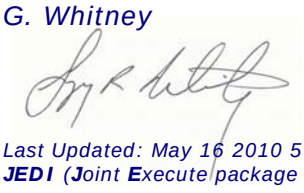
STS-132 / ULF4

FD 03 Execute Package

MSG	Page(s)	Title
010A	1 - 16	FD03 Flight Plan Revision
011	17 - 18	FD03 Mission Summary
012	19 - 20	Orbiter SSC Setup
013	21	FD03 SODF Transfer Instructions
014	22 - 23	FD03 Transfer Message
015	---	SRMS TPS Repair Pad (electronic only)
016	24 - 26	Water Ops Cue Card
017	27	FD02 MMT Summary (electronic only)
018	28	Waste Water Plot
019	29 - 30	Joint Emergency Response Agreement (electronic only)
020	31 - 35	Day of Rendezvous Data (TIGs & Relmo)

Approved by FAO:
G. Whitney



Last Updated: May 16 2010 5:24 AM GMT
JEDI *(**J**oint **E**xecute package **D**evelopment and **I**ntegration), v3.0*

Comedy on Back

Request for Execute Package Cover Apology From FAO

Initiator	**Location**	**Applicable Flight(s)**	**Control Number**
Prefer to remain anonymous *(nice try FAO)*	MCC **Discipline** Yes	STS-132 and subs	1 *(I can't believe no one else has submitted this form!)*

Reason apology requested

☐ Loss of science
☒ Civil rights violated
☐ Having a bad day
☒ Thin-skinned *(see symptoms below)*
☒ Abysmal attempt at comedy
☐ Supervisor deems mandatory

Description of problem

While the humor does have a glancing reference to events of the previous day, it unfortunately mixes Flight Rules with LCCs. *(Perhaps a forgivable offense on FAO's part considering their LCCs.)* The use of a pterodactyl was mildly humorous in its unexpectedness, but all enjoyment was overshadowed by the questions it aroused. 'Why a pterodactyl?' 'Is this some sort of inside joke?' 'Do we have a whole flight's worth of pterodactyl jokes to endure? *(using the word 'jokes' in its loosest interpretation)*' 'Is the bar being intentionally set low this early in the flight to allow for small, incremental improvements to seem like monumental achievements?' A unicorn might have been more apropos given the Epic Pre-Quarantine Party flyer.

It's never too early to poll the room for Top Ten list inputs.

Mark any symptoms caused by Execute Package Cover content

☒ Nausea
☒ Dizziness
☒ Drowsiness
☒ Fatigue
☒ Headache
☒ Loss of appetite
☒ Anxiety
☒ Confusion
☒ Decreased concentration
☒ Ringing in ears
☒ Waking apnea
☒ Gastroenteritis
☒ Hives
☒ Hypersensitivity
☒ Upset stomach
☒ Vomiting
☒ Hallucinations
☒ Seizures
☒ Tremors
☒ Cuticle swelling
☒ Burning sensation in eyelids
☒ Stiffness in joints
☒ Sudden uncontrollable movements
☒ Blurred vision
☒ Angina pectoris
☒ Back pain
☒ Front pain
☒ Chills
☒ Thinning of skin
☒ Thinning of hair
☒ Memory loss
☒ Numbness in extremities
☒ Prolonged flatulence
☐ Pain in side from exuberant laughter
☐ Pain in cheeks from prolonged grinning
☐ Joviality
☐ Improved spirits

Atonement Protocol

☐ Phone call
☒ DVIS groveling
☒ (Water) pistols at noon
☒ Buy everyone a beer later
☒ E-mail
☐ Schedule extension day

Other potentially offended people on the planet

Anyone subjected to the Execute Package Cover content. *(I question the completeness of this form in that it does not include people off-planet who are mostly likely to be affected by the Execute Package Cover .)*

Dispositioned by

FAO:

JSC Form 2593-C

Apology from FAO

FAO apologizes for assuming that some persons viewing said Execute package lack the sophistication to appreciate nuances of artistic license. As the word pterodactyl was used in the actual conversation referenced in the comedy, FAO sincerely regrets the inability to formulate humor that is sufficiently innocuous, so as to not offend the pterodactyl contingency, otherwise known as "Anonymous".

In summary, FAO apologizes for NOTHING.

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MSG INDEX

MSG NO.	TITLE
010	FD03 Flight Plan Revision(23-0609)
011	FD03 Mission Summary
012	Orbiter SSC Setup (23-0604)
013	FD03 SODF Transfer Instructions (23-0596)
014	FD03 Transfer Message (23-0605)
015	SRMS TPS Repair Pad
016	Water Ops Cue Card
017	FD2 MMT Summary
018	Waste Water Plot
019	Joint Emergency Response Agreement (23-0610)
020	Day of Rendezvous Data (TIGs & Relmo)

1. Post-Sleep Cryo Config

For today's post-sleep cryo config, O2 tanks 1 and 2, and H2 tanks 2 and 4 will be active.

R1 O2,H2 MANF VLV TK2 (two) - OP (tb-OP)
O2 TK1 HTRS A,B (two) - AUTO

A11 CRYO TK4 HTRS O2 A,B (two) - OFF

Pre-Sleep Cryo Config

√MCC for deltas prior to configuring for Pre-Sleep.

For tonight's pre-sleep cryo config, manifold 2 will be closed with O2 tanks 2 and 5, and H2 tanks 2 and 4 active.

A15 CRYO TK5 HTRS O2 A,B (two) - AUTO

R1 O2 TK1 HTRS A,B (two) - OFF
O2,H2 MANF VLV TK2 (two) - CL (tb-CL)

2. Crew Choice Downlink

TDRS	AOS	LOS	Delta (min)	Notes
W	02/02:13	02/02:47	34	
W	02/03:50	02/04:19	29	
E	02/04:27	02/04:38	11	

3. Waste Water Plot

   Per the pre-flight plan, 3 Shuttle crew equivalent should use the WHC while hatches are open. MSG-018 represents the predicted waste water generation rate during the docked timeframe and the maximum supportable rate to avoid a waste tank offload. It protects a 12+0 day mission and assumes a dump on FD11.

4. Water Dump Details

   Today you will be performing a simo supply/waste water dump using SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS), p.5-3. Perform steps A through I only. MCC will TMBU limits in steps B and K. Do not perform Step J.

   Supply nozzle open time will be ~60 minutes.

   Dump the waste tank to 5%. Nozzle open time will be ~20 minutes.

5. PBA Relocate

   For Bueno, During the PBA Transfer and Relocate scheduled at 1/23:15, relocate 6 PBAs from Middeck Jettison Bag behind retention net. Remove all 6 PBAs from foam containers. Stow foam containers in Middeck Jettison Bag. Transfer 1 PBA to the NOD1P2-14 PEPs Locker. Remove tape covering PBA label on locker. Report S/N of bottle. Transfer 5 PBAs to the A/L and stow behind ORCA. Per Transfer List # 13.5, 15.4, 15.5, 27, & 28. The Middeck Jettison Bag with the foam containers will be left in shuttle for return to the ground.

6. SRMS TPS Repair Pad

   MSG-015 is a contingency SRMS TPS Repair Pad. We are not anticipating any TPS repair at this time. The message will be printed by the crew if TPS repair is required and no Ku is available to uplink a detailed procedure.

7. Replace pages 2-6 through 2-9 and 3-20 through 3-29.

NO UNISOLATED EXERCISE
[DIRECT DEADBAND COLLAPSE]

REPLANNED

FD03
GMT 05/16/10 (136)

