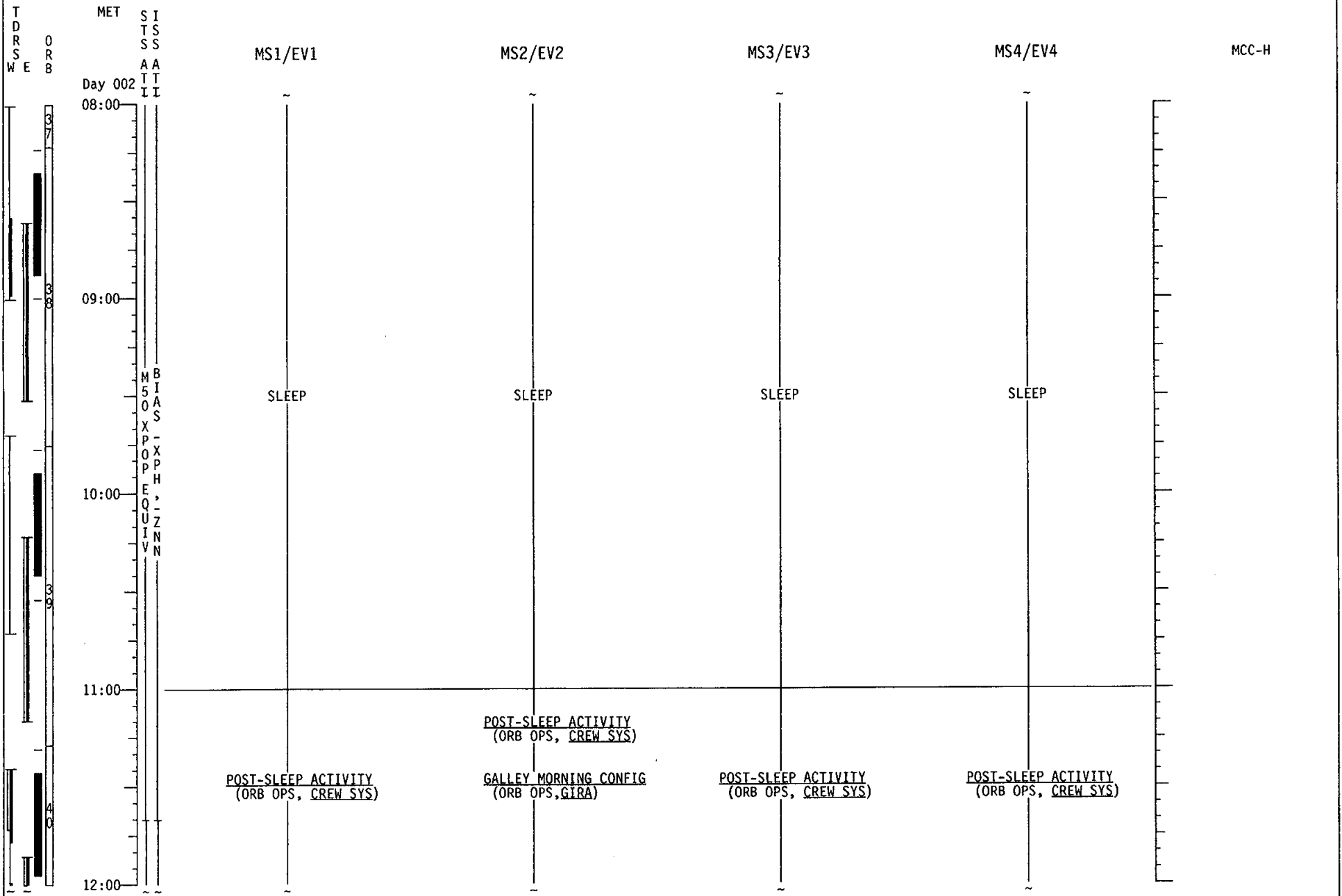
STS-92 (FD 03)



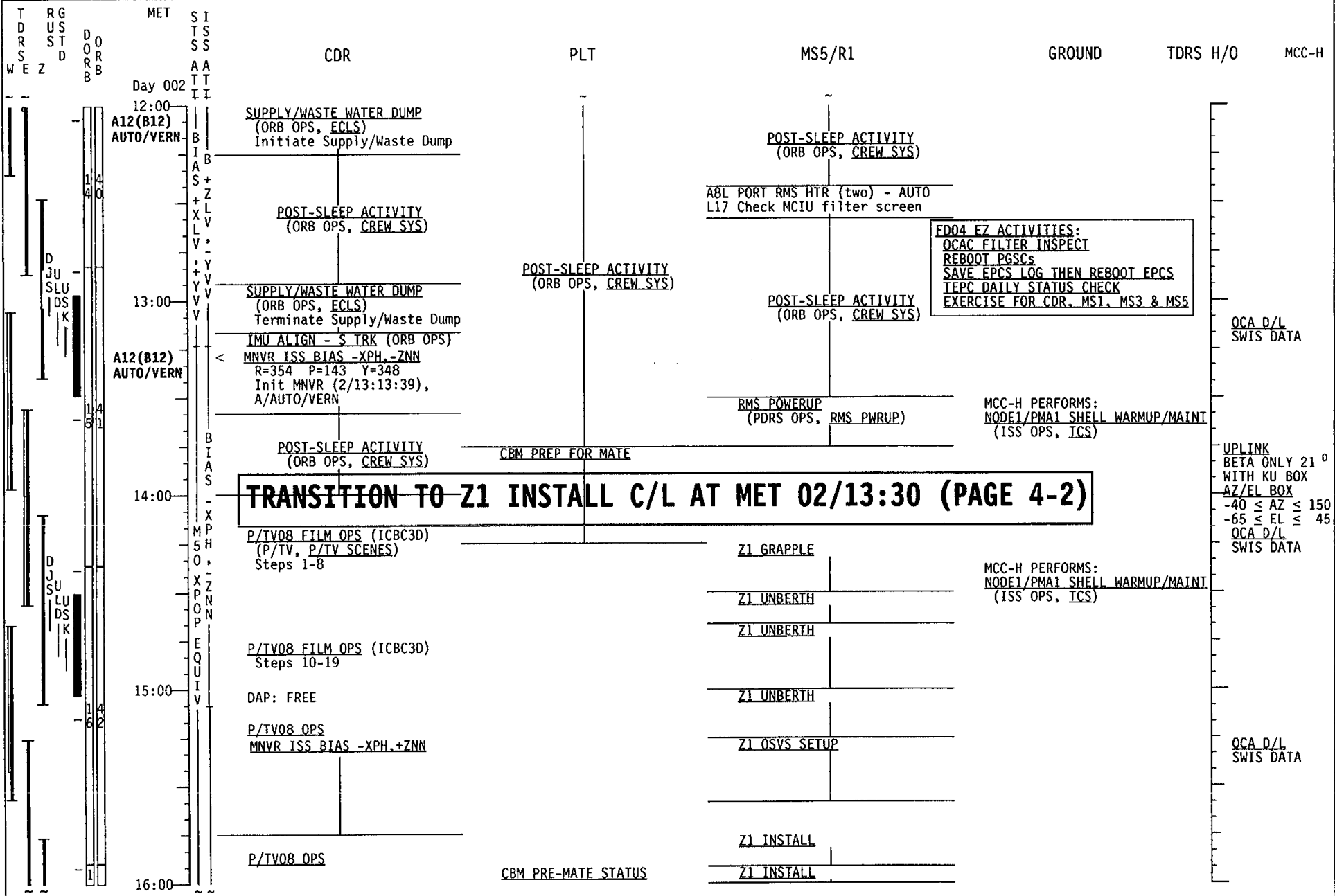
STS-92 (FD03)



STS-92 (FD 03)



STS-92 (FD04)



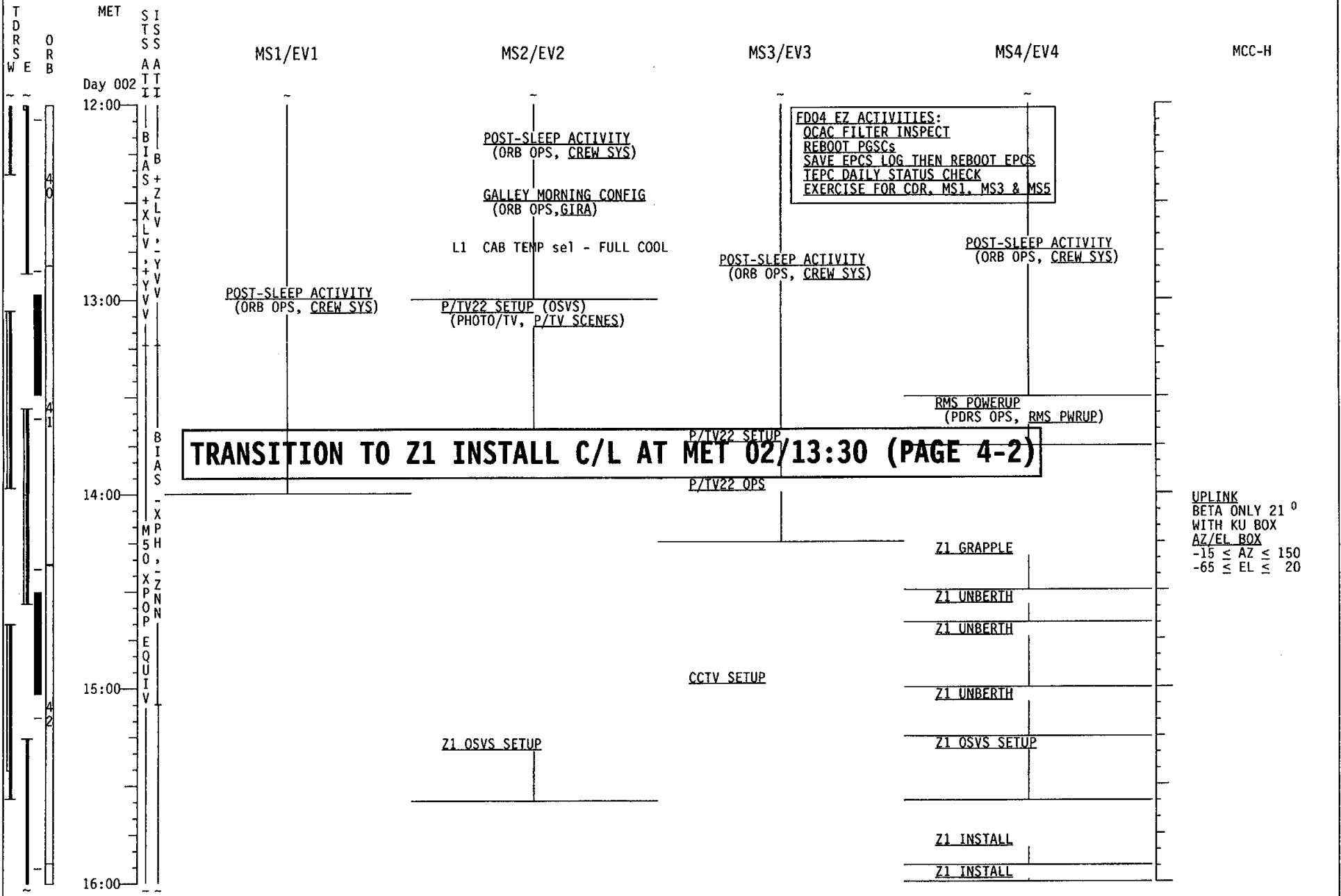
FD04 EZ ACTIVITIES:
 QCAC FILTER INSPECT
 REBOOT PGSCs
 SAVE EPCS LOG THEN REBOOT EPCS
 TEPC DAILY STATUS CHECK
 EXERCISE FOR CDR, MS1, MS3 & MS5

QCA D/L
SWIS DATA

UPLINK
 BETA ONLY 21°
 WITH KU BOX
 AZ/EL BOX
 -40 ≤ AZ ≤ 150
 -65 ≤ EL ≤ 45
 QCA D/L
 SWIS DATA

QCA D/L
SWIS DATA

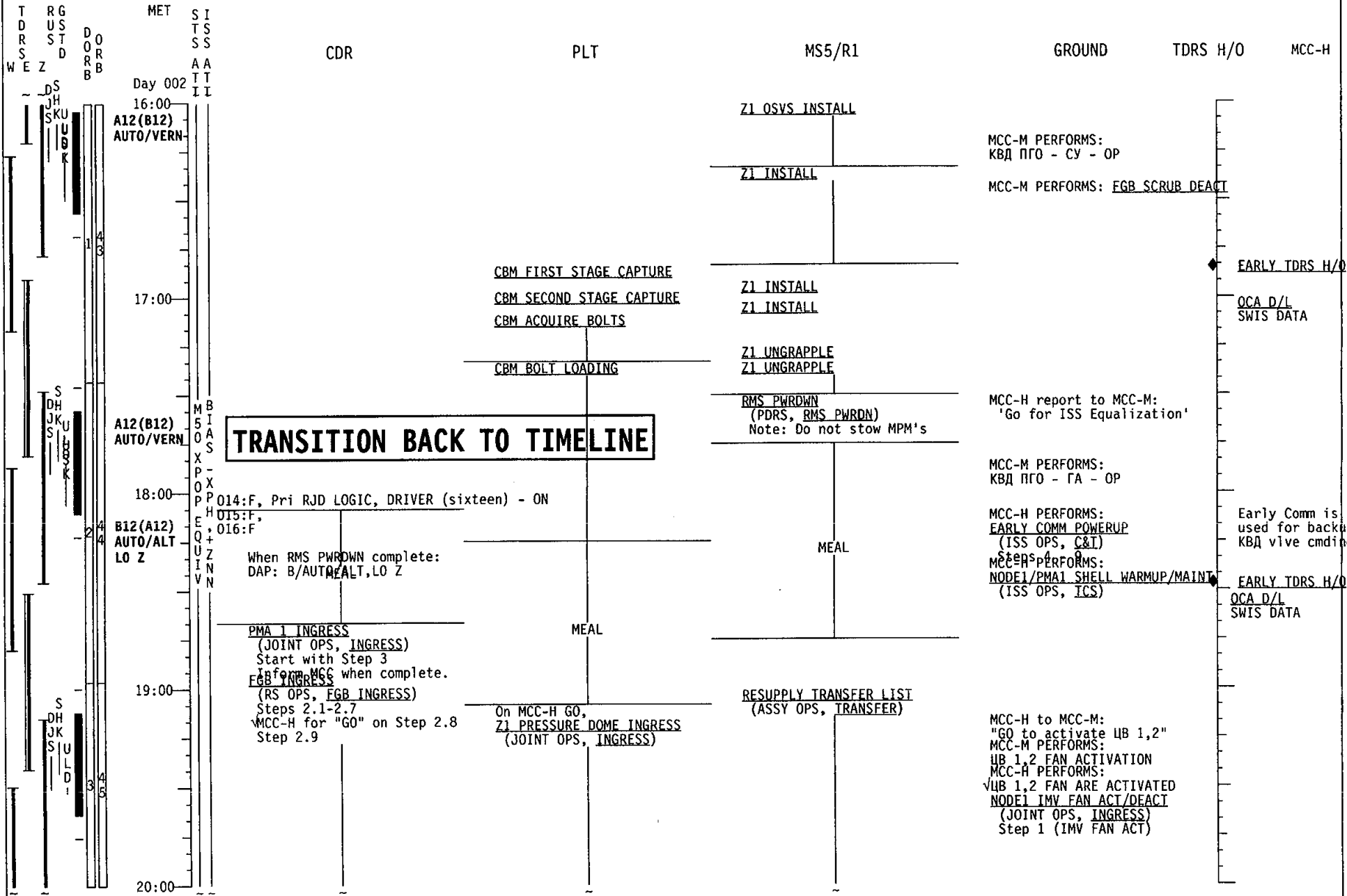
STS-92 (FD 04)



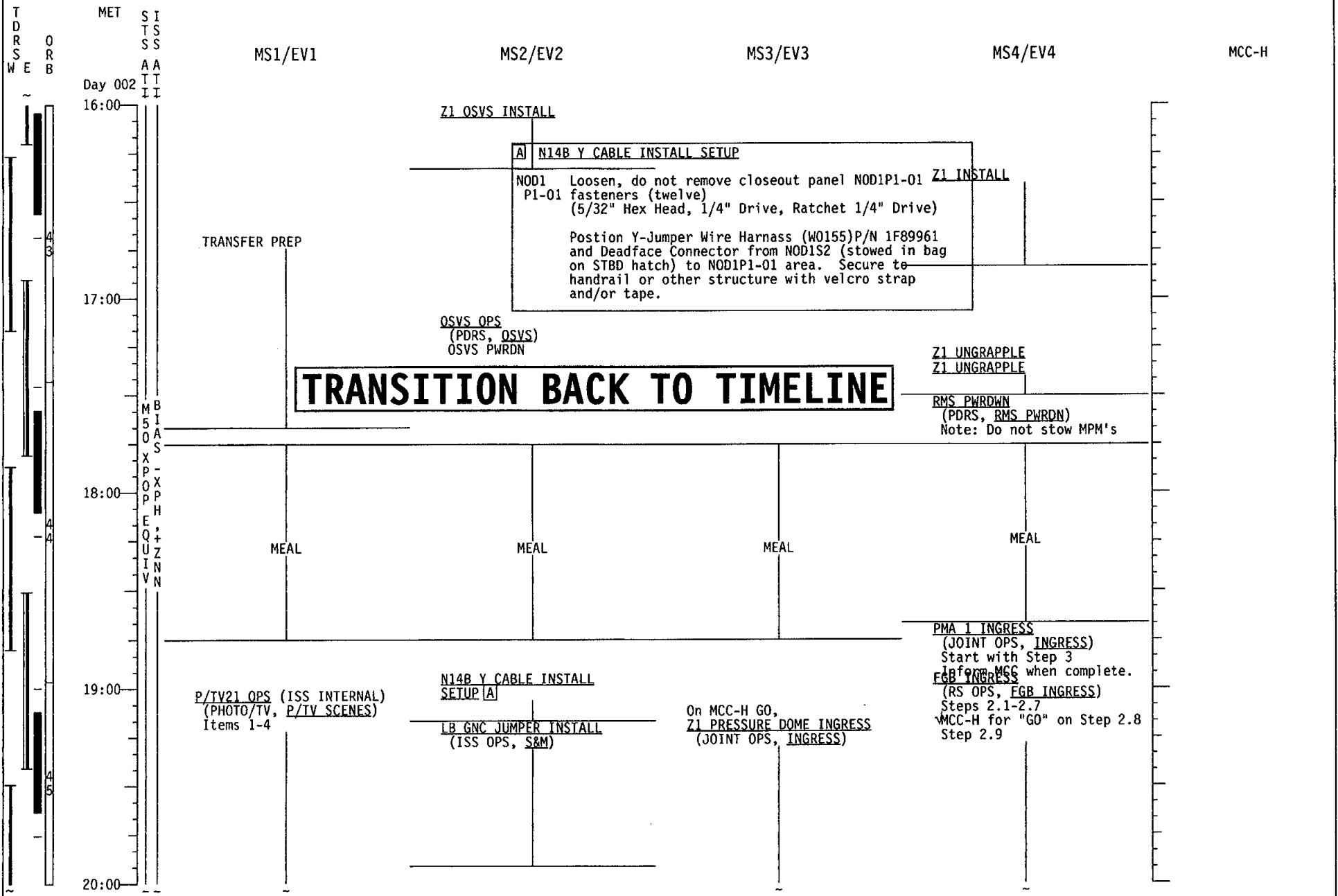
FD04 EZ ACTIVITIES:
 OCAC FILTER INSPECT
 REBOOT PGSCs
 SAVE EPCS LOG THEN REBOOT EPCS
 TEPC DAILY STATUS CHECK
 EXERCISE FOR CDR, MS1, MS3 & MS5

UPLINK
 BETA ONLY 21°
 WITH KU BOX
 AZ/EL BOX
 -15 ≤ AZ ≤ 150
 -65 ≤ EL ≤ 20

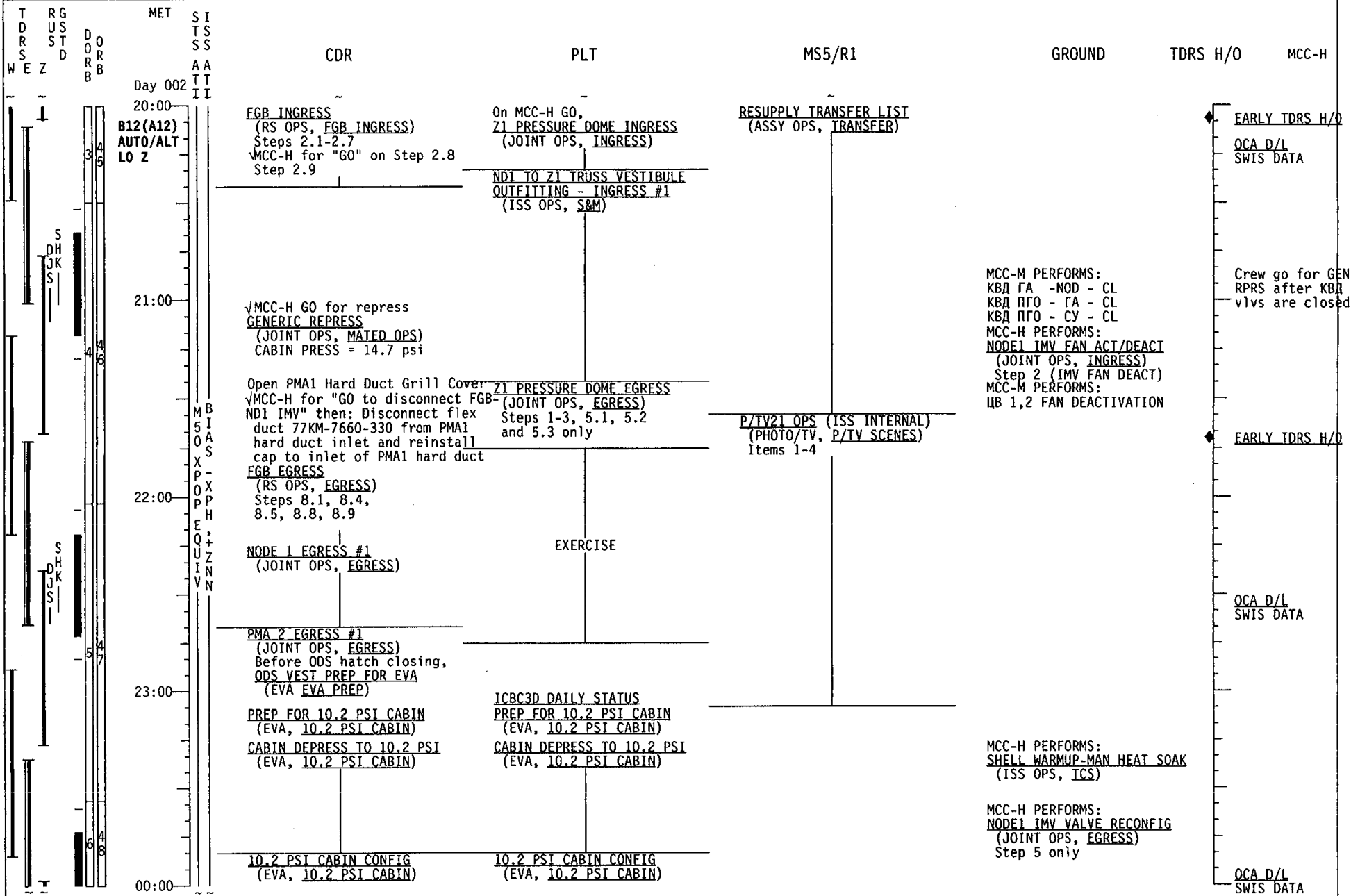
STS-92 (FD04)



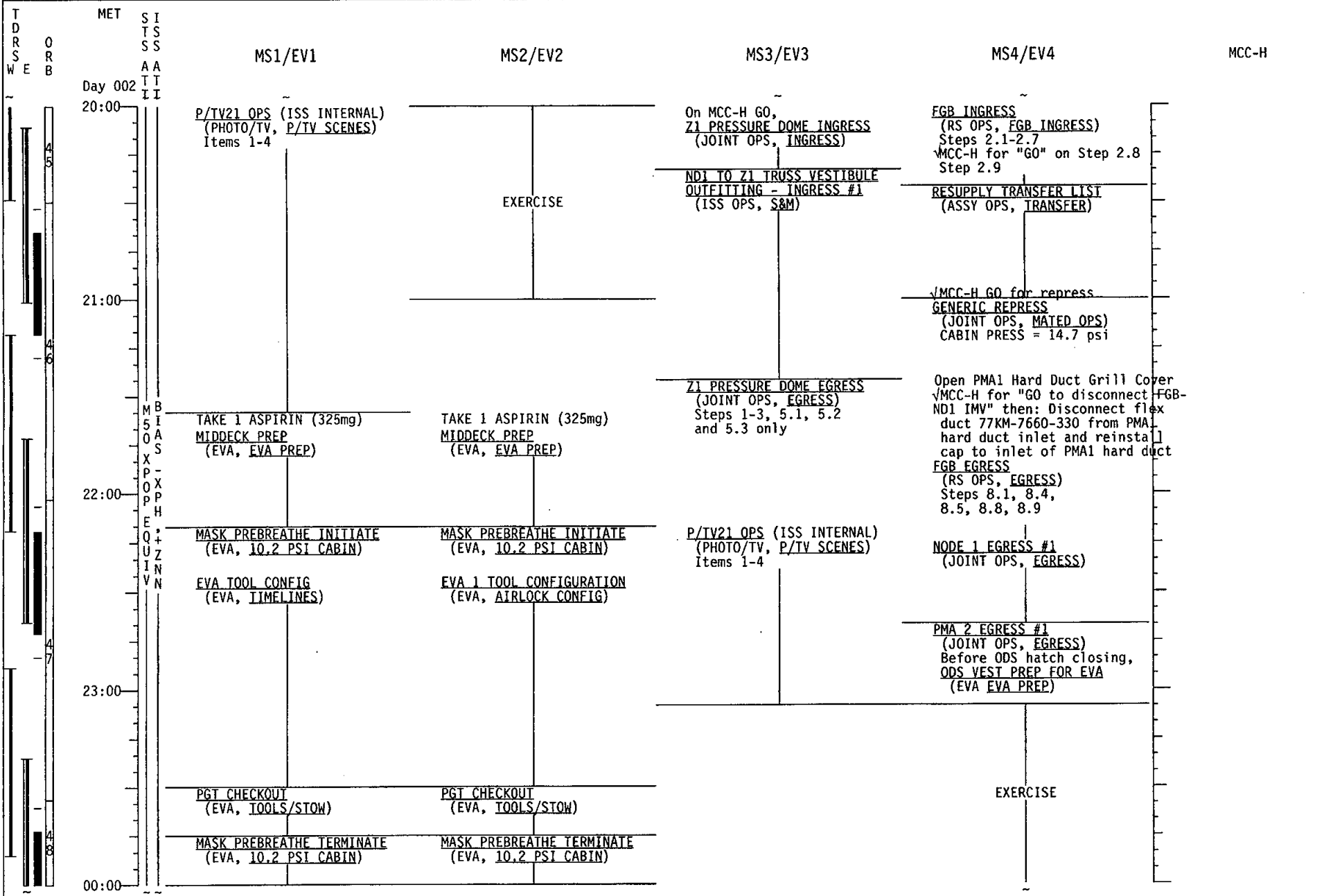
STS-92 (FD04)



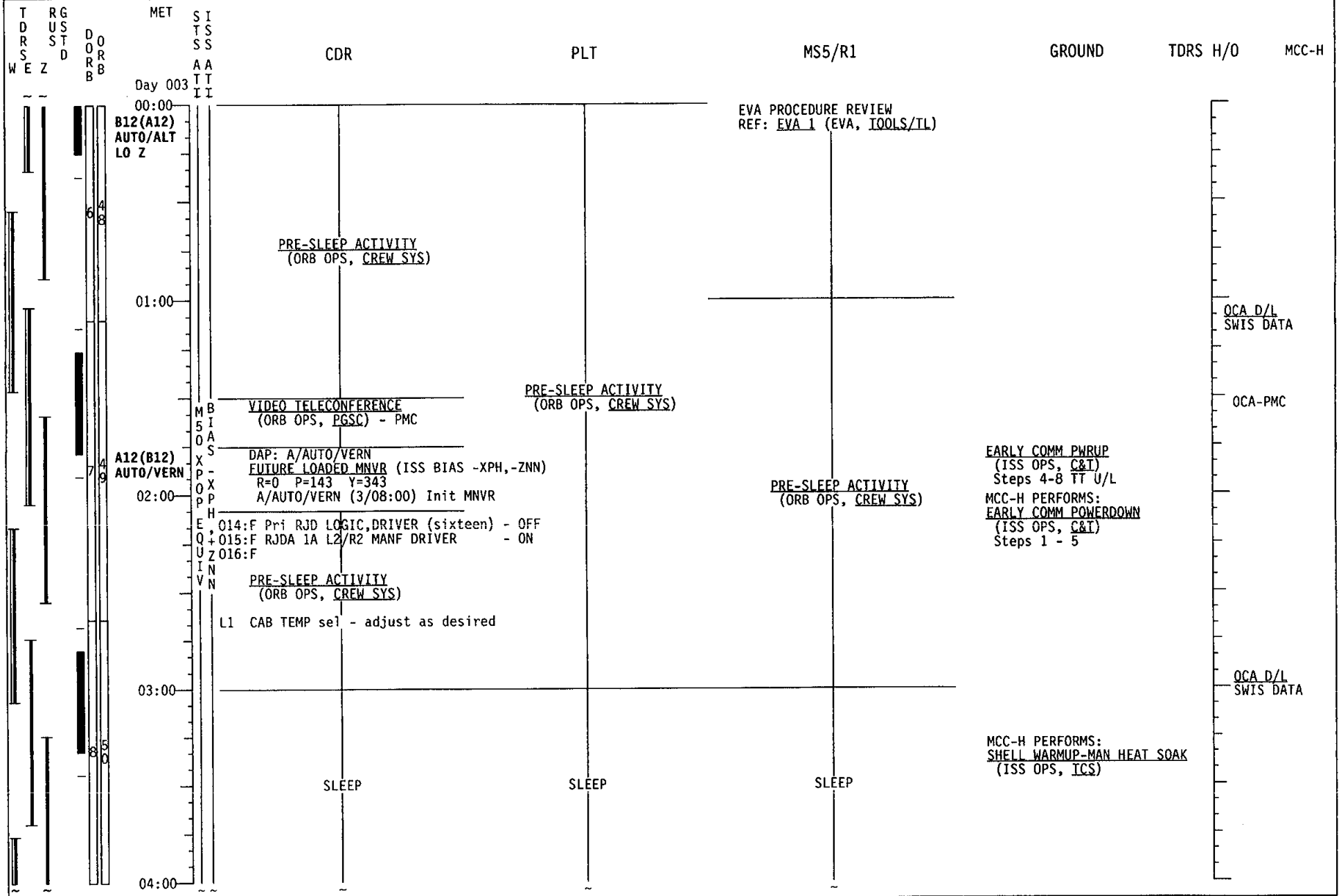
STS-92 (FD 04)



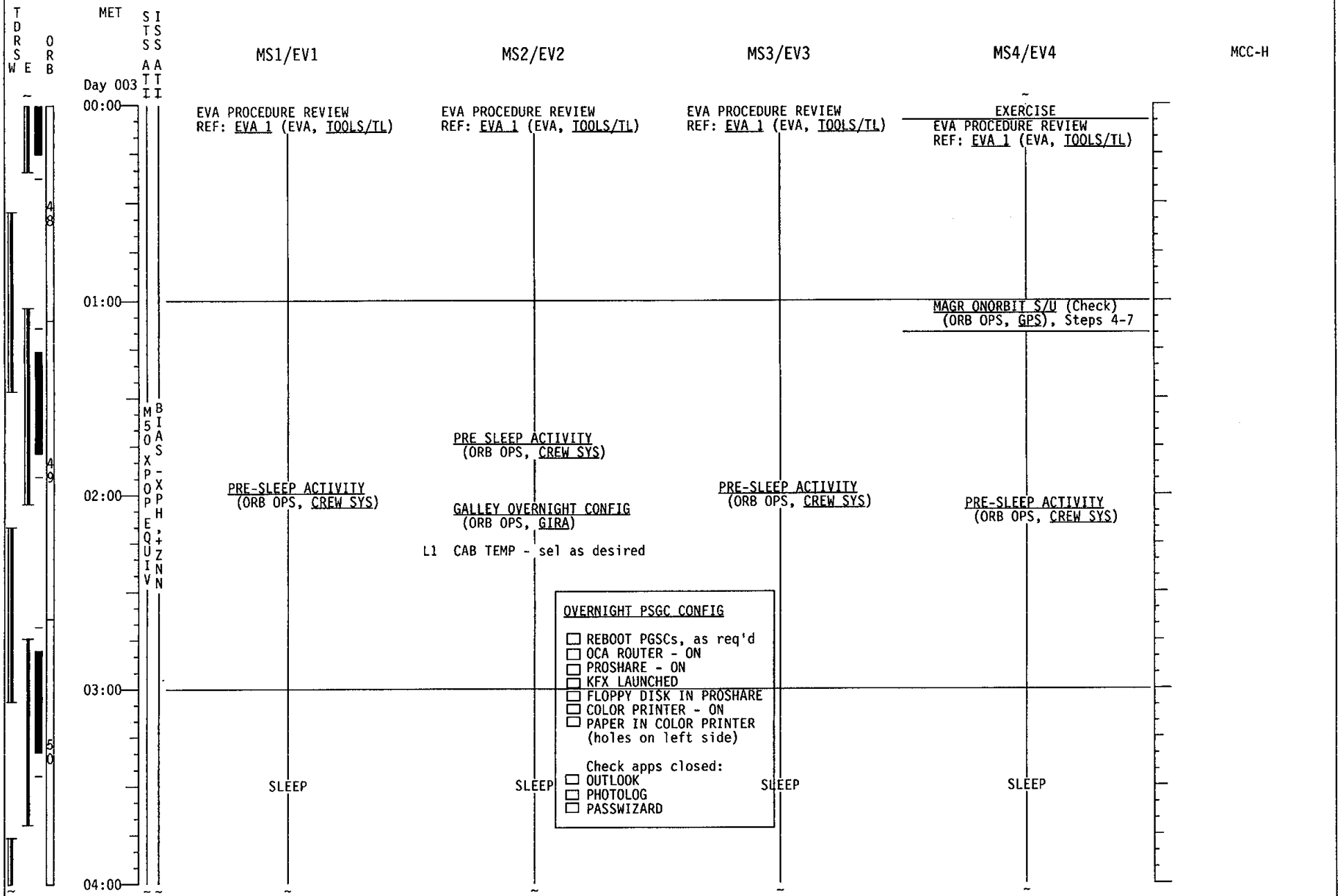
STS-92 (FD 04)



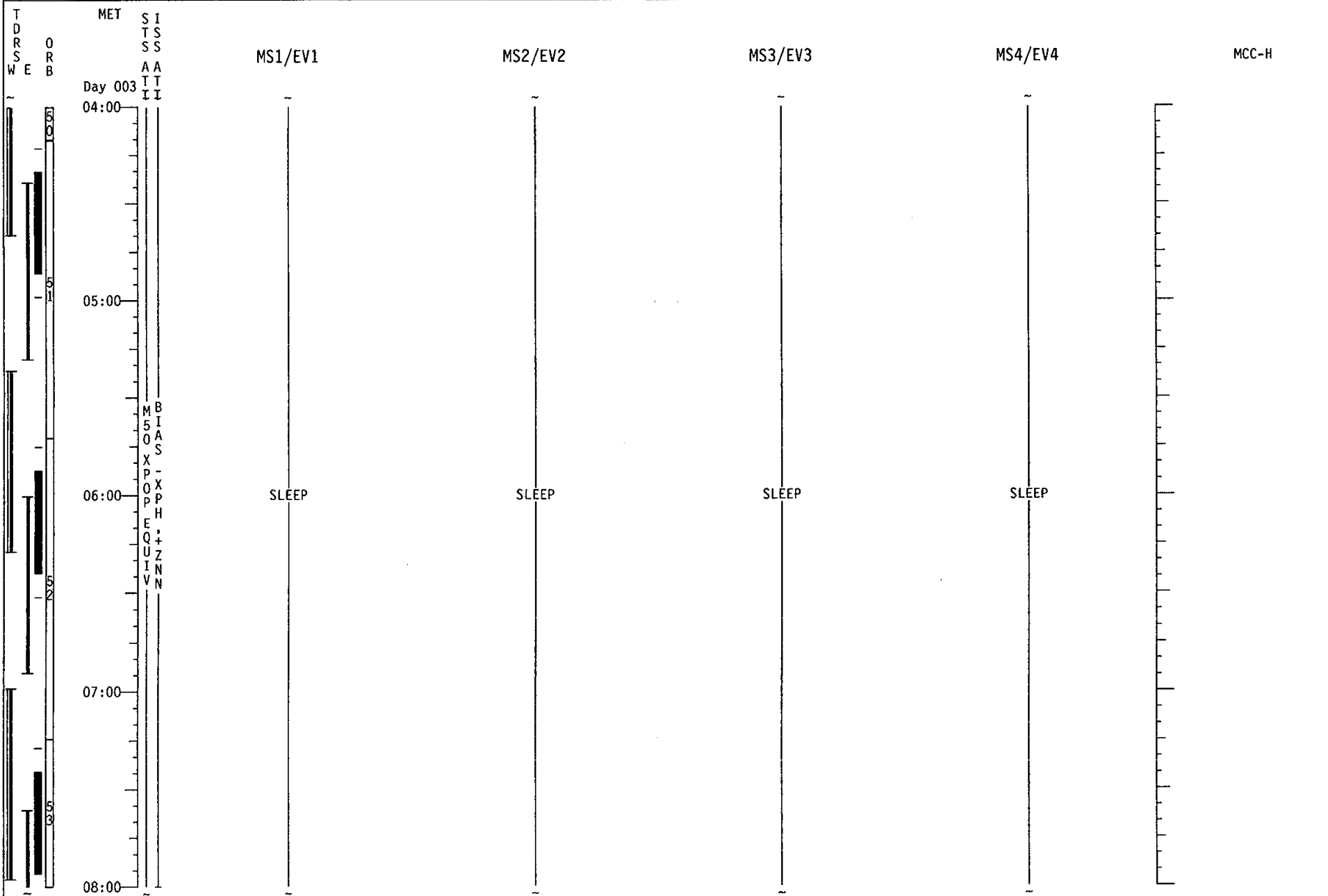
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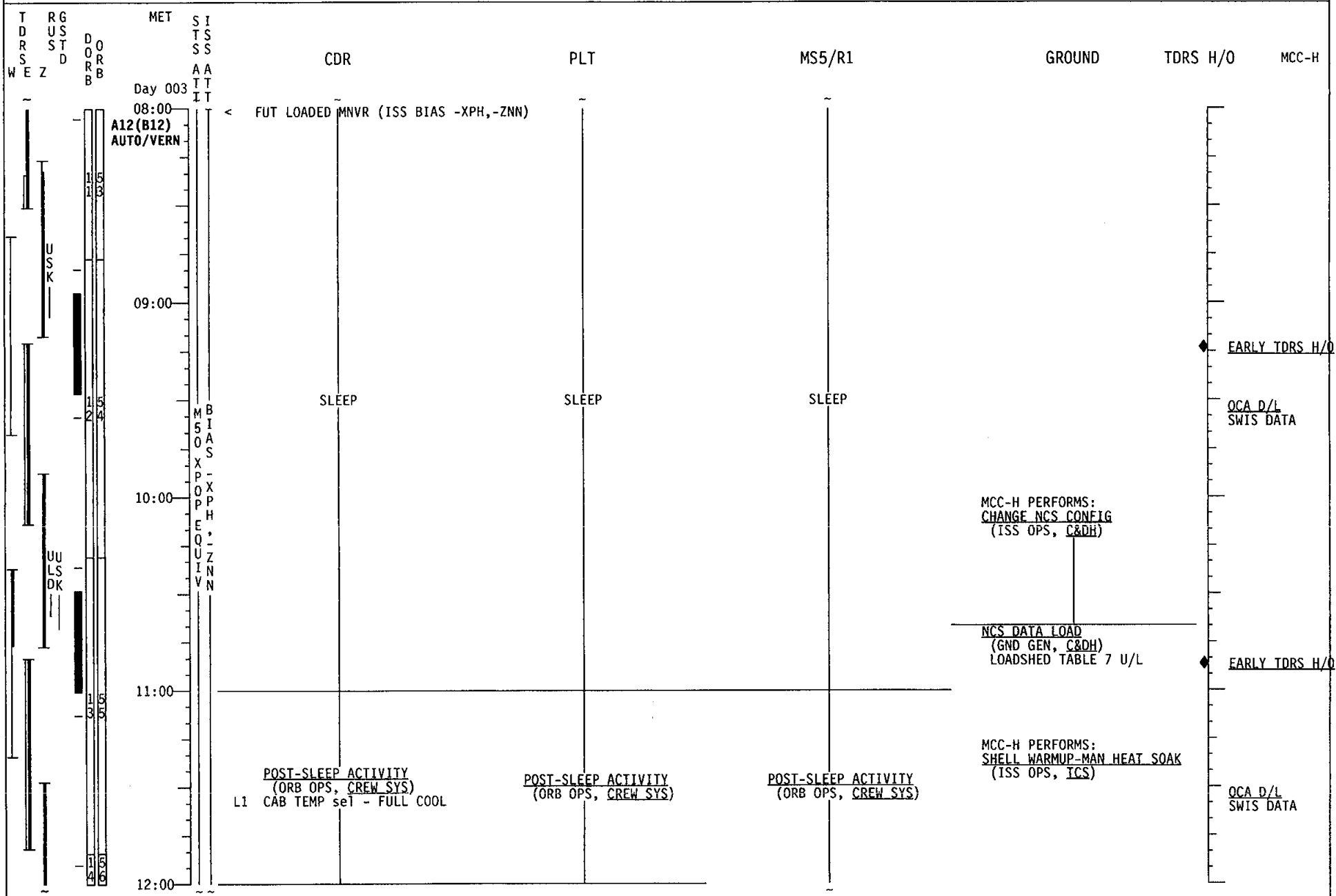
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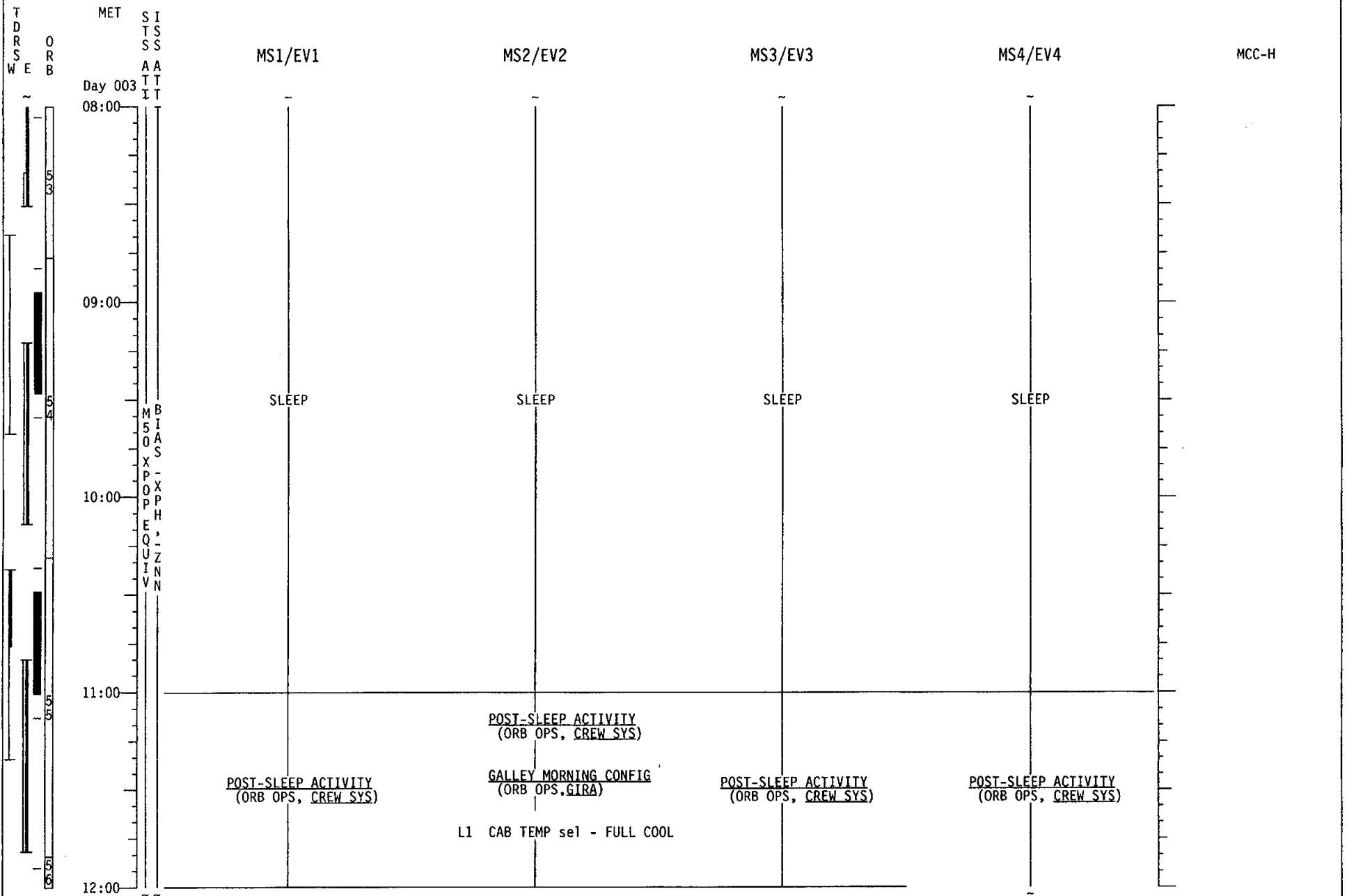
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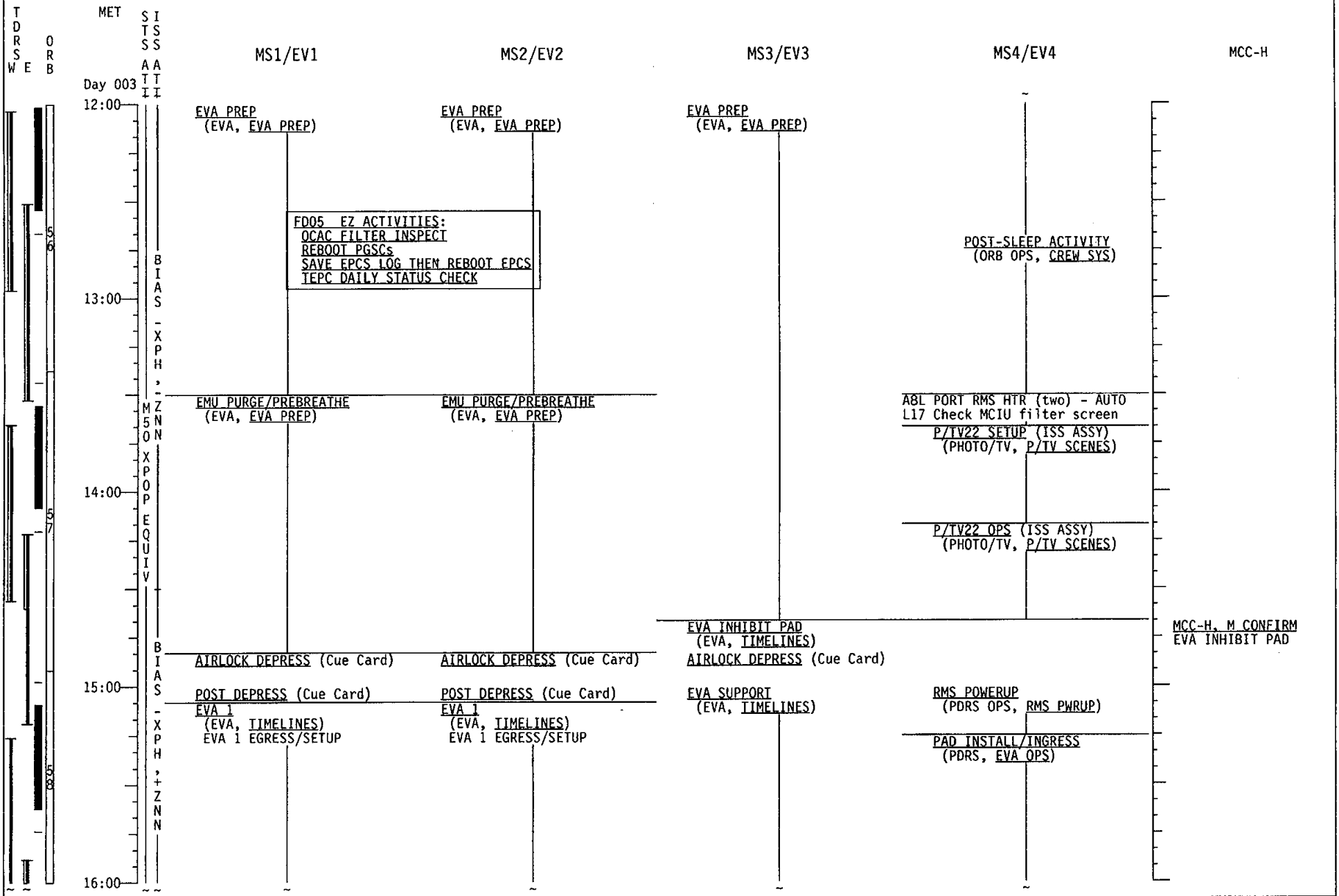
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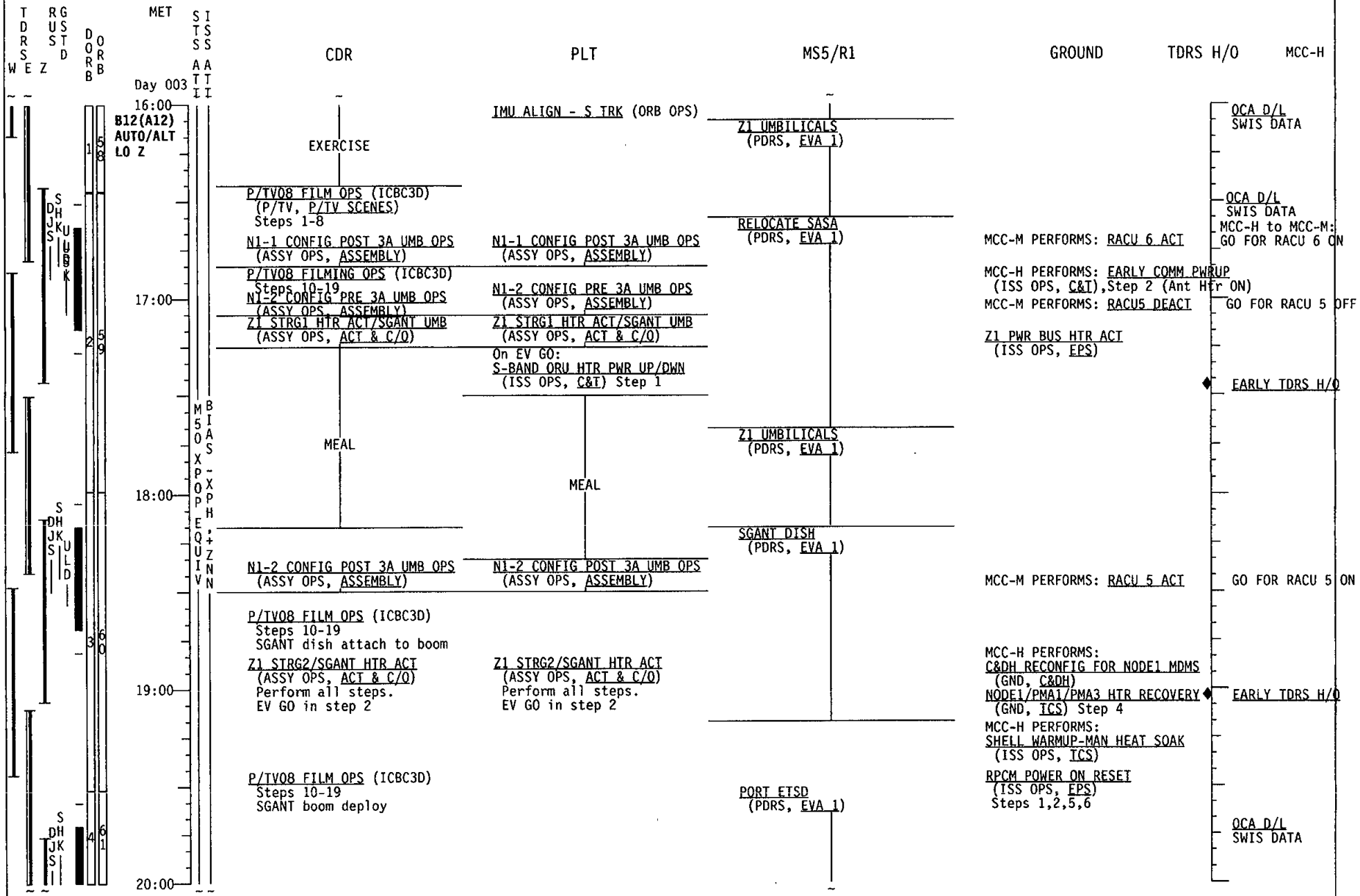
STS-92 (FD 04)



STS-92 (FD 05)



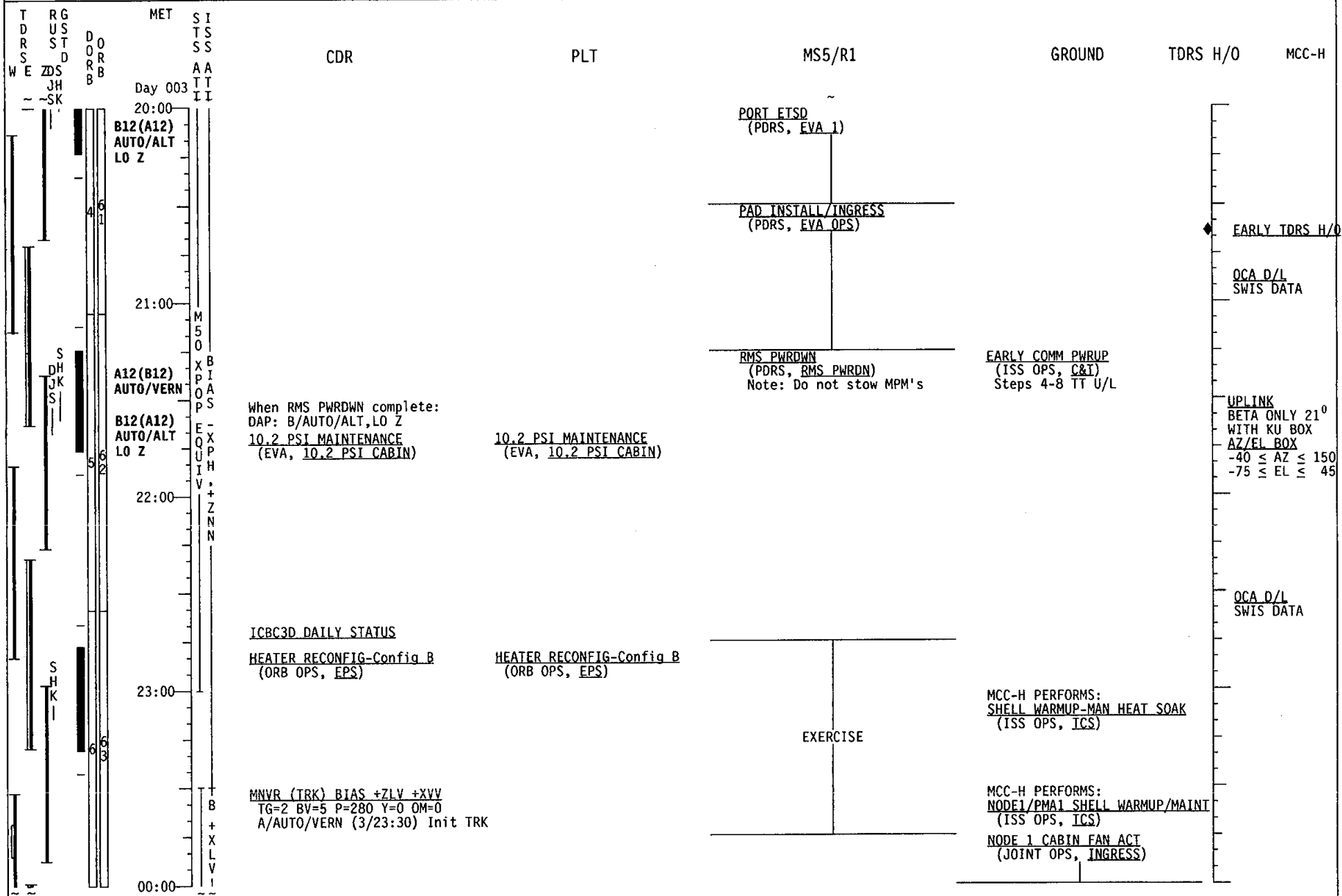
STS-92 (FD05)



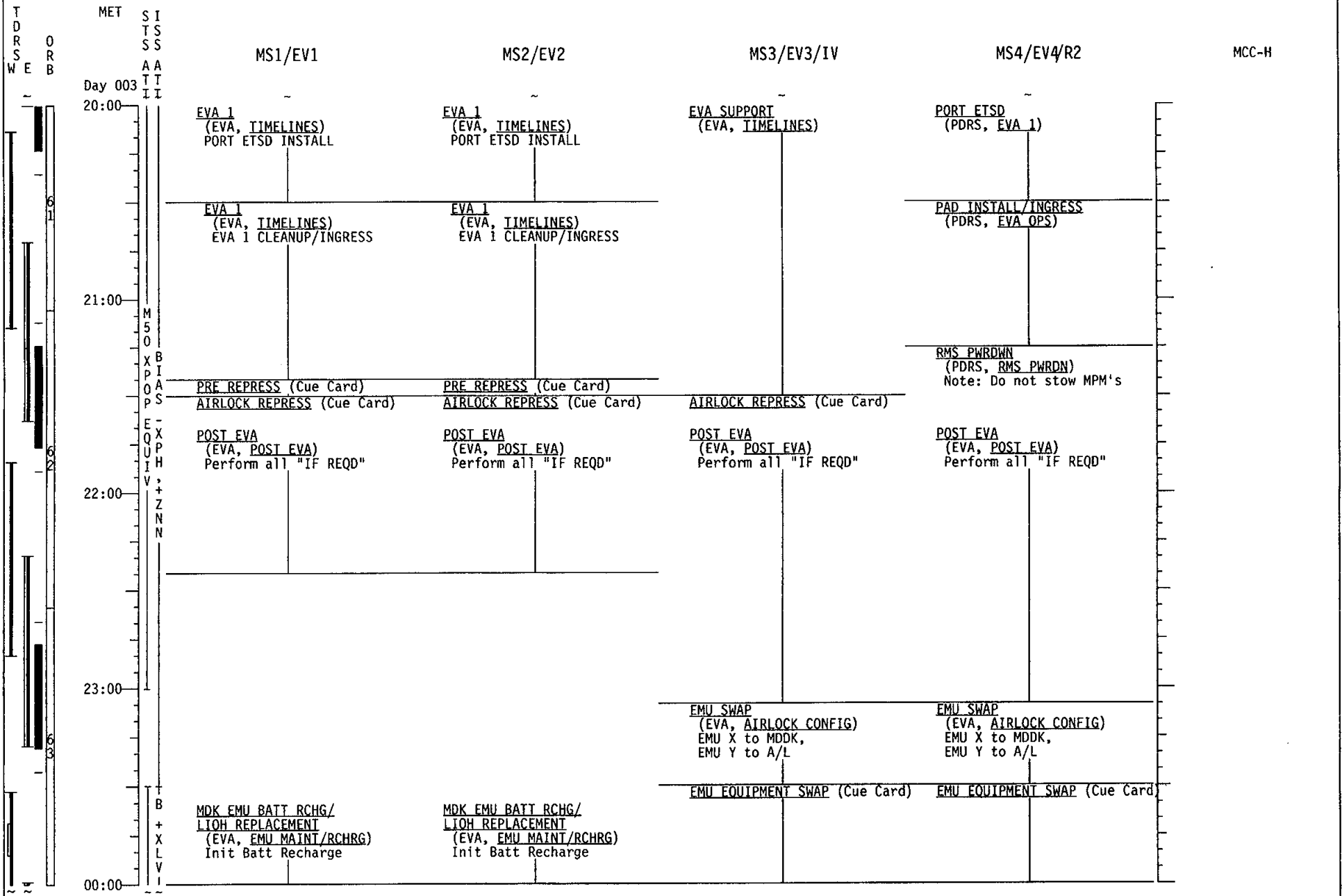
STS-92 (FD 05)



STS-92 (FD 05)



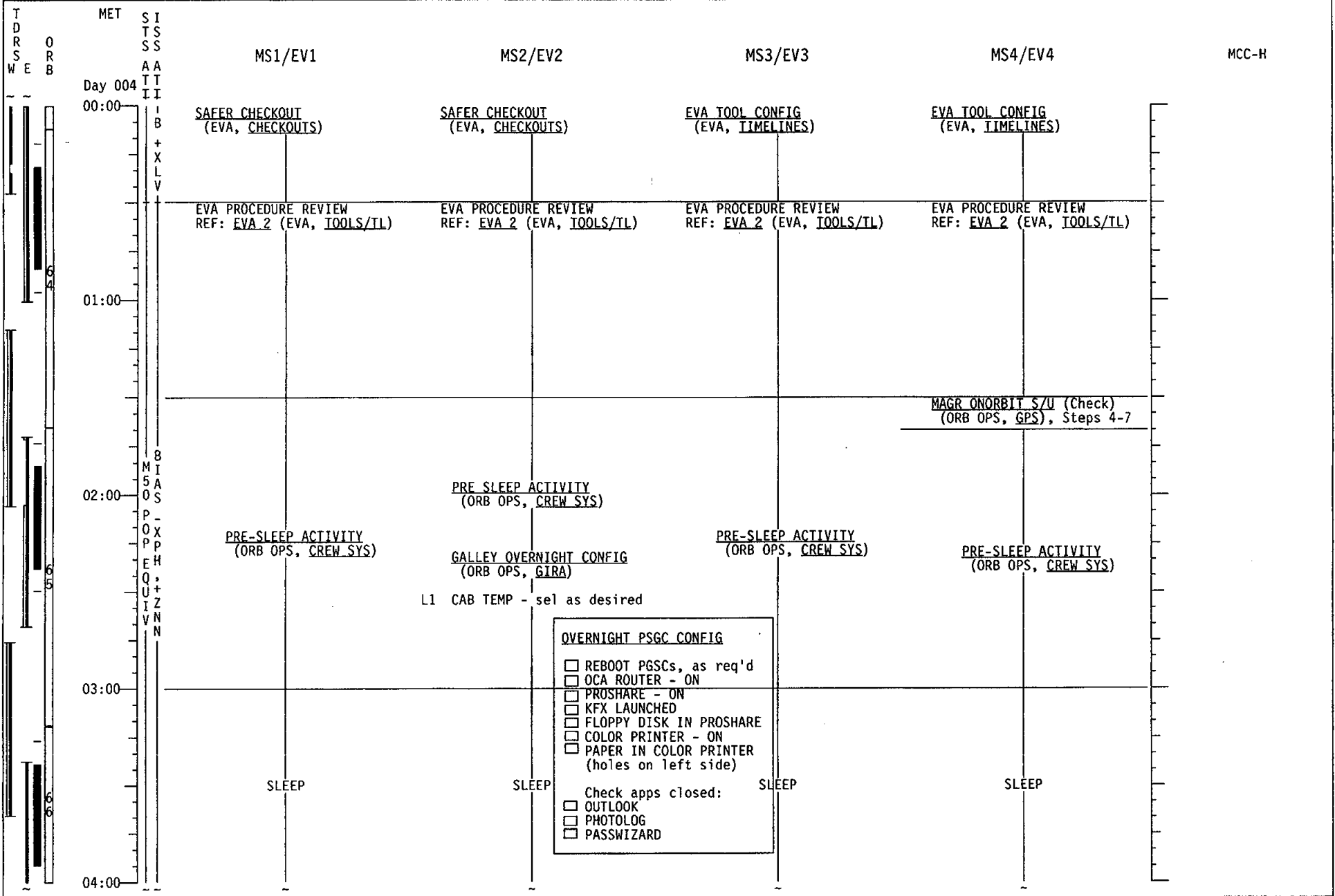
STS-92 (FD 05)



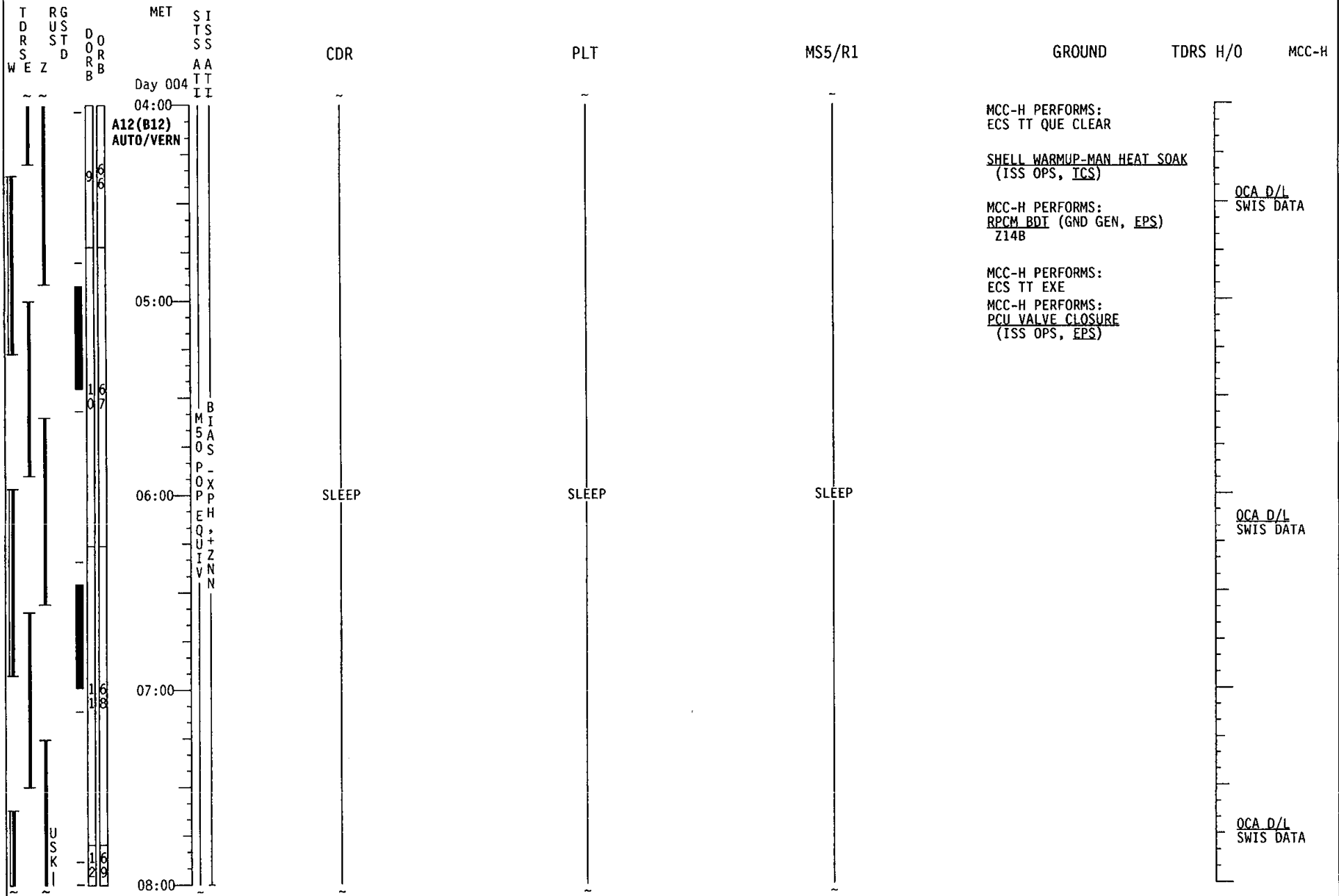
STS-92 (FD 05)

TDRS WEZ	RGUSTD	MET	SISSAAITII	CDR	PLT	MS5/R1	GROUND	TDRS H/O	MCC-H
		Day 004							
		00:00		REBOOST (ORB OPS, REBOOST)	REBOOST (ORB OPS, REBOOST)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
		00:00	A12(B12) AUTO/VERN				MCC-H PERFORMS: SHELL WARMUP-MAN HEAT SOAK (ISS OPS, ICS)		
		00:00	B12(A12) AUTO/ALT LO Z			EVA PROCEDURE REVIEW REF: EVA 2 (EVA, TOOLS/TL)			OCA D/L SWIS DATA
		01:00		< MNVR ISS BIAS -XPH,+ZNN R=187 P=292 Y=18 Init MNVR (4/00:35), A/AUTO/VERN When in Att: B/AUTO/ALT,LO-Z			NODE1/PMA1/PMA3 HTR RECOVERY (GND GEN, ICS) Steps 1-3 (A HTRS)		
		01:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) L1 CAB TEMP - set as desired					
		02:00			PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)				
		02:00		10.2 PSI MAINTENANCE (EVA, 10.2 PSI CABIN)					
		02:00		VIDEO TELECONFERENCE (ORB OPS, PGSC) - PMC		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			OCA-PMC OCA D/L SWIS DATA
		02:00	A12(B12) AUTO/VERN	DAP: A/AUTO/VERN FUTURE LOADED MNVR (ISS BIAS -XPH,-ZNN) R=6 P=145 Y=339 Init MNVR (4/8:00),A/AUTO/VERN			MCC-H PERFORMS: NODE1/PMA1/PMA3 HTR RECOVERY (GND GEN, ICS) Steps 1,4,5 (B HTRS)		
		03:00		014:F Pri RJD LOGIC,DRIVER (sixteen) - OFF 015:F RJDA 1A L2/R2 MANF DRIVER - ON 016:F					
		03:00		SLEEP	SLEEP	SLEEP			
		04:00					S-BD ORU STATUS C/O (GND 3A, C&T)		

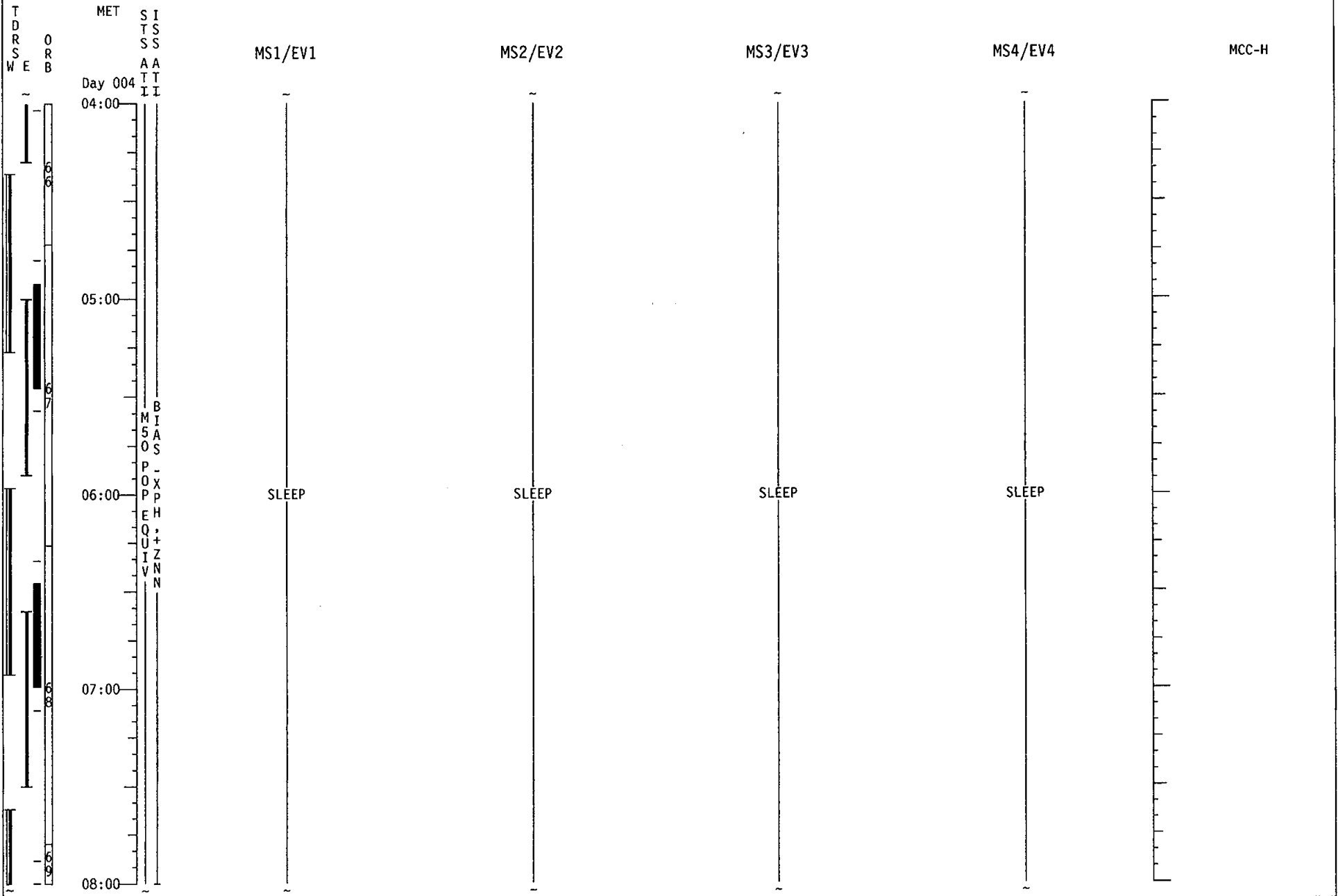
STS-92 (FD 05)



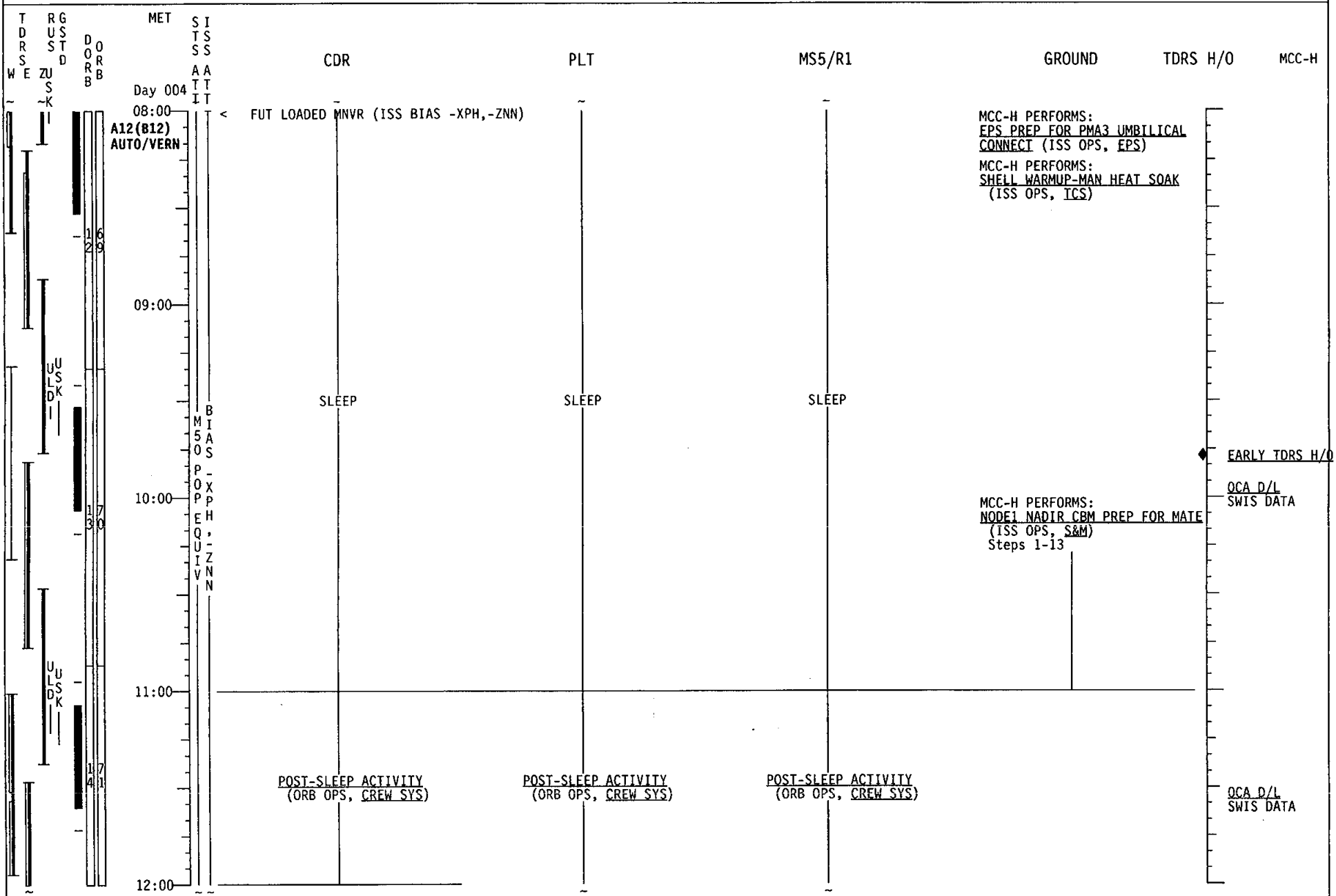
STS-92 (FD 05)



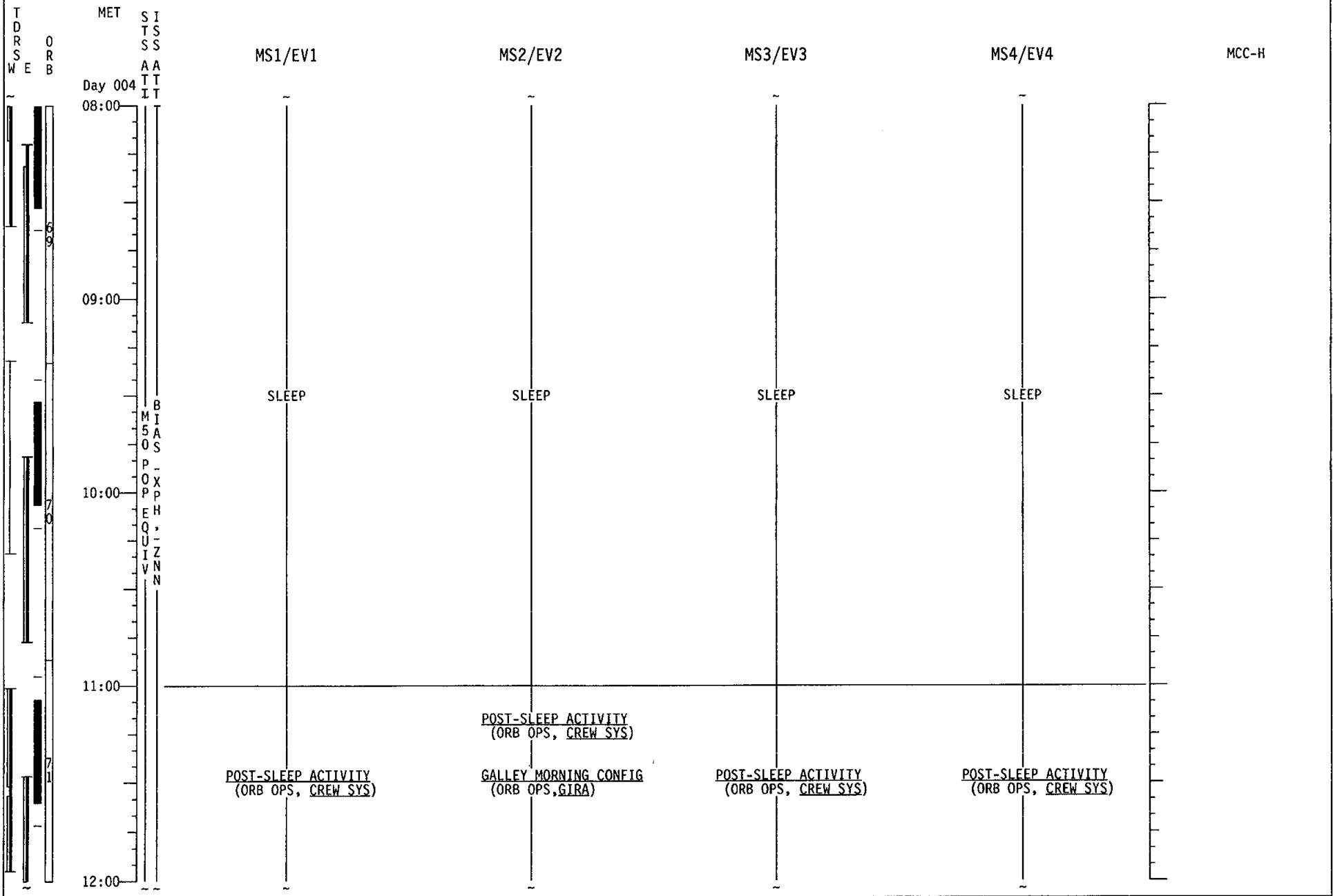
STS-92 (FD 05)



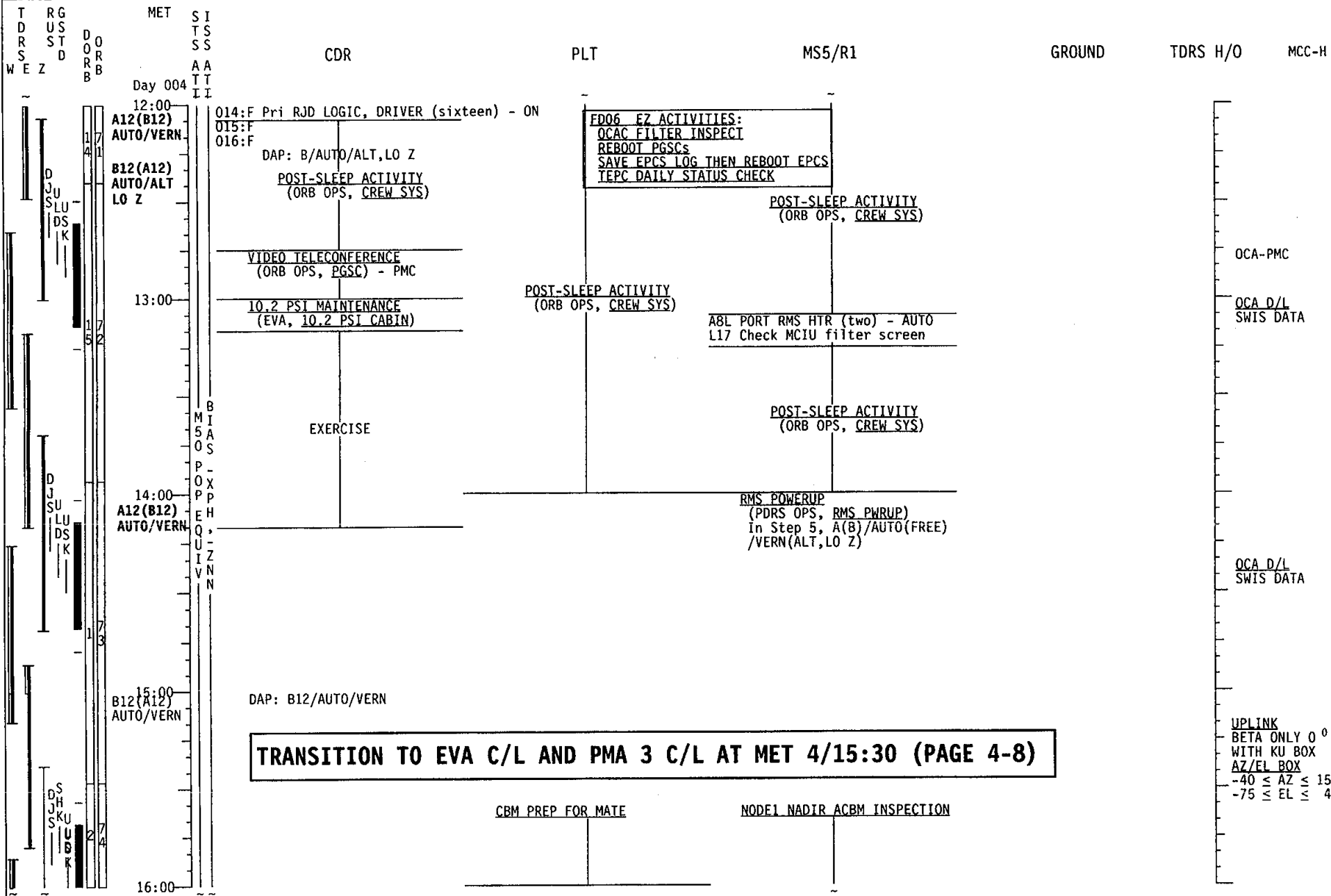
STS-92 (FD 05)



STS-92 (FD 05)

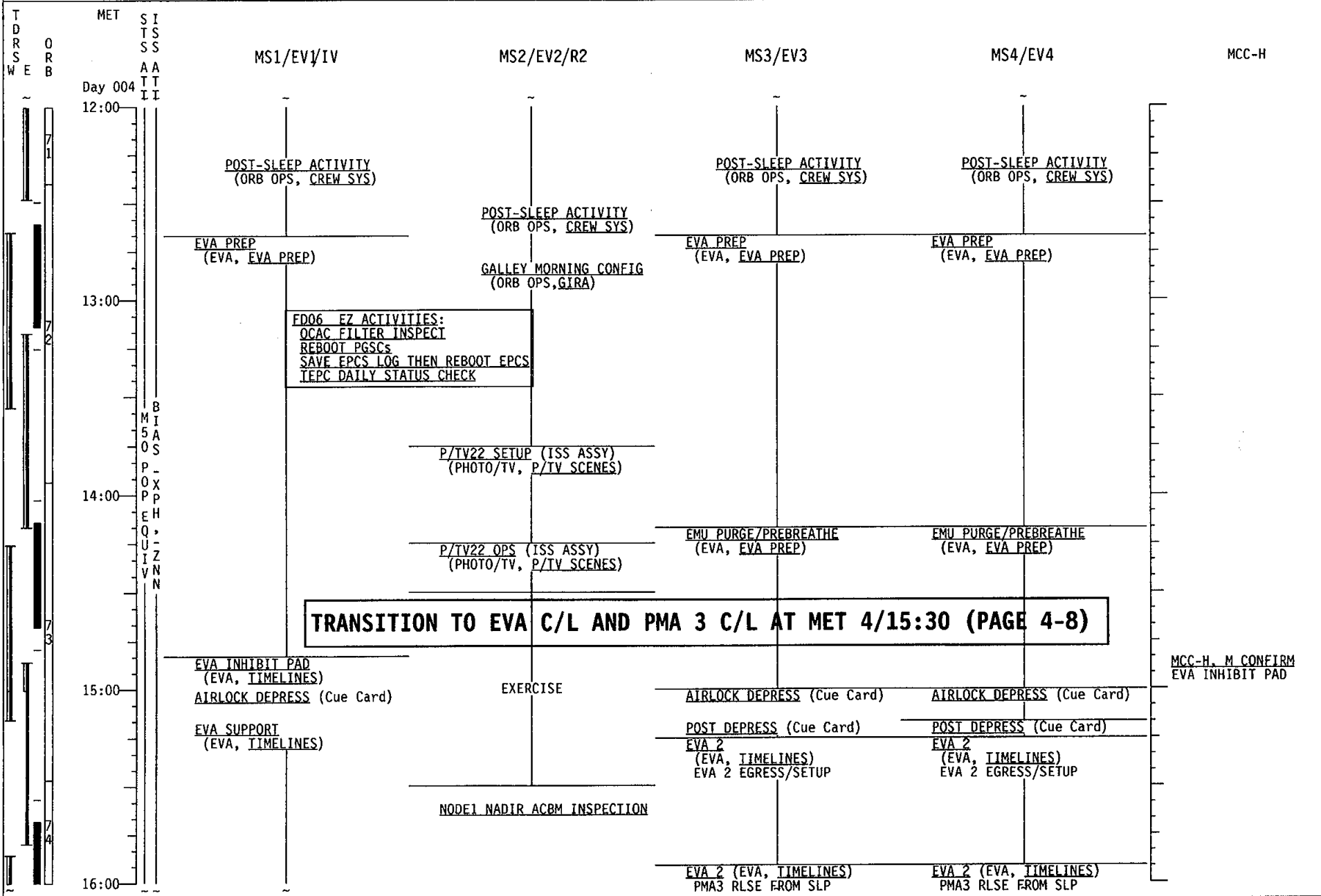


STS-92 (FD06)

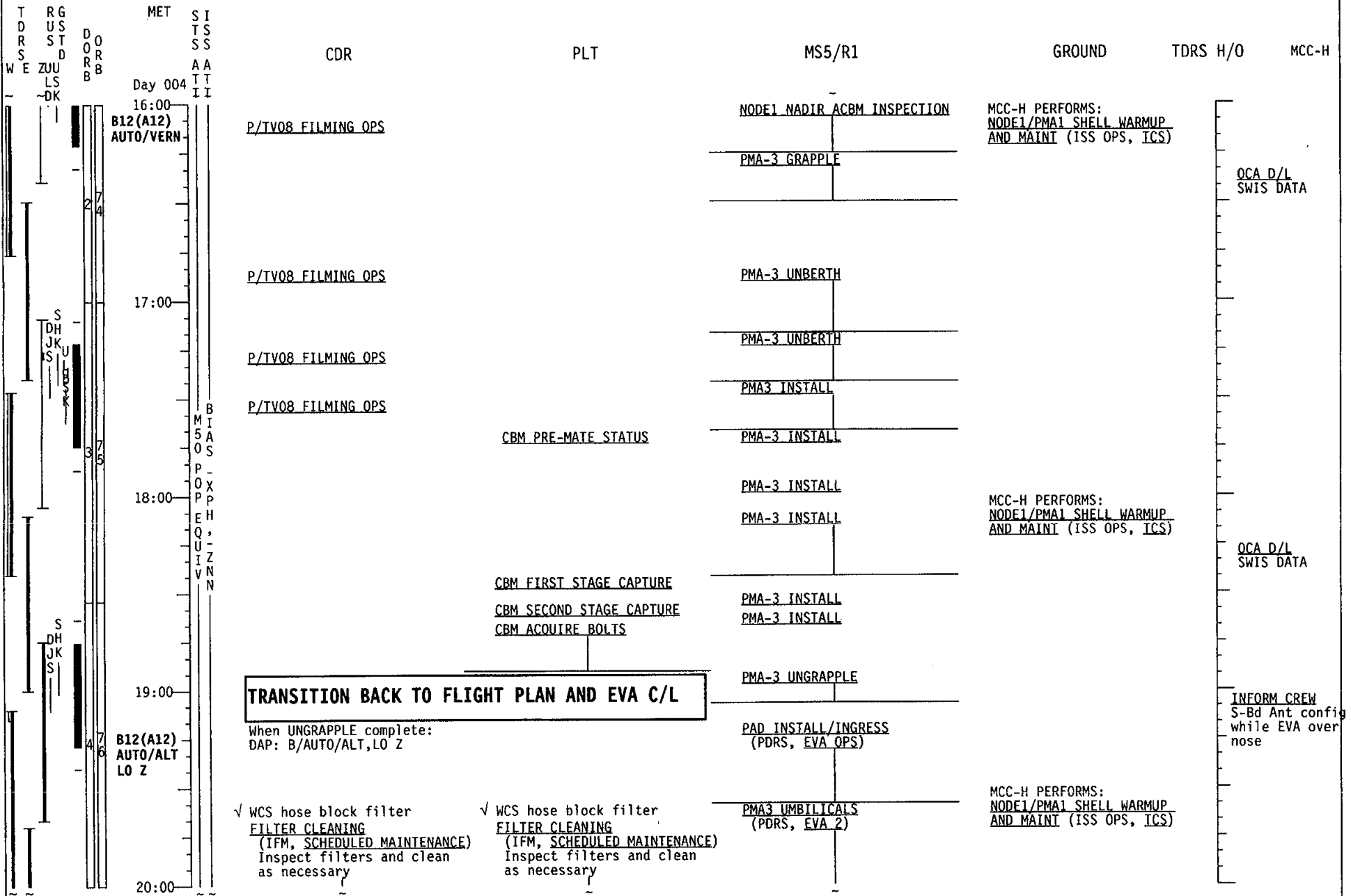


TRANSITION TO EVA C/L AND PMA 3 C/L AT MET 4/15:30 (PAGE 4-8)

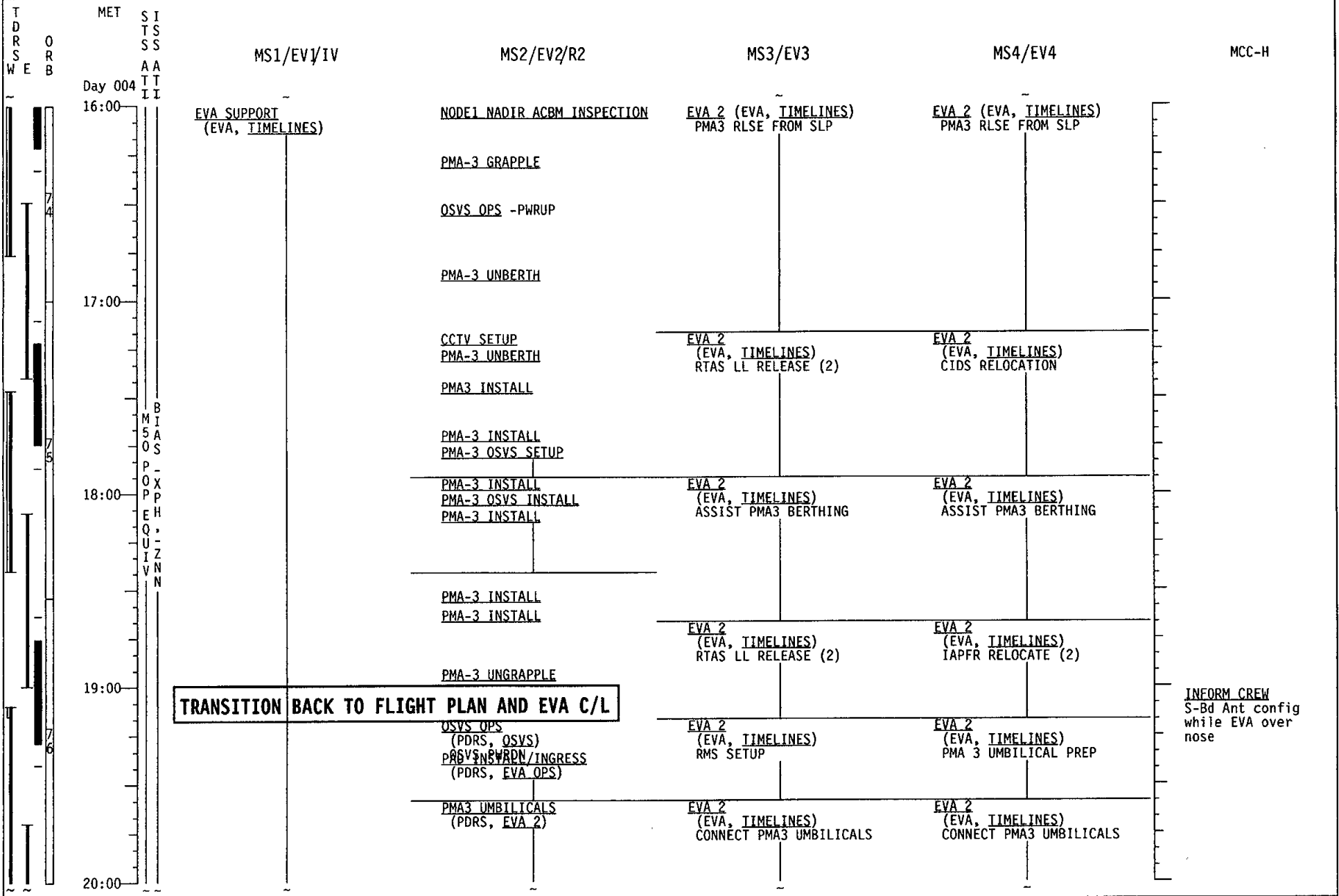
STS-92 (FD 06)



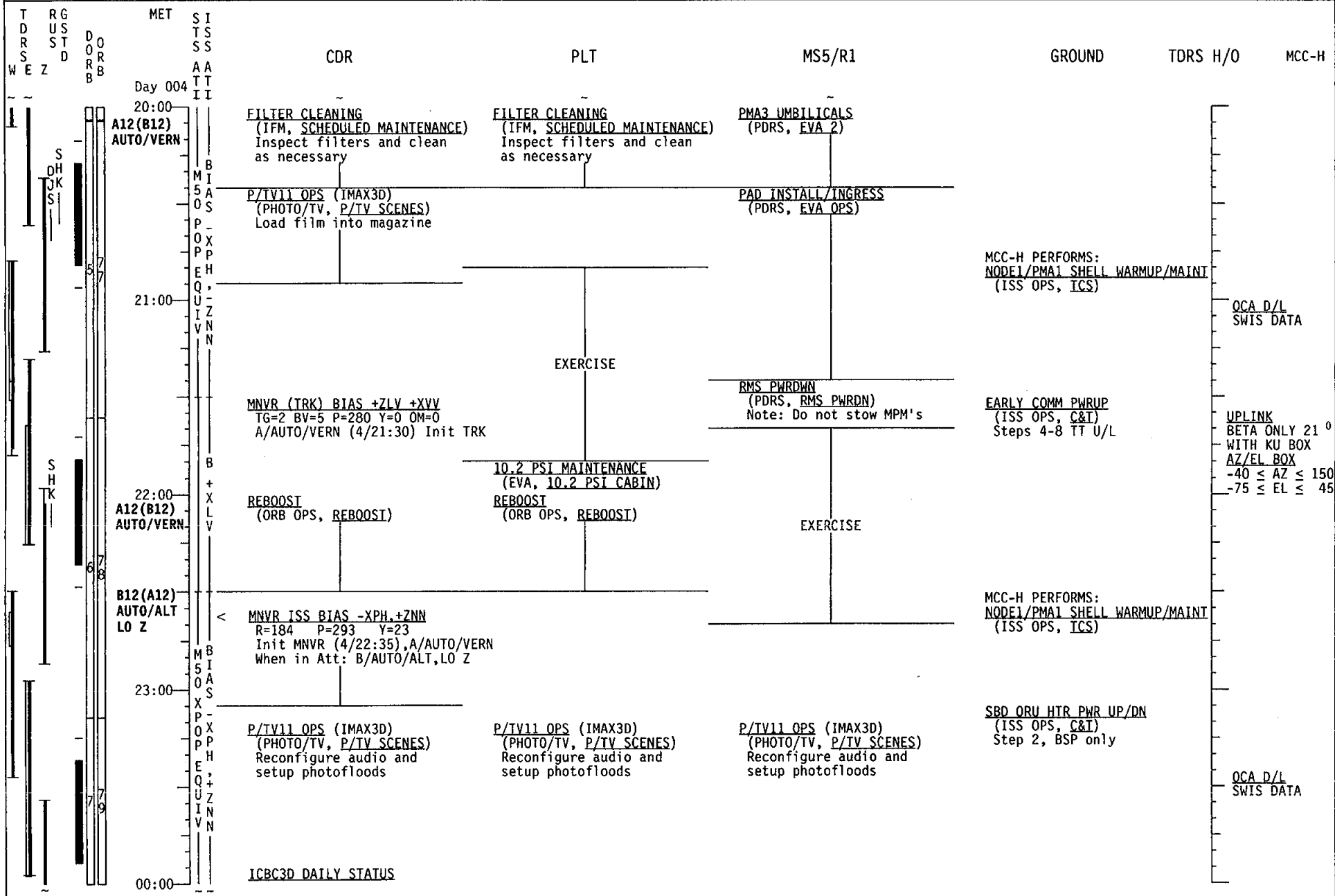
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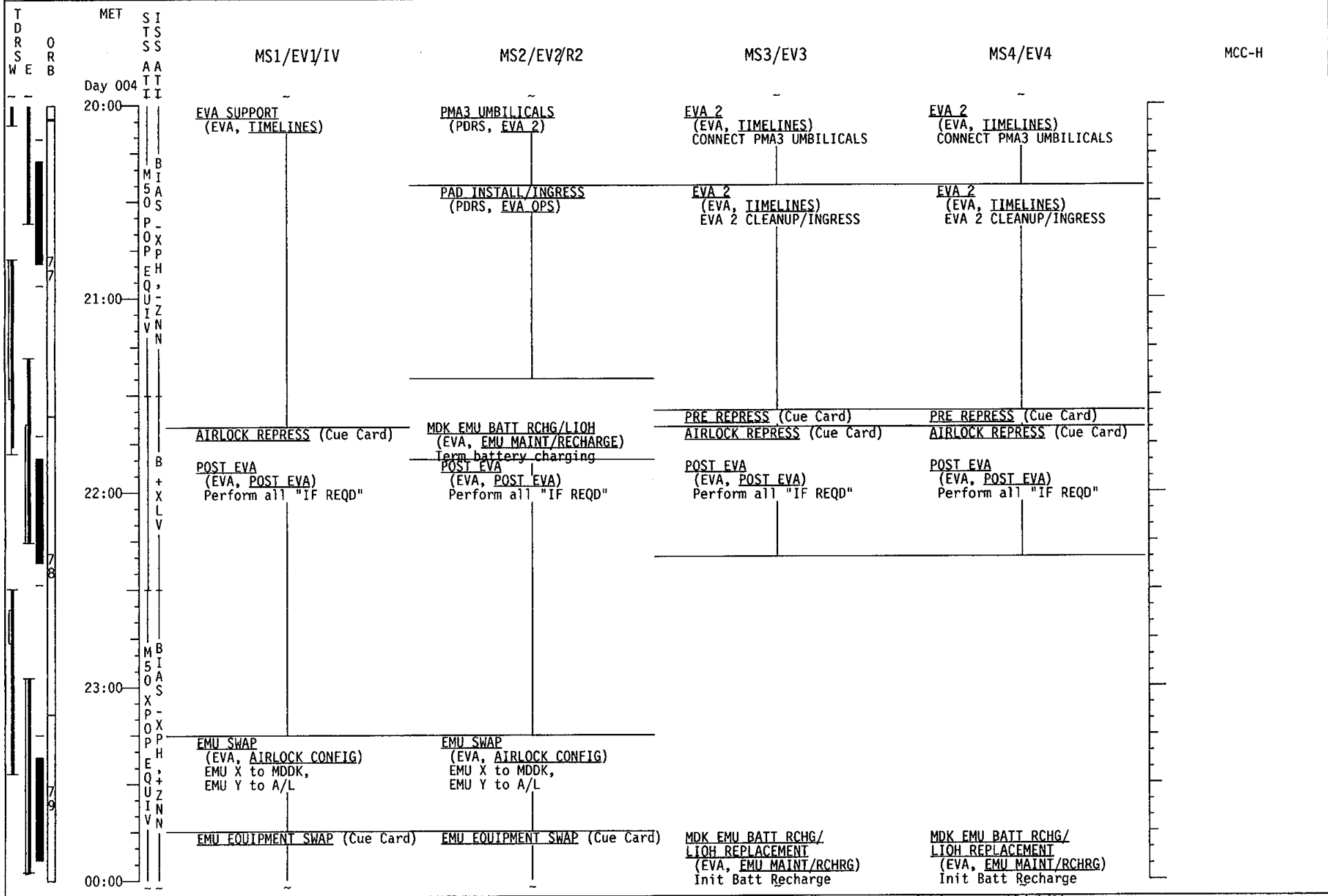
STS-92 (FD 06)



STS-92 (FD 06)



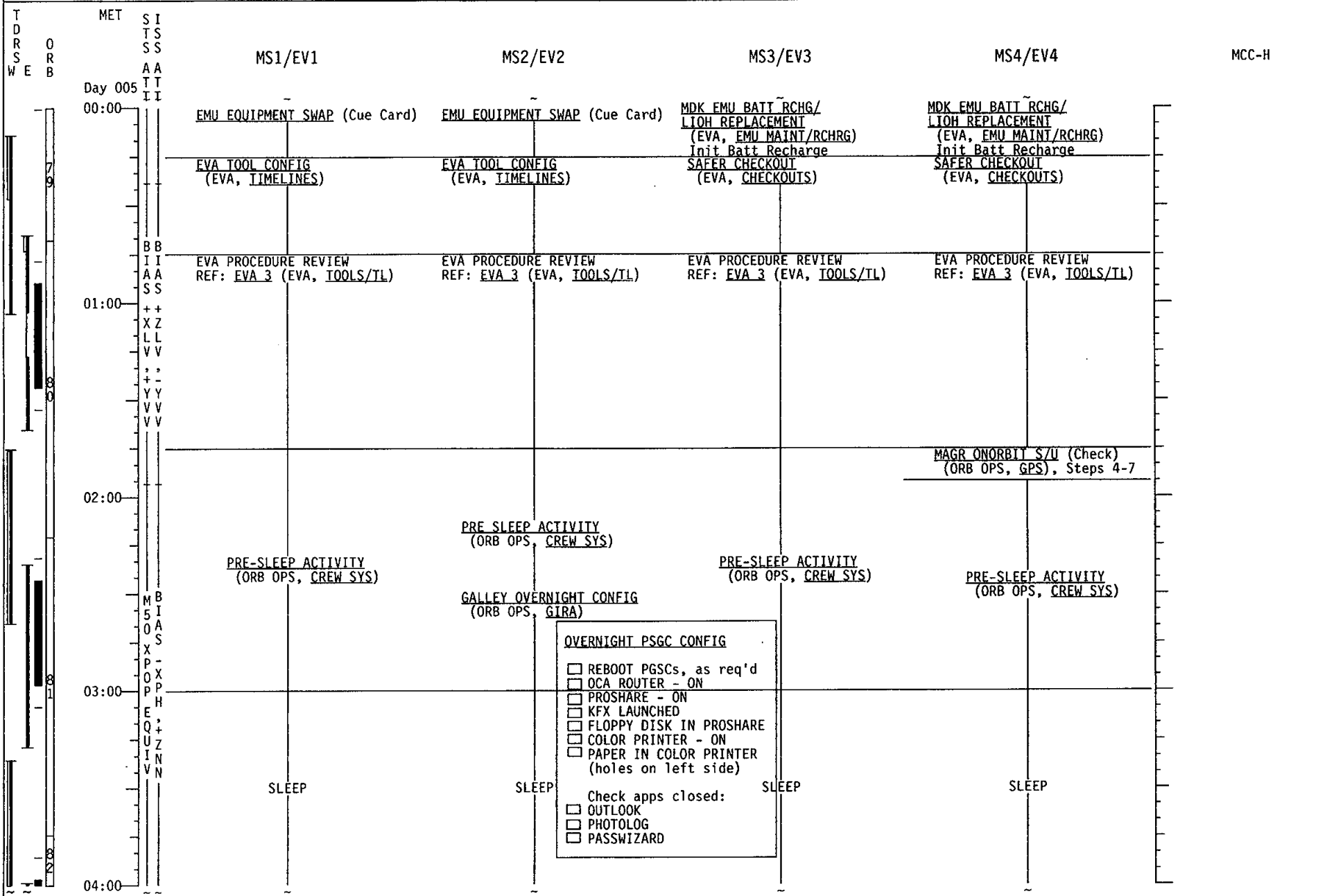
STS-92 (FD 06)



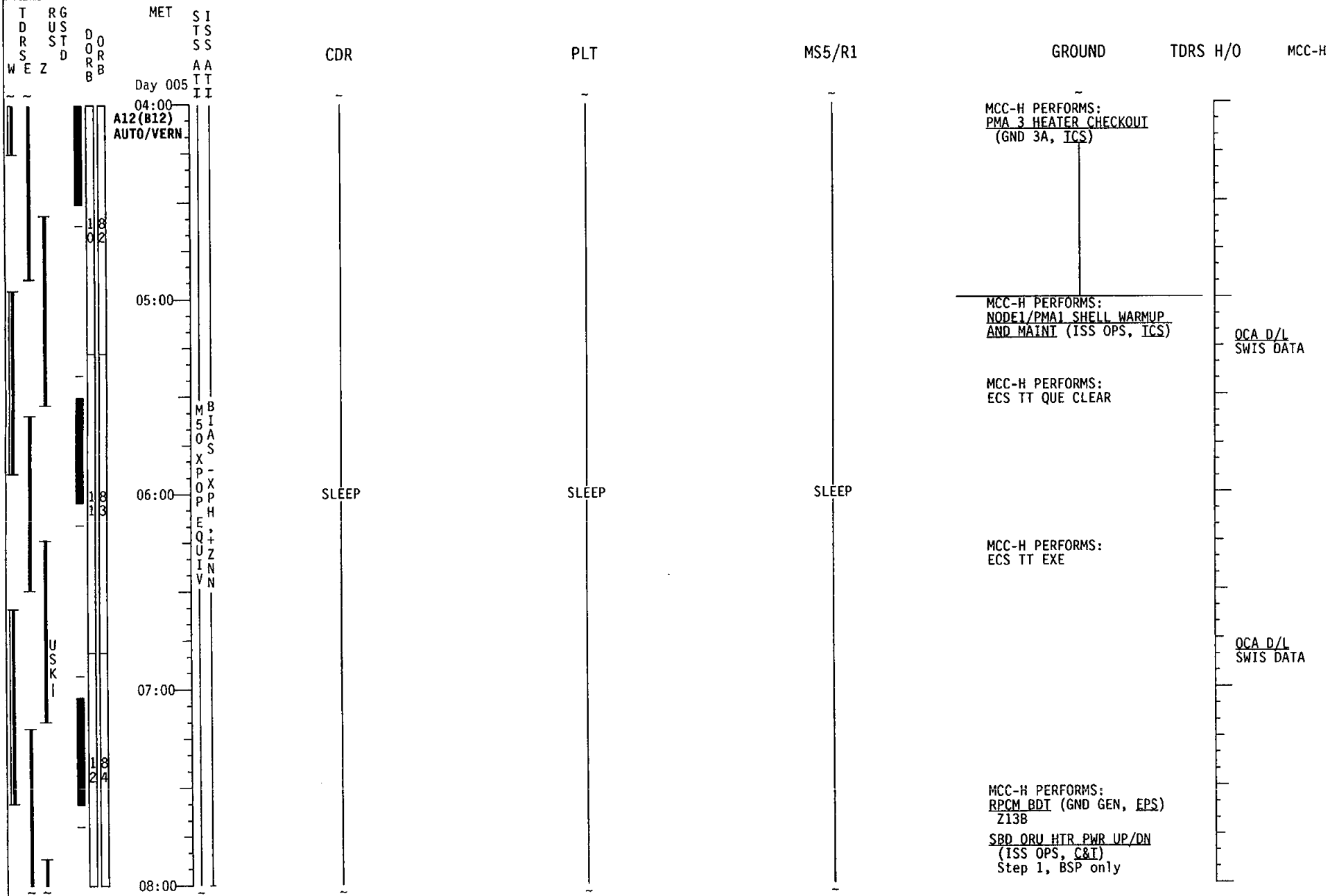
STS-92 (FD 06)

TDRS WEZ	RGUSTD DOORB	MET	SI TSS AA TT LI	CDR	PLT	MS5/R1	GROUND	TDRS H/O	MCC-H
		Day 005							
		00:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			MCC-H PERFORMS: NODE1/PMA1 SHELL WARMUP/MAINT (ISS OPS, ICS)
				MNVR (TRK) BIAS +XLV, +YVV TG=2 BV=5 P=345 Y=0 OM=270 Init TRK (5/00:23:46),A/AUTO/VERN	SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Initiate Supply/Waste Dump				OCA D/L SWIS DATA
				PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		EVA PROCEDURE REVIEW REF: EVA 3 (EVA, TOOLS/TL)			
		01:00		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)				
				IMU ALIGN - S TRK (ORB OPS) VIDEO TELECONFERENCE (ORB OPS, PGSC) - PMC					OCA-PMC
				PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Terminate Supply/Waste Dump				
		02:00		MNVR ISS BIAS -XPH,+ZNN R=184 P=293 Y=23 Init MNVR (5/01:55:57),A/AUTO/VERN					MCC-H PERFORMS: NODE1/PMA1 SHELL WARMUP/MAINT (ISS OPS, ICS)
				10.2 PSI MAINTENANCE (EVA, 10.2 PSI CABIN) FUTURE LOADED MNVR (ISS B -XPH,-ZNN) R=11 P=147 Y=337 A/AUTO/VERN (5/08:00) Init MNVR	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
				A014:F Pri RJD LOGIC DRIVER (sixteen) - OFF S015:F RJD A15/R2 MAIN DRIVER - ON PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)					
		03:00							MCC-H PERFORMS: PMA 3 HEATER CHECKOUT (GND 3A, ICS)
				SLEEP	SLEEP	SLEEP			OCA D/L SWIS DATA
		04:00							

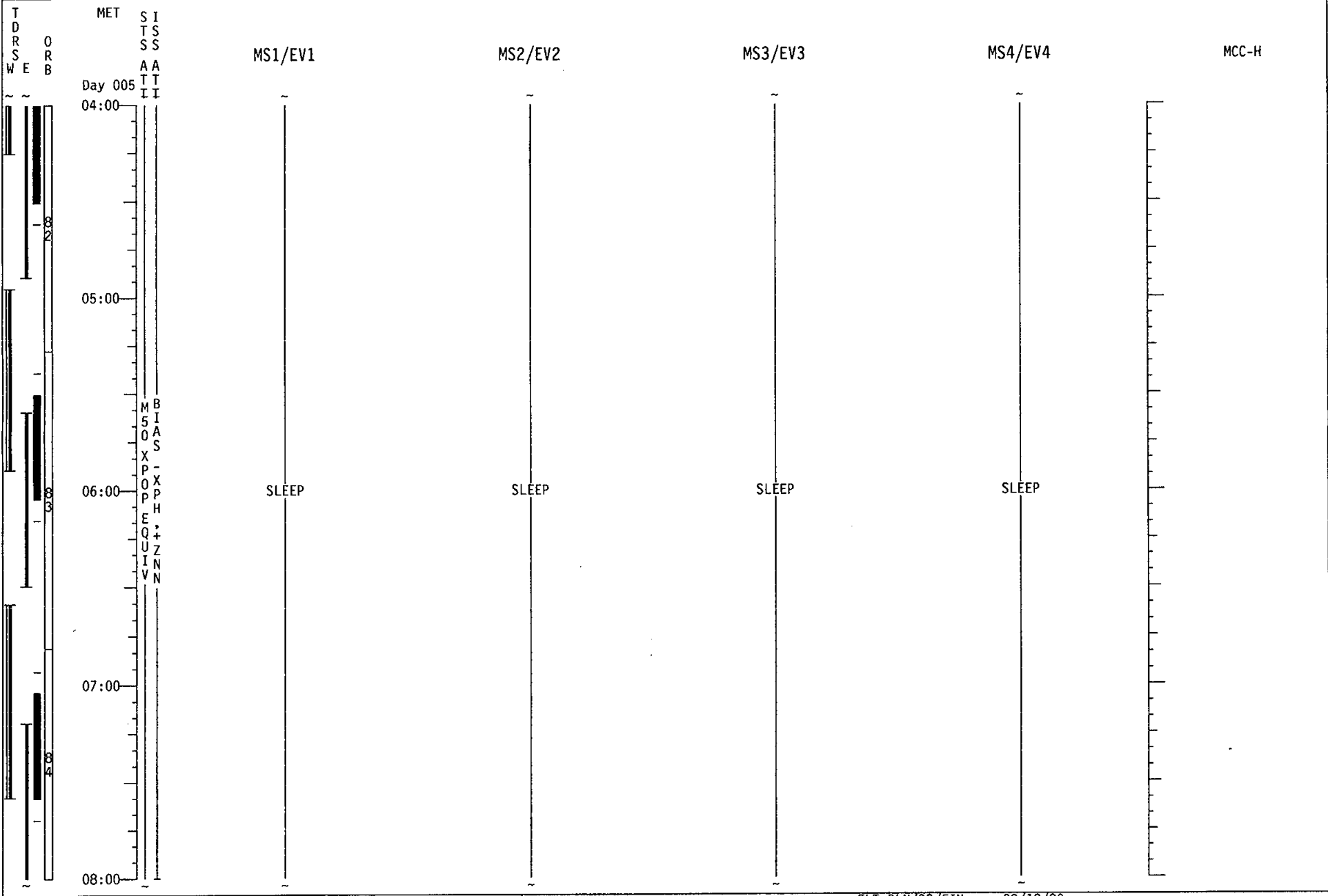
STS-92 (FD 06)



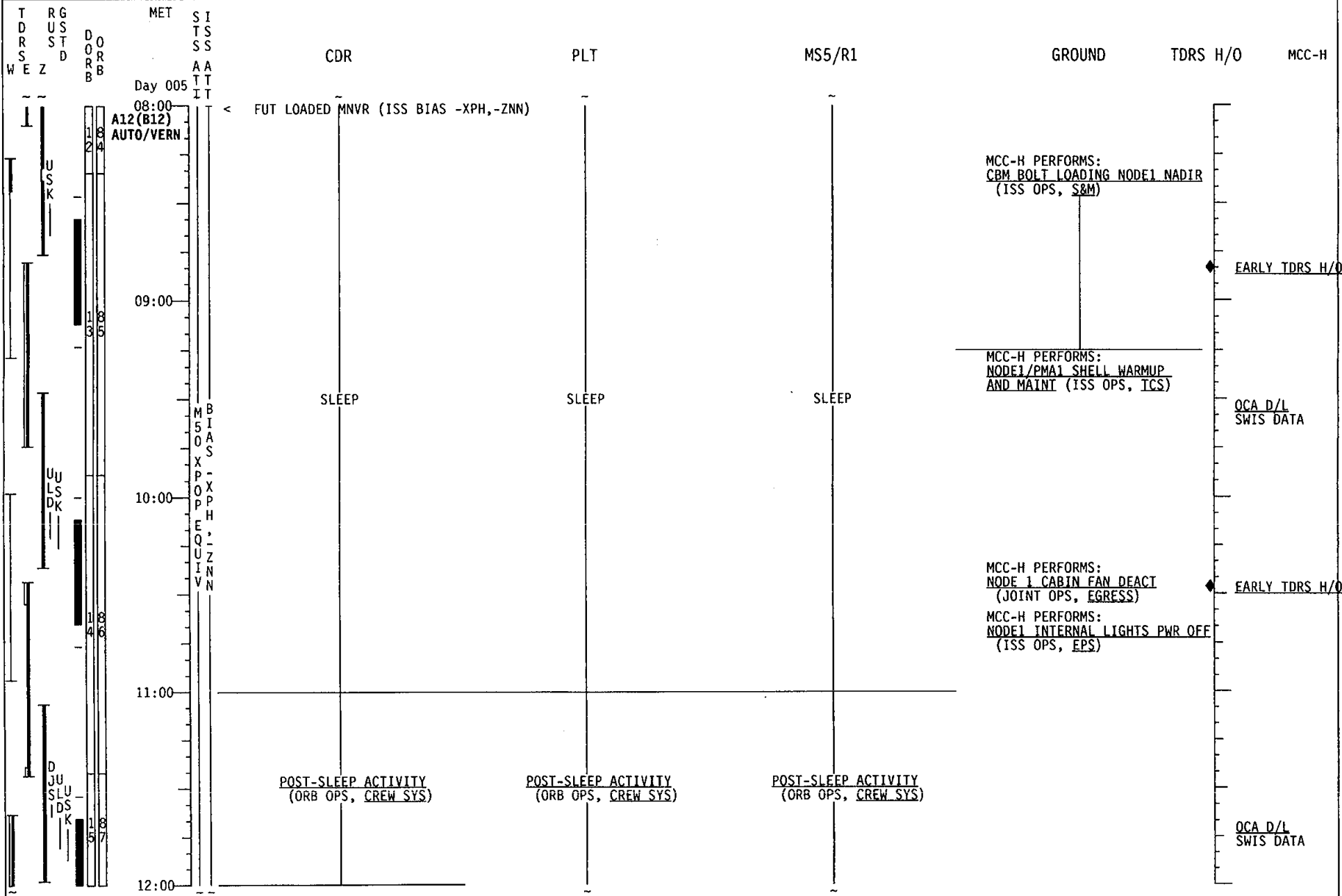
STS-92 (FD 06)



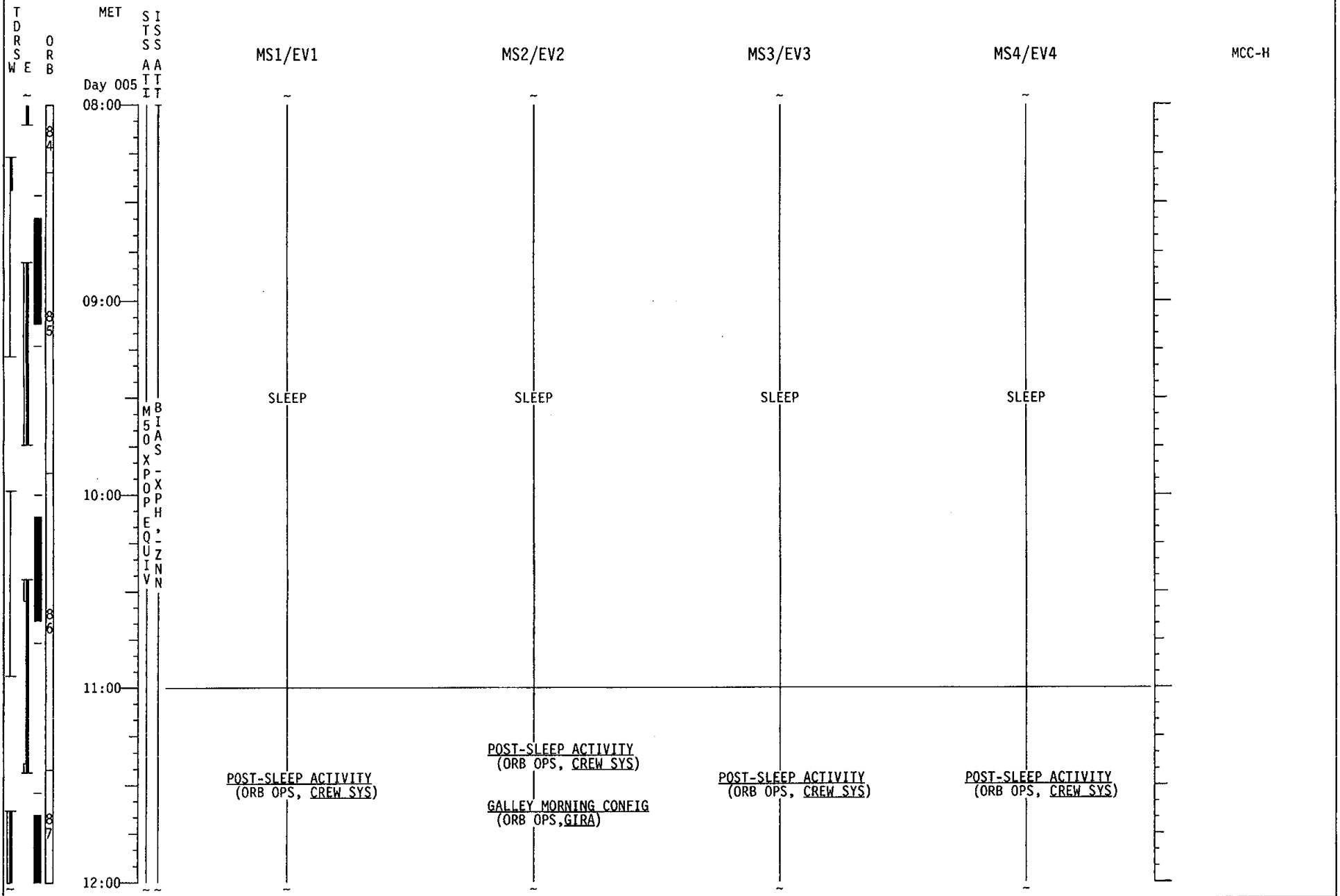
STS-92 (FD06)



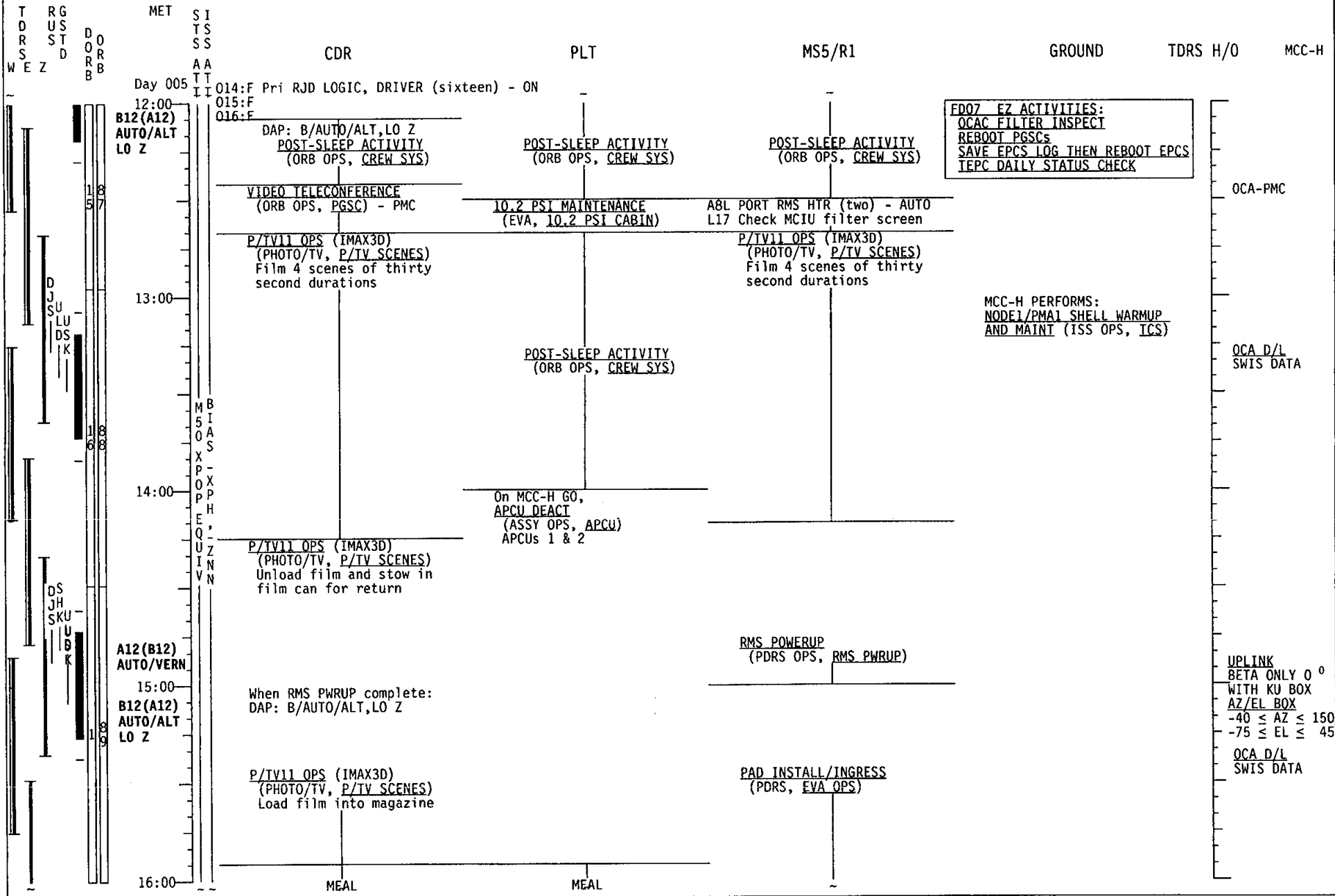
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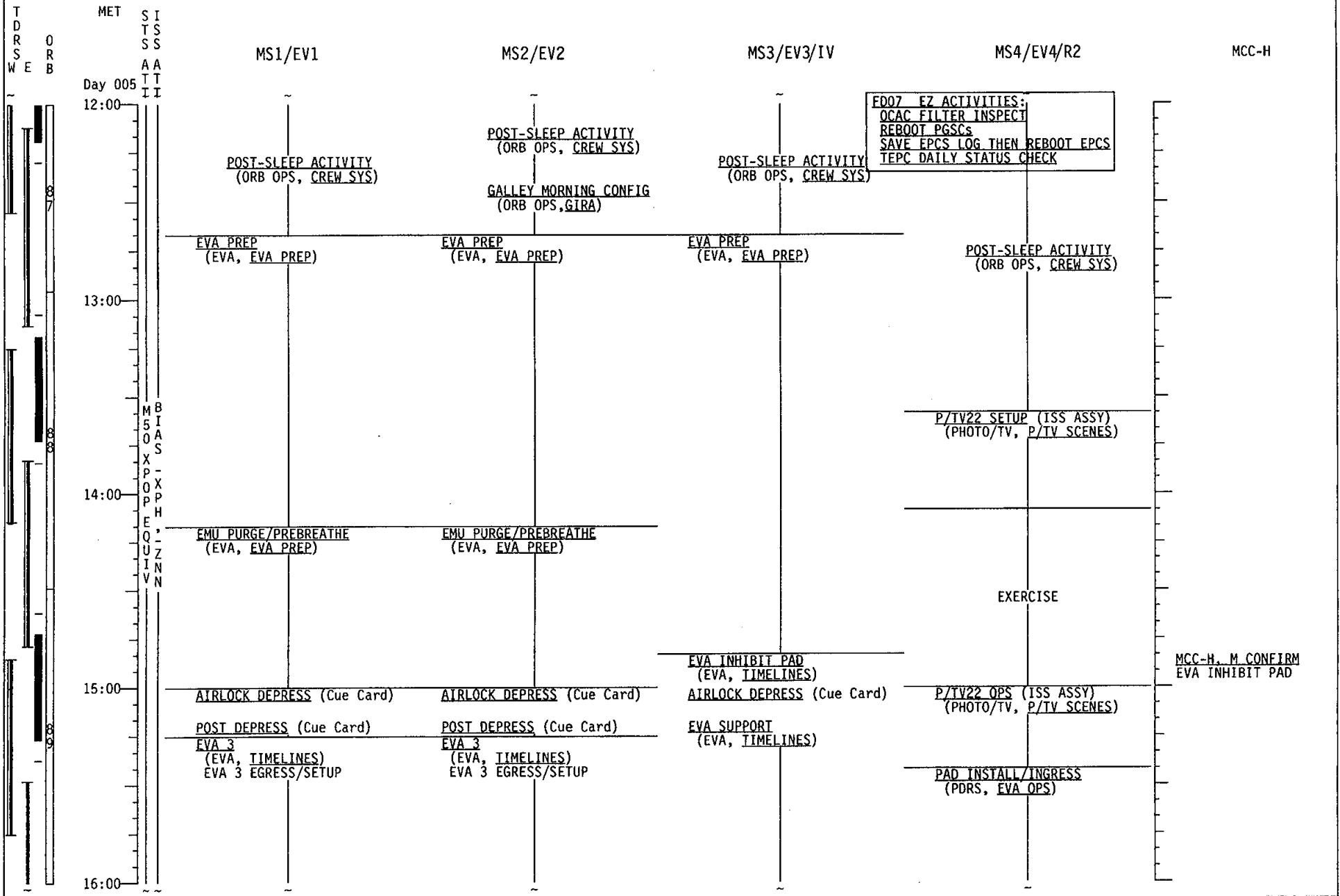
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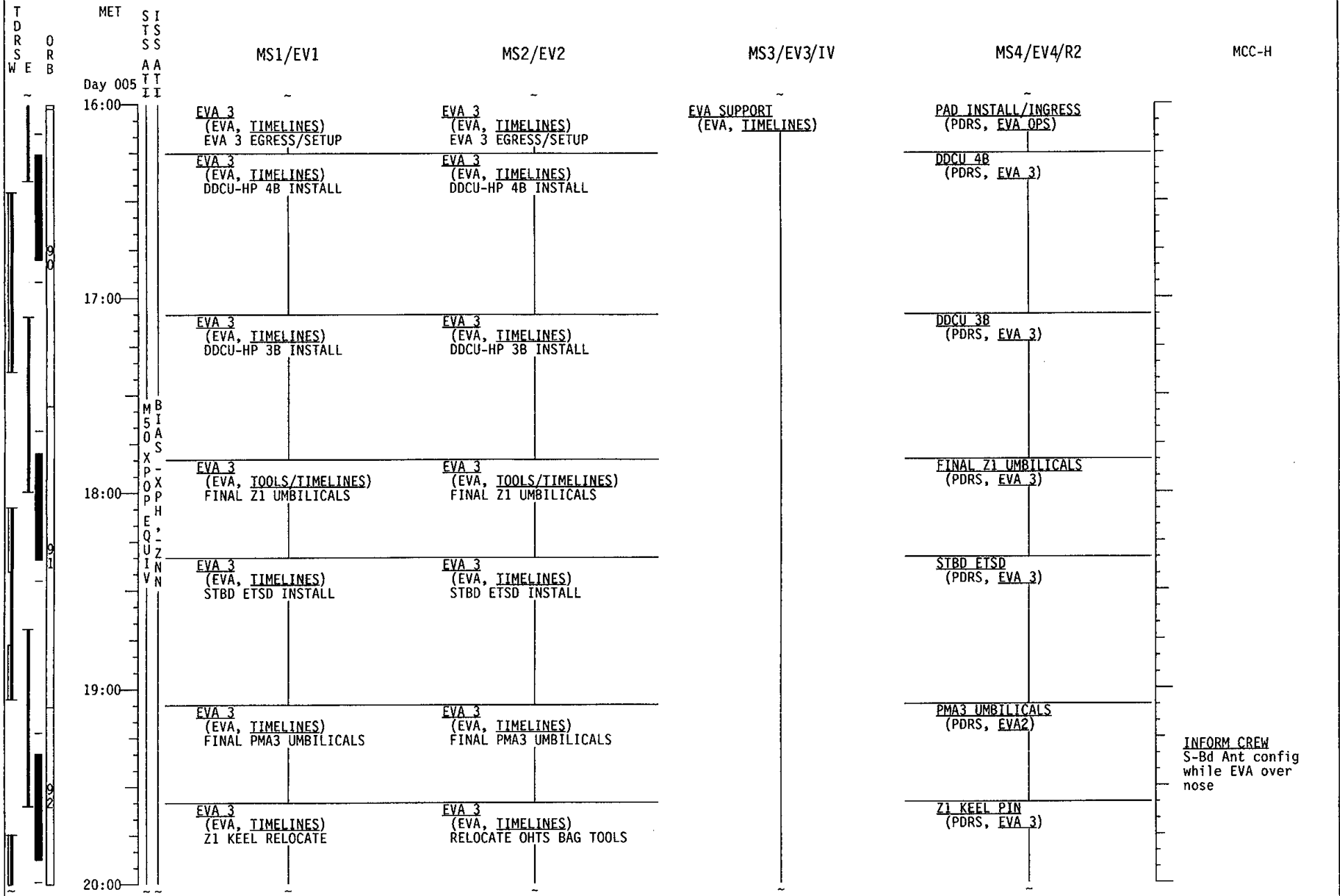
STS-92 (FD07)