MET Day 001 — 12 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 002/00

STS-132

CDR Ham	SLEEP	+YVV^ POST SLEEP	IMU	GRPB	PWRUP	^NH ^NC4 ISS RNDZ OPS ^T1	APPROACH T/L	DOCKING*	HATCH LEAK CK - STS	GRPB	PWRDN	RMS*	HATCH OPEN	HELLO	SAFETY BRIEF	N2 XFER INIT	P/B O2 SETUP	SODF XFR
PLT Antonelli	SLEEP	POST SLEEP	GRPB	PWRUP	ISS RNDZ OPS	APPROACH T/L		MNVR TEA	GRPB	PWRDN	RMS*	DDC	H/O-ISS	HELLO	SAFETY BRIEF	PTV05	STUP	PTV6S/U	C&WADJ	PRLA	P/TV 06 OPS
MS1 Reisman	SLEEP	LOG	POST SLEEP	EXERCISE	EMU RMVL	ISS RNDZ OPS	APPROACH T/L		ODS PREP FOR INGR	DOCKIO	HELLO	SAFETY BRIEF	EVA XFER TO ISS	REBA#	REBA C/O	♣
MS2 Good	SLEEP	PSTSLP	SIMO INIT	POST SLEEP	SIMO TERM	POST SLEEP	MCIU*	P/TV02 DOCK S/U	CNFG@	DIDB FILL	CNFG^	EMU RMVL	EXERCISE	P/TV02 DOCK OPS		PSTVOU4P	P/TV 04 OPS	HELLO	SAFETY BRIEF	EVA XFER TO ISS	PBA XFR & RLCT	EPRETK
MS3 Bowen	SLEEP	POST SLEEP	ISS RNDZ OPS	APPROACH T/L		EXERCISE	POST RNDZ PGSC CNFG	HELLO	SAFETY BRIEF	EVA XFER TO ISS	REBA#	REBA C/O	⊕
MS4 Sellers	SLEEP	LOG	POST SLEEP	COND CWC S/U	POST SLEEP	OCA% MDK# XFER	UPDATE	EXERCISE	O2-INIT	O2-TERM	ISS RNDZ OPS	APPROACH T/L	HATCH LEAK CK - STS	ODS PREP FOR INGR	HELLO	SAFETY BRIEF	SSC	SSETUP	SSRMS	ICC GRPL	SSRCMS	UNBERTH

DAY/NIGHT

ORBIT: 25 26 27 28 29 30 31 32 33

TDRS W E Z

ISS TDRS AVAIL

ORB ATT: -ZLV -XVV | -ZLV +YVV | RNDZ | D | BIAS -XLV -ZVV

SSRMS POS: LAB PDGF @ WS4

NOTES
*FILTER CK ^GALLEY MORNING
@GALLEY OVERNIGHT
%RATE DCNFG
#STATUS CHECK
*1/20:07
*MNVR-ICC UNBERTH VIEW #INSTALL ♣EVA 1 TOC
⊕EVA 1 TOC

NO UNISOLATED EXERCISE
[DIRECT DEADBAND COLLAPSE]

REPLANNED

FD03
GMT 05/16/10 (136)

MET Day 001 — 12 13 14 15 16 17 18 19 20 21 22 23 002/00

| ISS | TDRS AVAIL | | |

NO UNISOLATED EXERCISE
[MT XLATE]

REPLANNED

FD03
GMT 05/16/10 (136)

MET Day 002

19 20 21 22 23 05/17 01 02 03 04 05 06
002/00 01 02 03 04 05 06 07 08 09 10 11 12

STS-132 5

CDR Ham	SODFXFR	MDDK XFER	EVA1 PROCEDURE RVW	XFER	TAGUP	PRE	SLEEP	XFER	BREF	PRE	SLEEP	PMC A/G	PRE SLEEP	SLEEP											
PLT Antonelli		EVA 1 TOOL CONFG	EVA1 PROCEDURE RVW	CWC-I S/U	PRE SLEEP	SLEEP																			
MS1 Reisman	EVA 1 TOOL CONFG	EVA1 PROCEDURE RVW	PRE SLEEP	MASK PB/TOOL CONFIG	10.2 DPRS	PRE SLEEP	SLEEP	ISS A/L CAMPOUT @ 10.2 psi																	
MS2 Good	E_LK PREP	EVA1 PROCEDURE RVW	PRE SLEEP	SLEEP																					
MS3 Bowen	EVA 1 TOOL CONFG	EVA1 PROCEDURE RVW	PRE SLEEP	MASK PB/TOOL CONFIG	PRE SLEEP	SLEEP																			
MS4 Sellers	SSRMS ICC INSTL POA	EVA1 PROCEDURE RVW	MDDK#	PRESLP	POLYBK	OPS	PRE SLEEP	SLEEP																	

DAY/NIGHT

ORBIT: 33 34 35 36 37 38 39 40 41

TDRS W E Z

ISS TDRS AVAIL

ORB ATT: BIAS -XLV -ZVV

SSRMS POS: LAB PDGF @ WS4 | MT XLATE | W/O | MBS PDGF3 @ WS6

NOTES: #STATUS CHECK

FD03 — **REPLANNED**

NO UNISOLATED EXERCISE
[MT XLATE]

GMT 05/16/10 (136) — 19, 20, 21, 22, 23, 05/17, 01, 02, 03, 04, 05, 06
MET Day 002 — 002/00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12

ISS — TDRS AVAIL

ISS	ISS CDR Kotov	IMS; ИП-1 MNT; ЭЛКТБЖ; PW; DPC; PRE SLEEP-ISS; SLEEP
ISS	FE-1 Skvortsov	TVIS; ARED; PW; DPC; PRE SLEEP-ISS; КПТ2-I; SLEEP
ISS	FE-2 Caldwell-Dyson	SSRMS ICC INSTL POA; P/TV-D; EVA1 PROCEDURE RVW; PW; DPC; PRE SLEEP-ISS; RXN; SLEEP
ISS	FE-3 Kornienko	M2 CB ВД MNT; TVIS; DPC; PRE SLEEP-ISS; SLEEP
ISS	FE-5 Noguchi	FISH; SMPL; GCDMS; N2; VDS CAP; EVA1 PROCEDURE RVW; CUPOLA*; DPC; PRE SLEEP-ISS; RXN; SLEEP
ISS	FE-6 Creamer	EVA CAMERA CNFG; EVA1 PROCEDURE RVW; PW; DPC; MPC; PRE SLEEP-ISS; MPCN; RXN; SLEEP

DAY/NIGHT	
ORBIT	33, 34, 35, 36, 37, 38, 39, 40, 41
SSRMS POS	LAB PDGF @ WS4; MT XLATE; W/O; MBS PDGF3 @ WS6
ALL VHF	
NOTES	*RSTRNT RMV

STS-132 FD (03)

REPLANNED

GMT Date 05/16 (136) | W | TDRS E | TDRS Z | D/N | DORB 1 4 | DORB 2 5 | DORB 1 5 | DORB 2 6 | DORB 1 6 | DORB 2 7 | MET Day 001 | STS ATT

CDR HAM | PLT ANTONELLI | MS1 REISMAN | NOTES

12:00 — -ZLV -XVV

FD03 EZ ACTIVITIES:
√OCAC FILTER
TEPC (STATUS CHECK)
(ORB OPS, CREW SYS)
HARD REBOOT ALL PGSCs EXCEPT:
STS-1(OCA ROUTER), STS-6(WLES)
& STS-5(RPOP2)

SLEEP | SLEEP | SLEEP

07:00

13:00 — -ZLV +YVV

< FUTURE MNVR INIT (1/13:00 - SUPPLY/WASTE WATER DUMP)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) | SLEEP LOGBOOK (SDBI 1634) POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

08:00

14:00

IMU STAR OF OPPTY ALIGN (ORB OPS, GNC)

PRIORITY PWRUP GRP B (ORB PKT, PRIOR PWRDN) Steps 12(IMU3),6(Triple G2),5 | PRIORITY PWRUP GRP B (ORB PKT, PRIOR PWRDN) Steps 12(IMU3),6(Triple G2),5

RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L) | RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)

09:00

TRANSITION TO RNDZ C/L AT MET 01/14:19

15:00 — RNDZ

< NH TIG (15:02)

RNDZ PET 00:00(Ti) AT MET 1/17:20

10:00

< NC4 TIG (15:47)

16:00

STS-132 FD (03)

REPLANNED

GMT Date 05/16 (136) | W | TDRS E | Z | D/N | DORB 1 4 5 6 7 | ORB 2 5 6 7 | MET Day 001 | STS ATT -ZLV -XVV -ZLV +YVV RNDZ

MET	MS2 GOOD	MS3 BOWEN	MS4 SELLERS	NOTES
12:00	SLEEP	SLEEP	SLEEP	
13:00	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS) SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Initiate Supply/Waste Dump Ref. MSG 010, Item 4 POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	SLEEP LOGBOOK (SDBI 1634) POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
14:00	SUPPLY/WASTE WATER DUMP (ORB OPS, ECLS) Terminate Supply/Waste Dump Ref. MSG 010, Item 4 POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)		
15:00			SHUTTLE CONDENSATE COLLECTION (ORB OPS,ECLS) Perform SETUP Hardware stowed in MF280 Use CWC S/N 6005 POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
16:00	L17 Check MCIU filter screen			

STS-132 FD (03)