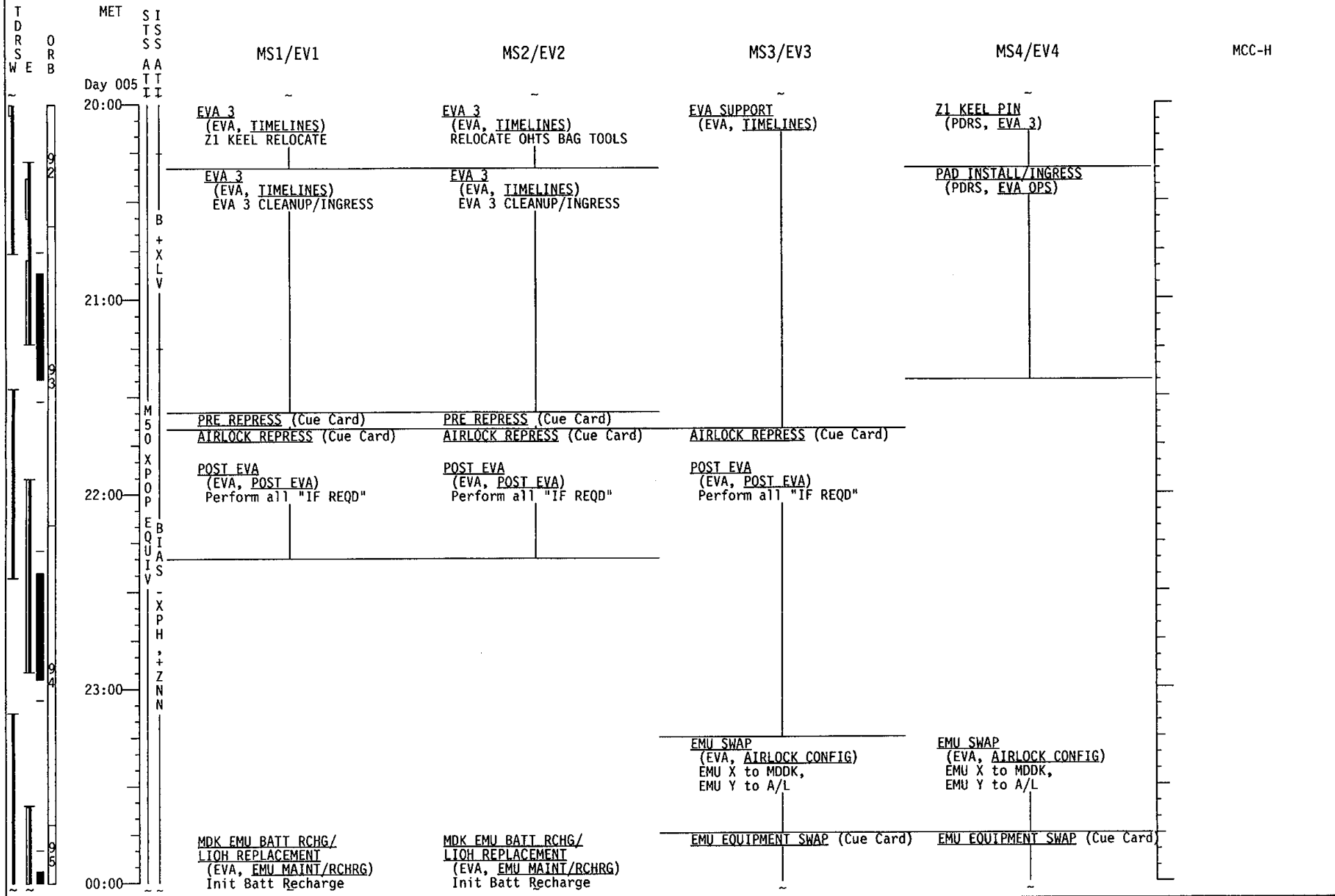
STS-92 (FD 07)



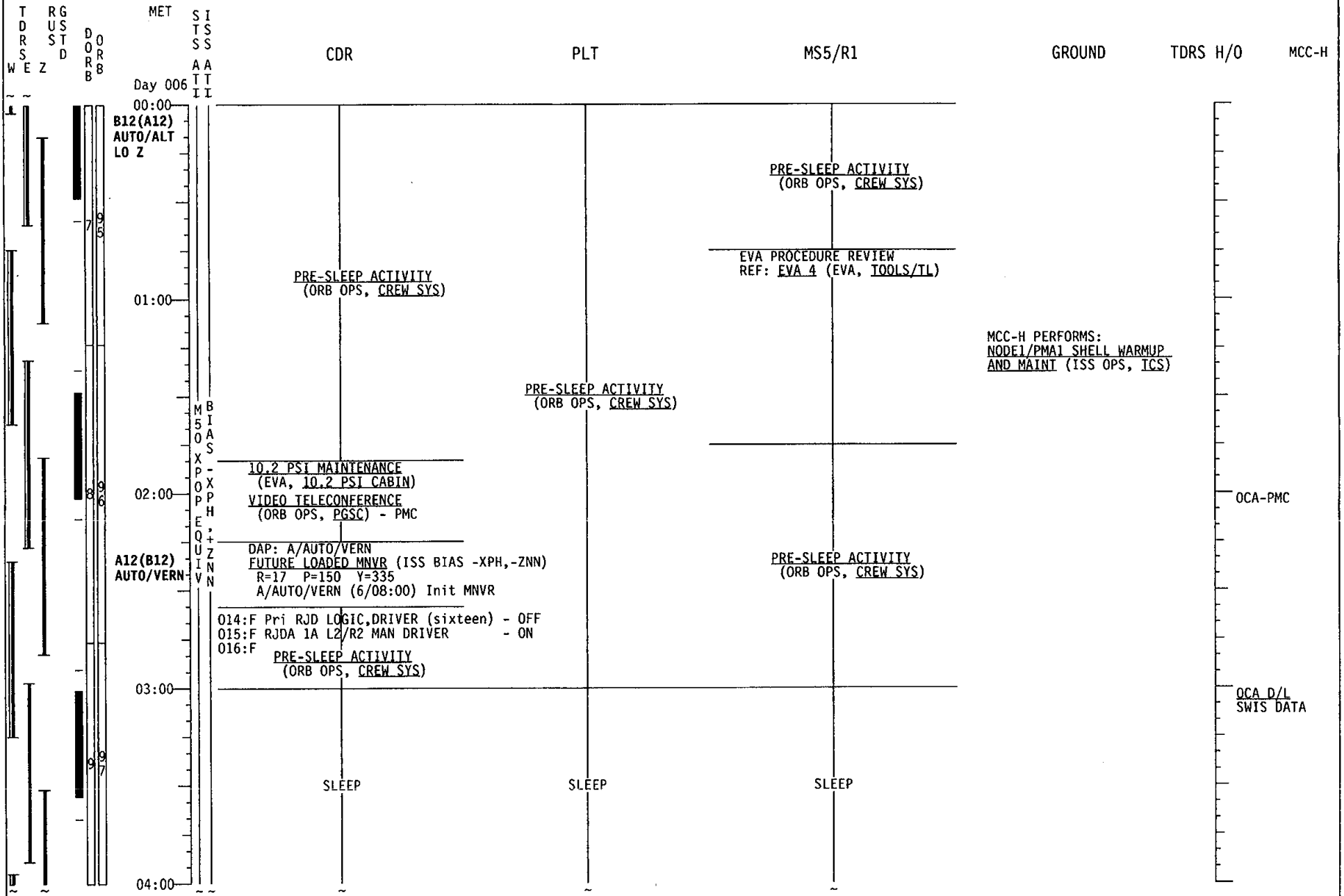
STS-92 (FD 07)



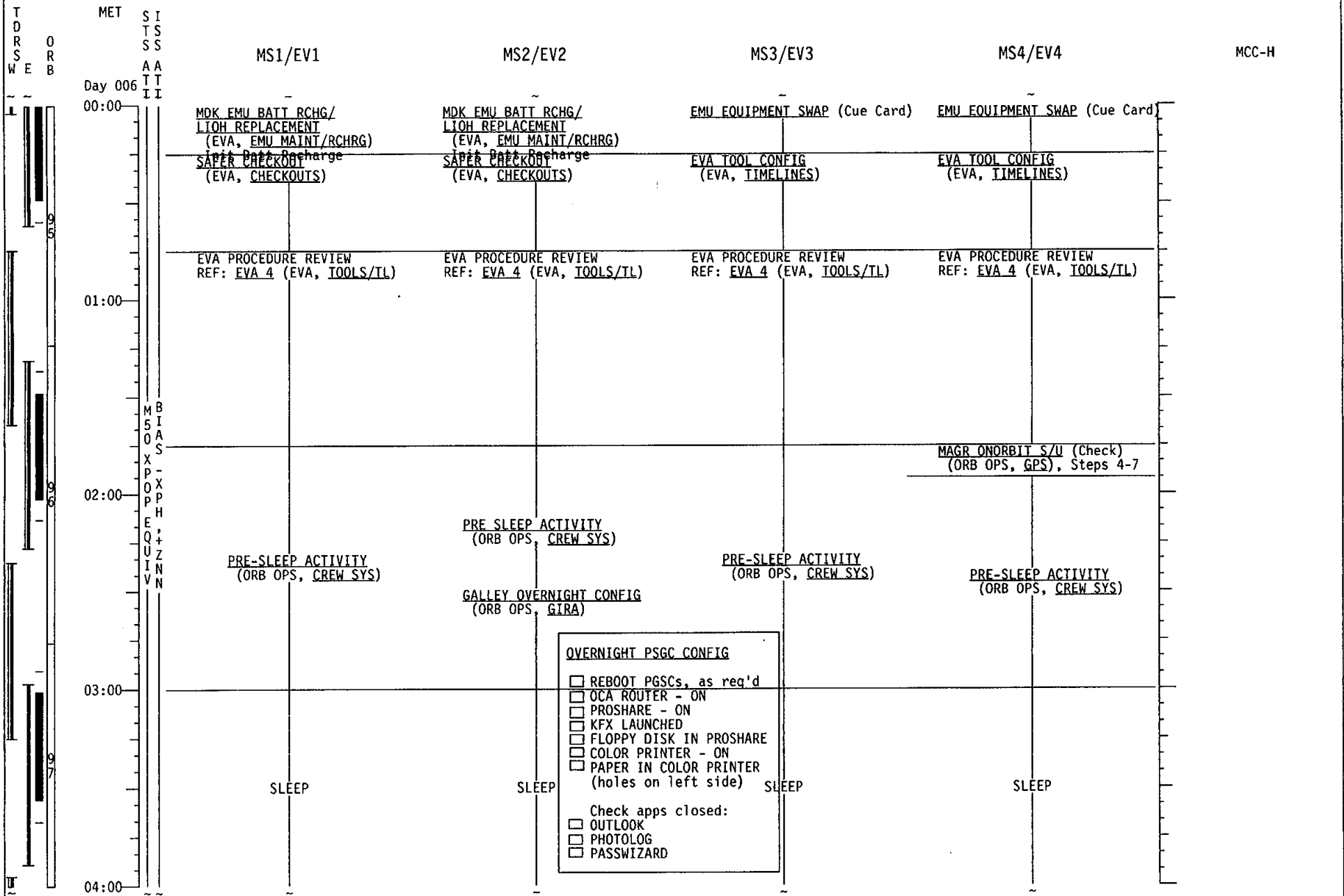
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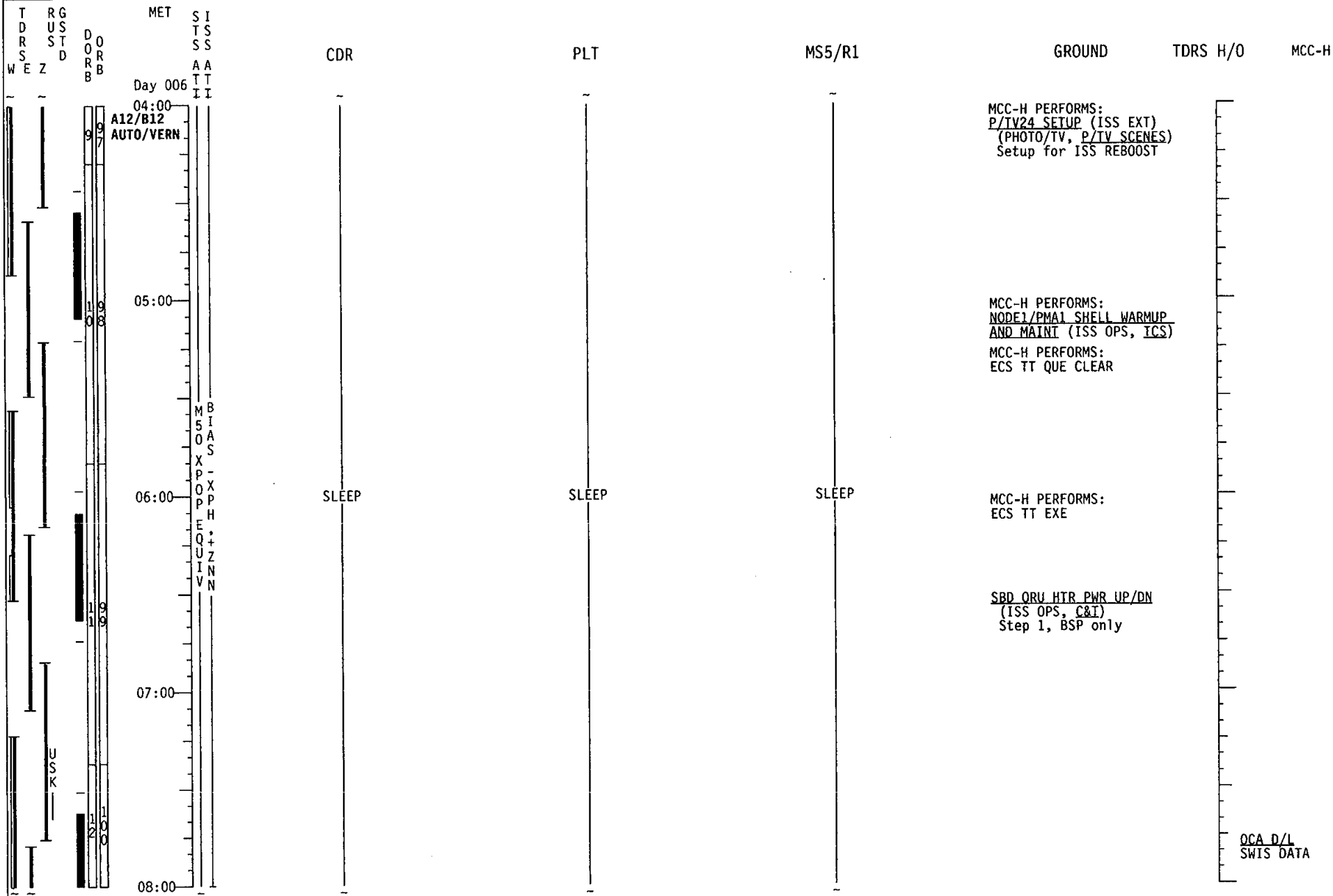
STS-92 (FD07)



STS-92 (FD 07)

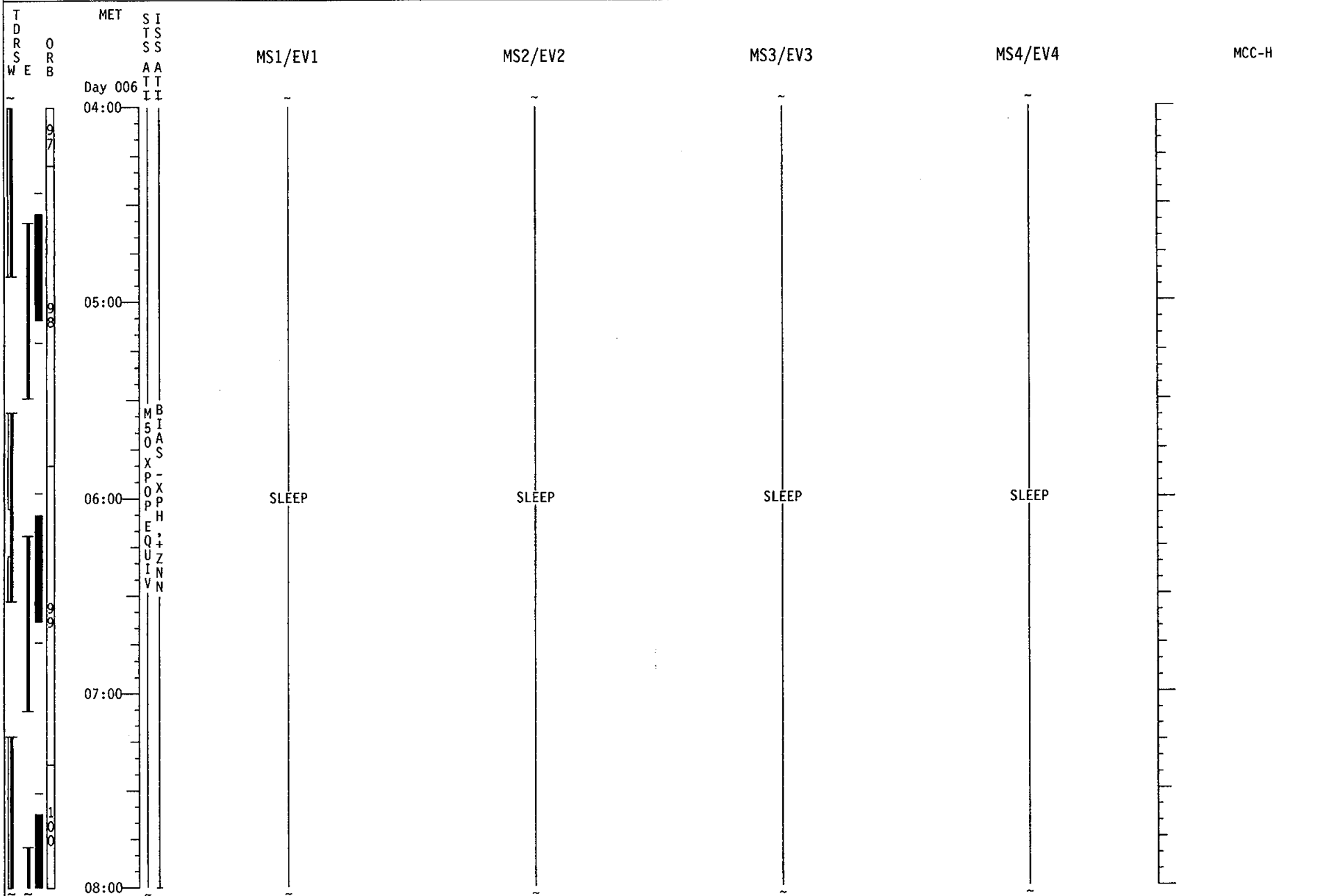


STS-92 (FD07)

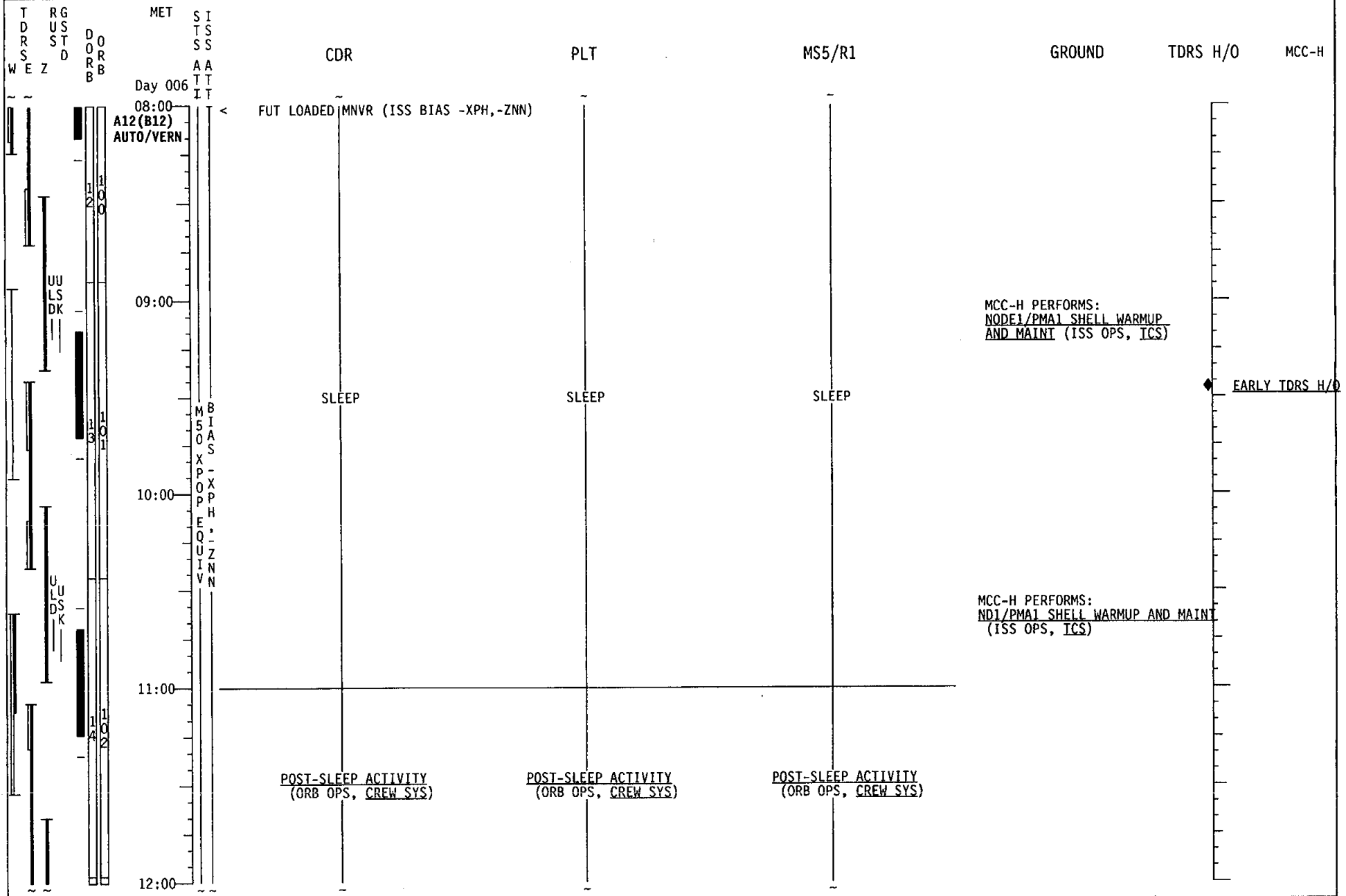


OCA D/L
SWIS DATA

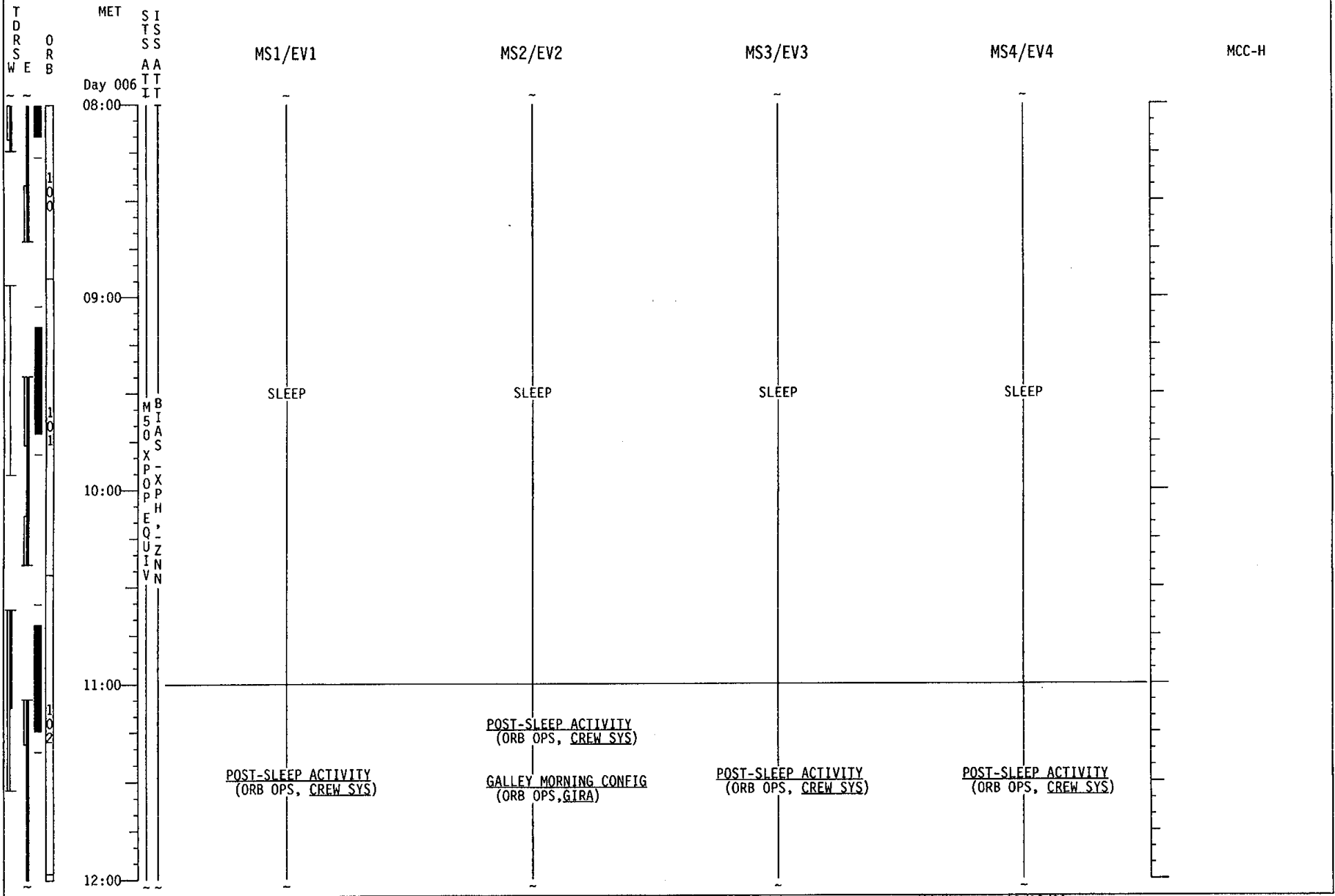
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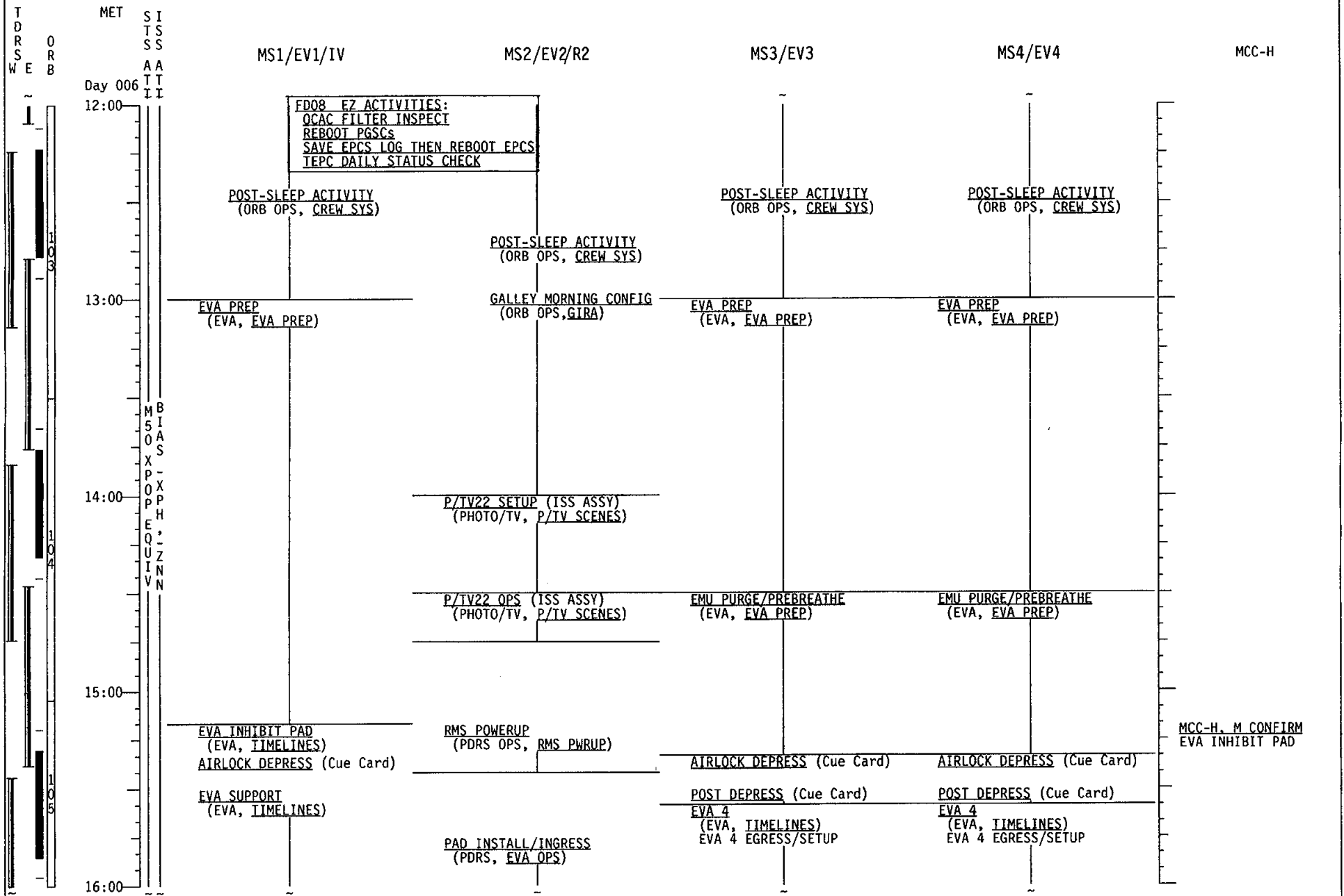
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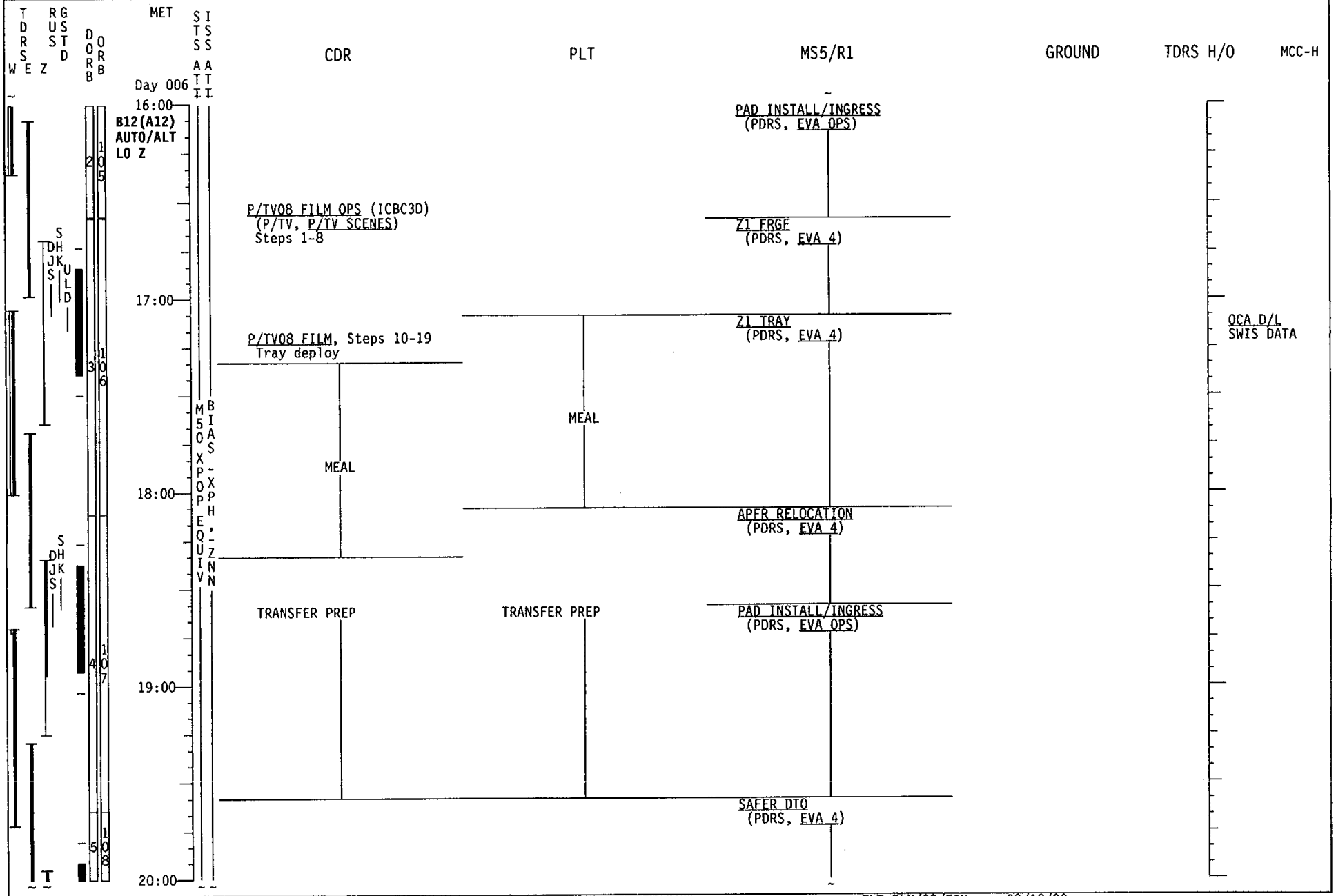
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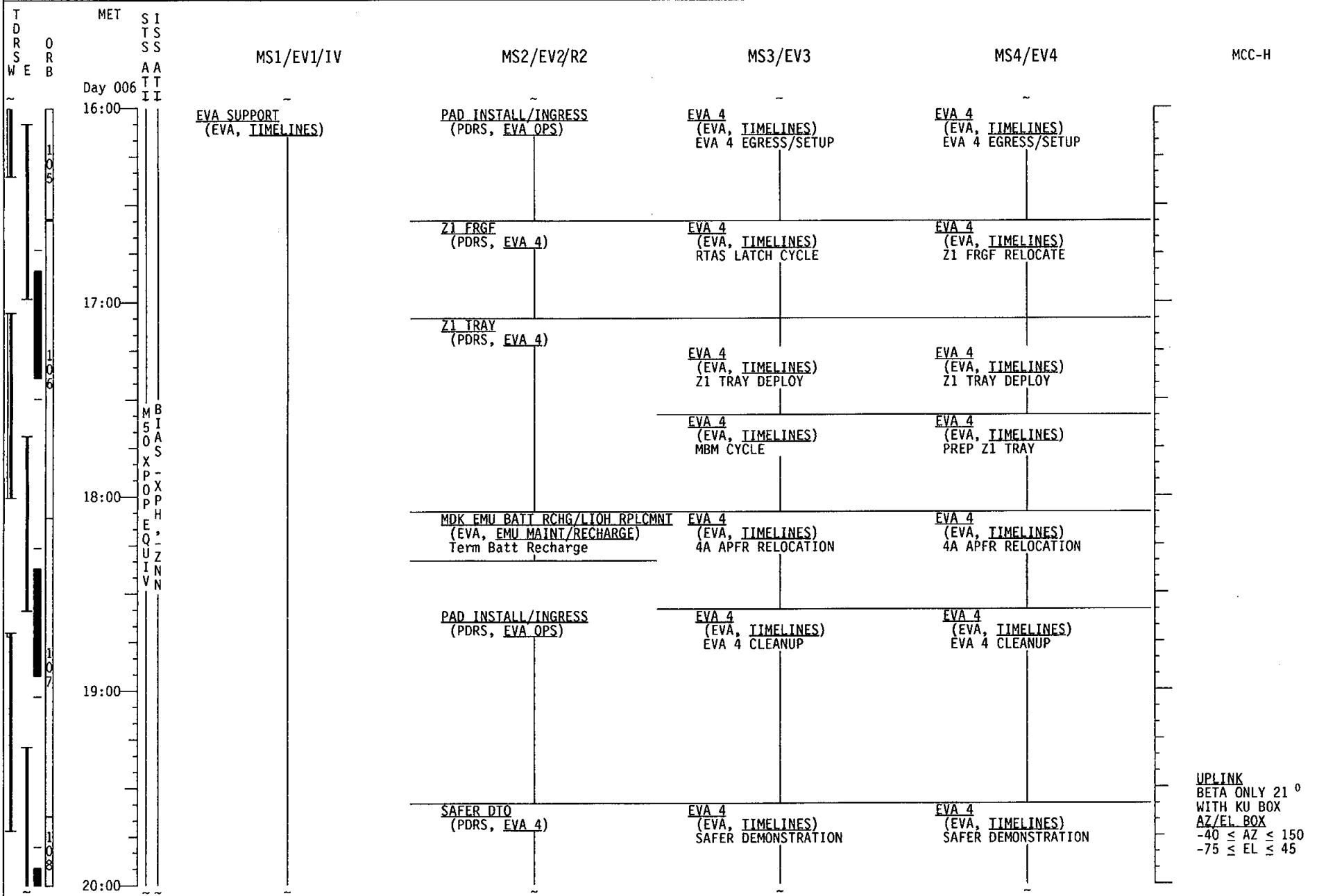
STS-92 (FD 08)



STS-92 (FD08)

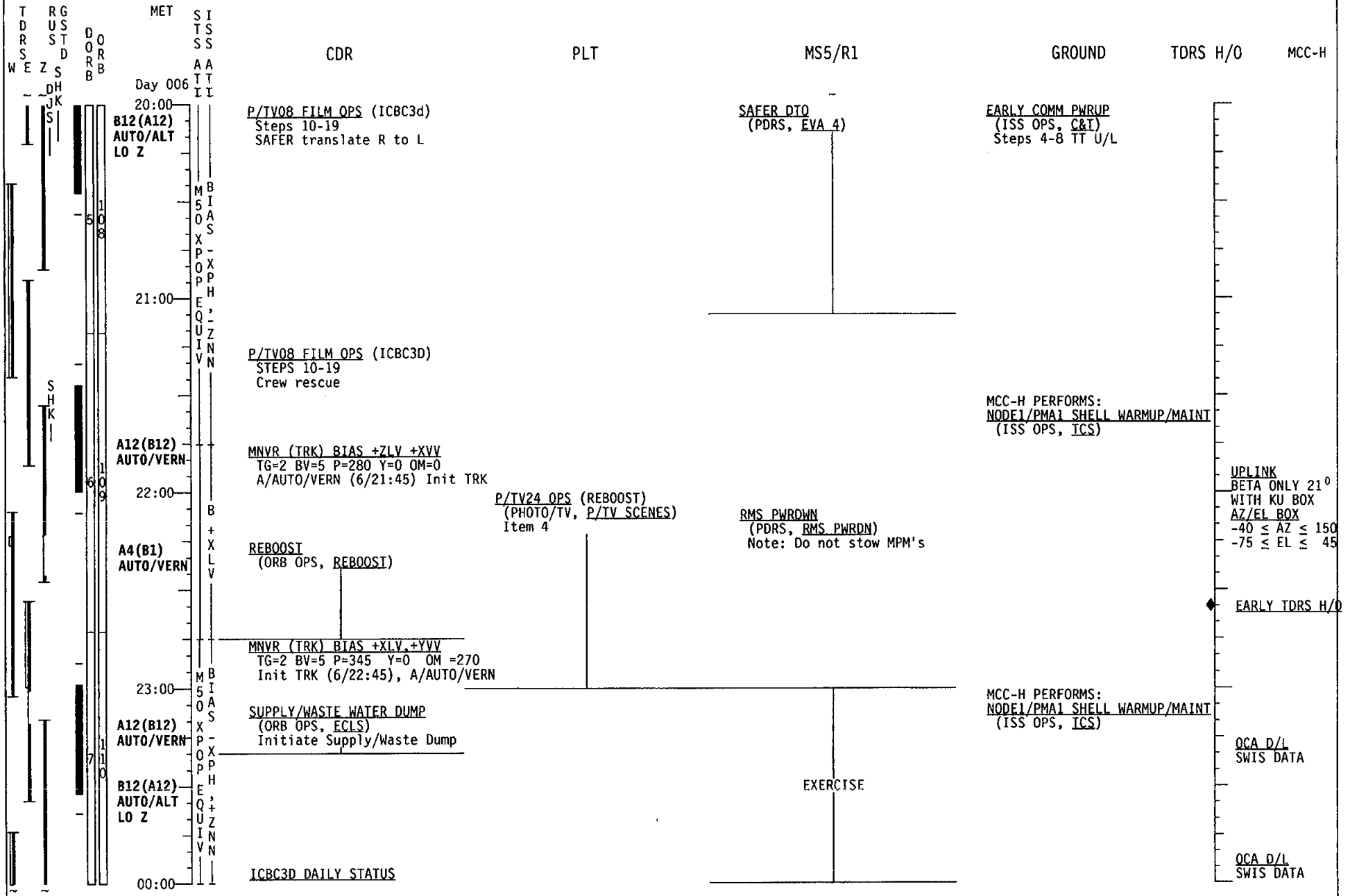


STS-92 (FD 08)

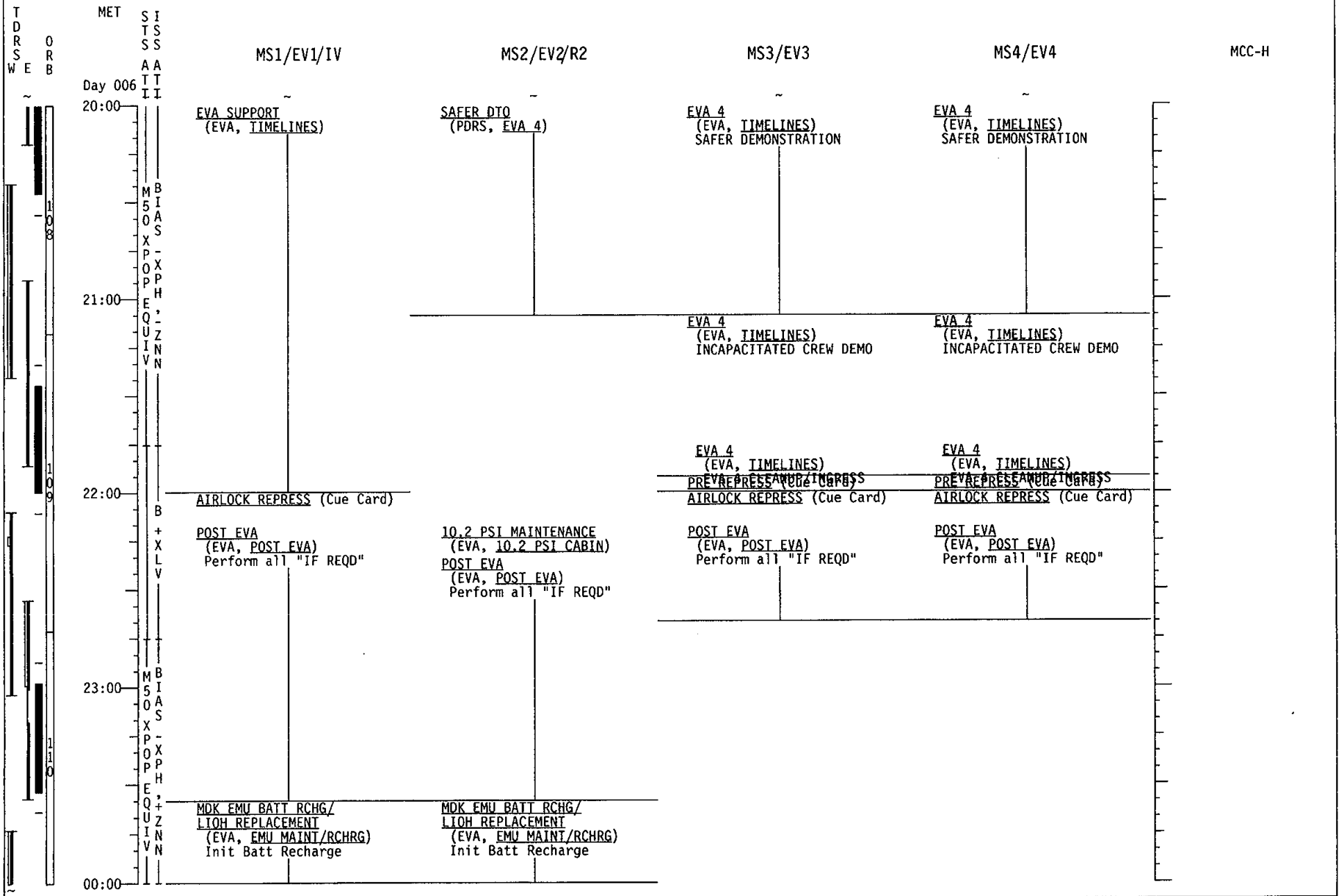


UPLINK
BETA ONLY 21 °
WITH KU BOX
AZ/EL BOX
-40 ≤ AZ ≤ 150
-75 ≤ EL ≤ 45

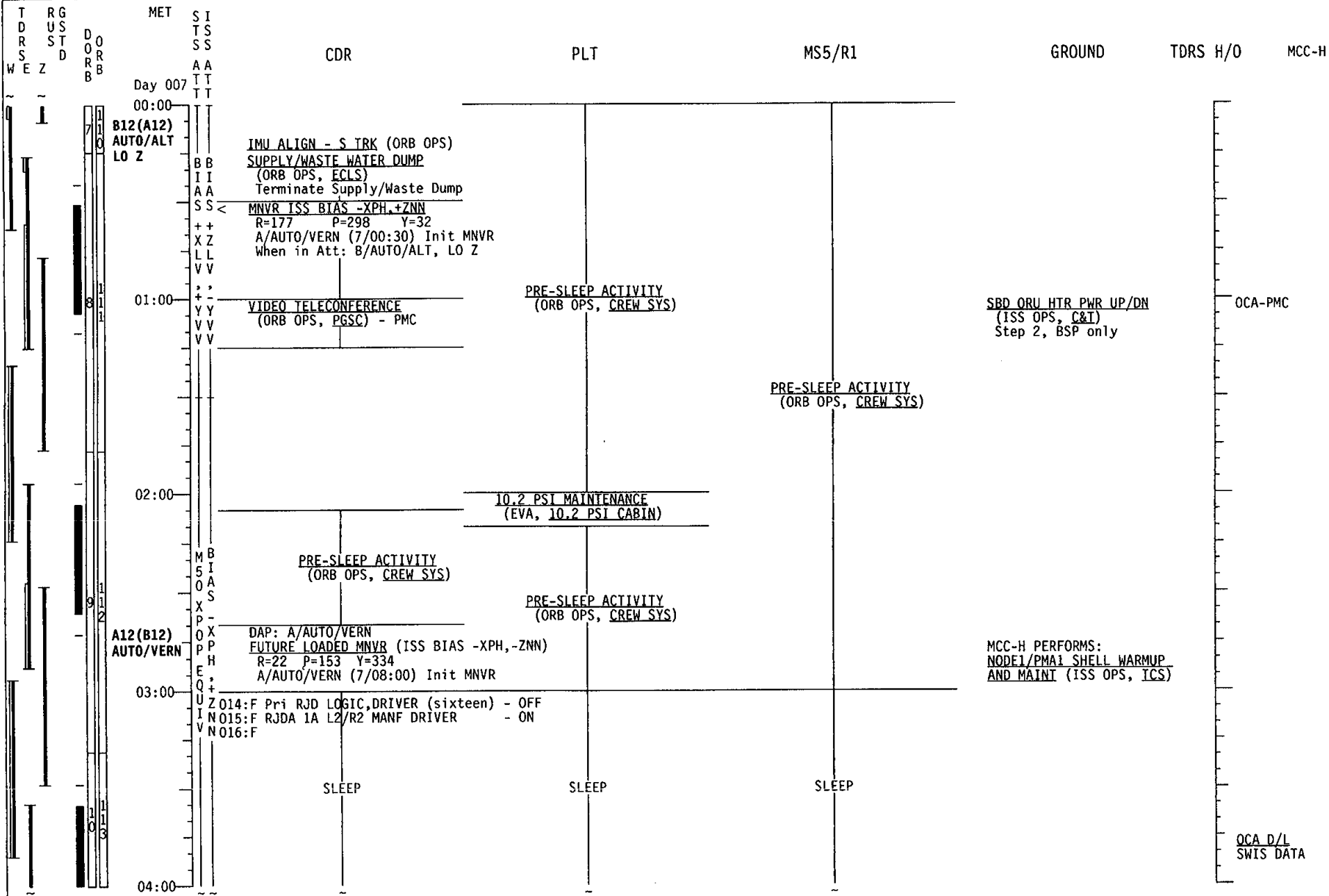
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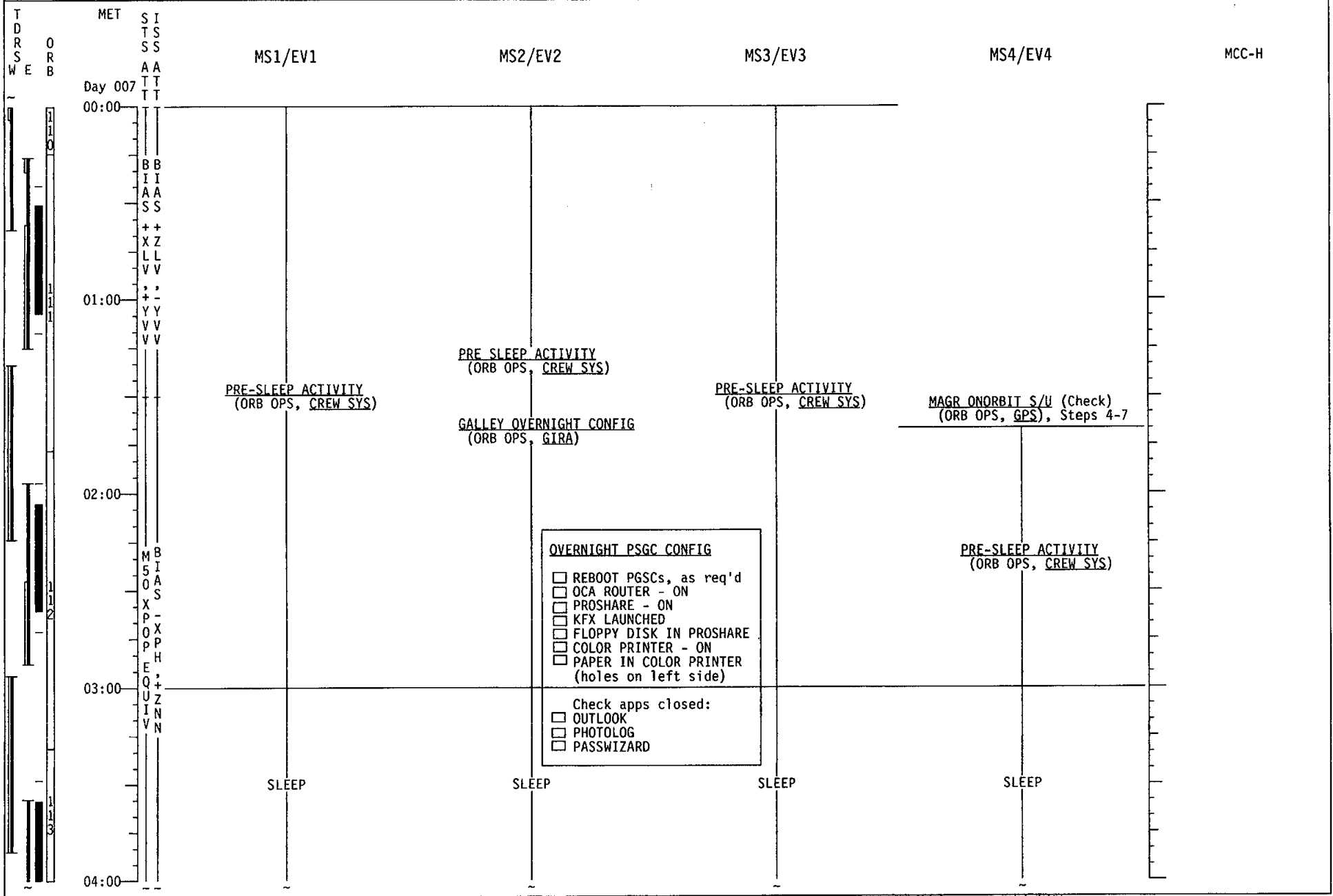
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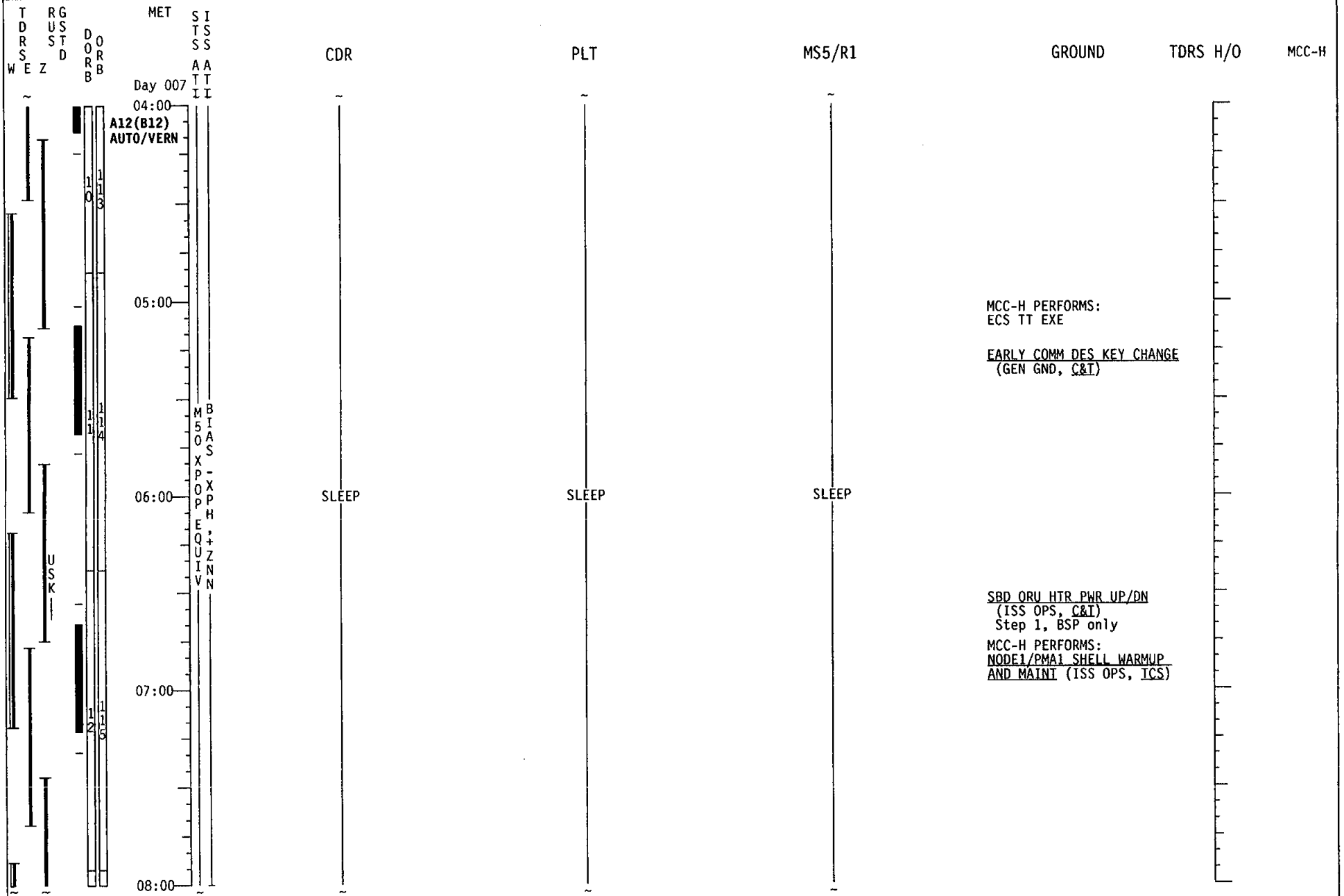
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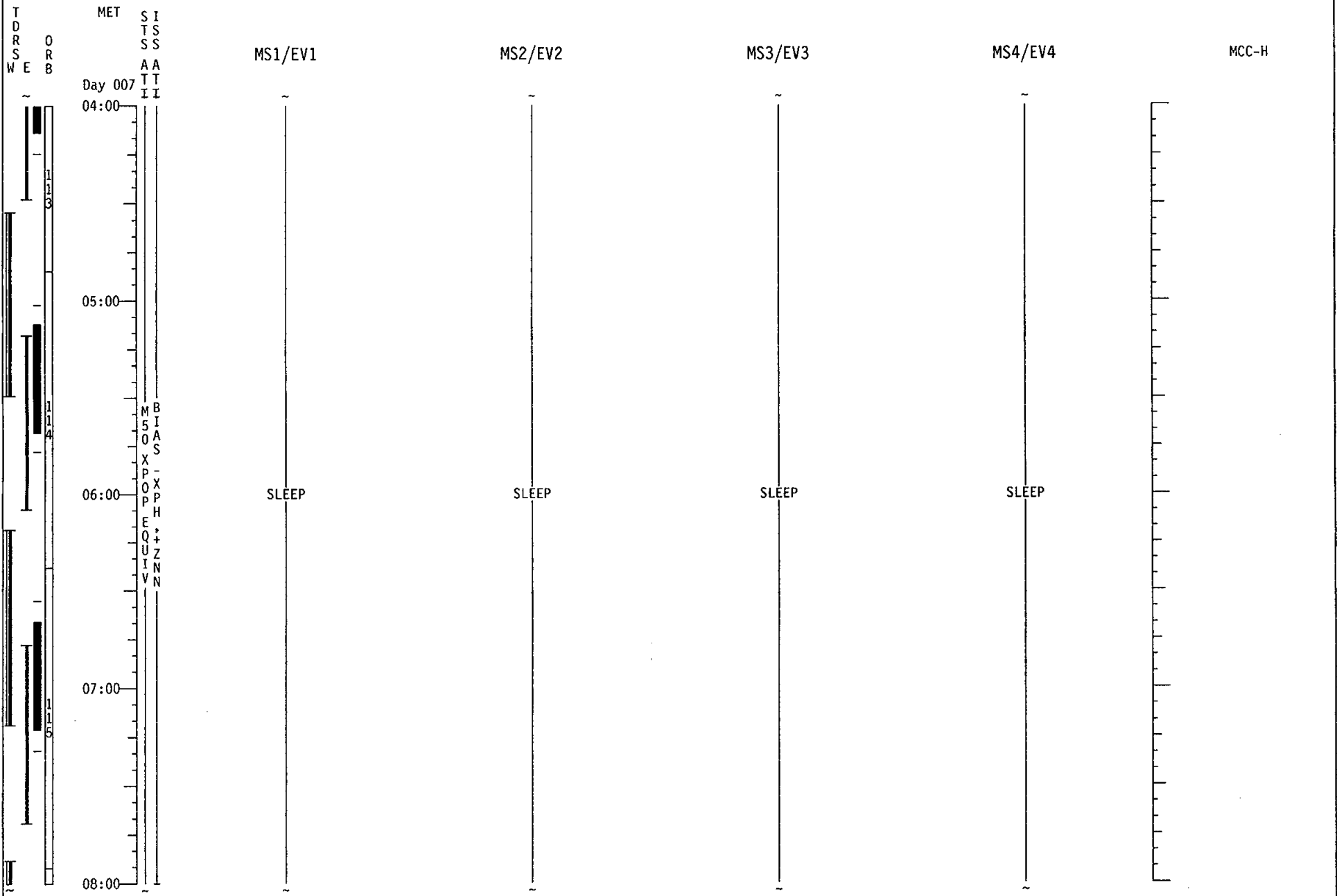
STS-92 (FD 08)



STS-92 (FD 08)



STS-92 (FD 08)