REPLANNED

GMT Date 05/16 (136) | W | TDRS E | Z | D/N | DORB 1 2 3 | ORB 28 29 30 | MET Day 001 | STS ATT

MET	STS ATT	CDR HAM	PLT ANTONELLI	MS1 REISMAN	NOTES
16:00	RNDZ	RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)	RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)	POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
11:00				EXERCISE	
17:00				EMU REMOVAL (EVA, AIRLOCK CONFIG)	
		< Ti TIG (17:20)			
12:00				RENDEZVOUS TIMELINE (RNDZ, RENDEZVOUS T/L)	
18:00					
13:00		APPROACH (CUE CARD)	APPROACH (CUE CARD)	APPROACH (CUE CARD)	UPLINK β21 + MASK BOX 20,22
19:00					
14:00					
20:00					

STS-132 FD (03)

REPLANNED

GMT Date 05/16 (136) | W | TDRS E | Z | D/N | DORB 1 2 3 | DORB 28 29 30 | MET Day 001 | STS ATT

MS2 GOOD | MS3 BOWEN | MS4 SELLERS | NOTES

16:00

P/TVO2 DOCK
(PHOTO/TV, SCENES) SETUP

RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)

POST-SLEEP ACTIVITY (ORB OPS, CREW SYS)

RECONFIG OCA DWNLK RATE [A]
CGBA STATUS CHECK (Cue Card)
DAILY TRANSFER LIST UPDATE
Ref. Transfer List & MSG 014

11:00

GALLEY OVERNIGHT CONFIG (ORB OPS, ECLS)
Use DIDBs from MD Bag C
Fill 6 DIDBs from Galley with Cold Water
Remove GAS
When filled, stow in crew
specific ECOKs
Dispose Fill Tool in Wet Trash

17:00

√ All EVA drink bags fills complete, then:
GALLEY MORNING CONFIG (ORB OPS, ECLS)
EMU REMOVAL
(EVA, AIRLOCK CONFIG)

[A] √ MCC prior to configuring:
RECONFIGURE OCA D/L RATE (Ch. 2)
(ORB OPS, PGSC)
Part D then A, omit Step 4

EXERCISE

12:00

O2 REPRESS INIT [B]

[B] OCAC PWR - OFF
C5 DIRECT O2 vlv - OP

18:00

RNDZ

EXERCISE

O2 REPRESS TERM (On MCC GO) [C]
RENDEZVOUS TIMELINE
(RNDZ, RENDEZVOUS T/L)

[C] C5 DIRECT O2 vlv - CL
OCAC PWR - ON

13:00

P/TVO2 DOCK
(PHOTO/TV, SCENES) OPS

APPROACH (CUE CARD)

APPROACH (CUE CARD)

19:00

14:00

20:00

STS-132 FD (03) — REPLANNED

GMT Date 05/16 (136) | MET Day 001 | TDRS W E Z | D/N | DORB 3 4 5 6 | ORB 30 31 32 33 | STS ATT

CDR HAM

- 20:00 APPROACH (CUE CARD)
- **< DOCKING(1/20:07)**
- POST DOCKING HATCH LEAK CHECK (RNDZ, APDS)
- When MNVR complete and rates damped PRIORITY PWRDN GRP B [D]
- ICC UNBERTH VIEWING (PDRS, VIEWING SUPPORT)
- JOINT OPS: 2.104 HATCH OPENING AND SHUTTLE/ISS DUCT INSTALL
  Check MCC-H complete with step 1
  Perform steps 2-15
  Upon request, MCC-H can perform steps 10.1,12,&13
- WELCOME
- SAFETY BRIEFING
- JOINT OPS: 3.102 NITROGEN TRANSFER INIT
  Check MCC-H complete thru step 2
  Perform steps 3-4.3
- JOINT OPS: 3.120 PREBREATHE USING SHUTTLE O2 SETUP Steps 2-6
  Ground will perform Steps 2.4 & 6.14
- SODF TRANSFER
  Ref. Transfer List: Item 21
  Ref. MSG 013

PLT ANTONELLI

- APPROACH (CUE CARD)
- **RETURN TO FLIGHT PLAN**
- MNVR (TRK) BIAS -XLV -ZVV
  TG=2 BV=5 P=161.50 Y=359.90 OM=173.03
  Init TRK, DAP:FREE >2 sec, then
  DAP: A12/AUTO/VERN
- When MNVR complete and rates damped PRIORITY PWRDN GRP B [D]
- ICC UNBERTH VIEWING (PDRS, VIEWING SUPPORT)
- When ISS is GO for deadband collapse, DAP: B13
- H/O ATTITUDE CONTROL ORBITER TO MM [E]
- WELCOME
- SAFETY BRIEFING
- P/TV05 ISS INTERNAL OPS (HC) (PHOTO/TV, SCENES) SETUP
- P/TV06 ROBOTICS OPERATIONS (PHOTO/TV, SCENES) SETUP
- CAUTION AND WARNING ADJUSTMENT [F]
- ROBO: 2.101 ICC TRANSFER TO POA
  Steps 5.1-5.4
- P/TV06 ROBOTICS OPERATIONS (PHOTO/TV, SCENES) OPS

MS1 REISMAN

- APPROACH (CUE CARD)
- [D] (ORB PKT, PRIOR PWRDN)
  Steps 5,6(Single G2) (In step 3 of G2 SET CONTRACTION √MCC or pause ~4 min (DAP Settling)) & 12(IMU3)
  O6 S TRK PWR -Z - OFF
- AIRLOCK PREP FOR INGRESS-AIRLOCK FAN ACTIVE (RNDZ, APDS)
- [E] When ISS is GO for attitude cntrl,DAP:FREE
  DAP A12/FREE/VERN
  Reload DAP B12
- JOINT OPS: 6.109 HARDLINE ICOM AUDIO
  Steps 1,5 & 6
- WELCOME
- SAFETY BRIEFING
- EVA TRANSFER TO ISS (EVA, AIRLOCK CONFIG)
  Ref. Transfer List:
  Items 11,14, & 31-36.
- EVA SYSTEMS: 1.307 REBA INSTALLATION
  Ref: STS-132 CONSUMABLES CC
- EVA SYSTEMS: 1.403 REBA POWERED HARDWARE CHECK
- 132 EVA 1 TOOL CONFIG (EVA, TIMELINES)

NOTES

- UPLINK β21 + MASK BOX 20,21
- **NO UNISOLATED EXERCISE** [DEADBAND COLLPASE]

[F] PARAMETER C/W CHANNEL TYPE NEW VALUE
CABIN P 004 LOWER 3.45V (13.75 psia)
PPO2 A 034 LOWER 2.70V (2.70 psia)
PPO2 B 044 LOWER 2.70V (2.70 psia)
Report to MCC when complete. MCC will TMBU S/W limits.

STS-132 FD (03)

REPLANNED

GMT Date 05/16 (136) | W | TDRS E | Z | D/N | DORB | ORB | MET Day 001 | STS ATD BIAS-XLV-ZVV

MET	MS2 GOOD	MS3 BOWEN	MS4 SELLERS	NOTES
20:00	P/TVO2 DOCK (PHOTO/TV, SCENES) OPS	APPROACH (CUE CARD)	APPROACH (CUE CARD)	
		RETURN TO FLIGHT PLAN		
15:00	P/TVO4 INGRESS/EGRESS (PHOTO/TV, SCENES) Setup	EXERCISE	POST DOCKING HATCH LEAK CHECK (RNDZ, APDS)	
21:00			AIRLOCK PREP FOR INGRESS-AIRLOCK FAN ACTIVE (RNDZ, APDS)	
16:00	P/TVO4 INGRESS/EGRESS (PHOTO/TV, SCENES) OPS	POST RNDZ PGSC CONFIG Configure PGSCs		**NO UNISOLATED EXERCISE** [DEADBAND COLLPASE]
22:00	WELCOME	WELCOME	WELCOME	
	SAFETY BRIEFING	SAFETY BRIEFING	SAFETY BRIEFING	
17:00	EVA TRANSFER TO ISS (EVA, AIRLOCK CONFIG) Ref. Transfer List: Items 11,14, & 31-36.	EVA TRANSFER TO ISS (EVA, AIRLOCK CONFIG) Ref. Transfer List: Items 11,14, & 31-36.	ORBITER SSC SETUP Ref. MSG 012, Steps 1 and 2 Ref. Transfer List: Item 38	
23:00	PORTABLE BREATHING APPARATUS RELOCATE Ref. Transfer List Item 13.5,15.4, 15.5,27 & 28 Ref. MSG 010, Item 5	EVA SYSTEMS: 1.307 REBA INSTALLATION Ref: STS-132 CONSUMABLES CC EVA SYSTEMS: 1.403 REBA POWERED HARDWARE CHECK	ROBO: 2.101 ICC TRANSFER TO POA Steps 1-5	
18:00	EVA SYSTEMS: 1.305 EQUIPMENT LOCK PREP Perform all EMU steps and verify A/L steps already performed by Tracy before docking. Step 28: skip CSA-02 steps, Vacuum Manometer s/n 13.	132 EVA 1 TOOL CONFIG (EVA, TIMELINES)	ROBO: 2.101 ICC TRANSFER TO POA Step 6	
00:00				

STS-132 FD (03)

REPLANNED

GMT Date 05/16 (136) | W | TDRS E | Z | D/N | DORB 6 7 8 | ORB 3 3 3 4 3 5 | MET Day 002 | STS ATT

BIAS-XLV-ZVV

MET	CDR HAM	PLT ANTONELLI	MS1 REISMAN	NOTES
00:00	SODF TRANSFER Ref. Transfer List: Item 21 Ref. MSG 013		132 EVA 1 TOOL CONFIG (EVA, TIMELINES)	
	TRANSFER OPS Ref. Middeck Transfer List & MSG 014			
19:00		132 EVA 1 TOOL CONFIG (EVA, TIMELINES)		
01:00	EVA 1 PROCEDURE REVIEW Ref: EVA 1 BRIEFING CARD (EVA, TIMELINES)	EVA 1 PROCEDURE REVIEW Ref: EVA 1 BRIEFING CARD (EVA, TIMELINES)	EVA 1 PROCEDURE REVIEW Ref: EVA 1 BRIEFING CARD (EVA, TIMELINES)	
20:00				
02:00	TRANSFER TAGUP Coordinate with transfer counterpart	CWC-I FILL (ORB OPS, ECLS)Setup Perform Parts A-C,F Ref. MSG 016	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	
	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
		PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)		
	TRANSFER BRIEF Call down status to MCC			
21:00	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
03:00	PRIVATE MEDICAL CONFERENCE			
	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)			
22:00	√ Hum Seps for H2O Accumulation		EVA SYSTEMS: 1.206 10.2 PSIA CAMPOUT MASK PREBREATHE Ref: 132 EVA 1 TOOL CONFIG (EVA, TIMELINES) Ref: STS-132 CONSUMABLES CC	**NO UNISOLATED EXERCISE** [MT TRANSLATION]
04:00				

STS-132 FD (03)

REPLANNED

GMT Date 05/16 (136) | W | TDRS E | Z | D/N | DORB 6 7 8 | ORB 3 3 3 4 3 5 | MET Day 002 | STS ATT BIAS -XLV -ZVV

MS2 GOOD

EVA SYSTEMS: 1.305 EQUIPMENT LOCK PREP
Perform all EMU steps and verify A/L steps (EVA, TIMELINES) already performed by Tracy before docking. Step 28: skip CSA-02 steps, Vacuum Manometer s/n 13.

EVA 1 PROCEDURE REVIEW
Ref: EVA 1 BRIEFING CARD (EVA, TIMELINES)

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

MS3 BOWEN

132 EVA 1 TOOL CONFIG

EVA 1 PROCEDURE REVIEW
Ref: EVA 1 BRIEFING CARD (EVA, TIMELINES)

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

EVA SYSTEMS: 1.206 10.2 PSIA CAMPOUT MASK PREBREATHE

Ref: 132 EVA 1 TOOL CONFIG (EVA, TIMELINES)
Ref: STS-132 CONSUMABLES CC

MS4 SELLERS

ROBO: 2.101 ICC TRANSFER TO POA
Steps 7-11

EVA 1 PROCEDURE REVIEW
Ref: EVA 1 BRIEFING CARD (EVA, TIMELINES)

CGBA STATUS CHECK (Cue Card)

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

DIGITAL VIA VTR
(CUE CARD, DIGITAL PLAYBACK)
Docking
KU TDRW (02:13-02:47)

PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)

NOTES

NO UNISOLATED EXERCISE [MT TRANSLATION]

STS-132 FD (03)

REPLANNED

GMT Date 05/16 (136) | W | TDRSE | Z | D/N | DORB 9 10 11 | ORB 36 37 38 | MET Day 002 | STS ATI | BIAS -XLV -ZVV

CDR HAM	PLT ANTONELLI	MS1 REISMAN	NOTES
PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS) √ Hum Seps for H2O Accumulation	PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	EVA SYSTEMS: 1.206 10.2 PSIA CAMPOUT MASK PREBREATHE Ref: 132 EVA 1 TOOL CONFIG (EVA, TIMELINES) Ref: STS-132 CONSUMABLES CC PRE-SLEEP ACTIVITY (ORB OPS, CREW SYS)	**NO UNISOLATED EXERCISE** [MT TRANSLATION] UPLINK β21 + MASK BOX 21,24 UPLINK β21 + MASK BOX 21,24,30
SLEEP	SLEEP	SLEEP	

WAKE UP AT 2/13:00

STS-132 FD (03)

REPLANNED

GMT Date 05/16 (136) | W | TDRSE | Z | D/N | DORB | ORB | MET Day 002 | STS ATT

MS2 GOOD | MS3 BOWEN | MS4 SELLERS | NOTES

04:00 — 05:00 — 06:00 — 07:00 — 08:00 — 23:00 — 00:00 — 01:00 — 02:00

D/N: 9, 10, 11 — ORB: 36, 37, 38

STS ATT: BIAS -XLV -ZVV

MS2 GOOD

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SLEEP

MS3 BOWEN

EVA SYSTEMS: 1.206 10.2 PSIA
CAMPOUT MASK PREBREATHE

Ref: 132 EVA 1 TOOL CONFIG
(EVA, TIMELINES)
Ref: STS-132 CONSUMABLES CC

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SLEEP

MS4 SELLERS

PRE-SLEEP ACTIVITY
(ORB OPS, CREW SYS)

SLEEP

WAKE UP AT 2/13:00

NO UNISOLATED EXERCISE [MT TRANSLATION]

Good Morning Atlantis!!!!

Great job yesterday working around the sensor problems.

Have a great rendezvous day!!!

YOUR CURRENT ORBIT IS: 126 X 110 NM

NOTAMS - (ONE CHANGE: DELETED PTN)

EDW -	EDW 22L/04R IN USE. EDT 22R/04L CLOSED FOR CONSTRUCTION.
EDW -	LAKEBED RWYS GREEN.
NOR -	LAKEBED RWYS GREEN.
NTU -	RWY 05R/23L CLSD.
FOK -	CLOSED.
FMH -	RWY 23 APCH LTS OTS.
YYT -	TACAN UYT23 AZIMUTH OTS.
IKF -	NOT USABLE. NO AGREEMENT.
BEN -	NOT RECOMMENDED/NOT SUPPORTED.

<u>NEXT 2 PLS OPPORTUNITIES:</u>

EDW22	ORB 33 – 2/00:20	SCT250	7	220/10P17
EDW22	ORB 49 – 3/00:45	SCT150 BKN250	7	240/18P26

<u>OMS TANK FAIL CAPABILITY:</u>

PRE NC-4: YES
POST NC-4: NO

<u>LEAKING OMS PRPLT BURN:</u>

PRE NC-4: L or R OMS LEAK: ALWAYS BURN OUT OF PLANE
POST NC-4: L or R OMS LEAK: ALWAYS BURN RETROGRADE

<u>OMS QUANTITIES(%)</u>

L OMS OX = 37.17 R OMS OX = 36.42
FU = 37.17 FU = 36.03

FOR CURRENT QTYS, SUBTRACT INCN'T COUNTER

DELTA V AVAILABLE:

OMS	344 FPS
ARCS (TOTAL ABOVE QTY1)	30 FPS
TOTAL IN THE AFT	374 FPS
ARCS (TOTAL ABOVE QTY2)	59 FPS
FRCS (ABOVE QTY 1)	38 FPS
AFT QTY 1	86 %
AFT QTY 2	48 %

SYSTEM	FAILURE	IMPACT	WORK AROUND
COMM	OBSS LDRI/ITVC Pan/Tilt Unit cable snag	Unable to tilt OBSS LDRI/ITVC through the full range of motion	Use IDC and additional sensors as required for adequate inspection coverage. Additional workarounds and potential EVA task are being discussed.
NLP Vaccine	The glass Fluid Processing Apparatus (FPA) B.1A cracked during activation of NLP Vaccine Group Activation Pack (GAP) B.	One of three levels of fluid containment was breached. This FPA contains a Tox Hazard Level 2 fluid, which requires three levels of containment.	GAP B was sealed in a Ziplock bag, providing a third level of containment.
WLES	On-orbit monitoring results files were timed out due to failure between WLES PGSC and Laptop Receiver Unit (LRU).	Cannot confirm sensors are properly monitoring and cannot pull data results from sensor units.	LRU was reseated firmly in com port on the laptop, resulting in a good comm path.