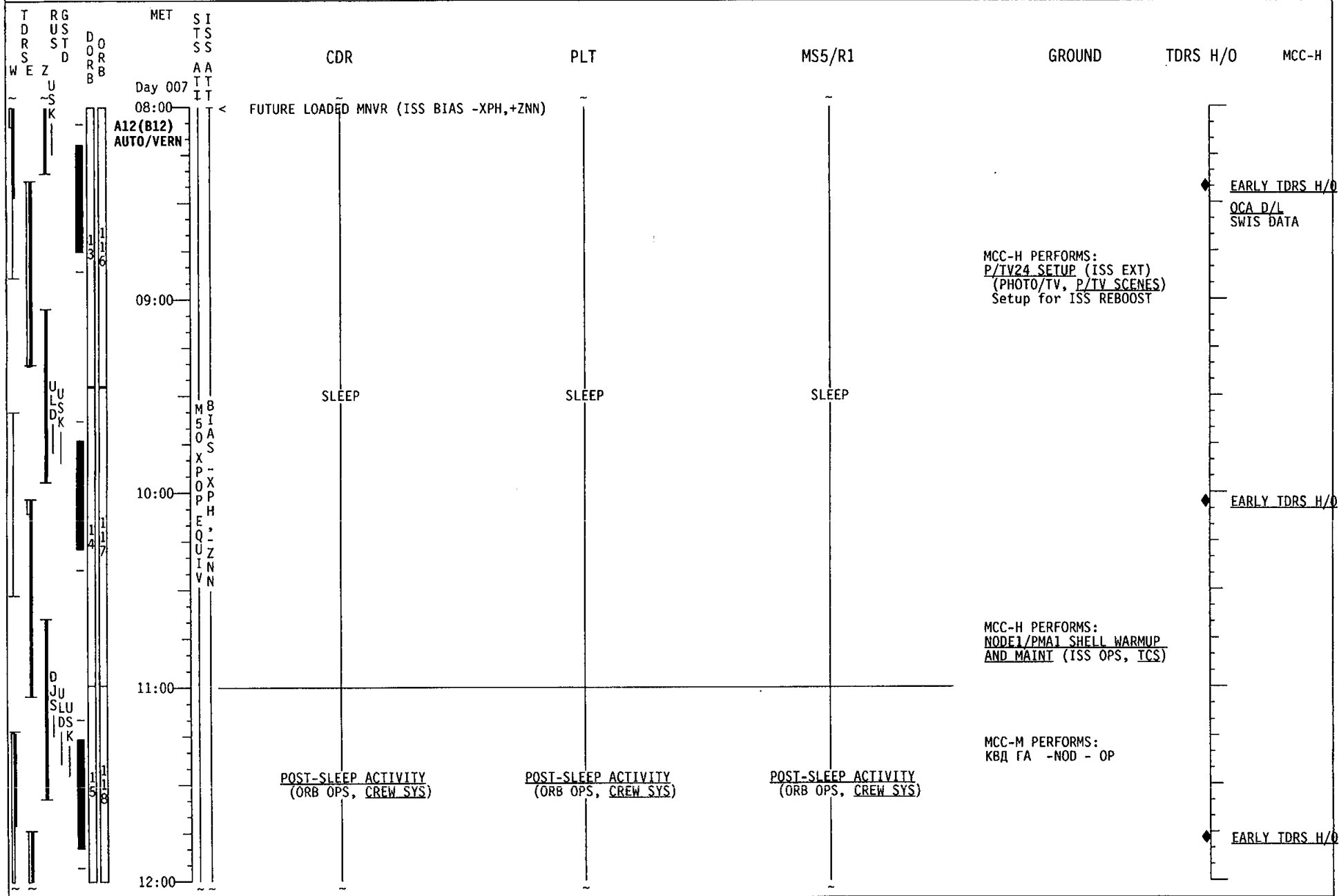


3-89

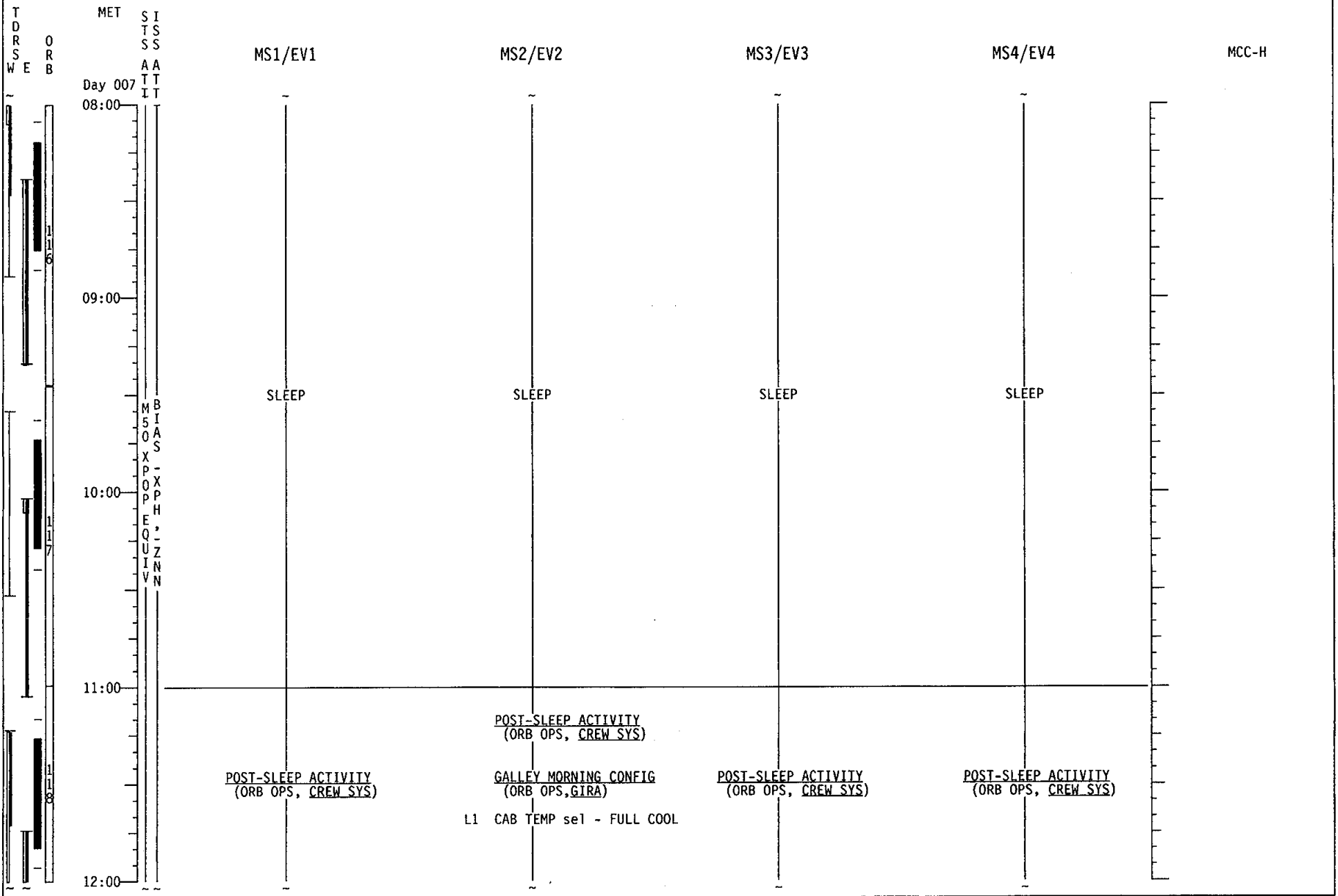
FLT PLN/92/FIN

09/18/00

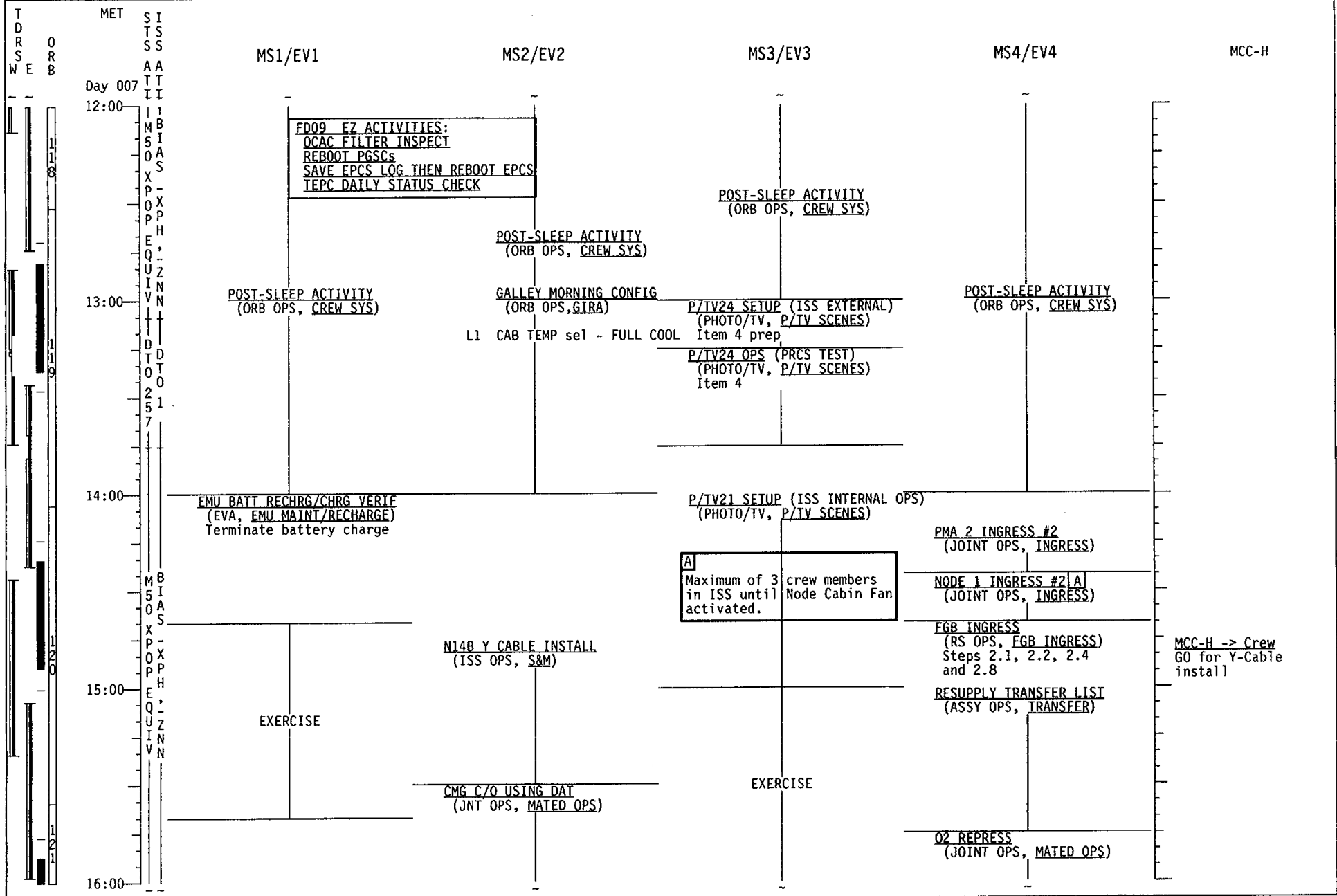
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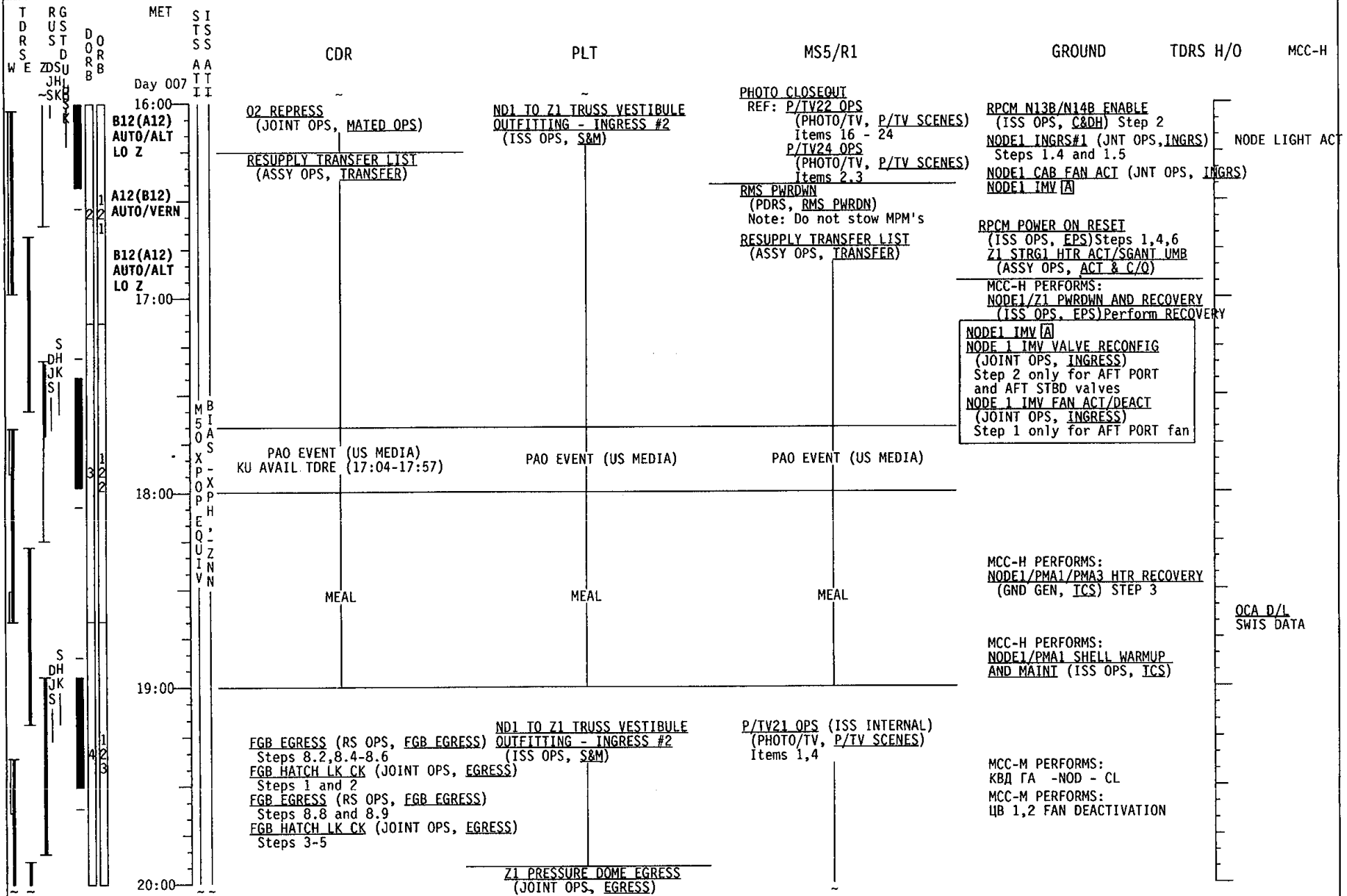
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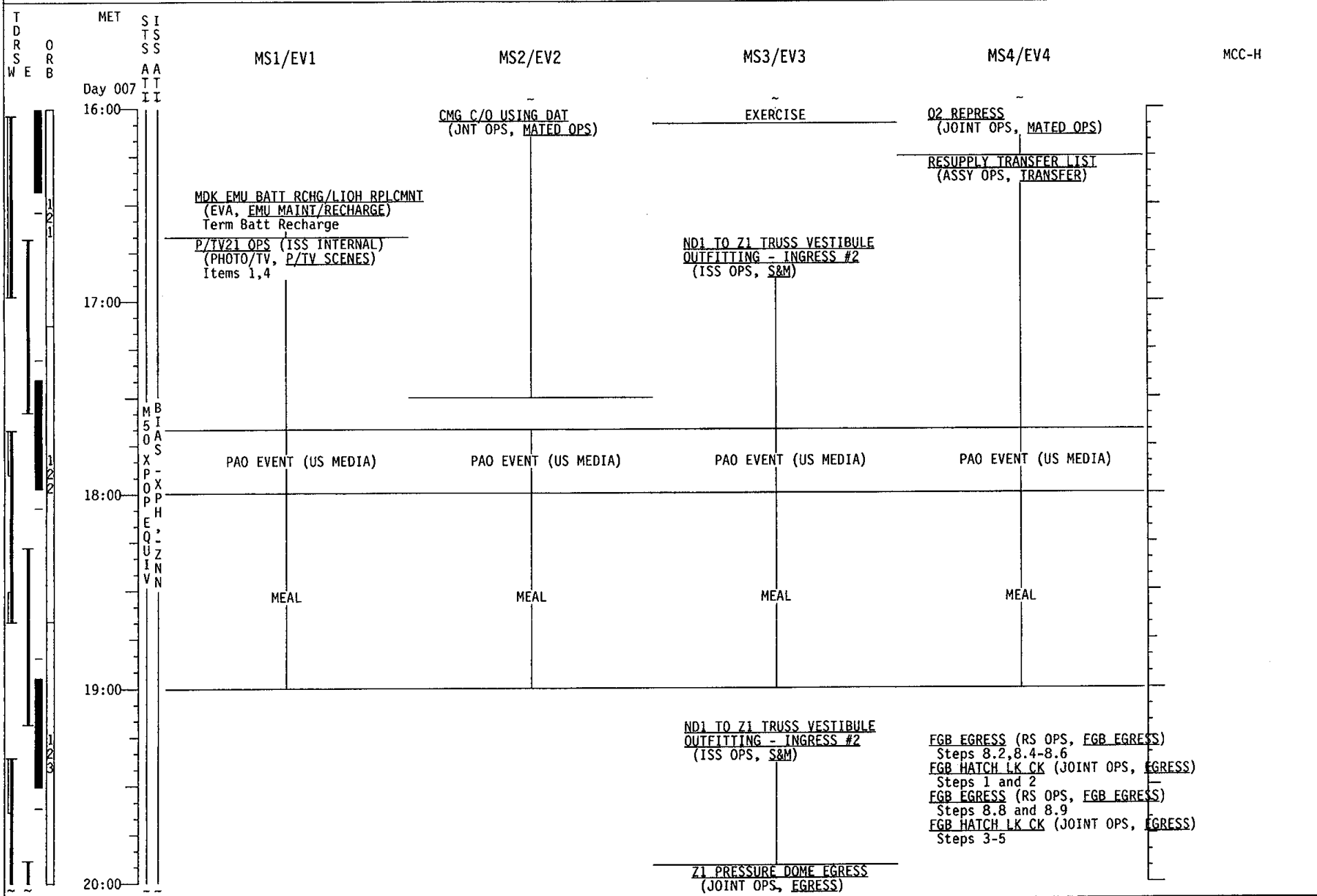
STS-92 (FD 09)



STS-92 (FD 09)



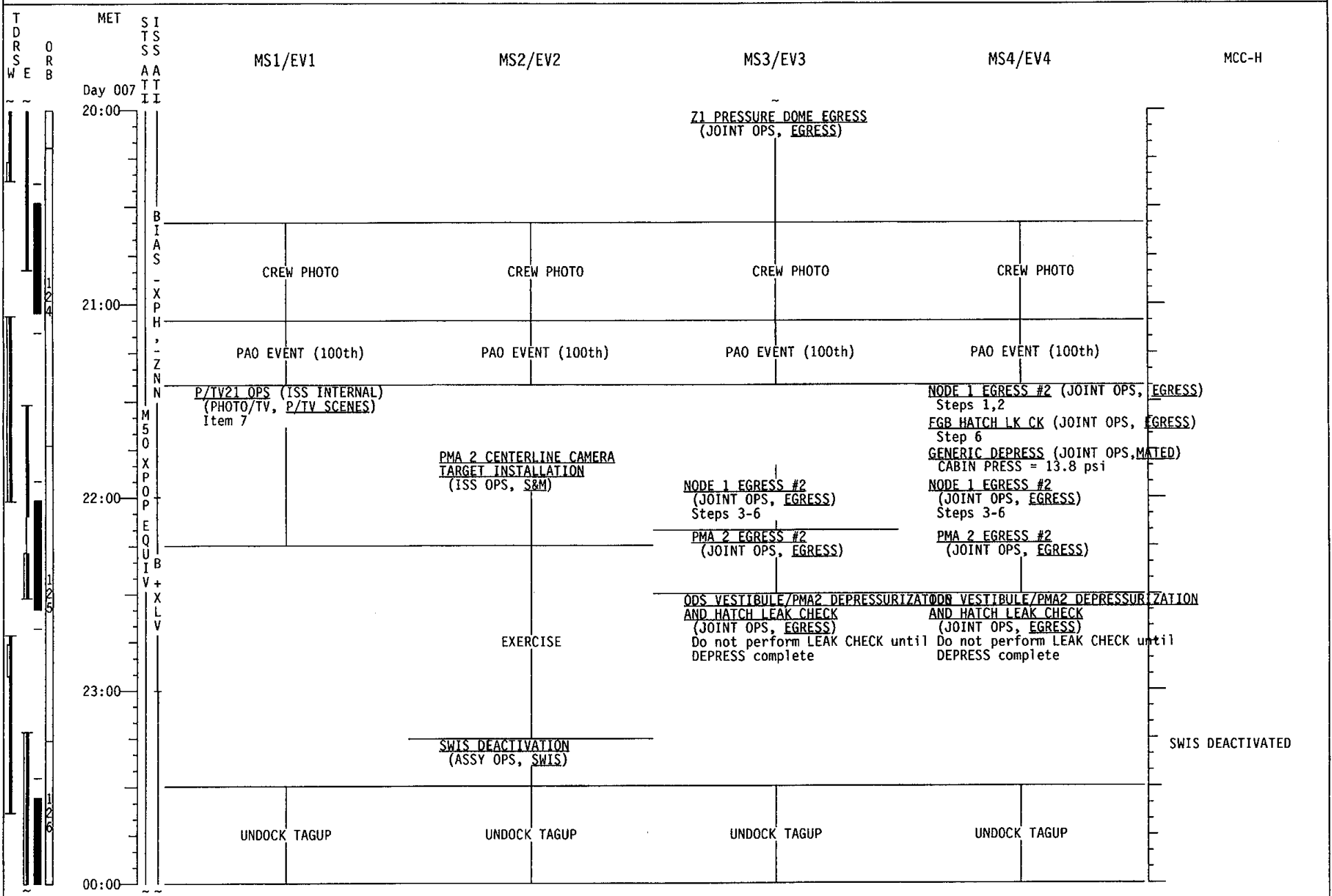
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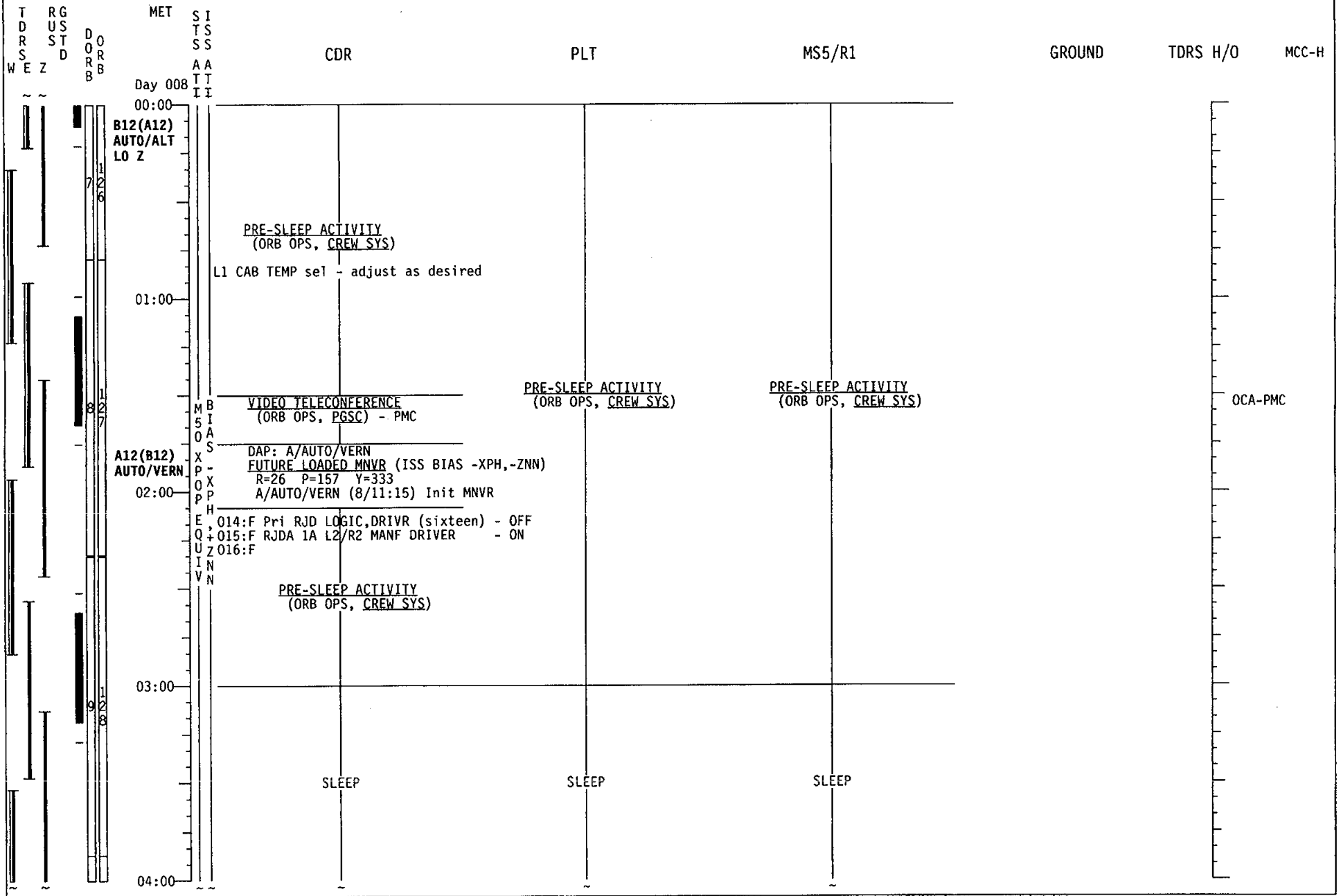
STS-92 (FD 09)

	MET	CDR	PLT	MS5/R1	GROUND	TDRS H/O	MCC-H
<p>TDRS WEZ</p> <p>RGUSTD</p> <p>DORRB</p> <p>SHK</p> <p>1 2 3 4 5 6 7</p>	<p>Day 007</p> <p>20:00</p> <p>B12(A12) AUTO/ALT LO Z</p> <p>21:00</p> <p>22:00</p> <p>A12(B12) AUTO/VERN</p> <p>B12(A12) AUTO/ALT LO Z</p> <p>23:00</p> <p>00:00</p>	<p>BIAS -XPH</p> <p>PAO EVENT (100th) KU AVAIL TDRE (20:15-20:35)</p> <p>NODE 1 EGRESS #2 (JOINT OPS, EGRESS) Steps 1,2</p> <p>EGB HATCH LK CK (JOINT OPS, EGRESS) Step 6</p> <p>GENERIC DEPRESS (JOINT OPS, MATED) CABIN PRESS = 13.8 psi</p> <p>MNVR (TRK) BIAS +ZLV +XVY TG=2 BV=5 P=280 Y=0 OM=0 A/AUTO/VERN (7/22:00) Init TRK</p> <p>REBOOST (ORB OPS, REBOOST)</p> <p>MNVR ISS BIAS -XPH, +ZNN R=173 P=301 Y=35 A/AUTO/VERN (7/23:05) Init MNVR When in att: B/AUTO/ALT, LO Z</p> <p>UNDOCK TAGUP</p>	<p>Z1 PRESSURE DOME EGRESS (JOINT OPS, EGRESS)</p> <p>CREW PHOTO</p> <p>PAO EVENT (100th)</p> <p>REBOOST (ORB OPS, REBOOST)</p> <p>UNDOCK TAGUP</p>	<p>P/TV21 OPS (ISS INTERNAL) (PHOTO/TV, P/TV SCENES) Items 1,4</p> <p>ABL PORT RMS HTR (two) - AUTO L17 Check MCIU filter screen</p> <p>CREW PHOTO</p> <p>PAO EVENT (100th)</p> <p>RMS POWERUP (PDRS OPS, RMS PWRUP)</p> <p>Z1/PMA3 SURVEYS (PDRS, SURVEYS) REF: P/TV22 OPS (P/TV, P/TV SCENES) Items 16 - 24 P/TV24 OPS (P/TV, P/TV SCENES) Items 2,3</p> <p>RMS POWERDOWN (PDRS OPS, RMS PWRDN)</p> <p>UNDOCK TAGUP</p>	<p>MCC-H PERFORMS: NODE1/PMA1 SHELL WARMUP/MAINT (ISS OPS, ICS)</p> <p>MCC-H PERFORMS: NODE1 IMV FAN ACT/DEACT (JOINT OPS, INGRESS) Step 2 for AFT PORT fan</p> <p>MCC-H PERFORMS: NODE1 IMV FAN ACT/DEACT (JOINT OPS, INGRESS) Step 1 for AFT PORT fan</p> <p>MCC-H PERFORMS: NODE1/PMA1 SHELL WARMUP/MAINT (ISS OPS, ICS)</p>		

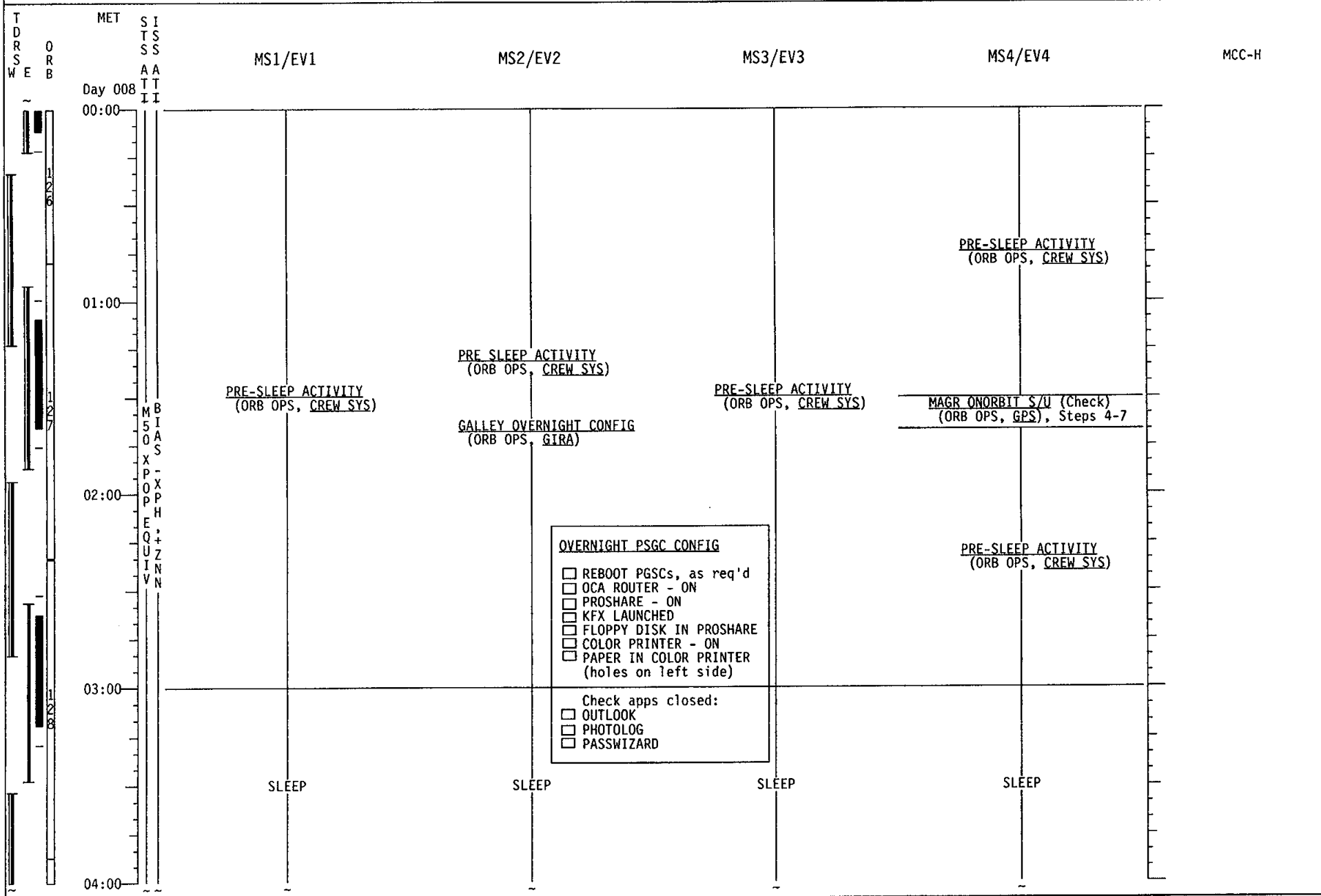
STS-92 (FD 09)



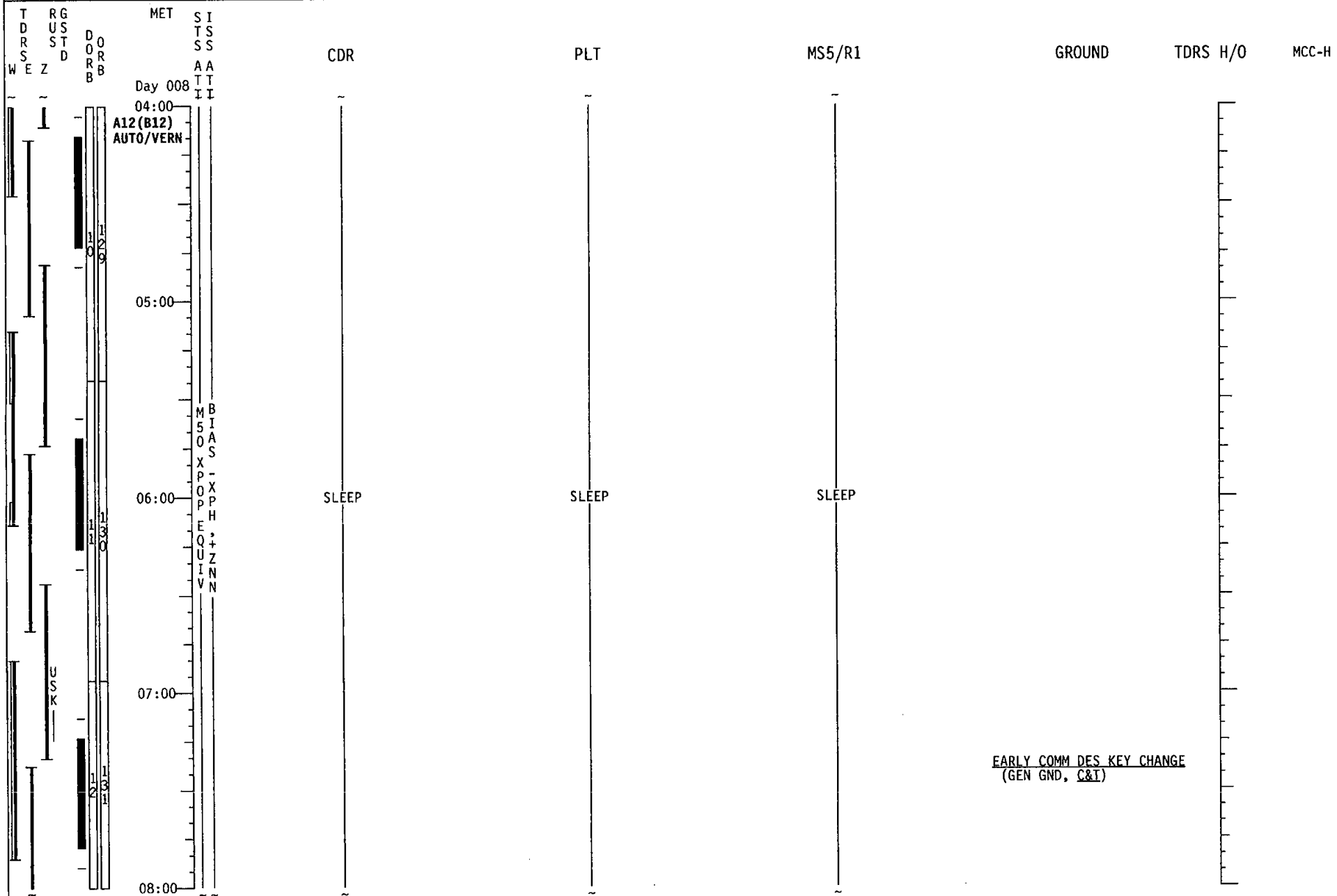
STS-92 (FD09)



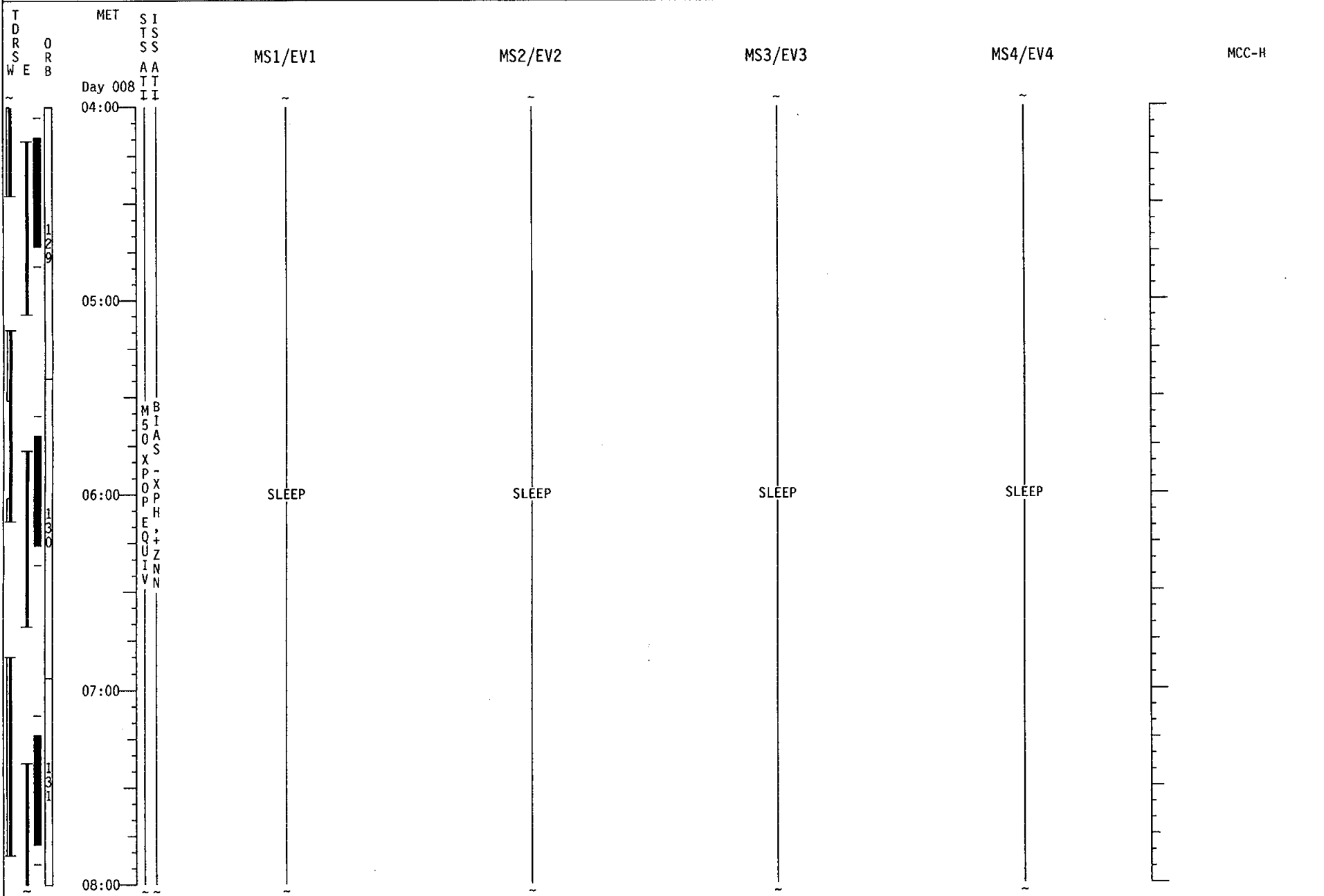
STS-92 (FD09)



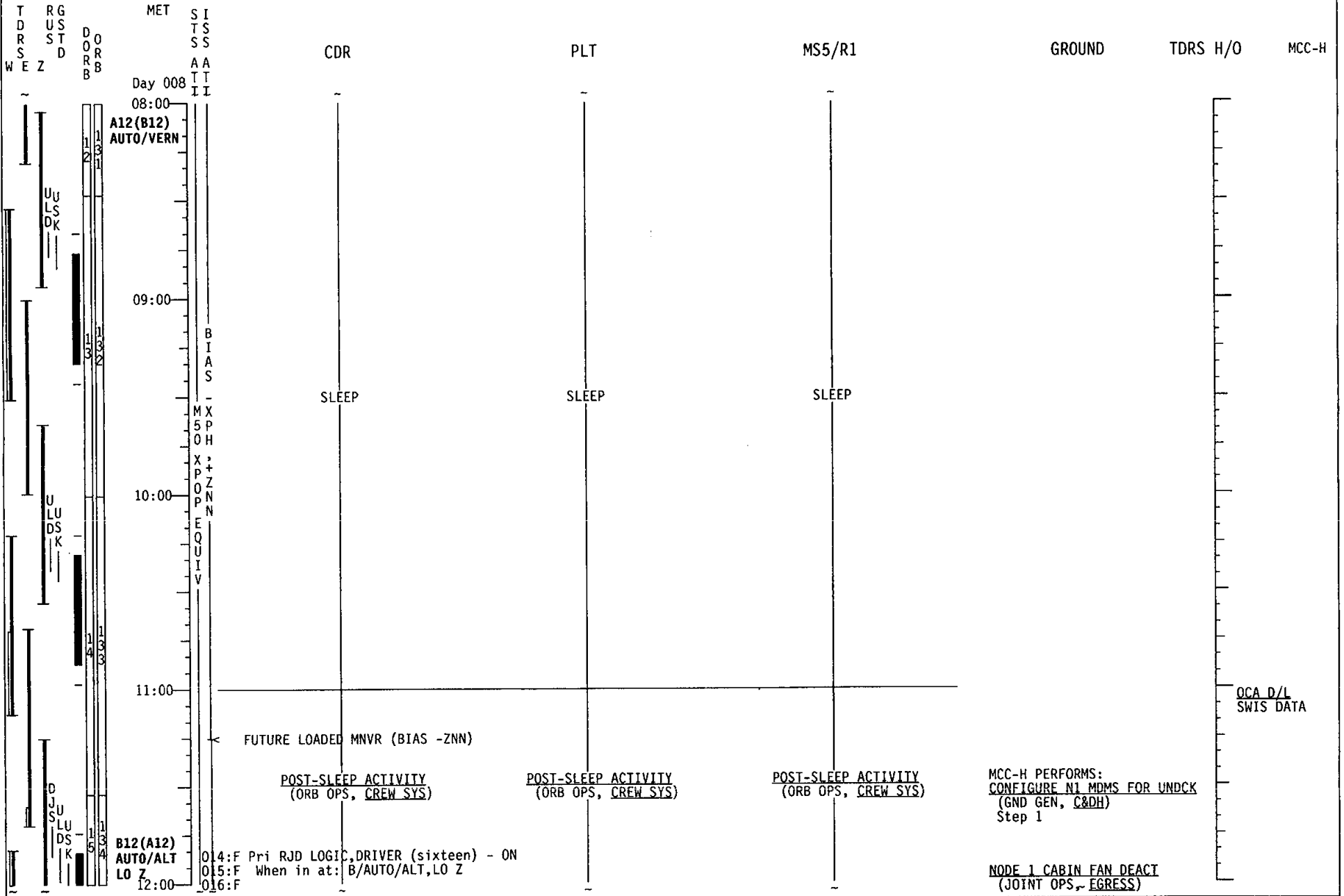
STS-92 (FD 09)



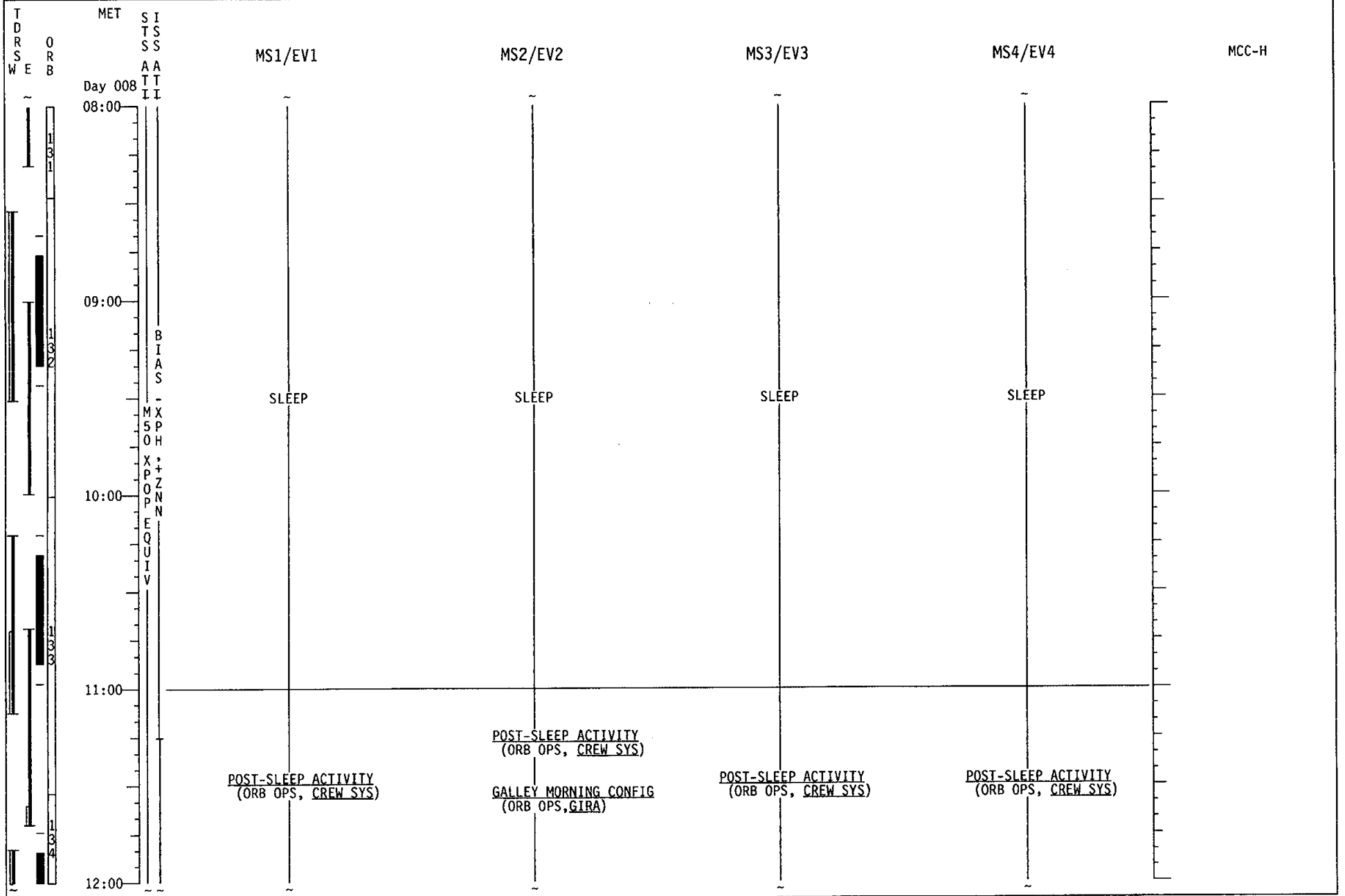
STS-92 (FD 09)



STS-92 (FD 09)



STS-92 (FD 10)



MET
Day 008

08:00

09:00

10:00

11:00

12:00

MS1/EV1

MS2/EV2

MS3/EV3

MS4/EV4

MCC-H

SLEEP

SLEEP

SLEEP

SLEEP

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

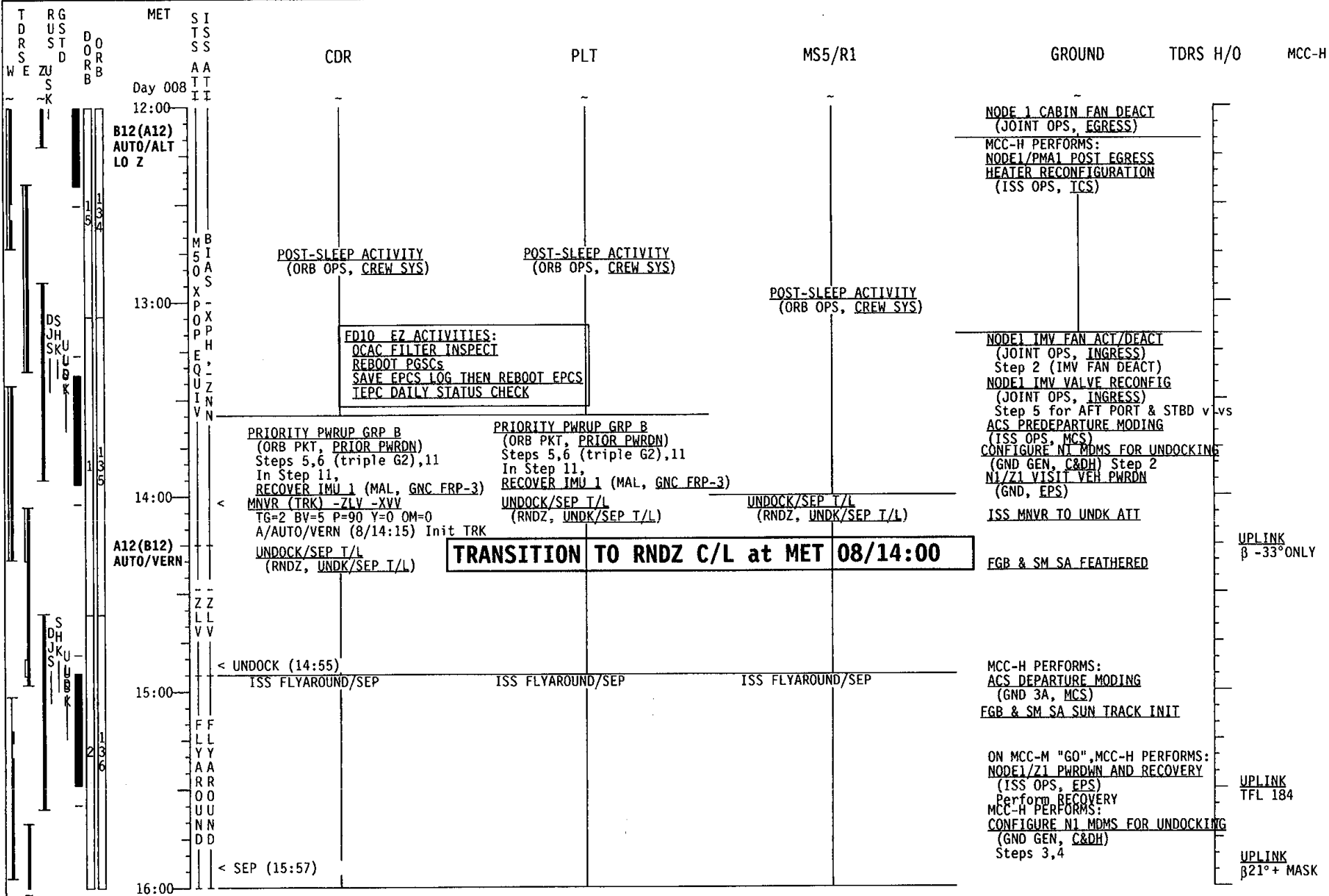
POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

GALLEY MORNING CONFIG
(ORB OPS, GIRA)

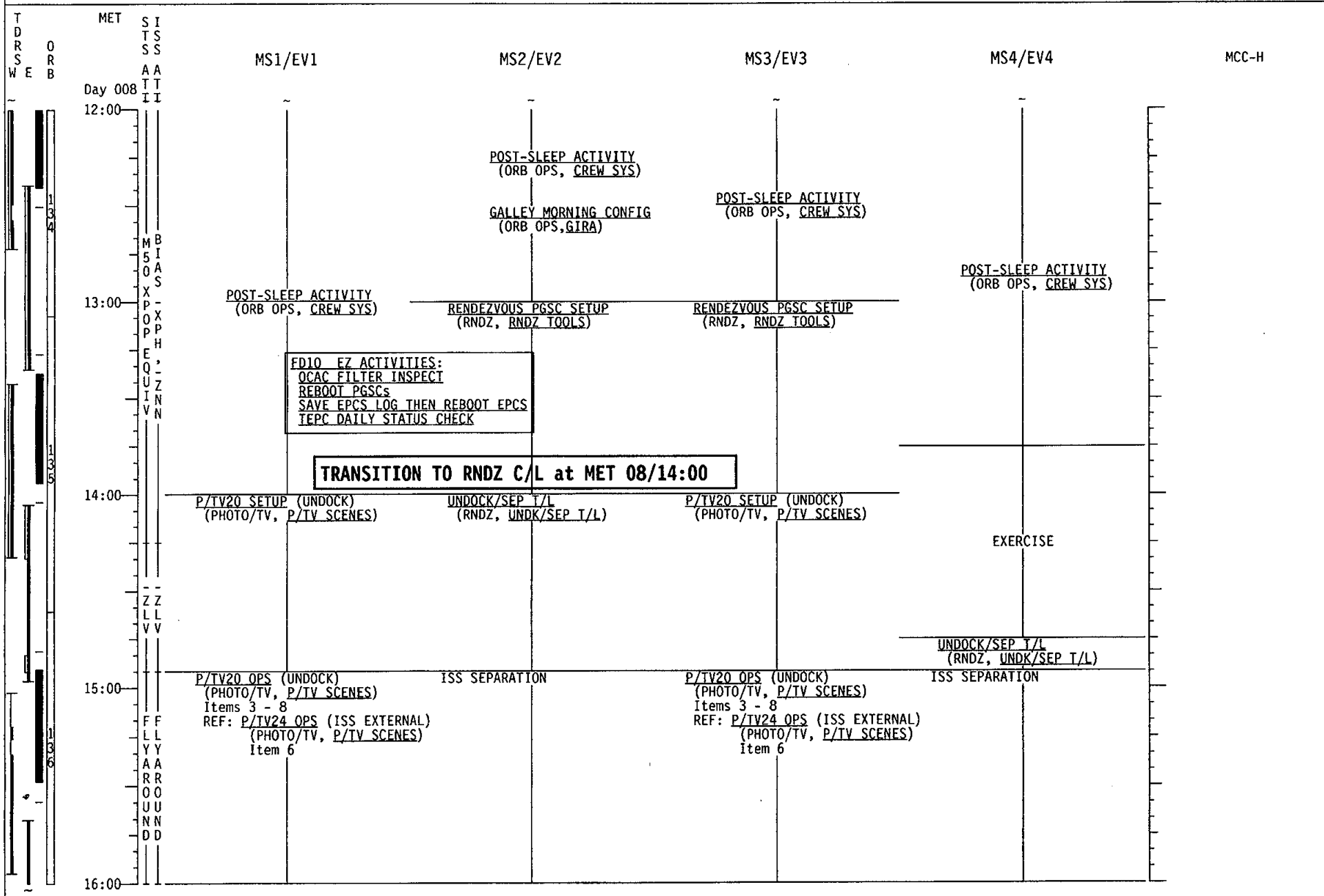
POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

POST-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

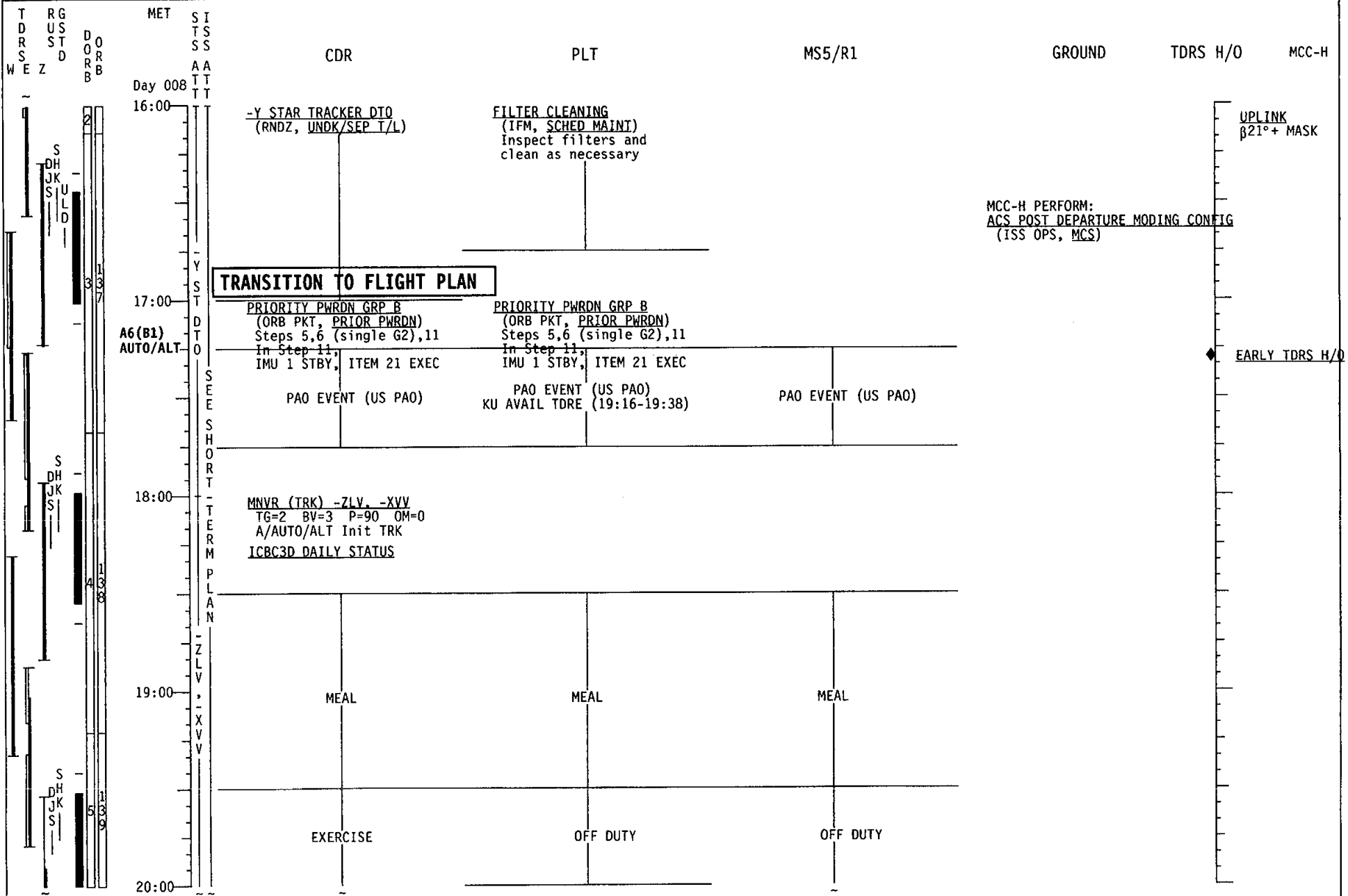
STS-92 (FD 10)



STS-92 (FD10)

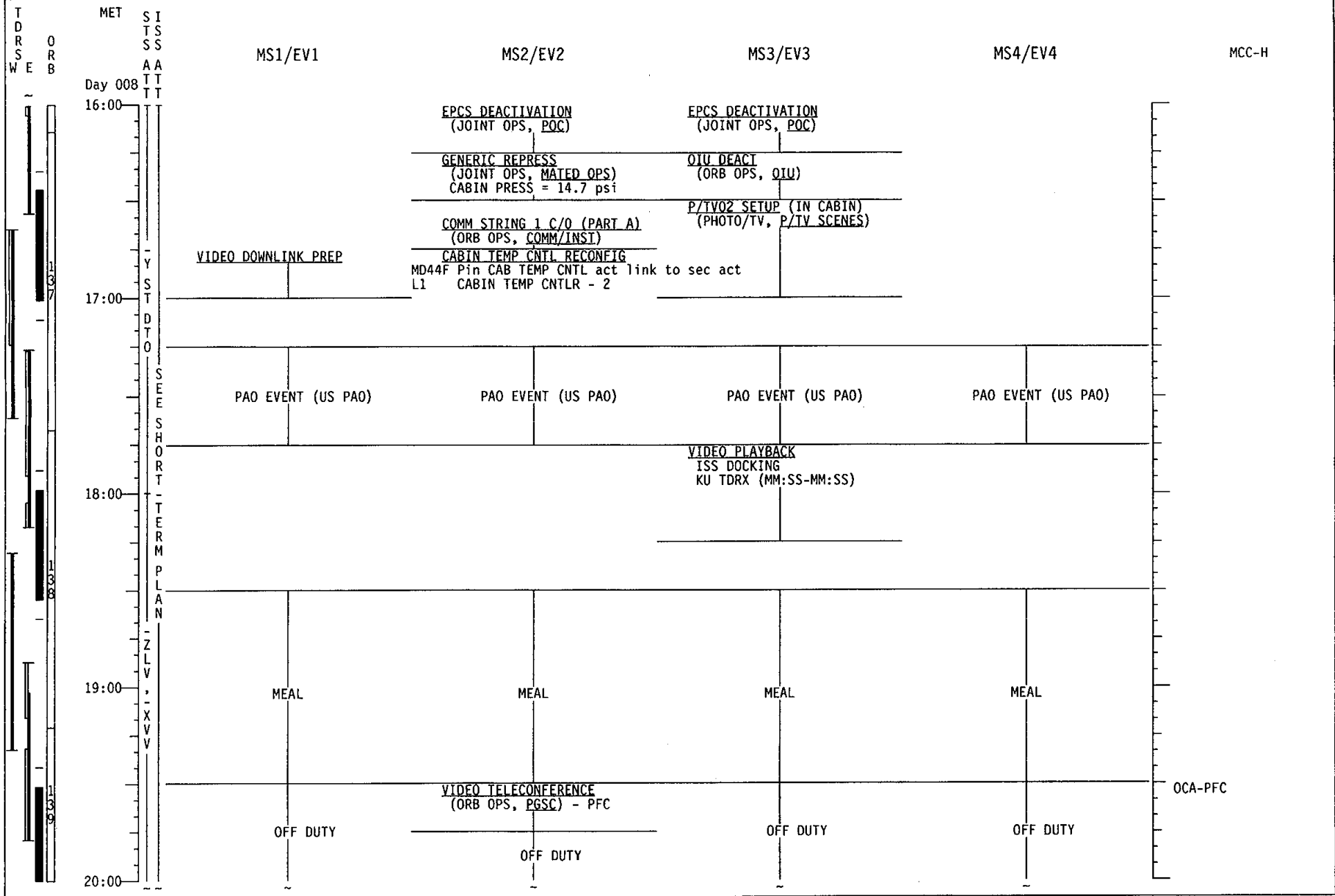


STS-92 (FD 10)

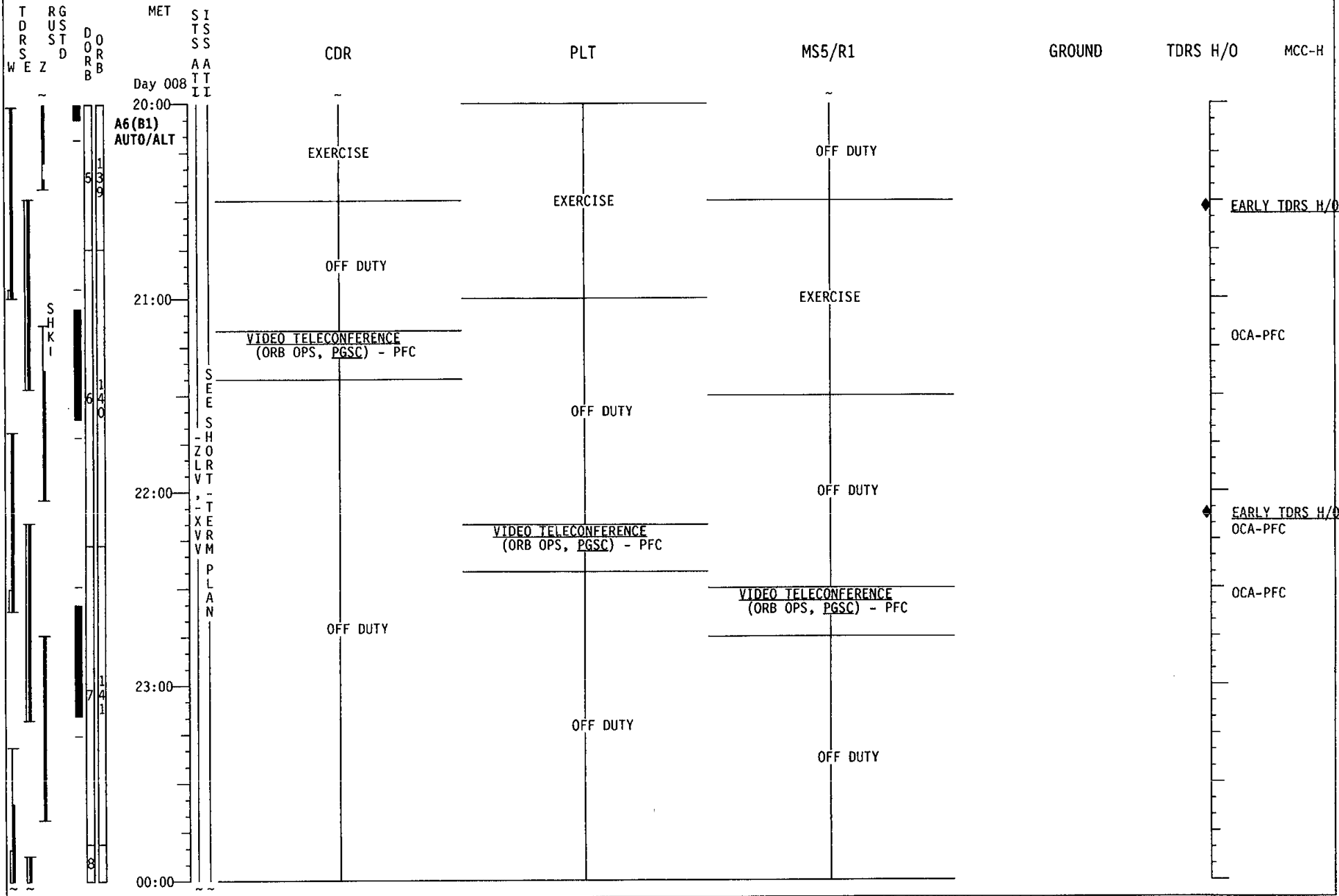


MCC-H PERFORM:
ACS POST DEPARTURE MODING CONFIG
(ISS OPS, MCS)

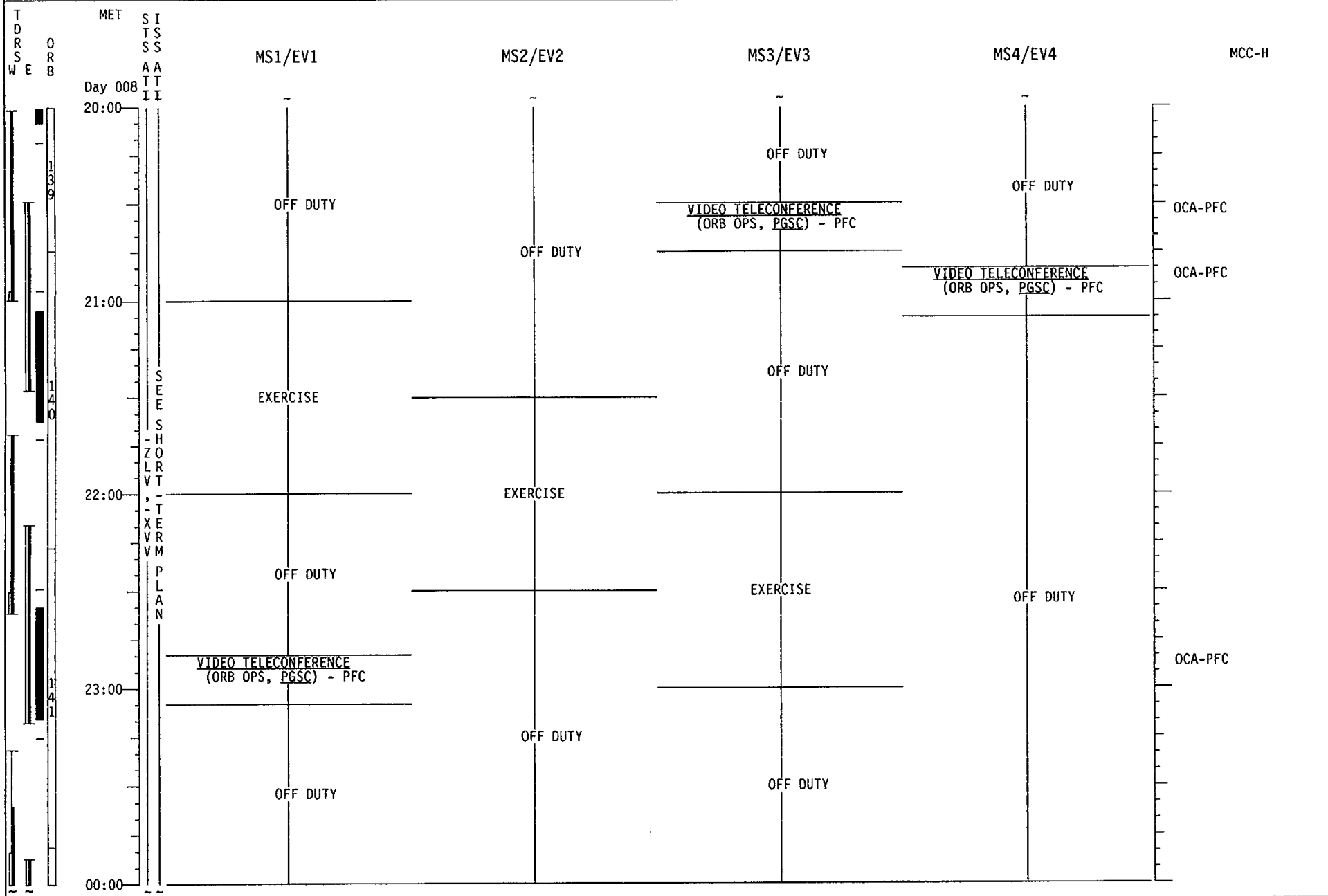
STS-92 (FD 10)



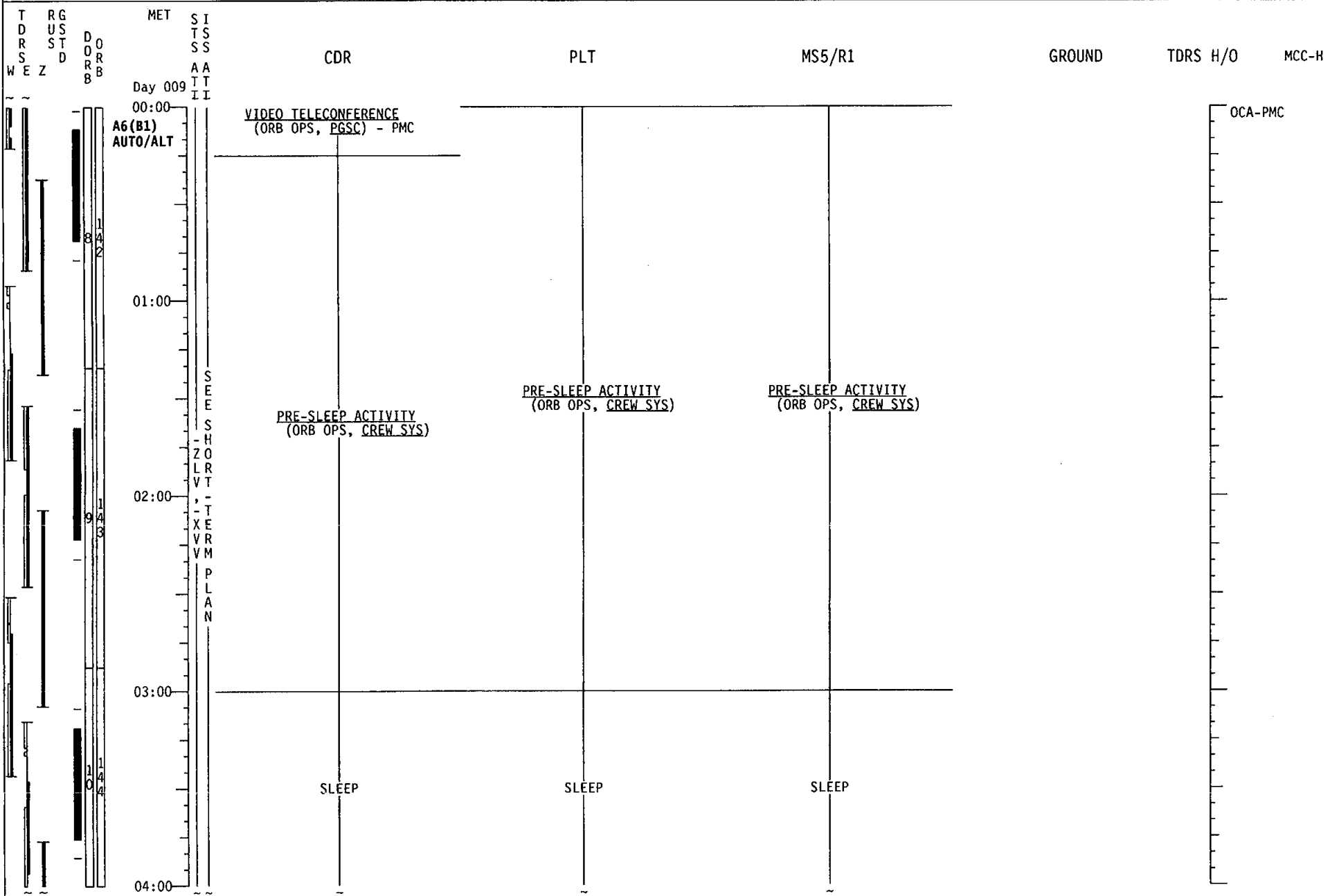
STS-92 (FD 10)



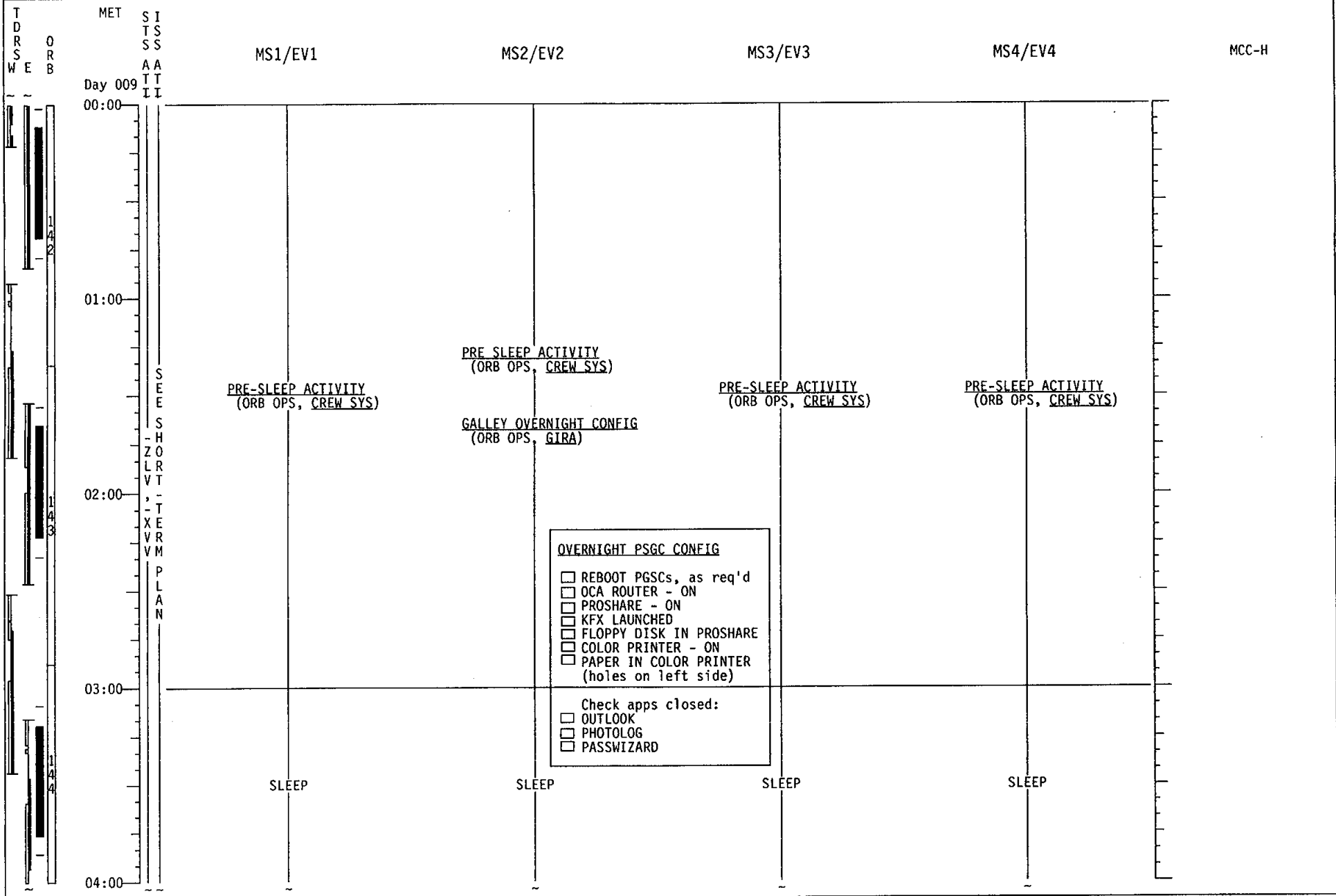
STS-92 (FD 10)



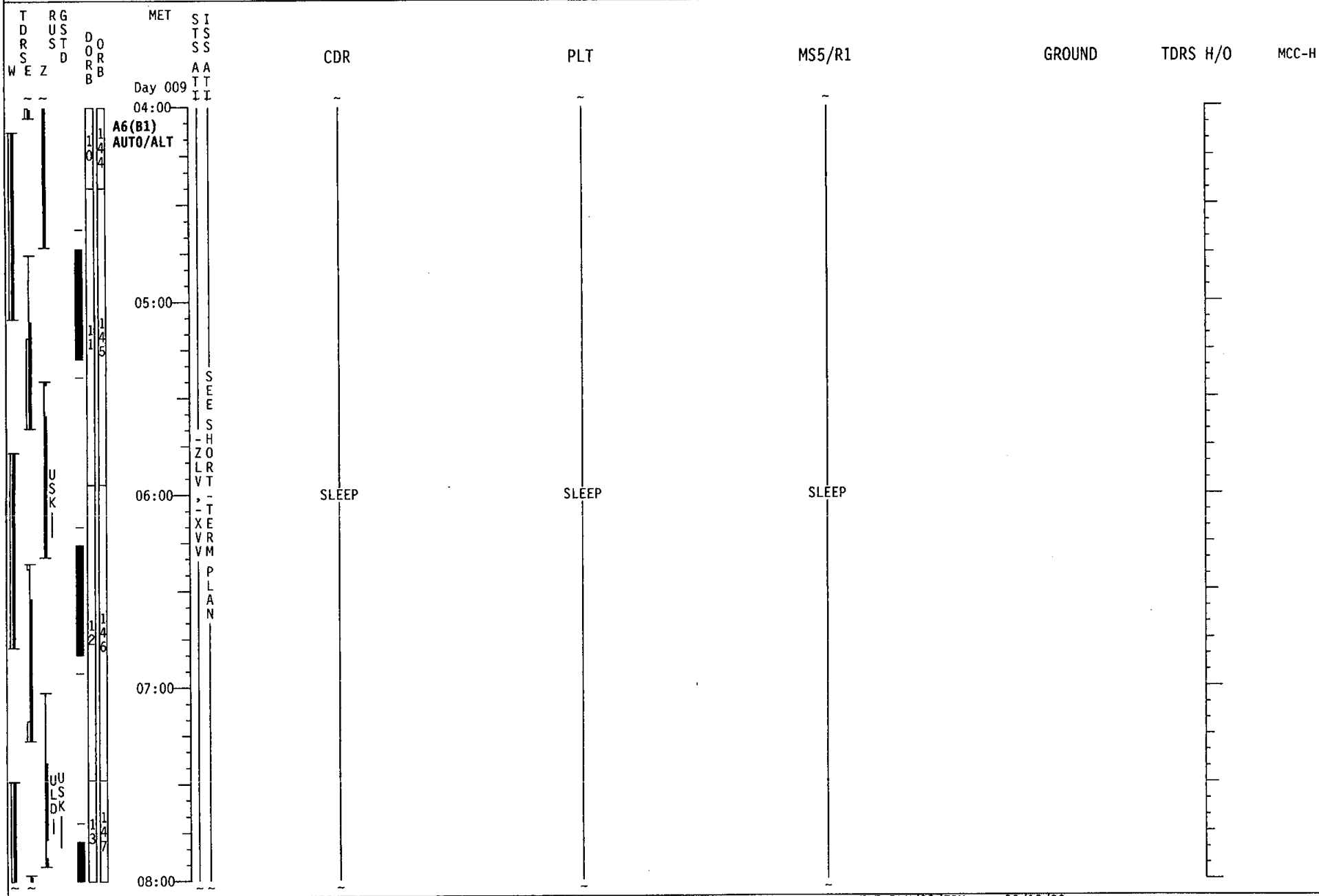
STS-92 (FD 10)



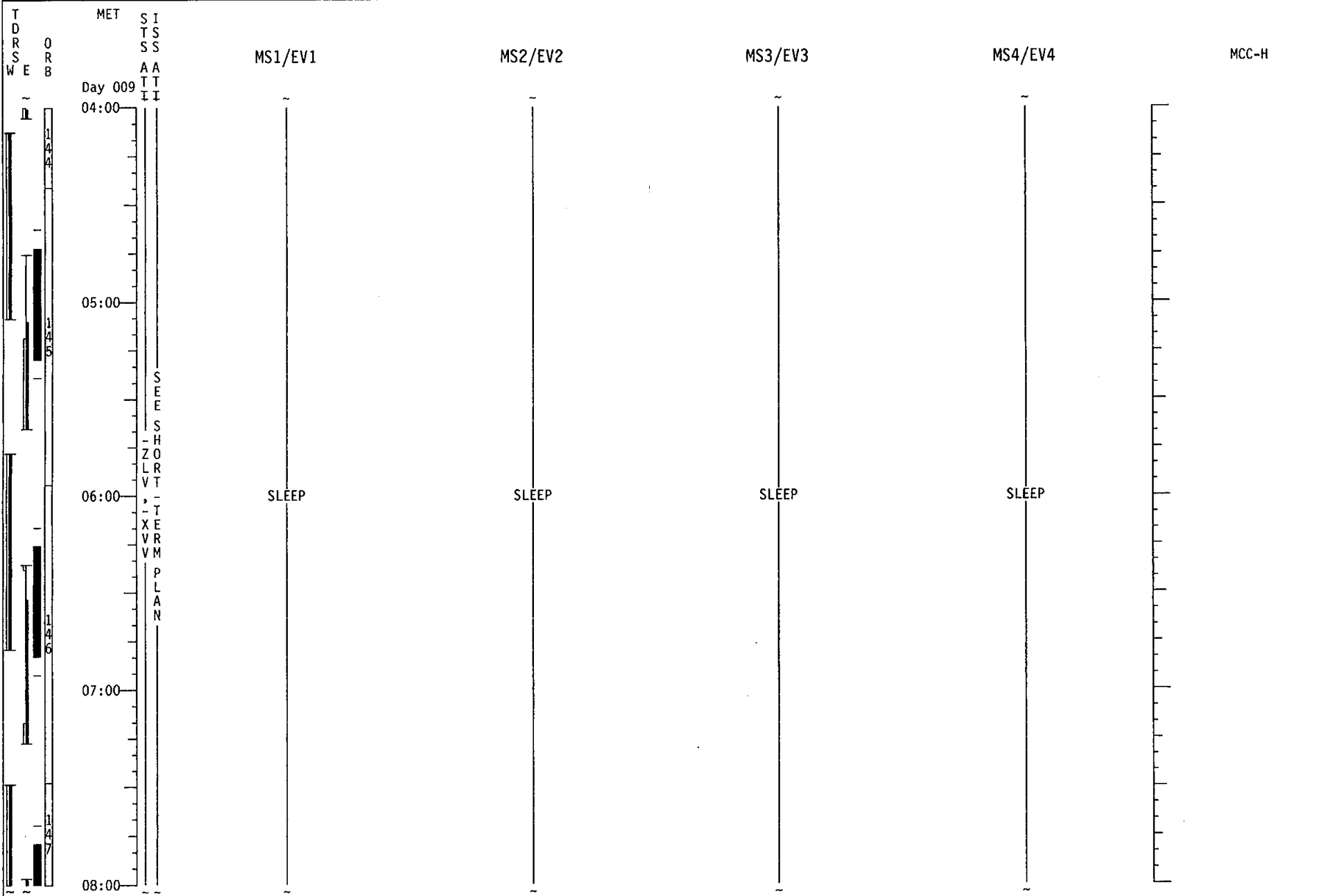
STS-92 (FD 10)



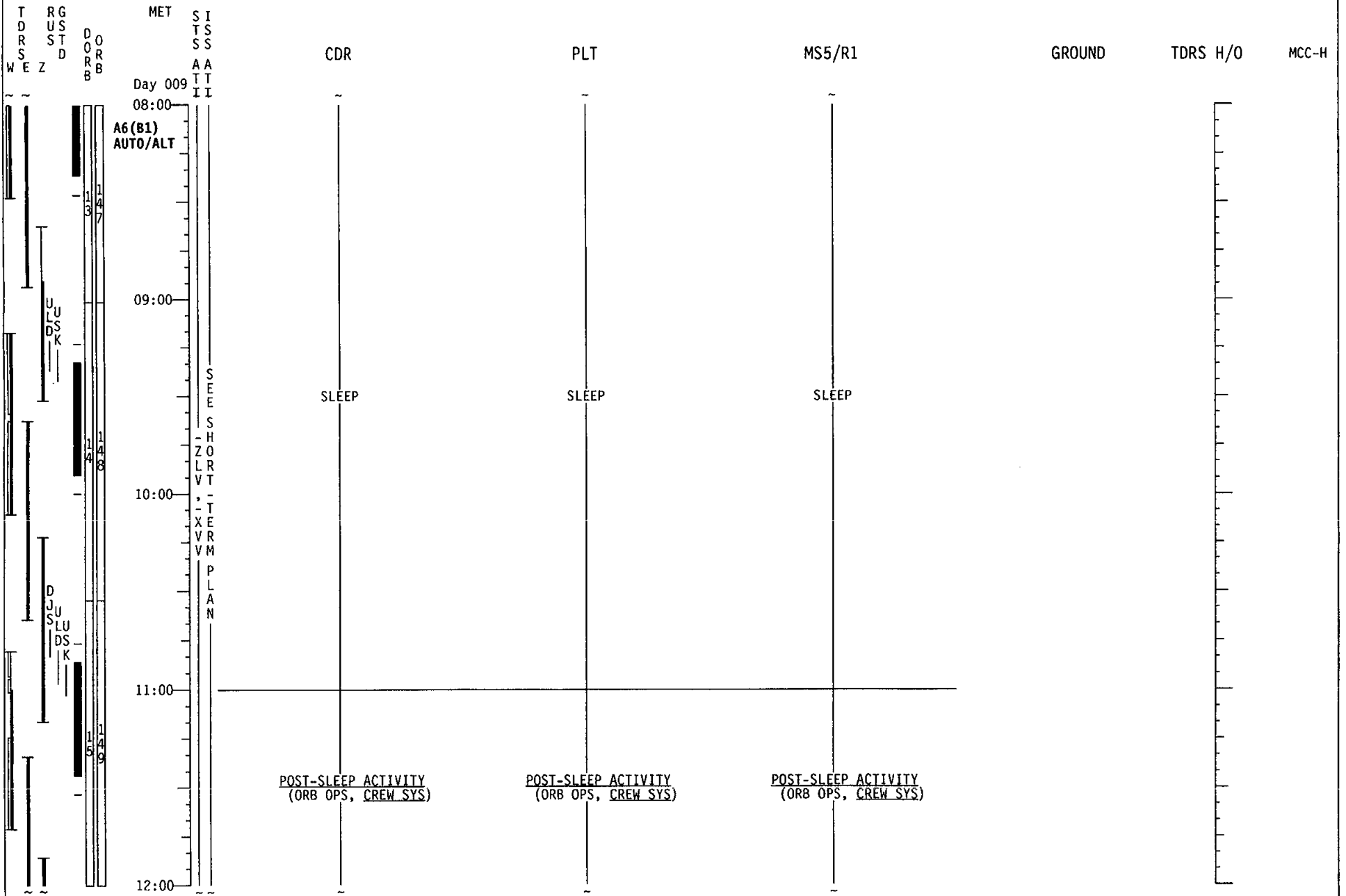
STS-92 (FD 10)



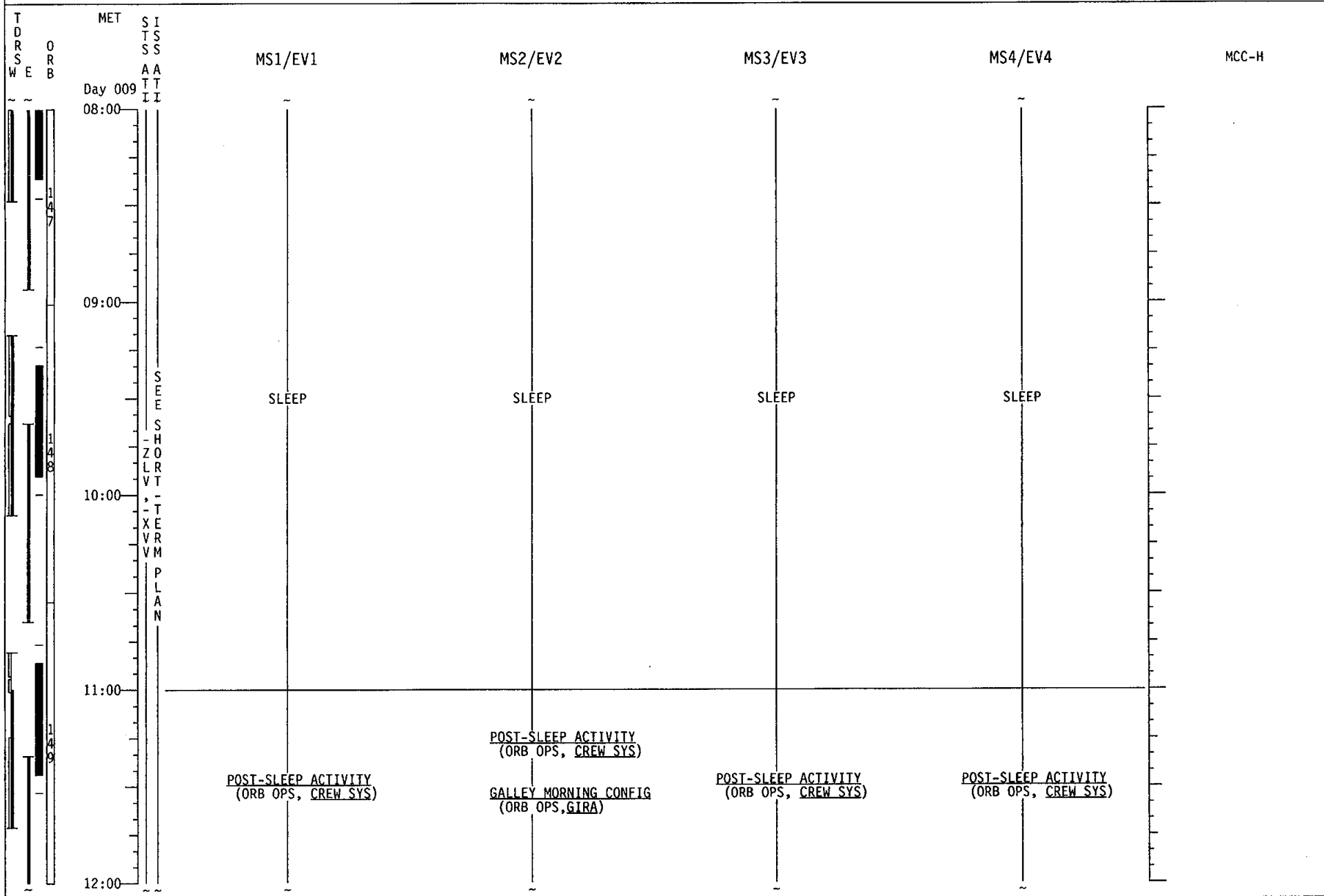
STS-92 (FD10)



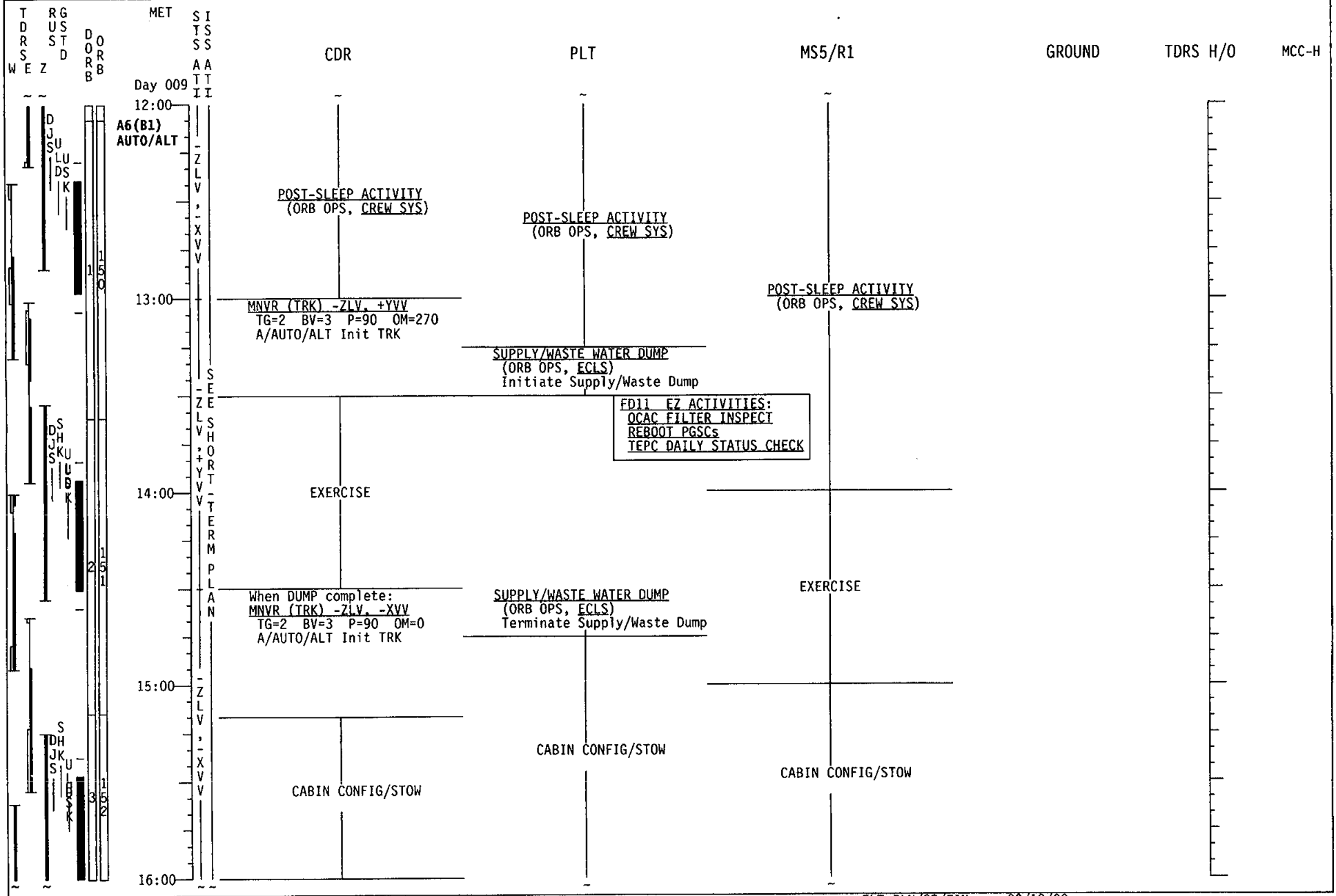
STS-92 (FD10)



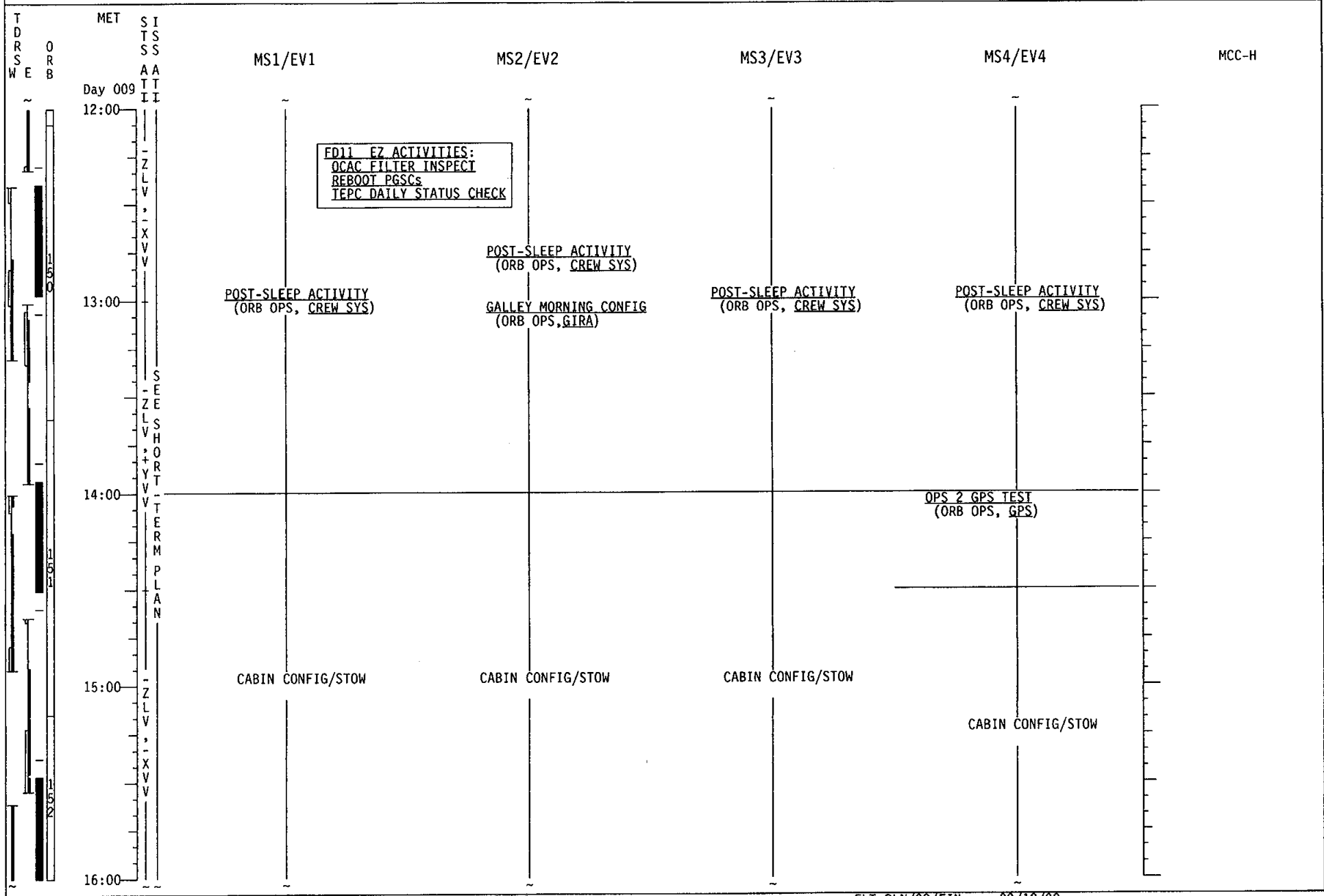
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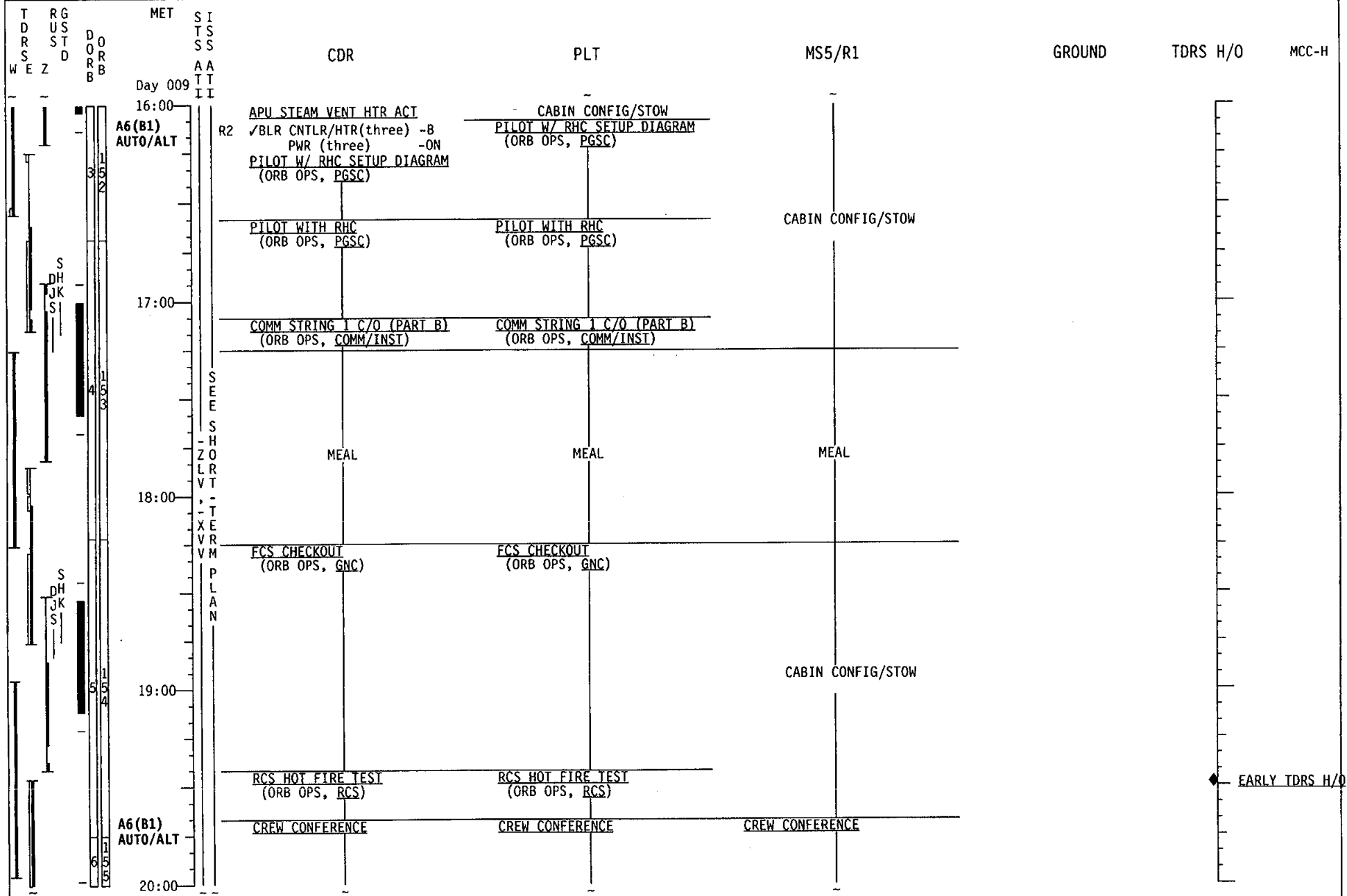
STS-92 (FD11)



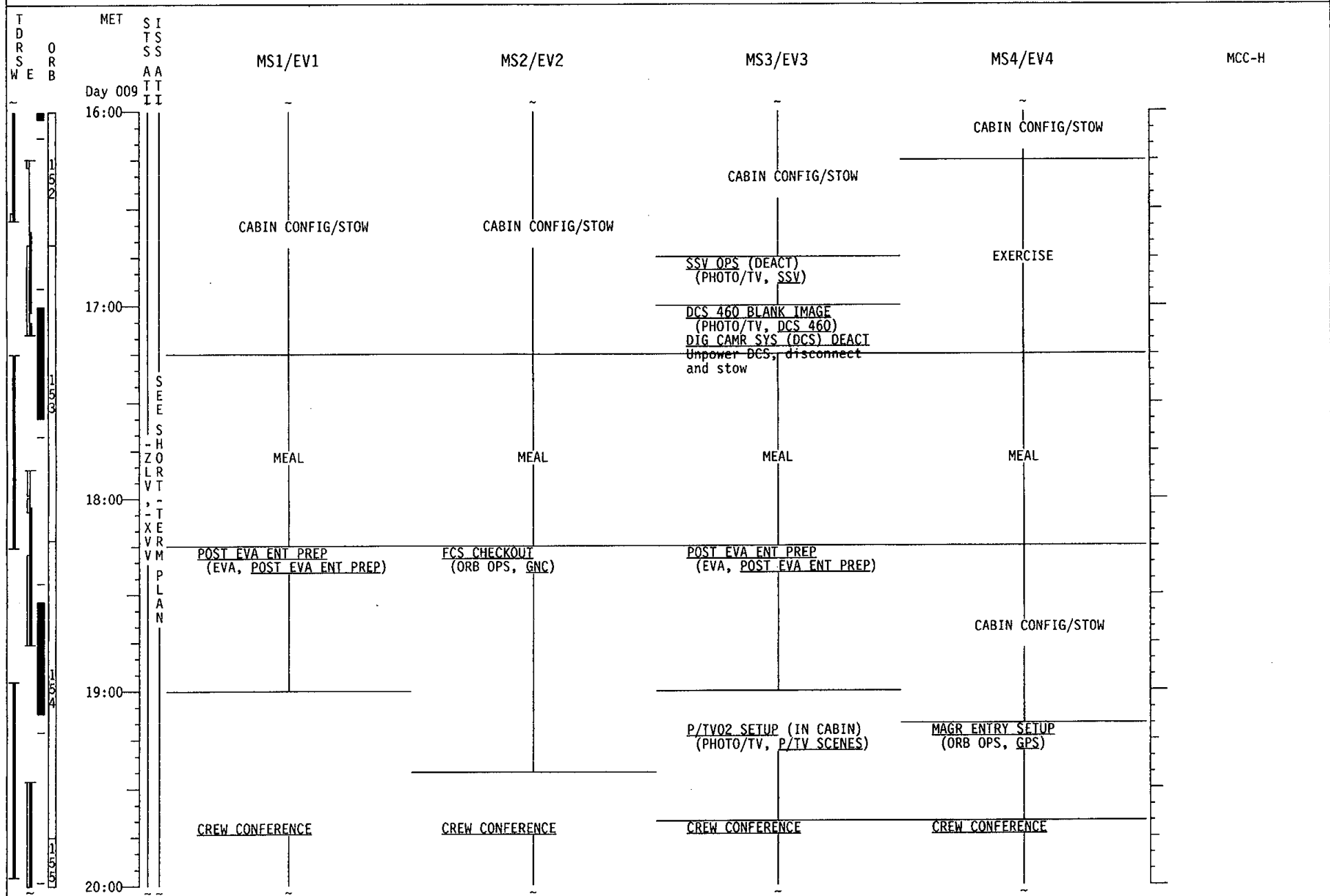
STS-92 (FD11)



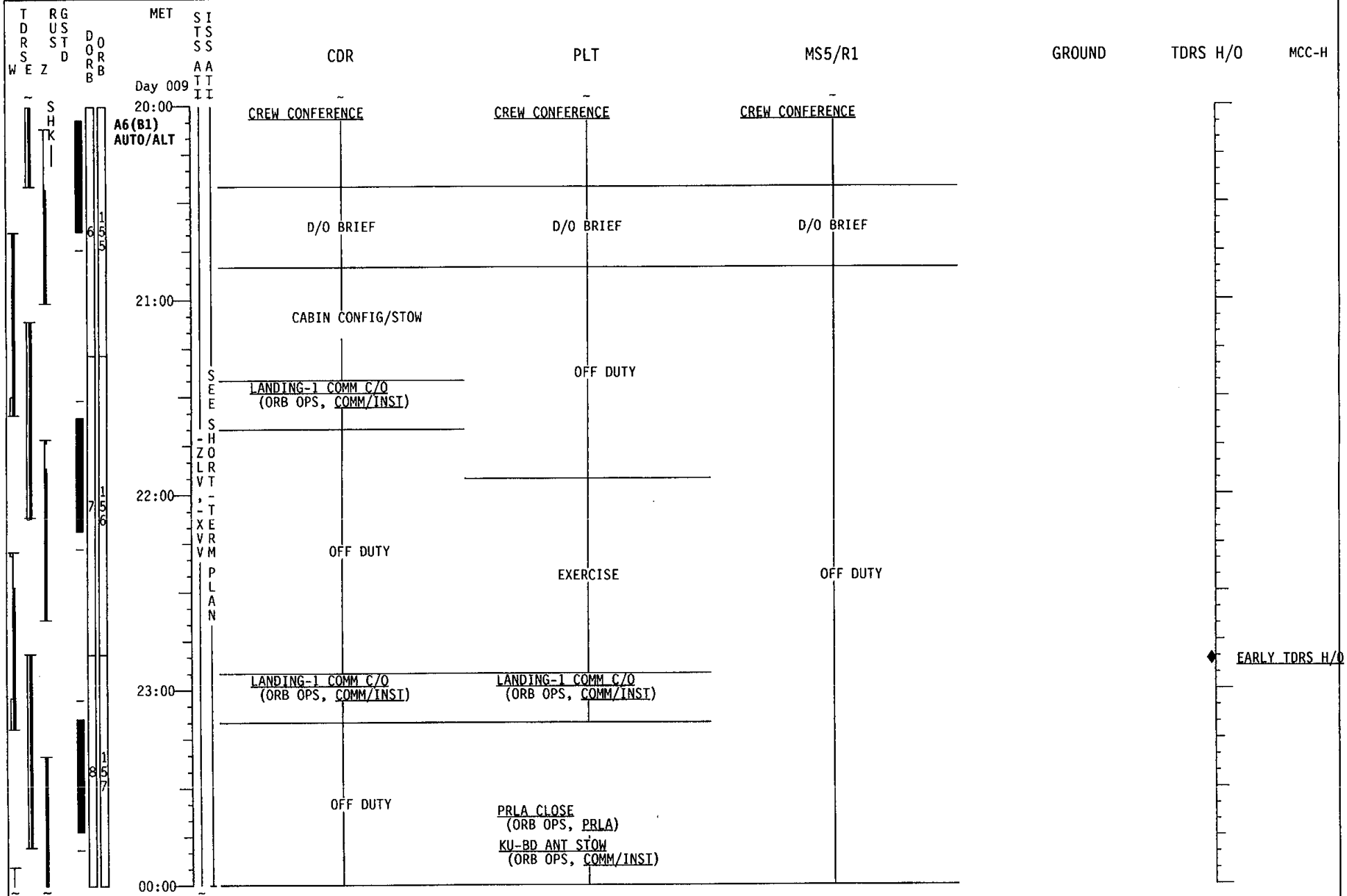
STS-92 (FD11)



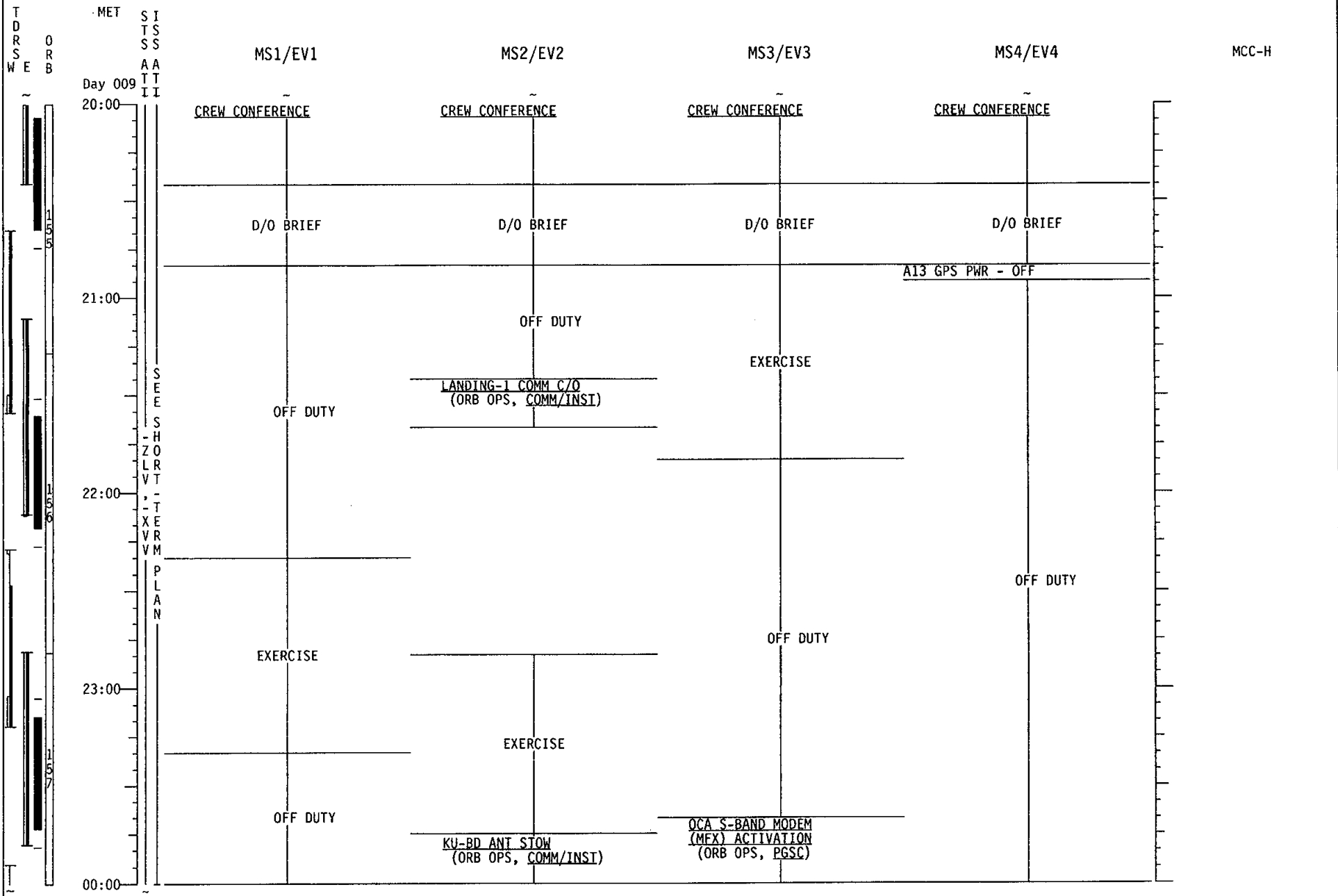
STS-92 (FD11)



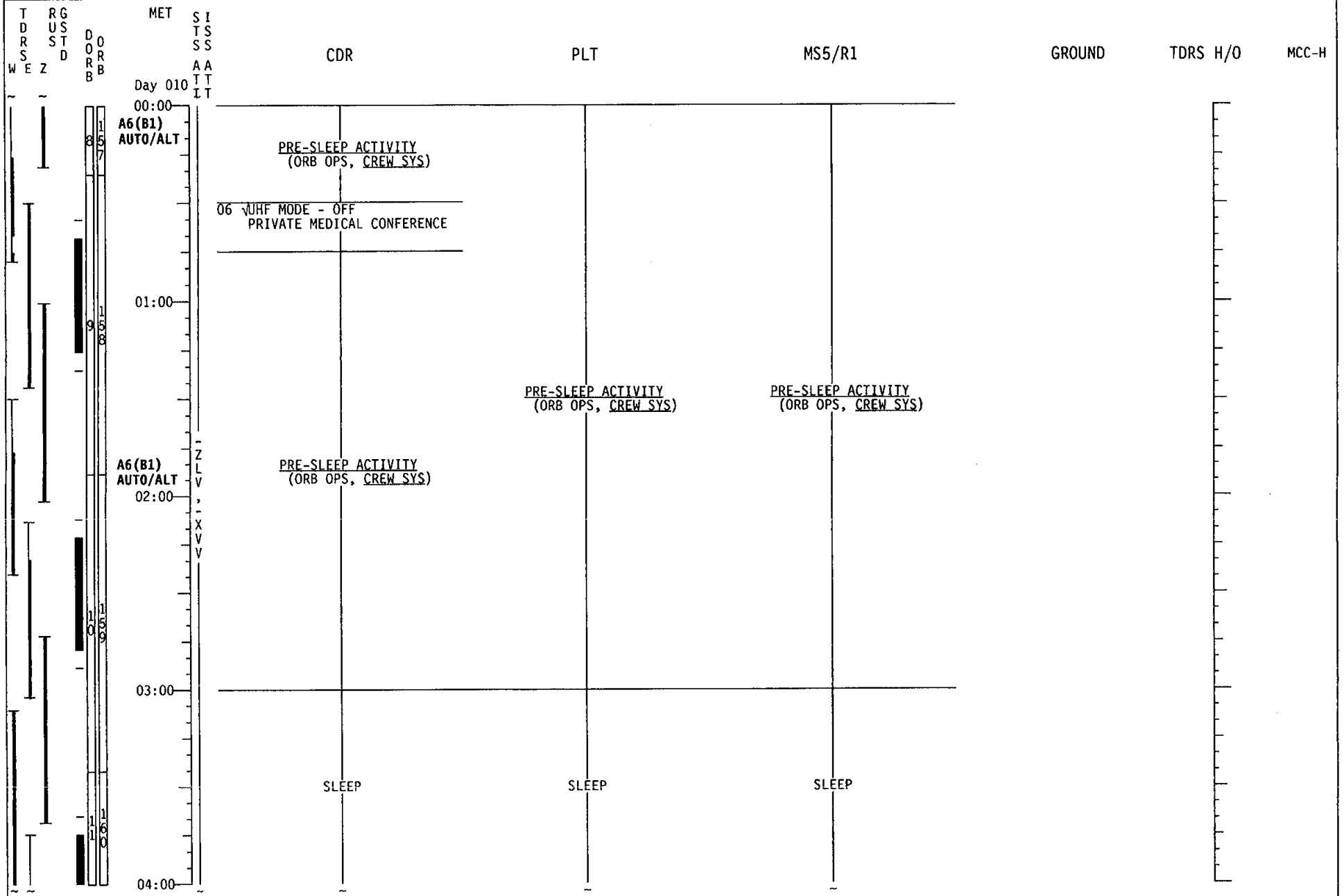
STS-92 (FD11)



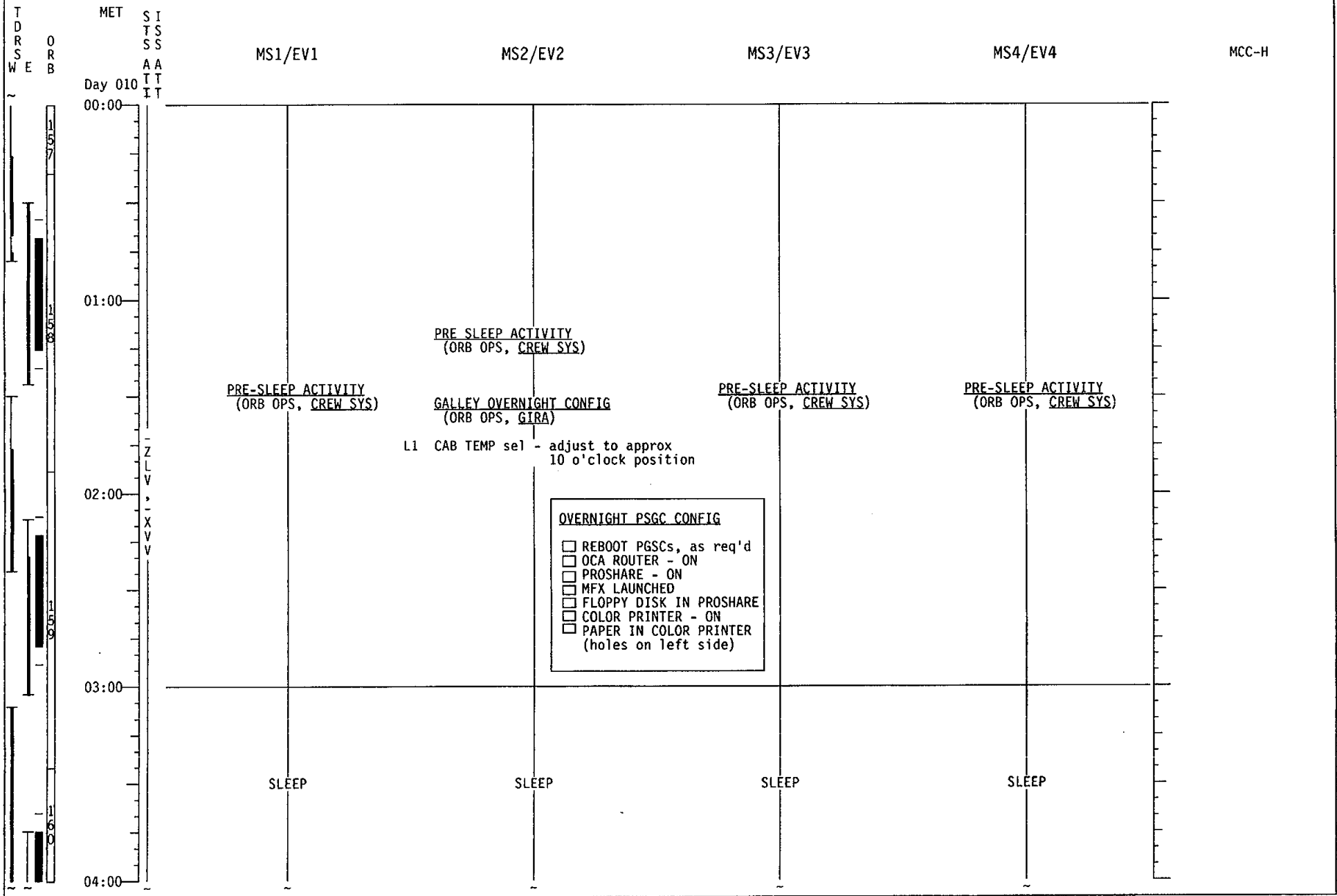
STS-92 (FD11)



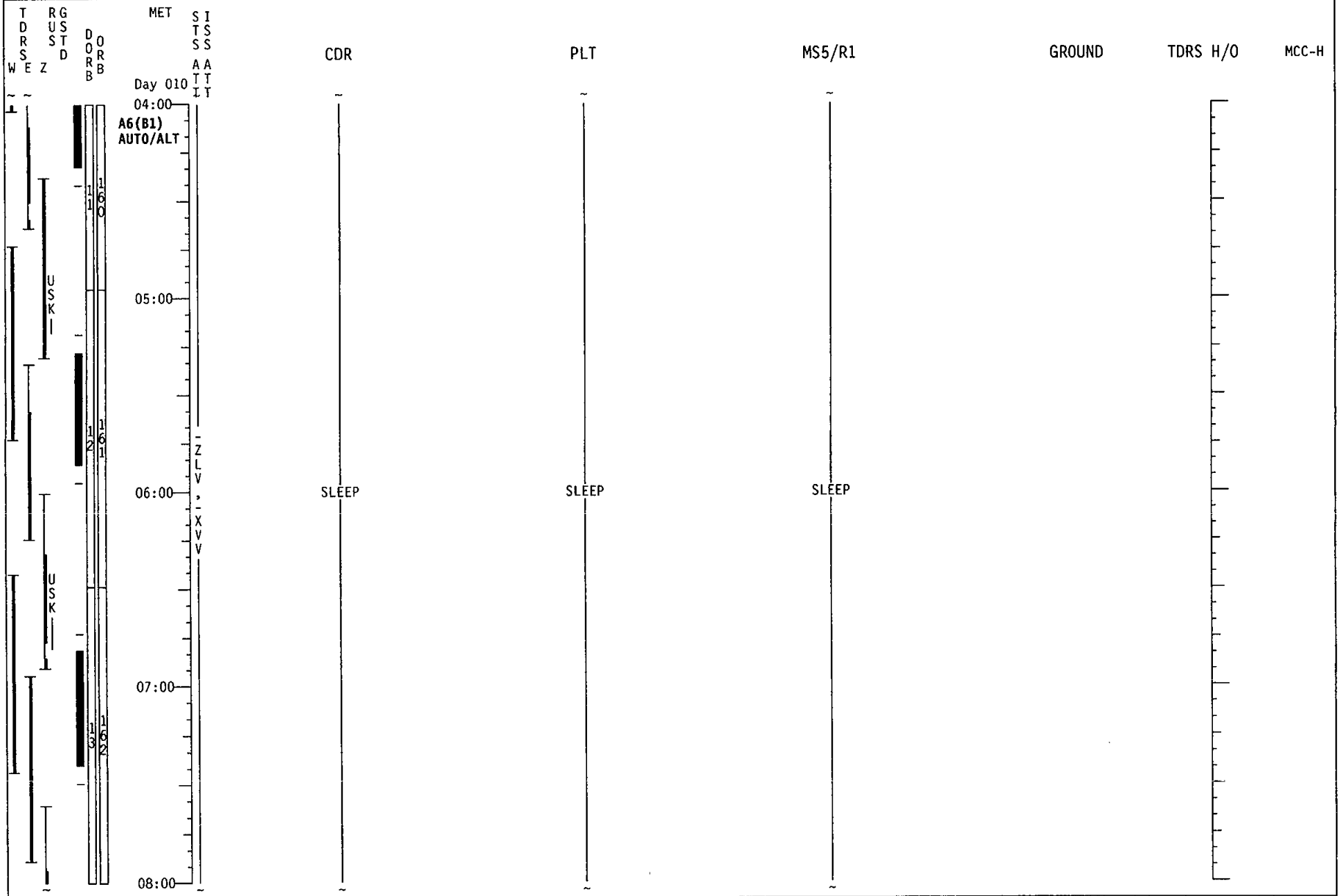
STS-92 (FD11)



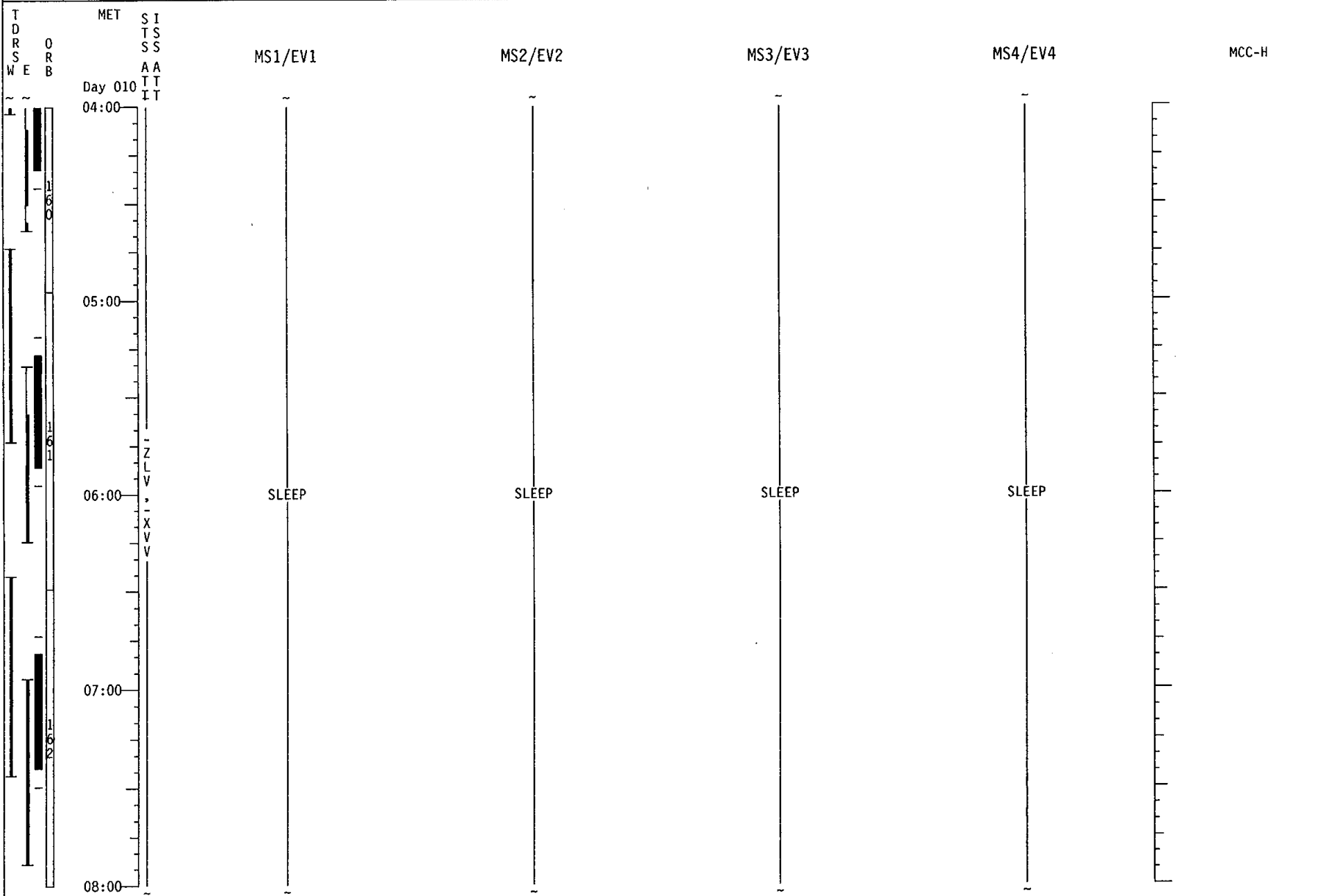
STS-92 (FD11)



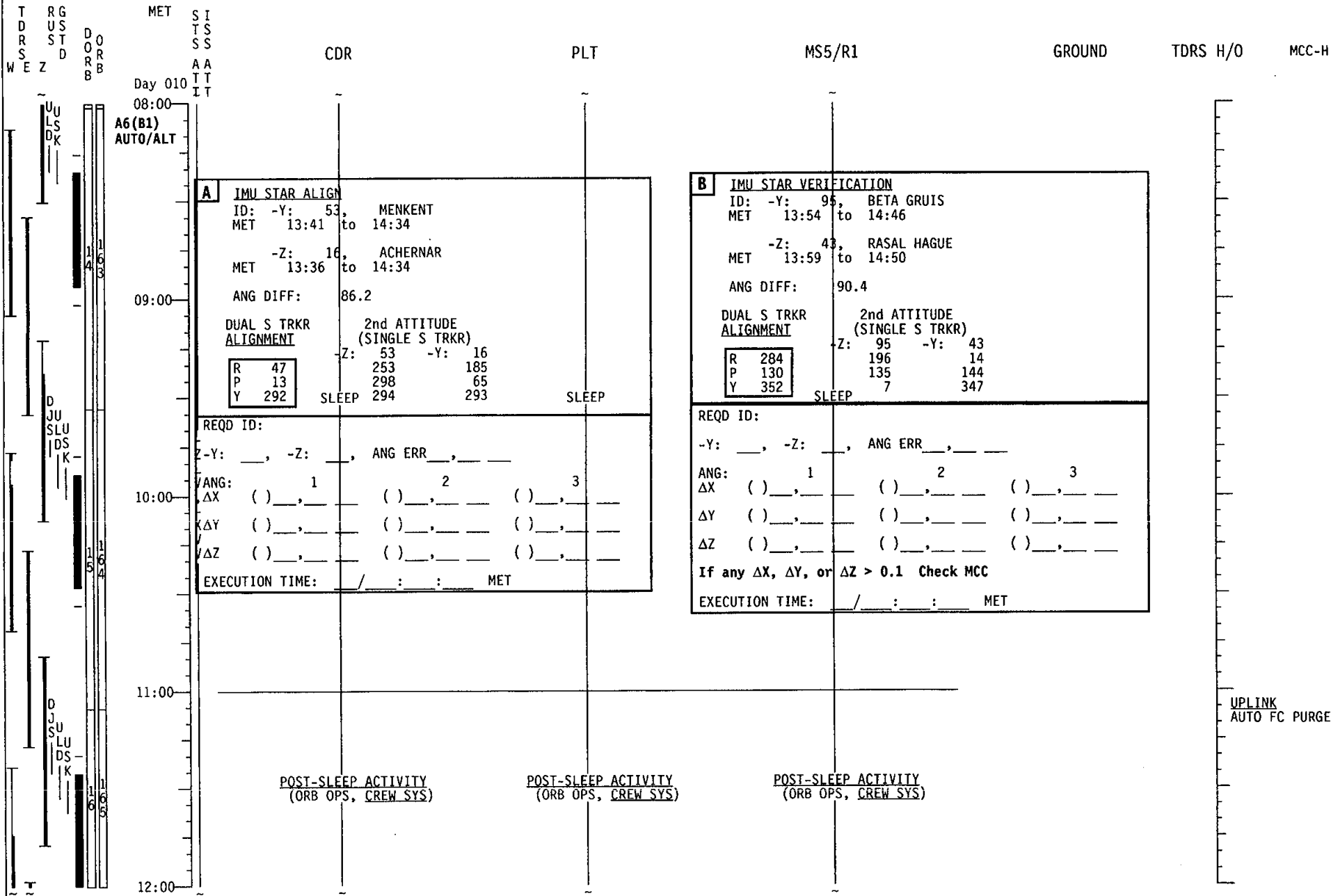
STS-92 (FD 11)



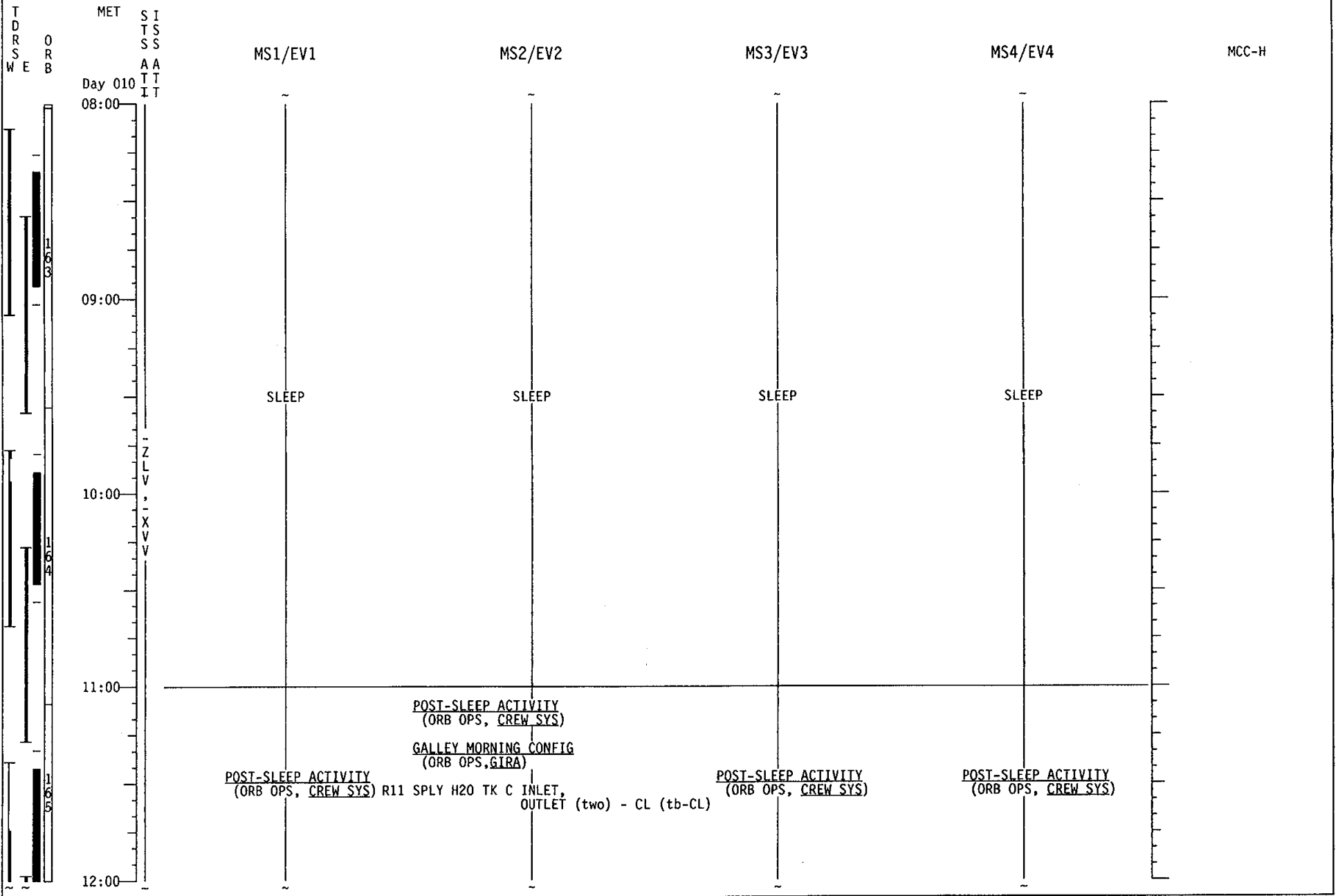
STS-92 (FD11)



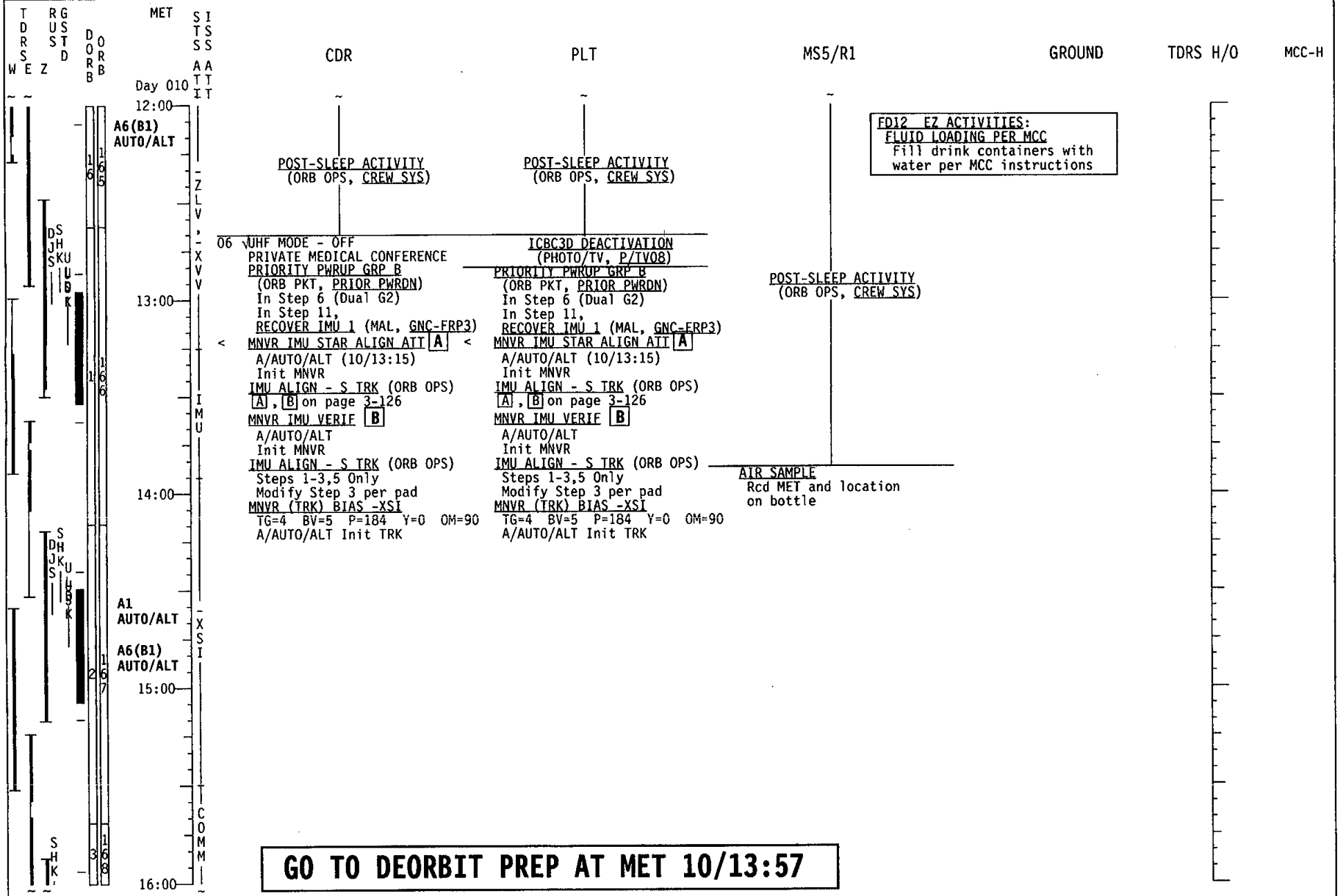
STS-92 (FD11)



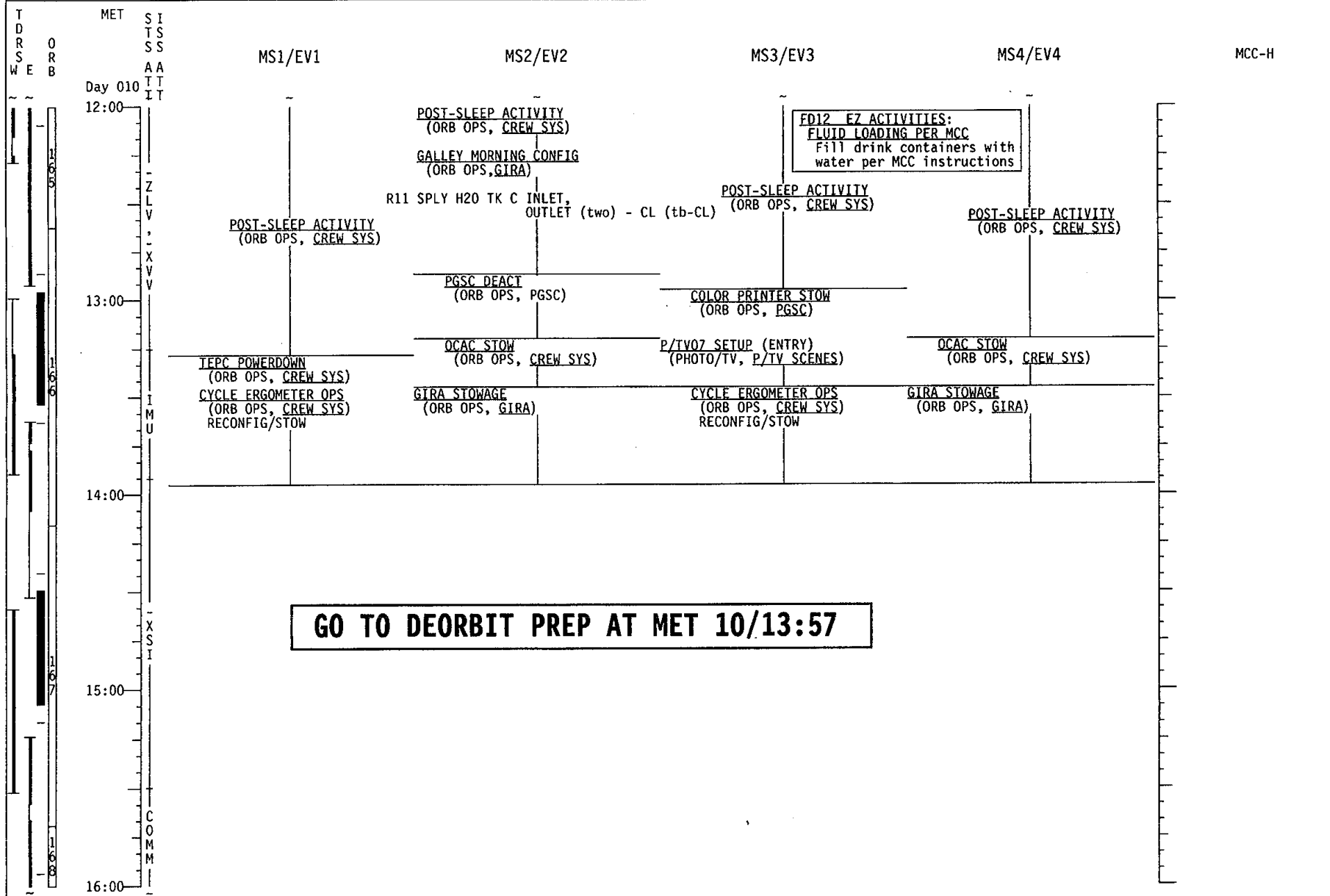
STS-92 (FD11)



STS-92 (FD12)



STS-92 (FD 12)



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Z1 AND PMA3 INTEGRATED PROCEDURES

Z1 AND PMA3
INTEG PROCS

Z1 AND PMA3 INTEG PROCS

Z1 INTEGRATED PROCEDURE CHECKLIST

NODE 1 ZENITH CBM PREP FOR MATE [2A]

MCC-H nominally performs steps 1 through 20 during crew sleep. Telemetry downlink is highly desired for steps 5, 8, 11, 21 - 24. Video downlink desired for steps 21 - 26; if LOS record video.