END OF PAGE 2 OF 2, MSG 011

23-0604 (MSG 012) ORBITER SSC SETUP
Page 1 of 2 pages

OBJECTIVE:
This procedure provides steps to setup SSC 20 in the Orbiter and to return SSC 20 back to ISS prior to Orbiter Undock.

PARTS:

T61p Laptop (SSC20)	P/N SEG33120761-301 - transferred from ISS
A31P PGSC DC PWR CBL (6')	P/N SED39122875-301 - prerouted at MO63P
A31p DC PWR Supply CBL (10')	P/N SEG33116459-301 - coiled at MO69M
A31p 28V DC Power Supply (emerald brick)	P/N SEG33116428-301 - stowed in ML60E

1. RELOCATE SSC 20 FROM ISS LAB TO ORBITER (PER TRANSFER LIST)

2. SETUP AND CONFIGURE SSC 20

Orbiter 2.1 Place SSC 20 to near MO69M

ML60E (LW MAR) 2.2 Retrieve A31p 28V DC Power Supply (emerald brick)

MO63P 2.3 √S3 – OFF

2.4 √A31P PGSC DC PWR CBL (6') →|← J3 outlet

2.5 A31P PGSC DC PWR CBL (6') →|← A31p 28V DC Power Supply

2.6 A31P DC PWR Supply CBL (10') →|← A31p 28V DC Power Supply

2.7 SSC 20 →|← A31P DC PWR Supply CBL (10')

2.8 S3 - ON

2.9 sw A31p 28V DC Power Supply → ON

2.10 SSC 20 → ON

2.11 Verify wireless connectivity for Access Point 2

2.12 Notify **MCC-H** Orbiter SSC Client is operational.

3. DISCONNECT SSC 20

Orbiter MO63P 3.1 SSC20 → OFF

3.2 sw A31p 28V DC Power Supply → OFF

3.3 S3 - OFF

3.4 SSC 20 ←|→ A31P DC PWR Supply CBL (10')

3.5 A31P DC PWR Supply CBL (10') ←|→ A31p 28V DC Power Supply

3.6 A31P PGSC DC PWR CBL (6') ←|→ A31p 28V DC Power Supply

3.7 A31P PGSC DC PWR CBL (6') ←|→ J3

ML60E (LW MAR) 3.8 Stow A31P PGSC DC PWR CBL (6'), A31p 28V DC Power Supply, and A31P DC PWR Supply CBL (10')

4. TRANSFER SSC 20 TO ISS (PER TRANSFER LIST)

DURATION: 30 Minutes

INSTRUCTIONS:

Transfer and temp stow SODF 1.0 CTB, S/N 1125, B/C 004119J from MF43C to LAB1P6 rack front. Contents of CTB will be deployed at a later time.

Retrieve the 10.102 JOINT EMERGENCY EGRESS cue card from the FDF/SODF locker, MF57G, “Jnt Ops Cue Cards - Transfer To ISS” ziplock and deploy in Node 2 FWD (cue card can be placed back in FDF/SODF locker or ISS common trash at undock).

Good morning Ken and Tony,

Welcome to your first official day of transfer ops!

Today, we are expecting you to use your generic time to bring over the 5MLE bags to clear some room on the middeck. Nominally, we would uplink all of your return pages today, but due to some late-breaking changes we will not uplink them until tomorrow. This will not affect today's transfer choreography.

The Transfer List Excel file, FD03_Transfer_List_STS132.xls, is located on the KFX machine in **C:\OCA-up\transfer.**

For ISS, the Transfer List Excel file, FD03_Transfer_List_STS132.xls, is located in **K:\OCA-up\transfer.**

Transfer Questions

- Ken – during your middeck transfer prep, did you gather and temp stow the towels and PDGF harness in the jettison stowage bag (items 14.2-14.4)? We just want to get a quick status from you so we can work this into the choreography if needed.

FD03 Transfer Choreography:

- Garrett, Mike and Steve: Transfer EVA H/W to ISS per EVA XFER TO ISS activity (Items 11, 14, 31 - 36)
- Piers: Transfer SSC to MDDK per SSC SETUP (Item 38)
- Mike: Transfer PBAs and Quick Don Masks per PBA XFER & RLCT activity (Items 13.5, 15.4, 15.5, 27, and 28)
- Ken: Transfer SODF to ISS during SODF XFER activity (Item 21)
- Soichi: Transfer DCB and JAXA CTB to ISS per DCB UNPACK and FISH XFER activities (Item 1, 3)
- MDDK XFER:
    - Transfer 5 MLE bags A, B, D, F, I and Z to ISS (Items 8, 9, 10, 12, 13, and 15)

Change Pages:
Please incorporate changes as follows:

In the Transfer List **RESUPPLY** tab

Replace the following page:

Resupply – 1-3, 5, 7

Add the following page:

Resupply – 9

FD04 Transfer Choreography:

- Soichi: Transfer CHeCS/EC8 bag. The CSA-CP resupply kit is needed for CSA-CP ACO activity. (Item 6)
- Soichi: Transfer CHeCS Mix bag. There is a Russian repair kit in this bag that Alex and Mikhail will need for an activity later today. (Item 7)
- MDDK XFER:
    - Work on unconstrained items in Bag B and D.
    - Work on unconstrained items in lockers

Let us know if you have any questions!

- The ULF4 Transfer Team

CWC-I FILLS

INIT ← Fill Duration ~10 minutes → TERM

	CWC-I Fill No.	CWC Launch Location	Record S/N Used	Disinfect QDs	Report CWC-I S/N To MCC	TERM at MET:	Cap R-Y Hose	Verify Label In Windows	Sample Ref: Kit Table	Transfer To:	
☐	1	NOD2D5 CWC Pregather Bag (Note C) ☐ 2067 ☐ 2098 ☐ 2068 ☐ 2100 ☐ 2069 ☐ 2101 ☐ 2075 ☐ 2102 ☐ 2082 ☐ 2103 ☐ 2085 ☐ 2104 ☐ 2086 ☐ 2105 ☐ 2087 ☐ 2106 ☐ 2089 ☐ 2107 ☐ 2090 ☐ 2108 ☐ 2091 ☐ 2109		☐	☐		☐	☐ Purple	☐ S/N 1006 (Note A)	☐	JLP1A1
☐	2			☐	☐		☐	☐ Purple		☐	
☐	3			☐	☐		☐	☐ Purple		☐	
☐	4			☐	☐		☐	☐ Purple		☐	
☐	5			☐	☐		☐	☐ Purple	☐ S/N 1006 (Note A)	☐	
☐	6			☐	☐		☐	☐ Purple		☐	
☐	7			☐	☐		☐	☐ Purple		☐	
☐	8			☐	☐		☐	☐ Purple		☐	
☐	9			☐	☐		☐	☐ Purple		☐	
☐	10			☐	☐		☐	☐ Purple	☐ S/N 1006 (Note A)	☐	

CWC-I Fill Notes:

A. Stow filled purge and sample bags in MF57K.

B. Rough handling may cause leakage.

C. CWC-I pregathered in Jettison Stowage Bag labeled "CWC Pregather". Originally located in NOD2D5. Some CWCs may still contain residual water. Prior to filling, report if bag has a significant amount of residuals.

Kit Table

Kit	S/N	Stowage Location	Undock Location
Sample/Purge Kit	1006	Temp Stowed on Middeck	Middeck Floor Bag D

Final

CWC-I FILLS

INIT ← Fill Duration ~10 minutes → TERM

	CWC-I Fill No.	CWC Launch Location	Record S/N Used	Disinfect QDs	Report CWC-I S/N To MCC	TERM at MET:	Cap R-Y Hose	Verify Label In Windows	Sample Ref: Kit Table	Transfer To:	
☐	11	NOD2D5 CWC Pregather Bag (Note C) ☐ 2067 ☐ 2098 ☐ 2068 ☐ 2100 ☐ 2069 ☐ 2101 ☐ 2075 ☐ 2102 ☐ 2082 ☐ 2103 ☐ 2085 ☐ 2104 ☐ 2086 ☐ 2105 ☐ 2087 ☐ 2106 ☐ 2089 ☐ 2107 ☐ 2090 ☐ 2108 ☐ 2091 ☐ 2109		☐	☐		☐	☐ Purple		☐	JLP1A1
☐	12			☐	☐		☐	☐ Purple		☐	
☐	13			☐	☐		☐	☐ Purple		☐	
☐	14			☐	☐		☐	☐ Purple		☐	
☐	15			☐	☐		☐	☐ Purple	☐ S/N 1006 (Note A)	☐	
☐	16			☐	☐		☐	☐ Purple		☐	
☐	17			☐	☐		☐	☐ Purple		☐	
☐	18			☐	☐		☐	☐ Purple	☐ S/N 1006 (Note A)	☐	
☐	19			☐	☐		☐	☐ Purple		☐	
☐	20			☐	☐		☐	☐ Purple		☐	

CWC-I Fill Notes:

A. Stow filled purge and sample bags in MF57K.

B. Rough handling may cause leakage.

C. CWC-I pregathered in Jettison Stowage Bag labeled "CWC Pregather". Originally located in NOD2D5. Some CWCs may still contain residual water. Prior to filling, report if bag has a significant amount of residuals.

Kit Table

Kit	S/N	Stowage Location	Undock Location
Sample/Purge Kit	1006	Temp Stowed on Middeck	Middeck Floor Bag D

Final

CWC FILLS

INIT ← Fill Duration ~52 minutes → TERM

	CWC Fill No.	CWC Launch Location	Record S/N Used	Disinfect QDs	Mineral Syringe Kit Ref: Kit Table	Report CWC S/N to MCC	Ag Biocide Kit Ref: Kit Table	TERM at MET:	Cap Water Transfer Hose	Verify Label In Window	Sample/Purge Kit Ref: Kit Table	Transfer To:
☐	1	NOD2D5 CWC Pregather Bag (Note C)		☐		☐	S/N 1010 ☐		☐	Green ☐		☐ JLP1P2
☐	2			☐		☐	S/N 1010 ☐		☐	Green ☐		☐
☐	3	☐ 1039 ☐ 1065		☐		☐	S/N 1010 ☐		☐	Green ☐		☐
☐	4	☐ 1072 ☐ 1079 ☐ 1083		☐		☐	S/N 1010 ☐		☐	Green ☐		☐
☐	5			☐		☐	S/N 1010 ☐		☐	Green ☐		☐

CWC Fill Notes:

A. Rough handling may cause leakage.

B. Fill each CWC for 52 min or Term CWC Fill on MCC call.

C. CWC pregathered in Jettison Stowage Bag labeled "CWC Pregather". Originally located in NOD2D5. Some CWCs may still contain residual water. Prior to filling, report if bag has a significant amount of residuals.

Kit Table

Kit	S/N	Stowage Location	Undock Location
Mineral Syringe Kit (no planned use)	1003	Temp Stowed on Middeck	Middeck Floor Bag D
Ag Biocide Kit	1010	CWC Pregather Bag NOD2D5 (Note C)	M-02 Bag S/N 1026 NOD2O2
Sample/Purge Kit	1006	Temp Stowed on Middeck	Middeck Floor Bag D

PWR FILLS

	PWR No.	PWR S/N	Stowage Location	Actions
☐	1	1025	A/L1D1_A2	Fill and return to A/L
☐	2	1026	A/L1D1_A1	Fill and return to A/L
☐	3	1032	A/L1D1_A2	Fill and return to A/L

PWR Fill Notes:

A. Do not detach PWR (EMU H2O Recharge Bag) QD restraint during PWR ops.

B. Prior to filling, inspect PWR inlet and outlet hose lines. Report any observable scratches/damage to MCC.

Final

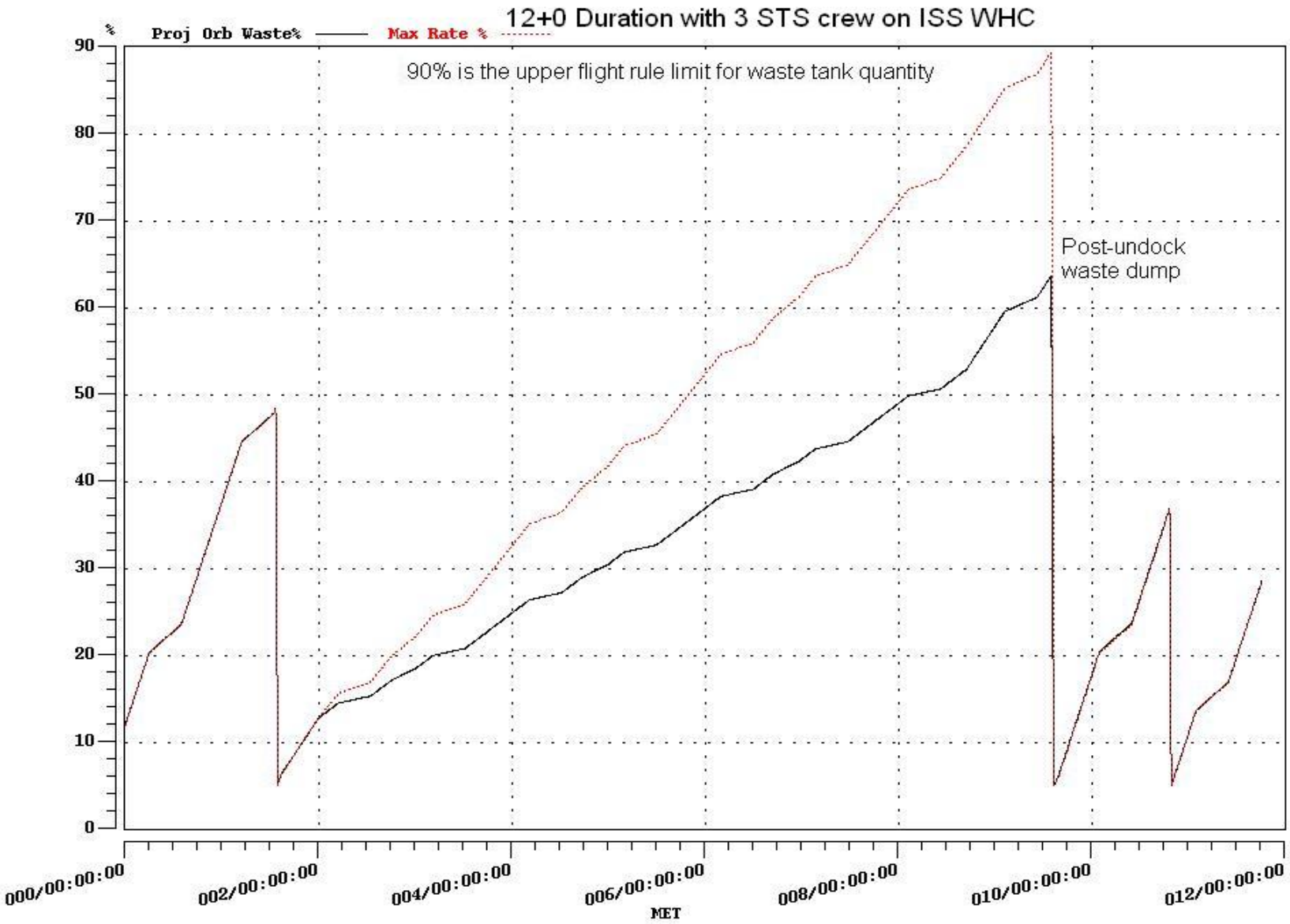
The MMT met briefly today to review the orbiter systems and mission progress.

Atlantis performed flawlessly during launch and continues to do so. Great job by the team to work around the ITVC/LDRI pan/tilt limitations. The ground continue to evaluate requirements for additional FD2 WLE imagery (port wing upper), possibilities of freeing up the snagged cable during one of the EVAs, and possible changes that would be required is support of Late Inspection if the pan/tilt limitations are not resolved. The teams will keep you posted.

The DAT review of the IDC images are in work.

The ISS crew and team are anxiously awaiting your arrival tomorrow.

MSG 018 - WASTE WATER PLOT



1

END OF PAGE 1 OF 1, MSG 018

The following points summarize the joint emergency response agreements between STS-132/ULF4 Commander Ham and Expedition 23 Commander Kotov.