Z1 UNBERTH [2B]

A good petal cover deploy must be verified before Z1 is unberthed. (Flt Rule 3A 10C-14)
Due to CAMR B conflict, unberth cannot start until CBM petal cover deploy is verified (CBM PREP FOR MATE, step 26).

CBM THERMAL CLOCK [2C]

A 5 hour thermal clock starts for CBM components after CBM petal opening (CBM PREP FOR MATE, steps 21 - 26) and open petal exposure to direct sun with CBM controllers on. Nominal timeline has the open petals exposed to direct sun in the Z1 THRML MPA (+ZNN). The clock stops once the Z1 is in the SVS pre-install position (Z1 INSTALL, step 3).

Nominal timeline clock start 2/15:35
Actual clock start /_/:_

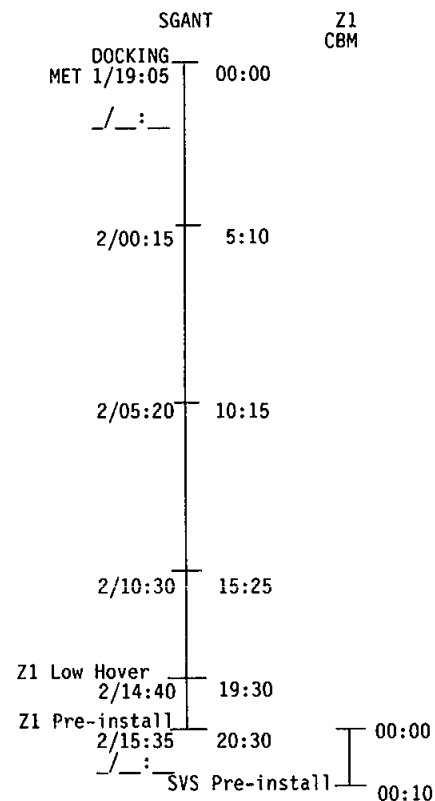
MNVR Z1 THERMAL MPA [2D]

Z1 must be out of the PLB before mnvrng to Z1 THRML MPA (+ZNN). If MNVR delayed tbd minutes, SASA must be put in the sun by an RMS mnvr.
In a contingency, the Z1 is thermally stable at the Pre-install position in the Z1 THRML MPA and can be left there overnight if required.

SGANT THERMAL CLOCK [2E]

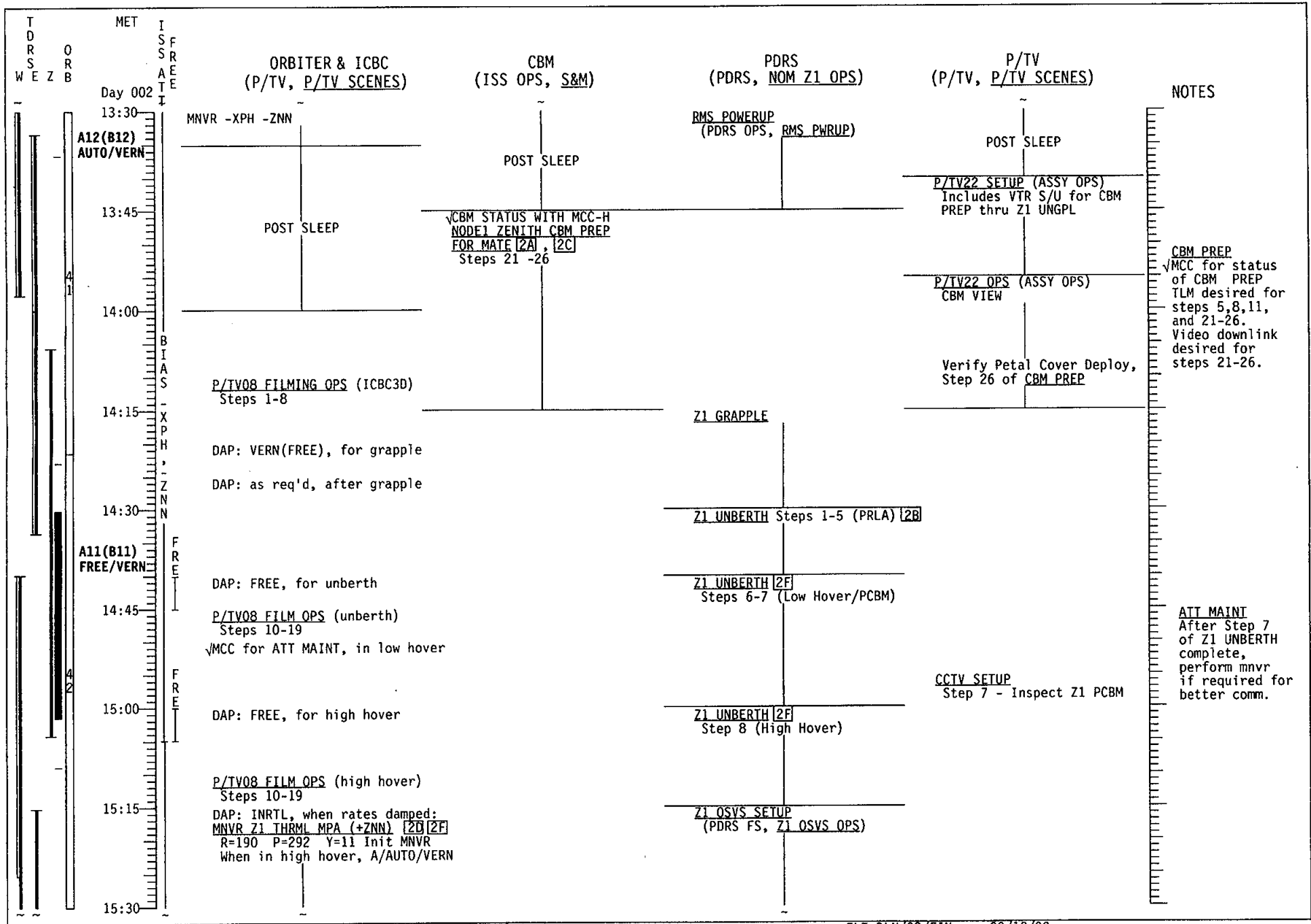
After docking, in the PLB the SGANT reaches its low limit in 20 hours for low beta (25 hours for high beta). (Flt Rule 3A 2C-60)

Thermal Clock Summary



ATTITUDE DEVIATIONS [2F]

From Low Hover to Pre-install, the Z1 truss can be any attitude for up to 2 hours (SGANT temperature constraint) as long as the N1-1 MDM keep out Zone, "Cone of Death", is not violated. (Flt Rule 3A 2C-60E)
Free drift periods less than 30 minutes don't count against the 2 hour SGANT constraint.



Z1 INTEGRATED PROCEDURE CHECKLIST

Z1 OSVS INSTALL 4A

Consistent lighting required for Z1 installation.
If target acquisition not completed within tbd
minutes, quit OSVS ops and continue with Z1
install.

CBM TELEMETRY REQUIREMENTS 4B

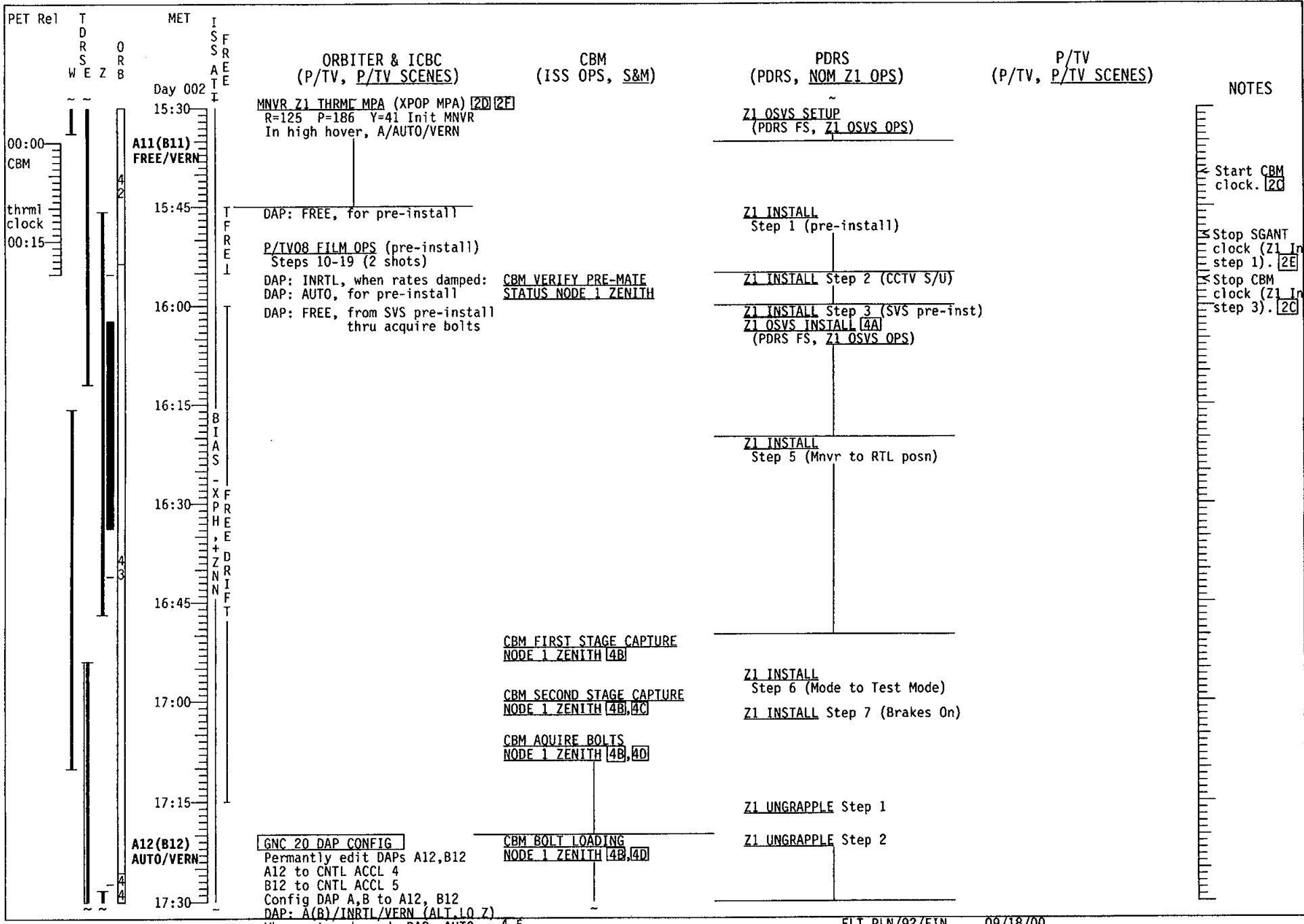
TLM mandatory for CBM 1st STAGE CAPTURE step 2,
CBM 2nd STAGE CAPTURE step 1, CBM ACQUIRE BOLTS
step 1, and CBM BOLT LOADING steps 1 - 6.
TLM desired for CBM BOLT LOADING step 7.

CONTIGENCY NODE 1 INGRESS 4C

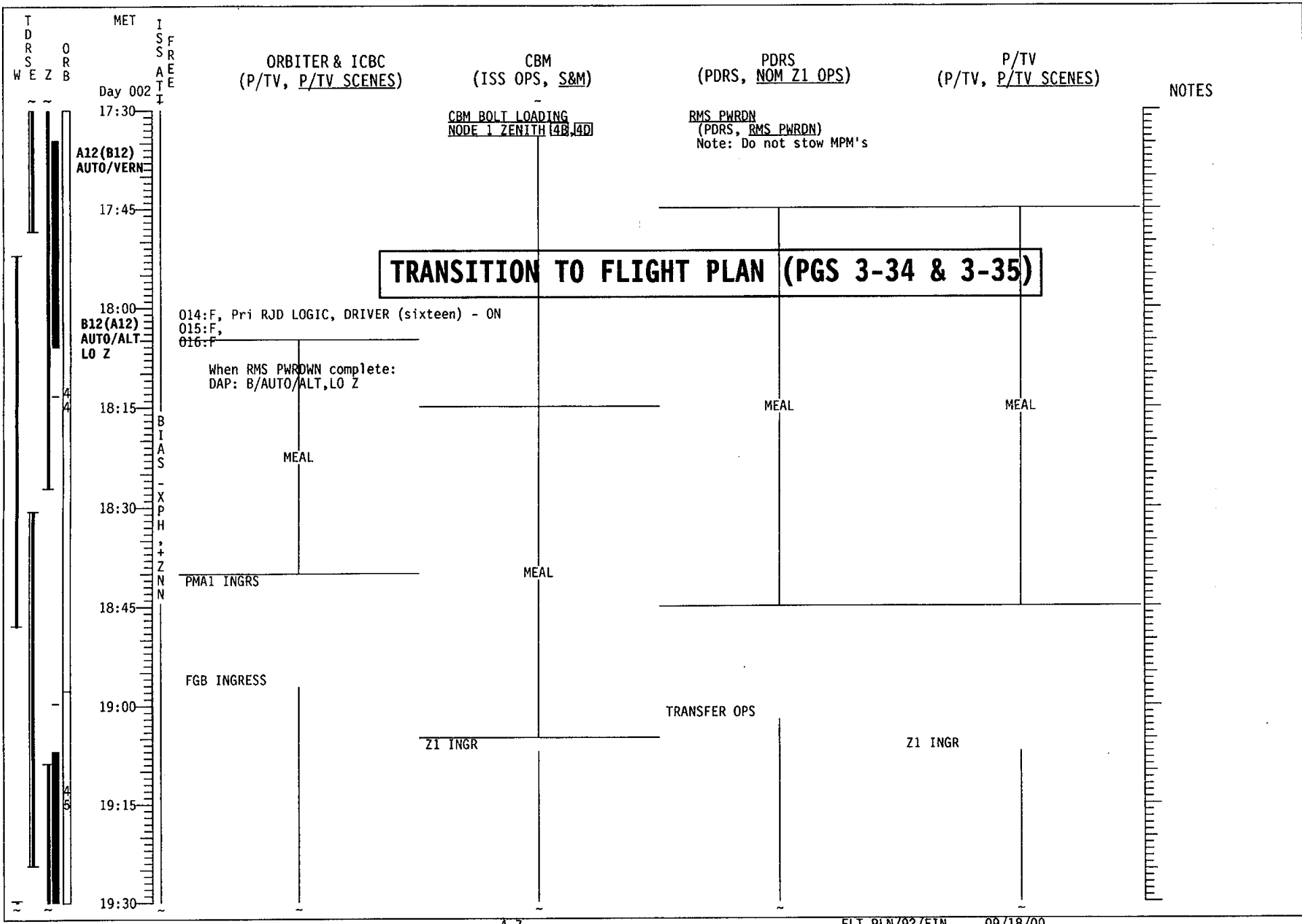
If contingency Node 1 ingress is required to
support Z1 install ops, then Node 1 egress should
be completed prior to CBM 2nd STAGE CAPTURE.

NODE 1 INGRESS 4D

Ingress may begin early, once the CBM ACQUIRE BOLTS
has been completed. Go for start of nominal ingress
ops after completion of final bolting (CBM BOLT
LOADING).



Z1 INTEGRATED PROCEDURE CHECKLIST



PMA3 INTEGRATED PROCEDURE CHECKLIST

NODE 1 NADIR CBM PREP FOR MATE 8A

MCC-H nominally performs steps 1 through 20 during crew sleep. Telemetry downlink is highly desired for steps 5, 8, 11, 21 - 24. Video downlink desired for steps 21 - 26; if LOS record video.

NODE 1 NADIR ACBM INSPECTION 8B

After step 2, go for starting CBM PREP FOR MATE, steps 21 - 26. The RMS will be in a good config to view the petal cover latches.

CBM THERMAL CLOCK 8C

A 5 hour thermal clock starts for CBM components after CBM petal opening (CBM PREP FOR MATE, steps 21 - 26) and open petal exposure to direct sun with CBM controllers on.

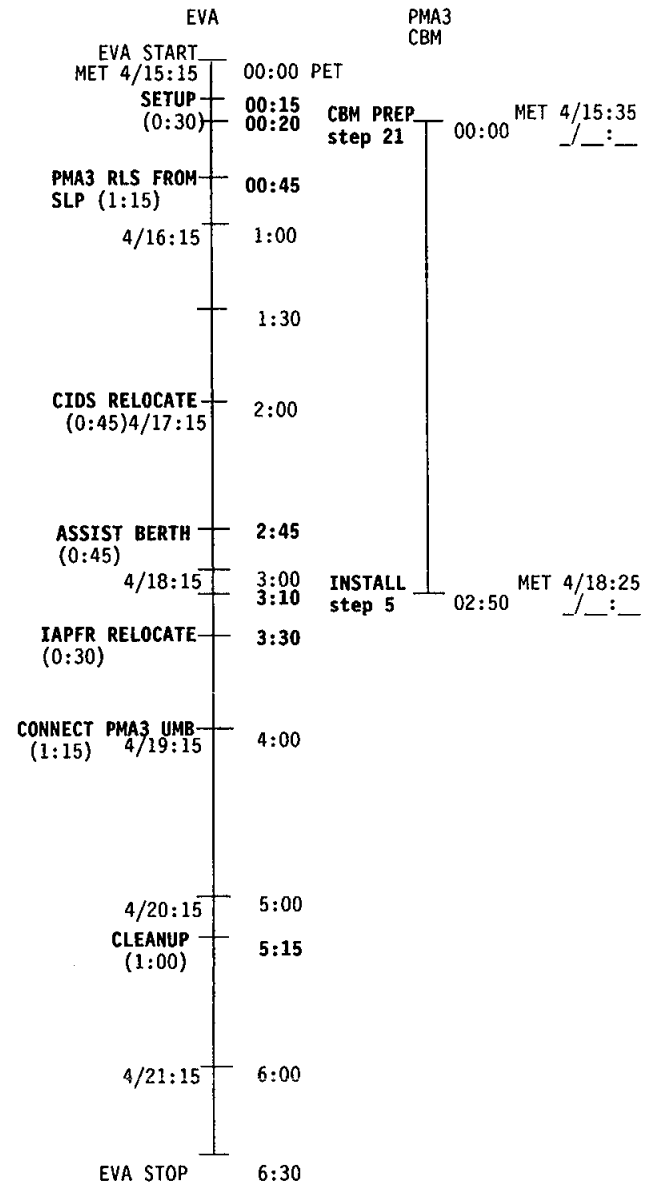
Nominal timeline has the open petals exposed to direct sun in the DAY PRCS MPA attitude.

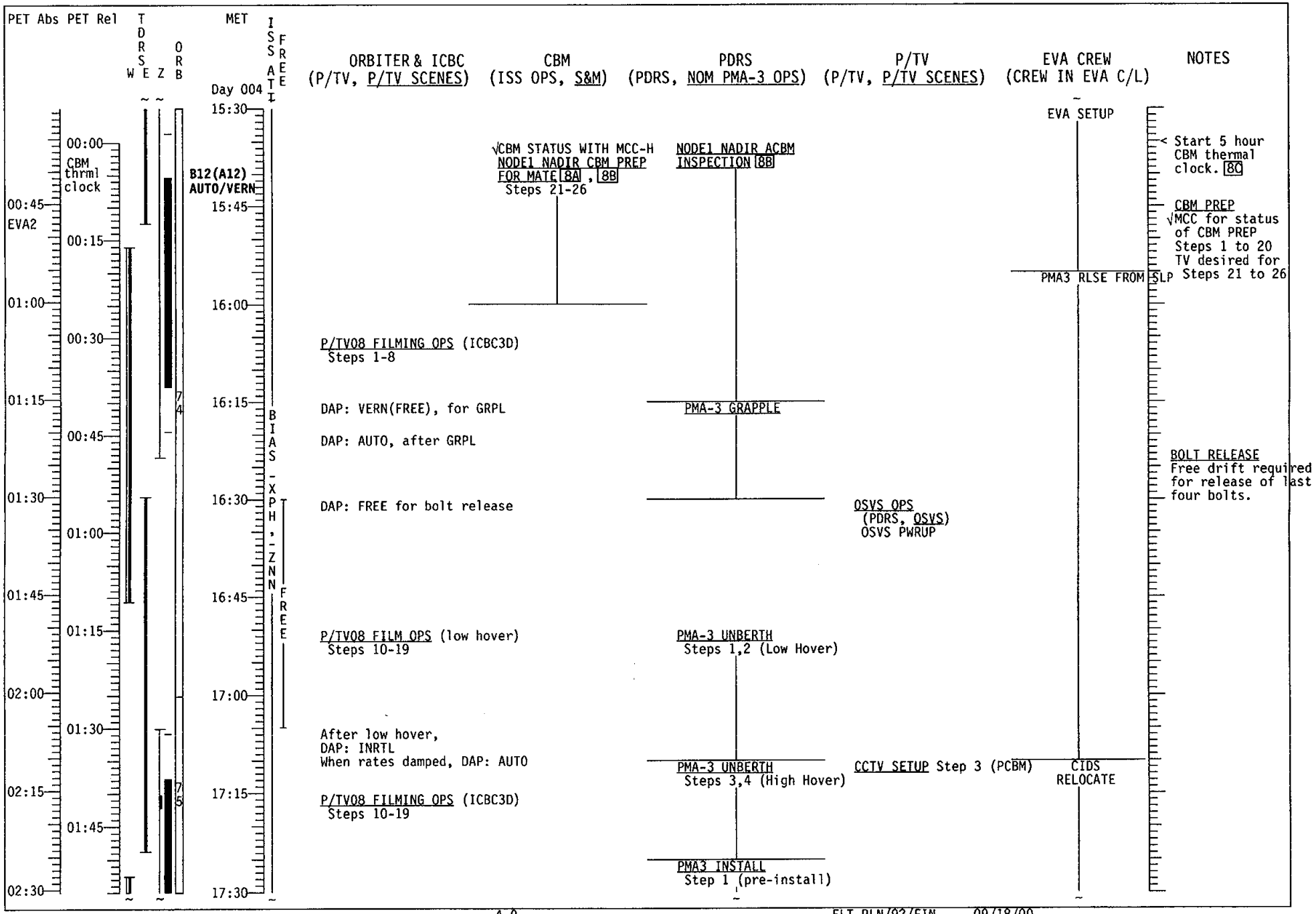
The clock stops once the PMA3 is in the RTL position (PMA3 INSTALL, step 5).

Nominal timeline clock start 4/15:35; stop 18:25

Actual clock start / : ; stop :

Clock Summary





ORBITER & ICBC
(P/TV, P/TV SCENES)

CBM
(ISS OPS, S&M)

PDRS
(PDRS, NOM PMA-3 OPS)

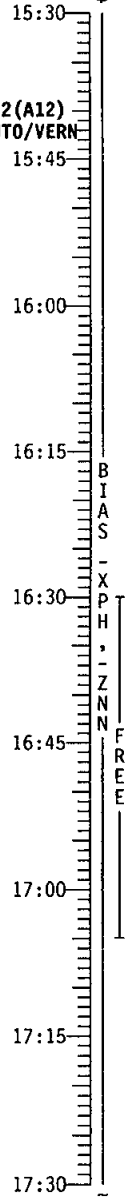
P/TV
(P/TV, P/TV SCENES)

EVA CREW
(CREW IN EVA C/L)

NOTES

Day 004

T D R S
W E Z B



√CBM STATUS WITH MCC-H
NODE1 NADIR CBM PREP
FOR MATE [8A], [8B]
Steps 21-26

NODE1 NADIR ACBM
INSPECTION [8B]

Start 5 hour
CBM thermal
clock. [8C]

CBM PREP
√MCC for status
of CBM PREP
Steps 1 to 20
TV desired for
Steps 21 to 26

P/TV08 FILMING OPS (ICBC3D)
Steps 1-8

DAP: VERN(FREE), for GRPL
DAP: AUTO, after GRPL

PMA-3 GRAPPLE

DAP: FREE for bolt release

OSVS OPS
(PDRS, OSVS)
OSVS PWRUP

BOLT RELEASE
Free drift required
for release of last
four bolts.

P/TV08 FILM OPS (low hover)
Steps 10-19

PMA-3 UNBERTH
Steps 1,2 (Low Hover)

After low hover,
DAP: INRTL
When rates damped, DAP: AUTO

PMA-3 UNBERTH
Steps 3,4 (High Hover)

CCTV SETUP Step 3 (PCBM)

CIDS
RELOCATE

P/TV08 FILMING OPS (ICBC3D)
Steps 10-19

PMA3 INSTALL
Step 1 (pre-install)

PMA3 INTEGRATED PROCEDURE CHECKLIST

PMA3 OSVS INSTALL 10A

Consistent lighting required for PMA installation. If target acquisition not completed within tbd minutes, quit OSVS ops and continue with PMA3 install.

CBM TELEMETRY REQUIREMENTS 10B

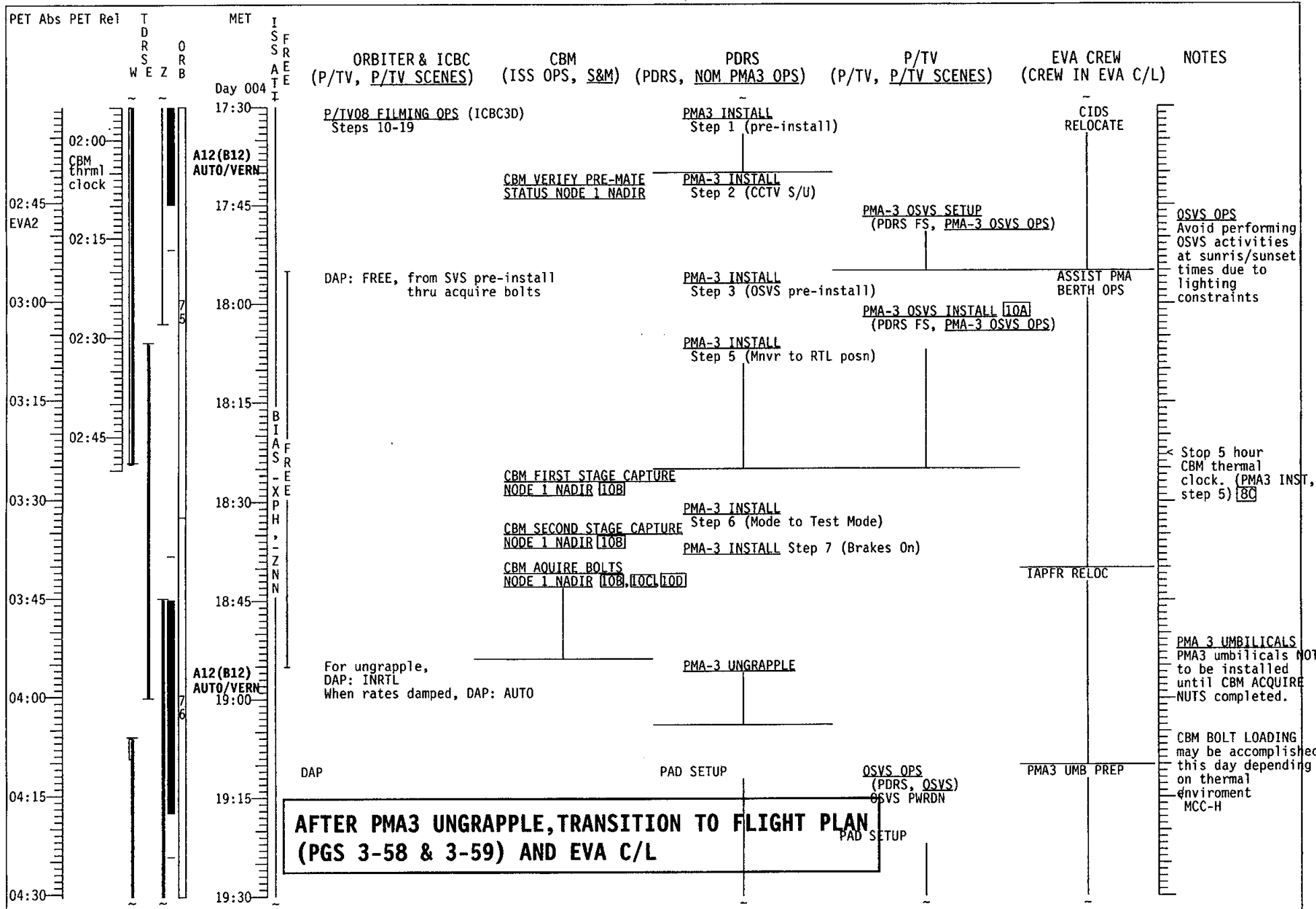
TLM mandatory for CBM 1st STAGE CAPTURE step 2, CBM 2nd STAGE CAPTURE step 1, CBM ACQUIRE BOLTS step 1.

PMA 3 UMBILICALS 10C

PMA3 umbilicals NOT to be installed until CBM ACQUIRE BOLTS completed.

CBM BOLT LOADING 10D

Bolt loading may be accomplished this day depending on thermal environment. $\sqrt{MCC-H}$ for bolt loading. If done this day, bolt loading to be done after PMA3 umbilicals connected. TLM mandatory for CBM BOLT LOADING steps 1 - 6. TLM desired for CBM BOLT LOADING step 7.



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STS-92 DAP TABLE

STS-92
DAP TABLE

**STS-92
DAP TABLE**

<u>DAP</u>	<u>PURPOSE</u>	<u>DAP</u>	<u>PURPOSE</u>
A1	- NOMINAL	B1	- NOM OMS & RCS BURNS
A2	- PTC	B2	- LOSS OF VERN (TAIL ONLY)
A3	- GG	B3	- LOSS OF VERN (ALL)
A4	- REBOOST OF MATED STACK	B4	- SSUS DEPLOY
A5	- LOSS OF VERN (ALL)	B5	- COAS/HUD CAL
A6	- LOSS OF VERS (TAIL ONLY)	B6	- NOM OMS/RCS BURNS
A7	- RNDZ	B7	- RNDZ
A8	- TERMINAL PHASE	B8	- TERMINAL PHASE
A9	- PROX OPS/FLYAROUND	B9	- PROX OPS/FLYAROUND
A10	- DOCKING	B10	- DOCKING
A11	- Z1 RMS OPS	B11	- Z1 RMS OPS
A12	- MATED STACK (MNVR & HOLD)	B12	- MATED STACK (MNVR & HOLD)
A13	- FAILED CAPTURE	B13	- FAILED CAPTURE
A14	-	B14	-
A15	- PRCS TEST	B15	- PRCS TEST

DAPs FOR MATED OPS ARE BASED ON ANALYSIS FROM
GNC, PDRS, AND DRAPER LABS

UNIV PTG	
TGT ID	= 1 Orbiting Vehicle = 2 Earth ctr = 3 Earth tgt Input LAT (± 90) LON (± 180 , + = Earth) ALT (-3444.0 to 20000.0 nm)
	= 4 Sun ctr = 5 Celestial tgt Input RA (0-359.99) DEC (± 90) = 11-110 Nav Stars
BODY VECT	= 1 +X* = 2 -X* = 3 -Z* = 4 -Y Star Tracker* = 5 Optional Input P (0-359.99) Y (270-359.99, 0-90)
* input OM \rightarrow	OM (0-359.99)
MON AXIS	= 1 +X = 2 -X

CNTL ACC = 0	UNLOADED RMS
= 1	MATED STACK MANEUVERS (DOCK TO Z1 INSTALL), VRCS
= 2	MATED STACK MANEUVERS (DOCK TO Z1 INSTALL), PRCS
= 3	Z1 TRUSS INSTALL (RMS OPS)
= 4	MATED STACK MANEUVERS (POST-Z1 INSTALL TO UNDOCK), VRCS
= 5	MATED STACK MANEUVERS (POST-Z1 INSTALL TO UNDOCK), PRCS
= 6	REBOOST OF MATED STACK
= 7	Z1 SGANT & SASA THERMAL CONTROL (RMS OPS)
= 8-9	NOT USED

STS-92 GENERIC DAP A CONFIGURATIONS

	ITEM #	A1	A2	A3	A4	A5	A6	A7	A8
PRI									
ROT RATE	10(50)	0.2000	0.4000	0.2000	0.0500	0.2000	0.2000	0.2000	0.0500
ATT DB	11(51)	5.00	1.00	0.30	40.00	5.00	5.00	2.00	2.00
RATE DB	12(52)	0.20	0.20	0.20	5.00	0.20	0.20	0.20	0.20
ROT PLS	13(53)	0.10	0.10	0.10	0.04	0.10	0.10	0.10	0.10
COMP	14(54)	.000	.000	.000	.000	.000	.000	.000	.000
P OPTION	15(55)	ALL	ALL	ALL	ALL	ALL	TAIL	ALL	ALL
Y OPTION	16(56)	ALL	ALL	TAIL	ALL	ALL	TAIL	ALL	ALL
TRAN PLS	17(57)	0.10	0.10	0.10	1.00	0.10	0.10	0.10	0.10
ALT									
RATE DB	18(58)	0.200	0.200	0.070	0.200	0.070	0.070	0.100	0.100
JET OPT	19(59)	ALL	ALL	ALL	ALL	ALL	TAIL	ALL	ALL
# JETS	20(60)	2	2	1	2	1	1	2	2
ON TIME	21(61)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	22(62)	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00
VERN									
ROT RATE	23(63)	0.2000	0.4000	0.0080	0.1000	0.0500	0.0500	0.0160	0.0500
ATT DB	24(64)	1.000	1.000	0.070	5.000	1.000	1.000	1.000	1.000
RATE DB	25(65)	.020	.020	.010	.200	.020	.020	.020	.020
ROT PLS	26(66)	0.010	0.010	0.010	0.020	0.010	0.010	0.010	0.050
COMP	27(67)	.000	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	28(68)	0	0	0	6	0	0	0	0
PURPOSE		NOMINAL	PTC	GG	REBOOST OF MATED STACK	LOSS OF VERN (ALL)	LOSS OF VERN (TAIL ONLY)	RNDZ	TERMINAL PHASE

Note: **BOLD-ITALIC** indicate a change from I-load

STS-92 FLT SPECIFIC DAP A CONFIGURATIONS

	ITEM #	A9	A10	A11	A12	A13	A14	A15
PRI								
ROT RATE	10(50)	0.1300	0.0500	0.1000	0.1000	0.0500	0.2000	0.1000
ATT DB	11(51)	1.00	0.50	5.00	5.00	1.00	5.00	40.00
RATE DB	12(52)	0.10	0.10	0.20	0.20	0.10	0.20	5.00
ROT PLS	13(53)	0.10	0.10	0.04	0.04	0.10	0.10	0.28
COMP	14(54)	.000	.000	.000	.000	.000	.000	.000
P OPTION	15(55)	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	ALL
Y OPTION	16(56)	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	TAIL
TRAN PLS	17(57)	0.05	0.05	0.01	0.01	0.05	0.10	0.10
ALT								
RATE DB	18(58)	0.100	0.100	0.070	0.070	0.200	0.200	5.000
JET OPT	19(59)	TAIL	TAIL	TAIL	TAIL	ALL	ALL	ALL
# JETS	20(60)	2	2	3	3	2	2	1
ON TIME	21(61)	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	22(62)	0.00	0.00	12.00	12.00	0.00	0.00	12.00
VERN								
ROT RATE	23(63)	0.1300	0.0500	0.1000	0.1000	0.0500	0.2000	0.1000
ATT DB	24(64)	1.000	0.500	3.000	3.000	1.000	1.000	40.000
RATE DB	25(65)	.020	.020	.050	.050	.020	.020	.500
ROT PLS	26(66)	0.050	0.050	0.002	0.002	0.050	0.010	0.010
COMP	27(67)	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	28(68)	0	0	3,7*	1,4**	0	0	0
PURPOSE		PROX OPS/ FLY AROUND	DOCKING	Z1 TRUSS RMS OPS	MATED STACK MNVR & HOLD (VRCS)	FAILED CAPTURE		DTO 257 PRCS TEST

BOLD-ITALIC indicate a change from the I-load

*CNTL ACC will be modified by crew cor contingency Z1 RMS OPS (SGANT and SASA THERMAL CONTROL)

**This value will be modified by crew after Z1 installed

STS-92 GENERIC DAP B CONFIGURATIONS

	ITEM #	B1	B2	B3	B4	B5	B6	B7	B8
PRI									
ROT RATE	30(50)	0.5000	0.2000	0.2000	0.2000	0.2000	0.5000	0.5000	0.0500
ATT DB	31(51)	3.00	3.00	3.00	0.30	3.00	3.00	2.00	2.00
RATE DB	32(52)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.10
ROT PLS	33(53)	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
COMP	34(54)	.000	.000	.000	.000	.000	.000	.000	.000
P OPTION	35(55)	ALL	TAIL	ALL	TAIL	TAIL	ALL	ALL	ALL
Y OPTION	36(56)	ALL	TAIL	ALL	TAIL	TAIL	ALL	ALL	ALL
TRAN PLS	37(57)	0.10	0.02	0.02	0.02	0.02	0.02	0.05	0.05
ALT									
RATE DB	38(58)	0.200	0.070	0.070	0.200	0.200	0.200	0.100	0.100
JET OPT	39(59)	ALL	TAIL	ALL	ALL	ALL	ALL	ALL	ALL
# JETS	40(60)	2	1	1	2	2	2	2	2
ON TIME	41(61)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	42(62)	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00
VERN									
ROT RATE	43(63)	0.2000	0.2000	0.2000	0.0080	0.0160	0.2000	0.2000	0.0500
ATT DB	44(64)	1.000	1.000	1.000	0.100	0.033	1.000	1.000	1.000
RATE DB	45(65)	.020	.020	.020	.010	.020	.020	.020	.020
ROT PLS	46(66)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.020
COMP	47(67)	.000	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	48(68)	0	0	0	0	0	0	0	0
PURPOSE		NOM OMS & RCS BURNS	LOSS OF VERN (TAIL ONLY)	LOSS OF VERN (ALL)	SSUS DEPLOY	COAS/HUD CAL	NOM OMS/ RCS BURNS	RNDZ	TERMINAL PHASE

Note: **BOLD-ITALIC** indicate a change from I-load

STS-92 FLT SPECIFIC DAP B CONFIGURATIONS

	ITEM #	B9	B10	B11	B12	B13	B14	B15
PRI								
ROT RATE	30(50)	0.1300	0.0500	0.1000	0.1000	0.0500	0.5000	0.1000
ATT DB	31(51)	1.00	0.50	5.00	5.00	1.00	3.00	40.00
RATE DB	32(52)	0.10	0.10	0.20	0.20	0.10	0.20	5.00
ROT PLS	33(53)	0.04	0.04	0.04	0.04	0.04	0.04	0.04
COMP	34(54)	.000	.000	.000	.000	.000	.000	.000
P OPTION	35(55)	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	ALL
Y OPTION	36(56)	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	ALL
TRAN PLS	37(57)	0.01	0.01	0.01	0.01	0.01	0.02	0.02
ALT								
RATE DB	38(58)	0.100	0.100	0.070	0.070	0.200	0.200	0.500
JET OPT	39(59)	TAIL	TAIL	TAIL	TAIL	ALL	ALL	ALL
# JETS	40(60)	2	2	3	3	2	2	1
ON TIME	41(61)	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	42(62)	0.00	0.00	12.00	12.00	0.00	0.00	0.00
VERN								
ROT RATE	43(63)	0.1300	0.0500	0.1000	0.1000	0.0500	0.2000	0.1000
ATT DB	44(64)	1.000	0.500	3.000	3.000	1.000	1.00	40.00
RATE DB	45(65)	.020	.020	.050	.080	.020	.020	.500
ROT PLS	46(66)	0.020	0.020	0.002	0.002	0.020	0.002	0.010
COMP	47(67)	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	48(68)	0	0	3,7*	2,5**	0	0	5
PURPOSE		PROX OPS/ FLY AROUND	DOCKING	Z1 TRUSS RMS OPS	MATED STACK MNVR & HOLD (PRCS)	FAILED CAPTURE		DTO 257 PRCS TEST

BOLD-ITALIC indicate a change from I-load or prior flight DAP configuration

*CNTL ACC will be modified by crew cor contingency Z1 RMS OPS (SGANT and SASA THERMAL CONTROL)

**This value will be modified by crew after Z1 installed

The sections following this divider page will not be included in flight copies.

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ATTITUDE TIMELINE

ATTITUDE
TIMELINE

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
1 000/00:44:00 MET 280/02:14:26 GMT	INRTL R=245.00 MNVR P=114.00 Y=318.00	A1 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 126 P 61	LVLH EQUIV R=180 P=344 Y=0	OMS 2
2 000/01:15:00 MET 25:52 280/02:45:26 GMT 56:18	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=270.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 90.00	-ZLV +YVV For SOPA
3 000/03:20:00 MET 30:54 280/04:50:26 GMT 05:01:20	INRTL R=245.00 MNVR P=113.00 Y=316.00	A1 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 127 P 62	LVLH EQUIV R=180 P=344 Y=0	NC-1 TIG: 0/3:43
4 000/03:50:00 MET 04:01:38 280/05:20:26 GMT 32:04	INRTL R=197.00 MNVR P=321.00 Y= 2.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	SUN R 0 P 145		TCS C/O Attitude 1 Sun 35 degrees above tail
5 000/10:45:00 MET 59:55 280/12:15:26 GMT 30:21 Future Load	INRTL R=346.00 MNVR P=155.00 Y=353.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	SUN R 359 P 20		TCS C/O Attitude 2 Sun 20 degrees above nose
6 000/16:58:00 MET 17:05:29 280/18:28:26 GMT 35:55	INRTL R=252.00 MNVR P=121.00 Y=328.00	A1 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 117 P 53	LVLH EQUIV R = 180 P = 350 Y = 0	NC 2 Burn TIG 0/17:18
7 000/17:23:00 MET 37:58 280/18:53:26 GMT 19:08:24	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV
8 000/20:48:45 MET 280/22:19:11 GMT					NPC Burn Multiaxis
9 000/21:00:00 MET 07:30 280/22:30:26 GMT 37:56	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=270.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 90.00	-ZLV +YVV Supply Dump
10 000/22:15:00 MET 22:30 280/23:45:26 GMT 52:56	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV
11 001/01:38:00 MET 52:58 281/03:08:26 GMT 23:24	INRTL R=242.00 MNVR P=155.00 Y= 60.00	A1 RATE 0.2000 AUTO DB AT 1.000 VERN DB RT 0.020	SUN R 48 P 74	LVLH EQUIV R = 180 P = 344 Y = 0	NC 3 Burn TIG 1/01:58
12 001/02:05:00 MET 19:59 281/03:35:26 GMT 50:25	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A6 RATE 0.2000 AUTO DB AT 5.00 ALT DB RT 0.070	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT	
13 001/12:35:00 MET 281/14:05:26 GMT				LVLH Hold btwn NH and NC4 burns if NH occurs	NH Burn Placeholder TIG 1/12:35	
14 001/13:00:00 MET 14:59 281/14:30:26 GMT 45:25	INRTL R=140.00 MNVR P=359.00 Y=286.00	A1 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 135 P 93	LVLH EQUIV R = 180 P = 344 Y = 0	NC 4 Burn TIG 1/13:21
15 001/13:25:00 MET 40:00 281/14:55:26 GMT 15:10:26	TGT=2 BV=1 P= 0.00 Y= 0.00 OM= 0.00	B7 AUTO ALT	RATE 0.2000 DB AT 2.00 DB RT 0.100	EARTH R 324 P 0	LVLH R= 0.00 P=270.00 Y= 0.00	-Z Tracker Tgt Track
16 001/13:40:00 MET 54:30 281/15:10:26 GMT 24:56	TGT=2 BV=5 P=350.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.0115 DB AT 1.000 DB RT 0.020	EARTH R 180 P 10	LVLH R= 0.00 P=280.00 Y= 0.00	-Z Tracker Tgt Track
17 001/13:55:00 MET 59:10 281/15:25:26 GMT 29:36	TGT=2 BV=5 P=345.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.0200 DB AT 1.000 DB RT 0.020	EARTH R 180 P 15	LVLH R= 0.00 P=285.00 Y= 0.00	-Z Tracker Tgt Track
18 001/14:00:00 MET 13:53 281/15:30:26 GMT 44:19	TGT=2 BV=5 P=340.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.0060 DB AT 1.000 DB RT 0.020	EARTH R 180 P 20	LVLH R= 0.00 P=290.00 Y= 0.00	-Z Tracker Tgt Track
19 001/14:15:00 MET 31:40 281/15:45:26 GMT 16:02:06	TGT=2 BV=1 P= 0.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.0200 DB AT 1.000 DB RT 0.020	EARTH R 317 P 0	LVLH R= 0.00 P=270.00 Y= 0.00	-Z Tracker Tgt Track
20 001/14:33:00 MET 47:57 281/16:03:26 GMT 18:23	INRTL R=141.00 MNVR P=359.00 Y=285.00	A1 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	SUN R 134 P 92	LVLH EQUIV R = 180 P = 344 Y = 0	TI Burn OMS TIG: 1/14:53
21 001/14:55:00 MET 15:09:58 281/16:25:26 GMT 40:24	TGT=2 BV=1 P= 0.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.2000 DB AT 1.000 DB RT 0.020	EARTH R 0 P 0	LVLH R= 0.00 P=270.00 Y= 0.00	-Z Tracker Tgt Track
22 001/15:10:00 MET 19:48 281/16:40:26 GMT 50:14	TGT=2 BV=5 P=355.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.0085 DB AT 1.000 DB RT 0.020	EARTH R 180 P 5	LVLH R= 0.00 P=275.00 Y= 0.00	-Z Tracker Tgt Track
23 001/15:20:00 MET 28:20 281/16:50:26 GMT 58:46	TGT=2 BV=5 P=350.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.0100 DB AT 1.000 DB RT 0.020	EARTH R 180 P 10	LVLH R= 0.00 P=280.00 Y= 0.00	-Z Tracker Tgt Track
24 001/15:30:00 MET 39:31 281/17:00:26 GMT 09:57	TGT=2 BV=5 P=340.00 Y= 0.00 OM= 0.00	A7 AUTO VERN	RATE 0.0175 DB AT 1.000 DB RT 0.020	EARTH R 180 P 20	LVLH R= 0.00 P=290.00 Y= 0.00	-Z Tracker Tgt Track

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
25 001/15:40:00 MET 53:20 281/17:10:26 GMT 23:46	TGT=2 BV=5 P=320.00 Y= 0.00 OM= 0.00	A7 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.0250 EARTH R 180 P 40	LVLH R= 0.00 P=310.00 Y= 0.00	-Z Tracker Tgt Track
26 001/15:55:00 MET 16:08:44 281/17:25:26 GMT 39:10	TGT=2 BV=5 P=285.00 Y= 0.00 OM= 0.00	A7 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.0425 EARTH R 180 P 75	LVLH R= 0.00 P=345.00 Y= 0.00	-Z Tracker Tgt Track
27 001/16:12:00 MET 17:00 281/17:42:26 GMT 47:26	TGT=2 BV=5 P=270.00 Y= 0.00 OM= 0.00	A8 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.0500 EARTH R 180 P 90	LVLH R= 0.00 P= 0.00 Y= 0.00	R-BAR Arrival
28 001/16:24:00 MET 47:05 281/17:54:26 GMT 18:17:31	TGT=2 BV=5 P= 90.00 Y= 0.00 OM= 0.00	B9 AUTO DB AT 1.000 VERN DB RT 0.020	RATE 0.1300 EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	TORRA to -Rbar -ZLV -XVV IYPR (0,90,180)
29 001/17:24:00 MET 281/18:54:26 GMT					170 ft. Stationkeeping
30 001/18:05:00 MET 281/19:35:26 GMT					Initiate Approach
31 001/18:27:00 MET 281/19:57:26 GMT					30 ft. Stationkeeping
32 001/18:38:10 MET 281/20:08:36 GMT				Free Drift	DOCKING 1/18:38:10
33 001/19:05:00 MET 34:08 281/20:35:26 GMT 21:04:34	INRTL R=354.00 MNVR P=143.00 Y=348.00 WIA: DAP B12/AUTO/ALT	A12 AUTO DB AT 3.000 VERN DB RT 0.050	RATE 0.1000 SUN R 1 P 31	Calculated @ Noon 2/06:18:41 ISS YPR (180,15,180)	INRTL MPA(XPOP) ISS: Biased -XPH -ZNN Crew Day
34 002/11:41:26 MET 35 282/13:11:52 GMT 12:01 Future Load	TGT=2 BV=5 P=345.00 Y= 0.00 OM=270.00	A12 AUTO DB AT 3.000 VERN DB RT 0.050	RATE 0.1000 EARTH R 180 P 15	LVLH R=270.00 P=270.00 Y=345.00	Bias. +XLV +YVV (Mnvr at mid.) Simo Dump and SOPA
35 002/13:13:39 MET 52 282/14:44:05 GMT 18 Future Load	INRTL R=354.00 MNVR P=143.00 Y=348.00	A12 AUTO DB AT 3.000 VERN DB RT 0.050	RATE 0.1000 SUN R 359 P 30	Calculated @ Noon 2/06:18:41 ISS YPR (180,15,180)	INRTL MPA(XPOP) ISS: Biased -XPH -ZNN Crew Day
36 002/15:05:00 MET 34:28 282/16:35:26 GMT 17:04:54	INRTL R=190.00 MNVR P=292.00 Y= 11.00	A12 AUTO DB AT 3.000 VERN DB RT 0.050	RATE 0.1000 SUN R 360 P 120	Calculated @ Noon 2/23:13:07 ISS YPR (180,-15,0)	INRTL MPA(XPOP) ISS: Biased -XPH +ZNN Z1 Install

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT	
37 003/02:15:00 MET					Crew Sleep	
283/03:45:26 GMT	Before sleep: A12/AUTO/VERN					
38 003/08:00:00 MET 29:28	INRTL R= 0.00 MNVR P=143.00 Y=343.00	A12 AUTO VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050	SUN R 1 P 30	Calculated @ Noon 3/11:30:52 ISS YPR (180,15,180)	INRTL MPA(XPOP) ISS: Biased -XPH -ZNN A/L Condition.
283/09:30:26 GMT 59:54 Future Load						
39 003/14:30:00 MET 59:53	INRTL R=189.00 MNVR P=288.00 Y= 15.00	A12 AUTO VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050	SUN R 0 P 117	Calculated @ Noon 3/19:11:54 ISS YPR (180,-19,0)	INRTL MPA(XPOP) ISS: Biased -XPH +ZNN EVA #1
283/16:00:26 GMT 30:19						
40 003/23:30:00 MET 54:21	TGT=2 BV=5 P=280.00 Y= 0.00 OM= 0.00	A12 AUTO VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050	EARTH R 180 P 80	LVLH R= 0.00 P=350.00 Y= 0.00	Reboost Bias. +ZLV +XVV ISS LVLH IYPR(180,280,0)
284/01:00:26 GMT 24:47						
41 004/00:35:00 MET 57:43	INRTL R=187.00 MNVR P=292.00 Y= 18.00	A12 AUTO VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050	SUN R 360 P 121	Calculated @ Noon 4/04:25:09 ISS YPR (180,-15,0)	INRTL MPA(XPOP) ISS: Biased -XPH +ZNN Pre-Sleep
284/02:05:26 GMT 28:09						
	WIA: DAP B12/AUTO/ALT					
42 004/02:45:00 MET					Sleep Att. #1	
284/04:15:26 GMT	Before sleep: A12/AUTO/VERN					
43 004/08:00:00 MET 29:34	INRTL R= 6.00 MNVR P=145.00 Y=339.00	A12 AUTO VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050	SUN R 1 P 27	Calculated @ Noon 4/15:10:34 ISS YPR (180,15,180)	INRTL MPA(XPOP) ISS: Biased -XPH -ZNN Sleep #2/ EVA#2
284/09:30:26 GMT 10:00:00 Future Load						
44 004/21:30:00 MET 57:19	TGT=2 BV=5 P=280.00 Y= 0.00 OM= 0.00	A12 AUTO VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050	EARTH R 180 P 80	LVLH R= 0.00 P=350.00 Y= 0.00	Reboost Bias. +ZLV +XVV ISS LVLH IYPR(180,280,0)
284/23:00:26 GMT 27:45						
45 004/22:35:00 MET 59:17	INRTL R=184.00 MNVR P=293.00 Y= 23.00	A12 AUTO VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050	SUN R 0 P 123	Calculated @ Noon 5/03:28:09 ISS YPR (180,-15,0)	INRTL MPA(XPOP) ISS: Biased -XPH +ZNN Post-EVA
285/00:05:26 GMT 29:43						
	WIA: DAP B12/AUTO/ALT					
46 005/00:23:46 MET 53	TGT=2 BV=5 P=345.00 Y= 0.00 OM=270.00	A12 AUTO VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050	EARTH R 180 P 15	LVLH R=270.00 P=270.00 Y=345.00	Bias. +XLV +YVV (Mnvr at noon) Simo Dump and SOPA
285/01:54:12 GMT 19 Future Load						
47 005/01:55:57 MET 56:02	INRTL R=184.00 MNVR P=293.00 Y= 23.00	A12 AUTO VERN	RATE 0.1000 DB AT 3.000 DB RT 0.050	SUN R 0 P 123	Calculated @ Noon 5/03:28:09 ISS YPR (180,-15,0)	INRTL MPA(XPOP) ISS: Biased -XPH +ZNN Pre-sleep thrml
285/03:26:23 GMT 28 Future Load						
	WIA: DAP B12/AUTO/ALT					
48 005/02:45:00 MET					Sleep Att. #1	
285/04:15:26 GMT	Before sleep: A12/AUTO/VERN					

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
49 005/08:00:00 MET 29:41 285/09:30:26 GMT 10:00:07 Future Load	INRTL R= 11.00 MNVR P=147.00 Y=337.00	A12 RATE 0.1000 AUTO DB AT 3.000 VERN DB RT 0.050	SUN R 0 P 25	Calculated @ Noon 5/14:13:29 ISS YPR (180,15,180)	INRTL MPA(XPOP) ISS: Biased -XPH -ZNN Sleep #2/ EVA#3
50 005/20:15:00 MET 34:51 285/21:45:26 GMT 22:05:17	TGT=2 BV=5 P=280.00 Y= 0.00 OM= 0.00	A12 RATE 0.1000 AUTO DB AT 3.000 VERN DB RT 0.050	EARTH R 180 P 80	LVLH R= 0.00 P=350.00 Y= 0.00	Reboost Bias. +ZLV +XVY ISS LVLH IYPR(180,280,0)
51 005/21:15:00 MET 40:21 285/22:45:26 GMT 23:10:47	INRTL R=181.00 MNVR P=295.00 Y= 28.00 WIA: DAP B12/AUTO/ALT	A12 RATE 0.1000 AUTO DB AT 3.000 VERN DB RT 0.050	SUN R 360 P 126	Calculated @ Noon 6/02:30:58 ISS YPR (180,-15,0)	INRTL MPA(XPOP) ISS: Biased -XPH +ZNN Post EVA#3
52 006/02:45:00 MET 286/04:15:26 GMT	Before sleep: A12/AUTO/VERN				Sleep Att. #1
53 006/08:00:00 MET 29:45 286/09:30:26 GMT 10:00:11 Future Load	INRTL R= 17.00 MNVR P=150.00 Y=335.00	A12 RATE 0.1000 AUTO DB AT 3.000 VERN DB RT 0.050	SUN R 359 P 22	Calculated @ Noon 6/14:48:23 ISS YPR (180,15,180)	INRTL MPA(XPOP) ISS: Biased -XPH -ZNN Sleep Att. #2
54 006/21:45:00 MET 22:02:17 286/23:15:26 GMT 32:43	TGT=2 BV=5 P=280.00 Y= 0.00 OM= 0.00	A12 RATE 0.1000 AUTO DB AT 3.000 VERN DB RT 0.050	EARTH R 180 P 80	LVLH R= 0.00 P=350.00 Y= 0.00	Reboost Bias. +ZLV +XVY ISS LVLH IYPR(180,280,0)
55 006/22:45:00 MET 23:02:48 287/00:15:26 GMT 33:14	TGT=2 BV=5 P=345.00 Y= 0.00 OM=270.00	A12 RATE 0.1000 AUTO DB AT 3.000 VERN DB RT 0.050	EARTH R 180 P 15	LVLH R=270.00 P=270.00 Y=345.00	Bias. +XLV +YVY Simo Dump and SOPA
56 007/00:30:00 MET 48:34 287/02:00:26 GMT 19:00	INRTL R=177.00 MNVR P=298.00 Y= 32.00 WIA: DAP B12/AUTO/ALT	A12 RATE 0.1000 AUTO DB AT 3.000 VERN DB RT 0.050	SUN R 0 P 129	Calculated @ Noon 7/03:05:46 ISS YPR (180,-15,0)	INRTL MPA(XPOP) ISS: Biased -XPH +ZNN Pre-sleep
57 007/02:45:00 MET 287/04:15:26 GMT	Before sleep: A12/AUTO/VERN				Sleep Att. #1
58 007/08:00:00 MET 29:51 287/09:30:26 GMT 10:00:17 Future Load	INRTL R= 22.00 MNVR P=153.00 Y=334.00	A12 RATE 0.1000 AUTO DB AT 3.000 VERN DB RT 0.050	SUN R 359 P 19	Calculated @ Noon 7/15:23:05 ISS YPR (180,15,180)	INRTL MPA(XPOP) ISS: Biased -XPH -ZNN Sleep Att. #2
59 007/13:04:49 MET 56 287/14:35:15 GMT 22	TGT=2 BV=5 P=345.00 Y= 0.00 OM=270.00	A12 RATE 0.1000 AUTO DB AT 3.000 VERN DB RT 0.050	EARTH R 180 P 15	LVLH R=270.00 P=270.00 Y=345.00	PRCS Test DTO 257
60 007/13:45:00 MET 14:11:11 287/15:15:26 GMT 41:37	INRTL R= 22.00 MNVR P=153.00 Y=334.00 WIA: DAP B12/AUTO/ALT	A12 RATE 0.1000 AUTO DB AT 3.000 VERN DB RT 0.050	SUN R 358 P 19	Calculated @ Noon 7/15:23:05 ISS YPR (180,15,180)	INRTL MPA(XPOP) ISS: Biased -XPH -ZNN Ingress/Egress

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

Attitude Timeline

MET/GMT	MNVR OPTION	DAP	E/S	REF ATT/REMARKS	EVENT
61 007/22:00:00 MET 24:41 287/23:30:26 GMT 55:07	TGT=2 BV=5 P=280.00 Y= 0.00 OM= 0.00	A12 AUTO VERN RATE 0.1000 DB AT 3.000 DB RT 0.050	EARTH R 180 P 80	LVLH R= 0.00 P=350.00 Y= 0.00	Reboost Bias. +ZLV +XVV ISS LVLH IYPR(180,280,0)
62 007/23:05:00 MET 22:37 288/00:35:26 GMT 53:03	INRTL R=173.00 MNVR P=301.00 Y= 35.00 WIA: DAP B12/AUTO/ALT	A12 AUTO VERN RATE 0.1000 DB AT 3.000 DB RT 0.050	SUN R 0 P 132	Calculated @ Noon 8/03:40:21 ISS YPR (180,-15,0)	INRTL MPA(XPOP) ISS: Biased -XPH +ZNN Thrml Condition
63 008/02:45:00 MET 288/04:15:26 GMT	Before sleep: A12/AUTO/VERN				Sleep Att. #1
64 008/11:15:00 MET 44:47 288/12:45:26 GMT 13:15:13 Future Load	INRTL R= 26.00 MNVR P=157.00 Y=333.00 WIA: DAP B12/AUTO/ALT	A12 AUTO VERN RATE 0.1000 DB AT 3.000 DB RT 0.050	SUN R 2 P 15	Calculated @ Noon 8/12:53:16 ISS YPR (180,15,180)	INRTL MPA(XPOP) ISS: Biased -XPH -ZNN Undocking Day
65 008/14:15:00 MET 37:42 288/15:45:26 GMT 16:08:08	TGT=2 BV=5 P= 90.00 Y= 0.00 OM= 0.00	A12 AUTO VERN RATE 0.1000 DB AT 3.000 DB RT 0.050	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV Undock Attitude IYPR (0,90,180)
66 008/14:55:00 MET 288/16:25:26 GMT					UNDOCKING 008/14:55:00
67 008/15:13:00 MET 288/16:43:26 GMT	LVLH FREE ROTATION ROTR ABOUT +Y AXIS RATE=0.130	A10 LVLH VERN RATE 0.0500 DB AT 0.500 DB RT 0.020		LVLH R= 0.00 P=180.00 Y= 0.00	Flyaround 2X Orb Rate 1 Rev
68 008/15:55:15 MET 288/17:25:41 GMT		A10 LVLH VERN RATE 0.0500 DB AT 0.500 DB RT 0.020	EARTH R 0 P 120	LVLH R= 0.00 HOLD P=149.55 Y= 0.00	LVLH Hold for Sep Burn
69 008/15:56:15 MET 288/17:26:41 GMT		A10 INRT VERN RATE 0.0500 DB AT 0.500 DB RT 0.020	SUN R 213 P 68	INRTL R=108.42 HOLD P=121.33 Y= 29.22	Inrtl Hold for Sep Burn TIG: 8/15:57
70 008/16:00:00 MET 03:38 288/17:30:26 GMT 34:04	TGT=1 BV=4 P= 0.00 Y=280.60 OM= 90.00	B7 AUTO ALT RATE 0.5000 DB AT 2.00 DB RT 0.100			-Y ST DTO SR 08/15:28:41 TS 08/16:20:34 SS 08/16:26:20
71 008/18:00:00 MET 09:50 288/19:30:26 GMT 40:16	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 0 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV for DEBRIS
72 009/13:00:00 MET 07:30 289/14:30:26 GMT 37:56	TGT=2 BV=3 P= 90.00 Y= 0.00 OM=270.00	A6 AUTO ALT RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 90.00	-ZLV +YVV Simo Dump SOPA

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

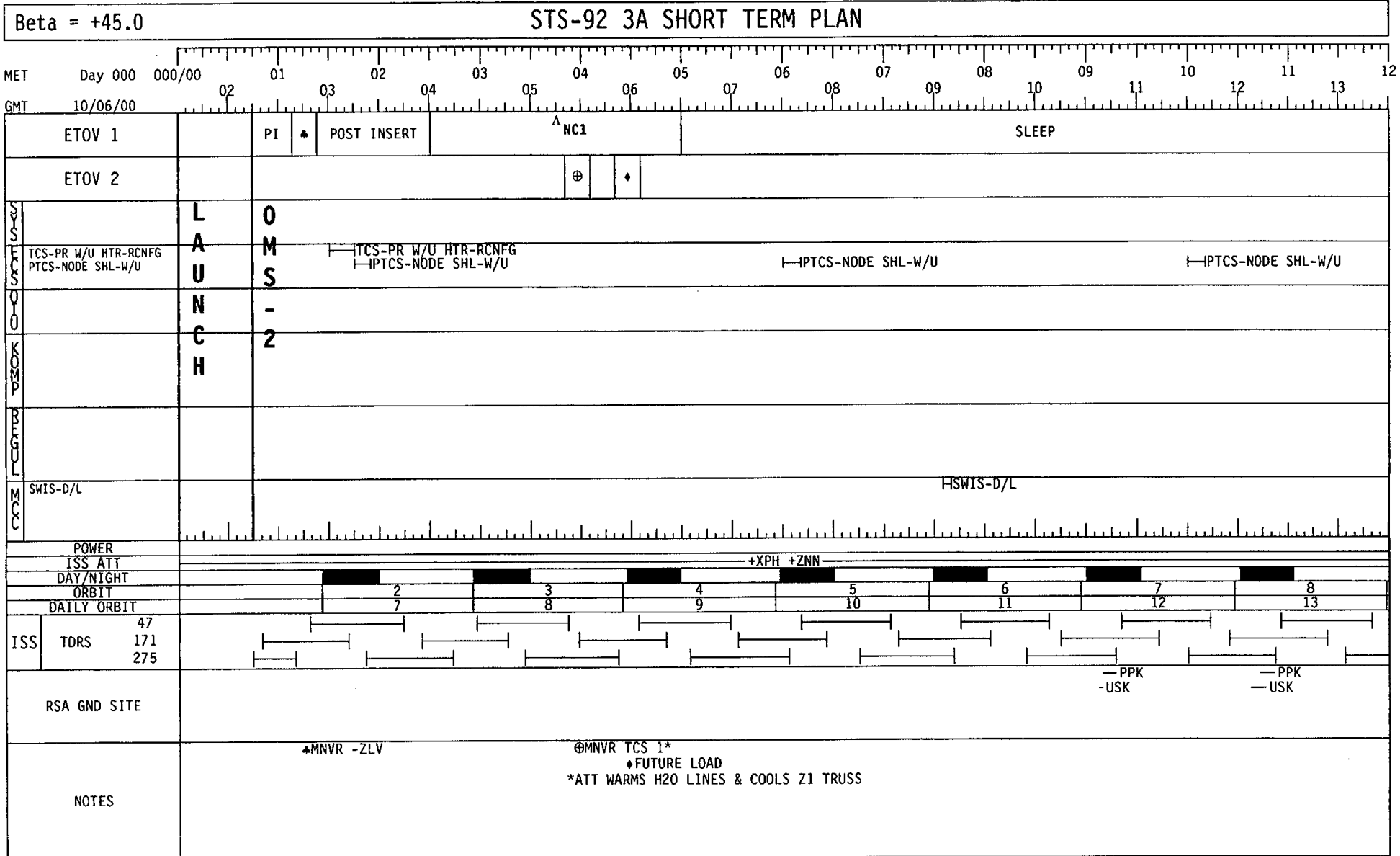
Attitude Timeline

MET/GMT	MNVR OPTION	DAP		E/S	REF ATT/REMARKS	EVENT
73 009/14:00:00 MET 07:30 289/15:30:26 GMT 37:56	TGT=2 BV=3 P= 90.00 Y= 0.00 OM= 0.00	A6 AUTO ALT	RATE 0.2000 DB AT 5.00 DB RT 0.070	EARTH R 360 P 90	LVLH R= 0.00 P=180.00 Y= 0.00	-ZLV -XVV
74 010/13:15:00 MET 26:00 290/14:45:26 GMT 56:26	INRTL R=172.00 MNVR P=151.00 Y= 16.00	A6 AUTO ALT	RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 126 P 42	AOS: 13:05 LOS: 13:49	IMU Align -Y = 23 -Z = 16
75 010/13:40:00 MET 47:20 290/15:10:26 GMT 17:46	INRTL R=202.00 MNVR P=219.00 Y=312.00	A6 AUTO ALT	RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 320 P 47	AOS: 13:25 LOS: 14:10	IMU Verif -Y = 25 -Z = 15
76 010/13:55:00 MET 14:06:40 290/15:25:26 GMT 37:06	TGT=4 RA= 201.154 BV=5 DEC= -8.896S P=184.00 Y= 0.00 OM=270.00	A6 AUTO ALT	RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 180 P 176	INRTL R=323.26 P=347.04 Y= 23.32	-XSI
77 010/15:30:00 MET 41:04 290/17:00:26 GMT 11:30	INRTL R=104.00 MNVR P=319.00 Y= 16.00	A6 AUTO ALT	RATE 0.2000 DB AT 5.00 DB RT 0.070	SUN R 90 P 150		Comm Attitude
78 010/17:30:00 MET 34:54 290/19:00:26 GMT 05:20	INRTL R=238.00 MNVR P=291.00 Y=319.00	TRN AUTO ALT	RATE 0.5000 DB AT 3.50 DB RT 0.200	SUN R 338 P 97	LVLH EQUIV R = 0 P = 196 Y = 0	D/O BURN ATT TIG 10/17:57