GENERAL

- Emergency response will be conducted per published procedures: EMER-1 SODF, Joint Emergency Egress (JEE), Joint Emergency Ingress (JEI), Joint Emergency Undock and Separation (JEUS) and "ISS Ammonia Response – Shuttle Crew" cue card in Joint Operations SODF , and Orbit Pocket Checklist in Shuttle FDF.
    - JEE cue cards will be posted on ISS at the Node 2 Forward Hatch, and in the Airlock (2 copies). Copies of the JEE and JEUS will also be posted in the SM.
    - Joint Operations emergency SODF will be stored in the FDF locker on Atlantis.
- ISS crew has the lead for response in any ISS Emergency case.
- Shuttle crew has the lead for response in any Shuttle Emergency case.
- All crew will be notified of the emergency initially via PAGE. After that, all calls regarding the response will be made on the Big Loop (S/G1-A/G1).
- Shuttle crewmembers will use the nearest available PBA when required. Shuttle crew will not use Russian ИПК masks unless absolutely no other option is available.
- The Shuttle crew may take the Node 2 hose extension kit if required for O2 mask support during JEE execution.
- Emergency responses do not change during campout. If an emergency occurs during an EVA, the re-ingress location will be determined in real time after assessing the event. If an emergency occurs during SSRMS operations, the crew and ground will determine whether to continue the operation or stop for the emergency response.
- Shuttle crewmember responsibilities will be divided as follows:
    - CDR (Ham): JEE/JEUS procedure execution. Maintain comm with ISS and MCC-H.
    - PLT (Antonelli): Hatch ops, including crew headcount, and disconnects section of JEE.
    - MS1 (Reisman): Ammonia test kit operation.
    - MS1 (Reisman), MS2 (Good), MS3 (Bowen): EVA equipment retrieval from ISS.
    - MS4 (Sellers): BPSMU drag-through disconnect from Cupola RWS, assist PLT with hatch and other disconnect ops.

RAPID DEPRESS

- If a Shuttle crewmember detects a rapid depress, they may annunciate the Rapid Depress alarm, but generally will inform an ISS crewmember, who will determine the appropriate response.
- Shuttle crew will notify ISS crew when the Node 2 Forward hatch is closed, and will provide additional detail as available to assist in the response (eg, hatch pulled away or slammed shut).

FIRE

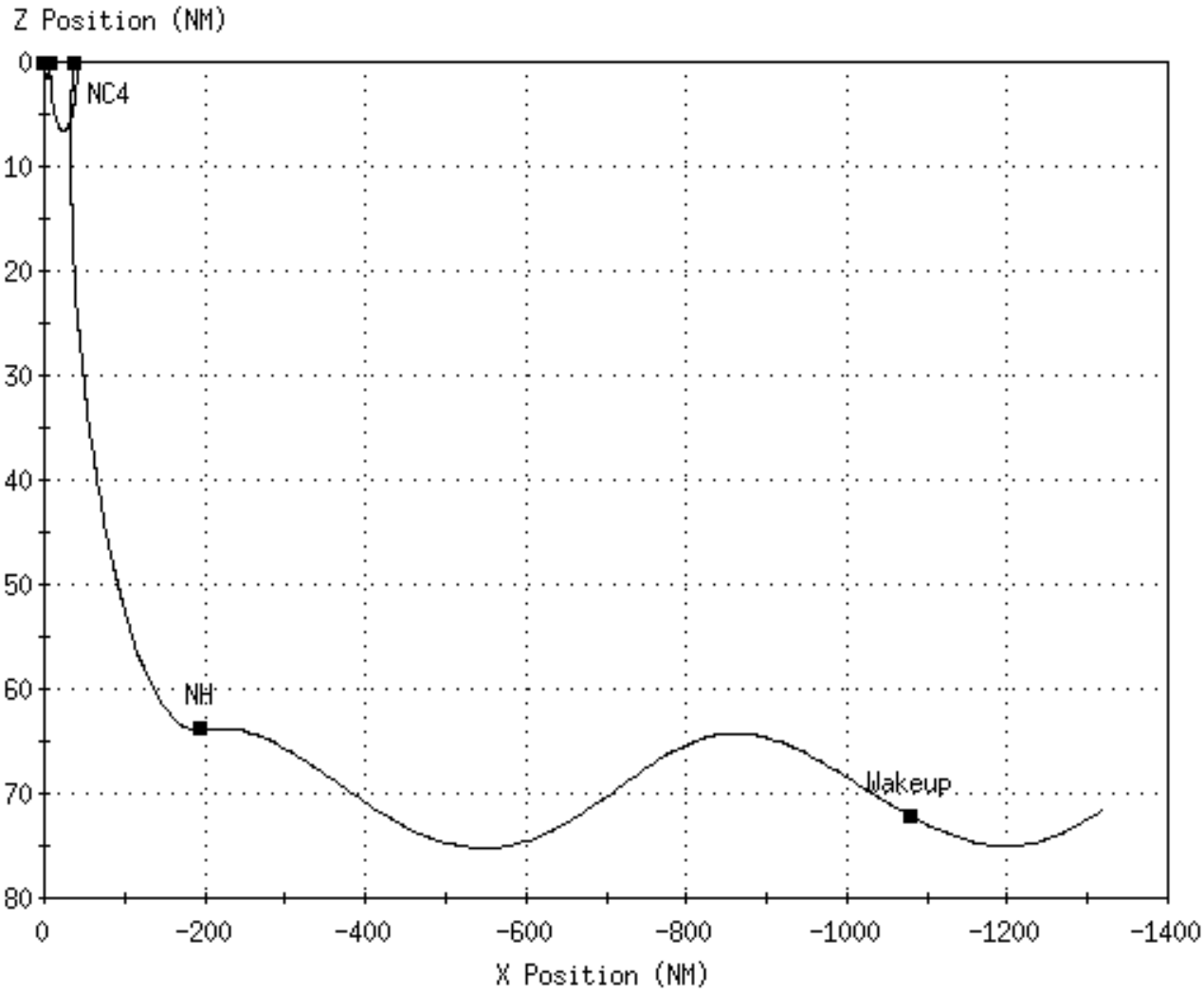
- In the event of a Shuttle fire, the ISS crew, per Shuttle crew call, will initiate an ISS Fire alarm to stop ISS ventilation. If possible, this will be done before the Shuttle PFE is used.
- If a Shuttle crewmember sees visible smoke or flames on ISS, they will annunciate the ISS Fire alarm. Shuttle crew may flip the Rack Power Switch (if available) to power down the affected rack, and use a PFE, or they may inform a Station crewmember, who will determine the appropriate response. They will then egress to Shuttle.
- If a Shuttle crewmember smells a burning odor, they will inform a Station crewmember, who will determine the appropriate response.