*** ALL ATTITUDES IN MEAN OF 1950 ***
*** PYR EULER SEQUENCE ***

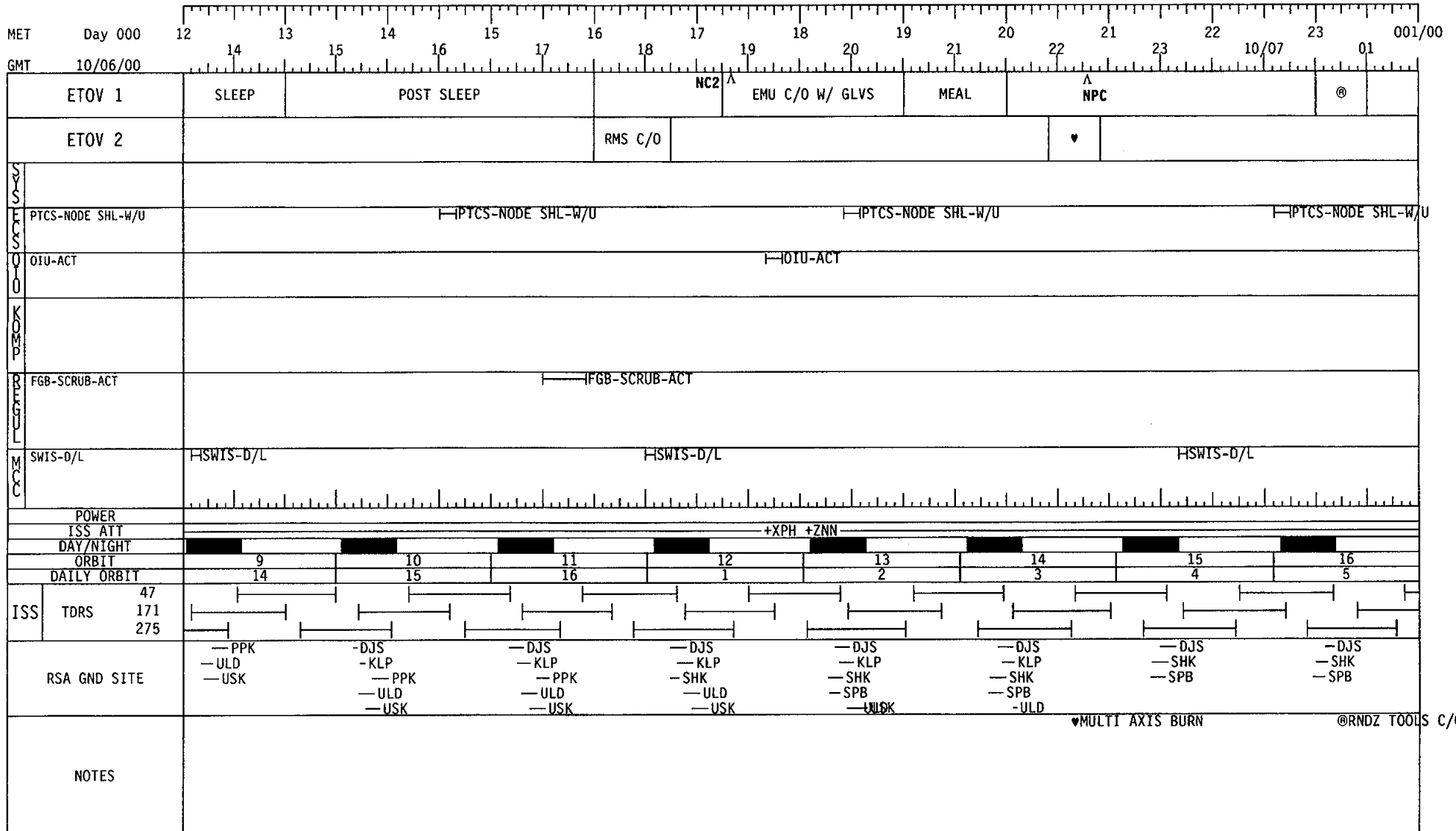
ISS SHORT TERM PLAN

ISS SHORT TERM PLAN



Beta = +45.4

STS-92 3A SHORT TERM PLAN



Beta = +45.7

STS-92 3A SHORT TERM PLAN

MET Day 002 002/00 02 01 03 02 04 03 05 04 06 05 07 06 08 07 09 08 10 09 11 10 12 11 13 12

GMT 10/08/00

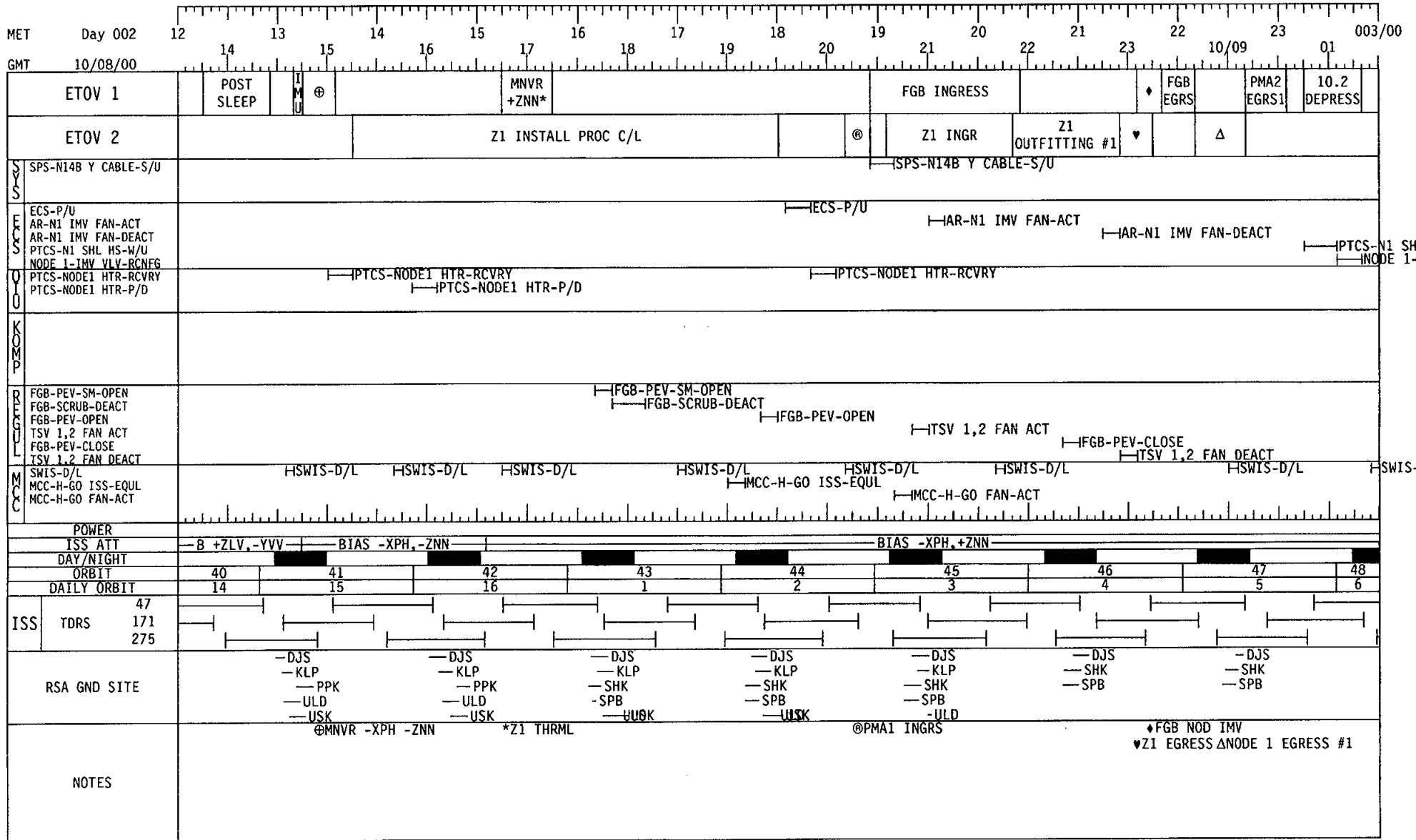
ETOV 1	PRE SLEEP	SLEEP	POST SLEEP *
ETOV 2			
SAFETY			
ECS-TT QUE CLEAR ECS-TT EXE	ECS-TT QUE CLEAR ECS-TT EXE		
PTCS-NODE SHL-W/U SPS-RPCM-BDT CBM-N1 ZEN MATE-PREP PTCS-NODE1 HTR-P/D	PTCS-NODE SHL-W/U	ISPS-RPCM-BDT	PTCS-NODE SHL-W/U CBM-N1 ZEN MATE-PREP PTCS-NODE1 HTR-P/D
OSVS-TEST SWIS-D/L	OSVS-TEST	HSWIS-D/L	HSWIS-D/L HSWIS-D/L HSWIS-D/L HSWIS-D/L HSWIS-D/L
POWER	BIAS -XPH.-ZNN		
ISS ATT			
DAY/NIGHT			
ORBIT	32	33	34
DAILY ORBIT	6	7	8
ISS	47	171	275
TDRS			
RSA GND SITE	PPK -USK -USK -USK -USK		
NOTES			

HTR-F

*MMWR DUJ

Beta = +45.3

STS-92 3A SHORT TERM PLAN

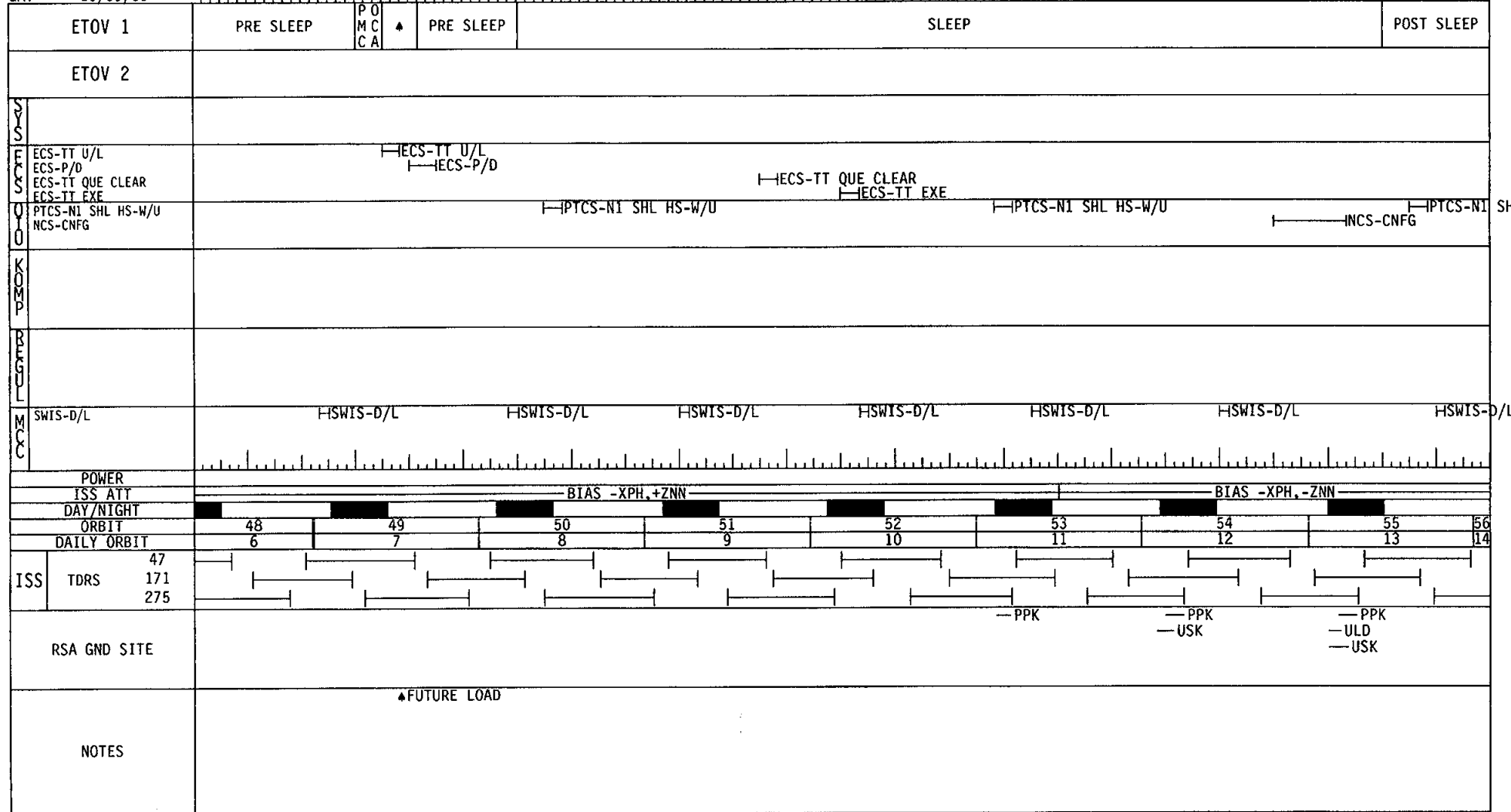


Beta = +44.9

STS-92 3A SHORT TERM PLAN

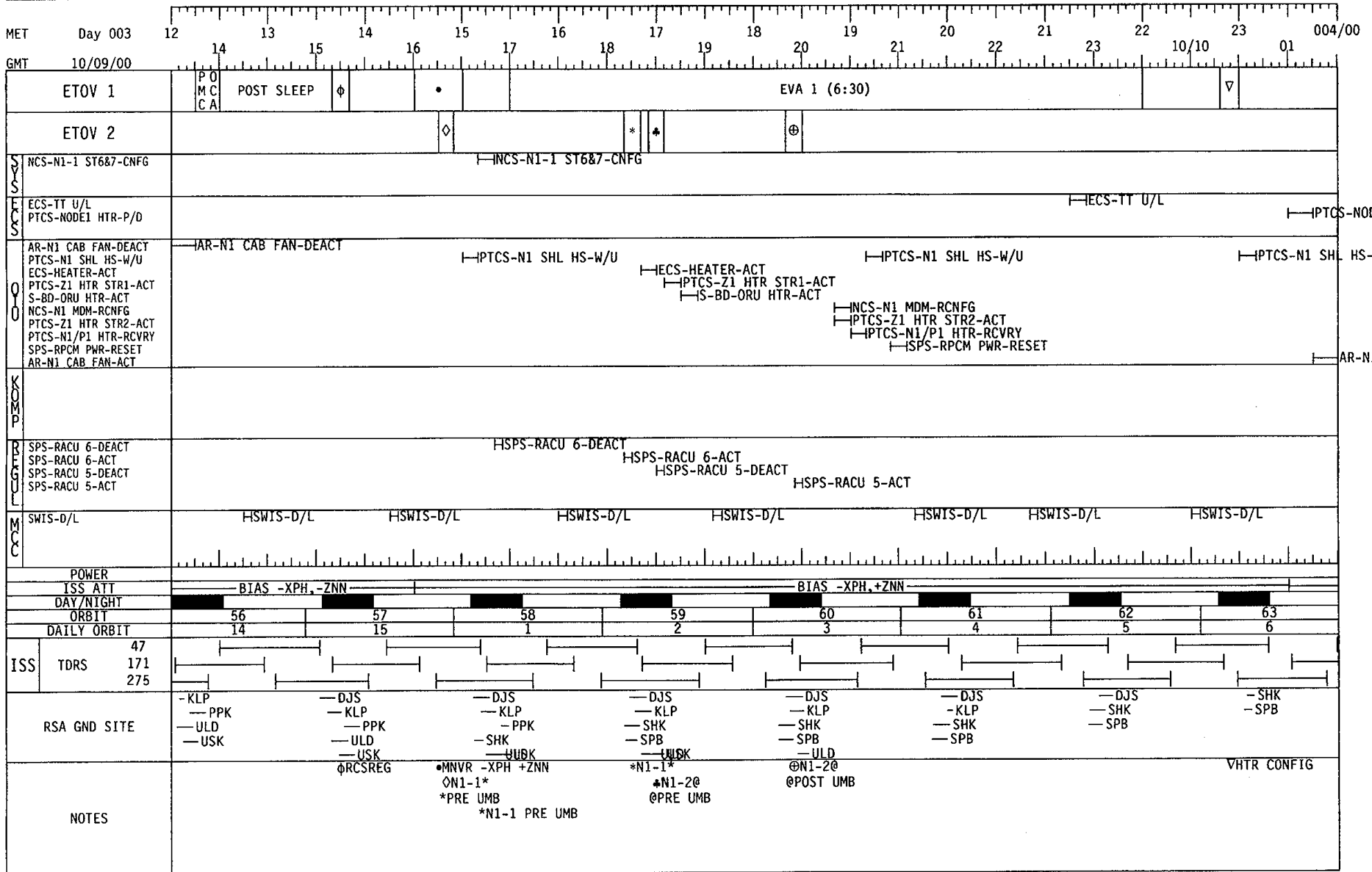
MET Day 003 003/00 02 01 03 02 04 03 05 04 06 05 07 06 08 07 09 08 10 09 11 10 12 11 13 12

GMT 10/09/00



Beta = +44.3

STS-92 3A SHORT TERM PLAN

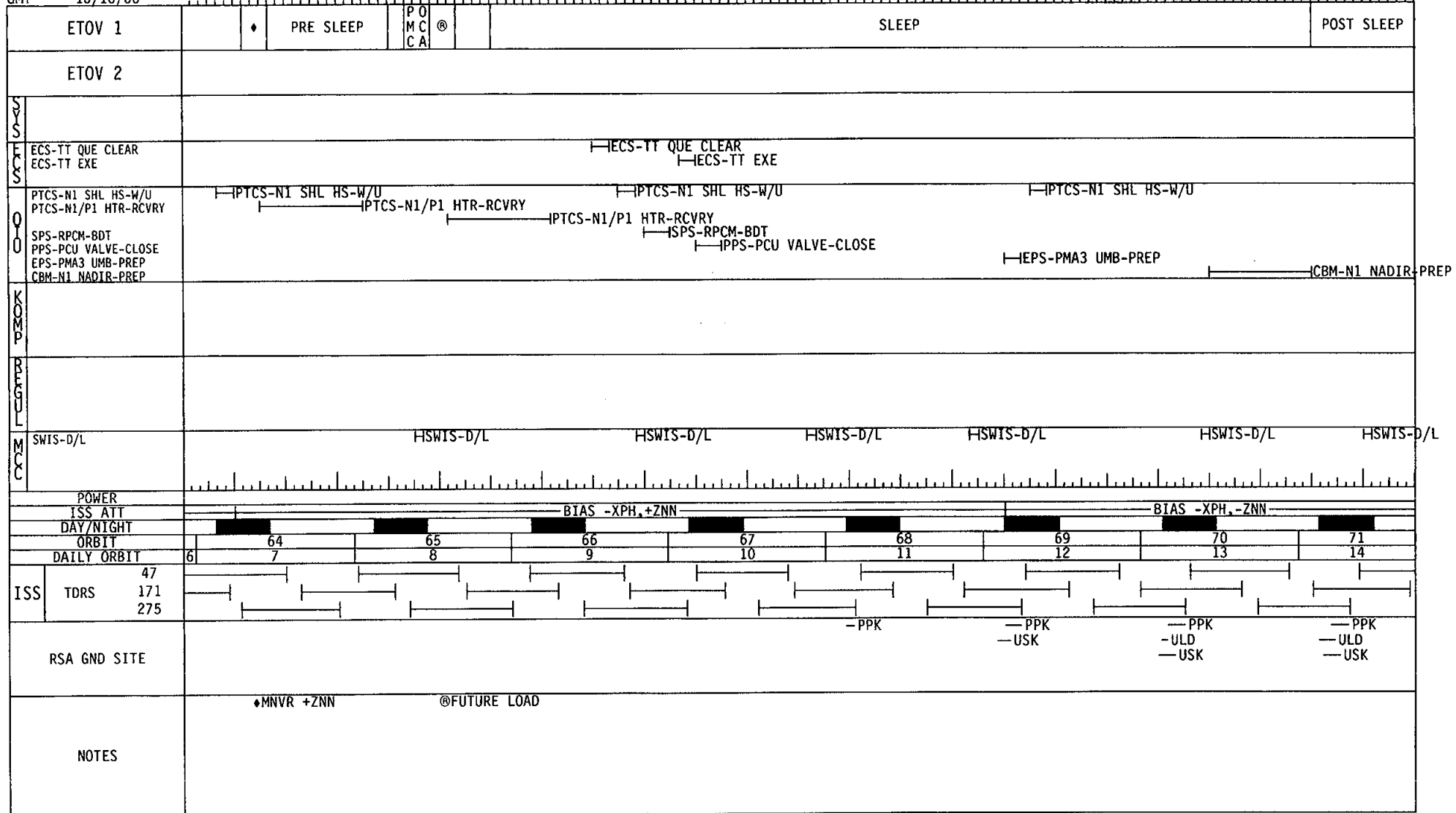


Beta = +43.5

STS-92 3A SHORT TERM PLAN

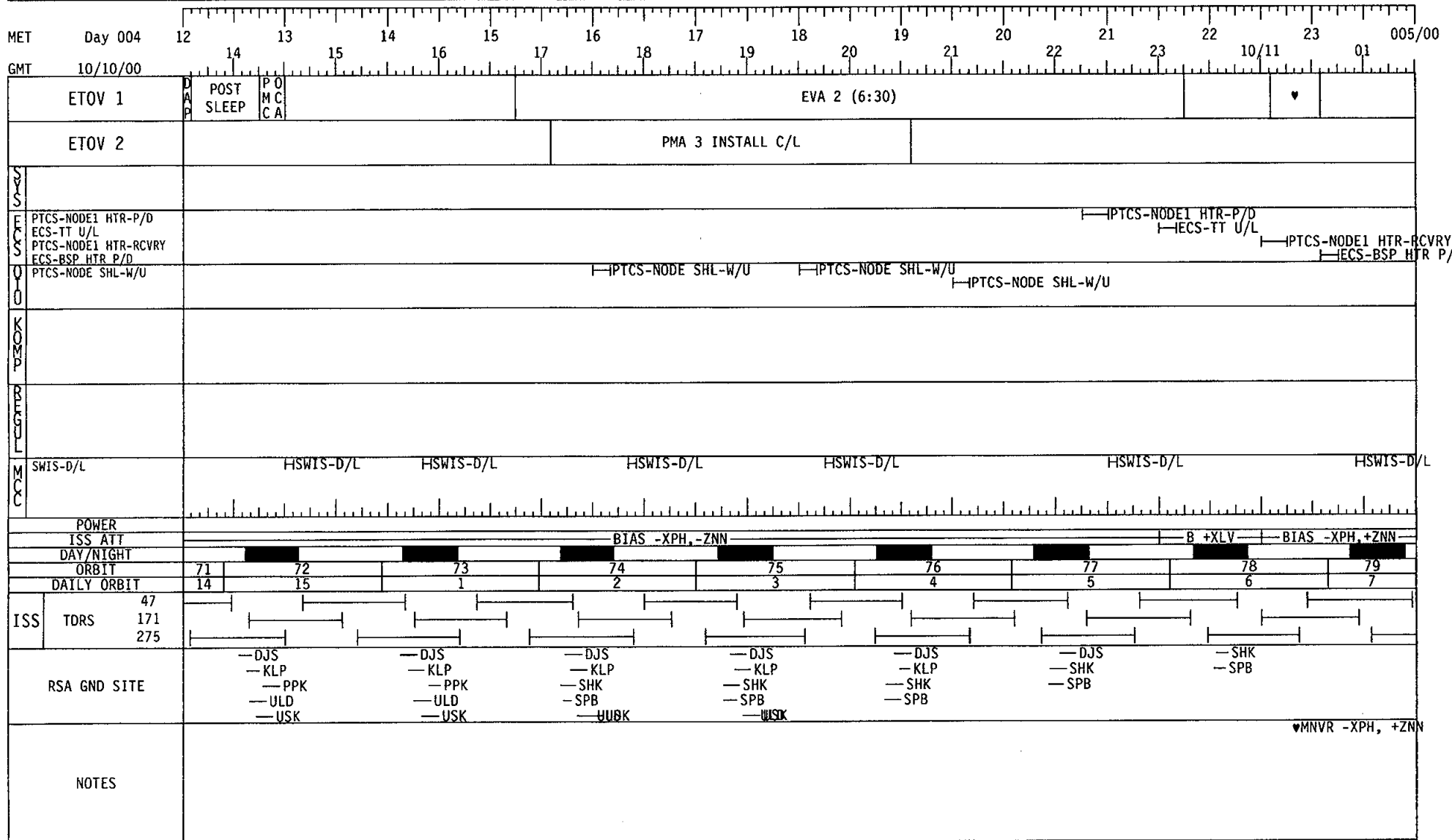
MET Day 004 004/00 02 01 03 02 04 03 05 04 06 05 07 06 08 07 09 08 10 09 11 10 12 11 13 12

GMT 10/10/00



Beta = +42.6

STS-92 3A SHORT TERM PLAN

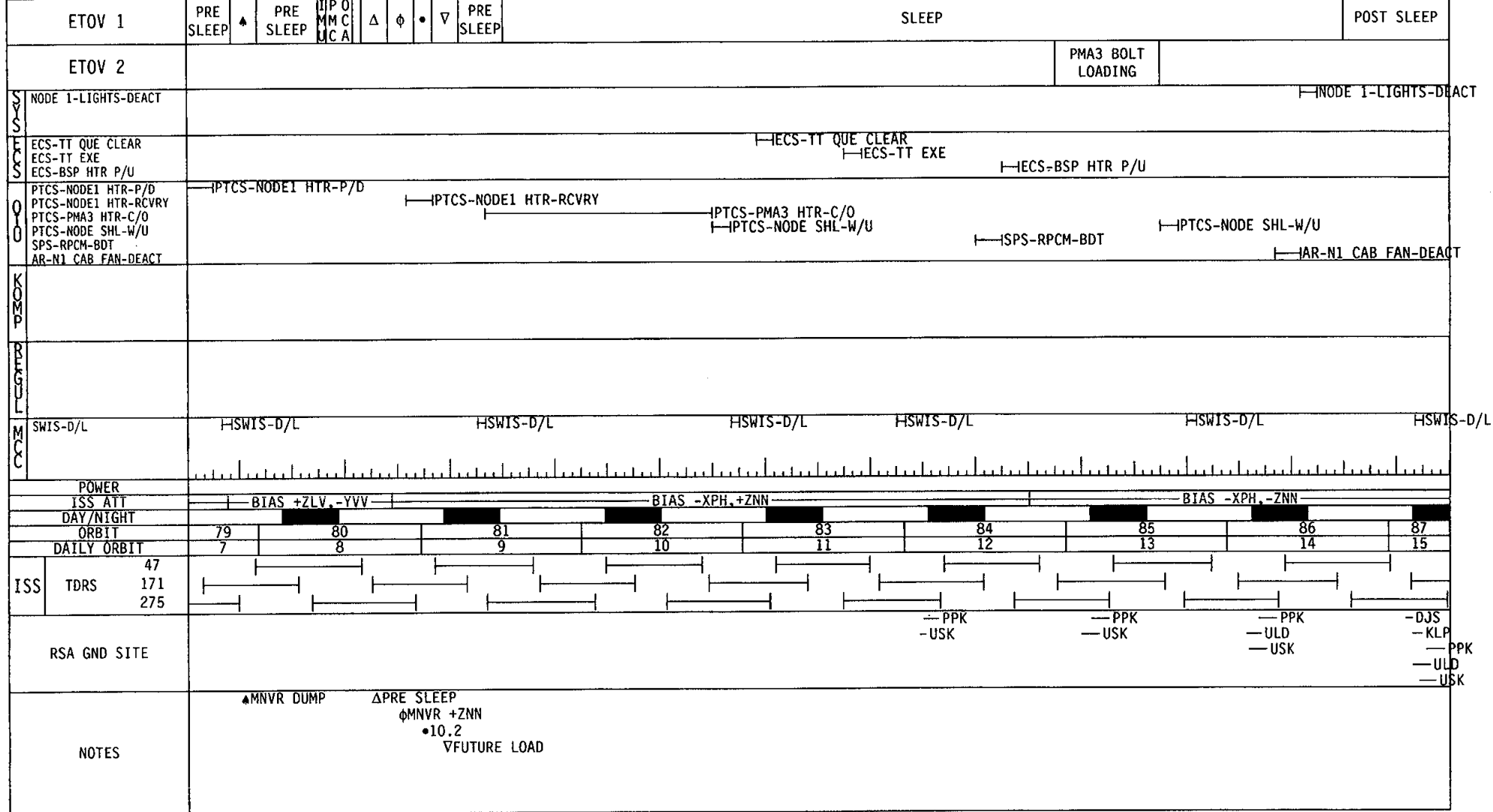


Beta = +41.5

STS-92 3A SHORT TERM PLAN

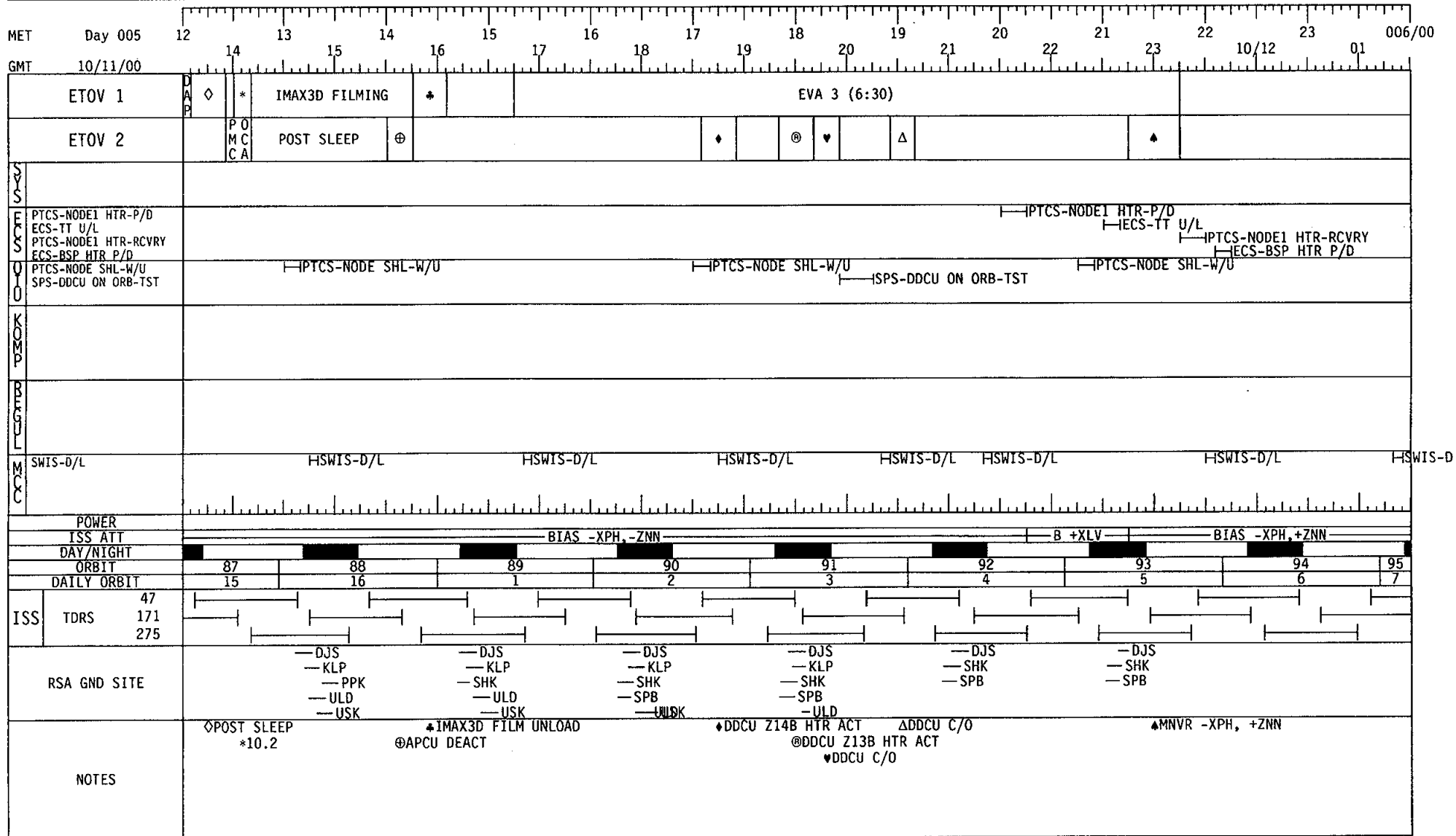
MET Day 005 005/00 02 01 03 02 04 03 05 04 06 05 07 06 08 07 09 08 10 09 11 10 12 11 13 12

GMT 10/11/00



Beta = +40.3

STS-92 3A SHORT TERM PLAN



Beta = +39.0

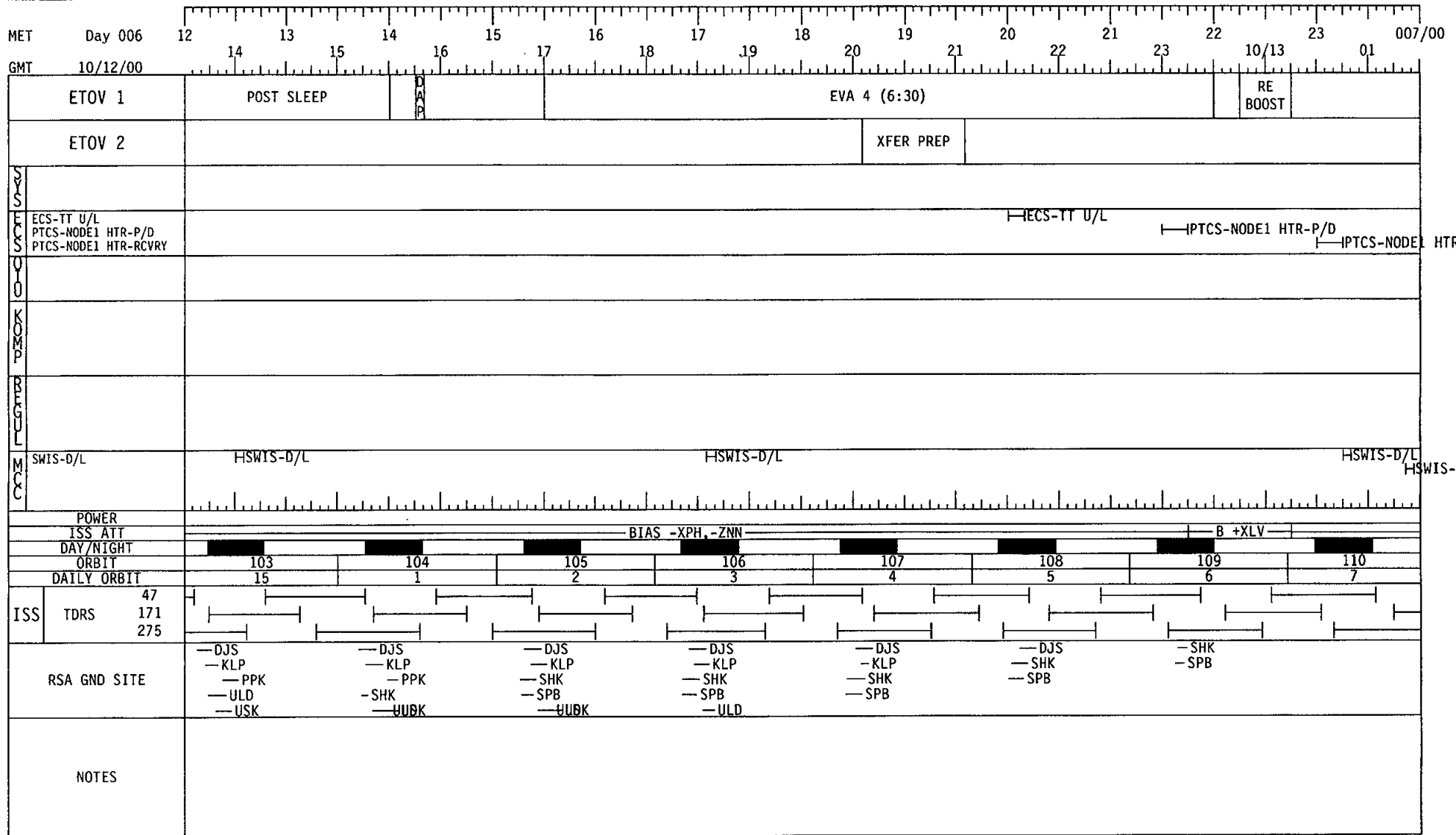
STS-92 3A SHORT TERM PLAN

MET Day 006 006/00 02 01 03 02 04 03 05 04 06 05 07 06 08 07 09 08 10 09 11 10 12 11 13 12
 GMT 10/12/00

ETOV 1	PRE SLEEP	P M C A	φ	PRE SLEEP	SLEEP	POST SLEEP				
ETOV 2										
S S S	ECS-TT QUE CLEAR									
	ECS-TT EXE									
O D	ECS-BSP HTR P/U									
	IPTCS-NODE SHL-W/U									
M C C	SWIS-D/L									
	P/TV24 ISS EXT GND									
POWER										
ISS ATT										
DAY/NIGHT										
ORBIT										
DAILY ORBIT										
ISS	TDRS	47	95	96	97	98	99	100	101	102
		171	7	8	9	10	11	12	13	14
RSA GND SITE										
φFUTURE LOAD										
NOTES										

Beta = +37.5

STS-92 3A SHORT TERM PLAN



Beta = +34.4

STS-92 3A SHORT TERM PLAN

MET Day 007 12 13 14 15 16 17 18 19 20 21 22 23 22 23 01 008/00

GMT 10/13/00 14 15 16 17 18 19 20 21 22 23 10/14 01

ETOV 1	POST SLEEP ▽	PRCS TEST ◇		FGB INGR		*	MEAL	FGB EGRESS		*	N D G B	TRGT INSTL	⊕	UNDCK TAGUP
ETOV 2								Z1 OUTFIT #2	Z1 EGRS			ND1 EGRS Δ		

SYS SPS-N14B Y CBL-INSTL NODE 1-LIGHTS-ACT

ISPS-N14B Y CBL-INSTL INODE 1-LIGHTS-ACT

PTCS-NODE1 HTR-P/D ECS-P/D

PTCS-NODE1 HTR-RCVRY ECS-P/U

SPS-RPC N13B/N14-ENA AR-N1 CAB FAN-ACT

SPS-RPCM PWR-RESET PTCS-Z1 HTR STR1-ACT

NODE 1-RCVRY PTCS-N1/P1 HTR-RCVRY

PTCS-NODE SHL-W/U AR-N1 IMV FAN-DEACT

AR-N1 IMV FAN-ACT

PTCS-NODE1 HTR-P/D

ECS-P/D

PTCS-NODE1 HTR-RCVRY

ECS-P/U

ISPS-RPC N13B/N14-ENA

AR-N1 CAB FAN-ACT

SPS-RPCM PWR-RESET

PTCS-Z1 HTR STR1-ACT

NODE 1-RCVRY

PTCS-N1/P1 HTR-RCVRY

PTCS-NODE SHL-W/U

PTCS-NODE1 HTR-P/D

AR-N1 IMV FAN-DEACT

AR-N1 IMV FAN-ACT

PTCS-NODE SHL-W/U

PTCS-NODE1 HTR-P/D

AR-N1 IMV FAN-DEACT

AR-N1 IMV FAN-ACT

QCS NCS-N1-1 MDM-OFF

NCS-N1-1 MDM-SEC

INCS-N1-1 MDM-OFF

INCS-N1-1 MDM-SEC

PSMOK

RACU SPS-RACU 6-DEACT

TSV 1,2 FAN ACT

SPS-RACU 6-ACT

FGB-PEV-CLOSE

TSV 1,2 FAN DEACT

HSPS-RACU 6-DEACT

HTSV 1,2 FAN ACT

HSPS-RACU 6-ACT

IFGB-PEV-CLOSE

HTSV 1,2 FAN DEACT

CMC SWIS-D/L

HSWIS-D/L

POWER ISS ATT

DAY/NIGHT

ORBIT

DAILY ORBIT

ISS	TDRS	47	171	275
		15	16	1
		2	3	4
		5	6	7

RSA GND SITE

-DJS -DJS -DJS -DJS -DJS -DJS

-KLP -KLP -KLP -KLP -KLP -KLP

-PPK -SHK -SHK -SHK -SHK -SHK

-ULD -SPB -SPB -SPB -SPB -SPB

-USK -USK -USK -USK -USK -USK

NOTES

VMNVR DTO OMNVR -XPH, -ZNN *N1-1 to SEC *PAO OPPTY *PAO OPPTY ΔPMA2 EGRS2 ⊕MNVR -XPH, +ZN

♦PMA2 INGRS2

⊙ND1 INGR#2

♥Z1 INGR

*N1-1 to OFF

Beta = +32.6

STS-92 3A SHORT TERM PLAN

MET Day 008 008/00 02 01 03 02 03 04 05 04 06 05 07 06 08 07 09 08 10 09 11 10 12 11 13 12

GMT 10/14/00

ETOV 1	PRE SLEEP	PO MC CA	PRE SLEEP	SLEEP	POST SLEEP
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ETOV 2

ISS S D K E O R B I T P O W E R C O M M U N I C A T I O N	ECS-DES-KEY-U/L NCS-UNDK STP 1-CNFG AR-N1 CAB FAN-DEACT	HECS-DES-KEY-U/L	INCS-UNDK HAR-N1

SWIS-D/L	HISWIS-D/L
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POWER	ISS ATT	BIAS -XPH,+ZNN
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DAY/NIGHT	ORBIT	126	127	128	129	130	131	132	133	134
-----------	-------	-----	-----	-----	-----	-----	-----	-----	-----	-----

DAILY ORBIT	7	8	9	10	11	12	13	14	15
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ISS	TDRS	47	171	275
-----	------	----	-----	-----

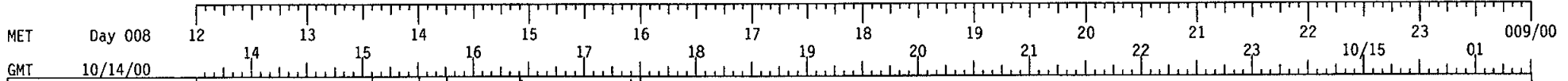
RSA GND SITE	-PPK	-PPK	-PPK	-KLP	-DJS
	-USK	-USK	-ULD	-PPK	-KLP
			-USK	-ULD	-PPK
				-USK	-ULD
					-USK

	▲FUTURE LOAD	
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NOTES	
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Beta = +30.8

STS-92 3A SHORT TERM PLAN



ETOV 1	POST SLEEP	φ	UNDOCK	SEPARATION	SEP
ETOV 2					
ISS	ISS-UNDK ATT-MNVR FGB/SM-SA-FEATHERED FGB/SM-SUN TRAK-INIT		ISS-UNDK IFGB/SM	ATT-MNVR SA-FEATHERED IFGB/SM-SUN TRAK-INIT	
ECSS	AR-N1 CAB FAN-DEACT TCS-PST EG HTR-RCNFG AR-N1 IMV FAN-DEACT AR-N1 IMV VLV-RCNFG ACS-PRE DEPART-MODE NCS-UNDK STP 2-CNFG ACS-DEPART-MODE NODE 1-RCVRY NCS-UNDK STP 3-CNFG ACS-POST DEP-MODE	AR-N1 CAB FAN-DEACT TCS-PST EG HTR-RCNFG AR-N1 IMV FAN-DEACT AR-N1 IMV VLV-RCNFG ACS-PRE DEPART-MODE INCS-UNDK STP 2-CNFG		IACS-DEPART-MODE NODE 1-RCVRY INCS-UNDK STP 3-CNFG IACS-POST DEP-MODE	
VO					
KOMP					
REGUL					
MCC					
U N D O C K *					
POWER	ISS ATT				SEE SHORT-TERM PLAN
DAY/NIGHT	BIAS -XPH, -ZNN				FLYAROUND
ORBIT	134	135	136	137	138
DAILY ORBIT	15	1	2	3	4
ISS	TDRS 47				
	171				
	275				
RSA GND SITE	PPK USK	DJS KLP PPK SHK WUSK	DJS KLP SHK SPB WUSK	DJS KLP SHK SPB ULD	DJS SHK SPB
NOTES	*NODE1 FAN DEACT	φMNVR UNDOCK @ACS PRE DEPART	@DEPART	*OIU DEACT *ACS POST DEPARTURE MOD	
*UNDOCK @ 64/16:25 GMT (D02)					

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RUSSIAN SUMMARY TIMELINE

I

RUSSIAN SUM
TIMELINE

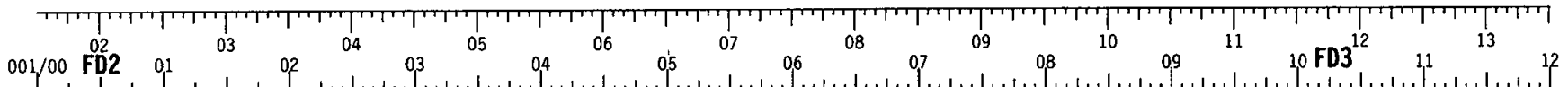
BETA ANGLE: +45.4

MT	10/06/00	14	15	16	17	18	19	20	21	22	23	10/07	01	001/00							
PT	АЕНЬ 000	12	13	14	15	16	17	18	19	20	21	22	23	01							
CDR	СОН	ДЕЙСТВИЯ ПОСЛЕ СНА				ПР ДТЧ ЖИДК КИСЛ	ИМП РСУ +X	С - Л З Е Ж	П О С Д Г	ПРИЕМ ПИЩИ			3 D А А Г Р	ИМП РСУ +X	С - Л З Е Ж	Д Н Р 2 Е Л О Ж В Н	ФИЗ УПР	Δ	М Р Е А Р О П	П Р ИНСТ Д/СБЛ	П С Д Ь Г Е Т М К
PLT	СОН	ДЕЙСТВИЯ ПОСЛЕ СНА				ПР ДАТ ЖИДК КИСЛ	ПОДГ ЭРГОМЕ -ТРА	ИМП РСУ +X	С Л Е Ж	В К Л А P C U	ФИЗ УПР		ПРИЕМ ПИЩИ		3 D А А Г Р	ИМП РСУ +X	ОЧИСТКА ФИЛЬТРА		П Д Г P G S C Д/СБЛ	П Р ИНСТ Д/СБЛ	К Н Т Р Т/ЭЛ
MS5/R1	СОН	ДЕЙСТВИЯ ПОСЛЕ СНА		Φ	Φ/ТВ 20 ПДГ	В К Л R M S	П Р В R V S	R M S О С М Т Р О П Н	В R Ы М К S Л	Φ/ТВ 09 ПДГ O S V S	В O K S Л V S	ПРИЕМ ПИЩИ		П Р О В O S V S			•	Φ/ТВ 02 В КАБ	М Р Е А Р О П		
MS1/EV1	СОН	ДЕЙСТВИЯ ПОСЛЕ СНА		ПОДГОТ ШО	Φ/ТВ 20 ПДГ	П Д Г S E E	ПОДГОТ ШО	П Р О В Е М У (2)			ПРИЕМ ПИЩИ		З М Н И П О Д Г О Н Е M U		П Р О В Е M U (2)			П Р О В S A F E R		∇	
MS2/EV2	СОН	ПОСЛЕ СНА - GIRA				В К Л R M S	П Р В R M S	R M S - О С М Т Р О П Н	В R Ы М К S Л	Φ/ТВ 09 ПДГ O S V S	ПРИЕМ ПИЩИ		З М Н И П О Д Г О Н Е M U		П Р O S V S		* П Р О В E M U (2)	П Р О В S A F E R		◇	В Ы Д В С Т Ы К Ш П
MS3/EV3	СОН	ДЕЙСТВИЯ ПОСЛЕ СНА		ПОДГОТ ШО	Φ/ТВ 20 ПДГ	П Д Г Φ/ТВ 22 В К Д	ПОДГОТ ШО	П Р О В Е M U (2)			ПРИЕМ ПИЩИ		З М Н И П О Д Г О Н Е M U		П Р О В E M U (2)			П Д Г Т P G S C	•	В Ы Д В С Т Ы К Ш П	
MS4/EV4	СОН	ДЕЙСТВИЯ ПОСЛЕ СНА		MAGR ИЗВЛ	ПОДГ MAGR	В К Л R M S	П Р В R M S	ПОДГОТ ШО	П Р О В E M U (2)			ПРИЕМ ПИЩИ		Ц И Ф К А М	П Д Г S S V	ФИЗ УПР		П Д Г P G S C Д/СБЛ	П Р ИНСТ Д/СБЛ	ПОДГ ОБОРУД	
ЗЕМЛЯ				Н Г Р В	ОЧСТ ВОЗД ФГБ			С W I I S				Н Г Р В		С W I I S			Н Г Р В				
СВЕТ/ТЕНЬ		■		■		■		■		■		■		■		■		■		■	
СУТОЧН. ВИТОК		14		15		16		1		2		3		4		5					
НИП		ISS SEE DAILY PLAN																			
ВИТОК		9		10		11		12		13		14		15		16					
ТДР		E (-47)		W (-171)		Z (+85)															
ОРИЕНТ ШТЛ		BIAS +XSI (TCS C/O)																			
ОРИЕНТ МКС		NC2																			
ПРИМЕЧАНИЯ		ΦОЧСТК НАГР/ФЛТР МСIU ⊕ПРОВКА КОРМ КОНТРОЛ ⊕ПОДГ ЭРГОМЕТРА ⊕ЭЛЕВОНЫ В НЕЙТРАЛЬ ⊕ВКЛ OIU ⊕ОКНЧ ДРЕНЖ ЧИСТ Н2O ΔСЛЕЖ -ZLV, -XVV •ВЫК OSVS ⊕YTR E ⊕ИНЧ ЗРД СБЛ																			

BETA ANGLE: +45.7

MT 10/07/00

PT АЕНЬ 001

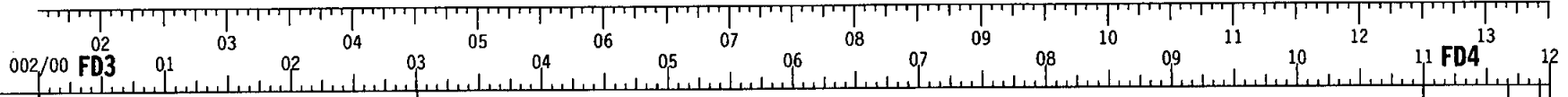


CDR DUFFY	ДЕЙСТВИЯ ДО СНА	ИМП РСУ +X	М-Н Z В L P V	ДЕЙСТВ -ИЯ ДО СНА	СОН	ДЕЙСТВИЯ ПОСЛЕ СНА	ВКЛ ГР В
PLT	ДЕЙСТВИЯ ДО СНА	ИМП РСУ +X	М-Н Z В L P V	ДЕЙСТВИЯ ДО СНА	СОН	ДЕЙСТВИЯ ПОСЛЕ СНА	ВКЛ ГР В
MS5/R1	ДЕЙСТВИЯ ДО СНА				СОН	ДЕЙСТВИЯ ПОСЛЕ СНА	
MS1/EV1	ДЕЙСТВИЯ ДО СНА				СОН	ДЕЙСТВИЯ ПОСЛЕ СНА	
MS2/EV2	ДЕЙСТВИЯ ДО СНА	ИМП РСУ +X	ДЕЙСТ ДО СНА - GIRA		СОН	ПОСЛЕ СНА - GIRA	
MS3/EV3	ДЕЙСТВИЯ ДО СНА				СОН	ДЕЙСТВИЯ ПОСЛЕ СНА	
MS4/EV4	ДЕЙСТВИЯ ДО СНА	МА G R	ДЕЙСТВИЯ ДО СНА		СОН	ДЕЙСТВИЯ ПОСЛЕ СНА	
ЗЕМЛЯ					С W I S	Н Г Р В	С W I S
СВЕТ/ТЕНЬ					С W I S	Н Г Р В	С W I S
СУТОЧН. ВИТОК	5	6	7	8	9	10	11
НИП	ISS SEE DAILY PLAN						
ВИТОК	17	18	19	20	21	22	23
ТДР	E (-47)						
	W (-171)						
	Z (+85)						
ОРИЕНТ ШТЛ	-ZLV, -XVV		NC3	-ZLV, -XVV			
ОРИЕНТ МКС					+XPH +ZNN		
ПРИМЕЧАНИЯ	♦Т/ЭЛ ПРОД - РУЧН		⊙ВЫСТВК ІMU - ЗВ ДТЧ				
	▼МЕД КОНФ ЧРЗ ОСА						
	▲ПЕРЕКЛЮЧЕНО ИСПАРИТ						

BETA ANGLE: +45.7

MT 10/08/00

PT АЕНЬ 002

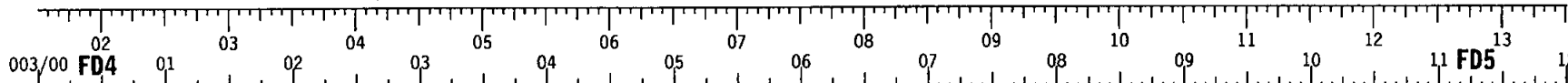


CDR	ДЕЙСТВИЯ ДО СНА		СОН										ПОСЛЕ СНА
PLT	ДЕЙСТВИЯ ДО СНА		СОН										ДЕЙСТВИЯ ПОСЛЕ СНА
MS5/R1	ДЕЙСТВИЯ ДО СНА		СОН										ДЕЙСТВИЯ ПОСЛЕ СНА
MS1/EV1	ДЕЙСТВИЯ ДО СНА		СОН										ДЕЙСТВИЯ ПОСЛЕ СНА
MS2/EV2/R2	ДЕЙСТ ДО СНА - GIRA		СОН										ПОСЛЕ СНА - GIRA
MS3/EV3	ДЕЙСТВИЯ ДО СНА		СОН										ДЕЙСТВИЯ ПОСЛЕ СНА
MS4/EV4/R3	ДЕЙСТВИЯ ДО СНА	МА А Г Р ДЕЙСТВИЯ ДО СНА	СОН										ДЕЙСТВИЯ ПОСЛЕ СНА
ЗЕМЛЯ	SWISS	TES CV TS	H G P V	SWISS	PR P C M	SWISS	H G P V	SWISS	ПДГ N1 ЗЕН СВМ	SWISS	НО А Т Г Л	SWISS	
СВЕТ/ТЕНЬ	[Shaded bars]												
СУТОЧН. ВИТОК	6	7	8	9	10	11	12	13	14				
НИП	[Scale]												
ВИТОК	32	33	34	35	36	37	38	39	40				
ПРКЛ TDRS	[Scale]												
ТДР	[Timeline with E (-47), W (-171), Z (+85) labels]												
STACK ATT	BIAS -XPH, -ZNN @ECS-ОТЛ КОМ ИСП												
ПРИМЕЧАНИЯ	▼ECS ОТЛ КОМ ОЧСТК												

BETA ANGLE: +44.9

MT 10/09/00

PT АЕНЬ 003

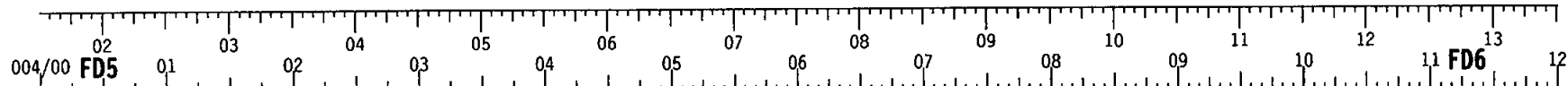


CDR	ДЕЙСТВИЯ ДО СНА	* П М Р Н О В Г Р Р	ДЕЙСТВИЯ ДО СНА	CON	ДЕЙСТВИЯ ПОСЛЕ СНА									
PLT	ДЕЙСТВИЯ ДО СНА			CON	ПОСЛЕ СНА									
MS5/R1	ПРСМТР ПРОЦЕДУР		ДЕЙСТВИЯ ДО СНА	CON	ДЕЙСТВИЯ ПОСЛЕ СНА									
MS1/EV1	ПРСМТР ПРОЦЕДУР		ДЕЙСТВИЯ ДО СНА	CON	ПОСЛЕ СНА									
MS2/EV2/R2	ПРСМТР ПРОЦЕДУР		ДЕЙСТ ДО СНА - GIRA	CON	GIRA									
MS3/EV3	ПРСМТР ПРОЦЕДУР		ДЕЙСТВИЯ ДО СНА	CON	ПОСЛЕ СНА									
MS4/EV4/R3	ПРСМТР ПРОЦЕДУР	M A G R	ДЕЙСТВИЯ ДО СНА	CON	ДЕЙСТВИЯ ПОСЛЕ СНА									
ЗЕМЛЯ		S W I S	В Е С К О Л М	S W I S	H A Г Р Е В	S W I S		S W I S	H A Г Р Е В	S W I S	КОНФ NCS		H A Г Р Е В	S W I S
СВЕТ/ТЕНЬ	[Shaded bars indicating light/shadow]													
СУТОЧН. ВИТОК	6	7	8	9	10	11	12	13	14					
НИП	[Horizontal bars]													
ВИТОК	48	49	50	51	52	53	54	55	56					
ПРКЛ TDRS	[Horizontal bars]													
ТДР	[Horizontal bars]													
E (-47)	[Horizontal bars]													
W (-171)	[Horizontal bars]													
Z (+85)	[Horizontal bars]													
STACK ATT	BIAS -XPH,+ZNN ØECS-ОТЛ КОМ ИСП ØПРОГР МНВР BIAS -XPH,-ZNN													
ПРИМЕЧАНИЯ	*Физ УПР *МЕД КОНФ ЧРЗ ОСА ♦ECS ОТЛ КОМ ОЧСТК ØECS-ОТЛ КОМ ИСП ØПРОГР МНВР BIAS -XPH,-ZNN ©NCS-DATA-LOADSHEED 7													

BETA ANGLE: +43.5

MT 10/10/00

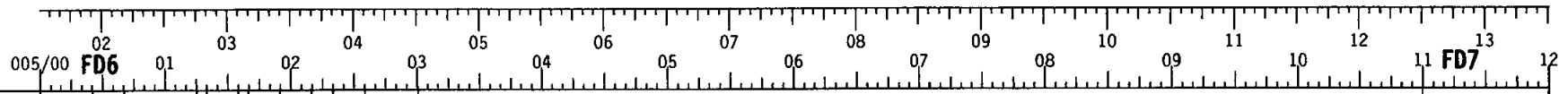
PT АЕНЬ 004



CDR	KOPP OP	M+ H Z B N P N	ДЕЙСТВИЯ ДО СНА *	⊕	П Р Н О В Г Р	CON	⊖	ДЕЙСТВИЯ ПОСЛЕ СНА			
PLT	KOPP OP		ДЕЙСТВИЯ ДО СНА			CON		ДЕЙСТВИЯ ПОСЛЕ СНА			
MS5/R1	♦	ПРСМТР ПРОЦЕДУР	ДЕЙСТВИЯ ДО СНА			CON		ДЕЙСТВИЯ ПОСЛЕ СНА			
MS1/EV1	ПРОВ SAFER	ПРСМТР ПРОЦЕДУР	ДЕЙСТВИЯ ДО СНА			CON		ДЕЙСТВИЯ ПОСЛЕ СНА			
MS2/EV2/R2	ПРОВ SAFER	ПРСМТР ПРОЦЕДУР	ДЕЙСТ ДО СНА - GIRA			CON		ПОСЛЕ СНА - GIRA			
MS3/EV3	ПОДГ ИНСТР	ПРСМТР ПРОЦЕДУР	ДЕЙСТВИЯ ДО СНА			CON		ДЕЙСТВИЯ ПОСЛЕ СНА			
MS4/EV4/R3	ПОДГ ИНСТР	ПРСМТР ПРОЦЕДУР	МА G R ДЕЙСТВИЯ ДО СНА			CON		ДЕЙСТВИЯ ПОСЛЕ СНА			
ЗЕМЛЯ	Н А Г Р Е В	С W I T S	ВКЛ НАГРЕВАТ	С W I T S	ВКЛ НАГРЕВАТ φ	Н А Г Р Е В	Δ	Н А Г Р Е В	С W I T S	СВМ-N1 NADIR-ПОДГ	С W I T S
СВЕТ/ТЕНЬ	[Shaded bars indicating light/dark periods]										
СУТОЧН. ВИТОК	61	7	8	9	10	11	12	13	14		
НИП											
ВИТОК	64	65	66	67	68	69	70	71			
ПРКЛ TDRS	[Horizontal bars indicating TDRS status]										
ТДР	[Horizontal bars indicating TDR status]										
STACK ATT	BIAS -XPH,+ZNN										
ПРИМЕЧАНИЯ	♦ДЕЙСТВИЯ ДО СНА ♦ПОДДЕРЖ 10,2 φS BD-STATUS ⊕ECS-ОТЛ КОМ ИСП ΔПДГТ СЭП К РМАЗ ⊕МЕД КОНФ ЧРЗ ОСА ▼ECS ОТЛ КОМ ОЧСТК ▲ЗАКР КЛ БЛ УПР ПИТ ⊖ПРОГР МНВР BIAS -XPH,-ZNN										

BETA ANGLE: +41.5

MT 10/11/00
PT АЕНЬ 005

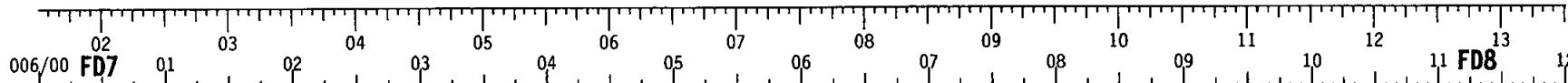


CDR	DO CHA	M+HX NBLV	◇	▽	DO CHA	M+Z NBN	Φ	PM PH OB GR	DO CHA	CON	ДЕЙСТВИЯ ПОСЛЕ СНА						
PLT	DO CHA	ОД Р В Ж	ДЕЙСТВИЯ ДО СНА	ОД К Н Ч	ДЕЙСТВИЯ ДО СНА					CON	ПОСЛЕ СНА						
MS5/R1	ДЕЙСТВИЯ ДО СНА		ПРСМТР ПРОЦЕДУР		ДЕЙСТВИЯ ДО СНА					CON	ПОСЛЕ СНА						
MS1/EV1	*	ПОДГ ИНСТР	ПРСМТР ПРОЦЕДУР		ДЕЙСТВИЯ ДО СНА					CON	ДЕЙСТВИЯ ПОСЛЕ СНА						
MS2/EV2/R2	*	ПОДГ ИНСТР	ПРСМТР ПРОЦЕДУР		ДЕЙСТ ДО СНА - GIRA					CON	ПОСЛЕ СНА - GIRA						
MS3/EV3	БАТ EMU	ПРОВ SAFER	ПРСМТР ПРОЦЕДУР		ДЕЙСТВИЯ ДО СНА					CON	ДЕЙСТВИЯ ПОСЛЕ СНА						
MS4/EV4/R3	⊕	ПРОВ SAFER	ПРСМТР ПРОЦЕДУР	МА А G R	ДЕЙСТВИЯ ДО СНА					CON	ДЕЙСТВИЯ ПОСЛЕ СНА						
ЗЕМЛЯ	НО А Т Г К Р Л	S W I S		Н В А К Г Л P	S W I S	ПРОВ НАГР РМАЗ	H G P B	S W I S	⊗	П R P C M	ЗАТЯГ БОЛТ РМАЗ	H G P B	S W I S	⊕	Δ	S W I S	
СВЕТ/ТЕНЬ	[Shaded bars]																
СУТОЧН. ВИТОК	7	8	9	10	11	12	13	14	15								
НИП																	
ВИТОК	79	80	81	82	83	84	85	86	87								
ПРКЛ TDRS	[Horizontal bars]																
ТДР	[Horizontal bars]																
E (-47)	[Horizontal bars]																
W (-171)	[Horizontal bars]																
Z (+85)	[Horizontal bars]																
STACK ATT	BIAS +ZLV, -YVV					BIAS -XPH, +ZNN					BIAS -XPH, -ZNN						
ПРИМЕЧАНИЯ	◇ДЕЙСТВИЯ ДО СНА ПОДДЕРЖ 10,2					⊗ECS-ОТЛ КОМ ИСП					▲ECS-BSP НАГР ВКЛ						
	*ЗМН ОБОР EMU					▼ECS ОТЛ КОМ ОЧСТК					⊕ПРОГР МНВР BIAS -XPH, -ZNN						
	●ВЫТВК ИМУ - ЗВ ДАТЧ										♦ВЫКЛ ВЕНТ NODE1						
	⊗ВАН ВВОР/ЛЮН СР ВМД КОНФ ЧРЗ ОСА										ΔВЫКЛ ОСВ						

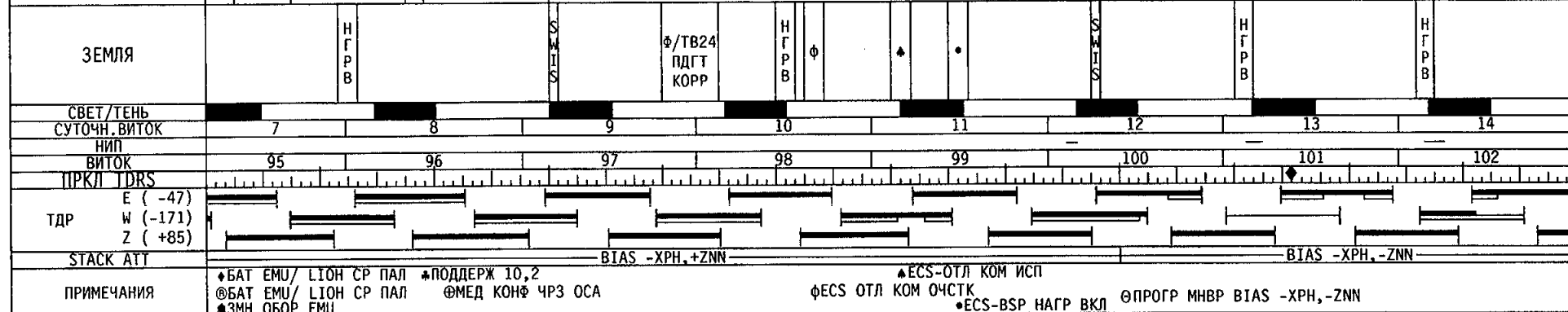
BETA ANGLE: +39.0

MT 10/12/00

PT АЕНЬ 006



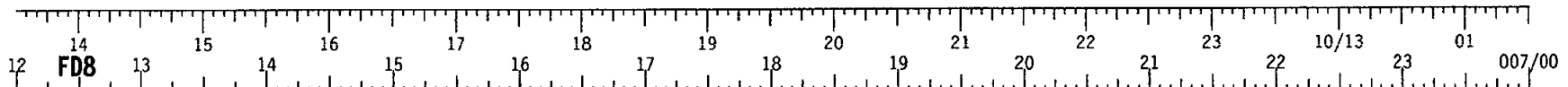
CDR	ДЕЙСТВИЯ ДО СНА		⊕	⊕	П Р Н О В Р	ДО СНА	СОН						ПОСЛЕ СНА		
PLT	ДЕЙСТВИЯ ДО СНА						СОН						ДЕЙСТВИЯ ПОСЛЕ СНА		
MS5/R1	ДЕЙСТВИЯ ДО СНА	ПРСМТР ПРОЦЕДУР	ДЕЙСТВИЯ ДО СНА				СОН						ДЕЙСТВИЯ ПОСЛЕ СНА		
MS1/EV1	♦	ПРОВ SAFER	ПРСМТР ПРОЦЕДУР	ДЕЙСТВИЯ ДО СНА				СОН						ДЕЙСТВИЯ ПОСЛЕ СНА	
MS2/EV2/R2	⊗	ПРОВ SAFER	ПРСМТР ПРОЦЕДУР	ДЕЙСТ ДО СНА - GIRA				СОН						ПОСЛЕ СНА - GIRA	
MS3/EV3	♥	ПОДГ ИНСТР	ПРСМТР ПРОЦЕДУР	ДЕЙСТВИЯ ДО СНА				СОН						ДЕЙСТВИЯ ПОСЛЕ СНА	
MS4/EV4/R3	Δ	ПОДГ ИНСТР	ПРСМТР ПРОЦЕДУР	М А G R	ДЕЙСТВИЯ ДО СНА				СОН						ДЕЙСТВИЯ ПОСЛЕ СНА