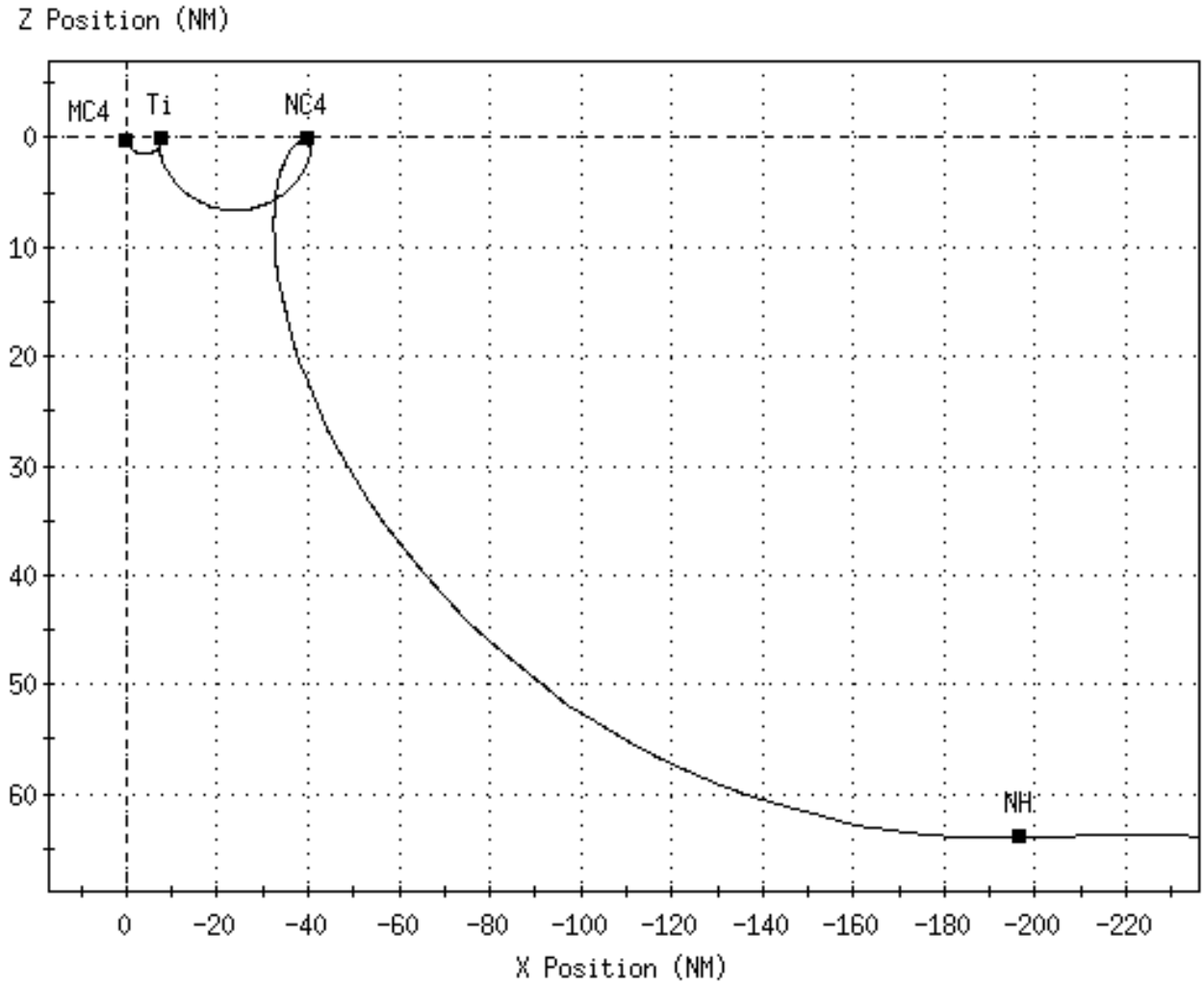
TOXIC ATM

- If a Shuttle crewmember smells ammonia, they will annunciate the TOX ATM alarm.
- If MCC-H sees indications of an ammonia leak, MCC-H will make the following call on the big loop (S/G1-A/G1): **"Ammonia Leak, Execute Emergency Response – I say again – Ammonia Leak, Execute Emergency Response."**
- No equipment from ISS will be retrieved for return on Shuttle in an ammonia response (including EMUs and BPSMU).
- After egressing the USOS, both crews will close the appropriate hatch as soon as all resident crewmembers are accounted for, without waiting for confirmation that the other crew is secure.
- If a toxic substance other than ammonia is released, the ISS crew will determine the appropriate response, and will communicate via PAGE prior to depressing the TOX ATM alarm.

Preliminary Burn TIGs (MET)

NH	001:15:01:31.000	
NC-4	001:15:47:40.000	
NCC	001:16:22:18.000	
TI	001:17:20:00.000	PET = 0:00; SS - 38.5 MIN
MC1	001:17:40:00.000	
MC2	001:18:09:54.000	ET = 0:0
MC3	001:18:26:54.000	MC2 + 17 MIN
MC4	001:18:36:54.000	MC2 + 27 MIN
DOCK	001:20:07:00.000	




Z Position (NM)
MC4
Ti
NC4
NH
0
10
20
30
40
50
60
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
-200
-220
X Position (NM)

PRELIMINARY ORBIT MANEUVER PAD FOR NH (p. 3-2, RNDZ C/L)

OMS BOTH	1	X
L	2	
R	3	
RCS SEL	4	
TV ROLL	5	000
TRIM LOAD P	6	(+)0.3
LY	7	(-)5.7
RY	8	(+)5.7
WT	9	249659
TIG	10	01/15:01:31.4
TGT PEG 7 ΔVX	19	(+)132.6
ΔVY	20	(+)000.0
ΔVZ	21	(+)006.8

RCS SEL: [ ] +X [ ] -X [ ] MULTI-AXIS

BURN ATT		
R	24	349
P	25	110
Y	26	312

ΔVTOT	132.8
TGO	01:24
VGO X	(+)127.9
VGO Y	(+)000.0
VGO Z	(+)035.6

	HA	HP
TGT	185	(+)126

NOTES

OMS GMBL CK:

	PRE	POST-BURN
L PRI		X
L SEC		
R PRI		X
R SEC		
NONE	X	

RCS I'CNCT:
- [ ] L OMS → RCS
- [ ] R OMS → RCS
- [X] NONE

DOWN MODE OPTIONS:
- [X] 2 OMS → 1 OMS
- [ ] 1 OMS → RCS
- [ ] NONE

OMS HE REG TEST: [ ] NONE

	L GPC	L OP	L CL	R GPC	R OP	R CL
A		X			X	
B	X			X		

-X RCS BURNS:

	BURN ATT		LVLH ATT
P 15	N/A	R	N/A
Y 16	N/A	P	N/A
OM 17	N/A	Y	N/A

ORBIT BURN MONITOR

GPC FILL-INS 1 (3)
- [X] CRIT BURN
- [ ] NON-CRIT BURN

MAX TIG SLIP ___ MIN.
- [ ] DO NOT UPDATE TIG
- [ ] UPDATE TIG AFTER ___ MIN.

NOTES

Treat loss of GPC 3 as second GMBL fail on right

PRELIMINARY ORBIT MANEUVER PAD FOR NC-4 (p. 3-4, RNDZ C/L)

OMS BOTH 1	X	
L 2		
R 3		
RCS SEL 4		+X / -X / MULTI-AXIS
TV ROLL 5	000	
TRIM LOAD P 6	(+)0.3	
LY 7	(-)5.7	
RY 8	(+)5.7	
WT 9	246414	
TIG 10	01/15:47:39.8	
TGT PEG 7 ΔVX 19	(+)100.5	
ΔVY 20	(+)000.0	
ΔVZ 21	(+)003.8	

BURN ATT

R 24	014	
P 25	286	
Y 26	047	

ΔVTOT	100.6
TGO	01:03
VGO X	(+)096.9
VGO Y	(+)000.0
VGO Z	(+)026.9

	HA	HP
TGT	186	(+)183

NOTES

OMS GMBL CK:

	PRE	POST-BURN
L PRI		X
L SEC		
R PRI		X
R SEC		
NONE	X	

RCS I'CNCT:

- [ ] L OMS → RCS
- [ ] R OMS → RCS
- [X] NONE

DOWN MODE OPTIONS:

- [X] 2 OMS → 1 OMS
- [ ] 1 OMS → RCS
- [ ] NONE

OMS HE REG TEST: [ ] NONE

	L GPC	L OP	L CL	R GPC	R OP	R CL
A	X			X		
B		X			X	

-X RCS BURNS:

	BURN ATT		LVLH ATT
P 15	N/A	R	N/A
Y 16	N/A	P	N/A
OM 17	N/A	Y	N/A

ORBIT BURN MONITOR

GPC FILL-INS 1 (3)

- [X] CRIT BURN
- [ ] NON-CRIT BURN

MAX TIG SLIP ___ MIN.

- [ ] DO NOT UPDATE TIG
- [ ] UPDATE TIG AFTER ___ MIN.

NOTES

Treat loss of GPC 3 as second GMBL fail on right.

PRELIMINARY ORBIT MANEUVER PAD FOR Ti (p. 3-6, RNDZ C/L)

OMS BOTH	1	
L	2	X
R	3	
RCS SEL	4	
TV ROLL	5	000
TRIM LOAD P	6	(+)0.3
LY	7	(+)4.9
RY	8	(-)5.0
WT	9	243985
TIG	10	01/17:20:00.0
TGT PEG 7 ΔVX	19	(+)009.2
ΔVY	20	(-)001.4
ΔVZ	21	(+)000.1

RCS SEL: +X / -X / MULTI-AXIS

BURN ATT

R	24	017
P	25	290
Y	26	028

ΔVTOT		009.3
TGO		00:12
VGO	X	(+)008.8
VGO	Y	(+)001.8
VGO	Z	(+)002.4

	HA	HP
TGT	189	(+)185

Ti DELAY

TGT PEG 7 ΔVX	19	(-)
ΔVY	20	(-)
ΔVZ	21	(-)

NEW Ti (BASETIME) 01/18:51:30.0

NOTES

OMS GMBL CK:

	PRE	POST-BURN
L PRI		
L SEC		
R PRI		
R SEC		
NONE	X	X

RCS I'CNCT:

- [ ] L OMS → RCS
- [ ] R OMS → RCS
- [X] NONE

DOWN MODE OPTIONS:

- [ ] 2 OMS → 1 OMS
- [X] 1 OMS → RCS
- [ ] NONE

OMS HE REG TEST: [ ] NONE

	L GPC	L OP	L CL	R GPC	R OP	R CL
A			X			
B		X				

-X RCS BURNS:

		BURN ATT		LVLH ATT
P	15	N/A	R	N/A
Y	16	N/A	P	N/A
OM	17	N/A	Y	N/A

ORBIT BURN MONITOR:

GPC FILL-INS 1 (3)

- [X] CRIT BURN
- [ ] NON-CRIT BURN

TIG SLIP: If Ti not started by nominal TIG + __ min go to Ti DELAY, 5-27

Max Ti DELAY TIG slip __ min.

- [ ] DO NOT UPDATE TIG
- [ ] UPDATE TIG AFTER __ MIN.

NOTES