BETA ANGLE: +37.5

MT 10/12/00

PT АЕНЬ 006

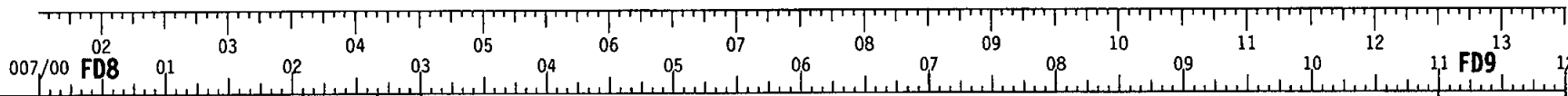


CDR	ПОСЛЕ СНА		Физ УПР	ПРИЕМ ПИЩИ	ПЕРЕНОС	КОРР ОР	MWD NAUTM VTRER	0							
PLT	⊕	⊕	10 2	ПОСЛЕ СНА	Физ УПР	*	ПРИЕМ ПИЩИ	ПЕРЕНОС	Φ/ТВ 24 ОСМТР МКС						
MS5/R1	ДЕЙСТВИЯ ПОСЛЕ СНА		М С I U	ВКЛ RMS	УСТ РАД	FRGF Z1	ПАН РЗМ Z1	ПРНС ЯКОР 4А	СНЯТЬ РАД	SAFER DTO	В R M K S L	Физ УПР			
MS1/EV1	ДЕЙСТВИЯ ПОСЛЕ СНА		ПДГ ВКД		⊗	ОБЕСП ВКД					НА Д Ш О	ОП ПОСЛЕ ВКД	БАТ ЕМУ/ LION CP ПАЛ		
MS2/EV2/R2	ПОСЛЕ СНА - GIRA		ПДГ Φ/ТВ 22 ВКД	Φ/ ТВ 22	ВКЛ RMS	УСТ РАД	FRGF Z1	ПАН РЗМ Z1	♥	СНЯТЬ РАД	SAFER DTO	1 0 2	ОП ПОСЛЕ ВКД	Δ	
MS3/EV3	ДЕЙСТВИЯ ПОСЛЕ СНА	ПДГ ВКД	ДЕСАТ ПРОД ЕМУ	Р З Г Ш О	П З Г Ш О	ПОДГ К ВКД	ЦИКЛ ЗШЛК RTAS	РСКР ПАН РЗМ Z1	ЦИКЛ МВМ	ПДГ/ КНФ 4А	ПРИБОРКА ПОСЛЕ ВКД	САFER ДМНСТР	НЕРАБ ЭКИП	НА Д Ш О	ОП ПОСЛЕ ВКД
MS4/EV4/R3	ДЕЙСТВИЯ ПОСЛЕ СНА	ПДГ ВКД	ДЕСАТ ПРОД ЕМУ	Р З Г Ш О	П З Г Ш О	ПОДГ К ВКД	ПЕРЕН FRGF	РСКР ПАН РЗМ Z1	Z1 TRAY PREP	ПДГ/ КНФ 4А	ПРИБОРКА ПОСЛЕ ВКД	САFER ДМНСТР	НЕРАБ ЭКИП	НА Д Ш О	ОП ПОСЛЕ ВКД
ЗЕМЛЯ	S M I S		S M I S		S M I S		S M I S		S M I S		НО А Т К Л	H B S A K L P S		S M I S	
СВЕТ/ТЕНЬ	[Bar chart showing light/shadow periods]														
СУТОЧН. ВИТОК	[Bar chart showing daily cycles]														
НИП	[Bar chart showing NIP]														
ВИТОК	[Bar chart showing cycles 103-110]														
ПРКЛ TDRS	[Bar chart showing TDRS]														
ТДР	[Bar chart showing TDR E (-47), W (-171), Z (+85)]														
STACK ATT	[Bar chart showing stack attitude]														
ПРИМЕЧАНИЯ	*МЕД КОНФ ЧРЗ ОСА ⊕ДЕЙСТВИЯ ПОСЛЕ СНА *ПОДГ К Φ/ТВ СЪЕМК 24 ⊕РЗГРМ ШО ⊗EVA INHIBIT PAD *ВЫКЛ БАТ ЕМУ СР ПАЛ *ECS ОТЛ КОМ ПРДЧ VREBOOST ATTITUDE ΔБАТ ЕМУ ⊕ПРИБОРКА ПОСЛЕ ВКД ОНЧЛ ОДВР ДРЕН														

BETA ANGLE: +36.0

MT 10/13/00

PT АЕНЬ 007



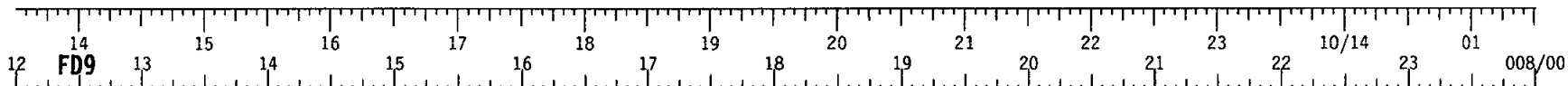
CDR	* * MNB +ZNN	◇	▽	П Р Н О В Г Р	CON	⊖	ДЕЙСТВИЯ ПОСЛЕ СНА		
PLT	ДЕЙСТВИЯ ДО СНА		⊕	ДЕЙСТВИЯ ДО СНА	CON		ДЕЙСТВИЯ ПОСЛЕ СНА		
MS5/R1	ДЕЙСТВИЯ ДО СНА				CON		ДЕЙСТВИЯ ПОСЛЕ СНА		
MS1/EV1	ДЕЙСТВИЯ ДО СНА				CON		ДЕЙСТВИЯ ПОСЛЕ СНА		
MS2/EV2/R2	ДЕЙСТ ДО СНА - GIRA				CON		ПОСЛЕ СНА - GIRA		
MS3/EV3	ДЕЙСТВИЯ ДО СНА				CON		ДЕЙСТВИЯ ПОСЛЕ СНА		
MS4/EV4/R3		M A G R	ДЕЙСТВИЯ ДО СНА		CON		ДЕЙСТВИЯ ПОСЛЕ СНА		
ЗЕМЛЯ	Δ		Н Г Р В	S W I T S	Н Г Р В	S W I T S	Φ/ТВ24 ПДГТ КОРР	Н Г Р В	⊗
СВЕТ/ТЕНЬ	[Shaded bars indicating light/shadow]								
СУТОЧН. ВИТОК	7	8	9	10	11	12	13	14	15
НИП	[Horizontal line]								
ВИТОК	110	111	112	113	114	115	116	117	118
ПРКЛ YDRS	[Horizontal line]								
ТДР	[Horizontal line]								
E (-47)	[Horizontal line]								
W (-171)	[Horizontal line]								
Z (+85)	[Horizontal line]								
STACK ATT	BIAS +ZLV, -YVV		ДЕЙСТВИЯ ДО СНА			BIAS -XPH, +ZNN		BIAS -XPH, -ZNN	
ПРИМЕЧАНИЯ	*ОКНЧ ОДН ДРН		*ОМЕД КОНФ ЧРЗ ОСА			♦ECS-ОТЛ КОМ ИСП		♦ECS-ВSP НАГР ВКЛ	
	*ВЫСТВК БИИΔECSВВАТНАГΦОДДЕРЖ 10,2		ΦОДДЕРЖ 10,2			▼РАН СВ-ЗАГР КЛЮЧ		⊖ПРОГР МНВР BIAS -XPH, -ZNN	

ΦГБ

BETA ANGLE: +34.4

MT 10/13/00

PT АЕНЬ 007

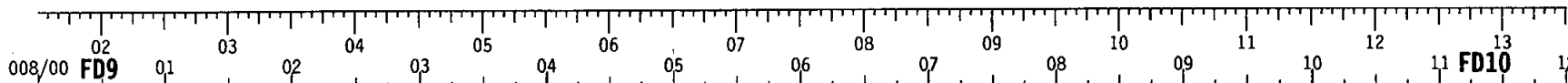


CDR	ДЕЙСТВИЯ ПОСЛЕ СНА	MNV DTO	ТЕСТ PRCS	МНВ -ХРН, -ZNN	ВХ 2 В N1	ВХОД В ФГБ	НАДД КАБ - 14,7	ПОВ НДДУВ КИСЛРД	ПЕРЕНОС	МРЕАРОПР	ПРИЕМ ПИЩИ	ВЫХ ИЗ ФГБ	CREW PHOTO	МРЕАРОПР	ВЫХ ИЗ ФГБ	φ	КОРР ОР	МНВ -ХРН, +ZNN	СОВЕЩ - РСТЫК
PLT	ДЕЙСТВИЯ ПОСЛЕ СНА		ТЕСТ PRCS	НАДКАБ		ВХ В Z1	ДООСН Z1 #2			МРЕАРОПР	ПРИЕМ ПИЩИ	ДООСН Z1 #2	ВЫХ ИЗ Z1	CREW PHOTO	МРЕАРОПР	УСТ МИШЕН	КОРР ОР		СОВЕЩ - РСТЫК
MS5/R1	ДЕЙСТВИЯ ПОСЛЕ СНА			МСТIU	ФИЗ УПР	ВКЛ RMS	ЗАКЛ ФОТО RMS	ВР ыМ КС Л	ПЕРЕНОС	МРЕАРОПР	ПРИЕМ ПИЩИ	φ/ТВ21 МКС ОП	CREW PHOTO	МРЕАРОПР	ВКЛ RMS	ЗАКЛ ФОТО RMS	ВР ыМ КС Л		СОВЕЩ - РСТЫК
MS1/EV1	ДЕЙСТВИЯ ПОСЛЕ СНА			ЗБА РЯ ДК	ФИЗ УПР			БАТ ЕМУ СР ПАЛ	φ/ТВ21 МКС ОП	МРЕАРОПР	ПРИЕМ ПИЩИ		CREW PHOTO	МРЕАРОПР	φ/ТВ21 МКС ОП				СОВЕЩ - РСТЫК
MS2/EV2/R2	ПОСЛЕ СНА - GIRA				УСТ Y-КБЛ N14B		СМГ-НТР-CHECKOUT			МРЕАРОПР	ПРИЕМ ПИЩИ		CREW PHOTO	МРЕАРОПР	УСТ МИШЕН	ФИЗ УПР	В S W K I L S		СОВЕЩ - РСТЫК
MS3/EV3	ДЕЙСТВИЯ ПОСЛЕ СНА	П Д / Г Т В 2 4	Ф / Т В 24 ОСМТР МКС		φ/ТВ21 МКС ОП	ФИЗ УПР			ДООСН Z1 #2	МРЕАРОПР	ПРИЕМ ПИЩИ	ДООСН Z1 #2	ВЫХ ИЗ Z1	CREW PHOTO	МРЕАРОПР	ВЫХ ИЗ N1	ВЫХ2 РМА2	П Г С Р Е С Ш Р М К	СОВЕЩ - РСТЫК
MS4/EV4/R3	ДЕЙСТВИЯ ПОСЛЕ СНА			В Р Х 2 В N1	ВХОД В ФГБ	ПЕРЕНОС	НАДДУВ КИСЛРД	ПЕРЕНОС	МРЕАРОПР	ПРИЕМ ПИЩИ	ВЫХ ИЗ ФГБ	CREW PHOTO	МРЕАРОПР	ВЫХ ИЗ N1	ВЫХ2 РМА2	П Р Г Е Р М С С Ш / Р М А 2			СОВЕЩ - РСТЫК
ЗЕМЛЯ		НО А Т К Р Л	С W I T S	Н В А К Л Р				В К Л О С В	З 1 Н Г Р	В К Л П И Т N O D E 1		С W I S	Н Г Р В		У В 1 2	НО А Т К Р Л	φ		Н В А К Л Р
СВЕТ/ТЕНЬ	[Shaded area from 15 to 16 and 2 to 3]																		
СУТОЧН. ВИТОК	[Shaded area from 15 to 16 and 2 to 3]																		
НИП	[Shaded area from 15 to 16 and 2 to 3]																		
ВИТОК	118	119	120	121	122	123	124	125	126										
ПРКЛ TDRS	[Timeline bars from 15 to 23]																		
ТДР	[Timeline bars for E (-47), W (-171), Z (+85) from 15 to 23]																		
STACK ATT	[Timeline bars for DTO, BIAS -ХРН, -ZNN, В +ХЛВ from 15 to 23]																		
ПРИМЕЧАНИЯ	ОВЫКЛ ЕСОММ @RACU6 ВЫКЛ ЕСОММ *ЗКР КВД ФГБ ВОЧСТК НАГР/ФЛТР МСIU ФРЕBOOST ATTITUDE *RACU6 ОТКЛ *СБРОС РСМ ВКЛ НАГРЕВАТ *СБР ОБЩ ДАВЛ *NCS- НВ ЛМД- ФГ NCS- МР З5/МВРДМБЕНТ N1 ФВЫКА ВВ НВЕНМV N1																		

BETA ANGLE: +32.6

MT 10/14/00

PT АЕНЬ 008

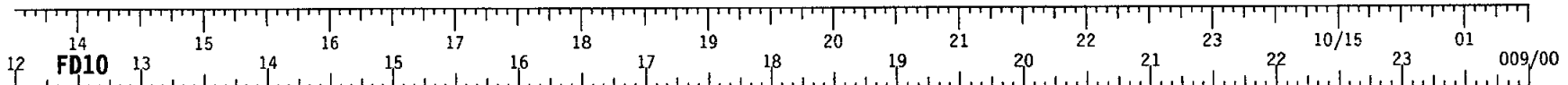


CDR	ДЕЙСТВИЯ ДО СНА	◇	П Р Н О В Г Р Р	ДЕЙСТВИЯ ДО СНА	СОН	ДЕЙСТВИЯ ПОСЛЕ СНА									
PLT	ДЕЙСТВИЯ ДО СНА				СОН	ДЕЙСТВИЯ ПОСЛЕ СНА									
MS5/R1	ДЕЙСТВИЯ ДО СНА				СОН	ДЕЙСТВИЯ ПОСЛЕ СНА									
MS1/EV1	ДЕЙСТВИЯ ДО СНА				СОН	ДЕЙСТВИЯ ПОСЛЕ СНА									
MS2/EV2/R2	ДЕЙСТ ДО СНА - GIRA				СОН	ПОСЛЕ СНА - GIRA									
MS3/EV3	ДЕЙСТВИЯ ДО СНА				СОН	ДЕЙСТВИЯ ПОСЛЕ СНА									
MS4/EV4/R3	ДЕЙСТВИЯ ДО СНА		М А Г Р	ДЕЙСТВИЯ ДО СНА	СОН	ДЕЙСТВИЯ ПОСЛЕ СНА									
ЗЕМЛЯ						С W I S	Н К 1 0 М Ф И Г								
СВЕТ/ТЕНЬ	[Bar chart showing light/shadow patterns]														
СУТОЧН. ВИТОК	7	8	9	10	11	12	13	14	15						
НИП															
ВИТОК	126	127	128	129	130	131	132	133	134						
ПРКЛ TDRS	[Bar chart showing TDRS status]														
ТДР	E (-47)	[Bar chart]													
	W (-171)	[Bar chart]													
	Z (+85)	[Bar chart]													
STACK ATT	BIAS -XPH.+ZNN														
ПРИМЕЧАНИЯ	◇МЕД КОНФ ЧРЗ ОСА					*РАН СВ-ЗАГР КЛЮЧ					*ВЫКЛ				

BETA ANGLE: +30.8

MT 10/14/00

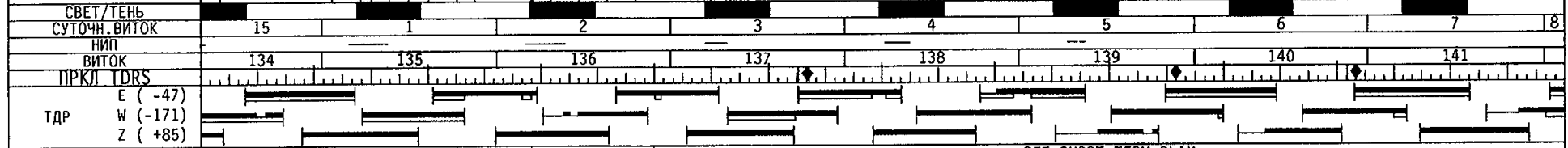
PT АЕНЬ 008



CDR	ДЕЙСТВИЯ ПОСЛЕ СНА	ВКЛ ГР В	МР НС ВТ РЫ К	РСТЫК	ОТДЕЛЕНИЕ	ЗВ ДТЧ -У	В Г Р В К В	МЕРОП РАО	♦	ПРИЕМ ПИЩИ	ФИЗ УПР	ОТДЫХ	⊕	ОТДЫХ	
PLT	ДЕЙСТВИЯ ПОСЛЕ СНА	ВКЛ ГР В		РСТЫК	ОТДЕЛЕНИЕ	ОЧИСТКА ФИЛЬТРА	В Г Р В К В	МЕРОП РАО		ПРИЕМ ПИЩИ	ОТДЫХ	ФИЗ УПР	ОТДЫХ	⊗	ОТДЫХ
MS5/R1	ДЕЙСТВИЯ ПОСЛЕ СНА			РСТЫК	ОТДЕЛЕНИЕ			МЕРОП РАО		ПРИЕМ ПИЩИ	ОТДЫХ	ФИЗ УПР	ОТДЫХ	♥	ОТДЫХ
MS1/EV1	ДЕЙСТВИЯ ПОСЛЕ СНА			Φ/ТВ 20 ПДГ	Φ/ТВ 20 ПДГ			МЕРОП РАО		ПРИЕМ ПИЩИ	ОТДЫХ	ФИЗ УПР	ОТДЫХ	Δ	ОТДЫХ
MS2/EV2/R2	ПОСЛЕ СНА - GIRA	ПДГ PGSC Д/СБЛ		РСТЫК	ОТДЕЛЕНИЕ	В Е Р К С Л	О Н Б А Д У В	Φ	К Т Н Е Т М Р П	МЕРОП РАО	•	ОТДЫХ	ФИЗ УПР	ОТДЫХ	
MS3/EV3	ДЕЙСТВИЯ ПОСЛЕ СНА	ПДГ PGSC Д/СБЛ		Φ/ТВ 20 ПДГ	Φ/ТВ 20 ПДГ	В Е Р К С Л	В О Р К У Л	Φ/ТВ 02 В КАБ		МЕРОП РАО	VTR ВОСПР	▽	ОТДЫХ	ФИЗ УПР	ОТДЫХ
MS4/EV4/R3	ДЕЙСТВИЯ ПОСЛЕ СНА			ФИЗ УПР	ОТДЕЛЕНИЕ					МЕРОП РАО		◇	ОТДЫХ	ОТДЫХ	

РАССТРОЙКА

ЗЕМЛЯ	♦	КНФ НАГР П/ВЫХ	ВЫК IMV N1	⊕	⊕	М Д М N 1	Δ	М Н В Р	С Е В В Ы С Т		С В К С Б	♥	Н О Н Ф И Г	+	
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ПРИМЕЧАНИЯ ♦ВЫК ВЕНТ NODE1 ⊕ACS П/УБЫТ *ACS РЕЖ УБЫТ фПРОВ КАМ 1 СВ (А) ♦СЛЕЖ -ZLV, -XVV •ЧАСТН РАЗГ ЧРЗ ОСА ⊕ЧАСТН РАЗГ ЧРЗ ОСА ΔЧАСТН РАЗГ ЧРЗ ОСА @ЧАСТН РАЗГ ЧРЗ ОСА *UNDOCK 8/14:55 ∇ЧАСТН РАЗГ ЧРЗ ОСА @ЧАСТН РАЗГ ЧРЗ ОСА ◊ЧАСТН РАЗГ ЧРЗ ОСА ♥ЧАСТН РАЗГ ЧРЗ ОСА

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FLIGHT PLAN NOTES

FLIGHT PLAN
NOTES

FLIGHT PLAN NOTES
(CONSTRAINTS AND GUIDELINES)

A. FLIGHT DESCRIPTION

Launch Date: 10/05/00
 Launch Time: 20:30 CDT
 Orbiter: OV103/Discovery
 Inclination: 51.6°
 Insertion Altitude: 173 nm
 ISS RNDZ Altitude: 205 nm
 Duration: 11 + 0 + 2 days

B. MAJOR EVENTS

<u>MAJOR EVENT</u>	<u>MET</u>	<u>DATE</u>	<u>CDT</u>
Launch	00 00:00	10/05/00	20:30
OMS-2	00 00:44	10/05/00	21:14
NC1	00 03:43	10/06/00	00:13
NC2	00 17:19	10/06/00	13:49
NPC	00 20:49	10/06/00	17:19
NC3	01 01:59	10/06/00	22:29
NH	01 12:36*	10/07/00	09:06
NC4	01 13:21*	10/07/00	09:51
TI	01 14:53*	10/07/00	11:23
Dock	01 18:38*	10/07/00	15:08
Z1 Install	02 13:30	10/08/00	10:00
ISS Ingress 1	02 18:50	10/08/00	15:20
EVA 1 Start	03 15:20	10/09/00	11:50
EVA 2 Start	04 15:15	10/10/00	11:45
EVA 3 Start	05 15:30	10/11/00	12:00
EVA 4 Start	06 15:30	10/12/00	12:00
ISS Ingress 2	07 14:30	10/13/00	11:00
Undock	08 14:55	10/14/00	11:25
Sep	08 15:57	10/14/00	12:27
Deorbit	10 17:57	10/16/00	14:27
KSC Landing	10 18:57	10/16/00	15:27

*RNDZ events are scheduled 1 rev later than shown in the STS-92 Level A Groundrules and Constraints because the docking shifted from DO2 to DO3.

C. LANDING OPPORTUNITIES

		<u>Landing Orbit No.</u>	<u>Site</u>	<u>Local Time</u>	<u>MET</u>
Nominal	Primary	170	KSC	16:34	10/19:04
	1 Rev Late	171	KSC	18:10	10/20:40
1 Day Late	Primary	186	KSC	17:09	11/19:38
	1 Rev Late	187	KSC	18:45	11/21:15
2 Days Late	Primary	201	KSC	16:08	12/18:37
	1 Rev Late	201	KSC	17:44	12/20:13

FLIGHT PLAN
NOTES

D. CREW

CDR – Brian Duffy
PLT – Pam Melroy
MS1 (EV1) – Leroy Chiao
MS2 (EV2) – Bill McArthur
MS3 (EV3) – Jeff Wisoff
MS4 (EV4) – Michael Lopez-Alegria
MS5 (RMS) – Koichi Wakata

E. COMMUNICATIONS

Shuttle

TDRS Support: East (47° W), West (171° W), Z (85° E)
Backup Real-Time TV: MIL (MLX)
Contingency GSTDN: MLX*, BDA, (BDX*), and WLP
Contingency RTS: HTS, IOS*, CGS, DGS, OTS*, and NHS

*UHF capability

Lead time for site callup – GSTDN – 2 hr, RTS – 4 hr

Station (US Assets)

TDRS Support (early comm): East (41° W), West (174° W), Z (85° E)

Station (Russian Assets)

Communications with MCC–M via Russian ground sites (DJS, PPK, KLP, ULD, SHK, USK)

F. PAYLOADS

1. LAUNCH PACKAGE (LP) 3A

STS–92 will deliver and install two large exterior components on the station. The 3A launch package consists of the Integrated Truss Segment Z1 (referred to as Z1) and the Pressurized Mating Adapter (PMA3). The RMS is used to unberth Z1 and PMA3, and maneuver them into position for installation. Four EVAs are scheduled to outfit Z1 and PMA3 for on-orbit operations. Subsequent flights are dependent on the success of the 3A assembly objectives. Notably, the 4A mission will dock to PMA3 and install the P6 to Z1.

The Z1 is installed on the zenith port of Node 1 via a common berthing mechanism (CBM). This is the first on-orbit operation of the CBM, which remotely drives 4 latches and 16 bolts to secure the Z1 truss. Z1 is launched pre-integrated with the following Orbital Replacement Units (ORUs): S-band Antenna Subassembly (SASA), Space-to-Ground Antenna (SGANT), four Control Moment Gyros (CGMs), two Plasma Contactor Units (PCUs), and two Secondary Power Distribution Assemblies (SPDAs). After Z1 is installed on station, two DC-to-DC Converter Units (DDCUs) are removed from the orbiter payload bay longeron and installed into the Z1 during an EVA. Three EVAs are required to configure Z1 components and connect electrical umbilicals.

The PMA3 is installed on the nadir side of Node 1 using a CBM interface. Before the RMS can unberth the PMA3, the crew releases the 16 bolts, which hold the PMA3 to the Spacelab Pallet (SLP) it was launched on. The crew also connects the PMA3 electrical umbilicals to the Node. Most of the PMA3 work is completed in one EVA.

Several new orbiter resources are available to support assembly mission success. Orbiter power is provided to station through two Assembly Power

Converter Units (APCUs), which power the CBM and node fans. The crew has command and telemetry interface with station via the Orbiter Interface Unit (OIU) and the Portable Computer System (PCS). A PGSC is also connected to the shuttle Wireless Instrumentation System (WIS), which measures and transmits Z1 component temperatures to the shuttle for OCA downlink to MCC-H. The Orbiter Space Vision System (OSVS), mounted in the aft flight deck, provides synthetic video images to the RMS operator during the Z1 and PMA3 mating phases.

2. IMAX CARGO BAY CAMERA-3D (ICBC3D)

The ICBC-3D payload is a 65mm color 3D motion picture camera system. The system consists of a camera, lens turret assembly, and film magazine containing 5400 ft of film. The camera system is housed in an insulated pressurized enclosure with a movable lens window cover, and is mounted in the aft cargo bay on a Get-Away Special (GAS) beam. ICBC3D is controlled by the crew via the PGSC. The ICBC3D will document the shuttle approach and undocking, ISS assembly tasks, and EVA crew activities.

3. IMAX-3D

The IMAX-3D (in-cabin) camera will document EVA prep and post-EVA activities in support of EVA 3 and EVA 4. STS-92 will launch two new rolls of film and the IMAX-3D will be retrieved from station during the first ingress. Each roll contains four 30 sec shots. The IMAX-3D will be returned to station during the second ingress.

G. ON-ORBIT DETAILED TEST OBJECTIVES (DTOs)

1. STRUCTURAL DYNAMICS MODEL VERIFICATION (DTO 257)

This DTO will fire a sequence of primary RCS jets to excite the structural dynamics of the mated stack to acquire data on natural frequencies and their corresponding structural damping. The test intends to confirm that primary RCS is acceptable when vernier RCS is not available.

2. INCAPACITATED EVA CREWMEMBER TRANSLATION (DTO 675)

The objective of this DTO is to verify techniques to allow an EVA crewmember to return an incapacitated EVA crewmember to the shuttle airlock. The DTO will evaluate several techniques to determine which techniques are most efficient. This DTO will only be performed if all station assembly tasks are completed and consumables are available.

3. USA SAFER FLIGHT DEMO (DTO 689)

The purpose of the DTO is to demonstrate that the USA Simplified Aid for EVA Rescue (SAFER) design performs as expected, and to build confidence in the design through an end-to-end on-orbit functional checkout. There are two test objectives that check out rotation/translation controllers and perform a point-to-point translation. This DTO will be performed only if all station assembly tasks are completed and consumables are available.

4. SINGLE STRING GLOBAL POSITIONING SYSTEM (DTO 700-14, CONFIG B)

DTO 700-14 will demonstrate the performance and operation of the Global Positioning System (GPS) during orbiter ascent, on-orbit, and entry phases. It utilizes a modified military GPS receiver processor and the existing orbiter GPS antennas and records data on a PGSC hard drive.

5. SOLID STATE STAR TRACKER (SSST) SIZE LIMITATIONS (DTO 847)

The objective of this DTO is to characterize the performance of the SSST with a large and bright target. The assumption is that the SSST (-Y star tracker) will be able to track an object large enough and bright enough to eliminate the potential problems with Image Dissecting Tracker (-Z star tracker) during day tracker passes for station flights.

H. ON-ORBIT DETAILED SUPPLEMENTAL OBJECTIVES (DSOs)

No on-orbit DSOs have been identified for this flight.

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FLIGHT PLAN WALKTHROUGH (WITH RATIONALE)

FLIGHT PLAN WALKTHROUGH (WITH RATIONALE)

Flight Day 1

- MCC–H begins Node 1 Heater Reconfiguration and Warmups in support of 3A docked ISS ingress capability.
- Setups completed for PGSCs (OCA, network, SWIS*)
*SWIS may not be set up until the following day, depending on crew time.
- IMU Align activities have been added throughout the flight whenever an SOPA (Star Of Probability Alignment) is available. The first SOPA occurs this day.
- To verify preflight thermal analysis, two test attitudes* are flown during the crew sleep period. The thermal community requested approximately 6–hr durations in +XSI and –XSI. All maneuvers and attitude holding will be done on the ALT DAP to conserve prop during the undocked portion of the mission.
*Scheduled on a noninterference basis of the rndz burns
- The crew goes to sleep 5 hr after launch in support of docking over Russian ground sites.
- Once SWIS is setup, MCC–H will downlink the data via OCA once every three orbits until docking.

Flight Day 2

- Once the second thermal test attitude is completed, the orbiter will fly a minimal risk debris attitude, –ZLV, –XVV. Deviations from this attitude occur for the rndz burns.
- Checkouts of the APCU, EMU, SAFER, RMS, OSVS, and RNDZ systems are completed along with Ergometer, Fuel Cell Monitoring, Photo/TV, and Pre–Ingress setups.
- OIU checkout is accomplished leaving the OIU powered on in support of docked operations.
- The day’s activities are scheduled to ensure all RMS operators receive adequate time using the RMS. EVA crewmembers check out their own EMUs.
- A PAO event with NASDA is scheduled for the CDR and MS5 in the afternoon. CDR and MS5 are the crewmembers requested for this event. The next PAO event will not occur until FD 9 after all the EVAs have been completed.
- MCC–M begins scrubbing the FGB atmosphere. The air scrubbing will last for approximately 48 hr.
- The crew will sleep shift two hr earlier this night in support of docking over Russian ground sites. No other sleep shifting is required for a nominal daily orbit 3 docking.

Flight Day 3

- The SWIS software is deactivated in support of rendezvous operations and will be reactivated once docking operations are completed.
- Docking occurs on daily orbit 3 with two more revs of Russian command and telemetry ground sites available. Docking was moved from DO2 to DO3 (at FOP) to minimize the impact to the crew sleep cycle.
- Early Comm is powered off after docking and will be powered back on when needed for undocking and as required during the docked phase.
- Once docked, leak checks and preparation for ISS ingress begin. APCUs are powered in support of Node 1 cabin fan activation. The 2–hour node air scrub is not required ($T\text{-value} < 1$), so node ingress can start immediately. PMA1 hatch is opened, but pressure between PMA1 and FGB is not equalized until after Z1 is installed.
- RMS PGSC setup is scheduled after docking to give the RMS operators some additional time to adjust the location of any PGSC for the docked timeframe. The scheduled RMS PLB Survey is for photo documentation of the ISS stack and to familiarize the RMS operator with the docked layout of the PLB.
- After docking, the crew will reactivate SWIS and MCC–H will downlink via OCA the temperature data once per orbit until 48 hours after Z1 heater activation. The thermal community will use these data to verify their preflight analysis and to track temperature trends on the Z1 truss.

- When MCC–M gives a ‘go’ for the orbiter to have ISS stack attitude control, the crew will mnvr the stack to a bias –XPH,–ZNN, (180,15,180) IYPR attitude. The goal is to keep the Z1 ammonia lines from overheating while the Z1 is sitting in the payload bay.
- During the docked timeframe, all maneuvers and crew sleep attitude holding will be on the VERN DAP. Docked crew awake timeframe attitude holding will be on the ALT, LO Z DAP. The 15 degree pitch is designed to conserve forward propellant.
- During the crew sleep period, MCC–H will begin ground commanding in support of tomorrow’s Z1 Truss installation activities. In particular, the first half of Node 1 Zenith CBM Prep procedure will be done by MCC–H with crew picking up in the morning where MCC–H left off.
- MCC–H will perform tests to characterize the OSVS in support of tomorrow’s Z1 installation. The crew will power up the OSVS before going to sleep for MCC–H overnight tests.
- EPCS setup is done before ECS powerdown in order to assign EPCS to slot 2 and allow future simo EPCS/ECS operations.

Flight Day 4

- The day begins with a maneuver to the LVLH equivalent (+XLV, +YVV) of the biased –XPH,–ZNN at orbital noon for a simo dump. If it is timed correctly and the orbiter is in a good position in the deadband phase plane, there should be no jet firings and no prop will be used. Even if we are not in a good position in the phase plane, any jet firings will be minimal. A waste dump is performed before taking the Z1 truss out of the payload bay because of contamination constraints. The next waste dump will not be performed until all of the Z1 truss umbilicals are connected to Node 1. MCC–H powers down the Node 1 heaters before going to the dump attitude and will power on the Node 1 heaters once the LVLH hold is completed. The heaters are powered down because the dump attitude is bad for ISS power generation. At the next orbital noon (1 rev later) the orbiter will go back to holding the day MPA, bias –XPH,–ZNN, (180,15,180) IYPR, on VERN.
- There is a SOPA in the dump attitude so an IMU Align was added to the day.
- MCC–M completes the air scrubbing of the FGB in the morning.
- In the morning the crew will install the Z1 truss on the Node 1 zenith port. The crew will be executing the Z1 installation from the Z1 Install Checklist located in section 4 of the flight plan. The checklist was created to keep the crew and MCC–H on the same page, plus add some helpful notes throughout the installation such as thermal and commanding constraints. The major items in the checklist are:
 - PLT performs all CBM commanding using the PCS. The PLT picks up where MCC–H stopped in Node 1 Zenith CBM Prep for Mate. MCC–H performs the first 20 steps of the procedure in the previous crew sleep period. A 4–hr time gap exists between when MCC–H completed steps 1 thru 20 and when PLT begins step 21. This was done to give the MCC–H time to troubleshoot any errors or problems encountered during the first steps.
 - MS5 performs all of the RMS activities. Once the PLT has completed the Node 1 Zenith CBM Prep for Mate, MS5 will grapple the Z1 truss using the RMS. Grappling occurs after CBM Prep because the RMS camera is needed for CBM viewing during CBM Prep.
 - CDR performs all of the orbiter maneuvers, DAP changes, and ICBC filming during the installation.
 - The Z1 truss has no active heating or cooling in the PLB and is very sensitive to temperatures. Once docked, the Z1 needs to be taken out of the PLB within 20 to 25 hr depending on the beta, otherwise its ammonia lines will overheat. The Z1 truss begins to cool once it is out of the payload bay. The Z1 truss is considered out of the payload bay once it is at the low hover position in the Z1 Unberth procedure. A maneuver to a bias –XPH,+ZNN, (180,–15,0) IYPR, must be done to keep the Z1 warm. It may take up to 30 min to get into attitude. The RMS cannot be used during this timeframe, so the best use of the maneuver time is when the Z1 truss is at the high hover position (approximately 10 min after low

hover). At high hover, MS5 and MS2 can perform the OSVS setup while the orbiter is maneuvering.

At the Z1 Unberth low hover position, the Z1 thermal maneuver may be done if the comm is looking bad; however, another wait period will occur later for the OSVS setup.

Due to lighting (shadow) concerns, OSVS install should occur at night.

- In the early afternoon MCC–M will command open the FGB valves in preparation for the ISS ingress. One orbit later the TsV 1,2 fans will be activated when the crew is ingressing the FGB. PMA1 Ingress will resume by equalizing pressure between PMA1 and FGB, and the crew can begin FGB ingress activities.
- The ISS will be repressed to 14.7 psi after completion of FGB Ingress.
- N14B Y Jumper installation step 2 was added to the ingress activities in preparation for FD08 installation. It is assumed the 2A.2B did not leave it set up. Behind the same panel, the LB GNC jumpers will be connected in preparation for CMG data collection on FD9.
- After the Node 1 ingress procedure has been completed, the crew will begin working on the Z1 vestibule activities. The ground straps will be installed along with two CPAs being removed. The Z1 vestibule hatch will be left at vacuum, but no leak checks performed.
- After the crew finishes the FGB Egress activity, MCC–M commands closed all of the valves and deactivates the TsV 1,2 fan.
- A 10.2 depress, prebreathe, and EVA tool configuration is performed after all hatches have been closed. The 10.2 depress can be delayed by only approximately 90 min before impacting the following EVA day.
- MCC–H replaces Node 1 Shell Warm Ups with Manual Heat Soaks after ISS egress is completed. These are done in support of ISS ingress on FD09. The Shell Warm Up Manual Heat Soaks commands will be uplinked every 4 hr throughout the crew sleep.
- After the crew egresses the ISS, MCC–H commands the Node 1 cabin fan off. The cabin fan is powered down in anticipation of the MDMs coming down in support of EVA 1 umbilical tasks.
- A maneuver to bias –XPH, –ZNN, (180,15,180) IYPR, is future loaded before the crew goes to sleep. This attitude cools the airlock external lines and the Z1 truss. The airlock water lines heat up in the +ZNN Z1 warming attitude. The water lines must be cooled down to acceptable limits in support of the EVA crew performing EVA preparation activities at the nominal time.
- Before RACU power off, the Z1 and PMA3 configuration is loaded into NCS (EEPROM), and once the MDM is repowered (after RACU on) the command paths are enabled.

Flight Day 5

- This day was reworked at a few of the JOPs. The write–up for this day is based on the last JOP EVA 1 discussion on 9/30/99 along with incorporating the added activities and constraints from the 9/2/99 JOP.
- The EVA crew performs 1 hr and 15 min of Post–Sleep activities before starting EVA Prep activities. The rest of the crew performs 2 hr of Post–Sleep activities this day.
- 10.2 psi Maintenance activities are scheduled three times a day on EVA days. Once in the morning during Post–Sleep, after Airlock Repress, and in the Pre–Sleep timeframe.
- Orbiter midflight reconfigurations are scheduled on this day. Activities scheduled are RCS Regulator Reconfigure in the morning and Heater Reconfigure to Config B in the afternoon.
- An IMU Align has been scheduled when there is an SOPA midmorning.
- While the EVA crew is preparing for the day's EVA, a maneuver to –XSI is completed on the VERN DAP. This attitude warms the unpowered Z1 SASA component on the stack.
- The EVA 1 (PET 6:30) timeline was reordered to the following EVA task sequences: Setup, Z1 String 1 Umbilical connections, SASA Relocation, Z1 String 2 Umbilical connections, SGANT Dish Installation, SGANT Boom Deploy, Port ETSD Installation, and Cleanup. The matrix below contains rationale and constraints for EVA 1 and the ground commanding in support of EVA tasks.

Daily Orbit	Activity	Duration	Constraints
—	N1-1 Configure Pre 3A Umbilical Operations	00:15	<ul style="list-style-type: none"> -Needs to be completed prior to RACU 6 Powerdown. -Step 6,7 need to be done just prior to RACU 6 Powerdown to minimize the time of String data loss.
—	Node 1 Shell Warm up-Manual Heat Soak	00:10	<ul style="list-style-type: none"> -MCC-H performs activity prior to losing String 1 in order to reconfigure the Node 1 shell heaters.
1	RACU 6 Powerdown	00:05	<ul style="list-style-type: none"> -RACU commanding must be done by MCC-M over a REGUL ground site. -Must be completed prior to String 1 umbilical connections.
—	Early Comm Powerup	00:10	<ul style="list-style-type: none"> -MCC-H will perform step 2 of the procedure to turn on the Ant Heater <i>Rationale: Early Comm is nominally kept warm by String 1, but since String is deactivated the Ant Heater is needed to keep Early Comm from freezing.</i>
—	EVA: Z1 String 1 Umbilical Connections	00:30	<ul style="list-style-type: none"> -RACU 6 must be deactivated before the EVA crew can complete three of the four connections. -Want to complete String 1 first because survival heaters are on String 1. Heaters are needed to keep the SGANT alive once deployed.
2	RACU 6 Powerup	00:05	<ul style="list-style-type: none"> -RACU commanding must be done by MCC-M over a REGUL ground site.
2	N1-1 Configure Post 3A Umbilical Operations	00:05	<ul style="list-style-type: none"> -Activity performs minimal steps needed to bring String 1 back up after RACU 6 Powerup completed.
—	Z1 Heater Activation – String 1	00:10	<ul style="list-style-type: none"> -String 1 heaters are activated after String 1 is operational. -Provides power to the Z1 survival heaters.
2	RACU 5 Powerdown	00:05	<ul style="list-style-type: none"> -MCC-M will time tag the RACU 5 to powerdown to occur fifteen min after RACU 6 Powerup complete. <i>Rationale: MCC-M will feel comfortable with time tagging a powerdown once a nominal cycling of RACU 6 has been completed.</i> -A delay of fifteen min is need to allow time for MCC-H to perform a RPCM Power On Reset. <i>Rationale: MCC-H needs to verify String 1 is activated before String 2 (RACU 5) is deactivated. The MDMs will freeze if both strings are deactivated simultaneously. Always need at least one string activated.</i> -RACU 5 must be powered down in order to complete Z1 String 2 Umbilical connections which nominally begin twenty-five min after DO2 ground site passes.
—	RPCM POWER ON RESET	00:05	<ul style="list-style-type: none"> -MCC-H performs steps 1,6 to verify String 1 activation. -Needs to be competed after RACU 6 Powerup but before RACU 5 Powerdown.
—	N1-2 Configure Pre 3A Umbilical Operations	00:10	<ul style="list-style-type: none"> -Provides a graceful powerdown of String 2 in preparation of time tagged RACU 5 Powerdown. -Not required to be completed but highly desired.

Daily Orbit	Activity	Duration	Constraints
—	EVA: SASA Relocation	01:05	<ul style="list-style-type: none"> –SASA needs to be relocated once String 1 umbilical connections are completed (Flt Rule x18.4.1–7). <i>Rationale: SASA has thermal issues that will be minimized once moved to its on-orbit location and heater power provided by String 1.</i> –MCC–M’s time tagged RACU 5 Powerdown occurs during this EVA task.
—	EVA: Z1 String 2 Umbilical Connections	00:30	<ul style="list-style-type: none"> –RACU 5 must be deactivated before the EVA crew can complete three of the four connections. –Need to complete connections before SGANT Installation task is done because of clearance issues.
—	EVA: SGANT Dish Installation	1:00	–An NCR (worked by EPS/Alan Crocker) allows String 1 to remain powered when the SGANT is installed.
3	RACU 5 Powerup	00:05	<ul style="list-style-type: none"> –RACU commanding must be done by MCC–M over a REGUL ground site. –RACU 5 and String 2 Powerup will occur during the SGANT Installation EVA task. Once String 2 is activated, the SGANT Heater Activation can be done.
3	N1–2 Configure Post 3A Umbilical Operations	00:05	–Activity performs minimal steps needed to bring String 2 back up after RACU 5 Powerup completed.
—	Z1 Heater Activation– String 2	00:10	<ul style="list-style-type: none"> –String 2 heaters are activated after String 2 is operational. –Provides power to the Z1 heaters.
—	C&DH RECONFIG FOR NODE1 MDMS	00:10	–After the Z1 umbilical connections for Strings 1,2 are completed and RACU powerups are done, the ISS onboard systems need to be reset. MCC–H performs this activity while the SGANT Dish is installed.
—	Node1/PMA1/MD M Heater Recovery	00:10	–After the Z1 umbilical connections for Strings 1,2 are completed and RACU power ups are done, the ISS on-board systems need to be reset. MCC–H performs step 3 of this activity while the SGANT Dish is installed.
—	EVA: SGANT Boom Deploy	00:20	–Survival heaters are needed to keep SGANT alive once in the Deploy location.
—	Node 1 Shell Warm up–Manual Heat Soak	00:10	–MCC–H performs activity post String 2 umbilical connections and Heater Recovery in order to reconfigure the Node 1 shell heaters.
—	RPCM POWER ON RESET	00:05	<ul style="list-style-type: none"> –MCC–H performs steps 2,5 to verify String 2 activation. –Needs to be completed after RACU 5 Powerup.
—	EVA: Port ETSD Installation	1:00	–Task can easily be moved to a later EVA if earlier tasks run long.

- ICBC3D filming is done at specified times in the EVA.
- Once the EVA is completed, the rest of the afternoon activities are Post-EVA, Safer Checkouts, and EMU Swap, plus more tasks in support of tomorrow's EVA.
- Reboosts are scheduled for 30 minutes (VRCS on-time constraint) throughout the docked mission.
- In Pre-Sleep, the stack maneuvers to a bias -XPH, +ZNN, (180,-15,0) IYPR attitude. This attitude keeps the Z1 components warm but also overheats the airlock external lines. The Z1 components are warmed up in preparation for going to an attitude for cooling of airlock external lines.
- A maneuver to bias -XPH, -ZNN, (180,15,180) IYPR is future loaded before the crew goes to sleep. This attitude cools the airlock external lines and the Z1 truss. The airlock water lines heated up in the +ZNN attitude. The water lines must be cooled down to acceptable limits in support of the EVA crew performing EVA preparation activities at the nominal time.
- In support of PMA3 installation the next day, MCC-H performs some ground commanding during the crew sleep timeframe. Three hours before crew wakeup, MCC-H performs EPS Prep for PMA3 Umbilical Connection, followed an hour later by Node 1 Nadir CBM RPC Inhibit Removal. Both activities must be done prior to MCC-H performing steps 1 thru 20 of Node 1 Nadir CBM Prep for Mate.
- MCC-H performs the last Shell Warmup Manual Heat Soak this night and will begin doing Node1/PMA1 Shell Warmup and Maintenance again every 4 hr.

Flight Day 6

- At crew wakeup, MCC-H will have completed the Node 1 Nadir CBM Prep for Mate steps one to twenty. Ground commanding activities were scheduled during crew sleep to allow MCC-H time to troubleshoot any off-nominal occurrences seen during procedures. This is the same philosophy as for the Z1 installation.
- The crew performs one and one-half hr of Post-Sleep activities before beginning EVA Prep activities.
- 10.2 psi Maintenance activities are scheduled three times a day on EVA days. Once in the morning during Post-Sleep, after Airlock Repress, and in the Pre Sleep timeframe.
- While the EVA crew is preparing for the EVA, the other crewmembers transition to the PMA3 Integrated Procedure Checklist. The PMA3 checklist was created for the same reasons as the Z1 checklist. The PMA3 checklist also lists the EVA tasks occurring concurrently with the CBM and RMS tasks for reference only.
- The EVA (PET 6:30) timeline for the day is as follows: EVA Setup (00:30), PMA3 Release from SLP (1:15), RTAS LL Release/CIDS Relocation (00:45), Assist PMA3 Berth Ops (00:45), RTAS LL Release/IAPFR Relocation (00:30), Connect PMA3 Umbilicals (1:15), and Cleanup (01:00).
- The PMA3 Integrated Procedure Checklist is located in section four of the flight plan. The major items of the checklist are:
 - Once the EVA crew begins setup, the RMS operator, MS5, performs Node 1 Nadir Inspection while the PLT performs Node 1 Nadir CBM Prep for Mate.
 - PLT will begin on step 21 of CBM Prep, which is the petal cover deploy step.
 - After completion the Node 1 Nadir Inspection, the RMS Operator performs PMA3 Grapple. Once PMA 3 grapple is completed, the EVA crew will have four bolts left to release the PMA3 from the SLP.
 - For the release of the last four bolts, the orbiter must be in free drift. MCC-H will perform a Node1/PMA1 Shell Warmup and Maintenance before the orbiter goes into free drift. This is to prepare the Node for a free drift period.
 - The RMS operator will begin PMA3 Unberth activities once all the bolts have been released, then continue with PMA3 Install activities. Once the PMA is at the low hover position, the orbiter will hold attitude and the EVA crew will go off to perform free floater tasks.

- EVA crewmembers will then come back to assist the RMS operator in the last part PMA3 Install (steps 3 thru 5). Once CBM second stage capture is completed they will perform the IAPFR Relocate free floater task.
- The PLT will not fully load the CBM bolts because of thermal issues. The CBM seals need a twelve hr timeframe to reach thermal equilibrium. Once the CBM Acquire Bolts Node 1 Nadir activity has been completed, the EVA crew can begin working on the PMA3 umbilicals.
- Free drift is required from OSVS Pre-install (step three of PMA3 Install) through completion of CBM Acquire Bolts Node 1 Nadir. Approximately 1 hr and 15 min of free drift time. MCC-H will perform a Node1/PMA1 Shell Warmup and Maintenance before orbiter goes into free drift and then again once back on Vern. This is to prepare the Node for a free drift period.
- The PMA3 Ungrapple is performed once the CBM Acquire Nuts is completed. The EVA crew will then use the RMS for the PMA3 Umbilical Connection task. The rest of crew transitions back to the Flight Plan after PMA3 Ungrapple and CBM commanding.
- Once the EVA is completed the rest of the afternoon activities are Post-EVA, Safer Checkouts, and EMU Swap, plus more tasks in support of tomorrow's EVA.
- After the RMS operations for the day are completed, the crew maneuvers to the PRCS MPA attitude, a bias -XPH, +ZNN, (180,-15,0) IYPR. This is done to warm the Z1 components.
- ICBC3D filming was done during PMA3 operations.
- Orbiter filter cleaning and a check of the WCS are done in the afternoon. These are nominal orbiter maintenance tasks performed by the crew.
- A Simo Dump is scheduled late in the day. A maneuver to the LVLH equivalent (+XLV, +YVV) of the biased -XPH,+ZNN at orbital noon for a simo dump is performed. There is an SOPA available in the dump attitude, so an IMU align was added for the CDR to perform during the simo dump. The next orbit at orbital noon the orbiter will go back to holding the day MPA on PRCS.
- A maneuver to bias -XPH, -ZNN, (180,15,180) IYPR is future loaded before the crew goes to sleep. This attitude cools the airlock external lines and the Z1 truss. The airlock water lines heat up in the +ZNN attitude. The water lines must be cooled down to acceptable limits in support of the EVA crew performing EVA preparation activities at the nominal time.
- During the crew sleep period, MCC-H performs a checkout of the PMA3 heaters.

Flight Day 7

- The crew performs 2 hr of Post-Sleep activities before beginning EVA Prep activities.
- 10.2 psi Maintenance activities are scheduled three times a day on EVA days. Once in the morning during Post Sleep, after Airlock Repress and in the Pre-Sleep timeframe.
- After 3 hr of Post-Sleep, the PLT completes the PMA3 CBM bolt loading. This activity will most likely be done by MCC-H during crew sleep, depending on the thermal environment.
- After PMA3 CBM bolt loading is completed the APCUs are deactivated. APCUs must be powered down before the EVA crew can complete the final Z1 umbilical connections.
- The EVA (PET 6:30) timeline for the day is as follows: EVA Setup, DDCU4B, DDCU3B, Final Z1 Umbilical Connections, STBD ETSD Installation, Final PMA3 Umbilicals Connections, Z1 Keel relocation, OHTS bag relocation, and Cleanup. Ground commanding is required during the EVA in order to check out the DDCU heaters. The following activities are in support of the DDCU Checkout:
 - After the EVA crew installs the DDCU-HP 4B, the PLT will perform step 3 of Z1 DDCU-HP Heater Activation.
 - After DDCU-HP 3B is installed the PLT will perform step one of DDCU-HP Heater Activation.

- After the EVA crew completes the Final Z1 Umbilical Connections, the PLT will activate the APCUs and inform MCC-H when APCUs are activated. APCUs are needed to provide power for the DDCU Checkout.
- Once APCU are activated, MCC-H will perform a twenty minute DDCU Checkout. The EVA crew will install the ETSD during the DDCU Checkout. MCC-H will inform the crew when checkout is completed and when APCUs can be deactivated. The APCUs must be deactivated before the EVA crew performs PMA3 Final Umbilical Connections.
- Once the EVA is completed, the rest of the afternoon activities are Post-EVA, Safer Checkouts, and EMU Swap, plus more tasks in support of tomorrow's EVA.
- After the completion of the EVA, the crew maneuvers to the PRCS MPA attitude, a bias -XPH, +ZNN, (180,-15,0) IYPR. The Z1 components are warmed up in preparation of going to an attitude for cooling of airlock external lines.
- ICBC3D filming was done of the DDCU 3B installation and the STBD ETSD Installation.
- A maneuver to bias -XPH, -ZNN, (180,15,180) IYPR is future loaded before the crew goes to sleep. This attitude cools the airlock external lines and the Z1 truss. The water lines must be cooled down to acceptable limits in support of the EVA crew performing EVA preparation activities at the nominal time.

Flight Day 8

- While the simo dump is occurring, the crew begins activities in support of EVA 4.
- The EVA (PET 6:30) timeline for the day is as follows: EVA Setup, Z1 Keel Pin and OHTS Bag Tools Relocate, Z1 FRGF Relocate and RTAS Latch Cycle, Z1 Tray Deploy, Prep Z1 Tray and MBM Cycle, 4A Setup/Config, SAFER DEMO DTO, Crew rescue DTO, and Cleanup.
- ICBC3D filming is done for the Z1 Keel Pin and Z1 Tray Deploy.
- Once the EVA crew is finished with the RMS, the RMS operator will take closeout photos.
- While the EVA crew is performing post EVA activities the CDR and PLT will maneuver to the reboost attitude bias +ZLV, +XVV. MCC-H commands the Node 1 heaters powered down because of the attitude deviation and will power them up once stack is back in the day MPA.
- After the reboost is completed the crew maneuvers to a bias -XPH,-ZNN, (180,-15,0) IYPR. This is a warming attitude for the Z1 truss components.
- The last docked simo dump is scheduled this evening by performing a maneuver to the LVLH equivalent (+XLV, +YVV) of the biased -XPH,-ZNN at orbital noon. MCC-H powers down the Node 1 heaters before going to the dump attitude and will power up the Node 1 heaters once the LVLH hold is completed.
- Late in the day the crew prepares for tomorrow's transfers and ingress of ISS.
- To protect for a contingency EVA the next day, a maneuver to bias -XPH, +ZNN, (180,15,180) IYPR is future loaded before the crew goes to sleep. This attitude cools the airlock external lines and the Z1 truss. The airlock water lines heat up in the +ZNN attitude. The water lines must be cooled down to acceptable limits in support of the EVA crew performing EVA preparation activities in the morning.

Flight Day 9

- On daily orbit 15 (crew sleep), MCC-M commands valves open to equalize the pressure across the Russian segment of ISS in support of the FGB ingress activities.
- After 2 hr of post-sleep, the CDR and PLT perform DTO 257, PRCS Test. This is an ISS structural loads test. MCC-H commands the Node 1 heaters powered down because of the attitude deviation and will power them up once stack is back in the day MPA. The CDR will then maneuver the stack to a bias -XPH,-ZNN (180,15,180) IYPR.
- The orbiter is repressed to 14.7 psi in the morning in support of ISS ingress activities.
- The CDR and MS4 will begin ingress hatch opening/leak check tasks after the 14.7 psi repress has been completed.
- The RMS operator will take more closeout photos using the RMS.
- With the completion of final umbilical connections in EVA 3, the Node cabin fan and lights no longer have power. The N14B Y Cable installation activity will restore Russian power

to them. Until the Y cable is installed, a maximum of three crewmembers are allowed into ISS at any given time. This is an ISS dewpoint constraint.

- Each CMG will be connected to a PCS for temperature data collection.
- MCC–M needs to power down RACU 6 before the Y Cable can be installed. Once the cable is installed, MCC–M will power RACU 6 on. MCC–H will then begin turning on the Node lights and fans. The three crewmember maximum in ISS will be lifted on a go from MCC–H. Additional ground commanding, such as RPCM power reset, Z1 heater activation, and Node 1 heater recovery, must be performed because the N1–1 string was powered down for RACU 6 deactivation.
- While MS2 is installing the Y Cable, PLT is removing any remaining capture latches and CPAs from the Z1 Vestibule and MS4 is transferring items to the FGB.
- Once the cabin fan is turned on, other crewmembers will begin transfer operations and help with the already in progress tasks of stack repress to 14.9 psi, Z1 outfitting, and photo/TV documentation.
- Fifteen min for all crewmembers is available for a PAO event in the FGB. This is currently a U.S. media event.
- Later in the crew afternoon, MCC–M will command all the FGB valves closed on daily orbit four.
- After the PAO event is completed, egress of the FGB will begin. FGB egress will be followed by a meal, then Z1 egress.
- Early Comm is powered up during the crew meal timeframe. EPCS activities are scheduled in support of this. The early comm must be activated 6 to 8 hr before undocking.
- After Z1 egress, another 15 min is available for all crewmember for a PAO event in the Node. This is currently a U.S. event.
- After the second PAO event, the crew begins to egress the Node and perform leak checks associated with FGB and Node egress.
- PMA 2 centerline camera target installation is completed during Node egress activities. The target is needed by the 5A flight. The crew will do photo documentation.
- The Node 1 cabin fan will not be deactivated until 24 hr after egress. This is done in support of drying out the Node 1 air. MCC–H continues to perform Node1/PMA1 Shell Warmup and Maintenance every 4 hr post–egress to help with the Node 1 dryout task.
- After all hatch closing and leak checks are completed, the stack maneuvers to the day PRCS MPA, a bias –XPH, +ZNN, (0,–15,0) IYPR.
- An undock tagup, exercise, and pre–sleep are the only other tasks left in the afternoon.

Flight Day 10

- Shortly after crew wakeup, MCC–H begins sending ground commands to ISS in support of undock. Configure N1 MDMs for Undocking steps one and two, ACS Predeparture Moding, and Node 1/Z1 Powerdown are commands sent prior to undock.
- After post–sleep is completed, the orbiter will maneuver to the undock attitude –ZLV,–XVV. The crew will then transition to the Rendezvous Checklist.
- Undock is scheduled on daily orbit 2. The orbiter will perform a flyaround of ISS after undocking along with the –Y Star Tracker DTO.
- MCC–H will send commands to the ISS using the Early Comm system once separation has occurred. MCC–H will send the ACS Pre Departure Moding command shortly after the demating of ISS and the orbiter. With concurrence from MCC–M, MCC–H will perform Node1 Recovery and complete the Configure N1 MDMs for Undocking activity.
- The orbiter will maneuver to –ZLV,–XVV, a good debris attitude after all the undocking activities have been completed.
- The crew spends the rest of the morning performing maintenance tasks such as filter cleaning, EMU water recharge, EMU battery charging, EPCS deact, and OIU deact.
- The crew afternoon is filled with a PAO event, exercise, and off duty.

Flight Day 11

- This is the day before landing. After 3 hr of post-sleep, the crew performs Cabin Stow and the DTO700-14 MAGR Ops 2 Test.
- Other activities completed this day are FCS Checkout, RCS Hot Fire, Pilot Ops, Post EVA Entry Prep, L-1 Comm checks, and a Deorbit Prep Briefing.
- The crew conference is scheduled in the afternoon along with additional off duty.
- The last Simo Dump of the mission is scheduled in the evening. The orbiter will maneuver to a -ZLV,+YVV attitude for the dump. After the dump is completed, the orbiter will maneuver back to a good debris attitude, -ZLV, -XVV.

Flight Day 12

- The crew performs last of the stowage activities before transitioning to the Deorbit Prep book. The stowage activities are for the ergometer, TPEC, OCAC, and GIRA. All activities scheduled are nominal landing day tasks.

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STS-92 GENERIC DAP A CONFIGURATIONS

	ITEM #	A1	A2	A3	A4	A5	A6	A7	A8
PRI									
ROT RATE	10(50)	0.2000	0.4000	0.2000	0.0500	0.2000	0.2000	0.2000	0.0500
ATT DB	11(51)	5.00	1.00	0.30	40.00	5.00	5.00	2.00	2.00
RATE DB	12(52)	0.20	0.20	0.20	5.00	0.20	0.20	0.20	0.20
ROT PLS	13(53)	0.10	0.10	0.10	0.04	0.10	0.10	0.10	0.10
COMP	14(54)	.000	.000	.000	.000	.000	.000	.000	.000
P OPTION	15(55)	ALL	ALL	ALL	ALL	ALL	TAIL	ALL	ALL
Y OPTION	16(56)	ALL	ALL	TAIL	ALL	ALL	TAIL	ALL	ALL
TRAN PLS	17(57)	0.10	0.10	0.10	1.00	0.10	0.10	0.10	0.10
ALT									
RATE DB	18(58)	0.200	0.200	0.070	0.200	0.070	0.070	0.100	0.100
JET OPT	19(59)	ALL	ALL	ALL	ALL	ALL	TAIL	ALL	ALL
# JETS	20(60)	2	2	1	2	1	1	2	2
ON TIME	21(61)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	22(62)	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00
VERN									
ROT RATE	23(63)	0.2000	0.4000	0.0080	0.1000	0.0500	0.0500	0.0160	0.0500
ATT DB	24(64)	1.000	1.000	0.070	5.000	1.000	1.000	1.000	1.000
RATE DB	25(65)	.020	.020	.010	.200	.020	.020	.020	.020
ROT PLS	26(66)	0.010	0.010	0.010	0.020	0.010	0.010	0.010	0.050
COMP	27(67)	.000	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	28(68)	0	0	0	6	0	0	0	0
PURPOSE		NOMINAL	PTC	GG	REBOOST OF MATED STACK	LOSS OF VERN (ALL)	LOSS OF VERN (TAIL ONLY)	RNDZ	TERMINAL PHASE

Note: **BOLD-ITALIC** indicate a change from I-load

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'STS-92 GENERIC DAP A CONFIGURATIONS'

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STS-92 GENERIC DAP B CONFIGURATIONS

	ITEM #	B1	B2	B3	B4	B5	B6	B7	B8
PRI									
ROT RATE	30(50)	0.5000	0.2000	0.2000	0.2000	0.2000	0.5000	0.5000	0.0500
ATT DB	31(51)	3.00	3.00	3.00	0.30	3.00	3.00	2.00	2.00
RATE DB	32(52)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.10
ROT PLS	33(53)	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
COMP	34(54)	.000	.000	.000	.000	.000	.000	.000	.000
P OPTION	35(55)	ALL	TAIL	ALL	TAIL	TAIL	ALL	ALL	ALL
Y OPTION	36(56)	ALL	TAIL	ALL	TAIL	TAIL	ALL	ALL	ALL
TRAN PLS	37(57)	0.10	0.02	0.02	0.02	0.02	0.02	0.05	0.05
ALT									
RATE DB	38(58)	0.200	0.070	0.070	0.200	0.200	0.200	0.100	0.100
JET OPT	39(59)	ALL	TAIL	ALL	ALL	ALL	ALL	ALL	ALL
# JETS	40(60)	2	1	1	2	2	2	2	2
ON TIME	41(61)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	42(62)	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00
VERN									
ROT RATE	43(63)	0.2000	0.2000	0.2000	0.0080	0.0160	0.2000	0.2000	0.0500
ATT DB	44(64)	1.000	1.000	1.000	0.100	0.033	1.000	1.000	1.000
RATE DB	45(65)	.020	.020	.020	.010	.020	.020	.020	.020
ROT PLS	46(66)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.020
COMP	47(67)	.000	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	48(68)	0	0	0	0	0	0	0	0
PURPOSE		NOM OMS & RCS BURNS	LOSS OF VERN (TAIL ONLY)	LOSS OF VERN (ALL)	SSUS DEPLOY	COAS/HUD CAL	NOM OMS/ RCS BURNS	RNDZ	TERMINAL PHASE

Note: **BOLD-ITALIC** indicate a change from I-load

FLT PLN-1aa/92/O/B

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STS-92 FLT SPECIFIC DAP A CONFIGURATIONS

	ITEM #	A9	A10	A11	A12	A13	A14	A15
PRI								
ROT RATE	10(50)	0.1300	0.0500	0.1000	0.1000	0.0500	0.2000	0.1000
ATT DB	11(51)	1.00	0.50	5.00	5.00	1.00	5.00	40.00
RATE DB	12(52)	0.10	0.10	0.20	0.20	0.10	0.20	5.00
ROT PLS	13(53)	0.10	0.10	0.04	0.04	0.10	0.10	0.28
COMP	14(54)	.000	.000	.000	.000	.000	.000	.000
P OPTION	15(55)	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	ALL
Y OPTION	16(56)	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	TAIL
TRAN PLS	17(57)	0.05	0.05	0.01	0.01	0.05	0.10	0.10
ALT								
RATE DB	18(58)	0.100	0.100	0.070	0.070	0.200	0.200	5.000
JET OPT	19(59)	TAIL	TAIL	TAIL	TAIL	ALL	ALL	ALL
# JETS	20(60)	2	2	3	3	2	2	1
ON TIME	21(61)	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	22(62)	0.00	0.00	12.00	12.00	0.00	0.00	12.00
VERN								
ROT RATE	23(63)	0.1300	0.0500	0.1000	0.1000	0.0500	0.2000	0.1000
ATT DB	24(64)	1.000	0.500	3.000	3.000	1.000	1.000	40.000
RATE DB	25(65)	.020	.020	.050	.050	.020	.020	.500
ROT PLS	26(66)	0.050	0.050	0.002	0.002	0.050	0.010	0.010
COMP	27(67)	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	28(68)	0	0	3,7*	1,4**	0	0	0
PURPOSE		PROX OPS/ FLY AROUND	DOCKING	Z1 TRUSS RMS OPS	MATED STACK MNVR & HOLD (VRCS)	FAILED CAPTURE		DTO 257 PRCS TEST

BOLD-ITALIC indicate a change from the I-load
 *CNTL ACC will be modified by crew cor contingency Z1 RMS OPS (SGANT and SASA THERMAL CONTROL)
 **This value will be modified by crew after Z1 installed

FLT PLN-1b/92/O/B

HINGE

TOP
 BACK OF 'STS-92 GENERIC DAP B CONFIGURATIONS'
 HINGED AT BOTTOM OF
 'STS-92 FLT SPECIFIC DAP A CONFIGURATIONS'

HINGE

STS-92 FLT SPECIFIC DAP B CONFIGURATIONS

	ITEM #	B9	B10	B11	B12	B13	B14	B15
PRI								
ROT RATE	30(50)	0.1300	0.0500	0.1000	0.1000	0.0500	0.5000	0.1000
ATT DB	31(51)	1.00	0.50	5.00	5.00	1.00	3.00	40.00
RATE DB	32(52)	0.10	0.10	0.20	0.20	0.10	0.20	5.00
ROT PLS	33(53)	0.04	0.04	0.04	0.04	0.04	0.04	0.04
COMP	34(54)	.000	.000	.000	.000	.000	.000	.000
P OPTION	35(55)	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	ALL
Y OPTION	36(56)	TAIL	TAIL	TAIL	TAIL	TAIL	ALL	ALL
TRAN PLS	37(57)	0.01	0.01	0.01	0.01	0.01	0.02	0.02
ALT								
RATE DB	38(58)	0.100	0.100	0.070	0.070	0.200	0.200	0.500
JET OPT	39(59)	TAIL	TAIL	TAIL	TAIL	ALL	ALL	ALL
# JETS	40(60)	2	2	3	3	2	2	1
ON TIME	41(61)	0.08	0.08	0.08	0.08	0.08	0.08	0.08
DELAY	42(62)	0.00	0.00	12.00	12.00	0.00	0.00	0.00
VERN								
ROT RATE	43(63)	0.1300	0.0500	0.1000	0.1000	0.0500	0.2000	0.1000
ATT DB	44(64)	1.000	0.500	3.000	3.000	1.000	1.00	40.00
RATE DB	45(65)	.020	.020	.050	.080	.020	.020	.500
ROT PLS	46(66)	0.020	0.020	0.002	0.002	0.020	0.002	0.010
COMP	47(67)	.000	.000	.000	.000	.000	.000	.000
CNTL ACC	48(68)	0	0	3,7*	2,5**	0	0	5
PURPOSE		PROX OPS/ FLY AROUND	DOCKING	Z1 TRUSS RMS OPS	MATED STACK MNVR & HOLD (PRCS)	FAILED CAPTURE		DTO 257 PRCS TEST

BOLD-ITALIC indicate a change from I-load or prior flight DAP configuration

*CNTL ACC will be modified by crew cor contingency Z1 RMS OPS (SGANT and SASA THERMAL CONTROL)

**This value will be modified by crew after Z1 installed

FLT PLN-1bb/92/O/B

**HOOK
VELCRO**

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92 FLT PLN FIN

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